SmartPlant Instrumentation Server
Installation and Configuration Guide

Version 2016 (11.0)
April 2016
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SECTION 1

SmartPlant Instrumentation Server

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 and then display retrieved data in formats supported by SmartPlant Instrumentation, for example, the .sma format for enhanced reports.
- External users can display SmartPlant Instrumentation data as .pdf files.

The installation of SmartPlant Instrumentation Server requires a special serial number. 

**NOTE** If you have a full license for SmartPlant Explorer (not a test license), you can use your SmartPlant Explorer license serial number when installing SmartPlant Instrumentation Server.

Hardware and Software Recommendations

Before beginning an installation of SmartPlant Instrumentation Server, verify that your servers and end-user workstation computers meet the following hardware recommendations and software requirements.

**NOTES**

- The SmartPlant Instrumentation database management server installation was certified on 64-bit hardware with a 64-bit operating system and 32-bit database software. The client machine installation was certified on 64-bit hardware with a 32-bit operating system and 32-bit database software for SmartPlant Instrumentation.
- The SmartPlant Instrumentation software cannot work with SQL Server 64-bit client because it is a 32-bit application. The software works with SQL Server 32-bit client, which can then work with SQL Server 64-bit server.
- When installing SmartPlant Instrumentation on a 64-bit operating system, the default installation folder is Program Files (x86).

SmartPlant Instrumentation Database Server

**Hardware Recommendations**

- Pentium machine with 2.7 GHz processor (for Oracle), Xeon machine with 2 GHz processor or higher (for SQL Server)
- 4 GB RAM (depending on project size)
- 100 BaseT or higher network interface (1 Gbit recommended)
- Digital tape or DVD backup system for server
- For all installations, DVD drive access, either locally or through a network connection
Supported Operating Systems
- Windows Server 2012 R2 Standard & Dataserver
- **NOTE** The SmartPlant Instrumentation software cannot work with SQL Server 64-bit client because it is a 32-bit application. The software works with SQL Server 32-bit client, which can then work with SQL Server 64-bit server.

Supported Database Servers
- Microsoft SQL Server 2014
- Oracle 12c R1 client (12.1.0.2) Patch 2

Recommended Disk Space

<table>
<thead>
<tr>
<th>Oracle 12c software</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Server installation</td>
<td>2 GB</td>
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<tr>
<td>Initial Oracle instance</td>
<td>50 MB</td>
</tr>
<tr>
<td>Total</td>
<td>2.5 GB</td>
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<table>
<thead>
<tr>
<th>SQL Server 2014 Software</th>
<th>SmartPlant Instrumentation Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL Server 2014 installation</td>
<td>Initial SmartPlant Instrumentation database</td>
</tr>
<tr>
<td>6 GB</td>
<td>200 MB</td>
</tr>
<tr>
<td>Initial SmartPlant Instrumentation database</td>
<td>(SmartPlant Instrumentation data files (5000 loops with wiring))</td>
</tr>
<tr>
<td>Total 6 GB</td>
<td>Total</td>
</tr>
<tr>
<td>Total</td>
<td>0.7 GB</td>
</tr>
</tbody>
</table>

Software Prerequisites
- A PDF reader (required for reading and saving various documents)
- Microsoft Internet Explorer 11
- Microsoft .NET Framework 4.5
- Microsoft Office 2013
- SmartPlant License Manager Version 2012 (12.00.05.00 or later)
- **NOTE** Microsoft .NET Framework is delivered as part of Microsoft Windows Server installation.
SmartPlant Instrumentation Server Workstation

Hardware Recommendations

- Pentium IV with 3 GHz processor or Pentium dual core with 2 GHz processor or higher
- 4 GB RAM or higher
- 100 BaseT or higher network interface (1 Gbit recommended)
- For SmartPlant Enterprise installation, DVD drive access, either locally or through a network connection
- For SmartPlant Instrumentation installation, CD-ROM drive access, either locally or through a network connection
- Windows supported printer access, either locally or through a network connection

Supported Operating Systems

- Microsoft Windows 7 SP1 Professional and Enterprise, 64-bit
- Microsoft Windows 8.1 SP1 Professional & Enterprise

NOTES

- The operating system must be installed in an account where you have administrator privileges.
- SmartPlant Instrumentation is certified on Windows 7 with UAC ‘On’ at Level 3 (Default).
- Due to security changes in Windows 8.1, users who require access to INIT/Backup, upgrade, and Administration functions, must have administrative privileges for this functionality to work correctly.

Supported Database Clients

- Microsoft SQL Server Client 2014
- Oracle 12c R1 client (12.1.0.2) Patch 2. The Oracle 32-bit Client is required for both 32-bit and 64-bit Oracle databases.

IMPORTANT: The client database software must be of the same version as the server database software.

Recommended Disk Space

<table>
<thead>
<tr>
<th>Oracle 12c Software</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Client installation</td>
<td>1 GB</td>
</tr>
<tr>
<td>Total</td>
<td>1 GB</td>
</tr>
</tbody>
</table>
### Software Prerequisites

- A PDF reader (required for reading and saving various documents)
- Microsoft XML Core Services (MSXML) 6.0 SP1/SP3
- Microsoft Office 2013

**NOTE:** 32-bit SmartPlant Instrumentation Clients that cannot utilize the 64-bit Office 2013 solution due to bitwise incompatibilities should adopt 32-bit Office 2013. (Microsoft Excel is required for working with report templates and for viewing the Installation Checklist and various other files.)

- SmartPlant License Manager 12.00.05.00 or later.
- Microsoft .NET Framework 4.5

**NOTE:** Microsoft .NET Framework is delivered as part of Microsoft Windows.

### Optional Software

**CAUTION:** Apart from SmartSketch, 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.

- One of the following drawing software programs, if needed for loop drawings:
  - SmartSketch 2014 R1 or similar graphical editor (required for editing border template files and for symbol creation)
  - Autodesk AutoCAD
    - AutoCAD 2012 - The **Save As** functionality in SmartPlant Instrumentation 2016 only saves drawings for use with AutoCAD 2012.
    - AutoCAD 2014 - Drawings created in AutoCAD 2014 can be generated in SmartPlant Instrumentation 2016.
    - For compatibility with other versions, see the Version Compatibility section of the Readme.pdf file in the SmartPlant Instrumentation folder.
  - Bentley MicroStation —08
- InfoMaker 12.5 (report generator / export data functionality software. Do not use a version of Infomaker higher than 12.5, a downgrade utility is available from Intergraph support where required.)
- For working in a Citrix environment;
- Citrix XenServer 6.5.

**Installing and Configuring SmartPlant Instrumentation Server**

If you intend to use SmartPlant Instrumentation Server to generate PDF reports, you must do the following:

- Enable file and printer sharing for the output document folder. For details, see *Enable File and Printer Sharing* (on page 9).
- Install SmartPlant Instrumentation Server. For details, see *Install SmartPlant Instrumentation Server* (on page 10).
- Configure SmartPlant Instrumentation Server settings. For details, see *Configure General Settings and Preferences* (on page 11).
- Create a printer port manually if working on a 64-bit operating system. For details, see *Create a Printer Port for a 64-bit Operating System* (on page 12).

[NOTE] When you install SmartPlant Instrumentation Server, the driver used for printing PDF files, SmartPlant PDF Converter 4.51, is included in the installation.

**Enable File and Printer Sharing**

Open *Windows Firewall* as follows:

1. Click Start > Settings > Network Connections and choose a connection.
2. Right-click the connection and click Properties.
3. Click the Advanced tab.
4. Under Windows Firewall, click Settings.
5. Click the Exceptions tab.
6. Ensure that under Programs and Services, the File and Printer Sharing option is selected.
Install SmartPlant Instrumentation Server

If you have not already installed and configured SmartPlant License Manager on your workstation, we recommend doing so before installing SmartPlant Instrumentation.

**IMPORTANT** SmartPlant Instrumentation requires the SmartPlant License Manager software for concurrent licensing for both the core SmartPlant Instrumentation product and for each module. This licensing software is delivered on its own media. For more information about using and configuring concurrent licensing, refer to the *SmartPlant License Manager Online Help*.

The installation of SmartPlant Instrumentation Server requires that you have already installed SmartPlant Instrumentation. For more information on how to install SmartPlant Instrumentation, see the *Installing SmartPlant Instrumentation* section of the *SmartPlant Instrumentation Installation and Upgrade Guide*.

The following procedure explains how to install the SmartPlant Instrumentation Server components after installing SmartPlant Instrumentation.

1. Insert the SmartPlant Instrumentation DVD into the drive. If the installation does not start automatically, double-click setup.exe in the main folder.
2. On the *Welcome* page, click **Additional Software**.
3. On the *Additional Software* page, click **SmartPlant Instrumentation Server**.
4. On the *Welcome* page, click **Start Setup**.
5. On the *Details and Features* page, type your name, company name, and serial number, and click **Next**.

**NOTES**
- If you have a full license for SmartPlant Explorer (not a test license), you can use your SmartPlant Explorer license serial number.
- The serial number is used for initial installation purposes only. A license key is required to run SmartPlant Instrumentation. For more information, refer to the *SmartPlant License Manager Online Help*.

6. On completion of the installation, if you want to open the Readme file, select **View Readme**.

**TIPS**
- The Readme file opens after you click **Finish**.
- 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 media.

7. Click **Finish** to complete the setup and installation.

**NOTE** The driver used for printing the PDF files is included in the SmartPlant Instrumentation installation. This printer is used for PDF generation and should not be removed or used for any other purpose. If you are unable to generate PDF files because this driver is missing, restore the driver by running the executable file PDFInstall.exe, which is installed by default in the software installation folder path ..\SmartPlant\Instrumentation\.
Configure General Settings and Preferences

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. Click File > Preferences.
3. In the tree-view pane of the Preferences dialog box, click General.
4. Beside Temporary folder path, click Browse to navigate to the desired path.
5. Beside Output document folder, click Browse to specify the folder where you want the software to generate the output files.

   **IMPORTANT**
   - You must define the output document folder as a shared folder, and the share name must be identical to the folder name.
   - The folder you select specifies the location of all enhanced report output files, not only those generated by IDEAL.

6. In the tree-view pane, click SmartPlant Instrumentation Server.
7. 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).
8. 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.
9. Specify a PSR folder path for instrument specifications as follows:
10. In the tree-view pane, beside Instrument Specifications, click + to expand the tree.
11. Click Export/Import.
12. Under PSR options, beside PSR folder, click Browse to navigate to the desired path.
13. If you use a CAD application to generate loop drawings in SmartPlant Instrumentation, specify the folder path for the CAD drawings as follows:
14. In the tree-view pane, beside Loop Drawings, click + to expand the tree.
15. Click CAD File Locations.
16. Beside Open drawing files from, click Browse to navigate to the desired path.

   **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.
Create a Printer Port for a 64-bit Operating System

1. Open the Printers and Faxes window.
2. Right-click the printer SmartPlant PDF Converter and on the shortcut menu, click Properties.
3. On the SmartPlant PDF Converter Properties dialog box, click the Ports tab.
4. Click **Add Port**, and on the **Printer Ports** dialog box, select **Local Port**.

![Printer Ports dialog box]

5. Click **New Port**.

6. Type a name for the new local port, for example **AmyuniPDF**.

7. Close the **Printer Ports** dialog box.

8. Select the new local port.

![SmartPlant PDF Converter Properties]

Print to the following port(s). Documents will print to the first free checked port.
9. Click **Apply**.
10. Click **OK**.