Isight 3.5

Getting Started Guide



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Offices and Representatives

SIMULIA Worldwide HeadquartersRising Sun Mills, 166 Valley Street, Providence, RI 02909–2499, Tel: +1 401 276 4400,
Fax: +1 401 276 4408, simulia.support@3ds.com, http://www.simulia.comSIMULIA European HeadquartersGaetano Martinolaan 95, P. O. Box 1637, 6201 BP Maastricht, The Netherlands, Tel: +31 43 356 6906,
Fax: +31 43 356 6908, info.europe@simulia.com

Sales, Support, and Services

North America	Central, Main office, West Lafayette, IN, Tel: +1 765 497 1373, simulia.central.support@3ds.com Central, Cincinnati office, West Chester, OH, Tel: +1 513 275 1430, simulia.central.support@3ds.com Central, Minneapolis/St. Paul office, Woodbury, MN, Tel: +1 612 424 9044, simulia.central.support@3ds.com East, Main office, Warwick, RI, Tel: +1 401 739 3637, simulia.east.support@3ds.com Erie office, Beachwood, OH, Tel: +1 216 378 1070, simulia.erie.info@3ds.com Great Lakes, Main office, Northville, MI, Tel: +1 248 349 4669, simulia.getalkes.info@3ds.com South, Main office, Lewisville, TX, Tel: +1 972 221 6500, simulia.west.support@3ds.com West, Main office, Fremont, CA, Tel: +1 510 794 5891, simulia.west.support@3ds.com
Argentina	Dassault Systèmes Latin America, Buenos Aires, Tel: +54 11 4345 2360, Horacio, Burbridge@3ds.com
Australia	Dassault Systèmes Australia Pty. Ltd., Richmond VIC, Tel: +61 3 9421 2900, simulia.au.support@3ds.com
Austria	Vienna, Tel: +43 1 929 16 25-0, simulia.at.info@3ds.com
Benelux	Huizen, The Netherlands, Tel: +31 35 52 58 424, simulia.benelux.support@3ds.com
Brazil	SMARTTECH Mecânica, São Paulo SP, Tel: +55 11 3168 3388, smarttech@smarttech.com.br SMARTTECH Mecânica, Rio de Janeiro RJ, Tel: + 55 21 3852 2360, smarttech@smarttech.com.br
Czech Republic	Synerma s. r. o., Psáry, Prague-West, Tel: +420 603 145 769, abaqus@synerma.cz
France	SIMULIA France SAS, Main office, Velizy Villacoublay, Tel: +33 1 61 62 72 72, simulia.fr.support@3ds.com
	Toulouse office, Toulouse, Tel: +33 5 61 16 99 47 (phone for sales only), simulia.fr.support@3ds.com
Germany	Aachen office, Aachen, Tel: +49 241 474 01 0, simulia.de.info@3ds.com
	Munich office, Munich, Tel: +49 89 543 48 77 0, simulia.de.info@3ds.com
Greece	3 Dimensional Data Systems, Athens, Tel: +30 694 3076316, support@3dds.gr
India	Abaqus Engineering India Pvt Ltd., Main office, Chennai, Tamil Nadu, Tel: +91 44 43443000, simulia.in.info@3ds.com
Israel	ADCOM, Givataim, Tel: +972 3 7325311, shmulik.keidar@adcomsim.co.il
Italy	Milano (MI), Tel: +39 02 39211211, simulia.ity.info@3ds.com
Japan	Tokyo office, Tokyo, Tel: +81 3 5474 5817, tokyo@simulia.com
	Osaka office, Osaka, 1el: +81 6 4803 5020, osaka@simulia.com
Korea	Mapo-Gu, Seoul, 1el: +82 2 785 6707/8, simula.kr.info@3d8.com
Malaysia	WorleyParsons Advanced Analysis, Kuala Lumpur, Iel: +603 2039 9405, abaqus.my@worleyparsons.com
New Zealand	Maritx Applied Computing Lide, Auckland, 1et. +04.9.625 1225, support (@maritx.co.nz
Poland Bussia Balarus & Likraina	Budson Sp. 2 0.0, Sw. Marcin, Ici. 746 01 8508 400, budson @budson.com.pi
Scandinavia	TESTS Ltd., $Muscow$, fcl. ± 7 495 012 44 22, $molecular Structure for the formula Vistaria Structure Tal: \pm 46 21 15 08 70, info cimula ca$
Singapore	Vasteras, Sveden, 101, 140-21 15-06 77, info@sintena.se WarleyParsons Advanced Analysis Singanore Tel: +65 6735 8444 abaaus sg@worleynarsons.com
South Africa	Finite Element Analysis Services (Ptv) Ltd. 7700 Mowbray Tel: +77.21 448 7608 feas@feas.co.za
Spain	Principia Ingenieros Consultores S A Madrid Tel: +34 91 209 1482 abaus@principia es
Taiwan	Simutech Solution Corporation Taine R O C Tel: +886 2 2507 9550 ariel@simutech.com tw
Thailand	WorleyParsons Advanced Analysis Group, Bangkok, Tel: +66 2 689 3000, abagus th@worleyparsons.com
Turkey	A-Ztech Ltd., Istanbul, Tel: +90 216 361 8850, info@a-ztech.com.tr
United Kingdom	Dassault Systèmes Simulia Ltd., Main office, Warrington, Tel: +44 1 925 830900, simulia.uk.info@3ds.com
c .	Dassault Systèmes Simulia Ltd., Kent office, Nr. Sevenoaks, Tel: +44 1 732 834930, simulia.uk.info@3ds.com
	Sales Only
North America	East, Mid-Atlantic office, Forest Hill, MD, Tel: +1 410 420 8587, simulia.east.support@3ds.com
	Great Lakes, East Canada office, Toronto, ON, Canada, Tel: + 1 416 466 4009, simulia.greatlakes.info@3ds.com
	South, Southeast office, Acworth, GA, Tel: +1 770 795 0960, simulia.south.info@3ds.com
	West, Pacific Southwest office, Southern CA and AZ, Tustin, CA, 1el: +1 510 794 5891, Ext. 152, simulia.west.info@3ds.com West, Rocky Mountains office, Boulder, CO, Tel: +1 510 794 5891, Ext. 151, simulia.west.info@3ds.com
Finland	Vantaa, 1ei: +358 9 251 / 815 /, info@simulia.fi
India	Abaqus Engineering India Pvt Ltd, Delhi office, New Delhi, Tel: +91 11 65171877, simulia.in.info@3ds.com Abaqus Engineering India Pvt Ltd, Pune office, Tel: +91 20 30483382, simulia.in.info@3ds.com
	China Representative Offices
China	Main office, Chaoyang District, Beijing, P. R. China, Tel: + 86 10 65362345, simulia.cn.info@3ds.com Shanghai office, Shanghai, P. R. China, Tel: + 86 21 5888 0101, simulia.cn.info@3ds.com

Complete contact information is available at http://www.simulia.com/locations/locations.html

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lsight Preface

This book is your guide to getting started with Isight.

What is Isight?

Isight provides a suite of visual and flexible tools to set up and manage computer software required to execute simulation-based design processes, including commercial CAD/CAE software, internally developed programs, and Excel spreadsheets. The open API supports the development of custom interfaces to link additional in-house and commercial applications by partners and customers.

The rapid integration of these applications and Isight's ability to automate their execution greatly accelerates the evaluation of product design alternatives.

Using advanced techniques such as optimization, DFSS (Design for Six Sigma), approximations, and DOE, engineers are able to thoroughly explore the design space. Advanced, interactive post processing tools allow engineers to see the design space from multiple points of view. Design trade-offs and the relationships between parameters and results are easily understood and assessed, leading to the best possible design decisions.

The process integration and design optimization capabilities in Isight enable design organizations to reduce design cycle time and manufacturing cost, and significantly improve product performance, quality, and reliability.

When used in conjunction with Fiper, an internet-based distributed framework is created, which supports collaboration among geographically distributed engineering and business partners. In this configuration, Isight acts as the "client" and Fiper acts as the "server".

Documentation

The following manuals are available in the Isight and Fiper library:

- Isight Component Guide
- Isight Development Guide
- Isight Getting Started Guide
- Isight Runtime Gateway Guide
- Isight User's Guide
- Fiper Installation and Configuration Guide WebSphere and DB2
- Fiper Installation and Configuration Guide WebSphere and Oracle
- Fiper Installation and Configuration Guide WebLogic and Oracle
- Fiper Express Installation Guide
- Fiper Federation (B2B) Guide WebSphere
- Fiper WebTop Guide

Conventions Used in This Book

The following sections describe the typographic terminology and other conventions used in this book.

Typographical Conventions

This book uses the following typographical conventions:

Convention	Explanation
italics	Introduces new terms with which you may not be familiar, and is used occasionally for emphasis.
bold	Emphasizes important information. Also indicates button, menu, and icon names on which you can act. For example, click Next .
UPPERCASE	Indicates the name of a file. For operating environments that use case-sensitive filenames (such as UNIX), the correct capitalization is used in information specific to those environments.
	Also indicates keys or key combinations that you can use. For example, press the ENTER key.
monospace	Indicates syntax examples, values that you specify, or results that you receive.
monospaced italics	Indicates names that are placeholders for values that you specify. For example, <i>filename</i> .
forward slash /	Separates menus and their associated commands. For example, Select File / Copy means that you should select Copy from the File menu.
	The slash also separates directory levels when specifying locations under UNIX.
vertical rule	Indicates an "OR" separator used to delineate items.
brackets []	Indicates optional items. For example, in the following statement: SELECT [DISTINCT], DISTINCT is an optional keyword.
	Also indicates sections of the Windows Registry.
braces { }	Indicates that you must select one item. For example, {yes no} means that you must specify either yes or no.
ellipsis	Indicates that the immediately preceding item can be repeated any number of times in succession. An ellipsis following a closing bracket indicates that all information in that unit can be repeated.

Mouse Conventions

This action	Means to
Click	Point to an object with the mouse pointer and momentarily press the left mouse button.
Double-click	Press the left mouse button twice.
Right-click	Momentarily press the right mouse button.
Drag	Press and hold the left mouse button while dragging item(s) to another part of the screen.
SHIFT+Click	Click an object to select it; then, press and hold the SHIFT key. Click another object to select the intervening series of objects.
CTRL+Click	Press and hold the CTRL key; then, click a selection. This lets you select or deselect any combination of objects.

Keyboard Conventions

Select menu items by using the mouse or pressing ALT+ the key letter of the menu name or item.

Platform Information

For complete details on supported platforms, refer to the following website:

http://www.simulia.com/support/sup_systems_info.html

Support

Both technical engineering support (for problems with creating a model or performing an analysis) and systems support (for installation, licensing, and hardware-related problems) for Isight are offered through a network of local SIMULIA support offices. Contact information is listed in the front of each manual.

SIMULIA Online Support System

The SIMULIA Online Support System (SOSS) has a knowledge database of SIMULIA Answers. The SIMULIA Answers are solutions to questions that we have had to answer or guidelines on how to use Abaqus, Isight, Fiper, SIMULIA SLM, and other SIMULIA products. You can also submit new requests for support in the SOSS. All support incidents are tracked in the SOSS. If you are contacting us by means outside the SOSS to discuss an existing support problem and you know the incident number, please mention it so that we can consult the database to see what the latest action has been.

To use the SOSS, you need to register with the system. Visit the My Support page at www.simulia.com for instructions on how to register.

Many questions can also be answered by visiting the Products page and the Support page at www.simulia.com. The information available online includes:

- Link to the SOSS
- Systems information and computer requirements
- Performance data
- Status reports
- Training seminar schedule
- INSIGHTS Magazine
- Technology briefs

Technical Engineering Support

Technical support engineers are available to assist in clarifying product features and checking errors by giving both general information on using the product and information on its application to specific analyses. If you have concerns about an analysis, we suggest that you contact us at an early stage, since it is usually easier to solve problems at the beginning of a project rather than trying to correct an analysis at the end.

Please have the following information ready before contacting the technical engineering support hotline, and include it in any written contacts:

- The release of Isight that are you using, which can be obtained by accessing the VERSION file at the top level of your Isight installation directory.
- The type of computer on which you are running Isight.
- The symptoms of any problems, including the exact error messages, if any.
- Any log files associated with the error.
- Workarounds or tests that you have already tried.

When contacting support about a specific problem, any available product output files may be helpful in answering questions that the support engineer may ask you.

The support engineer will try to diagnose your problem from the model description and a description of the difficulties you are having. The more detailed information you provide, the easier it will be for the support engineer to understand and solve your problem.

If the support engineer cannot diagnose your problem from this information, you may be asked to supply a model file. The data can be attached to a support incident in the SIMULIA Online Support System (SOSS). It can also be sent by means of e-mail, tape, disk, or ftp. Please check the Support Overview page at www.simulia.com for the media formats that are currently accepted.

If you are contacting us to discuss an existing problem, please give the receptionist the support engineer's name if contacting us via telephone or include it at the top of any e-mail correspondence.

Systems Support

Systems support engineers can help you resolve issues related to the installation and running of the product, including licensing difficulties, that are not covered by technical engineering support.

You should install the product by carefully following the instructions in the installation guide. If you encounter problems with the installation or licensing, first review the instructions in the installation guide to ensure that they have been followed correctly. If this does not resolve the problems, consult the SIMULIA Answers database in the SIMULIA Online Support System for information about known installation problems. If this does not address your situation, please create an incident in the SOSS and describe your problem.

Anonymous FTP Site

To facilitate data transfer with SIMULIA, an anonymous ftp account is available on the computer ftp.simulia.com. Login as user *anonymous*, and type your e-mail address as your password. Contact support before placing files on the site.

Contacting Technical Support

Use the My Support page at www.simulia.com, or obtain local support office contact information from the Locations page at www.simulia.com.

In addition, contact information for offices and representatives is listed in the front of this manual.

Support for Academic Institutions

Under the terms of the Academic License Agreement we do not provide support to users at academic institutions. Academic users can purchase technical support on an hourly basis. For more information, please see www.simulia.com or contact your local support office.

Isight Getting Started Guide

Training

SIMULIA offices offer regularly scheduled public training classes, including classes on Isight. We also provide training seminars at customer sites. All training classes and seminars include workshops to provide practical experience with our products. For a schedule and descriptions of available classes, see www.simulia.com or call your local representative.

Feedback

We welcome any suggestions for improvements to Isight software, the support program, or documentation. We will ensure that any enhancement requests you make are considered for future releases. If you wish to make a suggestion about the service or products, refer to www.simulia.com. Complaints should be addressed by contacting your local office or through www.simulia.com.

Isight 1 Installing Isight

This chapter describes how to install Isight on supported Windows and UNIX/Linux platforms. It also discusses how to migrate previous versions of Isight databases. The chapter is divided into the following topics:

- "Before You Begin," on page 18
- "Installing Isight on Windows," on page 21
- "Installing Isight on UNIX/Linux," on page 30
- "Migrating Isight Databases," on page 38

Before You Begin

This document describes the installation and configuration of Isight.

Supported Platforms

For complete details on the supported platforms for Isight 3.5, refer to the following website:

http://www.simulia.com/support/sup_systems_info.html

There are UNIX-specific requirements that must be met prior to using Isight. For information, see "Necessary Changes for Executing on UNIX Systems," on page 157.

Note: You can install 32-bit and/or 64-bit Isight executables on 64-bit Windows and Linux machines. However, it is recommended that you install only the 64-bit executable on a 64-bit operating system.

System Requirements

The following minimum system requirements are recommended:

- 500 MB of free disk space
- 32-bit Installations: minimum 1 GB RAM (2 GB RAM recommended)
- 64-bit Installations: minimum 2 GB RAM (3 GB RAM recommended)

Removing Old Versions of Isight

It is not necessary to remove a previous version of Isight installed on your system. The new installation is placed, by default, into a new version-based directory.

Important: For more information on upgrading from Isight 3.*x* to Isight 3.5-1, refer to the Isight Release Notes on your Isight DVD.

Installing Your License File

If you have received a license file for Isight, be sure that you know the location of the license file on your local machine or the information for the system acting as a license server. You will have to specify this information during the installation process.

If you are installing Isight in a stand-alone environment, the installer will install and start the license server. If you are installing in a network environment, install the license server once on the host machine; then, in other installs enter the host name and port number (optional).

If you are installing only the license server, you will need to run the applicable FLEXnet script for your platform. For more information, see "Installing Only a License Server," on page 179.

If you do not yet have a license, you can still install the software, but you will not be able to access it. Contact your SIMULIA representative for details on obtaining a license. Furthermore, if you receive your license file after running the Isight installation program, you will have to manually start the license manager once you receive the license. For more information, see "Installing the Isight License After Installation," on page 170.

Installing as a Non-administrator User on UNIX/Linux

Typically, Isight is installed by an administrator-type user (a user in the Administrators group on Microsoft Windows or "root" on UNIX/Linux).

Important: You must have Administrator privileges to install Isight on all Windows platforms.

In most cases, it is possible to install as a non-administrator user on UNIX/Linux. A non-root user can install Isight in any directory to which he/she has write access. By default, when installing as a non-root user on UNIX/Linux, the installer will try to install in the user's home directory. When installing as root, the installer defaults to installing in directory /opt. If an administrator creates the directory /opt/SIMULIA and makes it writable, a non-root user can also install in /opt.

The only restriction on a non-administrator installation is that the license server cannot be installed as a service. The license server can be installed and started, it just cannot be set up as a service that is automatically started when the machine reboots.

The license server can be installed as a service separately after the install by an administrator-type user. For more information on this procedure, see "Installing the Isight License After Installation," on page 170.

Installing on a Shared/Network Disk

On Microsoft Windows, Isight must be installed on each machine individually. It is not possible to execute Isight from a shared folder. However, the Isight installation program can be placed on a shared folder. This allows for individual machine installs without having to manually insert the DVD into each machine.

On Unix and/or Linux, it is common to install Isight on a shared disk (i.e., network file system, NFS, or NAS). Therefore, you just install once from a machine that has a DVD drive onto a network file system. When installing on Unix and/or Linux, the installer has an option to install the support for any number of platforms. This option allows the central shared install to be used on all supported machines.

Installing Isight on Windows

This section is divided into the following topics:

- "Understanding Assumed Default Windows Settings" on this page
- "Installing the Software," on page 23

Understanding Assumed Default Windows Settings

Windows operating systems have various options that allow you to control the appearance of certain components on your system. Three of these components (the Start menu, the Control Panel, and folder and file extension options) can affect the installation process for Isight. All of the procedures in this book assume that you are using the default Windows settings for each item. If you are using other settings for these components, you may have difficulty following the installation procedures. Follow the instructions below to determine which setting you are currently using.

Important: It is recommended that you change the settings as described in the following procedures, if necessary. Doing so will help you avoid any possible confusion when installing Isight. After installing the software, you can revert back to your old settings.

Determining the Start Menu Setting

To determine the Start menu setting:

- 1 Right-click the **Start** button; then, select the **Properties** option. The Taskbar and Start Menu Properties dialog box appears. Two menu options are listed on this dialog box.
- 2. Verify that the Start Menu tab is selected. For installing Isight, it is recommended that you use the **Start menu** option (the first option). This option is the default system setting.
- 3 Change the current setting, if necessary; then, click OK.

Determining the Control Panel Setting

To determine the Control Panel setting:

- Click the Start button; then, click the Control Panel option. This step assumes that you are using the default Windows Start Menu option as described in "Determining the Start Menu Setting," on page 21. The Control Panel dialog box appears.
- **2.** Examine the view setting in the upper left corner of the dialog box. One of the following two options will be listed (based on your operating system):
 - Windows XP
 - Switch to Category View. If this option is displayed, then the Control Panel is currently in Classic View. For simplicity, it is recommended that you click this option to switch the Control Panel to Category View.
 - Switch to Classic View. If this option is displayed, then the Control Panel is configured correctly to correspond with the installation procedures in this book. No changes are necessary prior to installing Isight.
 - Windows Vista
 - **Control Panel Home**. If this option is displayed in bold text with a small dot to its left, then the Control Panel is configured correctly to correspond with the installation procedures in this book. No changes are necessary prior to installing Isight.
 - **Classic View**. If this option is displayed in bold text with a small dot to its left, then the Control Panel is currently in Classic View. For simplicity, it is recommended that you click the **Control Panel Home** option.
- **3** Proceed to the next section.

Determining Folder and File Extension Options

There are times, such as when deleting the software, that you must remove certain temporary directories that are hidden by default. Also, all of the files in each of the procedures in this book are listed with their file extensions (*.exe, *.bat, etc.). To avoid any confusion, it is recommended that you set your system to show hidden directories and file extensions.

To show hidden directories and file extensions in Windows:

- 1. Access the Control Panel dialog box as described in "Determining the Control Panel Setting," on page 22.
- 2. Access the Folder Options dialog box using one of the following methods, based on your operating system:
 - Windows XP: On the Control Panel dialog box, click the Appearance and Themes link and click the Folder Options link.
 - Windows Vista: On the Control Panel dialog box, click the Appearance and Personalization link and click the Folder Options link.
- 3. Click the View tab; then, click the Show hidden files and folders radio button.
- 4. Clear (uncheck) the check box for the **Hide extensions for known file types** option.
- 5. Click **OK**. The hidden directories and file extensions will now appear when browsing through your system file structure.

Installing the Software

This section describes how to install Isight on a Windows system.

To install Isight:

1. Log in as the Administrator that will install Isight.

Note: You *must* be the Administrator or have administrative privileges to install on any Windows platform.

2. Insert the Isight DVD.

Note: If installing on Windows Vista, a dialog box appears asking you to confirm the execution of the installation program. Click **Allow** to start the program.

The Isight install program starts and the splash screen appears. The install program will guide you through the installation process. The Welcome screen shows the version of Isight being installed.

🛂 Installer Isight 3.5-1		
	Welcome to the Installer for Isight 3.5-1 The Installer Wizard will Install Isight 3.5-1 on your computer. To continue, choose Next. Isight 3.5-1 SIMULIA http://www.simulia.com/	
InstallShield	< Back Next >	Cancel

Note: If the installer does not start automatically, execute the setupwin32.exe file located on the top level of the Isight DVD. This installation program is used for both the 32-bit and 64-bit versions of the software.

- 3. Click Next. The legal notice agreement screen appears.
- 4. Read the notice; then, click Next. The installation directory screen appears.

🕙 Installer Isight 3.5-1		
	Click Next to install "Isight 3.5-1" to this directory, or click Browse to install to a different directory. Directory Name: C1SIMULIAtisight3.5-1 Browse	
InstallShield	<back next=""> Cancel</back>	

- 5. Perform one of the following actions:
 - To accept the default directory, click **Next**. Your default directory may vary based on your system settings and permissions.
 - If you wish to place Isight in a different location, click the Browse button, and choose a destination folder; then, click Open. Remember, through the rest of the installation procedures, the default directory is used for defining installation paths. Be sure to use your specific directory in place of this default directory structure.
- 6. Click Next to continue the installation procedure once you have specified your directory.
- 7. Perform one of the following options:
 - If you are installing on a 32-bit system, proceed to step 10.
 - If you are installing on a 64-bit system, proceed to step 8.
- 8. Click Next. The bit version screen appears.



9. Determine which bit version of Isight you want to install. The 32-bit version uses less memory and can run third-party components that use 32-bit native code. The 64-bit version can run larger models, but it requires at least 2 GB of memory. You can install one version or both versions. The 32-bit version is designated with "(32-bit)" in the Windows Start menu.

10. Click Next. The license location screen appears.

🛂 Installer Isight 3.5-1		
	Select how the Isight license will be located. I have a license file Reference a license server Skip the license for now - it will be supplied later	
InstallShield	< Back Next >	Cancel

- 11. Select how the license file will be located. The following options are available:
 - I have a license file. If you select this option, proceed to step 12.
 - **Reference a license server**. If you select this option, proceed to step 15.
 - Skip the license for now it will be supplied later. If you select this option, you will be required to manually start your license server once you receive your license file as described in "Installing the Isight License After Installation," on page 170. Proceed to step 17.
- **12.** Click Next. The select license file screen appears.

🐼 Installer Isight 3.5-1	
	Select the license file. This file will be copied into the Isight 3.5-1 installation directory.
	Select license file Browse
InstallShield	<back next=""> Cancel</back>

Isight Getting Started Guide

- **13.** Enter the full path and name of the license file or use the **Browse** button to locate the file.
- 14. Proceed to step 17.
- 15. Click Next. The license server screen appears.

<table-row> Installer Isight 3.5-1</table-row>		
	Enter the license server name and (optionally) port number. License Server Name: License Server Port:	
InstallShield —	< Back Next >	Cancel

- 16. Enter the following information. It is needed to contact a license server, and it is used to create a license.dat file that references a license server.
 - License Server Name. The host name of the machine running the license server.
 - License Server Port. The port is found in the license file. The default is to leave this setting empty (Isight's license manager software selects the port number).

Important: If the license server you are referencing is behind a Windows Firewall (the firewall supplied with most Windows installations), you will need to manually alter your Isight license. For more information, see "Configuring Your License to Work with Windows Firewall," on page 178.

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17. Click **Next**. After the installation program calculates the required disk space needed, an installation summary screen appears showing what will be installed and the location.

🕙 Installer Isight 3.5-1		
Installer isight 3.3-1	Please read the summary information below. Isight 3.5-1 will be installed in the following location: C:tSIMULIANsight3.5-1 with the following features: Gateway and Client Tools Documentation for a total size: 469 MB	
	< Back Next >	Cancel

18. Click **Next**. The installation progress screen appears, and the software is installed. An overall summary message appears when the installation is complete.



19. Click **Next**. If a license file or license server is specified, the Engineous-supplied components are published to the local library. Once the publishing is complete, a message appears stating that the installation is complete.



Note: If you decided to provide Isight with a license at a later time (as specified in step 11), a message appears providing you with your host name and host ID. This information is necessary for creating a license for your system and should be recorded and provided to your SIMULIA representative. Once you have recorded the information, click **Finish**; then, proceed to step 22.

If an earlier version of an Isight database is detected, a database migration program is executed to migrate to the current format. If a Database Migration wizard appears, see "Migrating Isight Databases," on page 38.

- **20.** Determine whether or not you want to start the Isight Design Gateway in Standalone mode as soon as the installation is complete using the corresponding check box.
- 21. Click Next. The installation is complete.
- **22.** If necessary, start the license manager for Isight. Typically, this process is performed automatically. However, there are some cases where it must be accomplished manually, including if you decided to provide Isight with a license at a later time (as specified in step 11). Be sure that you have acquired a license before starting the license manager. For more information, see "Installing the Isight License After Installation," on page 170.

Installing Isight on UNIX/Linux

This section describes how to install Isight on AIX, HP-UX, Solaris, and Linux systems. If your machine does not have a DVD drive, you can install Isight from a shared disk or network folder. For more information, see "Accessing the Installation Files from a Remotely Mounted DVD," on page 155.

Important: It is highly recommended that you review "Necessary Changes for Executing on UNIX Systems," on page 157 for specific requirements which must be met *prior* to installing Isight on UNIX-based systems.

To install Isight on UNIX/Linux:

- Log in as the user that will install Isight. If you are not installing as "root", it is recommended that you review the information in "Installing as a Non-administrator User on UNIX/Linux," on page 19 before beginning your installation.
- 2. Verify that you have reviewed the pre-installation requirements described in "Necessary Changes for Executing on UNIX Systems," on page 157.
- **3.** Load the Isight DVD and mount it, if necessary. For more information, contact your systems administrator.

Note: On some UNIX systems, the Isight DVD will automatically mount when it is inserted into the DVD drive, and a file browser window will appear. In this case, you can double-click the correct setup file. These files are listed in step 5.

4. From the terminal window (shell), change to the directory where the Isight DVD is mounted. For example, type:

cd /media/dvd

- **5.** Execute the installation script. Type one of the following commands, based on your operating system:
 - ./setupaix
 - ./setuphpux
 - ./setuplinux
 - ./setupsolaris

The Isight setup program starts. It will guide you through the rest of the installation process. The Welcome screen appears, showing the version of Isight being installed.



- 6. Click Next. The legal notice agreement screen appears.
- 7. Read the notice; then, click **Next**. The installation directory screen appears. The installation directory screen appears.

 ♥ 	Installer Isight 3.5-1
	Click Next to install "Isight 3.5-1" to this directory, or click Browse to Install to a different directory. Directory Name: //opt/SIMULIA/Isight/3.5-1 Browse
	< Back Next > Cancel

- 8. Perform one of the following actions:
 - To accept the default directory, click **Next**. Your default directory may vary based on your system settings and permissions.
 - If you wish to place Isight in a different location, click the **Browse** button, and choose a destination folder; then, click **Open**. Remember, through the rest of the installation procedures, the default directory is used for defining installation paths. Be sure to use your specific directory in place of this default directory structure.
- 9. Click Next. The operating system selection screen appears.

	Installer Isight 3.5-1
	Select the operating system(s) to be supported. You must select at least one. Solaris SPARC I Linux x86 (also usable on Linux x64) Linux x64 HP-UX PA-RISC ADX PowerPC
InstallShield	< <u>Back N</u> ext > <u>C</u> ancel

10. Verify that the appropriate operating system is selected. You can choose to install one or multiple operating systems.

11. Click Next. The license location screen appears.

	Installer Isight 3.5-1	
	Select how the Isight license will be located. Select how the Isight license file Reference a license server Skip the license for now – it will be supplied later	
InstallShield —	< <u>Back Next > Cancel</u>	

- 12. Select how the license will be located. The following options are available:
 - I have a license file. If you select this option, proceed to step 13.
 - **Reference a license server**. If you select this option, proceed to step 16.
 - Skip the license for now it will be supplied later. If you select this option, you will be required to manually start your license server once you receive your license file as described in "Installing the Isight License After Installation," on page 170. Proceed to step 18.
- 13. Click Next. The license file selection screen appears.

Installer Isight 3.5-1
Select the license file. This file will be copied into the Isight 3.5–1 installation directory.
Select license file
Browse
< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel

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14. Enter the full path and name of the license file or use the **Browse** button to locate the file.

Note: The license file must be for the computer the installation is running on if the license server is to be installed as a daemon.

- 15. Proceed to step 18.
- 16. Click Next. The license server screen appears.

	Installer Isight 3.5-1
	Enter the license server name and (optionally) port number.
	License Server Name:
-	
InstallShield	
	<pre>< Back Next > Cancel</pre>

- 17. Enter the following information. It is needed to contact a license server, and it is used to create a license.dat file that references a license server.
 - License Server Name. The host name of the machine running the license server.
 - License Server Port. The port is found in the license file. The default is to leave this setting empty (Isight's license manager software selects the port number).

Important: If the license server you are referencing is behind a Windows Firewall (the firewall supplied with most Windows installations), you will need to manually alter your Isight license. For more information, see "Configuring Your License to Work with Windows Firewall," on page 178.

18. Click **Next**. After the installation program checks for required disk space, a summary of the installation appears.

	Installer Isight 3.5-1	= (×)
	Please read the summary information below. [sight 3.5-1 will be installed in the following location: /opt/SIMULIA/Isight/3.5-1 with the following features: Gateway and Client Tools Documentation for a total size: 523 MB	
InstallShield —	< Back Next > Cancel	

19. Click **Next**. The installation progress screen appears, and the software is installed. An overall summary message appears when the installation is complete.



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20. Click **Next**. If a license file or license server is specified, the Engineous-supplied components are published to the local library. Once the publishing is complete, a message appears stating that the installation is complete.

	Installer Isight 3.5-1	- • ×
	The installation has finished. Do you want to start the Isight Design Gateway? ☑ Start the Design Gateway?	
InstallShield —	< <u>B</u> ack <u>N</u> ext > <u>C</u> an	cel

If an earlier version of an Isight database is detected, a database migration program is executed to migrate to the current format. If a Database Migration wizard appears, see "Migrating Isight Databases," on page 38.

Note: If you decided to provide Isight with a license at a later time (as specified in step 12), a message appears providing you with your host name and host ID. This information is necessary for creating a license for your system and should be recorded and provided to your SIMULIA representative. Once you have recorded the information, proceed to step 22.

21. Determine whether or not you want to launch the Isight Design Gateway in Standalone mode as soon as the installation is complete using the corresponding check box.
22. Click **Next** to complete the installation. You are notified when installation is complete.

	Installer Isight 3.5-1	- = ×
	The wizard requires that you logout and log back in so changes to environment variables can take effect.	
InstallShield ————	< <u>B</u> ack <u>N</u> ext > <u>Fin</u>	ish

- 23. Review the final installation message(s).
- 24. Click Finish to complete the installation.
- **25.** If necessary, start the license manager for Isight. Typically, this process is performed automatically. However, there are some cases where it must be accomplished manually, including if you decided to provide Isight with a license at a later time (as specified in step 12) or if you do not have root privileges. For more information, see "Installing the Isight License After Installation," on page 170.

Migrating Isight Databases

If Isight detects a previous version of an Isight database, a migration utility executes, during the installation, to update the database to the Isight 3.5 format. Then, a Data Migration Wizard appears.

💩 Data Migration W	'izard						
	Database Migration Utility						
	This wizard will upgrade your existing Isight database to the format required by the current version of Isight.						
	Depending upon the amount of data you have generated, this could take a long time.						
	Click the "Create Database" button below to begin.						
	Number of files to copy: 89						
	Copy 3.1 data to your 3.5 database						
	✓ Preserve old 3.1 database						
	Create Database						
	Finish 🐼 Cancel						

The wizard shows the number of files that will be copied. Depending on the number of files, this process may take a long time.

1. Determine if you want to make the data from the previous version of Isight available in 3.5. You may also choose to preserve the previous data in its original format.

Important: If you choose to preserve the previous data, it is recommended that you not use the earlier version of Isight. Both databases use the same port number which would result in corrupt data.

Note: You may click Cancel to return to the install process, but upon starting Isight for the first time you will be prompted to migrate the database.

2. Click **Create Database**. Once the migration is complete, a Database completed successfully message appears. You will need to click Create Database even if you choose not to migrate your database and/or preserve 3.1 data.

Important: If you choose to migrate your previous database, do not click Cancel during the migration. This will result in corrupt data and you will have to manually

delete your previous database. The database is located in the following directory by default:

C:\Documents and Settings\username\fiperdbxx

Username is the name of the user who installed Isight and *xx* is the version that you want to delete.

3. Click **Finish**; then, return to step 20 in "Installing Isight on Windows" or step 21 in "Installing Isight on UNIX/Linux", depending on the platform on which you are installing Isight.

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2 Getting Acquainted with Isight

This chapter defines Isight and describes the main interfaces used to create and execute models in the Isight environment. It is divided into the following topics:

- "What is Isight?," on page 42
- "The Design Gateway," on page 42
- "The Runtime Gateway," on page 44
- "Components," on page 46

What is Isight?

Isight is a service-oriented product development environment, which provides an open, flexible means to incorporate existing analysis and design tools/methods and makes them available to others. It also provides a common, standard way to model your analysis and design process in conjunction with your product data.

The Design Gateway

The Isight Design Gateway is shown below.



This interface is the main Isight interface. It allows you to create models, manipulate components, and perform other functions associated with model design and development.

This interface allows you to perform the following basic actions:

- You can drag-and-drop components from the component tabs to the Workflow tab to create a model workflow. The component tabs (Drivers, Activities, etc.) allow you to arrange your components in a way that is convenient for you. You can even create custom tabs using the <New> tab.
- Once added to the workflow, you can double-click any component to access its editor.
- The menu and toolbar buttons allow access to additional features (Publish, Preferences, Run, etc.) as well as other interfaces (Runtime Gateway, Generator, etc.).

For more information on this interface Design Gateway, refer to the *Isight User's Guide*.

The Runtime Gateway

The Isight Runtime Gateway is shown below.



This interface differs from the Design Gateway in that it allows you to control execution and view results, but it only allows limited access to components and the workflow. It also lets you create graphs and tables, view parameter information, create approximations, access data analysis tools, and resubmit models for execution. The following main features are available:

- Workflow tab. Allows you to view the overall model workflow and access component editors.
- Parameters tab and History tab. Allow you to view results information for individual parameters.
- Graphs tab and Data Analysis tab. Provides access to graphs, tables, and post processing tools for viewing results.

- Visual Design tab. Allows you to create and view approximations.
- Logs tab. Provides execution information and may be helpful when errors occur during execution.
- Run menu. Allows you to execute the model workflow repeatedly, without having to return to the Design Gateway.

Using Post Processing Tools

While some of the post processing tools are discussed in the remaining chapters, there are many other tools that can assist you in viewing and analyzing results. These include Problem Formulation (runtime grading) and parameter filtering. Proceed to one of the following sections:

- "Understanding Problem Formulation (Runtime Grading)" on this page
- "Understanding Parameter Filtering," on page 46

Understanding Problem Formulation (Runtime Grading)

Problem formulation allows you to define a problem to be solved for each process component in a model, which by default will be inherited from the parent process component (only for the parameters that exist at that level).

This feature allows you to define the following information for scalar parameters and array elements:

- Lower/upper bounds
- Objective (minimize, maximize, target)
- Scale and weight factors (for objectives and bounds separately)

The problem formulation can be used to grade the designs for any of the components in that subflow. The Runtime Gateway uses this formulation to visually indicate how the runs of any component measure up against the stated objectives/constraints.

Typically, the formulation is defined using the Design Gateway. However, you can also define problem formulation on the Runtime Gateway. For more details about runtime grading, refer to the *Isight Runtime Gateway Guide*. For more information on using

this feature in the Design Gateway, as well as detailed information on how Isight uses the feature, refer to the *Isight User's Guide*.

Understanding Parameter Filtering

You can use the Runtime Gateway Data filter feature to filter the history of runs for the selected component, reducing the amount of information displayed, which may allow you to better analyze the execution data. Filtering can be based on the desired minimum/maximum values you want included for any parameters and/or based on the "grading" of the runs using the problem formulation (lower/upper bounds, objectives). The filtered data set is what is displayed on the Parameters, History, Data Analysis, and Graphs tabs.

Note: Some of the post-processing graphs from design driver component (for example, the Main Effects graphs for DOE) still use the full, unfiltered data set even after filtering.

For more details about parameter filtering, refer to the Isight Runtime Gateway Guide.

Components

Components are used as building block for models. Excel, Simcode, and DOE are examples of some of the components that Engineous has developed and can be included with Isight. These components are used in the examples included in this book.

You can also develop your own components to use within the Isight environment. For more information on using all Engineous-provided components, refer to the *Isight Component Guide*. For more information on creating custom components, refer to the *Isight Development Guide*.

Isight 3 Simple Example

This chapter demonstrates a simple Isight model that consists of wrapping an Excel spreadsheet in Isight to create a simple workflow with a single execution. Then, a process component (Loop) is added to further control the execution. The Excel workbook called SpringCalcs.xls is used. This file is included in your Isight installation.

Important: Since this example uses an Excel worksheet, it will only work on a Windows operating system. If you are using a UNIX or Linux operating system, proceed to Chapter 4 "Simcode Example".

The following tasks are demonstrated:

- Creating a new model using the Task component and adding an Excel component
- Configuring an Excel component (specifying a workbook and mapping parameters using different methods)
- Executing the model
- Viewing results using the Summary and History tabs on the Runtime Gateway
- Changing the Task component to a Loop component
- Configuring a Loop component
- Re-executing the model
- Viewing additional results using the Summary and History tabs on the Runtime Gateway

The problem used for this example is a classical tension-compression spring problem. The spring is to be designed for a minimum mass subject to constraints on minimum deflection, shear stress, surge frequency, and limits on the outside diameter and on the design variables, given a 10 lbs. load applied to the spring. The wire diameter, d, coil diameter, D, and the number of coils, n, are the design variables.

This example will be run using Isight in Standalone mode.

Accessing the Design Gateway

A model is a collection of components combined in such a manner as to "model" a problem to solve and a process to be used in solving that problem, whether it is analysis or analysis and design.

To start Isight and create a model:

- 1. Click the Windows Start button on the task bar at the bottom of your desktop; then, point to All Programs / Isight 3.5 and click the Design Gateway option.
- 2. If the Logon dialog box appears, select the **Standalone** connection profile; then, click **OK**. For more information on logon options, refer to the *Isight User's Guide*. The software continues to load.
- **3.** Click **OK**. The Design Gateway appears with a default Task component already added to the model's workflow.



4. Proceed to "Creating a Model," on page 49.

Creating a Model

The default "starter" workflow is already in place on the Design Gateway, with a Task component added. Now you need to specify additional components to complete the workflow. In this example, you'll add an Excel workbook using the Excel component editor. This editor allows you to specify a workbook (which is then loaded in the component editor's emulator) and map parameters from the contents of the workbook.

Adding an Excel Component to the Workflow

To add an Excel component to your model workflow:

- 1. Click the Activities tab. This tab is located on the Workflow tab below the Component title bar and toolbar (near the center of the Design Gateway). The component icons change according to the tab that is selected. When this tab is selected, the component palette displays all the currently loaded activity components available in Isight. Activity components take in input parameters, perform some function external to Isight, and provide new values to output parameters.
- 2. Drag-and-drop the Excel icon onto the red line on the Workflow canvas.

An Excel component is added to the workflow.



3. Proceed to "Specifying a Workbook" on this page.

Specifying a Workbook

In order to specify which workbook the component will use, you need to access the component editor. Components have editors that allow you to configure them.

To access the component editor and add a workbook:

1. Double-click the Excel icon in the workflow. The Excel component editor appears.

💩 Compone	ent Editor - I	ixcel							X				
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Workbook:	< No workbool	< specified >			Bro	wse	O S	tore workbook	in the model				
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			ОК	Cancel	Apply)			Help				

- **2.** Click the **Browse...** button (near the top of the editor) to add an Excel workbook. The Open dialog box appears.
- 3. Navigate to the following directory:

<*Isight_install_directory*>\examples\getting_started

4. Click the **SpringCalcs.xls** file; then, click **Open**. The workbook is loaded into the component editor, and the Named Cells Found dialog box appears.

Þ	lame d	Cells Found
	•	This workbook contains named cells/ranges. Would you like to. automatically add them as Parameters?
		Yes No

If you have cells named in the Excel workbook, Isight can automatically create parameters for you. In this example, there are some cells in the Excel workbook

that are already named, and you will use this feature to create some of the parameters automatically.

5. Click **Yes.** The Named Cell/Ranges dialog box appears, allowing you to guide Isight through the automatic parameter creation process.

Name	🕴 Sheet	Cell(s)	Action
Vveight	Sheet1	H6	≈
🖌 d	Sheet1	C6	≈
🗸 n	Sheet1	C8	2 ⇔∃
	i	I	
		, 	

This dialog box shows how Isight will automatically create parameters based on the named cells in Excel. Three of the cells are named *Weight*, d, and n. The cells that have these names are described in the window. By default, Isight will create parameters d (WireDiameter) and n (Numberof) as input parameters (as shown in the Action column), and the parameter *Weight* as an output parameter.

6. Click OK to accept the defaults.

You are returned to the Excel component editor, and the contents of the workbook are displayed.

2 Compone	ent Editor -	Excel							D
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/		CollDiameter	0.3		ļ'		Deflection	0.6761739	
8		Numberor	22.5	L	'		ShearStress	76547.161	
					ļ'		SurgeFrequ	346.79272	
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n			∞∳⊟	Sheet1		C8			I
Weight			28¢E	Sheet1		H6			
			ОК	Cancel	Apply	1		l	Help

7. Proceed to "Mapping Parameters" on this page.

Mapping Parameters

Now you need to define mappings to the rest of the workbook parameters. In this workbook, there is an additional input parameter that needs to be defined: *Coil Diameter*.

54 Chapter 3 Simple Example

To map the additional parameter:

1. Click in the cell that contains the value **0.3** (which is to the right of the cell that is labeled *Coil Diameter*). By clicking in this cell, the value of the cell (C7) is added to the Parameter text box and is highlighted in yellow.

^{Compone} EXC	ent Editor - :el	Excel							
orkbook:	SpringCalcs				Bro	wse	🚯 🗆 s	tore workbook	in the mod
Ionningo									
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	A	В	С	D	E	F	G	Н	I
1									~
2			Tension / C						
3									
4									
5		MiroDiamot	0.05				Woight	4 7603636	
7		CoilDiameter	0.05				Deflection	4.7603626	
8		NumberOf	22.5				ShearStrace	76547 161	
9		Number Of	22.5				SurgeEregu	346 79272	
10							Size	0.35	
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Sheet1	Sheet2 Sh	neet3							
Paramete	er: 🔽				- 🛪	χ∳≣	🗸 Range:	C7	P
	Parameter	- é	Action		Sheet	é.	Ra	nge	é
1			20	Sheet1		C6			
1			20	Sheet1		C8			
Mojaht			57 4 1	Choot1		LIG.			
vergni				Sheeti		00			
			ОК	Cancel	Apply)			Help

2. Type CoilD in the yellow **Parameter** text box. This action assigns a name to the parameter.

Note: By default, the mapping direction is "input" as shown in the example above. Since the coil diameter is an input parameter, you can leave this setting alone.

3. Click the **b**utton to add the parameter to the list at the bottom of the editor. Once done, the cell (C7) is highlighted in gold as an input parameter, just like the previous two input parameters.

Exc	:el	JER JER TER TER TER TER							
rkbook:	SpringCalcs				Bro	wse	👀 🗆 s	tore workbook	in the mo
appings	Advanced	1							
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1									^
2			Tension / C						
3									
4									
5									
6		WireDiamet.	0.05				Weight	4.7603626	
7		CoilDiameter	0.3				Deflection	0.6761739	
8		NumberOf	22.5				ShearStress	76547.161	
9							SurgeFrequ	346.79272	
10							Size	0.35	
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oilD			289	Sheet1		C7			
leight			%48	Sheet1		H6			

Instead of typing the names of all the parameters that you want to specify, you can use the name-value mapping option and make use of the fact that some of the cells contain text describing the values in the adjacent cells. You will now use name-value mapping to map the remaining parameters in the workbook.

4. Click and drag in the workbook to highlight cells G7 through H10. Do *not* highlight cells G6 or H6, since this parameter is already defined.

Your editor should appear as shown below.

į,	Compone	ent Editor -	Excel								X
	S Exc	el									
W	/orkbook:	SpringCalcs				Bro	wse	💊 🗆 s	tore workbook	in the mod	lel
	Mappings	Advanced									
í		, ,	1			1		1			-1
		A	В	с	D	E	F	G	н	I	
	1									^	
	2			Tension / C							
	3										
	5										
	6		WireDiamet	0.05				Weight	4 7603626		
	7		CnilDiameter	0.3				Deflection	0.6761739		
	8		NumberOf	22.5				ShearStress	76547.161		
	9							SurgeFrequ	.346.79272		
	10							Size	0.35		
	11										
	12										
	13										
	14		1				1	1			
		•									
	Sheet1	Sheet2 St	neet3								
	Paramete	er: <mark>G7:H10</mark>				• 🛛	% ⊳E	Range:	G7:H10		
		Parameter	·	Action	÷.	Sheet	÷.	Ra	nge	\$	
	d			∞⇒⊟	Sheet1		C6				
	n			%	Sheet1		C8			ľ	
	CoilD			22	Sheet1		C7				
	Weight			24	Sheet1		H6				
					Consel	l tent:	1			Liele	_
				UK	Cancel		J			Help	

5. Click the ∞ button; then, click the ∞ E option. This action changes the mapping direction from input to output.

Your editor should appear as shown below.

💩 c	💩 Component Editor - Excel 🛛 🔀										
X	Exc	el									
Wo	rkbook:	SpringCalcs				Broy	wse	🔊 🗆 s	tore workbook	in the model	
M	annings	Advanced									
	abbingo	Auvanceu									
		A	В	С	D	E	F	G	н	I	
	1									<u>^</u>	
	2			Tension / C							
	3										
	5										
	6		WireDiamet	0.05				Weight	4.7603626		
	7		CoilDiameter	0.3				Deflection	0.6761739		
	8		NumberOf	22.5				ShearStress			
	9							SurgeFrequ	.346.79272		
	10							Size	0.35		
	12										
	12										
	14									<u> </u>	
		<								>	
	Sheet1	Sheet2 Sh	neet3								
F	'aramete	r: <mark>G7:H10</mark>				. ▼ 🌫	2348	🛃 Range:	G7:H10		
		Parameter	÷	Action	+	Sheet	÷	Ra	nge	÷.	
d				∞∳⊟	Sheet1		C6				
n				∞∳⊟	Sheet1		C8				
С	oilD			22∳目	Sheet1		C7				
- M	(eiaht			248	Sheet1		H6				
				ОК	Cancel	Apply	J			Help	

6. Click the button next to the button; then, select Add Name-Value mapping from the menu that appears.

All of the selected output parameters are added to the list at the bottom of the editor. Your editor should appear as shown below, with an updated parameter list.

•	Component Editor - Excel									
X	Exc	el			and the contract of the contra		ataka katataka kata	alalatatatatatatatat		
w	orkbook:	SpringCalcs				Bro	wse	🚯 🗌 S	tore workbook	in the model
Mappings Advanced										
Г		Thuraneou	1							[
		A	В	C	D	E	F	G	Н	I
	1									<u> </u>
	2			Tension / C						
	3									
	4									
	6		MireDiamet	0.05				Meight	4 7603626	
	7		CoilDiamete	r0.3				Deflection	0.6761739	[]]
	8		NumberOf	22.5				ShearStress	76547.161	
	9							SurgeFrequ	346.79272	
	10							Size	0.35	
	11									
	12									
	13									
	14	<		1			I		1	>
		Choot2 C	hoot?							
	Sneeti	Sileetz a	neeta							
ſ	Paramete	er:				- 🛪	%	🖌 🖌 Range:	- SELECT -	
ľ		Paramete	r 🍦	Action 🕴		Sheet	A A	Range		
ľ	k			%	Sheet1		C6			
h	ı			χ∳Ε	Sheet1		C8			
ŀ	CoilD			% ∳∃	Sheet1		C7			
k	Veight			2	Sheet1		H6			
b	Deflection			2.48	Sheet1		H7			~
Ĩ				ок	Cancel	Apply)		(Help

- 7. (optional) Click the Advanced tab on the Excel component editor; then, clear (deselect) the Show Excel during execution check box if you do not want Isight to show the Excel workbook during execution.
- 8. Click OK. Your changes are saved and the component editor is closed.



You are returned to the Design Gateway.

9. Proceed to "Executing the Model and Viewing Results" on this page.

Executing the Model and Viewing Results

Isight now has enough information to execute the Spring application. Since the parent component of the workflow is the default Task component, the model will only execute one time. This single execution is the essence of the Task component.

To execute the model:

1. Click the button on the Design Gateway toolbar. The Runtime Gateway appears, and the model is executed. The Runtime Gateway automatically loads the Excel workbook. Excel is started on your system, and it displays the selected workbook.

Note: You can set Isight to not show the Excel workbook during execution by accessing the Advanced tab on the Excel component editor and clearing (deselecting) the **Show Excel during execution** check box. For more information on the other advanced settings, refer to the *Isight Component Guide*.

Once execution is completed, the message "Job completed successfully" appears in the bottom left corner of the interface, and \aleph icons appear above each component in the workflow, as shown below.



You can now view the results of the execution. In this example, you will use the Summary tab and the History tab to view the results. These two tabs display information in different formats.

Note: The content of each tab changes depending on the component selected on the left side of the Runtime Gateway.

Click the Excel component in the Model Explorer on the left side of the Runtime Gateway; then, click the Summary tab on the right side of the Runtime Gateway. A summary of the execution appears. This summary does *not* include individual parameter values.



3. Click the **History** tab.

This tab shows parameter values for each run of the Excel component.

a Isight Runtime Gatewa	ny : Untitled 1	
File Edit Run View Jo		
Model Selection Untitled 1	Image: Color of the color	
	Configure	
Show details	Data Filters All 1 data points shown Options Page 1 «New»	
 Job completed successfi 		itandalone

- 4. Select Close Window from the Runtime Gateway File menu to close the interface. You are returned to the Design Gateway. Now you'll add a process component to the workflow to facilitate multiple runs of the Excel component during a single execution.
- 5. Proceed to "Adding a Loop Component to the Model," on page 63.

Adding a Loop Component to the Model

As discussed earlier, the Isight Design Gateway starts with a default task. For this example, you will change this to a Loop component. The Loop component is a process component. A process component is a component that contains an Isight workflow within it (also called a subflow). Process components are typically referred to as *design drivers*, which use various algorithms to determine the values of input parameters for each iteration.

Adding the Loop Component

To add components to the model:

- 1. Right-click the **Task** component on the **Workflow** tab of the Design Gateway. A menu appears.
- 2. Point to Change To on the menu; then, select the New... option. The Select New Component dialog box appears.

Select New Component
🔠 DOE
Coop
Monte Carlo
SDI
🎪 Six Sigma
M Taguchi RD Sask
Copy existing parameters to new component
Delete existing component
OK Cancel

3. Click the **Loop** component; then, click **OK**. The Task component has been changed to a Loop component in your workflow.

💩 Isight Design Gateway : Unt	itled 1 (Not Saved) : Modified
File Edit View Window Run	i Tools Help
là 🗅 🗅 🐚 🖷 🕒 🐰	
Model Selection	Vorkflow Tc Dataflow XC Parameters
E- Coop1	🖸 Loop1 🔮 🖩 🐗 🥸 🗸
Image: Image and the second secon	Drivers Activities «New»
	🔀 🛃 🔛 🛍 Add
	k
🗹 Show details	
✓ Loop is not configured	Go To) Fix It: 👫 1 Warning 🛛 🔂 Log Modified Standalon

4. Proceed to "Configuring the Loop Component" on this page.

Configuring the Loop Component

At this point, you have fully defined the input parameters and output parameters required in the Excel workbook. Now, you need to configure the Loop process component.

To configure the Loop component:

1. Double-click the Loop1 icon in the workflow. The Loop component editor appears.

💩 Compor	nent Editor - Loop 🛛 🛛 🔀				
O Lo	oop1				
Loop Туре	For				
This loop w the subflow	rill iterate through a sequence of values of the selected parameter and execute / at each iteration.				
Parameter					
From	Constant 💌				
То	Constant 💌				
Increment	Constant 💌				
Action whe	an a run fails 🛛 Fail Loop				
Execute	all iterations in parallel				
OK Cancel Apply Help					

There are several types of Loops available in Isight, including "for", "for array", "for each", "while", and "do until".

2. Verify that For is selected from the type from the Loop Type drop-down list.

Using the Parameter drop-down list, you have the option of selecting any of the Isight input or output parameters created earlier in the Excel component.

3. Click the volume to the **Parameter** text box to access the Parameter drop-down list; then, select **n** from the list of parameters. This selection means that you will loop on the value corresponding to the number of coils. Your editor should appear as shown below.

💩 Compor	nent Editor - Loop	X					
C Lo	bop1						
Loop Type	For 👻						
This loop w the subflow	This loop will iterate through a sequence of values of the selected parameter and execute the subflow at each iteration.						
Parameter	r n	2					
From	Constant 💌	1.0					
То	Constant 👻	10.0					
Increment	Constant 👻	1.0					
Action whe	en a run fails 🛛 Fail Loop 🛛 👻						
Execute	te all iterations in parallel						
	OK Cancel Apply	Help					

When using the For Loop option, you can also specify a start point, end point, and increment for the parameter you've chosen to loop on. In this case, you are going to vary the number of coils in the spring.

- 4. Enter the following values in the corresponding text boxes:
 - **From**: 5.0
 - **To**: 50.0

5. Verify that the **Increment** option is set to 1.0. Your editor should appear as shown below.

💩 Compoi	nent Editor -	- Loo	p 🔀				
📮 Lo	op1						
Loop Type	For	~					
This loop w the subflow	This loop will iterate through a sequence of values of the selected parameter and execute the subflow at each iteration.						
Parameter	n		- 🛛				
From	Constant	~	5.0				
То	Constant	~	50.0				
Increment	Constant	*	1.0				
Action whe	en a run fails	Fail	Loop 🖌				
🔲 Execute	e all iterations	in pa	arallel				
OK Cancel Apply Help							

6. Click OK. Your changes are saved, and you are returned to the Design Gateway.



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Re-executing the Model and Viewing Updated Results

Isight now has enough information to execute the Spring application in a loop.

To execute the model:

1. Click the button on the Design Gateway toolbar. The Runtime Gateway appears, and the model is executed. The Runtime Gateway automatically loads the Excel workbook and changes the value of the number of coils cell based on the Loop component you defined. You can minimize Excel to view the execution progress in the Runtime Gateway.

Note: You can set Isight to not show the Excel workbook during execution by accessing the Advanced tab on the Excel component editor and clearing (deselecting) the **Show Excel during execution** check box. For more information on the other advanced settings, refer to the *Isight Component Guide*.

Once execution is completed, the message "Job completed successfully" appears in the bottom left corner of the interface, and icons appear above each component in the workflow, as shown below.



You can now view the results of the execution. In this example, you will use the Summary tab and the History tab to view the results. These two tabs display information in different formats.

Note: The content of each tab changes depending on the component selected on the left side of the Runtime Gateway.

- 2. Verify that the Loop1 component is selected in the Model Explorer on the left side of the Runtime Gateway.
- 3. Click the Summary tab on the right side of the Runtime Gateway.

A summary of the execution for the Loop component appears. This summary does *not* include individual parameter values.



4. Click the Excel component in the Model Explorer on the left side of the interface.

Notice that the Summary information changes since the selected component has changed.

찬 Isight Runtime Gatewa	y : Untitled 1					
File Edit Run View Jo	bs Help					
🖾 🛢 🖿 🔀 🐿 🞎	. 🖾 🔹 🕨	✓ Current Job [(1) Untitled 1 - 10:28:02	~	🍂 Done (OK) 47/47	٢
Model Selection Untilled 1 V V Coop1	→ Workflow	🔀 Parameters 🛛 🎯 History	الله Data Analysis الله كانين Summary Loop1.E	al Design 🔛 Grap y for xcel	ns 🖹 Summary 🖺 Logs	
			Total number of execution	u ns 46		
			Successful executions	46		
			Unsuccessful executions	0		
			Total time for executions	00:00:01.392		
			Average time per execut	ion 00:00:00.030		
			Maximum execution time	e 00:00:00.172		
			Minimum execution time	e 00:00:00.015		
Show details						

5. Click the **History** tab.

This tab shows parameter values for each run of the Excel component.

Elle Edit Run View Jobs Hein							
🕾 🛢 🖹 🕅 🔞 🛸 🔛 🔹 🕨	•	Current Job (1) Untitled 1 - 10	:28:02	~	🍂 Done (OK) 47/47	٢
Model Selection Image: Selection Untitled 1 Image: Selection Image: Selection <	I Design w 201 c 2 2 c 3 c 4 2 c 6 6 c 7 c 7 c 8 c 9 c 1 c 4 2 c 4 2 c 4 2 c 6 6 c 7 c 7 c 8 c 9 c 10 c 11 c 12 c 12	Image: A gray of the second	ameters for all d 0.05	Iterations (Done 100 50 50 60 50 60 700 80 900 100 110 120 130 130 160 170 180 200 210 220 230 200	Logs alysis Deflection 0.15026 ~ 0.18031 0.21037 0.24042 0.27047 0.30052 0.30057 0.30057 0.30057 0.30057 0.30057 0.30068 0.42073 0.45078 0.45078 0.45078 0.45078 0.45078 0.45078 0.55099 0.56104 0.57099 0.66115 0.6912 ~	Graphs Overview	
Show details	All 46 i	data points shown			Options 🔻	Page 1 <new></new>	~

- **6.** Select **Close Window** from the Runtime Gateway **File** menu to close the interface. You are returned to the Design Gateway.
- 7. Select Close Current Model from the Design Gateway File menu to close the model. The Save Model dialog box appears.
- **8.** Save the model, if desired. It is not necessary to save the model to complete any of the other examples in this book.

Important: Due to naming limitations, do not use the following characters in your model name:

#, ?, &, %, !, \, \$, {
Isight 4 Simcode Example

This chapter demonstrates how to use the Simcode component to build a workflow in the Isight Design Gateway with an existing executable (aeroarg) and input and output template (AeroIn and AeroOut) files. These files are included in your Isight installation. There are separate files for Windows operating systems, several UNIX operating systems (AIX, HP-UX, and Solaris), and Linux. The UNIX and Linux files are located within subdirectories of the directories specified in this procedure.

The following tasks are demonstrated:

- Creating a new model
- Adding a Simcode component to the model's workflow
- Configuring a Simcode component (executable file, input file, and output file)
- Renaming a component
- Executing a component
- Publishing a component
- Viewing a published component in the Library
- Saving a model

Creating the Model and Adding a Component

The first step is to create a model and add the Simcode component. This step is accomplished using the Design Gateway.

To start Isight and create a model:

1. Start the Isight Design Gateway, if necessary. If you are continuing from the previous example (the Simple Example), proceed to the next step.

For more information on how to start the Design Gateway on Windows, see "Accessing the Design Gateway," on page 48.

To start the Design Gateway on UNIX/Linux, execute the ./gateway command from the <*isight_install_directory*>/bin directory.

Note: If you are starting the Design Gateway on a 64-bit Linux system, the 64-bit version of the interface is started by default. However, if you have installed both the 32-bit and 64-bit versions, you can specify the version that will be used by adding -32 or -64 to the end of the gateway command (be sure to leave a space between the command and the option). Additionally, you can set the default value for the gateway command using the FIPER_BITS environment variable described in the *Isight User's Guide*.

2. Select New (Default) from the Design Gateway File menu.



A new model is created with the default (Task) component.

- **3.** Click the **Activities** tab. The currently loaded activity components are shown on the component palette.
- **4.** Drag-and-drop the **Simcode** icon **a** onto the red line on the Workflow canvas.

A Simcode component is added to the workflow.



Once the component is added to the workflow, it must be configured for your problem.

5. Proceed to "Configuring the Executable" on this page.

Configuring the Executable

The next step is to tell Isight how to run the necessary executable file. This task involves entering the name of the program, including the directory in which it resides, and the command line arguments that it takes.

To configure the component:

1. Double-click on the **Simcode** icon in the workflow. The Simcode Component Editor appears.

💩 Component Editor - Simcode
😰 Simcode
Input Command Output
Provide information about the command you want to execute
Basic Advanced Required Files Orid
Type Command
Command Preview
Command Line
Distribute Executable Find Program Verify Commands
Parameter 🖉 🏈
Affinities
Evention requirements for this Component
Ctation Name
Other
Group Name
DRM Mode Any 🖌
OK Cancel Apply Help

By default, the Command tab is selected. There are four different subtabs available from the Command tab: Basic, Advanced, Required Files, and Grid (if available). The Basic tab is selected by default. The Command Line text box is used to enter the program name, path of the program, name of the input file, and the name of the output file.

- 2. Click the Find Program... button. The Select Program dialog box appears.
- **3.** Navigate to the following directory:

<*Isight_install_directory*>\examples\getting_started

Note: If you are using UNIX or Linux, navigate into the subdirectory that matches your operating system.

4. Click the aeroarg.exe file; then, click Open.

Note: If you are using UNIX or Linux, the name of the file is aeroarg.

You are returned to the Simcode component editor, and the full path of the program is entered into the field.

🕭 Component Editor - Simcode
🛿 Simcode
Input Command Output
Provide information about the command you want to execute
Basic Advanced Required Files Grid
Type Command 🗸
Command Preview C:\SIMULIA\Isight\3.5-PR1\examples\getting_started\aeroarg.exe
Command Line
Distribute Executable Find Program Verify Commands
C1SIMULIAIIsight13.5-PR11examples1getting_started1aeroarg.exe
Parameter 🖉 🏹 💮
Affinities
Execution requirements for this Component
Operating System Any Version
Station Name
Other
Group Name
DRM Mode Any 🗸
OK Cancel Apply Help

For this example, the input file name is AeroIn.txt and the output file name is AeroOut.txt. These files need to be added to the Command Line text box.

5. Type AeroIn.txt AeroOut.txt following the ...aeroarg.exe entry in the **Command Line** text box. Be sure to leave a space after the ending text and the information you are typing.

Note: If you are using UNIX or Linux, you should type AeroIn and AeroOut following the aeroarg entry.

Isight Getting Started Guide

Your component	editor	should	appear	as shown	below.
1			11		

💩 Component Editor - Simcode
😰 Aeroarg
Input Command Output
Provide information about the command you want to execute
Basic Advanced Required Files Grid
Type Command
Command Preview C:\SIMULIA\Isight\3.5-PR1\examples\getting_started\aeroarg.exe AeroIn.txt AeroOut.txt
Distribute Executable Find Program Verify Commands
C1SIMULIAWsight3.5-PR11examplestgetting_startedtaeroarg.exe AeroIn.bt AeroOut.bt
Parameter
Affinities Execution requirements for this Component Operating System Any Station Name Other Group Name DRM Mode
OK Cancel Apply Help

The complete syntax for running the aeroarg.exe at a command line is as follows (all on one line), based on your operating system:

- Windows: <*lsight_install_directory*> aeroarg.exe AeroIn.txt AeroOut.txt
- UNIX/Linux: </br>

 UNIX/Linux:
 Isight_install_directory> aeroarg AeroIn AeroOut
- 6. Click **Apply** to save your changes to the component. At this point, you have done all that is necessary to define the command line executable to run the aeroarg.exe code.
- 7. Proceed to "Defining the Input Parameters," on page 80.

Defining the Input Parameters

Since Isight will be running this program many times with different values of several input parameters, you must tell Isight how to put the new values you want to investigate into the input files so that Isight can evaluate them.

To define input parameters:

1. Click the **Input** tab on the Simcode component editor. The contents of the tab appear.



2. Click the large Click here to open a new Data Source button in the center of the tab.

The Exchanger Wizard appears.

💩 Exchanger Wizard	
	Select Data Source Select the source of the data you want to update in the input file parse.
	Cancel Help

At this point, you need to select the data source that will be used as the input file and will be updated during execution. In general, it is best to use a template file to define the parsing commands for the input file. This option is selected by default.

3. Click Next. The Select Template File screen appears.

찬 Exchanger Wizard	
Exchanger Wizard	Select Template File Select the template file that will be updated by the input parse Template File: Browse Store contents of the template in the model. Read template from this file for every run.
	Back D Next Finish Cancel Help

- 4. Click the Browse button. The Open dialog box appears.
- 5. Click the AeroIn.txt file; then, click Open.

Note: If you are using UNIX or Linux, you should select **AeroIn** from the subdirectory that matches your operating system.

The full path of the file is added to the Template File text box.

💩 Exchanger Wizard		
	Select Template File Select the template file that will be updated by the input parse Template File: C:\SIMULIA\Isight\3.5-PR1\examples\getting_started\AeroIn.txt Browse Store contents of the template in the model. Read template from this file for every run.)
	Back Next Finish Cancel Help	

You have the option to store the contents of the template file in the model file or to read from the template file for every run. The latter option is the default.

6. Verify that the **Read template from this file for every run** radio button is selected; then, click **Next**. The Select Local File Name screen appears.

찬 Exchanger Wizard		
	Select Local File Name This is the name the file will have when the OSCommand runs. Normally this is a simple file indicating the file is in the FIPER Runtime Working Directory Local File Name Aeroin.td	e name, Browse
	Line Ending Default 🔽	
	Back Next Finish Cancel	Help

By default, the value in the Local File Name text box is AeroIn.txt (or AeroIn on UNIX or Linux). This value is based on what you previously specified on the Select Template File screen (in step 5).

7. Click Next.

The File Format screen appears.

💩 Exchanger Wizard		
	Select the section type to be applied usually the most convenient. Progra handled with the General text tool. Format	File Format to the whole file. If the file is a fixed template, the Table format is moutput reports that need to be searched for keywords are best Description
	General Text Name/Value Table Vector	Text with no particular structure. Fields are located by searching for words or phrases.
	Sack S	> Next Finish Cancel Help

Isight can do data exchange (or parsing) on four different types of files: General Text, Name/Value, Table, and Vector. For this example, the General Text option is used.

8. Verify that the General Text option is highlighted in the Format area; then, click Finish.

You are returned to the component editor, and the input file information is displayed.

👼 Component Editor - Simcode	
😰 Simcode	
Input Command Output	
🔺 🖹 🔼 🖕 🗏 🖩 🗛 👘 🙏 🔅	
Actions Aeroln bt News	Input Parameters
J // DATA EXCHANGE PROG 1 2 3 4 5 6	Op Name 🕴 Value 🍦 Mo 🗒
Aeroin = Partitioner/ lext + 123456789 123456789 123456789 123456789 123456789 123456789 1	
2 ==== Aerodynamic Analysis Input File ====	
$\frac{4}{4}$ Wing Span (ft) b = 45	
5 Surface Area of the wing Swing = 300.0 ft^2 6 Length of Fuselage Lfuse = 20.0 ft	
7 Diameter of Fuselage Dfuse = 5.0 ft 8	
Parameter 💽 🔳 🖉 🖉	
General Data Swipe	
from Start of File 💌	
Whole Line 🖌	
■▶№ ♀	X 🔏 🔏 Filter
	<u></u>
OK Cancel Apply	Help

The left side of the editor shows the current list of actions for the file. The center of the editor shows the contents of the template input file used by the simulation code. The right side displays the input parameters with properties such as Mode, Type, etc. Since no parameters have been defined yet, this area is blank.

9. Click the value 45 in the center of the editor.

The number is highlighted.

💩 Component Editor - Simcode			
🛿 Simcode			
Input Command Output			
🗛 🖹 📓 🕼 🔓 🗃 🖩 🔺 🛟 C 🥔 🦉 🗇			
Actions Acroin bt ellows	Input Parameters		
<pre>// JATA EXCHANGE PROG // Aeroin = Partitioner / Text Fi // Aeroin = Partitioner / Text Fi // 2 ==== Aerodynamic Analysis Input File ==== // 3 // Wing Span (ft) b = 45 // 5 Surface Area of the Wing Swing = 300.0 ft^2 // 6 Length of Fuselage Lfuse = 20.0 ft // Diameter of Fuselage Dfuse = 5.0 ft</pre>	Op Name Value Moft		
Parameter 💽 🔳 🖉 🖉			
General Data Swipe			
Find V Wing Span V from Start of File V String V Occur. Offset 0 Lines			
	X X X Filter		
	Add a new parameter to the list		
OK Cancel Apply	Help		

10. Type WingSpan in the **Parameter** text box in the center of the editor.

The text box is highlighted in yellow once you begin to enter text.

🕭 Component Editor - Simcode	
🛿 Simcode	
Input Command Output	
🗚 🖹 🔟 🕼 🕃 🗃 🖩 🖩 A 🛟 C 📮 🚝 🐟	
Actions Act	op Name Value Mo
Parameter WingSpan V I V Ving Span V from Start of File V	
Image: String Occur. Offset Lines Image: Word # 6	× × × × × Filter
Swipe	
OK Cancel Apply	Help

11. Click the Write button adjacent to the Parameter text box. This action tells Isight to write a parameter called "WingSpan" into the input file at the location where the value 45 now resides. For the purpose of file parsing in the Simcode component, Isight typically writes parameters into the input file so that their values may change from run to run. Conversely, Isight reads values from output files after they are run through the Simcode.

The editor is updated with the new action added to the left side and the new parameter added to the right side.

The Component Editor - Simcode	X
🛿 Simcode	
Input Command Output	
🗚 😰 🛛 🖏 😹 🗑 🖩 🔺 🖒 C 🥥 🦉 🧑	
Actions AeroIn.bt <new></new>	Input Parameters
Aroln = Partitioner/Text F 123456789 12356789 12356788 12356788 12356788 123567888888888888888888888888888888888888	Op Name + Value + Mo H WingSpan 45 🛃 🛆
WingSpan-> Aeroln.word(1 2 ==== Aerodynamic Analysis Input File ====	
3 4 Wing Span (ft) b = 45	
5 Surface Area of the Wing Swing = 300.0 ft^2 6 Length of Fuselage Lfuse = 20.0 ft	
7 Diameter of Fuselage Dfuse = 5.0 ft 🔤	
Parameter WingSpan	
General Data Swipe	
E Find V Wing Span V from Start of File V	
String Occur: 1 Offset 0 Lines	
Word# 6	
	🏅 🄏 🄏 Filter
Write statement created	
OK Cancel Apply	Help

The parameter WingSpan is being declared as an integer, because the number in the input file is written without decimals. However, for this example, the value should be a Real value.

- Click the cell that contains the word Integer in the Input Parameters area of the right side of the editor. You may need to scroll over to see this cell it is under the Type column. A drop-down button appears when the cell is clicked.
- 13. Select Real from the options that appear.

The Type setting for the parameter is updated.

💩 Component Editor - Simcode
🖉 Simcode
Input Command Output
🗚 🕼 🛛 🖏 📪 📲 📕 🗛 👘 🖉 🕹
Actions // DATA EXCHANGE PROG Aeroin = Partitioner / Text Fi Aeroin service and the service
Parameter wingspan
E Find V Wing Span V from Start of File V String V Occur: Offset 0 Lines
Word # 6
■ ▶ 1 ² 2
OK Cancel Apply Help

Now you need to define the remaining input parameters using the same procedure.

- 14. Click the value 300.0 in the center of the editor until the number is highlighted.
- 15. Type WingArea in the **Parameter** text box; then, click the **Write** button . The Actions area is updated, and this parameter is added to the list on the right side of the editor. Since the value in the file is in real format, the parameter WingArea is created as a Real value.
- 16. Click the value 20.0 in the center of the editor until the number is highlighted.
- 17. Type FuseLength in the **Parameter** text box; then, click the **Write** button **2**. The Actions area is updated, and the parameter is added to the list on the right side of the editor.

- 18. Click the value 5.0 on the left side of the editor until the number is highlighted.
- 19. Type FuseDia in the Parameter text box; then, click the Write button . The Actions area is updated, and the parameter is added to the list on the right side of the editor. When finished, your editor should appear as shown below.

💩 Component Editor - Simcode	
🛿 Simcode	
Input Command Output	
A (2) R (2) R (2) A (2) C (2) (2) A (2)	
Actions	Input Parameters
<pre>viols viols viols</pre>	Op Name Value Mo Image: State of the s
General Data Swipe	
Find V meter of Fuselage V from Start of File String Occur. 1 Offset 0 Lines	
♦ Word # ● 6	
■▶№ ♀	X 🎇 🔏 Filter
Write statement created	
OK Cancel Apply	Help

- 20. Click Apply to save your changes to the component.
- 21. Proceed to "Defining the Output Parameters," on page 90.

Defining the Output Parameters

You must now define the values to read after the simulation code has been executed.

To define output parameters:

1. Click the **Output** tab on the Simcode component editor. The contents of the tab appear.



2. Click the large Click here to open a new Data Source button in the center of the tab.

The Exchanger Wizard appears.

💩 Exchanger Wizard		
	Select Sample File Pick an example of the output file format. This file is used only when setting up the parse. OSCommand will actually write to the 'local file' below. Sample File: Local File Name:	The Browse Browse
	✓ Back ▷ Next Finish Cancel	Help

- **3.** Click the **Browse** button adjacent to the **Sample File** text box. The Open dialog box appears.
- 4. Click the AeroOut.txt file; then, click Open.

Note: If you are using UNIX or Linux, you should select **AeroOut** from the subdirectory that matches your operating system.

The full path of the file is added to the Sample file to use when designing the Data Exchange text box.

💩 Exchanger Wizard				
	Select Sample File Pick an example of the output file format. This file is used only when setting up the parse. T OSCommand will actually write to the tocal file' below.			
	Sample File: C:\SIMULIA\Isight\3.5-PR1\examples\getting_started\AeroOut.txt	Browse		
	Local File Name: AeroOut.txt	Browse		
	Back Mext Finish Cancel	Help		

The Local File Name setting is automatically entered as AeroOut.txt (or AeroOut on UNIX or Linux).

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5. Click Next. The Output Destination screen appears.

🔯 Exchanger Wizard	
	Output Destination Where will this data be put after the output parse is finished? If you select 'Don't Store', the file is left in the component working directory (which is usually deleted when the component finishes). Image: Store with the Job Results Image: Don't store the file. The file cannot be mapped to other components. Image: Write to a File Image: Browse
	Finish Cancel Help

Now you need to decide where the output data will be stored after the output parse is finished.

6. Click Next to accept the default option. The File Format screen appears.

💩 Exchanger Wizard		
	Select the section type to be applied usually the most convenient. Progra handled with the General text tool. Format General Text Name/Value Table Vector	File Format to the whole file. If the file is a fixed template, the Table format is moutput reports that need to be searched for keywords are best Pescription Text with no particular structure. Fields are located by searching for words or phrases.
	Back	> Next Finish Cancel Help

7. Verify that the **General Text** option is highlighted in the Format area; then, click **Finish**. You are returned to the component editor, and the output file information is displayed.

💩 Component Editor - Simcode	X
😰 Simcode	
Input Command Output	
A B B B B B B A G C B G A	
Actions AproOut bt	Output Parameters
Actions # // DATA EXCHANGE PROC AcroOut Partitioner/Text 1 23456789 12345	Contput Parameters
OK Cancel Apply	Help

The left side of the editor shows the current list of actions for the file. The center of the editor shows a copy of the output template file. The right side displays the output parameters. Now you need to specify the output parameters using the same procedure as used to specify the input parameters.

- 8. Click the value 182.985 in the center of the editor. The number is highlighted.
- 9. Type SurfaceArea in the **Parameter** text box; then, click the **Read** button . The Actions area is updated, and the parameter is added to the list on the right side of the editor.
- 10. Click the value 737.667 in the center of the editor until the number is highlighted.

- 11. Type WetArea in the **Parameter** text box; then, click the **Read** button . The Actions area is updated, and the parameter is added to the list on the right side of the editor.
- 12. Click the value 15.9917 in the center of the editor until the number is highlighted.
- 13. Enter LoD in the **Parameter** text box; then, click the **Read** button . The Actions area is updated, and the parameter is added to the list on the right side of the editor. Your editor should appear as shown below.

💩 Component Editor - Simcode	X
Simcode	
Input Command Output	
🗚 🗑 🖾 🖏 🖥 🖩 🙏 🖒 😊 🖵 🥰 💩	
Actions Output Parameters	
UDATA EXCHANGE PROG 1 2 3 4 5 6 Op Name & Value	Mo 🗐
AeroOut = Partitioner / Text 123456789 123456789 123456789 123456789 123456789 123456789 123456789 1 LoD 15.992	
WetArea < AeroOutword() 2 ==== Aerodynamic Analysis Output File ====	<u>Ľ</u>
4 Surface Area of the Fuselage = 182.985 ft^2	
5 Wetted Area of the Aircraft = 737.667 ft^2	
Parameter LoD	
General Data Swipe	
Find 🗸 from Start of File 🗸	
String Occur. 1 Offset Lines	
Whole Line V	>
■ ▶ Ki 2	.er
UK Cancel Apply	h

14. Click **OK** to save your changes and close the Simcode component editor. You are returned to the Design Gateway.



15. Proceed to "Renaming the Component" on this page.

Renaming the Component

In order to make the component's purpose more intuitive, or to help you more easily remember the purpose of the component, you can rename it. This step is completely optional, and does not affect the execution or the model. For information on other options available for customizing Isight, refer to the *Isight User's Guide*.

To rename the component:

- 1. Right-click the Simcode icon in the workflow. A menu appears.
- 2. Click the Rename option.

The Rename Component dialog box appears.

Rename Component	3
Enter the new name for this component.	
OK Cancel	

3. Type Aeroarg in the text box; then, click **OK**. You are returned to the Design Gateway, and the new name now appears below the component, in the Component Title Bar (immediately above the Workflow canvas), and in the Model Explorer on the left side of the interface.

💩 Isight Design Gateway : Unt	titled 1 (Not Saved) : Modified	
File Edit View Window Run	n Tools Help	
là 🗅 🖻 🖷 🖷 🖨 🔏		
Model Selection Untitled 1	, IXT Formulation IA Files A Exploration IX Graph Templates → Workflow IV Dataflow X Parameters	23
⊡… 🌆 Task1 ⊕– 🔯 Aeroarg	Aeroarg Image: State of the state of th	
	Add.	
	Aeroarg	
🗹 Show details		2
No Errors	Go To Fix It 📰 0 Errors 🔀 Log Modified Standa	alone

4. Proceed to "Executing the Model," on page 97.

Executing the Model

Isight now has enough information to execute the model.

To execute a model:

- 1. Right-click the Aeroarg icon on the workflow. A menu appears.
- 2. Point to the Run option. Additional options appear.
- **3.** Click the **Configure and Run Component** (**Aeroarg**) option. The Run Info dialog box appears.

췉 Run Info					X	
Job Info Job Name Untitled 1 - 2008.12.12 11:07:08 Logging Level VarniV Use a fixed seed 1222096155092					Write results to database	
Database Lookup Mode:	Do not reuse prior run Ignore All File Parar	is (execute all components) neters when performing loo	kups	~		
Component Info						
Mode	1	Unmapped In	put and Local	Parameters for	Aeroarg	
Aeroarg		Name	Value 🍦	Unit 🕴 Type	🕴 Mode 🍦 🖽	
		 FuseLength 	20.0	Real	<u> </u>	
		 WingSpan 	45.0	Real	<u> </u>	
		 WingArea 	300.0	Real	<u>2</u>	
		FuseDia	5.0	Real	<u>2</u>	
		- 🖹 AeroIn_txt	C:\SIMUL	File	<u></u>	
		< <u> </u>	onfigure from Na	me-Value File	>	
		OK Cance	1			

This interface allows you to enter values of interest for the input parameters prior to running the simulation code.

- 4. Change the entries in the Value column for the following input parameters (be sure to hit the Enter key after changing each value):
 - FuseLength: 16.0
 - WingSpan: 48.0
 - WingArea: 256.0
 - **FuseDia**: 4.8

Your dialog box should appear as shown below.

🏝 Run Info				X
Job Info Job Name Untitled 1 - 2008.12.12 11:07 Logging Level VWarni V Use a fixed seed 1229096155092 Database Lookup Mode: Do not reuse prior ru Ignore All File Para	:08 ns (execute all components) meters when performing look	ups	Vrite result	ls to database
Component Info Model	Unmapped Inp Name • FuseLength • WingSpan • WingArea • FuseDia AeroIn_txt	ut and Local Par- Value (Uni 16.0 48.0 256.0 9:81 CASIMUL	ameters for Aer t e Type e Real Real Real Real File	parg Mode € ₽ ♦ ♦ ♦ ♦
	OK Cancel		aue rite	

5. Click **OK**. The Runtime Gateway appears, and the simulation code runs with the values specified.

Note: A dialog box may appear indicating that the current mode of execution only executes the selected component and anything below it. Click **OK** to continue with this example.

Once execution is completed, the "Job completed successfully" message appears in the bottom left corner of the interface, and the k icon appears above the component in the workflow, as shown below.



6. Click the Parameters tab.

🙋 Isight Runtime Gateway : Submodel: Aeroarg File Edit Run View Jobs Help 🖆 🛢 🖹 🕅 🖓 🍡 號 😴 🔹 🕨 🔻 Current Job (1) Untitled 1 - 11:24:53 A Done (OK) 1/1 Ø Model Selection 🐗 Visual Design Graphs 📄 Summary Logs **-**Graphs Overview X X Parameters 3 History 12 Data Analysis ➡ Workflow Submod... 🗸 📓 🛃 🔟 🔁 Aeroard 🖃 🚽 🔯 Aeroard Preview Graph 🖅 - 🛅 Files (2) Inputs . No Graph 🗄 🛛 🕅 Parameters (7) Name Value Unit Upper Objective Lower FuseDia 4.8 ~ FuseLength 16.0 256.0 WindArea WindSpan 48.0 No Preview Outputs . Name Lowe Value Unil Upper Objective • LoD 16.0 ^ SurfaceAre 201.46 WetArea 744.82 > < View Run 🗹 Aeroarg[1] 💌 Import 🔻 Export 🔻 X Configure X Show names/values only 🗹 Show details Data Filters All 1 data points shown Options -Page 1 <New> Job completed successfully 🕞 Log 🛛 Standalone

This tab allows you to see the output values for the selected input values.

- 7. Select **Close Window** from the **File** menu to close the Runtime Gateway. You are returned to the Design Gateway.
- 8. Proceed to "Publishing a Component" on this page.

Publishing a Component

Publishing a component allows it to be accessed by any user who has access to the Library to which the component is published. Whole models can also be published. For more information, refer to the *Isight User's Guide*.

Components and models can be published to either a Standalone Library or an ACS Library (when connected to the Fiper environment), which is accessible to anyone who is connected to that same ACS. The process of publishing a component or model, retrieving a component or model, or deleting a component or model does not differ based on the type of Library being used. In this example, you will be accessing the local (Standalone) Library.

To publish your component:

- 1. Right-click the **Aeroarg** component on the Design Gateway Workflow tab. A menu appears.
- 2. Click the **Publish** option. The Publish dialog box appears.

💩 Publish					
Name	Submodel: Aeroarg Version 1.0.0 Publish As.		on 1.0.0 Publish As		
Path					
Туре	Model	Attributes			
Description This is a component subtree of model "Untitled 1".	This is a component subtree	Name	Value		
	P	ublish Cancel			

The component, by default, is named *Aeroarg*. You can change the name and change the description, if necessary, in the corresponding text boxes.

For more information on the other options available on this dialog box, refer to the *Isight User's Guide*.

3. Click **Publish**. The Aeroarg component is published to the Library, and can be accessed at a later time.

Viewing a Published Component

After publishing your component, you can verify that it is viewable in your Library.

To view a published component:

1. Select Library from the Design Gateway View menu.

Note: You can also click the **1** button on the Design Gateway toolbar or click the **Add...** button on the component palette.

The Library dialog box appears.

💩 lsight Library - Standalone	
B 🛱 💊 🧶 🛛	
Browse Search	
Đ Đ	Name Version Desc
☐ — 111 Library	
	View Details
<u>p</u>	Add to Palette Ctose

2. Verify that the component is listed at the top level of the Library. It should appear on the right side of the Library dialog box.

For more information on using the Library, publishing components, and adding a published component to a model workflow (retrieving them from the Library), refer to the *Isight User's Guide*.

3. Click Close to exit the Library dialog box.

Saving the Model

It is recommended that you save this example model, especially if you plan on performing the Isight example contained in the next chapter. The Isight example builds off of the workflow created in this example.

To save the model:

- 1. Select Save As... from the Design Gateway File menu. The Save dialog box appears.
- 2. Navigate to the location where you want to store the model (it is recommended that you save the file in the getting_started directory); then, type a name for the model (such as, simcode example) in the File name text box.

Important: Due to naming limitations, do not use the following characters in your model name:

#, ?, &, %, !, \, \$, {

3. Click Save. The file is saved as a *.zmf file (Zipped Model File).

Notice that the file name you specify is also added to the Model Selector on the left side of the Design Gateway (above the Model Explorer). For more information on this portion of the Design Gateway, as well as setting model properties, refer to the *Isight User's Guide*.

4. Proceed to Chapter 5 "Engineering Example", if desired.

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Isight 5 Engineering Example

This chapter guides you through the engineering features of Isight, including design drivers, the Task Plan feature, the Approximation Viewer (Visual Design Driver), and Engineering Data Mining. It also demonstrates how these features can be applied to study different aspects of your problem, and ultimately yield improved designs.

Overview

In Isight, the term "analysis" refers to the portion of your model that, when provided with a specific single set of input parameter values, provides a corresponding single set of output parameter values, which relate directly to performance or quality metrics for the design. The purpose of Isight is to provide tools to help you determine what values of the input parameters will result in more desirable values of the output parameters.

Analysis Definition

A typical usage scenario for Isight is to define the "analysis" portion of your model and then to apply the various Isight tools to that analysis. For the purpose of this section, we will assume that you are starting with a model that already has some Task in it to represent the analysis. Specifically, this section will refer to the aerodynamic analysis described in Chapter 4 "Simcode Example", but the overall process of using the Isight features as described in the rest of the section applies to any analysis model you have defined.

Design Drivers

Isight provides various components to help study or improve the design by trying alternative sets of input values in a systematic and intelligent manner. These are categorically referred to as "design drivers". Specifically, Isight offers design driver components for Design of Experiments (DOE), Optimization, and Monte Carlo Simulation. These can be applied to the analysis either individually or in a combined manner using a Task Plan. Each of these modes is described below.

Using the Design Drivers

In this example, you will add a DOE component to the model workflow (using the Change To option) and configure it. You will use the example created in Chapter 4 "Simcode Example" as a basis for the procedures described in this chapter. Be sure that you have completed that chapter's example file before proceeding.

Adding a Design Driver Component to an Existing Model

To use the design drivers:

- 1. Start the Isight Design Gateway, if necessary. If you are continuing from the previous example (the Simcode Example), proceed to the next step. For more information on how to start the Design Gateway, see "Accessing the Design Gateway," on page 48.
- Verify that you have the Simcode Example opened on the Design Gateway. If you have closed this example (and saved it), you can reopen it by selecting Open from Disk... from the File menu; then, locate the file and click Open.



The model is loaded into the Design Gateway.

Now you need to change the Aeroarg Task component to a DOE component.

- **3.** Right-click the **Task1** component; then, select **Change To** from the menu that appears. A submenu appears.
- 4. Click the New... option. The Select New Component dialog box appears.

Select New Component
🔠 DOE
Coop
Monte Carlo
SDI
👍 Six Sigma
New Taguchi RD
Copy existing parameters to new component
Delete existing component
OKCancel

5. Verify that the **DOE** option is selected; then, click **OK**. You are returned to the Design Gateway, and the Task component has been changed to a DOE component.



6. Proceed to "Configuring the DOE Component," on page 109.
Configuring the DOE Component

Now you need to configure the DOE component.

1. Double-click the **DOE** component on the Workflow tab. The component editor appears.

🎄 Component Editor - DOE	
🔳 DOE1	
General Factors Design Matrix Post Processing	
DOE Technique: Latin Hypercube	
DOE Technique Options	DOE Technique Description
Number of Points: 1	Number of levels for each factor equal to number of points with random combinations. Atloantages: Allows many more points and more combinations can be studied for each factor. Engineer has total freedom in selecting the number of designs to run as long as it is
Execution Options Execute DOE design points in parallel Action when design point fails: Ignore (continue executing DOE) Advanced Options	
OK Cancel	Apply Help

For this example, you'll use the Latin Hypercube technique and select all available factors and responses.

2. Verify that Latin Hypercube is selected on the DOE Technique drop-down list.

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3. Click the Factors tab. The contents of the tab appear.

💩 Component Editor - DOE					X
🔳 DOE1	ine he he he he he he	ne ne ne ne ne ne ne ne	ene nene nene nene i	******	
General Factors Design Matrix Post Processing					
Parameter 🛉	Lower	Upper	Relation	Baseline	
FuseDia					_
FuseLength					- 1
WindArea					- 1
<					~
Check Unch	eck E	Z Edit			
Update factor baselines to current values when executing					
OK Cancel	Apply			Help	

- **4.** Click the **Check** button near the bottom of the tab. A message appears, verifying that you want to select all of the available parameters.
- 5. Click Yes. All of the listed factors are automatically selected.

💩 Component Editor - DOE					×
BOE1					ine ine
General Factors Design Matrix Post Processing					
Parameter +	Lower	Upper	Relation	Baseline	
🔽 🔹 FuseDia	-10.0	10.0	%	5.0	^
V FuseLength	-10.0	10.0	%	20.0	
VindArea	-10.0	10.0	%	300.0	
🔽 🖳 🛛 WindSpan	-10.0	10.0	%	45.0	
<.				2	~
Update factor baselines to current values when executing	eck 🔡	f Edit			
OK Cancel	Apply			Help	

6. Click the **Design Matrix** tab. The contents of the tab appear.

2	Co	mponent Edi	tor - DOE				
[曲	DOE1					
	Gen	eral Eactors	Design Matri	X Post Proce	ssing		
ľ							
	Shov	v: Values					
		FuseDia	FuseLength	WindArea	WindSpan		
	1	4.5	21.0	300.0	40.5	_	
	2	4.75	18.0	330.0	49.5	_	
	3	5.0	20.0	315.0	45.0	_	
	5	5.5	22.0	285.0	42.75	_	
	_						
							11-1-1-
				UK			нер

7. Review the Design Matrix; then, click the **Post Processing** tab. The contents of the tab appear.

💩 Component Editor - DOE	
Ceneral Factors Design Matrix Post Processing	Perform the following actions after execution: Calculate basic statistics Perform regression analysis Write experiment data to a file File: Output file parameter "Results Data Set"
OK Cancel	Apply

8. Click the *button*. A message appears, verifying that you want to select all of the available parameters.

- **112** Chapter 5 Engineering Example
 - 9. Click Yes. All of the listed responses are automatically selected.

For more information on all of the options available on this component editor, refer to the *Isight Component Guide*.

10. Click **OK** to close the component editor and save all of your changes. You are returned to the Design Gateway.



Notice that the warning message that appears when you first added the DOE component is now gone.

- **11.** Select **Close Current Model** from the Design Gateway **File** menu. The Save Model? dialog box appears.
- 12. Click No; then, proceed to "Using the Task Plan Feature," on page 113.

Using the Task Plan Feature

A Task component typically just runs its subflow a single time. However, you can use this component to define a Task Plan comprised of design driver components that will each run in sequence, automatically.

In this example, we will create a Task Plan that will automatically execute a DOE followed by an Optimization.

To create a Task Plan:

1. Click **Open from Disk...** from the Design Gateway **File** menu; then, select the Simcode example you created in the previous chapter and open it. The model is loaded into the Design Gateway. In essence, this action removes the DOE component you just created, and replaces it with the original Task component (Aeroarg). You'll now recreate the DOE component as part of a Task Plan.



Now you'll access the Task Plan feature.

2. Double-click the Task1 component.

The component editor appears.

💩 Task Editor	
Task1	
Task Execution Options • Execute the Analysis flow once • Execute the specified Task Plan	
Available Components	Task Plan Execution
Task Plan Model View	
Fast Path execution (Do not dispatch to a Fiper	Station)
OK Cancel	Apply Help

- **3.** Click the **Execute the specified Task Plan** radio button. The other options on the lower portion of the editor are activated.
- 4. Click the 👿 button on the left side of the editor. A DOE component is added to the Available Components list.

💩 Task Editor	
Task1	
Task Execution Options Execute the Analysis flow once Execute the specified Task Plan	
Available Components	Task Plan Execution
Task Plan Model View	
Fast Path execution (Do not dispatch to a Fiper	Station)
OK Cancel	Apply Help

5. Double-click the component in the Available Components list. The DOE component editor appears.

- 6. Configure the component as described in "Configuring the DOE Component," on page 109, but do not close the model. Proceed to the next step after you exit the DOE component editor.
- 7. Click the 😵 button (the third button from the top of the left side of the editor). An Optimization component is added to the Available Components list.

💩 Task Editor		X
Task1		
Task Execution Options Execute the Analysis flow once Execute the specified Task Plan		
Available Components	Task Plan Execution	
Will DOE1 Optimization1 Image: State of the state	Vio Steps Specified >	•
r z		
Task Plan Model View		
Fast Path execution (Do not dispatch to a Fipe	er Station)	
OK Cance	el Apply	Help

- **116** Chapter 5 Engineering Example
 - **8.** Double-click the component in the Available Components list. The component editor appears.

💩 Component Editor - Optimization		
\varTheta Optimization1		
General Variables Constraints Ob	jectives	
Optimization Technique: NLPQL	~	
Optimization Technique Options		Optimization Technique Description
Option	Value	NLPQL - Sequential Quadratic Programming
Max Iterations	10	Classification:
Iermination Accuracy	1.0E-6	+ Disstable scient Technique
Min Abs Sten Size	1.0E-4	Direct Numerical Technique
Use Central Differences		Deckley and Decim Succes
Max Failed Runs	5	Problem and Design Space:
Failed Run Penalty Value	1.0E30	 Well-suited for highly non-linear design
Failed Run Objective Value	1.0E30	 spaces Not well-suited for discontinuous design
Com Technique Lee		spaces
Execution Options		
Everute in parallel		CPU Resources:
Destars entire design a sint a	A	Well-suited for long running simulations
Restore optimum design point a	ner execution	t then cance for long tanking cancel and the
Re-execute optimum design poir	nt	Gradient-Based: Yes
Use automatic variable scaling		
Adva	nced Ontions	Features:
Auva	need Options	
	OK Cance	cel Apply Help

9. Select NSGA-II from the Optimization Technique drop-down list.

- 🔯 Component Editor Optimization \varTheta Optimization1 General Variables Constraints Objectives Parameter Lower Bound Value Upper Bound Allowed Values FuseDia 5.0 - FuseLength 20.0 300.0 📃 📼 🔹 WindArea WindSpan 45.0 🖹 Edit.. Check Uncheck OK Cancel Apply Help
- 10. Click the Variables tab. The contents of the tab appear.

- **11.** Click the **Check** button near the bottom of the tab. A message appears, verifying that you want to select all of the available parameters.
- **12.** Click **Yes**. All of the listed variables are automatically selected, and they will act as the design variables that will be automatically modified during the optimization execution.
- **13.** Type the following values for the **FuseLength** parameter in the corresponding columns:
 - Lower Bound: 20.0
 - Value: 35.0
 - Upper Bound: 50.0

Your tab should appear as shown below.

The Component Editor - Optimization					X
Optimization1					10201020102
General Variables Constraints Objectives					
A Parameter	Lower Bound	Value 🗎	Lipper Bound	Allowed Values	
V - • FuseDia	4.5	5.0	5.5	Theres Taldes	
V SuseLength	20.0	35.0	50.0		
V WindArea	270.0	300.0	330.0		
🔽 🦾 🛛 WindSpan	40.5	45.0	49.5		
					~
				>	
Check	Incheck	🖹 Edit]		
OK Cancel	Apply			Help	

14. Click the Constraints tab. The contents of the tab appear.

💩 Component Editor - Optimization						×
🙆 Optimization1		_				
General Variables Constraints Object	tives					
Parameter	Lower	Bound Upper Bound	Target	Scale Factor	Weight Fac	
• LoD						^
SurfaceArea						
🔲 🖳 🛛 WetArea						
						-
					>	Ľ.
	Check	Uncheck	🖹 Edit			
	K Can	cel Apply			Help	

- **15.** Click the **Check** button near the bottom of the tab. A message appears, verifying that you want to select all of the available parameters.
- **16.** Click **Yes**. All of the listed constraints are automatically selected, and they will act as the constraints that will be applied as upper and lower bounds on the design variables (if applicable).
- 17. Type 4.5 in the Lower Bound column for the SurfaceArea parameter.
- 18. Click the Objectives tab. The contents of the tab appear.

💩 Comp	onent Editor - Optimization					
Genera	Variables Constraints Objectives					
)	Parameter	Direction	Target	Scale Factor	Weight Fac	
	- • FuseDia					
	- • FuseLength					
	• LoD					
	• SurfaceArea					
	• WetArea					
	- • WindArea					
	• WindSpan					
¢	Check U	ncheck	🕈 Edit		2	•
	OK Cancel	Apply			Help	

- **19.** Click the **Check** button near the bottom of the tab. A message appears, verifying that you want to select all of the available parameters.
- **20.** Click **Yes**. All of the listed objectives are automatically selected, and they will be applied as objectives (to minimize or maximize output values during optimization), as applicable.
- **21.** Click **minimize** in the **Direction** column for the **SurfaceArea** parameter. A drop-down list appears in the corresponding cell.

22. Select **maximize** from the options that appear. Your tab should appear as shown below.

The component Editor - Optimization					X
Optimization1					
General Variables Constraints Objectives					
Parameter 🔶	Direction	Target	Scale Factor	Weight Fac	I
🗹 🕐 FuseDia	minimize		1.0	1.0	•
 FuseLength 	minimize		1.0	1.0	
🗹 🔤 LoD	minimize		1.0	1.0	
💌 🔸 SurfaceArea	maximize		1.0	1.0	
🕑 🔍 WetArea	minimize		1.0	1.0	
VindArea	minimize		1.0	1.0	
🕑 🥌 🛛 WindSpan	minimize		1.0	1.0	
<				>	2
Check Un	check	Edit			
OK Cancel	Apply			Help	

23. Click **OK**. The component editor is closed and you are returned to the Task Editor dialog box.

Now the components are defined. However, they are not currently used in the model workflow. To designate a component for usage in a model workflow, you need to add it to the Task Plan Execution list.

24. Click the **Optimization** component in the Available Components list; then, click

the button in the center of the editor. The component is added to the Task Plan Execution list, and will be used in model execution.

💩 Task Editor		×
Task1		
Task Execution Options Execute the Analysis flow once Execute the specified Task Plan		
Available Components	Task Plan Execution	
		•
Task Plan Model View		
Fast Path execution (Do not dispatch to a Fip	er Station)	
OK Cance	el Apply He	elp

25. Click the **DOE** component in the Available Components list; then, click the button in the center of the editor. Now both components will be used in model execution.

🏝 Task Editor	
Task1	
Task Execution Options Execute the Analysis flow once Execute the specified Task Plan	
Available Components	Task Plan Execution
	Optimization1 DOE1
Task Plan Model View	
Fast Path execution (Do not dispatch to a Fiper	Station)
OK Cancel	Apply Help

The order of the components in the Task Plan Execution list is important, since this order also determines the execution order of the components.

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26. Click the button on the right side of the Task component editor. The DOE component is moved above the Optimization component.

💩 Task Editor	
Task1	
Task Execution Options Execute the Analysis flow once Execute the specified Task Plan	
Available Components	Task Plan Execution
8 9 9	Optimization1
Task Plan Model View	
Fast Path execution (Do not dispatch to a Fiper	Station)
OK Cancel	Apply Help

The Task Plan also gives you the ability to preview the overall model workflow and how it is affected by the Design Plan.

27. Click the **Model View** tab (below the component lists). The model workflow appears.



The Task Plan is, in essence, a shortcut for creating the workflow as shown in the model view. Notice that the Aeroarg component is now executed with both of the

defined Task Plan components (DOE and Optimization). For more information on how the workflow is affected by the Task Plan, refer to the *Isight User's Guide*.

You can switch back to analysis workflow only execution at any time by clicking the Execute the Analysis flow once radio button. This action saves the currently defined Task Plan. However, it is disabled and not used during model execution.

- **28.** Click the **Task Plan** tab; then, click the **Execute the Analysis flow once** radio button. The Task Plan options are disabled, but your information is saved.
- **29.** Click the **Model View** tab (below the component lists). The model workflow appears.



Notice that only the Aeroarg component appears in the workflow. Both of the Task Plan components are no longer present.

30. Click the **Task Plan** tab; then, click the **Execute the specified Task Plan** radio button to reactivate the Task Plan.

31. Click **OK** to save your Task Plan and close the component editor. You are returned to the Design Gateway. Notice that the Task component icon has changed to show that it now contains Task Plan information.



- **32.** Select **Save As...** from the Design Gateway **File** menu. The Save dialog box appears.
- **33.** Save the model in the desired location with a new name (such as engineering_example.zmf). When prompted to change the model name to match the file name, click **Yes**.

Important: Due to naming limitations, do not use the following characters in your model name:

#, ?, &, %, !, \, \$, {

34. Proceed to "Executing the Model," on page 125.

Executing the Model

Now that you have set up your model, it is time to execute it and generate the results.

To execute the model:

1. Click the Task1 component on the Workflow tab to select it; then, click the button on the Component Title Bar. Be sure to *not* click the similar-looking button on the Design Gateway's toolbar. The Runtime Gateway appears and the model is executed.

Once execution is completed, the message "Job completed successfully" appears in the bottom left corner of the interface, and Ar icons appear above each component in the workflow, as shown below.



The Runtime Gateway provides access to graphs and tables that allow you to view execution information. You can also view data using the tabs on the Runtime Gateway itself.

2. Click the Parameters tab.

This tab allows you to see the output values for the selected input values.

🙇 Isight Runtime Gatewa	y : engineering_e	xample (engi	neering_exan	nple.zmf)					
File Edit Run View Jo	ibs Help								
🖆 🛢 🗎 🕅 🔀 🐚 🞎	• 🛃 🔹 🕨 🔸	Cu	rrent Job (1) e	engineering	_example - 12:1	9:31 💌		🏘 Done (OK) 495/495	¢
Model Selection	🛷 Visual De	şian 🔰	🗸 Graphş	🖹 SI	immary	🖹 Logs 🛛	R 3	Graphs Overview	×
engineeri 🔽 📓	➡ Workflow	🗙 Paran	neters	🍠 History	162 Data A	nalysis		10 m	
🖃 🐻 Task1 🔷	Task1	2 🦛							
- 🖪 Files (3)								Preview Graph	
		. I	Inpi	uts		al : u		No Graph	
	Name 👎	Lower	value e	Unit	Upper	Objective			
	FuseDia Eucel epath	4.5	20.0		22.0				
···· • Paretc	WindArea	270.0	300.0		330.0		+		
🖃 🛛 🔯 Parameters (9t	WindSpan	40.5	45.0		49.5		\pm	Mar	
🚥 🛛 😽 FuseD								M	
🚥 💿 🚧 FuseLe							~	No Preview	
🔹 💿 😽 WindA	<						>		
• 🚧 Winds			Outr	uts					
⊞ 🗄 🕞 DOE1	Name 🕴	Lower	Value 🕴	Unit	Upper	Objective	T		
	🕖 🔁 DOE1 Resul								
	- • LoD		14.468						^
	😟 🗄 Optimization								
• Surfac	 SurfaceArea 		230.05				_		
🖳 💿 📑 WetAr	• WetArea		819.2						
	1						× *		
🖃 🔠 DOE1									
🕀 🖻 Files (1)	View Run 🗹 Ta	isk1[1] 🚩	lmp	ort 🔻	Export -	🗙 Config	ure		
😥 🔯 Parameter 💌	Show subflow	data		1	🗶 Show na	mes/values onl	ly		
< >									~
Show details	Data Filters 🔺	All 1 data po	ints shown			Option	15 -	Page 1 <new></new>	
 Job completed successfi 	ully							Log	Standalone

- **3.** Click the different components listed on the left side of the Runtime Gateway to view their parameter information.
- 4. Click the **History** tab.

🌉 Isight Runtime Gatewa	y : engineering_example (engineering_example.zmf)	
File Edit Run View Jo	bs Help	
🖾 🏮 🗎 🔀 ଢ 😫	, 🛐 🔹 🕨 👻 Current Job (1) engineering_example - 12:19:31 💌 🍂 Don	e (OK) 495/495 🛛 🕐
Model Selection engineeri Task1	Image: Summary with the sum and	Graph
	Show subflow data	
Show details	Data Filters All 1 data points shown Options V Page 1	<new></new>
Job completed successf	ully	Log Standalone

This tab shows parameter values for each run of the selected component.

- **5.** Click the different components listed on the left side of the Runtime Gateway to view their history information.
- 6. Click the Graphs tab.

This tab allows you to create graphs and tables of the execution information.

Isight Runtime Gatewa File Edit Run View Jo	y : engineering_example (engineering_example.zmf) bs. Heln	
🖾 🛢 🗎 🔉 🗞	🛐 🔹 🕨 🔹 Current Job (1) engineering_example - 12:19:31 💌 🍂 Done	(OK) 495/495 🕐
Model Selection engineeri	👄 Workflow 🕱 Parameters 🦪 History 📆 Data Analysis 🐗 Visual Design 🖄 Graphs 📄 Summar	y 🖹 Logs 🛛 🗮 🖉
🔝 Files (3)	🕍 🎟 🛛 🕄 🖽 🏸 👍 😓 🖉	
😥 🗄 📑 DOE1	xt	~
😥 🖶 📑 Optimi	•	
🛛 💿 🚧 FuseD	Ø	
🚥 🔹 😽 FuseLe	m	
• 😽 WindA		
• 😽 Winds	3	
	Q	
• Surfac		
• 🕞 WetAr		
Formulation	8	
🖃 🛅 DOE1		
🖅 🔝 Files (1)	Page 1 <new></new>	
🛊 - 🖾 Parameter 💌	Run Number	
Show details	Data Filters All 1 data points shown	Options
 Job completed successful 	illy	Log Standalone

 Click the Optimization1 component on the left side of the Runtime Gateway; then, click the *integrable* button. The Graph Creation Wizard dialog box appears.



8. Click the **History Graph** option on the left side of the wizard; then, click **Next**. The Parameters screen appears.

🗸 Graph Creation Wizard		X
Choose Parameter(s) to graph		
Overlay (Multi-line)		
Name	Mode	
FuseDia	₩	^
FuseLength	₩	
WingArea	<u>₩</u>	
WingSpan	₩	
Design Feasibility	4	
• LoD	4	
Objective and Penalty	4	
Objective Function	4	
Penaty Function	F	
SurfaceArea	4	
• WetArea	4	~
<u>S</u>	>	
Select		
Show Parameters For: Subflow 🛛 👻		
G Back Next Finish	🔞 Can	cel

9. Click a parameter that will be used to create the graph.

Note: You can select multiple parameters. However, each parameter selected represents a graph that is created.

10. Click Finish. The graph is created.



For more information on manipulating graphs after they are created, refer to the *Isight Runtime Gateway Guide*.

11. Click the **DOE1** component on the left side of the Runtime Gateway; then, click the **III** button.

🚳 Table Creation Wi	zard		×
		Table Chooser	
	Choose the specific Table you would	like to create	
	🔳 DOE General	Description	
	Coefficients Table	A table of the coefficients calculated from regression analysis on the data set for a given response	
		🕒 Back 🖉 Next 🖉 Finish 🐼 Canc	9

The Table Creation Wizard dialog box appears.

Notice that you can create DOE-specific tables and other tables (tables that are available with every component).

- 12. Click the Coefficients Table option; then, click Next.
- **13.** Select all of the available parameters; then, click **Finish**.

Three tables are created and added to the Runtime Gateway.

🎄 Isight Runtime Gatewa	ay : engineering_examp	ole (engineering	example.zmf)					
File Edit Run View Jo	obs Help							
	⊧ 🔛 ▼ 🕨 ▼	Current Jo	b (1) engineering	_example - 12:19:3	1 💌	A Done (OK)	495/495	0
Model Selection	🔿 Workflow 🔀 Parar	neters 🎯 Histo	ory 👫 Data Anal	/sis 🛛 🐗 Visual Des	sign 🛃 Graphs	🖹 Summary 📳	Logs 🗖	0
engineeri 🗸 📓	DOF1	7 1						
🚥 🔹 😽 FuseL (🔼								
🔤 💿 😽 WindA	<u> </u>				🚟 🛃 🎽 45	╞ ╹╡	JE 45 🔷 🧔	
• 😽 Winds		Coofficients	Table for Sur	face EV	Coofficients	Table for Moto		
		Tovencience	coefficients		and	coefficients		
• 🚽 LoD		constant	-260.35	scaleu	constant	-357.77	scaleu	
😥 🗄 📑 Optimi	-0.099816	FuseDia	62.308	31.154	FuseDia	69.381	34.691	
• 📑 Surfac	-0.28208	FuseLength	11.428	22.855	FuseLength	16.761	33.522	
● 🛱 WetAr	-0.61137	WindArea	0.013809	0.41428	WindArea	1.7774	53.321	
	\$7 1.6871	vvindspan	-0.50868	-2.289	vvindSpan	0.98014	4.4106	
	iQ							
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J20 Formulatio	Daws 4 chlows						<u> </u>	
🖅 👰 Task1 🤍	Fage 1 Sivews							
	Run Number	(5 015		
Show details	Data Filters 🔺 🛛 All	5 data points sh	own				Options	
							Log Standa	lone

All of the tables are visible if you use the scroll bars on the Graphs tab. You can also maximize the Runtime Gateway to view all of the tables at the same time.

For more information on manipulating graphs after they are created, refer to the *Isight Runtime Gateway Guide*.

Note: To view the graph you created earlier for the Optimization component, simply click the Optimization component on the left side of the Runtime Gateway. The graph reappears.

- **14.** (optional) Create additional graphs and tables for the components. Some recommendations include Main Effects and Pareto graphs for the DOE component.
- 15. Proceed to "Analyzing the Results," on page 133.

Analyzing the Results

The Isight Engineering Data Mining (EDM) tool provides an effective way to view many designs (inputs and corresponding outputs) and view the relationships and trends among those designs. More specifically, the tool provides post-processing functionality for multi-objective optimization by analyzing the results and effectively visualizing Pareto solutions and sorting (screening) the data interactively. The multi-objective techniques provided in Isight are AMGA, NCGA, and NSGA-II. For more information on this technique, refer to the *Isight Component Guide*.

To analyze the results using Engineering Data Mining:

1. Click the **Optimization1** component on the left side of the Runtime Gateway; then, click the **Data Analysis** tab. The contents of the tab appear with the selected component's name displayed at the top of the tab.



This tab is divided into three subtabs, which provide access to three different data analysis tools.

- 2. Verify that the EDM subtab is selected. It should be selected by default. The EDM information is displayed on the subtab. Information for all of the parameters in the selected component is displayed.
- **3.** Proceed to one of the following sections, based on how you would like to use the EDM tool:
 - To change the parameters that are being used by the EDM tool, proceed to "Changing the Selected Parameters" on this page.
 - To view information for all of the parameters in your component, proceed to "Viewing the Data," on page 135.

Changing the Selected Parameters

By default, all of the parameters in the selected component are used to create the information displayed in the EDM tool. However, you can change which parameters are used by the tool.

To change the parameters used by the EDM tool:

1. Click the **Configure** button near the top of the **EDM** subtab. The Select Parameters for Viewing dialog box appears.

🕹 Select I	Parameters for Viewing	×
Select the job result of shown in t Selection".	parameters you would like to have available : lata. You may edit the default number of para he Preferences editor, on page "Execution/Pa	for viewing ameters arameter
Selected	Name	Mode 🕴
	 Design Feasibility 	F
Image: A start of the start	• LoD	
	 Objective and Penalty 	-
	 Objective Function 	B
	 Penalty Function 	4
Image: A start of the start	 SurfaceArea 	-
Image: A start of the start	WetArea	3
	 FuseDia 	₩
	 FuseLength 	₩
	 WingArea 	₩
Image: A start of the start	 WingSpan 	₩
		×
<		>
Select A	II Deselect All	
	OK Apply Cancel	

- 2. Click the parameters that you want to use in the graphs. You can select parameters individually or you can select every listed parameter using the **Select All** button. The Mode column shows you the parameter type (input, output, etc.).
- 3. Click OK. The EDM graphs are updated accordingly.
- 4. Proceed to "Viewing the Data" on this page for more information on how to read the data displayed on the lower portion of the EDM subtab.

Viewing the Data

The two parallel coordinate graphs on the Engineering Data Mining Tool dialog box display your input and output parameter information for each run of the selected component.

The graph consists of all inputs and outputs (depending on the graph you are viewing) displayed across the x-axis, with each value for each variable displayed in increasing order above that variable. Variable values for each input or output are linked by a sequential line graph to represent each design point. By default, each parameter is displayed on an individual scale, taking the full range of the graph (normalized).

Several options appear at the bottom of the dialog box and allow you to manipulate the order of the displayed parameters.

- 1. As desired, examine the data displayed on the **EDM** subtab. For more information on the various options available with this tool, refer to the *Isight Runtime Gateway Guide*.
- 2. Select Close Window from the File menu to close the Runtime Gateway. You are returned to the Design Gateway.
- 3. Proceed to "Approximating the Analysis," on page 136.

Approximating the Analysis

In cases where your analysis task takes a significant amount of time to run, you may want to define an approximation. This approximation will represent the analysis so that the design drivers can quickly evaluate a given design.

Note: The following procedure describes how to create approximations from the Design Gateway. You can also create approximations using the Runtime Gateway. For more information, refer to the *Isight Runtime Gateway Guide*.

Creating an Approximation

To create an approximation:

- 1. Click the **DOE1** component on the left side of the Design Gateway (in the Model Explorer).
- 2. Right-click the highlighted DOE1 component; then, select Approximations from

the menu that appears. You can also click the **44** button on the Component Title Bar. The Approximations dialog box appears.



3. Click the New... button. The Approximation Wizard appears.



4. Click the **User Defined** radio button; then, click **Next**. The Approximation Technique screen appears.

💩 Approximation Wizard	×
Approximation Technique	
Approximation technique: Response Surface Model 💌	
Technique Description	
RSM approximation based on a polynomial fit via the least squares regression of the output parameters to the input parameters.	
Depending on the selected order of the polynomial (linear, quadratic, cubic, quartic) initialization of the approximation will require a certain number of design points to be evaluated. The component being approximated can be executed multiple times to collect the required data. Alternatively, a data file can serve as the initialization source.	
💿 Back 💽 Next 💿 Finish 🔞 Cancel 🕜 Help	5

5. Select **RBF Model** from the **Approximation technique** drop-down list; then, click **Next**. The Input and Output Parameters screen appears.

💩 Appro	ximation Wizard			X
	Inj	put And Output P	arameters	
	Select I	inputs and Outputs for y	our approximation	
÷	Inputs	+ E	Outputs	1
	 FuseDia 	<u> </u>	• LoD	<u>^</u>
	 FuseLength 		SurfaceArea	
	 WingArea 		 WetArea 	
	 WingSpan 			
		~		~
<		> <		>
	Check Unche	ck	Check Uncheck	
		🔇 Bac	< 💿 Next 🌒 Finish 🔞 Cancel 🧉	Help

6. Verify that all inputs and outputs are selected; then, click **Next**. The RBF Technique Options screen appears.

Approximation Wizard	
RBF	Technique Options
Smoothing Filter: 00	
	🚱 Back 💽 Next 💿 Finish 🐼 Cancel 👔 Help

7. Set the **Smoothing Filter** option. You can leave the value as 0.0. This option allows you to relax the requirement that the RBF approximation pass through every single data point. Its primary purpose is to smooth out noisy data. By not

going through every point, Isight can effectively smooth noisy functions and provide an approximation that may be easier to optimize. The value specified by this option averages the output values of points that are clustered in the normalized filter domain. For more information on the Smoothing Filter option, refer to the *Isight User's Guide*.

8. Click Next. The Sampling Options screen appears.

la Approximation Wizard				
Sampling Options				
Sampling method: Random Points To initialize your approximation, the system will generate a set of random points. The accuracy of the approximation is directly dependent on the number of points. - Minimum required number of points: 9 - Recommended number of points: 46 Select the number of points for your approximation: • 46 sample points • As many points as possible in : 60 Seconds				
Use a fixed random seed:				
Execute design points in parallel				
🚱 Back 🔵 Next 🚳 Finish 🐼 Cancel 🕜 Help				

For this example, the default options are sufficient.

9. Click Next. The Sampling Range screen appears.

💩 Approximation Wizar	d			X
	Sampling Range			
 Absolute Values Relative to Baseline 	Sampling range will be defined by specifying absolute parameter Sampling range will be defined by adding/subtracting baseline	bounds (Lower/Up a fraction (%) or a f	oper) for each inpu ixed value to/from '	it the
	Parameter 🔶	Lower	Upper	
 FuseDia 		4.5	5.5	^
 FuseLength 		18.0	22.0	
 WingArea 		270.0	330.0	
 WingSpan 		40.5	49.5	
<				×
	G Back Next	Finish 🔇	Cancel 🕜 H	elp

For this example, the default options are sufficient.

10. Click Next. The Error Analysis Method screen appears.



For this example, the default options are sufficient.

11. Click Next. The Error Analysis Sampling Options screen appears.

💩 Approximation Wizard			
Error Analysis Sampling Options			
Sampling method: Random Points To initialize your approximation, the system will generate a set of random points. The accuracy of the approximation is directly dependent on the number of points. - Minimum required number of points: 2 - Recommended number of points: 23 Select the number of points for your approximation: 23 sample points As many points as possible in : 60 Seconds Use a fixed random seed: Fixecute design points in parallel.			
Execute design points in parallel			
📀 Back 🛛 🕢 Finish 😵 Cancel 🖉 Help			

For this example, the default options are sufficient.

12. Click **Finish**. The Initialize Approximation? dialog box appears, asking if you want to initialize the approximation now or wait until a later time.



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13. Click Yes. The Initialization Status screen appears.

	Executed a	lesign point 10 of 46		Cancel
nitialization	status			
Data Point	S Error Analysis Points	i) Log Messages Coeffic	ients Data	
#	FuseDia	FuseLength	WingArea	
				^
				_
				×
5				2

This screen not only displays the status of the initialization (using the bar at the top of the screen), but it also provides access to data points, error analysis points, log messages, coefficients data, and other options once the initialization is complete.

- 14. Perform any of the following actions, as desired, once the initialization completes:
 - View the information on the Coefficients Data tab. This tab is initially displayed by default. This tab shows the resulting coefficients calculated from generating the approximation.
 - Click the Data Points tab to view the values for input and output parameters for each sample point.
 - Click the Error Analysis Points tab to view the values for input and output parameters for each error analysis point.
 - Click the Log Messages tab to view all log messages associated with the initialization. You can filter the log messages using the Log Filter drop-down list. For more information on the different log levels, refer to the *Isight User's Guide*.
- 15. Proceed to "Analyzing Approximation Errors," on page 143.

Analyzing Approximation Errors

The Isight approximation error analysis dialog provides a visual representation of the quality of an approximation model for each response. This section provides a brief overview of the tool. For more information on using this interface, refer to the *Isight User's Guide*.

To analyze approximations using the wizard:

1. Click the Error Analysis... button on the Approximation Wizard. The Approximation Error Analysis dialog box appears.



Note: You can also access this interface by clicking the **and** button on the Component Title Bar; then, select the appropriate approximation and click the **Error Analysis...** button.

2. Select the desired error type from the Error Type drop-down list.

- **3.** Specify the acceptance level for the selected Error Type in the **Acceptance Level** text box. The acceptance level defines the cutoff value for the selected error type that distinguishes a response with acceptable fit (acceptable approximation quality) versus a response with unacceptable fit (unacceptable approximation quality).
- 4. View the plots and graphs available from the four tabs on the right side of the interface. You can view any plot individually by double-clicking the plot. You can return to the multi-plot view by double-clicking on the single plot.
- 5. Click Close to return to the Approximation Wizard.

Visualizing an Approximation

The Approximation Viewer tool (also known as the Visual Design Driver) allows you to interact with the model and observe, graphically, how changing the input values affects the output values and the shape of the output function.
To visualize an Approximation:

1. Click the **Visualize...** button on the Approximation Wizard. The Approximation Viewer dialog box appears.



Note: You can also access this interface by clicking the **set of the set of**

The Approximation Viewer is divided into two tabs: Graphs and Design Search. These tabs provide access to two distinct ways of exploring your design space. The Graph tab allows you to manually view your design and change values. This tab is used in the following example. The Design Search tab allows you to automatically search your design using certain criteria. For more information on using this tab, refer to the *Isight User's Guide*.

The Graph tab is divided into two panels: a panel on the left that presents the inputs and outputs of the approximation with their corresponding values, and a panel on the right that contains the graphs for visualizing the approximation. These panels are described in more detail below.

If the model has been initialized, the left side of the Approximation Viewer displays the following information (on the Slider View tab):

- Sliders for each model input. You can move the slider bars to change the input values.
- Value bars showing model output values. These values change according to the input values you enter.
- Table View tab. This tab allows you to view input and output information in a table.
- Modify Range button. You can change the input range (lower/upper limits) by typing a new number directly in the dialog box that appears. The number represents a percentage modification from the original range for each input.
- Reset Range. This button allows you to reset the input values to their original values.

If the model has been initialized, the right side of the Approximation Viewer displays the following information:

- Tabs for viewing and selecting two-dimensional (2D), three-dimensional (3D), Contour Graphs, or Local Effects and Global Effects graphs.
- Thumbnail images of all graphs created at a given time. The selected graph has a border around it.
- When a thumbnail image of a graph is expanded to full-size mode, this side displays the graph in a larger view, and provides graph controls for easier interaction. These options change according to the type of graph selected (two-dimensional, three-dimensional, contour, or effects).
- Drop-down lists to modify the parameters being displayed in the main graph (three-dimensional and effects graphs only), when a graph is expanded to full-size mode.

For more information on using this interface, refer to the Isight User's Guide.

Now you'll create a new graph.

2. Click the button on the right side of the Approximation Viewer. The Add/Remove Graphs dialog box appears.

💩 Add/Remove Graphs			
2D Graphs 3D Graphs Contour Graphs L Select input and output parameters to be use	ocal Effect Graphs Global Effect Graphs		
Current number of selected 2-D graphs: 12 X-Axis (Input) EuceDia	Y-Axis (Output)		
FuseLength WindArea WindSpan	LoD SurfaceArea WetArea		
Select All Deselect All	Select All Deselect All		
OK Cancel			

- **3.** Click the **3D Graphs** tab; then, select the following parameters from the corresponding columns:
 - X-Axis (Input): WingArea
 - Y-Axis (Input): WingSpan
 - Z-Axis (Output): SurfaceArea
- 4. Click OK.

Approximation Viewer - Approximation1	(RBF Model)	X		
🖌 Graphs 🤣 Design Search				
Inputs	2D Graphs 3D Graphs Contour Graphs Local Effects Global Effects	(57)		
FuseDia 5.0 4.5073 5.4963 FuseLength 20.0 18.008 21.893 WindArea 300.0	 			
274.01 329.67 WindSpan 45.0 40.775 49.485	LoD vs. FuseDia and LoD vs. FuseDia and LoD vs. FuseDia and SurfaceAre vs. Wind FuseLength WindArea WindSpan and WindSpan	IArea		
Outputs	-			
LoD 14.987 13.108 16.19 SurfaceArea 260.49				
214.53 310.53 Wetkrea 901.32 815.85 1009.5				
Slider View Table View Modify Range Reset Range		×		
🛛 🏵 Set component parameters 🛛 🖗 Co	mpare with actual	Error Analysis		
	OK Cancel	Help		

The new graph is created on the 3D tab of the Approximation Viewer.

5. Double-click the graph.



It is opened in full-size mode.

6. Click the Auto-fit z-axis check box to change the behavior of the graph when you scale the graph. When this option is selected, the Z-Axis range of the main graph will always match the range of the displayed data. If not selected, the graph's Z-Axis is not modified when it is scaled.

- 7. Manipulate the graph, as desired using the following tools:
 - Graph controls for working with the large graph to the left of the graph, including zoom, pan, and rotate features. These options change according to the type of graphs selected (three-dimensional vs. two-dimensional).
 - A set of drop-down lists to modify the parameters being displayed in the main graph.
 - Right-click options (when the large graph is clicked) that allow you to modify the appearance of the plot, including floor projections.
- **8.** Click **OK** to close the Approximation Viewer. You are returned to the Approximation Wizard.
- **9.** Click **Close** to exit the Approximation Initialization dialog box. You are returned to the Approximations dialog box, and the approximation you created is now listed on the left side of the dialog box.

The Approximations	
🔳 DOE1	
Activated Approximation Approximation	🧠 New
	🕅 Edit
	📑 Сору
	📸 Delete
	🞢 View Data
	🏹 Visualize
	Error
Close	

The approximation with a corresponding check mark in the Activated column is the one that will be used during execution. Only one approximation can be active at any one time for a component.

You can also clear all of the check boxes in the Activated column to deactivate all of the defined approximations. This option allows you to execute the model without any defined approximations being used.

10. Clear (unselect) the check box in the **Activated** column for the approximation you created.



11. Click Close to return to the Design Gateway.

Notice that the approximation icon on the DOE component in the Model Explorer is now grayed-out, which is your visual cue that the approximation will not be used during execution.

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12. (optional) Reactivate the approximation; then, execute the model and view the results. Pay special attention to how the DOE is executed differently thanks to the new approximation (the subflow doesn't need to execute).



- **13.** Close the Runtime Gateway.
- 14. Save and close the model, if desired.
- 15. Close the Design Gateway. The example is complete.

lsight

A Additional Installation Information

This appendix provides additional information that may be useful when installing Isight. It is divided into the following topics:

- "User Login Names Containing Punctuation," on page 154
- "Accessing the Installation Files from a Remotely Mounted DVD," on page 155
- "Accessing the Documentation," on page 156
- "Necessary Changes for Executing on UNIX Systems," on page 157
- "Environment Variables," on page 159
- "Using the Online Help," on page 160
- "Installing Isight Non-Interactively," on page 161
- "Uninstalling Isight," on page 163

User Login Names Containing Punctuation

Isight interfaces do not run correctly if they are started using a user login name (user ID) that contains punctuation marks - most notably !, #, ?, and : (exclamation point, pound sign, question mark, and colon). This problem is due to JAVA using URLs internally in order to locate JAR files, and these characters cause the URL to be misinterpreted. The problem is most severe on Windows-based systems, where the default temporary directory is inside a directory named after the user name.

To avoid this problem, you must force the Isight installation and all temporary files into directories that do not contain these characters. First, verify that Isight is not installed in a directory that contains any of these characters. Second, manually set your temporary directory to a directory that doesn't contain these characters. On Windows, set the TEMP environment variable. On UNIX/Linux, set the TMPDIR environment variable. For more information on setting environment variables on your system, contact your local systems administrator.

If the appropriate environment variable cannot be set, the variable FIPER_TEMP can be used.

Finally, if you cannot set either the system environment variables or the FIPER_TEMP variable, create a file called fiper.bat (Windows) or .fiper.sh (UNIX/Linux) in your home directory. Use this file to set the environment variable FIPER_TEMP to a "safe" directory name. The contents of the new file will be similar to the following examples:

Windows (fiper.bat)

set FIPER TEMP=C:\TEMP\bang-user

■ Unix/Linux (.fiper.sh)

```
FIPER_TEMP=/var/tmp/bang-user
export FIPER_TEMP
```

Accessing the Installation Files from a Remotely Mounted DVD

Once you have completed the following steps, you can use the installation procedures to install Isight. For more information, consult with your Systems Administrator.

Installing on UNIX Platforms

- 1. Locate the Isight DVD.
- 2. Copy the entire contents of the DVD to the desired location.

The UNIX utilities cp -r and rcp are convenient for copying these items. When copying files between different platforms (particularly between UNIX and Windows), special care may be needed to preserve the original file permissions and the file name case. In general, read and execute permissions on all files are sufficient for proper execution.

3. Depending on your platform, execute prod_dir/setupaix, prod_dir/setupsolarix, prod_dir/setuphpux, or prod_dir/setuplinux to launch the installation procedure, where prod_dir is the location of the copied installation files.

Installing on Windows Platforms

You can install Isight from a remote DVD device if it has been defined as a shared folder. Setting up the DVD device as a share must be performed by a user with Administrator privileges. To install Isight from a shared remote DVD, map that drive to a local drive and perform the installation as if the drive were local. Universal Naming Convention (UNC) paths are not supported by the installation procedures.

Accessing the Documentation

The Isight installation automatically installs all of the Isight manuals onto your system. These manuals are in PDF format. This documentation consists of all available Isight books, including this book.

These files are located in the following directory:

<Isight install directory>\docs

You can also access the documentation directly from the Isight DVD (prior to an installation).

In order to read the PDF files, you must have the Adobe Acrobat Reader installed on your system. For more information on obtaining this reader, see Adobe's website:

http://www.adobe.com/products/acrobat/readstep2.html

For more information on using the PDF files provided with Isight, refer to the *Isight User's Guide*.

Necessary Changes for Executing on UNIX Systems

The following section describes steps that must be taken on certain UNIX operating systems prior to using Isight. Proceed to one of the following topics, based on your operating system:

- "Necessary Changes for AIX" on this page
- "Necessary Changes for HP-UX" on this page
- "Necessary Changes for Solaris," on page 159

Necessary Changes for AIX

If you are installing Isight on an AIX-based system, you need to verify that you have the FORTRAN runtime file (libxlf90.a) installed in the /usr/lpp/xlf directory. This file is an optional add-on to the AIX operating system and may need to be manually installed.

Installations of Isight on the AIX platform require the following libraries:

- xlfrte 8.1.0.0 XL Fortran Runtime Environment
- xlfrte.aix50 8.1.0.0 XL Fortran Runtime Environment AIX 5.0 Libraries

For more information on determining if you have these libraries installed, or instructions on how to install the libraries, refer to your local systems administrator.

Necessary Changes for HP-UX

The following sections describe HP-UX-specific changes that are necessary to ensure that Isight functions properly.

Operating System Requirements

In order to ensure that execution on the HP-UX operating system is successful, you need to take the following steps:

Increase the number of threads per process from the default setting of 64 to at least 256. Failure to do so will cause non-reproducible errors during execution.

For more information, contact your local systems administrator or refer to your HP-UX administration documentation concerning how to increase the kernel parameter max_thread_proc from the default of 64 to at least 256.

Tune the kernel according to the recommendations of the HPjune configuration tool. You can download and run the HPjconfig tool from the Hewlett-Packard website:

http://www.hp.com/products1/unix/java/java2/hpjconfig/index.html

For more information, contact your local systems administrator.

Java Runtime Environment Requirements

On HP-UX 11.11 PA RISC, use the patches for Java 5.0 as described on the following website:

http://docs.hp.com/en/HPUXJAVAPATCHES/index.html

Warning: Failing to install all required patches to HP-UX will result in Java program problems. Typically, the only way to reset the machine after such a problem is to restart it. This issue presents a serious problem that will affect all users of the machine, not just those running Isight. Furthermore, this problem seems to be present in all versions of HP-UX as initially installed. The patches listed on the web site must be applied *before* Isight are installed.

HP-UX users should download the necessary tool (from http://www.hp.com/go/java), set for Java 5.0, change the kernel parameters as recommended, and install the patches as recommended prior to running Isight.

Necessary Changes for Solaris

If you are installing Isight on a Solaris-based system, you must verify that the system has swap space equal to three or four times the main memory. For more information on determining your system's current specification, contact your local systems administrator.

The large amount of swap space is needed because Isight can grow to over 500 MB. Additional swap space equal to the process size is allocated for a short time every time the program creates a sub-process to execute an external program. This space is never used but must be available. Insufficient swap space will cause Isight jobs to fail sporadically with messages about "insufficient disk space". Other versions of UNIX/Linux use a different scheme for allocating swap space to processes and can run Isight with swap space equal to twice main memory.

Environment Variables

Several environment variables are set automatically by the Isight installer. They are mainly used for those creating custom Isight add-ons and do *not* need to be set for normal operation. The following environment variables are configured:

- FIPER_HOME_35=<*Isight_install_directory*>
- FIPER_HOME=<*Isight_install_directory*>
- PATH (UNIX only)
 - UNIX: PATH=\$FIPER_HOME/bin:\$PATH

Note: If the installer is run by a user in the Admin group (on Windows) or with root access (on UNIX), then the environment variables are set for all users (by editing /etc/profile on UNIX). If the user is not in the Admin group or does not have root access, the environment variables are set only for that user (by editing \$HOME/.profile on UNIX).

Using the Online Help

The Isight online help is a HTML-based system that runs inside of your default web browser. You can set your default web browser from the Isight Preferences dialog box. For more information on Isight preferences, refer to the *Isight User's Guide*.

In order to view the online help, you must have one of the following browser and operating system combinations installed:

- FireFox 2.2 or higher (all platforms where FireFox is available)
- Internet Explorer 7.0 (Windows) or higher
- Mozilla 2.0 or higher (Solaris and AIX)
- Mozilla 1.2.1 or higher (Linux)

FireFox is available for free download from the following website:

http://www.mozilla.org

If you do not have a supported web browser installed on your system (or on your network), the Isight online help may not function correctly. Browsers not listed above have not been fully tested with the online help. For more information on whether or not your system or network is configured in an acceptable manner, contact your local systems administrator. For more information on using the online help, refer to the *Isight User's Guide*.

Installing Isight Non-Interactively

This section describes how to install Isight with minimal interaction, instead of specifying the numerous options available using the installation script. There are two ways to install Isight non-interactively:

- "Installing Using the Default Setting" on this page. This type of installation involves issuing a single command, and installing Isight using all of the default settings.
- "Installing With Pre-determined User Responses," on page 162. This type of installation allows you to create a file that stores your installation settings. Once created, this file can be used to automatically configure any additional installations.

Installing Using the Default Setting

To install Isight with the default user responses:

- 1. Open a Command Prompt dialog box (Windows) or a terminal window (UNIX).
- 2. Enter one of the following commands, based on your operating system:
 - Windows: D:\setupwin32.exe -silent (where D: is your DVD drive letter)
 - UNIX/Linux: /dvd_mount_point/setupplatform.bin -silent (where dvd_mount_point is specific to your system, and platform specifies the type of UNIX operating system you are using)

The software is installed.

Note: A default install does not install a license file. You will need to copy a *license.dat* file from the *license* directory of an existing install to the *license* directory of the new install.

Installing With Pre-determined User Responses

To install Isight with pre-determined user responses:

- 1. Open a Command Prompt dialog box (Windows) or a terminal window (UNIX).
- 2. Enter one of the following commands, based on your operating system:
 - Windows: D:\setupwin32.exe -options-record ABS_PATHNAME_TO\RESPONSE_FILE_TO_AUTOGENERATE

Note: In this command, D: is your DVD-ROM drive letter. Also, the command should be entered on a single line at the command prompt.

UNIX/Linux: /dvd_mount_point/setupplatform.bin -options-record /ABS_PATHNAME_TO/RESPONSE_FILE_TO_AUTOGENERATE

Note: In this command, *dvd_mount_point* is specific to your system, and *platform* specifies the type of UNIX operating system you are using. This command should be entered on a single line at the terminal prompt.

- **3.** When the installation interface appears, perform the installation procedures as normal. Once completed, the RESPONSE_FILE_TO_AUTOGENERATE is generated automatically.
- 4. Enter one of the following commands, based on your operating system:
 - Windows: D:\setupwin32.exe -silent -options ABS PATHNAME TO\RESPONSE FILE TO AUTOGENERATE

Note: In this command, D: is your DVD-ROM drive letter. Also, the command should be entered on a single line at the command prompt.

UNIX/Linux: /dvd_mount_point/setupplatform.bin -silent -options /ABS_PATHNAME_TO/RESPONSE_FILE_TO_AUTOGENERATE

Note: In this command, *dvd_mount_point* is specific to your system, and *platform* specifies the type of UNIX operating system you are using. This command should be entered on a single line at the terminal prompt.

Note: An Absolute path must be used because the installation process performs a "cd" to an unwritable directory.

Uninstalling Isight

This section discusses how to *permanently* remove Isight 3.5 from your system. It is divided into the following topics:

- "Uninstalling from Windows Platforms" on this page
- "Uninstalling from UNIX/Linux Platforms," on page 166

Uninstalling from Windows Platforms

You can permanently remove Isight and the license service at any time, as conditions warrant. This process involves stopping the license server, removing the Isight software, and deleting any temporary directories and files that are left behind.

Typically, the uninstallation process removes the license server on Windows and UNIX/Linux platforms. If you have multiple servers running on an individual machine, you may need to manually uninstall the license server as described in this section.

Important: If you have two versions of Isight 3.5 installed (for example, the initial release and a patch release that followed), you should directly access the uninstaller of the version you want to remove. It is recommended that you *not* use the Windows Control Panel as described in the following procedure. The uninstaller is located in the _uninst subdirectory of the main Isight directory for the version you wish to remove. Simply execute the uninstall.exe file.

Note: If you have multiple versions of Isight 3.5 installed on an individual machine using local license files, uninstalling one version of Isight 3.5 may delete the license server used by the other installations. You will need to re-install the license server manually as described in "Installing Only a License Server," on page 179.

Stopping the License Server and Removing the Software

To remove Isight and its license service on Windows:

- 1. Login as Administrator or a user with administrative privileges.
- 2. Perform one of the following options, based on your operating system:
 - Windows XP: Click Start; then, point to All Programs / Isight 3.5-1 and click FLEXnet Utilities.
 - Windows Vista: Click Start, point to All Programs / Isight 3.5-1 and right-click FLEXnet Utilities; then, select Run as administrator from the menu that appears.

The LMTOOLs dialog box appears.

- 3. Click the Start/Stop/Reread tab. The contents of the tab appear.
- 4. Select the Isight license service; then, click the **Stop Server** button. The license server is stopped.
- 5. Click the Config Services tab. The contents of the tab appear.
- 6. Verify that the Isight service is select from the Service Name drop-down list; then, click the Remove Service button.
- 7. Click **Yes** to verify the removal of the service; then, close the LMTools dialog box. Now you need to remove Isight itself.
- 8. Click Start / Control Panel to open the Control Panel dialog box.
- 9. Perform one of the following options, based on your operating system:
 - Windows XP: Click the Add or Remove Programs link. The Add or Remove Programs dialog box appears.
 - Windows Vista: Click the Programs link; then, click the Programs and Features link. The list of installed programs appears.
- **10.** Select **Isight 3.5-1** from the list of programs; then, click the **Change/Remove** button (**Uninstall/Change** button on Windows Vista).
- **11.** (*Windows Vista only*) Click the **Continue** button to verify that you want to execute the uninstall program.

The Welcome dialog box appears.

- 12. Click Next. A summary of the uninstallation appears.
- 13. Click Next. The software is removed and a summary of the installation appears.
- 14. Click Finish.

Note: If a message appears informing you that Isight has been removed and that you must restart your system to complete the uninstallation process, be sure to perform the restart before continuing to the next section.

- 15. (Windows XP only) Close the Add or Remove dialog box
- **16.** Close the Control Panel.
- **17.** Proceed to the next section.

Deleting Temporary Directories and Files

Once you've removed the Isight software and license server, you need to remove the temporary directories and files created by Isight.

To delete temporary directories and files:

- 1. Navigate to the directory that contains the top level of your Isight installation directory. For example, if you installed Isight in C:\SIMULIA\Isight\3.5-1, navigate to the C:\SIMULIA directory.
- 2. Delete the Isight directory and all of its contents.
- **3.** Navigate to the following directory, where *<user_name>* is the name of the user who installed and uninstalled Isight:
 - Windows XP: C:\Documents and Settings\<user_name>
 - Windows Vista: C:\Users\<user_name>
- 4. Delete the following items, if they are present:
 - fiper.preferences file
 - "fiperdb-35" directory
 - "fiper" directory
 - Isightinstall.log file
 - "locallib_3.5" directory

- 5. Navigate to one of the following directories, based on your operating system, where *<user_name>* is the name of the user who installed and uninstalled Isight:
 - Windows XP: C:\Documents and Settings\<*user_name*>\Local Settings\Temp
 - Windows Vista: C:\Users\<user_name>\AppData\Local\Temp
- 6. Delete the "fiper" and "fiper0.mmcache" directories.

The Isight removal process is complete.

Uninstalling from UNIX/Linux Platforms

You can permanently remove Isight and the license service at any time, as conditions warrant. This process involves stopping the license server, removing the Isight software, and deleting any temporary directories and files that are left behind.

Stopping and Removing the License Server

To stop and remove the license server:

- 1. Perform one of the following actions:
 - Log in as root (obtain root permissions).
 - Verify that you have permission to write in the /etc directory.
- 2. Change into the following directory:

<Isight_install_directory>/license

3. Execute the following command to stop the license manager:

./flexlm stop

A message appears stating that your license manager was shut down successfully.

4. Execute the following command:

./flexlm uninstall

A message appears, informing you that the FLEXnet startup script has been removed. The process is complete when you are returned to the prompt.

5. Proceed to the next section.

Removing the Isight Software

To remove the Isight software:

- 1. Verify that you are logged in as the same user that installed Isight.
- 2. Navigate to the following directory:

<*Isight_install_directory*>/_uninst

- 3. Execute one of the following commands, based on your operating system:
 - ./uninstallaix
 - ./uninstallhpux
 - ./uninstalllinux
 - ./uninstallsolaris

The Welcome dialog box appears.

Important: You must be logged in as the same user that installed Isight or the uninstaller will not be able to completely remove the software.

- 4. Click Next. A summary of the uninstallation appears.
- 5. Click Next. The software is removed. You are informed when the removal is complete.

Note: A known issue exists on HP-UX that causes an error when the uninstaller attempts to remove some files in the *<Isight_install_directory>/bin/* HP-UX_B.11.00_PA_RISC/jre directory. You will manually delete these files shortly.

- 6. Click Next. A message appears telling you that you have to log out and then log back into your system to update your environment variables.
- 7. Click Finish. The uninstaller is closed.

- 8. Log out of your system; then, log back into your system.
- 9. Proceed to the next section.

Deleting Temporary Directories and Files

To delete the temporary directories and files left behind by Isight:

- 1. Log in as root (obtain root permissions). Although it is not necessary to be root to delete all of the temporary files, it is necessary for some of the files.
- 2. Navigate to the directory that contains the top level of your Isight installation directory. For example, if you installed Isight in /opt/SIMULIA/Isight/3.5-1, navigate to the /opt/SIMULIA directory.
- 3. Delete the Isight directory and all of its contents.
- 4. Navigate to the \$HOME directory for the user that installed Isight.
- 5. Delete the following items, if they are present:
 - .fiper.preferences file (notice the leading "." in the file name)
 - "locallib_3.5" directory
 - "fiperdb-35" directory
 - "fiper" directory
 - "FIPER_temp" directory
 - any Isight logs (such as the installation and uninstallation logs)
- 6. Navigate to the following directory:

/var/tmp

7. Delete the flexlm.log file (if it is present).

The Isight removal process is complete.

Isight B License Information

This appendix provides license information that may be useful when installing Isight. It is divided into the following topics:

- "Installing the Isight License After Installation," on page 170
- "Modifying Your Isight License Location," on page 177
- "Configuring Your License to Work with Windows Firewall," on page 178
- "Understanding the Automatic License Server Process," on page 179
- "Installing Only a License Server," on page 179

Installing the Isight License After Installation

If you receive your license file after running the Isight installation program, you will have to manually start the license manager once you receive the license. The Isight license file is generated using your computer information. This information should be given to your SIMULIA representative. SIMULIA then generates the license and e-mails it to the appointed contact at your site.

Proceed to one of the following sections, based on your operating system:

- "Installing the License on Windows" on this page
- "Installing the License on UNIX/Linux," on page 175

Installing the License on Windows

The following are the steps you should follow to correctly install your Isight license. The steps are separated into the following groups:

- "Editing Your Isight License" on this page
- "Configuring the FLEXnet License Manager Software," on page 171

Editing Your Isight License

To edit your license file:

- 1. Login as Administrator or a user with administrative privileges.
- 2. Save the license.dat file you received via e-mail into the following directory:

<*Isight_install_directory*>\license

This overwrites the license.dat file that came with Isight, which simply contains a message about setting up your actual license.

Note: If the machine has old mail software, then you must remove everything before the line beginning with "SERVER".

Configuring the FLEXnet License Manager Software

If a local FLEXnet daemon is required, and FLEXnet is not already configured on your system or network, you must modify the FLEXnet Utilities interface.

Note: The following procedure assumes you have installed Isight into the default location (C:\SIMULIA\Isight\3.5-1). If you installed the software in a different location, your procedure will differ slightly from the one that follows.

To modify the FLEXnet Utilities interface:

- 1. Login as Administrator or a user with administrative privileges.
- 2. Perform one of the following options, based on your operating system:
 - Windows XP: Click Start; then, point to All Programs / Isight 3.5-1 and click FLEXnet Utilities.
 - Windows Vista: Click Start, point to All Programs / Isight 3.5-1 and right-click FLEXnet Utilities; then, select Run as administrator from the menu that appears.

The LMTOOLS dialog box appears with the Service/License File tab selected.

Note: You can also execute the lmtools.exe file from the command prompt to start the FLEXnet Utilities interface. This file is located in the <*Isight_install_directory*>\bin\win32 directory. Be sure to run it using the "Run as administrator" option if using Windows Vista.



3. Verify that the **Configuration using Services** radio button is selected; then, click the **Configure Services** tab. The contents of the tab appear.

LMTOOLS by Macrovision Co	prporation http://www.macr	ovision.com	
File Edit Mode Help			
Service/License File System Set	tings Utilities Start/Stop/Reread	Server Status Server Diags	Config Services Borrowing
Configure Service			Save Service
Service Name	FlexIm Service 1	•	Bamaua Camina
			helliove service
Path to the Imgrd.exe file	[Browse	
Path to the license file		Browse	
Path to the debug log file		Browse	View Log Close Log
🗖 Start Server at Pou	ver Up 🔽 Use Services		

- 4. Click the **Browse** button adjacent to the **Path to the Imgrd.exe file** text box. An Open dialog box appears.
- 5. Navigate to the following directory:

<*Isight_install_directory*>\bin\win32

- 6. Select the **Imgrd.exe** file; then, click the **Open** button. The path appears in the corresponding text box in the Config Services tab.
- 7. Click the **Browse** button adjacent to the **Path to the license file** text box. An Open dialog box appears.
- 8. Navigate to the following directory:

<Isight_install_directory>\license

- **9.** Select License Files(*.dat) from the Files of type text box. The license file appears in the Open dialog box.
- **10.** Select the **license.dat** file; then, click the **Open** button. The path appears in the corresponding text box in the Config Services tab.
- **11.** Click the **Browse** button adjacent to the **Path to the debug log file** text box. An Open dialog box appears.

12. Navigate to any directory in which you wish to have the log file stored. For example:

<*Isight_install_directory*>\license

13. Type the name of the log file in the **File name** text box on the Open dialog box. For example:

debug.log

- **14.** Click the **Open** button. The path appears in the corresponding text box in the Config Services tab.
- 15. Verify that the two check buttons at the bottom of the tab are selected:
 - Start Server at Power Up
 - Use Services

Note: By selecting the Start Server at Power Up option, you do not have to manually start the license server. It is done automatically when your computer is turned on.

Your dialog box should appear as shown below.

LMTOOLS by Macrovision Co	prporation http://www.macrovision.com		
File Edit Mode Help			
Service/License File System Set	tings Utilities Start/Stop/Reread Server Status Server Diags	Config Services Borrowing	
Configure Service Service Name	Flexin Service 1	Save Service	
	,	Remove Service	
Path to the Imgrd.exe file	C:\SIMULIA\Isight\3.5-1\bin\win32\Imgrd.exe Browse		
Path to the license file	C:\SIMULIA\Isight\3.5-1\license\license.dat Browse		
Path to the debug log file	C:\SIMULIA\Isight\3.5-1\license\debug.log Browse	View Log Close Log	
☞ Start Server at Power Up			

16. Click the Save Service button; then, click Yes to verify your settings.

17. Click the Start/Stop/Reread tab. The contents of the tab appear.

LMTOOLS by Macrovis	sion Corporation h	ttp://www.macr	ovision.com		
File Edit Mode Help					
Service/License File Sys	stem Settings Utilities	Start/Stop/Reread	Server Status	Server Diags Config Services	Borrowing
	FLEX	Knet license services	installed on this o	computer	
	Start Server	Stop 5	Gerver	ReRead License File	
Adv	vanced settings >>	Force Se NOTE: This when license	erver Shutdown box must be che es are borrowed.	cked to shut down a license serv	er
Using License File: C:\Program Files\Engineous\SIGHT-FD_3.1\license\license.dat					

18. Click the **Start Server** button. The FLEXnet license manager is running when you see the following message at the bottom of the dialog box:

Server Start Successful

Note: If you have an existing Isight Service defined, and the server fails to start after updating the service, return to the Configure Service tab, delete the old service, and create a new service. This new service should start without any errors.

19. Select **Exit** from the **File** menu to close the LMTOOLS dialog box. You can now start using Isight.

Note: It is recommended that you access the Design Gateway to test your license file. Also, you'll be prompted to publish the Engineous-supplied Isight components. Once the components are published, the Design Gateway interface will appear, confirming that your license and license server are functioning correctly.

Installing the License on UNIX/Linux

The following are the steps you should follow to correctly install your Isight license. The steps are categorized in the following groups:

- "Editing Your Isight License" on this page
- "Installing and Starting the License Manager," on page 176

Editing Your Isight License

Your Isight license is basically a text file that contains information about what aspects of Isight you can use following installation. For the most part, you do not need to change anything in the file. However, a few customizations are necessary, as described below.

Once the license file has been received:

1. Save the license.dat file you received via e-mail into the following directory:

<*Isight_install_directory*>/license

Note: If the machine has old mail software, then you must remove everything in the license file before the line beginning with "SERVER".

2. If you are using a combined license file with an existing FLEXnet license server, you must add the path to engswd on the VENDOR line (second line) of the license file.

For example, if you installed Isight in the /opt directory on a AIX machine, you would change the VENDOR from:

VENDOR engswd

to the following:

VENDOR engswd /opt/SIMULIA/Isight/3.5-1/bin/AIX_5.1_ppc/engswd

3. If your license file contains the string XXXX on the SERVER line, replace the XXXX string with the host name of your machine.

The host name of the machine may be determined by typing the command uname -n at the terminal prompt.

4. Save and exit your license file.

Installing and Starting the License Manager

A script is provided with your Isight installation that assists you with installing your license manager.

To install your license manager:

- 1. Perform one of the following actions:
 - Log in as root (obtain root permissions).
 - Verify that you have permission to write in the /etc directory.
- 2. Change into the following directory:

<Isight install directory>/license

3. Execute the following command:

./flexlm install

A message appears, informing you that the FLEXnet startup script is being installed. The process is complete when you are returned to the prompt.

4. Execute the following command to manually start the license manager, based on your operating system:

./flexlm start

A message appears stating that your license manager was started successfully. You can now start using Isight.

Note: If you did not have root privileges when you installed Isight, you'll have to execute this command every time you reboot your system. A warning message stating this necessity appeared during your installation. Otherwise, the license manager will start automatically after a reboot.

Modifying Your Isight License Location

The Isight installation places your license file in the *<Isight_install_directory*>\license folder. If a modification is required because, for instance, your organization uses a central FLEXnet license server, you can edit the file to be a "use_server" file and point to the central server.

To edit your license file:

- 1. Login as Administrator.
- 2. Navigate to the following directory:

<*Isight_install_directory*>\license

- 3. Open the license.dat file with the text editor of your choice.
- 4. Edit the file as necessary. For example, you can edit the file as shown below (replacing *your_server_name* and *your_server_hostid* with the appropriate information for your license server).

SERVER your_server_name your_server_hostid
USE SERVER

You can also combine license files for all products using FLEXnet with appropriate editing. For more information, contact SIMULIA technical support.

Configuring Your License to Work with Windows Firewall

If you specified a license server that is behind a Windows Firewall, you need to perform the following actions to ensure that you can connect to the license server when using Isight:

- 1. Verify that the Windows Firewall has been updated so that the necessary license ports are open for the license server. For more information, refer to any version of the *Fiper Installation and Configuration Guide*.
- 2. Navigate to the following directory:

<Isight_install_directory>\license

- 3. Open the license.dat file in the text editor of your choice.
- 4. Add the port number opened on the license server machine's Windows Firewall to the SERVER line in your license file. For example, if port 1700 was opened on the Windows Firewall, your license SERVER line would appear similar to the example shown below:

SERVER acsmachine ANY 1700

For more information on what port numbers were opened on your license server's Windows Firewall, contact your local systems administrator.

- 5. Save and close your license file.
- **6.** Start an Isight interface to verify that the you can communicate with the license server.

Understanding the Automatic License Server Process

The following information may be useful in understanding how Isight's installer automatically starts the license manager:

- If the user executing the installer is in the Admin group (on Windows) or has root access (on UNIX), then the license server is installed as a service (in /etc/rc on UNIX).
- If the user is not in the Admin group or does not have root access, a message is displayed telling the user how to install the license manager as Admin/root. For details on this process, see "Environment Variables," on page 159.

Installing Only a License Server

If you are installing only a license server, you need to run the license server script for your specific platform. The scripts are located on the Isight DVD in the FLEXnet directory. Depending on your operating system, proceed to one of the following sections:

- "Installing Only a License Server on Windows," on page 180
- "Installing Only a License Server on UNIX/Linux," on page 184

Important: If the license server you are referencing is behind a Windows Firewall (the firewall supplied with most Windows installations), you will need to manually alter your Isight license. For more information, see "Configuring Your License to Work with Windows Firewall," on page 178.

Installing Only a License Server on Windows

To install only a license server on a Windows platform:

1. Log in as the Administrator that will install the license server.

Note: You *must* be the Administrator or have administrative privileges to install on any Windows platform.

- 2. Insert the Isight DVD.
- **3.** Navigate to the FLEXnet directory, and then run the flexlmwin32.vbs script. The Isight license server setup program starts. It will guide you through the rest of the installation process. The Welcome screen appears, showing the version of the license server being installed.

🚳 Installer Isight 3.5-1		
	Welcome to the Installer for Isight 3.5-1	
	The Installer Wizard will install Isight 3.5-1 on your computer. To continue, choose Next. Isight 3.5-1 SIMULIA http://www.simulia.com/	
InstallShield ————	< Back Next >	Cancel

4. Click Next. The software agreement screen appears.
5. Read the agreement; then, click Next. The installation directory screen appears.

<table-row> Installer Isight 3.5-1</table-row>	
	Click Next to install "Isight 3.5-1" to this directory, or click Browse to install to a different directory. Directory Name: C:\SIMULIA\Isight:3.5-1 Browse
nstallShield —	<pre></pre>

- 6. Perform one of the following actions:
 - To accept the default directory, click **Next**. Your default directory may vary based on your system settings and permissions.
 - If you wish to place the license server in a different location, click the **Browse** button, and choose a destination folder; then, click **Open**.
- 7. Click **Next** to continue the installation procedure once you have specified your directory. The license location screen appears.



8. Select I have a license file.

Note: You can choose the **Skip the license for now - it will be supplied later** option. If you select this option, you will be required to manually start your license server once you receive your license file as described in "Installing the Isight License After Installation," on page 170. Proceed to step 11.

Note: Do not select Reference a license server.

9. Click Next. The select license file screen appears.

🚳 Installer Isight 3.5-1	
	Select the license file. This file will be copied into the Isight 3.5-1 installation directory.
	Select license file
	Browse
InstallShield	
	< Back Next > Cancel

10. Enter the full path and name of the license server file or use the **Browse** button to locate the file.

11. Click **Next**. A screen showing where the license server file will be located and information about installing clients appears.

<table-row> Installer Isight 3.5-1</table-row>	
	Note about clients for this license server A client license file that can be used to access this license server will be created in C:\SIMULLA\isight3.5-1\license\client-license.dat Alternatively, when installing clients, use the following license server settings:
InstallShield —	< Back Next > Cancel

12. Make a note of the server name and port to use for installing clients; then, click Next. After the installation program calculates the required disk space needed, an installation summary screen appears showing that only the license server will be installed and the location.

🛃 Installer Isight 3.5-1		
	Please read the summary information below. Isight 3.5-1 will be installed in the following location: C:ISIMULLANsight3.5-1 with the following features: License Server for a total size: 54.2 MB	
InstallShield ————	< Back Next >	Cancel

13. Click **Next**. The installation progress screen appears, and the license server is installed. An overall summary message appears when the installation is complete.

14. Click **Next**. A screen showing that the server has been installed and started appears.

🚳 Installer Isight 3.5-1		
	Please read the information below. The license server has been installed as a service and started.	
InstallShield —	< Back Next >	Finish

15. Click Finish.

Installing Only a License Server on UNIX/Linux

To install only a license server on UNIX/Linux:

- 1. Log in as the user that will install the license server.
- Load the Isight DVD and mount it, if necessary. For more information, contact your systems administrator. If your machine does not have a DVD drive, you can install the license server from a shared disk or network folder. For more information, see "Accessing the Installation Files from a Remotely Mounted DVD," on page 155.

Note: On some UNIX systems, the Isight DVD will automatically mount when it is inserted into the DVD drive, and a file browser window will appear. In this case, you can double-click the correct setup file. These files are listed in step 4.

3. From the terminal window (shell), change to the directory where the Isight DVD is mounted. For example, type:

cd /media/dvd

- **4.** Navigate to the FLEXnet directory; then, execute the installation script. Type one of the following commands, based on your operating system:
 - ./flexlmaix
 - ./flexlmhpux
 - ./flexlmlinux
 - ./flexlmsolaris

The Isight license server setup program starts. It will guide you through the rest of the installation process. The Welcome screen appears, showing the version of the license server being installed.

	Installer Isight 3.5-1
	Welcome to the Installer for Isight 3.5–1
	The Installer Wilzard will Install Isight 3.5–1 on your computer. To continue, choose Next. Isight 3.5–1 SIMULA http://www.simulia.com/
InstallShield	A Back Next > Cancel

5. Click Next. The software agreement screen appears.

6. Read the agreement, then click Next. The installation directory screen appears.

	Installer Isight 3.5-1
	Click Next to install "lsight 3.5–1" to this directory, or click Browse to install to a different directory. Directory Name: [/opt/SIMULIA/Isight/3.5–1 Browse
InstallShield	< <u>Back Next > Cancel</u>

- 7. Perform one of the following actions:
 - To accept the default directory, click **Next**. Your default directory may vary based on your system settings and permissions.
 - If you wish to install the license server in a different location, click the **Browse** button, and choose a destination folder; then, click **Open**.
- 8. Click Next.
- 9. Click Next. The license location screen appears.



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10. Select I have a license file.

Note: You can choose the **Skip the license for now - it will be supplied later** option. If you select this option, you will be required to manually start your license server once you receive your license file as described in "Installing the Isight License After Installation," on page 170. Proceed to step 11.

Note: Do not select Reference a license server.

11. Click Next. The license file selection screen appears.

 ✓ ✓	Installer Isight 3.5-1
	Select the license file. This file will be copied into the Isight 3.5-1 installation directory.
	Select license file
	Browse
	< <u>Back Next > Cancel</u>

12. Enter the full path and name of the license file or use the **Browse** button to locate the file.

Note: The license file must be for the computer the installation is running on if the license server is to be installed as a daemon.

13. Click **Next**. A screen showing where the license server file will be located and information about installing clients appears.

	Installer Isight 3.5-1
	Note about clients for this license server A client license file that can be used to access this license server will be created in /opt/SIMULIA/Isight/3.5-1/license/client-license.dat Alternatively, when installing clients, use the following license server settings: • Server Name: • Port:
InstallShield	< <u>Back Next > Cancel</u>

14. Make a note of the server name and port to use for installing clients; then, click Next. After the installation program calculates the required disk space needed, an installation summary screen appears showing that only the license server will be installed and the location.

	Installer Isight 3.5-1
	Please read the summary information below. Isight 3.5-1 will be installed in the following location: /opt/SIMULIA/Isight/3.5-1 with the following features: License Server for a total size: 77.6 MB
InstallShield ————	< Back Next > Cancel

15. Click **Next**. The installation progress screen appears, and the license server is installed.n overall summary message appears when the installation is complete.

16. Click **Next**. A screen showing that the server has been installed and started appears.

	Installer Isight 3.5-1]
	Please read the information below. The license server has been installed as a service and started.	
InstallShield —	< <u>Back</u> <u>Next</u> > <u>Finish</u>	

17. Click Finish.

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About SIMULIA

SIMULIA is the Dassault Systèmes brand that delivers a scalable portfolio of Realistic Simulation solutions including the Abaqus product suite for Unified Finite Element Analysis, multiphysics solutions for insight into challenging engineering problems, and SIMULIA SLM for managing simulation data, processes, and intellectual property. By building on established technology, respected quality, and superior customer service, SIMULIA makes realistic simulation an integral business practice that improves product performance, reduces physical prototypes, and drives innovation. Headquartered in Providence, RI, USA, SIMULIA provides sales, services, and support through a global network of regional offices and distributors. For more information, visit www.simulia.com.

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