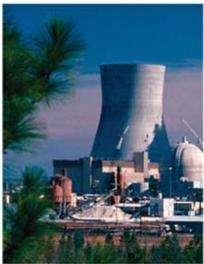
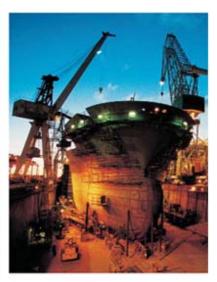
SmartPlant Instrumentation Server and IDEAL

Installation and Configuration Guide

Process, Power & Marine









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Table of Contents

Preface	5
SmartPlant Instrumentation Server: An Overview	7
Hardware Requirements	7
Server Operating System and Software Requirements	8
SmartPlant Instrumentation Server Configuration Workflow	
Smarti fant finsti umentation Server Configuration Workingw)•••••••••••••••••••••••••••••••••••••
SmartPlant Instrumentation Installation and Configuration Procedure	es10
Creating a Local Windows User	10
Create a Local Windows User	
Configuring IIS	
Stop the OracleOraHome ClientCache	
Setting the IIS Security	11
Testing the IIS Settings	13
Installing PDF Writer Based on Ghostscript	13
Install Adobe PostScript Printer driver	
Install GNU Ghostscript	14
Install RedMon	
Configuring Adobe PostScript Printer Driver	
Configure Adobe PostScript Printer Driver	
Configuring Adobe Acrobat Distiller	
Configure Adobe Acrobat Distiller 5	
Configure Adobe Acrobat Distiller 4	
Install SmartPlant Instrumentation Server	
Setting the Windows Security	
Grant Various Folder Permissions for IDEAL_USER	
Test the PostScript Printer Configuration	
Test the Acrobat Distiller Driver	
Configure the DCOM for SmartPlant Instrumentation Server	27
Configuring SmartPlant Instrumentation Server	
Define an IDEAL User	30
Define SmartPlant Instrumentation Server General Settings	30
Intergraph IDEAL Installation	33
Software Requirements	33
IDEAL Configuration	
Registering Installed Files	
Common Files.	
Local Installation Files.	
Network Client Installation Files	36
Performing a Local IDEAL Installation	
Perform a Local IDEAL Installation	36

Performing a Network Client IDEAL Installation	37
Perform a Network Client IDEAL Installation	
Test IDEAL using the API Runner	38
Index	40

Preface

This document is the installation guide for the SmartPlant Instrumentation Server and Intergraph Distributed Environment Application Layer (IDEAL).

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Preface		

SmartPlant Instrumentation Server: An Overview

SmartPlant Instrumentation Server is a component of the SmartPlant Instrumentation application that extends the functionality of SmartPlant Instrumentation as follows:

- IDEAL users, who do not use the SmartPlant Instrumentation application, can connect to the SmartPlant Instrumentation database via the IIS Internet Information Server and then display retrieved data in formats supported by SmartPlant Instrumentation, for example, the .sma format for enhanced reports. Therefore, to make SmartPlant Instrumentation Server functional for IDEAL, you must install Internet Information Services (IIS) on the same machine where you installed SmartPlant Instrumentation Server.
- External users can display SmartPlant Instrumentation data as .pdf files, using a PDF generator that you must install on the same machine where you install SmartPlant Instrumentation Server.

The installation of SmartPlant Instrumentation Server requires a separate license.

Hardware Requirements

The hardware requirements depend on the server platform, that is Oracle 8.0.5 or later, or Microsoft SQL Server. Hardware requirements are described in the *Installation Guide*, in the documents *Installing SmartPlant Instrumentation on Oracle* or *Installing SmartPlant Instrumentation on SQL Server*, that describe a standard installation of SmartPlant Instrumentation on Oracle or SOL Server.

Server Operating System and Software Requirements

T Caution

• The following software programs are not Intergraph corporation software and are owned by third parties. It is the responsibility of the customer to select in its sole discretion the applicable third party software customer desires to use to generate reports and Intergraph makes no recommendation as to the choice of said third party software. Customer is responsible for obtaining a valid license to use said third party software from the owner of said third party software and to pay any license fees to the owner of said third party software for the use of said third party software. INTERGRAPH DISCLAIMS AND MAKES NO WARRANTY EITHER EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY OR THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE IN REGARDS TO SAID THIRD PARTY SOFTWARE.

Software requirements are as follows:

- One of the following operating systems:
 - Windows 2000 server
 - Windows XP
- One of the following PDF generators:
 - Adobe Acrobat Distiller 4 or 5
 - The latest executable version of PostScript printer GNU
 Ghostscript, together with Adobe PostScript Printer Driver and
 RedMon Redirection Port Monitor. For installation details, see
 page 14.
- Internet Information Services (IIS)

SmartPlant Instrumentation Server Configuration Workflow

This section describes the workflow necessary to configure and install SmartPlant Instrumentation Server Version 7.0 for Oracle or Microsoft SQL Server on an application server machine.

! Important

- To ensure that SmartPlant Instrumentation Server is fully functional, you must perform these procedures on the machine where you want to run SmartPlant Instrumentation Server, in the order shown.
- 1. Creating a local Windows user. For details, see page 10.
- 2. Configuring IIS. For details, see page 10.
- 3. Set the IIS security. For details, see page 11.
- 4. Installing one of the following PDF generators:
 - PDF Writer based on Ghostscript. For installation details, see page 13.
 - Adobe Acrobat Distiller. For installation details, please refer to the Adobe Acrobat documentation.
- 5. Configuring the installed PDF generator:
 - Adobe PostScript PDF printer driver. For details, see page 14.
 - Adobe Acrobat Distiller. For details, see page 16.
- 6. Install SmartPlant Instrumentation Server. For installation details, see page 19.
- 7. Setting the Windows security. For details, see page 22.
- 8. Test the installed PDF generator:
 - Adobe PostScript PDF printer driver. For details, see page 23.
 - Adobe Acrobat Distiller. For details, see page 25.
- 9. Configure the DCOM for SmartPlant Instrumentation Server. For details, see page 26.
- 10. Configuring SmartPlant Instrumentation Server. For details, see page 29.

SmartPlant Instrumentation Installation and Configuration Procedures

Creating a Local Windows User

The following procedure describes how to create a local Windows user.

T Caution

If the INTOOLS.INI file is not located on the computer where you
installed SmartPlant Instrumentation Server, your Administrator must
create a Windows domain user to enable the access to the remote
computer. You then have to log on with the name and password of
this domain user.

Create a Local Windows User

- 1. In the Windows Control Panel, double-click **Administrative Tools**.
- 2. Double-click Computer Management.
- 3. On the Computer Management window, in the System Tools root folder, beside the Local Users and Groups folder, click

 to expand the folder hierarchy.
- 4. Right-click the Users folder, and then click New User.
- 5. Create a new user, for example, IDEAL USER.
- 6. Add a password for this user.

Configuring IIS

To configure IIS for SmartPlant Instrumentation Server, you must make sure that the HTTP server service of IIS is the only HTTP server service running on the machine where you installed IIS and SmartPlant Instrumentation Server.

For example, if Oracle server or client is installed on the machine, you must stop the OracleOraHome ClientCache, as described in the following procedure.

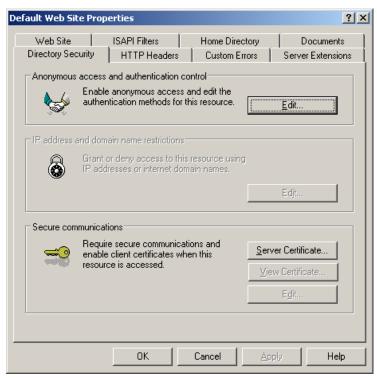
Stop the OracleOraHome ClientCache

- 1. In the Windows Control Panel, double-click **Administrative Tools**.
- 2 Double-click Services

- 3. On the **Services** window, from the list of services, select OracleOraHome<version number>ClientCache.
- 4. Double-click the service to open a **Properties** dialog box for this service.
- 5. On the General tab, from the Startup type list, select Disabled.
- 6. Click Stop.

Setting the IIS Security

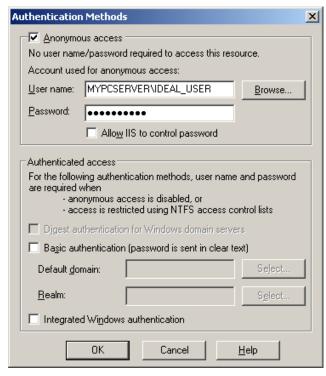
- 1. Using the Windows Control Panel, double-click **Administrative Tools**.
- 2. Depending on the operating system that you have, do one of the following:
 - On Windows 2000 server, double-click Internet Services Manager.
 - On Windows XP, double-click Internet Information Services.
- 3. In the tree-view pane, expand the root folder hierarchy.
- 4. Right-click **Default Web Site**, and on the shortcut menu, click **Properties**.
- 5. On the **Default Web Site Properties** dialog box, click the **Directory Security** tab.



- 6. Under Anonymous access and authentication control, click Edit to open the **Authentication Methods** dialog box.
- 7. Select the **Anonymous access** check box.
- 8. Under Account used for anonymous access, click Browse.

- 9. On the **Select User** dialog box, click **Locations** and select your host computer as the search location.
- 10. Return to the **Select User** dialog box, type **IDEAL_USER** in the box, and click **Check Names**.
- 11. Click **OK** to return to the **Authentication Methods** dialog box.
- 12. Type the IDEAL USER user password.
- 13. Clear the **Allow IIS to control password** check box.
- 14. Clear the Integrated Windows authentication check box.

The **Authentication Methods** dialog box should appear as shown:



Important

- If the Administrator has defined IDEAL_USER as a Windows domain user, do not clear the **Integrated Windows authentication** check box.
- 15. Click **OK** to return to the **Default Web Site Properties** dialog box and then click the **Home Directory** tab.
- 16. From the Application Protection list, select Low (IIS Process).

Testing the IIS Settings

Use this procedure for testing that you have configured your IIS settings correctly.

- 1. Do one of the following:
 - In the Windows Control Panel, double-click **Administrative Tools**. and then double-click Computer Management.
 - On the desktop, right-click My Computer, and on the shortcut menu, click Manage.
- 2. On the Computer Management window, beside the Services and Applications root folder, click

 to expand the folder hierarchy Internet Information Services > Web Sites > Default Web Site.
- 3. Right-click **Default Web Site** and click **Browse**.



If you have configured IIS correctly, the default IIS Web page should open and you should not see any error messages in the right pane.

Installing PDF Writer Based on Ghostscript

The installation consists of three components, which you must install in the following order:

- 1. Adobe PostScript Printer Driver
- 2. GNU Ghostscript PostScript language interpreter
- 3. RedMon Utility that redirects standard printer port output to Ghostscript

Install Adobe PostScript Printer driver

- 1. Download the appropriate WINSTENG.EXE printer driver file from Web site http://www.adobe.com/products/printerdrivers/main.html.
- 2. Double-click the WINSTENG.EXE file to run the PostScript printer driver setup.
- 3. Follow the online instructions for the setup.



- The printer name must be **Generic PostScript Printer**.
- 4. On the Printer Configuration page, beside Do you want to configure your printer now?, click No.
- 5. Click **Finish** to complete the installation.

Install GNU Ghostscript

- 1. Download the setup file from one of the following Web sites:
 - www.ghostscript.com/doc/gnu/
 - ftp://mirror.cs.wisc.edu/pub/mirrors/ghost/gnu/current/
- 2. Click the link to the setup file GSNNNw32.EXE, where NNN represents the current Ghostscript version number, so that the file name might be, for example, GS706w32.EXE.
- 3. Double-click the file.
- 4. On the **WinZip Self-Extractor** dialog box, click **Setup**.
- 5. On the **GNU Ghostscript Setup** dialog box, select the folder where you want to install the software.



- It is recommended that you install GNU Ghostscript in the default folder C:\GS, and accept the other defaults, as suggested by Setup.
- 6. Click **Install** to complete the setup.

Install RedMon

- 1. Download the setup file from one of the following Web sites:
 - http://www.cs.wisc.edu/~ghost/redmon/index.htm
 - ftp://mirror.cs.wisc.edu/pub/mirrors/ghost/ghostgum/redmon17.zip
- 2. In the download folder, unpack the file: REDMON17.ZIP.
- 3. From the folder to which you unpacked the file, double-click SETUP.EXE.

Configuring Adobe PostScript Printer Driver

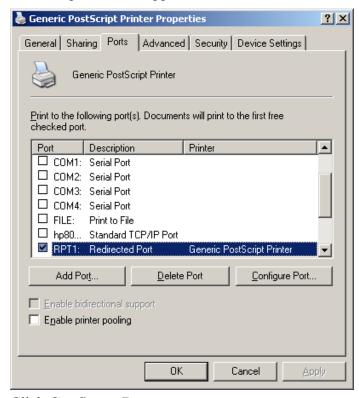
After you have installed all the components of PDF Writer based on GNU Ghostscript, you follow this procedure to configure your Adobe PostScript printer driver.

Configure Adobe PostScript Printer Driver

- 1. Access Windows Printers (Start > Settings > Printers).
- 2. Right-click **Generic PostScript Printer**, and on the shortcut menu, click **Properties**.

- 3. Click the **Ports** tab, and then click **Add Port**.
- 4. Select **Redirected Port**.
- 5. Click New Port.
- 6. On the **Printer Ports** dialog box, click **Close**.

The new port should appear as shown:



- 7. Click Configure Port.
- 8. In the box Redirect this port to the program, type the path to the program GSWIN32C.EXE, for example:

c:\gs\gs7.06\bin\gswIN32c.EXE

• Important

If the program is installed in a location other than the default C:\gs\, after installing SmartPlant Instrumentation, open the INTOOLS.INI file. and under the [PRINTER] section, add the line PDFDIR=<folder path>, for example:

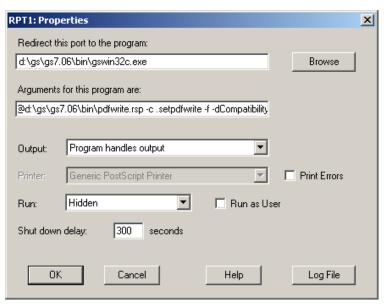
PDFDIR=d:\qs\qs7.06\bin\

9. In the box **Arguments for this program are**, type the following:

@c:\qs\pdfwrite.rsp -c .setpdfwrite -f -dCompatibilityLevel#1.4 -

! Important

- If the program is installed in a location other than the default, type the appropriate path at the beginning of the argument, for example:
 @d:\gs\gs7.06\bin\pdfwrite.rsp -c .setpdfwrite -f dCompatibilityLevel#1.4 -
- This argument is appropriate for Adobe Acrobat 4.x. If using Adobe Acrobat 5, replace the last part of the argument '-dCompatibilityLevel#1.4 -' with '-dCompatibilityLevel#1.5 -'
- 10. Set the values for other properties as shown:



- Make sure that the **Run as User** check box is cleared to avoid errors when printing PDF files.
- 11. Return to the **Generic PostScript Printer Properties** dialog box and click the **Advanced** tab.
- 12. Click the option button **Print directly to the printer**, and then click **Apply**.

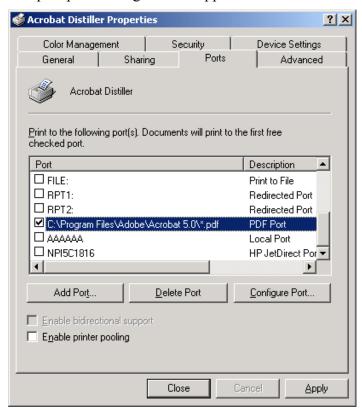
Configuring Adobe Acrobat Distiller

You need to configure Adobe Acrobat Distiller after installing it in the account where you have administrator privileges. For installation details, please refer to the Adobe Acrobat documentation. The configuration procedure applies to Adobe Acrobat Distiller 4 or 5.

Configure Adobe Acrobat Distiller 5

- 1. Log on to the account where you have administrator privileges.
- 2. In the SmartPlant Instrumentation home folder, create a new folder PDF Output for output .pdf files.
- 3. Access Windows Printers (Start > Settings > Printers).
- 4. Right-click **Acrobat Distiller**, and on the shortcut menu, click **Properties**.
- 5. Click the **Ports** tab, and then click **Add Port**.
- 6. On the **Printer Ports** dialog box, select **PDF Port**.
- 7. Click **New Port** and navigate to the SmartPlant\Instrumentation\PDF output folder path.
- 8. Create a new port pointing to the **PDF Output** folder (by default, the port points to the Windows Desktop).

The port path settings should appear as shown:

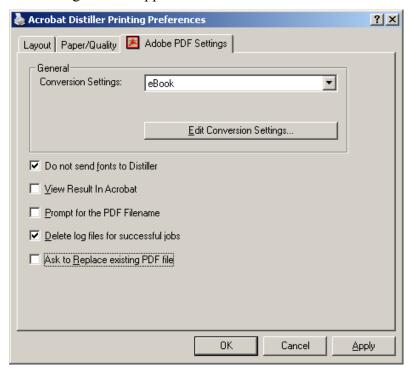


- 9. Log on to your IIS user (IDEAL USER) account.
- 10. In the Windows Control Panel, double-click **Printers**.
- 11. Right-click **Distiller** to open the **Acrobat Distiller Properties** dialog box.

! Important

- If the reports are to be displayed using Acrobat Reader 6, you must select on the **Advanced** tab the option **Print directly to the printer**.
- 12. On the General tab, click Printing Preferences.
- 13. On the **Acrobat Distiller Printing Preferences** dialog box, click the **Adobe PDF Settings** tab.
- 14. Clear the following check boxes:
 - Prompt for the PDF Filename
 - View Result in Acrobat

The settings should appear as shown:



Configure Adobe Acrobat Distiller 4

- 1. Start Adobe Acrobat Distiller 4.
- 2. On the **File** menu, click **Preferences**.
- 3. Under **Output Options**, clear all the check boxes.

Install SmartPlant Instrumentation Server

- 1. Insert the CD into the CD-ROM drive. If the installation does not start automatically, double-click the SETUP.EXE file in the main folder.
- 2. Click SmartPlant Instrumentation Installation.
- 3. On the Welcome to the InstallShield Wizard for Intergraph SmartPlant **Instrumentation** page, click **Next**.
- 4. On the License Agreement page, click **Display** to read the software license agreement in a .pdf file, and then after closing the file, click Yes.
- 5. On the License Verification page, insert the license diskette in the appropriate drive and click **Browse**.
- 6. On the Choose Folder page, navigate to the drive where the installation diskette (A: or B:) is located and click **OK** to return to the **License Verification** page.

💡 Tip

- If you copied the license diskette to your hard drive, navigate to the folder that contains the license file.
- 7. Click Next.
- 8. On the **Installation Type** page, click **Server**.
- 9. On the Customer Information page, enter your registration information and click Next.
- 10. On the **Registration Confirmation** message box, click **Yes**.
- 11. On the **PDF Generator** page, do one of the following:
 - Click Acrobat Distiller to set Adobe Acrobat Distiller as your default PDF generator.
 - Click Generic PostScript printer to set a PostScript printer as your default PDF generator.

! Important

- You must install a PDF generator before installing SmartPlant Instrumentation Server.
- 12. Click Next.
- 13. On the **Shared Web Folder** page, click **Browse** to specify the wwwroot folder of the IIS

T Caution

• The shared Web folder must be the same as the IIS home folder, for example c:\inetpub\wwwroot. The local path to the IIS home folder is displayed on the **Default Web Site Properties** dialog box, on the **Home Directory** tab. For details of how to open the **Default Web Site Properties** dialog box, see steps 1–4 of the procedure **Set the IIS Security** on page 11.

💡 Tip

• In the specified folder, Setup creates a sub-folder to be used as a target folder for output SmartPlant Instrumentation documents.

14. Click Next.

- 15. On the **Setup Type** page, do one of the following:
 - Click [Full) to install all the SmartPlant Instrumentation components.
 - Click (Custom) to select and install specific SmartPlant Instrumentation components.
- 16. On the **Destination Folder** page, specify the SmartPlant Instrumentation folder location.

√ Tip

• To choose an alternative destination, click **Browse** and navigate to the desired destination folder.

17. Click Next.

💡 Tip

setup Type page, you have selected to perform a customized setup process, on the **Select Components** page, select the desired SmartPlant Instrumentation components, and then click **Next**. See *Installation Guide*, *SmartPlant Instrumentation Setup Maintenance and Database Selection* > *Installing SmartPlant Instrumentation Components* to learn what components are required to work with SmartPlant Instrumentation.

18. Do one of the following:

- If you are installing SmartPlant Instrumentation on SQL Server, on the **SQL Server Information** page, type the SQL Server database server name and the database name, and then click Next.
- If you are installing SmartPlant Instrumentation on Oracle, do the following:
 - a. On the **Oracle Version** page, select your Oracle server version and click Next
 - b. On the Server Information page, in the Server field, type the communication alias name for your Oracle instance.
 - c. In the **Database** box, type the Oracle database name, and then click **Next**.
- 19. On the **Select Program Folder** page, select the program folder where you want Setup to install the program icons.
- 20. Click Next.

Caution

- On the Start Copying Files page, after you click Next, Setup immediately starts copying all the components you selected to the IIS home folder. To undo this operation you will have to uninstall SmartPlant Instrumentation Server. Therefore, if you need to make any modification to the current Setup selections, click **Back** before you start copying the files.
- 21. On the **Start Copying Files** page, view the settings of the current Setup session, and then click **Next** to start copying the files to your hard disk.
- 22. On the **Setup Status** page, view the progress of the file transfer.
- 23. When the file transfer is complete, on the **Important Notes** page, read the text carefully as it contains important information for the current version. Click Next when done
- 24. In the **Readme** message box, click **Yes** if you want to view the Readme file.



- We recommend that you choose to view the Readme file, as it contains important information about SmartPlant Instrumentation. You can find this file, Readme.htm, in the SmartPlant Instrumentation home folder or in the root folder of the installation CD-ROM.
- 25. On the **Setup Complete** page, click **Finish**.

This completes the SmartPlant Instrumentation Server installation on your computer.

Setting the Windows Security

Setting the Windows security involves granting the IDEAL_USER user full control for the following folders:

- IIS home folder wwwroot (specified as a shared Web folder)
- SmartPlant Instrumentation home folder
- One of the following PDF generator home folders:
 - Acrobat When using Adobe Acrobat Distiller
 - gs When using the generic PostScript printer

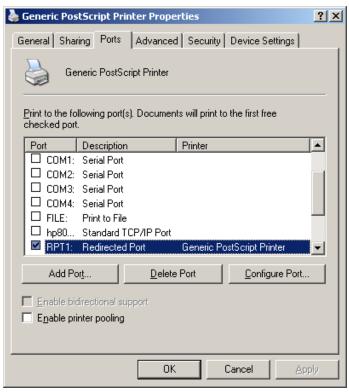
Grant Various Folder Permissions for IDEAL_USER

- 1. In Windows Explorer, right-click the IIS home folder, and then, on the shortcut menu, click **Properties**.
- 2. On the **Properties** dialog box, click the **Security** tab, and then click **Add**.
- 3. On the **Select Users, Computers, or Groups** dialog box, click **Locations** and select your host computer as the search location.
- 4. Return to the **Select Users, Computers, or Groups** dialog box, type **IDEAL USER** in the box, and click **Check Names**.
- 5. Click **OK** to return to the **Properties** dialog box.
- 6. Grant full control for IDEAL USER.
- 7. Depending on the operating system that you have, on the **Security** tab of the **Properties** dialog box, do one of the following:
 - For Windows 2000 server, select the check box **Allow inheritable** permissions parent to propagate to this object.
 - For Windows XP, click Advanced, and then, on the Permissions tab
 of the Advanced Security Settings dialog box, select the check box
 Inherit from parent the permission entries that apply to child
 objects.
- 8. Use the above procedure steps to grant the IDEAL_USER user full control for the SmartPlant Instrumentation home folder.

Test the PostScript Printer Configuration

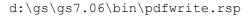
You should perform this procedure to test that you have configured your PostScript printer driver and GNU Ghostscript software correctly. You first define a configuration file that specifies print parameters and then you print a test page directly from the PostScript printer driver.

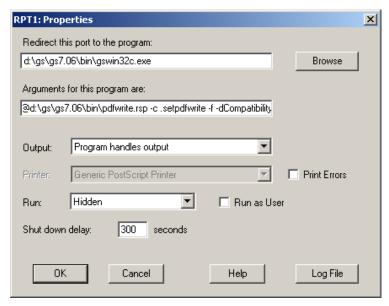
- 1. Access Windows Printers (Start > Settings > Printers).
- 2. Right-click Generic PostScript Printer, and on the shortcut menu, click Properties.
- 3. Click the **Ports** tab and select the redirected port as shown:



- 💡 Tip
- If the redirected port does not appear, click **Add Port** and add it to the list.
- 4. Click **Configure Port** to display the **Properties** dialog box for the port.
- 5. Beside the box Redirect this port to the program, click Browse and navigate to the GNU Ghostscript software executable file. In the example shown, the file name is GSWIN32C.EXE.

6. In the box **Arguments for this program are**, look at the path to the pdfwrite.rsp file (the configuration file) that appears at the start of the string. In the example shown, the path is:





💡 Tip

- If you are using Ghostscript from Citrix or a remote desktop, select the **Run as User** check box.
- 7. In Windows Explorer, navigate to the folder shown in this path, create the PDFWRITE.RSP file in the folder, and type the following lines in the file:

```
-Ic:\gs\gs7.05\lib;c:\gs\fonts
-sDEVICE=pdfwrite
-r300
-dNOPAUSE
-dSAFER
-sPAPERSIZE=a4
-sOutputFile=C:\Inetpub\wwwroot\documents\c_26.PDF
```

ၦ Important

- If the library and font files are installed in locations other than the default, type appropriate paths in the first line, for example:
 - -Id:\Program Files\gs\gs7.06\lib;d:\gs\fonts
- If you want the output file to be generated in a location other than the path shown, type an appropriate path. If you are using Ghostscript from Citrix or a remote desktop, the output path must be on the same machine as the Ghostscript installation.

💡 Tip

- You can specify the paper size as letter instead of A4 by typing: -sPAPERSIZE=letter
- 8. Test the generation of .pdf files by opening the Generic PostScript Printer Properties dialog box and clicking Print Test Page.

? Tips

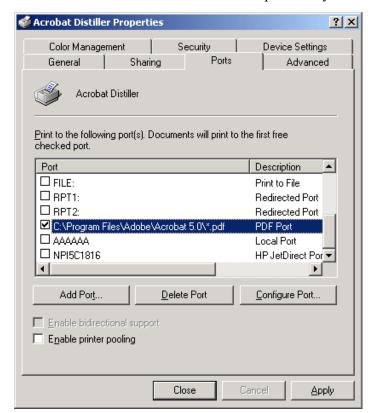
- The .pdf file should appear in the output folder that you specified. If a Save As dialog box opens, or the .pdf file opens automatically, it is recommended that you check the printer settings and ensure that all the file paths are specified correctly, and then perform this procedure again.
- If you obtain a .pdf file of the printer test page in the location specified by the pdfwrite.rsp file, this indicates that the PostScript printer driver, port redirection and Ghostscript are configured correctly.
- If the software is unable to print the test page but the print job still appears in the queue, cancel the printing by going to Control Panel > Administrative Tools, and then double-click Services. Next, select the **Print Spooler** service and click **Actions** > **Restart**.
- 9. Verify that this file is readable by opening it with Adobe Reader.

Test the Acrobat Distiller Driver

You should perform this procedure to test that you have configured your Acrobat Distiller driver correctly.

• Important

- When performing the printing test, make sure that no Acrobat Distiller dialog boxes are open.
- 1. Log on to your IIS user (IDEAL USER) account.
- 2. Access Windows Printers (Start > Settings > Printers).
- 3. Right-click **Acrobat Distiller**, and on the shortcut menu, click **Properties**.



4. Click the **Ports** tab and select the PDF port that you defined:

5. Click the **General** tab and click **Print Test Page**.

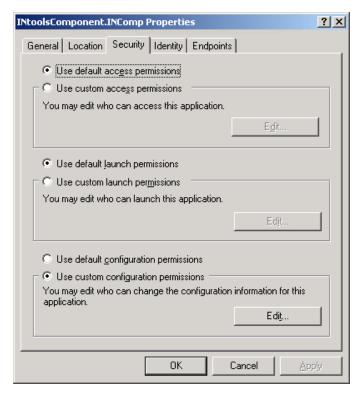
💡 Tips

- The .pdf file should appear in the output folder that you specified. If a **Save As** dialog box opens, or the .pdf file opens automatically, you did not perform the procedure correctly.
- If you obtain a .pdf file of the printer test page in the location specified for the port, this indicates that the Acrobat Distiller printer driver is configured correctly.
- If the software is unable to print the test page but the print job still appears in the queue, cancel the printing by going to Control Panel > Administrative Tools, and then double-click Services. Next, select the Print Spooler service and click Actions > Restart.
- 6. Verify that the output file is readable by opening it with Adobe Reader.

Configure the DCOM for SmartPlant Instrumentation Server

- 1. In the Windows Control Panel, double-click **Administrative Tools**.
- 2. Double-click Component Services.
- 3. On the **Component Services** window, depending on the operating system that you have, do one of the following:
 - For Windows 2000 server, under **Applications**, select the DCOM **INtoolsComponent.INComp**.
 - For Windows XP, in the tree-view pane, double-click the Component Services root folder, and beside the Computers folder, click

 ■ to expand the folder hierarchy My Computer > DCOM Config > INtoolsComponent.INComp and right-click the INtoolsComponent.INComp DCOM.
- 4. Click Properties.
- 5. On the **Properties** dialog box, click the **Security** tab and then, depending on the operating system that you have, do one of the following:
 - For Windows 2000 server, set the permissions as shown:



INtoolsComponent.INComp Properties

General Location Security Endpoints Identity

Launch Permissions

Customize

Edit...

Customize

Edit...

Configuration Permissions

Customize

Edit...

Configuration Permissions

Customize

Edit...

OK

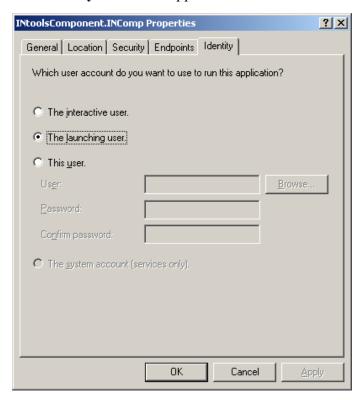
Cancel

Apply

• For Windows XP, set the permissions as shown:

6. On the **Identity** tab, click **The launching user**.

The **Identity** tab should appear as shown:



Configuring SmartPlant Instrumentation Server

To be able to work with IDEAL, on the machine where you installed SmartPlant Instrumentation Server:

- 1. Your System Administrator must define an IDEAL user through which the software establishes the connection between the SmartPlant Instrumentation Server and the SmartPlant Instrumentation database. Note that you can define one IDEAL user only per domain.
- 2. You must specify various settings for the IDEAL user in the SmartPlant Instrumentation **Preferences** dialog box. These settings include selecting a PDF generator, selecting a format for saving IDEAL output files for enhanced reports (.sma or .pdf), and specifying folders for the output documents, the shared Web files, and the log file. Note that you can change the settings at any stage of your project.

Define an IDEAL User

- 1. Log on to the SmartPlant Instrumentation Administration module as System Administrator.
- 2. On the **Activities** menu, click **User**.
- 3. In the **User** dialog box, do one of the following:
 - From the **User** list, select an existing user.
 - Click New, and in the User box, define a new user.
- 4. Select the **IDEAL user** check box.
- 5. Click Apply.

Define SmartPlant Instrumentation Server General Settings

You must set the preferences for the IDEAL user to enable the software to generate reports with IDEAL.

- 1. Log on to the SmartPlant Instrumentation application as the IDEAL user.
- 2. On the **File** menu, click **Preferences**.
- 3. In the **Preferences** dialog box tree-view pane, click **General**.
- 4. Beside **Temporary folder path**, click **Browse** to navigate to the desired path.
- 5. From the **PDF generator** list, select the PDF generator that is installed on your server machine: **Acrobat Distiller** or **Generic PostScript Printer**.



- Selecting the PDF generator allows the software to generate specification sheets, specification binder packages, and if selected, enhanced reports as .pdf files.
- 6. Beside **Output document folder**, click **Browse** to specify the folder where you want the software to generate the output files.

? Tips

- For IDEAL users, the output document folder must be a sub-folder of the shared Web folder, for example c:\inetpub\wwwroot\Documents.
- This option affects the location of all enhanced report output files, not only those generated by IDEAL.

- 7. Specify a PSR folder path for instrument specifications as follows:
 - a. In the tree-view pane, beside **Specifications**, click **±** to expand the tree.
 - b. Click **Export/Import**.
 - c. Under **PSR options**, beside **PSR folder**, click **Browse** to navigate to the desired path.
- 8. If you use a CAD application to generate loop drawings in SmartPlant Instrumentation, specify the folder path for the CAD drawings as follows:
 - a. In the tree-view pane, beside **Loop Drawings**, click **±** to expand the tree.
 - b. Click CAD File Locations.
 - c. Beside **Open drawing files from**, click **Browse** to navigate to the desired path.
- 9. In the tree-view pane, click **SmartPlant Instrumentation Server**.
- 10. From the **Enhanced report format** list, select the format in which you want to save IDEAL output files for enhanced reports: **SMA** (for IDEAL) or **PDF** (for SmartPlant Explorer).
- 11. Beside **Shared Web folder**, click **Browse** to specify the IIS wwwroot folder.

Tip

- The shared Web folder must be the same as the IIS home folder, for example c:\inetpub\wwwroot.
- 12. Beside **Log file path**, click **Browse** to specify the folder where you want the software to generate the EVENTS.LOG file.

→ Tip

• We recommend that you specify a log file folder so that you can use the EVENTS.LOG file to troubleshoot problems that may occur, such as an inability to connect to the database. The EVENTS.LOG file can also help Intergraph Support in finding solutions to document generation problems. The file holds information about your SmartPlant Instrumentation Server settings and also contains records of any operation in which SmartPlant Instrumentation Server was involved. For example, the log file can contain records of all document generations performed by different users of IDEAL.

Important

• After performing completing the SmartPlant Instrumentation Server configuration procedure, it is recommended that you restart the computer and log on to SmartPlant Instrumentation by double-clicking the INTOOLS.EXE file.

SmartPlant Instrumentation Installation and Configuration Procedures				

Intergraph IDEAL Installation

The Interface to Distributed Environment Application Layer (IDEAL) is a set of components that are used to generate reports containing SmartPlant Instrumentation data. IDEAL enables you to retrieve data and display it in a Web browser in a format appropriate for the report type, such as .pdf or native formats.

This section covers and describes the system requirements and installation procedures for IDEAL components.

The core of the IDEAL software is the APITOOLS.EXE application, whose function is to pass commands from the user application to SmartPlant Instrumentation Server using IIS Server.

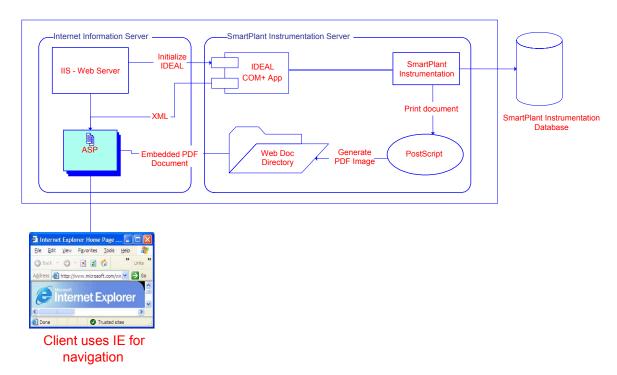
Software Requirements

The following requirements are specified for the correct running of IDEAL:

- You must have Windows 2000 or Windows XP on the computer where you are going to install IDEAL.
- You must have SmartPlant Instrumentation Server installed. For details, see *SmartPlant Instrumentation Server Configuration Workflow*, page 9.
- To view instrument specifications, process data sheets, and other nonwiring reports, you must display them in .pdf format, which requires you to install Adobe Reader on your client machine. To display reports in other formats, you must install a suitable viewer application.

IDEAL Configuration

The following schematic diagram shows the software components of the IDEAL configuration with its principal communication paths.



You can configure the software for one of the following types of installation:

- Local installation Each client machine has a separate installation of the full set of IDEAL components. For a local installation, you must have Windows 2000 or later.
- Network client installation In this type of installation, the full set of IDEAL components is installed on an application server and each client machine has a network installation of IDEAL.

Registering Installed Files

😲 Important

File registration is necessary only if you perform a batch installation of Intergraph IDEAL on multiple clients. If you intend to install IDEAL using the standard InstallShield Wizard, skip this section and follow the appropriate installation procedure for a local or network installation. For details, see Performing a Local IDEAL Installation on page 36, or Performing a Network Client IDEAL Installation on page 37.

Common Files

Both local and network client installations include a mini Explorer installation as a component. This installation includes the file SHDOCVW.DLL. This file needs to be on the client machine even for a thin client installation, and should be located in a System folder, for example, System32. The file SHDOCVW.DLL is a self-registering file that you need to register.

An additional installed file, APITOOLS.EXE, can reside anywhere and does not require registration. In a network client installation, this file resides on the application server.

Local Installation Files

The local installation includes a RAD Viewer installation as a component. This installation includes the following self-registering files:

- Objsafe.tlb
- ESLViewer ocx
- RADView.ocx

These files are located in the program folder and you need to register them on the local machine

Network Client Installation Files

For a network client installation, the following self-registering files are located on the Application Server:

- Objsafe.tlb
- ESLViewer.ocx
- RADView.ocx

On the client machine, all that you need to do is to register these files.

IDEAL should be resident where SmartPlant Instrumentation Server is located or on a separate application server machine. In both of these cases, you need to register the following self-registering files on the client machines:

- Comct332.ocx
- Comdlg32.ocx
- Mscomctl.ocx
- Msxml3.dll
- Tabctl32.ocx

Note that these files need to be on the client machine even for a thin client installation, and should be located in a System folder, for example, System32.

Performing a Local IDEAL Installation

The following is a complete step-by-step procedure that describes how to install a new Intergraph IDEAL version on a client machine.

Perform a Local IDEAL Installation

- 1. Insert the CD into the CD-ROM drive. If the installation does not start automatically, double-click the SETUP.EXE file in the main folder.
- 2. Click **Add-In Software**, and then click **Intergraph IDEAL Installation** to start running the installation Setup.
- 3. On the Welcome to the InstallShield Wizard for IDEAL page, click Next.
- 4. On the License Agreement page, click Display to read the software license agreement in a .pdf file, and then after closing the file, click Yes.

- 5. On the **Customer Information** page, enter your registration information and click **Next**
- 6. On the **Registration Confirmation** message box, click **Yes**.
- 7. On the **IDEAL Installation Type** page, click the option **IDEAL local** installation.
- 8. On the **Choose Destination Location** page, type or navigate to the location where you want to install the IDEAL executable file (APITOOLS.EXE).
- 9. On the SmartPlant Instrumentation Server **Location** page, enter the name or I/P address of the computer where SmartPlant Instrumentation Server runs.



- If the SmartPlant Instrumentation Server location is on the same computer as the one where IDEAL is installed, you can use localhost as the computer I/P address. In this case, make sure that in your Internet Explorer settings, you select the check box Bypass proxy server for local addresses (to access the check box, click Tools > Options, and then on the Connections tab, click LAN Settings).
- 10. On the **Select Program Folder** page, type in or navigate to the desired program folder and click **Next** to begin the setup.
- 11. On the InstallShield Wizard Complete page, click Finish.



• We recommend that you choose to view the Readme file, as it contains important information about IDEAL.

Performing a Network Client IDEAL Installation

The following is a complete step-by-step procedure that describes how to install a new Intergraph IDEAL version on a client machine.

Perform a Network Client IDEAL Installation

- 1. Insert the CD into the CD-ROM drive. If the installation does not start automatically, double-click the SETUP.EXE file in the main folder.
- 2. Click **Add-In Software**, and then click **Intergraph IDEAL Installation** to start running the installation Setup.
- 3. On the Welcome to the InstallShield Wizard for IDEAL page, click Next.
- 4. On the **License Agreement** page, click **Display** to read the software license agreement in a .pdf file, and then after closing the file, click **Yes**.

- 5. On the **Customer Information** page, enter your registration information and click **Next**
- 6. On the **Registration Confirmation** message box, click **Yes**.
- 7. On the **IDEAL Installation Type** page, click the option **IDEAL network** installation.
- 8. On the **IDEAL Location** page, navigate to the folder where the full IDEAL installation is located.
- 9. On the **Select Program Folder** page, type in or navigate to the desired program folder and click **Next** to begin the setup.
- 10. On the InstallShield Wizard Complete page, click Finish.



• We recommend that you choose to view the Readme file, as it contains important information about IDEAL.

Test IDEAL using the API Runner

- 1. Run the executable file APITOOLS.EXE.
- 2. In the IDEAL API Runner window, click the Settings tab.
- 3. In the **Server** box, type the name of the server on which the SmartPlant Instrumentation data that you want to retrieve is located; if the server location is the computer you are working from, type **localhost**.



- If you use localhost as the computer I/P address, make sure that in your Internet Explorer settings, you select the check box Bypass proxy server for local addresses (to access the check box, click Tools > Options, and then on the Connections tab, click LAN Settings).
- 4. Click **Load PAU** to connect to the server and retrieve the data for selecting the plant, area, and unit.
- 5. From the **Domain** list, select the SmartPlant Instrumentation domain that you want to use.
- 6. For an Operating Owner domain only, select a project (AsBuilt or specified engineering project) from the **Project** list.
- 7. Select a plant, area, and unit from the **Plant**, **Area**, and **Unit** lists respectively.
- 8. Click the **General** tab.

- 9. Under **Entity type**, click one of the following options:
 - **Report** Allows you to select a report type and specify the appropriate parameters for that report type.
 - Loop Allows you to specify a loop and display a list of all the tags associated with that loop in the Document Viewer Interface.
 - Component Allows you to specify a tag number and select documents associated with that tag number in the Document Viewer Interface.
 - **Panel** Allows you to specify a panel and display a list of all the strips associated with that panel in the Document Viewer Interface.

10. Do one of the following:

- If under **Entity type**, you selected **Loop**, in the **Entity** box, type a loop name and click **Display** to display a list of all the tags associated with the specified loop.
- If under **Entity type**, you selected **Component**, in the **Entity** box, type a tag number and click **Display** to display a list of all the documents associated with the specified tag number.
- If under **Entity type**, you selected **Panel**, in the **Entity** box, type a panel name and click **Display** to display a list of all the strips associated with the specified panel.
- 11. If under **Entity type**, you selected **Report**, from the **Report** list, select the report that you require. Next, in the **Entity** box, type the appropriate report parameters, and then click **Display** to display the report.

Notes

- Make sure that the entity name that you type corresponds to an existing entity name in SmartPlant Instrumentation. If the value includes spaces, make sure you type the correct number of spaces in the string. The characters that you type are not case-sensitive.
- Do not use spaces when typing delimiters.

→ Tips

- To retrieve a specific page of an Instrument Specification report, use the structure <tag number>|<total number of sheets>|<specific sheet number>. If you do not know what the total number of sheets is, you can type '0' (zero), and then type the required sheet number, for example, 101-FT -100|0|3. If you want to retrieve a report for the first specification sheet only, type the tag number without any other parameters in the **Entity** box.
- If you want to retrieve report for an entity without specifying a subentity, type the entity name only in the **Entity** box.

Index

customizing	PDF Writer
symbols, 5	installation components, 11
DCOM	order of installation procedures, 11
configuring, 25, 27	PostScript printer driver
setting permissions, 25	configuring, 12
Distiller	installing, 11
configuring Distiller 4, 16	testing configuration, 10, 20, 23
configuring Distiller 5, 15	RedMon
download	installing, 12
GNU Ghostscript setup file, 11	security
PostScript printer driver, 11	Windows, 19
RedMon setup file, 12	symbols
GNU Ghostscript	customizing, 5
configuring PostScript printer driver, 12	Web Component
installing, 11	overview, 5
testing configuration, 10, 20, 23	Windows users
IIS	domain user, 7
configuring, 8	local user, 7
HTTP server service, 8	
setting security, 8	