SmartPlant Instrumentation
Special Instructions

Process, Power & Marine

INTERGRAPH

Version 7.0, Service Pack 2 **July 2005** **DINS-07.00.0013C**

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General Notes

32-bit Environment Support

SmartPlant Instrumentation supports a 32-bit environment only.

Using the SmartPlant Instrumentation CD Browser to Install SmartPlant Instrumentation and Add-Ins

All SmartPlant Instrumentation installations are performed from the SmartPlant Instrumentation CD Browser. The **Add-In Software** menu includes items that access sub-menus for selecting further options.

Make sure you have installed all third-party software packages needed to run any of the SmartPlant Instrumentation third-party interfaces. You can also find additional information regarding SmartPlant Instrumentation at the Web site:

http://ppm.intergraph.com/SmartPlant/Instrumentation/

Important

- The Enhanced Report Utility (located in < SmartPlant Instrumentation home folder>\RAD) version and service pack must be the same or later than the version of SmartPlant Instrumentation you are working with.

Set Up Concurrent Licensing for SmartPlant Instrumentation

SmartPlant Instrumentation now requires the Plant Design Licensing (PD_LICE) software for concurrent licensing. This licensing software is delivered on the SmartPlant Instrumentation CD and is available through the **PD_LICE Installation** link on the **SmartPlant Instrumentation Installation** dialog box during setup.

We recommend installing and configuring PD_LICE licensing before installing and configuring SmartPlant Instrumentation. For more information, see the *Plant Design Licensing User's Guide* (Pdlice.pdf).

1. Insert the SmartPlant Instrumentation CD into the CD-ROM drive.
2. On the **SmartPlant Instrumentation Installation** screen, click **Add-In Software**.
3. Click **PD_LICE Installation**. Once the files are extracted to your computer, you are prompted to install PD_LICE.
4. Click **Continue**.

5. Carefully read the **Software License Agreement**, and if you agree to the specified terms, click **I Agree**.
6. Change the location where PD_LICE will be installed or accept the default location, and click **Continue**.
7. Click **OK** when the installation process finishes.
8. Follow the instructions in the *Plant Design Licensing User's Guide* to configure PD_LICE to work with SmartPlant Instrumentation.

Checking the Decimal Symbol Value in Regional Options

To avoid errors when saving data in SmartPlant Instrumentation, ensure that the decimal symbol value in the **Regional Options** in the **Control Panel** is a dot (.) and not a comma (,). This restriction only applies when working with SmartPlant Instrumentation on Sybase Adaptive Server Anywhere.

Important

- If you want to work in the Specifications module, make sure that decimal symbol is a dot (.) regardless of your database platform. If you use a comma symbol, the software cannot save specifications.

Recommendations for Setting File Locations

When using an Application Server installation and the program writes temporary files to common location, interference may result between users working in different domains from different network seats. To avoid network traffic problems and errors resulting from such overwriting of files, familiarize yourself with the following notes and recommendations:

General

Paths set on a network drive might affect network traffic.

Temporary Folder Path

If you use a network drive for specifying shared folder settings, each station should be assigned its own temporary folder with full access rights. A temporary folder may be assigned separately for each feature (.psr file of spec form, logo, loop drawing, and so forth.) or all features can share a common temporary folder. The assignment of the temporary path for each feature is done in the **Preferences** dialog box.

Logo

Logo is stored in each domain database. A flag in the SmartPlant Instrumentation preferences determines the use of this logo on entry into SmartPlant Instrumentation (on entry only):

- When selecting the **Overwrite logo** checkbox, the logo is loaded from the database into a temporary PROJLOGO.BMP file in the assigned temporary path. This file is then used for displaying the logo in the active SmartPlant Instrumentation domain.
- When clearing the **Overwrite logo** checkbox, the existing PROJLOGO.BMP file in the temporary path is assumed to be valid and is used for the logo.

If you plan to use a single station for access to different domains, you need to select **Overwrite logo**. This prevents mismatch between the active domain and logo used.

Loop Drawing Temporary Files

Loop drawing temporary files are created during loop drawing generation and are written into the specified temporary folder during loop drawing generation. A separate temporary folder must be associated with each station to avoid file interference.

Custom Specification Forms

Custom specification forms are stored in the database as .psr files and loaded from the database to the PSR folder path specified in the **Preferences** dialog box. A flag in the SmartPlant Instrumentation preferences determines the way the software loads custom forms:

- When selecting the **Overwrite PSR file** checkbox, the .psr is loaded from the database each time the custom form is requested.
- When clearing the **Overwrite PSR file** checkbox, the .psr folder will be searched for the custom form. If the custom form does not exist in the .psr folder, the appropriate .psr file is loaded from the database and created in the .psr folder.

With **Overwrite PSR file** selected, the software loaded a custom .psr file from the database every time this spec form is requested. This ensures that only the most recent versions of the form can be used, as only the most recent modified forms are stored in the database. However, this might have some effect on performance, as the spec form is loaded to the PSR folder every time it is called for.

With **Overwrite PSR file** cleared, the form is loaded only once and subsequently used directly from the PSR folder. However, even when this check box is cleared, the software ensures that the custom spec form is updated with the most recent version of the form. If the version of the custom form the user is about to open is earlier than the version of the custom form in the database, the software always retrieves the latest version from the database and overwrites the custom spec form in the PSR folder. Alternatively, selecting **Download Forms** on the **Actions** menu in the Specifications module menu loads all the custom forms up front. This enables best performance and, therefore, we recommend that you clear the **Overwrite PSR file** check box if the forms are not subject to unannounced modification.

Symbol and Template Paths of Enhanced Reports

You can make local or shared path settings of various folders symbol folders and template folders. Note, however, that shared path settings might have an impact on the network traffic when using Enhanced Report Utility options.

Prerequisites for Running SmartPlant Instrumentation

On completing SmartPlant Instrumentation installation, the Domain Administrator must open the **Preferences Management** dialog box and do the following:

1. In the tree view pane, click **General** and then in the **Temporary folder path** box, specify a valid temporary folder path.
2. In the tree view pane, to expand the tree, click ⊞ beside **Specifications**, then click **General** and specify a valid PSR folder path.

Important

- If you leave the PSR folder and temporary folder path boxes empty or specify an invalid path, SmartPlant Instrumentation users cannot compare documents or work with document revisions.

ODBC Drivers

ODBC installation is not included in the SmartPlant Instrumentation setup. You probably have ODBC drivers installed from other applications; however, if this is not the case, a separate ODBC installation is available via the Microsoft Data Access Component (MDAC) version 2.8.

Requirements for Using Save as Excel Options

To use Save as Excel options in SmartPlant Instrumentation, it is required that you use Excel 2000 or Excel XP.

Requirement for Working with Multi-User (Network) SmartPlant Instrumentation Version

After installing SmartPlant Instrumentation and running the DB Setup utility, all users of the multi-user SmartPlant Instrumentation version should install the required database client used to interface with the database server.

Screen Resolution

The optimum screen resolution for SmartPlant Instrumentation 7.0 is 1024 by 768 pixels or higher. If you use a lower resolution, certain windows and dialog boxes have a display problem, such as button overlap, or object size larger than the screen area.

DBChecker Utility SQL Commands on SQL Server

In the Internal Setup Utility, it is possible to run certain SQL commands generated by the DBChecker Utility. However, when using the Internal Setup Utility on the SQL Server platform, commands that contain 'go' do not run. To be able to run these commands in the Internal Setup Utility, change all the occurrences of '**go**' with '**;**'.

Notes for Users Upgrading the Database to Version 6.0

ANALYZER Table

Prior to Version 6.0, the ANALYZER table existed in the database but was not use in the application. In case you still used this table, to prevent the loss of data, when upgrading to Version 6.0, the software creates a new empty table called ANALYZER and renames the old table to ANALYZER_OLD.

Note

- In Version 7.0, the ANALYZER table is removed from the database.

COMPONENT.PIPE_CLASS Column

When upgrading to Version 6.0, the software moves values from the COMPONENT.PIPE_CLASS column to the Pipe Spec supporting table. Prior to Version 6.0, the Pipe Spec supporting table was called Pipe Class and was only available for lines. For instruments, you could enter pipe class values in the COMPONENT.PIPE_CLASS column. From Version 6.0, the Pipe Spec supporting table is shared for both lines and instruments.

Controller and Processor Supporting Tables

The Processor supporting table available from Version 5.3 is replaced by the Controller supporting table in Version 6.0. As a result, in Version 6.0, you can assign processors or controllers only on the level of an I/O card - you can no longer define processors for DCS or PLC panels. In Version 6.0, the default name of the new I/O card level supporting table is Controller.

Note

- In **Version 5.4**, both Processor and Controller tables are available. From Version 6.0, the Controller and Processor supporting tables are merged into one table because the terms 'controller' and 'processor' can refer to the same set of entities.

Custom Browse Style Settings

In Version 6.0, custom browse style definitions made in the Instrument Index module are moved to the Browser module. Therefore, if you used the styles.pbd file for custom browse styles, you must perform a special procedure prior to upgrading INtools to prevent the loss of data and be able to use your custom browse settings as defined. Then, you have to perform another procedure to enable the use of the custom browse style in Version 6.0.

Enable the Use of the Custom Browse Style

1. Before installing Version 6.0, back up the styles.pbd file and send it to Customer Support for upgrade to PowerBuilder 8.
2. After you receive the upgraded STYLES.PBD file, on completing the installation of Version 6.0, and before upgrading the database, in the INTOOLS.INI file, in the [CUSTOM] section, add a new parameter string LIBRARYLIST=C:\INTOOLS\STYLES.PBL (where C:\INtools is an example of your INtools home folder location)
3. Navigate to the location where the STYLES.PBD file is installed and copy it as styles.pbl in the same location.
4. Open the STYLES.PBL file in InfoMaker 8.0 and modify the Custom_Style form as you require and then save the form.

   Tip

   - When you open the STYLES.PBL file for the first time, and select the Custom_Style form, the file might appear empty. In this case, regenerate the file in InfoMaker. To do so, select STYLES.PBL from the appropriate library and then select Custom_Style. After that, on the **Entry** menu, click **Regenerate**.
5. Start INtools, and in the Browser module, on the **Browser** menu, click **Powersoft Browser**.
6. In the **Add a Powersoft Browser** dialog box, navigate to the STYLES.PBD file and click **OK**.
7. In the **Powersoft Browser Settings** dialog box, make the definitions as you require and then select the check box **Define as browser for Instrument Index module**.

8. Click **OK**.

   Tip

   - After you click **OK**, the software notifies you that the foreign key CMPNT_FUNCT_TYPE_ID key are missing. You can ignore this message because the Inst. Type field is set as Protected/View Only and, therefore, you cannot modify it. After you accept the message, the software opens a dialog box where you need to click **Close**, and then, click **Yes** when prompted.

9. In the **Browser Manager**, open a view for the created browser and then, under **View profile**, select the check box **Set as Instrument Index browser view (per user)**.

Default View for the Instrument Index Standard Browser

In Version 6.0, for the Instrument Index Standard Browser, the software creates the Default View node in the **Browser Manager** tree view. After upgrading INtools, you must set this view as your default view manually, from the Browser module. This is required to prevent the software from creating another default view each time you open the Instrument Index Standard Browser from the Instrument Index module.

Set the default view

1. Open the Browser module.
2. In the **Browser Manager** tree view, under **Browser** groups, click ⊞ beside Instrument Index..
3. Click ⊞ beside Instrument Index Standard Browser.
4. Select Default View.
5. Under **View profile**, select **Set as default view**.

Flags for Units of Measure in the Range Fields in a Browser View

From Version 6.0, for tags with process function Flow or Pressure, the flags for units of measure that are available for selection from a browser view have changed in the following range fields:

- CALIB_RANGE_UFLG_MIN
- CALIB_RANGE_UFLG_MAX
- INST_RANGE_UFLG_MIN
- INST_RANGE_UFLG_MAX
- DCS_RANGE_UFLG

Now the flags for the range units of measure are synchronized with the values that you can specify in the Calibration module. For tags with process function Pressure, you can now set a flag as @absolute or @gage, (or use an empty row for tags with differential pressure).

Prior to Version 6.0, in a browser view, the range field list contained flags @normal, @standard, and @base. These values were available for tags with process function Flow, and also, by mistake, were available for tags with process function Pressure. In Version 6.0, these values have been removed from the list.

Note

- If you used the @flow flag for tags with process function Flow, the value appears as @absolute in a browser view upgraded to Version 6.0 and the @flow value is no longer available for selection. Instead, you can select an empty row from the list of flag values available in a browser view.

History Schema

From Version 5.3, the History schema is no longer used for marking history changes. Instead, this functionality is governed by the audit trail repository. Therefore, to enable marking history changes, the System Administrator must activate the audit trail functionality. To learn more about audit trail data, in the Administration Module Online Help, see *Domain Administration* > *Managing Audit Trail Data* > *Managing Audit Trail Data: An Overview*.

If you did not use the audit trail repository in INtools version 5.2 or earlier, you can mark new history changes from INtools 5.3 only.

In Version 6.0, the History schema is left, but from Version 6.0, it is not created with the INtools database setup.

HOOK_UP_ITEM_LIBRARY Import link

If you use the HOOK_UP_ITEM_LIBRARY link for importing hook-up item library data, and if your INtools version is earlier than 5.3, the link does not work after you upgrade INtools.

Therefore, for the link to function, perform the following steps:

1. Before upgrading INtools, export the HOOK_UP_ITEM_LIBRARY link to an .imp file.
2. Upgrade INtools.
3. Restore the link by importing it from the .imp file.

Instrument Index and Browser Module Enhancements

In the course of improving the functionality of the Instrument Index and Browser modules, from Version 6.0, the **Browse** window has been removed.

Before upgrading the database, in the **Browse** window of the Instrument Index module, assign your sort, filter, and style settings to view schemes. When upgrading the database, the software moves the view schemes with the assigned settings to the Browser module. You can locate your settings in the Instrument Index Standard Browser view.

Important

- The software does not retain any sort, filter, or style settings that remain unassigned to view schemes.

IEE (INtools External Editor) 6.0

In IEE 6.0, various changes have been made to the options dealing with process data sheets. As a result, process data sheets of previous IEE versions are not compatible with INtools 6.0. In INtools 6.0, you cannot retrieve process data sheets updated in IEE prior to Version 6.0. Likewise, In IEE 6.0, you cannot retrieve process data sheets created in INtools prior to Version 6.0. To prevent loss of data, before upgrading INtools to Version 6.0 and installing IEE 6.0, in INtools, retrieve the process data sheets from IEE.

I/O Tag Assignment Enhanced Report

If you made revisions with or without archiving for an I/O Tag Assignment enhanced report, in Version 6.0, you lose the report revision data. Contact Customer Support before using this report in Version 6.0.

Fieldbus Specification Forms

In Version 6.0, the following fields were changed for fieldbus specification forms:

Old Field	**New Field**
UDF_COMPONENT_C08	COMPONENT.BACKUP_LINK_MASTER
UDF_COMPONENT_C09	COMPONENT.CAPACITANCE and COMPONENT.CAPACITANCE_UOM
UDF_COMPONENT_C13	COMPONENT.FIELDBUS_DEVICE_REV

If you upgraded INtools from Version 5 and previously used the old fields to enter the data, you must copy the values to the new fields if you want them to be displayed in the fieldbus specification sheets.

Note

- The capacitance value and units of measure are entered in separate fields. The value for the fieldbus device revision must be a numeric.

Male/Female Verification of Connectors

From Version 6.0, connectors are independent wiring entities, like panels, cables, and so forth. Prior to Version 6.0, connectors were not defined as entities in the database but could only be used as properties of cables and panels. As a result, from Version 6.0, the software can make male/female validation of new connectors but cannot validate male/female settings of connectors that existed prior to Version 6.0.

When upgrading to Version 6.0, the software converts connector properties to entities and retains all user-defined connector settings, including male/female settings. Therefore, if an INtools user assigned a male or female connector to a panel and also assigned the same connector to a cable, the incorrect male/female setting appears in the upgraded version of INtools.

To make sure whether the male/female setting is correct, in Version 6.0, disconnect the connector and then try to connect it again. If the male/female setting was incorrect, the software displays an appropriate message.

Features Removed in Version 6.0

In Version 6.0, certain tables have been removed from the database. As a result, the following features are no longer available in INtools:

- Instrument log options
- Export to FoxCAD
- Spare Parts module features, including reports with Spare Parts module data

If you used any of these options, to prevent the loss of data, make all necessary procedures to back up your data before upgrading your database.

Changes in the Demonstration Database in Version 6.0

This package contains a demonstration database — the IN_DEMO.DB file in the folder where you installed INtools. The purpose of this database file is to show examples of real-life instrumentation data. If you have the multi-user version, you can use the database file by copying it to your multi-user database.

The following changes have been made in Version 6.0:

- The cable C-101-M-DCS-002 has been renamed to C-101-MR-DCS-002
- The cable C-101-M-DCS-003 has been renamed to C-101-MR-DCS-002.
- The strip terminal configuration 4 CHANNEL A/O functions correctly. When using this configuration, the software creates an I/O card with 4 channels. Previously, the created I/O card appeared with 6 channels.

Prerequisites for Upgrading to Version 7.0

Source Version

Source Version	Note
5.1, 5.2, 5.3, or 5.4	You must first upgrade your database to Version 6.0, Service Pack 06.00.06.06, and then upgrade your database to Version 7.0 with no further assistance
6.0	You must first upgrade Version 6.0 to Service Pack 06.00.06.06, and then upgrade your database to Version 7.0 with no further assistance.

AutoCAD Blocks

During the upgrade process, the software overwrites all AutoCAD blocks that appear in the SmartPlant Instrumentation home folder. The upgrade process is irreversible. Therefore, backup your pertinent files in the SmartPlant Instrumentation home folder before upgrading the software.

Free Space for Tablespaces/Filegroups/DBspace

Depending on your database platform, upgrading to Version 7.0 requires significant working space in the Oracle tablespaces, SQL Server filegroups, or Sybase Adaptive Server Anywhere database file.

When upgrading the database to Version 7.0, the software duplicates some of the largest tables. The software does not delete the duplicate tables to enable Intergraph Support to provide debugging solutions in case of a problem related to the upgrade. After upgrade, the database tables and indexes can double in size compared with their size before the upgrade. Also, temporary and log data require a lot of space during the upgrade. the software duplicates some of the largest tables. Therefore, depending on your database platform, before upgrading to Version 7.0, do the following:

Upgrade Prerequisites for Oracle

Check whether all the datafiles in the Oracle tablespaces are set as autoextended. Make sure that you have enough free space on the disk where the datafiles are located. Also, make sure that the maximum size for each datafile in the tablespaces is large enough or set as unlimited.

Consider the following scenarios:

- If the datafiles in a tablespace are not autoextended, and the total datafile free space is less than half the total datafile used space, you must either resize the tablespace using your Oracle tools, you add more datafiles for the tablespace using the Administration module option **Add Datafiles** on the **DBA** menu of the **System Administration** window.
- If the datafiles in a tablespace are autoextended but the total free space on the disk where the tablespace is located is less than half the total datafile used space, you must create additional datafiles for this tablespace on another disk.

Upgrade Prerequisites for SQL Server

Check whether all the datafiles in the SQL Server filegroups are set as 'automatically grow files'. Make sure that you have enough free space on the disk where the datafiles are located. Also, make sure that the maximum size for each datafile in the filegroups is large enough or set as unrestricted.

Consider the following scenarios:

- If the datafiles in a filegroup are not set as 'automatically grow files', and the total datafile free space is less than half the total datafile used space, you must either resize the filegroup using your SQL Server tools, you add more datafiles for the filegroup using the Administration module option **Add Datafiles** on the **DBA** menu of the **System Administration** window.
- If the datafiles in a filegroup are set as 'automatically grow files' but the total free space on the disk where the filegroup is located is less than half the total datafile used space, you must create additional datafiles for this filegroup on another disk.

Upgrade Prerequisite for Sybase Adaptive Server Anywhere

Check whether you have enough free disk space to upgrade the database. The DBspace of Sybase Adaptive Server Anywhere database has a datafile that is permanently set as autoincremented.

Report Comparison Options

Due to various changes made to the database objects for Version 7.0, for certain reports, data comparison do not work correctly when comparing a report generated in Version 7.0 with an archived report revision created prior to Version 7.0. Because of the changes in the report structure, if you use comparison options for these reports without changing the report data, the software marks changes incorrectly. This occurs for the following reports:

- Cable Gland Take-Off
- Cable Summary Take-Off
- Detailed Instrument Type List
- I/O Card Tag Assignment (Fieldbus)

Operating Owner Domain Upgrade

AsBuilt Entities for Claiming

If prior to Version 7.0, you made entity selection but did not claim the selected entities, in Version 7.0, the software displays the selected entities in the **Claim Buffer**. However, new entities available from Version 7.0 do not appear in the **Claim Buffer** even if they belong to the chain of sub-entities associated with the entities displayed. Therefore, before upgrading your database, we recommend that you cancel the entity selections (de-allocate the entities). If you already upgraded to Version 7.0, you need to remove all the entities from the **Claim Buffer**.

Domain with an Offsite Project

If you intend to upgrade an Operating owner domain that has an offsite project, you first need to import this project data back to the Operating owner domain that you want to upgrade. To do so, in the **Project Activities** dialog box, click **Import**.

Important

- Importing an offsite project into an upgraded Operating owner domain is likely to damage your database.

Note

- An offsite project is a project that is not part of the database containing the Operating owner domain (AsBuilt and other projects).

Upgrade Process for Sybase Adaptive Server Anywhere Database

Upgrade of an Operating owner domain can take significant time (several hours). We recommend that you let the software complete the process although, at the end of the upgrade process, the hour-glass cursor does not appear to respond to the progress.

Upgrade of Shipped Databases for Sybase Adaptive Server Anywhere 7.0.1

Shipped Databases and Their Descriptions

When using a database that comes shipped with SmartPlant Instrumentation, for example IN_DEMO.DB, the software establishes a connection to the database by using the Sybase Adaptive Server Anywhere engine, Version 7.0.1.

There are a number of databases that come shipped with Version 7.0 SmartPlant Instrumentation. These are:

- IN_DEMO.DB — A database with SmartPlant Instrumentation demonstration data. If you obtained a license for the full engine of Sybase Adaptive Server Anywhere, you can use this database to create a domain and work with SmartPlant Instrumentation data.
- IN_TEMPL.DB — A database with SmartPlant Instrumentation template data.
- INTOOLSEF.DB — A database with TEF demonstration data. After using INTOOLSEF.DB as a source for initializing a domain in Oracle or SQL Server, you can work with TEF in the initialized domain because INTOOLSEF.DB contains supporting tables mapped to TEF.
- INTOOLS.DB — An empty database. If you obtained a license for the full engine of Sybase Adaptive Server Anywhere, you can use this database to create a domain and work with SmartPlant Instrumentation data.
- INTOOLSAB.DB — An empty database. Only available from Version 7.0. This database contains an empty Operating owner domain and allows you to export data from a specific project to make a project backup. You can work with the backed up project off-site.
- INTOOLS_BACKUP.DB — An empty database. Only available from Version 7.0. You can use this database as a target database for backing up a domain and as a source database for initializing a new domain. Also, in INTOOLS_BACKUP.DB, you can work with data of the backed up domain off-site.

Important

- You cannot use this database to work with SmartPlant Instrumentation data partially because this database does not contain any stored procedures and triggers. You can use this database if you do not want to obtain a license for the full engine of Sybase Adaptive Server Anywhere.

Shipped Database Upgrade for Stand-Alone Version

If you use such Sybase Adaptive Server Anywhere database as INTOOLS.DB, or IN_DEMO.DB, or copies of these databases, you are not required to perform any special procedure when upgrading to Version 7.0. All of the shipped databases are upgraded automatically for Version 7.0.1 of Sybase Adaptive Server Anywhere.

Shipped Database Upgrade for Multi-User Version with Full Engine of Sybase Adaptive Server Anywhere

The following procedure applies to users working with SmartPlant Instrumentation on Oracle or SQL Server. If you do not have a license for the full engine of Sybase Adaptive Server Anywhere but previously included valuable data in the stand-alone databases INTOOLS.DB or IN_DEMO.DB, you need to perform the following procedure to be able to use the shipped databases in Version 7.0:

4. Before upgrading SmartPlant Instrumentation to Version 7.0, upload your stand-alone databases to a multi-user environment. To do so, use INTOOLS.DB or IN_DEMO.DB as source databases for domain initialization in your multi-user environment.
5. Upgrade to Version 7.0 the new domains together with the other domains that you have in Oracle or SQL Server.
6. Back up the initialized domains to the INTOOLS_BACKUP.DB. For details, in the Administration module Online Help, see *System Administration > Maintaining Domains, Back up a Domain.*

Shipped Database Upgrade for Multi-User Version Without Full Engine of Sybase Adaptive Server Anywhere

The following procedure applies to users working with SmartPlant Instrumentation on Oracle or SQL Server. If, prior to Version 7.0, you included valuable data in the stand-alone databases INTOOLS.DB or IN_DEMO.DB, and have at least one license for the full engine of Sybase Adaptive Server Anywhere, you must perform the following procedure to be able to use the shipped databases in Version 7.0:

1. In the SmartPlant Instrumentation home folder, make a backup of the files C_VER.PBD and C_VER.WAT, and then, change C_VER.WAT to C_VER.PBD.

2. Make a backup copy of your INTOOLS.INI file, and then, in the [DATABASE] section of the INTOOLS.INI file, do the following:

   - Switch the DBMS parameter value to ODBC.
   - Remove the values of the parameters ServerName= and DATABASE=.
   - For the DbParm parameter, add a connection string for the database that you what to upgrade. For example, if the database is IN_DEMO.DB, and you did not change any default login settings or ODBC profile settings for this database, the string should appear as follows:
     DbParm=ConnectionString='DSN=IN_DEMO;UID=IN_DBAMN; PWD=IN_DBAMN'
     The DSN (data source name) value represents the name of your ODBC profile for the IN_DEMO database. The UID parameter value is the Admin schema login name and the PWD parameter value is the Admin schema login password. Make sure you use the correct values if you changed the default settings previously.

   Tip

   - The current Admin schema login name appears as the value of the LogID parameter. The current Admin schema login password appears as the value of the LogPassword parameter. You do not have to make these parameters empty because the software only uses the connection string defined for the DbParm parameter.

3. Upgrade INtools to Version 6, Service Pack 5 or later.
7. Upgrade INtools to Version 7.0. At this stage, the Sybase Adaptive Server Anywhere version of the database files is still 5.5.
8. In the INTOOLS.INI file, switch the DbParm parameter setting to the new empty INTOOLS.DB database that is supplied with Version 7.0. To do so, set the default ODBC profile connection string for the new INTOOLS.DB database:
   DbParm=ConnectionString='DSN=INTOOLS;UID=IN_DBAMN; PWD=IN_DBAMN'
9. Perform domain initialization using your old database file as a source.

   Tip

   - For example, if you want to keep the data of the IN_DEMO.DB database, you can use this database as a source for initializing a new domain in the new empty INTOOLS.DB database. After completing domain initialization, you can rename INTOOLS.DB to IN_DEMO.DB.

User-Defined Views

Make backups of all your user-defined views. When upgrading your software version, note that in the new SmartPlant Instrumentation version some tables or columns might have been modified. If you upgrade your database after associating user-defined views, you will not be able to use the views in which the table records do not match the new table records of the new database. On completing the upgrade, you need to recreate your user-defined views using your platform database utilities, or InfoMaker.

Notes for Users Upgrading the Database to Version 7.0

Claimed Entities for Merging with AsBuilt

In an Operating owner domain, after upgrading to version 7.0, all claimed entities appears in the projects with the Merge Later merge action. If you want to merge these entities with AsBuilt, you must manually copy these entities from the **Project Explorer** to the **Merge Buffer**.

Import Links

When upgrading to Version 7.0, some of the import links from Version 6.0 for importing wiring entities may not function without being modified. You must therefore update these links in accordance with the Version 7.0 data model modifications.

I/O Cards and I/O Terminations (Plant Data)

Overview

Prior to version 7.0, an I/O card was implemented by creating a terminal strip with I/O channels, terminals and I/O properties. Such an I/O card was either associated locally in the same DCS or PLC panel with a rack and a position (slot) or associated with a distant panel, rack and a position. It could also be associated with redundant I/O card positions, either locally within same panel or with distant positions. If card was associated locally, it did not make any difference whether the **Set within distant cabinet** check box was selected or not.

Prior to version 7.0, distant I/O cards, which were in fact connected by a system cable, did not function as entities but were only used as references to a position in the rack. Version 7.0 makes a big step forward to represent the data in a better way.

First, now there are two categories of cards: I/O Card and I/O Termination Card. These are system categories of a new entity type: Wiring Equipment.

Terminal strips that were used as I/O cards in previous versions become terminal strips with channels after upgrade. When upgrading from a previous version, such terminal strips receive a new parent I/O card or I/O termination card, depending on the relationships and the status of the data.

I/O termination cards always contain a terminal strip with I/O channels, whereas I/O cards may or may not include them. If the I/O card is installed in a distant panel or associated with an I/O termination card, the I/O card does not include a terminal strip with I/O channels. If the I/O card is a conventional I/O card (that is, not associated with I/O termination cards), it includes a terminal strip and I/O channels.

Descriptions of Upgrade Cases and Data Status

The following table describes the upgrade policy and data status before and after upgrade:

Case	Data Status Before Upgrade	Data Status After Upgrade
1	Conventional I/O card is mounted in a rack position (same panel). The **Set within distant cabinet** check-box is cleared.	The upgrade creates a single I/O card that includes a terminal strip, terminals and I/O channels. The card is located under the respective rack slot.
2	I/O card is mounted in a rack position (same panel). The **Set within distant cabinet** check-box is selected.	The upgrade creates an I/O termination card that includes the original terminal strip and I/O channels under the panel level. In addition, a new I/O card is created under the respective rack and slot of the same panel.
3	I/O card is associated with a distant panel, rack, and position.	The upgrade creates an I/O termination card that includes the original terminal strip and I/O channels. In addition, a new I/O card is created in the respective distant panel, rack, and slot.
4	I/O card is associated with two positions (redundant) either locally or distantly.	The upgrade creates an I/O termination card that includes the original terminal strip and I/O channels. In addition, two new I/O cards are created in the respective panels, racks, and slots.
5	I/O card has incomplete data. The **Redundant** check box is selected, partial selections or no selections at all were made for panel, rack and positions (there can be more than one selection and position).	The upgrade creates an I/O termination card. One or more I/O cards are created under the appropriate entity levels that were populated in the primary/secondary sections at the time of the upgrade.

Case	Data Status Before Upgrade	Data Status After Upgrade
6	I/O card has incomplete data. The **Set within distant cabinet** check box is selected, partial selections or no selections at all were made for panel, rack, and position. The **Redundant** check box is cleared.	The upgrade creates an I/O termination card. An I/O card is created under the appropriate entity level that was populated in the primary section at the time of the upgrade.

In addition, when you upgrade, the software does the following:

1. Whenever an I/O card serves as a primary I/O card, it is named after the original terminal strip name with a suffix -P appended automatically.
2. Former rack positions are upgraded and are now introduced as records in the database under the respective cabinet rack. In case of distant or redundant I/O cards, the upgrade creates the necessary I/O cards as described in the table above.
3. I/O card properties are now owned by the I/O card entity and properties related to the I/O termination card are now owned by this card category. The terminal strip does not own any I/O card properties anymore. The implication is that during the Version 7.0 upgrade, data is copied to the appropriate new entities.

Before upgrading to Version 7.0, it is recommended that you review the data related to I/O cards. You should pay special attention to non-redundant I/O cards which are mounted locally and have references to racks and positions within the same panel. It is important that you identify such I/O cards and make sure to select or clear the **Set within distant cabinet** check box as appropriate. Failing to set this check box as appropriate may result in creation of conventional I/O card instead of an I/O card and I/O termination card or it may result in the creation of those two cards instead of a single conventional I/O card.

Examples of Upgrade Cases

Example 1 — Converting an existing I/O card to an I/O card with a terminal strip (Case 1 in the table)

This case applies if on the **Control System** tab of the **I/O Card Properties** dialog box, the secondary location is not specified, and the check box **Set within a distant cabinet** is cleared. For example, the previous I/O card properties can be as follows:

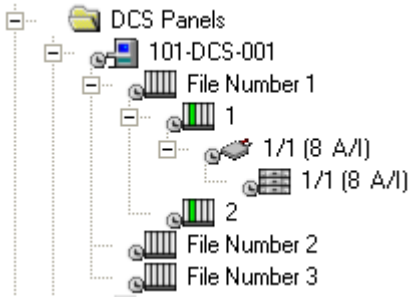
For example, the previous I/O card properties can be as follows:

I/O card: 1/1 (8 A/I)
Panel: 101-DCS-001

Primary location
Cabinet: 101-DCS-001
Rack: File Number 1
Position: 1

Secondary location
Cabinet: not defined
Rack: not defined
Position: not defined

In the upgraded version, the entities appear in the **Domain Explorer** as shown:



Example 2 — Converting an existing I/O card to an I/O termination card, creating a primary I/O card (Case 3 in the table)

This case applies if on the **Control System** tab of the **I/O Card Properties** dialog box, the secondary location is not specified, and the check box **Set within a distant cabinet** is selected. For example, the previous I/O card properties can be as follows:

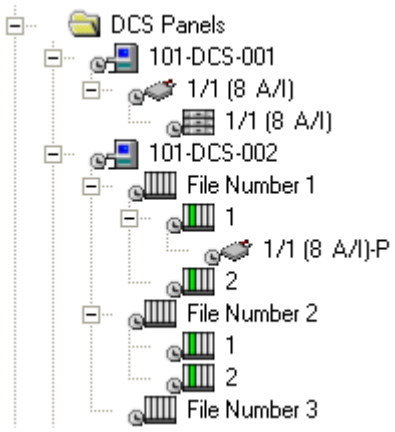
For example, the previous I/O card properties can be as follows:

I/O card: 1/1 (8 A/I)
Panel: 101-DCS-001

Primary location
Cabinet: 101-DCS-002
Rack: File Number 1
Position: 1

Secondary location
Cabinet: not defined
Rack: not defined
Position: not defined

In the upgraded version, the entities appear in the **Domain Explorer** as shown:



Example 3 — Converting an existing I/O card to an I/O termination, creating primary and secondary I/O cards (Case 4 in the table)

This case applies if on the **Control System** tab of the **I/O Card Properties** dialog box, both primary and secondary locations are specified.

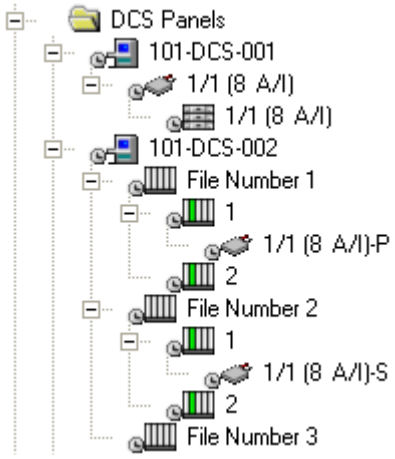
For example, the previous I/O card properties can be as follows:

I/O card: 1/1 (8 A/I)
Panel: 101-DCS-001

Primary location
Cabinet: 101-DCS-002
Rack: File Number 1
Position: 1

Secondary location
Cabinet: 101-DCS-002
Rack: File Number 2
Position: 1

In the upgraded version, the entities appear in the **Domain Explorer** as shown:



I/O Cards and I/O Terminations (Reference Data)

When upgrading from an earlier version than 7.0, default I/O cards are either converted to I/O cards or I/O Termination cards, according to the table described on page 30. The software cannot explicitly identify the exact category of the card that the user intended to create.

In order to change the category of reference I/O cards or I/O Termination cards use the Wiring Equipment Browser (which enables you to set the desired category of a card), after the upgrade process is completed (changing the category applies only to reference cards).

Users who have upgraded to Version 7 are requested to examine the data and make the appropriate changes. Wiring equipment category changes only affects new entities you create using these cards but do not affect the previously defined cards.

Features Removed or Suspended in Version 7.0

Removed Features

- AutoCAD 14 support.
- Macro translation options. Prior to Version 7.0, the TranslateMacro.exe utility was used for adding the & prefix to attributes in drawing blocks of AutoCAD Version 14 or earlier.
- Check Macros report. Instead, you can use the CAD Drawing Generation Errors report. This report lists a summary of errors that occurred during the last loop drawing generation using your CAD application. Data that appears in this report depends on specific loop numbers that you select.
- CCPlant interface.
- FoxCAE

Suspended Features

- Support of data export to Meridium.

Features Changed in Version 7.0

Access Rights

Various access rights that were not in use, or were duplicate, or are no longer relevant have been removed. Also, new access rights have been added and certain labels of rights have been changed to reflect interface changes made for Version 7.0. In the Administration module Online Help, you can find a complete list of access rights and their descriptions. The descriptions appear in the topic *Administration Module>Domain Administration>Access Rights>Access Rights Descriptions*.

The following table lists access rights whose labels have been changed for Version 7.0:

Old Label	**New Label**
Delete Technical Specification	Binder Package Deletion
Default Cable Manager	Reference Cable Management
Default Panel Manager	Reference Panel Management
Default Spec Sheet Access	Form Data Templates
Fieldbus Segments	Segment Manager
Framework Features	To Do List
Framework Interface	Publish Documents to TEF
Plant Definition	Plant Hierarchy Management
Project Cable Manager	Domain Cable Management
Project Panel Manager	Domain Panel Management
Spec Binder Module Access	Document Binder Module Access
Telecom Panel Manager	Telecom Panel Management
User-Defined Field Definition	Custom Field Definition
Wide Parameters for Fieldbus	Segment-Wide Parameters
Not available	Claim Entities for Project
Not available	SP Electrical Interface

Apparatus

In Version 7.0, apparatus has become a wiring entity. You can define apparatus properties, duplicate, or delete an apparatus, and assign it a special symbol. The software will use this symbol in the Enhanced Report Utility.

Furthermore, you can create a Fieldbus brick assembly that includes a Fieldbus brick and a number of apparatuses. For details, see the SmartPlant Instrumentation Online Help, the Fieldbus chapter, *Fieldbus Bricks: An Overview*.

Batch Association of Blocks with Tag Numbers

Prior to Version 7.0, you could open several instances of the **Loop Manager** and select blocks assigned to any tag number of any loop. Then, you could associate the selected blocks with the target tag numbers by dragging the blocks from one **Loop Manager** to another. In Version 7.0, this features cannot be implemented in the **Loop Explorer**, which replaced the **Loop Manager**. This is because you can open only one instance of the **Loop Explorer**.

Dissociation of Blocks from Tag Numbers

Prior to Version 7.0, in the **Loop Manager** of the Loop Drawings module, you could select and dissociate blocks assigned to any tag number of any loop. In Version 7.0, this features cannot be implemented in the **Loop Explorer**, which replaced the **Loop Manager**. In Version 7.0, you can only dissociate blocks from the tag number under which they appear in the **Loop Explorer**.

Drawing Page Indication

Prior to Version 7.0, in the **Loop Manager** of the Loop Drawings module, the software displayed the total number of pages in a multi-page drawing. For example, 101-F -2212 (2 pages). In Version 7.0, this features cannot be implemented in the **Loop Explorer**, which replaced the **Loop Manager**. In Version 7.0, you can right-click a loop block and then, on the shortcut menu, click **Actions>Select Drawing Page**. If the loop is associated with a multi-page drawing, you can select a page on which you want to display the drawing block. If the loop is associated with a single-page drawing, the software displays the appropriate message.

I/O Card Macros

From Before Version 7.0, macros that were only supposed to retrieve data of a remote I/O card would also retrieve local panel data when the I/O card was local. These macros are as follows:

- RPNL_NAME.x.y – remote panel name
- RCS_POS.x.y – remote system position
- RRACK_NAME.x.y – remote cabinet rack name
- RRACK_DESC.x.y – remote cabinet rack description
- RCS_NET_NO.x.y – remote network number
- RCS_NODE_NO.x.y – remote node number

In Version 7.0, these macros work as they are supposed to, that is, they can only retrieve data of a remote I/O card. If you used these macros to retrieve local panel data when the I/O card was local, you now need to use other macros that are available in Version 7.0 specifically for this purpose. These macros will be removed in Version 8. The new macros are:

- ORPNL_NAME.x.y
- ORCS_POS.x.y
- ORRACK_NAME.x.y
- ORRACK_DESC.x.y
- ORCS_NET_NO.x.y
- ORCS_NODE_NO.x.y

If you want to use the old macro names to retrieve I/O card data the way you did before Version 7.0, contact Intergraph Support to receive an SQL script that renames the original macros and the new macros. First, the script applies the 'N' prefix to the original macros, for example, the original macro RPNL_NAME is renamed to NRPNL_NAME. Then, the script renames the new macros to the original macro names, for example, ORPNL_NAME is renamed to RPNL_NAME.

Due to the changes in the structure of new cards, the renamed macros can only be used to retrieve data of the upgraded I/O cards. If you want to use the same functionality to retrieve data of both local and remote primary I/O cards (local or remote), you need to use the new macros listed below. In Version 7.0, you can use these macros to retrieve data of a local panel, rack, or position when the primary card is either local or remote. Note, however, that these macros are likely to reduce the performance of the loop drawing generation.

The new macros are as follows:

- PPNL_NAME.x.y – primary panel name
- PCS_POS.x.y – primary system position
- PRACK_NAME.x.y – primary cabinet rack name
- PRACK_DESC.x.y – primary cabinet rack description
- PCS_NET_NO.x.y – primary network number
- PCS_NODE_NO.x.y – primary node number

Rack Duplication

When duplicating a rack that contains child entities, the software duplicates the rack together with its child entities.

SPEC_SHEET_DATA View on SQL Server

On SQL Server, the view SPEC_SHEET_DATA and the associated tables SPEC1, SPEC2, and SPEC3 have been converted to a single table SPEC_SHEET_DATA. If you created browser views, spec forms, InfoMaker reports, or import links using fields from the tables SPEC1, SPEC2, and SPEC3, you need to made the appropriate modifications after upgrading INtools to Version 7.0.

Telecom Entities

Due to a major redesign of telecom entity options in Version 7.0, it is no longer possible to add telecom panels that you could add prior to Version 7.0. The same note applies to old telecom equipment entities and old style reports.

Wiring Macros in SmartLoop Drawings

From Version 7.0, wiring entity macros that include relations are not supported in standard SmartLoop drawings.

Notes for Users Upgrading the Application to Version 7.0

Title Block Sizing in Enhanced Reports

From Version 6.0, the software defines the drawing area automatically, according to the outer dimensions of the title block symbols used in the drawing. For example, if the title block is aligned horizontally at the bottom of a drawing, the software automatically allocates the area above the block for loop display. Therefore, if you created a title block made of various symbols that occupied an entire page, after upgrading to Version 7.0 from Version 5.3 or earlier, your loop data will be displayed incorrectly.

For example, you could add headings at the top of a drawing page or vertical lines stretching from the page top to the title block symbol at the bottom of the page. When you use this kind of a title block in Version 6.0 or 7.0, the software does not allocate enough room on the drawing page for displaying the loop data.

To display your loop data correctly, you must set the drawing area manually.

Set the Drawing Area Manually

1. On the **File** menu, click **Preferences**.
2. In the **Preferences** dialog box, in the tree view pane, to expand the tree, click ⊞ beside **Loop Drawings**, then click **Custom**.
3. In the **Parameter** box, type TitleBlockSize.
4. In the **Value** box, type a value for the maximum allowed height of the origin to be occupied by the title block, for example, 0.05 for 5 cm.

Preferences

From version 5.3, the INTOOLS.INI file no longer holds records with preferences. The software now saves all the preferences in the database. Therefore, if this installation is an upgrade from an earlier version, you must not overwrite the INTOOLS.INI file. If you do, you lose all the existing preference settings. For more information, in the Installation Guide, see *SmartPlant Instrumentation Upgrade > Application Upgrade to Version 5.3 or Later*.

Path Settings

In the upgraded SmartPlant Instrumentation version, after the System Administrator enables the use of a global path in SmartPlant Instrumentation, the Domain Administrator must change all the previously defined path settings manually. For example, if the global path is \\APP_SERVER\INTOOLS, and in the **Preferences** dialog box, prior to performing an upgrade, users defined local path settings to the PSR folder, the Domain Administrator must change the PSR folder preference settings to \\APP_SERVER\INTOOLS\PSR. For more information about a global path, in the Administration module Online Help, see *System Administration > Creating and Managing Domains > Specify a Global Path*.

Windows Authentication Login

Windows authentication login allows the software to create SmartPlant Instrumentation users automatically and assign them to existing SmartPlant Instrumentation groups as soon as these users start SmartPlant Instrumentation. From Version 6.0, you no longer need to enable the use of the Windows Authentication login method per user.

Instead, in a specific domain, the Domain Administrator associates a Windows group that exists in Windows with a SmartPlant Instrumentation group. To do so, the Domain Administrator creates a SmartPlant Instrumentation group with the same name as a global user group that already exists in Windows (the group name characters are case-sensitive).

After that, any user who belongs to this Windows group can access this SmartPlant Instrumentation domain automatically without having to provide any login information. When such a user starts SmartPlant Instrumentation, the software bypasses the **Logon Information** dialog box. Instead, the software opens a dialog box where the user needs to select a domain in which the Domain Administrator has associated the user's Windows group with the SmartPlant Instrumentation group.

It is also possible to start SmartPlant Instrumentation using Windows authentication when the user Window group is not defined in the **Group** dialog box of the SmartPlant Administration module. The Domain Administrator needs define the user's Windows name and password in the Administration module, when creating the user profile. After assigning such a user to a SmartPlant Instrumentation group, this user can log on to Windows and then access SmartPlant Instrumentation without having to provide logon information. This is because the user's Windows and SmartPlant Instrumentation logon information is the same.

For more information, in the Administration module Online Help, see *Domain Administration > Users and Groups > Windows Authentication Login: An Overview*.

Post-Upgrade Tasks

Rebuilding Default Views

After you complete the upgrade, certain default views, which are supplied with SmartPlant Instrumentation, might become invalid. This is because during the upgrade, the software makes changes to tables with which the default views are associated. Therefore, we recommend that after completing the upgrade, the System Administrator rebuild the default views for all the domains using the Administration module option **Rebuild Default Views in Domains**.

Updating Archived Revisions

If, in a certain domain, you used archived revisions for reports that included wiring data, after completing the upgrade, you must run the Archived Revision Update utility for that domain. After running this utility, you can use report comparison options. To open the utility, run the file ARCHIVED_REV_UPDATE.EXE, which appears in your SmartPlant Instrumentation home folder.

Setting Report Styles for the Document Binder

In Version 6.0, if the Domain Administrator set up Panel-Strip reports to be updated per entity, the software does not specify the style definition for the reports. If you then saved Panel-Strip reports with revisions based on this setting, and subsequently upgraded to Version 7.0, the software assigns the reports that appear in the **Document Explorer** under the **Documents by Document Type** folder to the **Panel-Strip With Adjacent Connections** sub-folder by default. Likewise, Cable Layout reports appear in the **Cable Layout Style 1** sub-folder.

If you want these reports to appear in a sub-folder for a report style other than the default, you must do the following:

1. Open a report print preview with the desired report style.
2. Open the **Revisions** dialog box for the report, and make any change, such as adding a new revision or modifying the drawing name.
3. Save the revision.

If you have a large number of reports that you need to modify, contact Intergraph Support to obtain a script that you can run on the reports to make the changes.

Working with Specs Based on a Form with the General Process Function

Single-Tag Specs Based on a Form with the General Process Function

From Version 7.0, tags with process function **General** can have process data. As a result, you can display process data in an instrument specification that is based on a form with process function **General**. To do so, you need to regenerate an existing form with process function **General** after upgrading to Version 7.0. When regenerating a target form, you need to add the PD_NOT_ASSIGN table to that form.

Multi-Tag Specs Based on a Form with the General Process Function

Prior to Version 7.0, in a multi-tag specification, you could add tags belonging to different process functions but could not display tag process data. In Version 7.0, several actions are possible to manage your multi-tag specs based on a form with process function **General**. The following table illustrates possible actions that you can perform on old multi-tag specs after upgrading to Version 7.0:

Process Function of Tags in Multi-Tag Spec	**Action**	**Result**
General only	Regenerate the form.	Can add tags with different process functions but cannot include tag process data.
	Regenerate the form and include the PD_NOT_ASSIGN table	Can include tag process data, but can only add tags with process function **General**.
Various	Regenerate the form.	Can add tags with different process functions but cannot include tag process data.
	Regenerate the form and include the PD_NOT_ASSIGN table (not recommended)	Might cause retrieval problems on opening the multi-tag spec.
	Create a new form and include the PD_NOT_ASSIGN table.	Can include tag process data, but can only add tags with process function **General**.

Regenerating Spec Forms

After upgrading to Version 7.0, you must regenerate spec forms. You must do this to be able to mark changes on a spec and save the spec.

Updating Blocks with External Macros

If you generated loop drawings using external macro sources, you need open the blocks that contain the external macros and add manually the prefix _E for each external macro you want to use in Version 7.0.

Updating Data in the I/O Terminal and Terminal Browsers

After upgrading from Version 6.0, if you defined browser views for the I/O Terminal Browser or Terminal Browser and those views included the Position field HW_POS_ID, any data that you entered in that field is now in the CHANNEL_NAME field. To see the channel data, you must refresh the view using the Customize command.

Instructions for AutoCAD Users

Compatibility of AutoCAD Versions with SmartPlant Instrumentation Version 7.0

The following tables shows the AutoCAD versions that are compatible with SmartPlant Instrumentation Version 7.0. also, the table shows all operating systems that SmartPlant Instrumentation Version 7.0 supports.

Operating System Supported in Version 7.0	AutoCAD Version supported in Version 7.0
Windows 2000	2000, 2000i, 2002, 2004, 2005
Windows XP	2002, 2004, 2005
Windows 2003 Server	2004, 2005

Note

- Windows XP Service Pack 2, and Windows 2003 Server are only supported from Version 7.0.

Prerequisite for Running AutoCAD 2005

If AutoCAD 2005 is installed on the same machine where another AutoCAD version exists, after upgrading SmartPlant Instrumentation, to enable SmartPlant Instrumentation to use AutoCAD 2005, you must first specify the CAD file locations for AutoCAD 2005 in the **Preferences** dialog box, and then run AutoCAD 2005 the first time from outside SmartPlant Instrumentation. Close and reopen SmartPlant Instrumentation to be able to run AutoCAD 2005 from SmartPlant Instrumentation.

Prerequisites for Running AutoCAD 2000, 2000i, 2002, or 2004

General Prerequisite

Before running AutoCAD 2000, 2000i, 2002, or 2004, make sure that at the command line in AutoCAD, SDI=0.

Prerequisite for Generating Drawings with User-Defined Properties

If you want the software to apply user-defined properties, such as LTSCALE, and so forth, you must perform the following procedure prior to generating any AutoCAD drawings from SmartPlant Instrumentation:

1. Create a PID.DWT template file that contains the changed properties.
2. Copy the PID.DWT file to folder D:\SmartPlant\Instrumentation\CAD\CadFunc

Note

- When generating a drawing, SmartPlant Instrumentation applies automatically the properties set in the PID.DWT file.

Running SmartPlant Instrumentation in Windows 2000 and Windows XP

Windows Security Alert on Windows XP Service Pack 2

When the software connects to the Sybase Adaptive Server Anywhere database, Windows displays a security alert message, for example, when you start the Administration module, Import Utility or Merger Utility, and so forth. This message is not related to SmartPlant Instrumentation. Clicking **Unblock** or **Ask Me Later** does not affect the operations you perform in SmartPlant Instrumentation. If you click **Ask Me Later**, next time the software connects to the Sybase Adaptive Server Anywhere database, the same message is displayed. If you click **Unblock**, this message no longer appears. However, the Firewall no longer protects the application because it is recorded as an exception for the Firewall. It is up to you which action to choose.

Setting Background Color

When running SmartPlant Instrumentation in Windows 2000 and Windows XP, the background color of certain GUI objects (dialog boxes, windows, and so forth) might appear in different tints.

To apply a unique tint of the background color to all the GUI objects, you need to change the background color settings in the **Appearance** tab folder of your **Windows Display Properties** dialog box as follows:

- In Windows 2000, select Windows Classic from the **Scheme** list of the **Appearance** tab folder.
- In Windows XP, in the **Appearance** tab folder, click **Advanced** and from the Item list, select 3D Objects. Also, from the **Color** palette, select the gray color (from the third column in the upper row).

Using Theme Other than Windows Classic

In Windows XP, using a theme other than Windows Classic causes the following problems:

- The bottom border of SmartPlant Instrumentation GUI objects to appear too close to the command buttons. To prevent this from happening, you need to open the **Windows Display Properties** dialog box, and from the **Theme** list, select Windows Classic.
- Merging entities from projects to AsBuilt cannot be performed.

Using Font Size Other than Normal in Windows XP

In Windows XP, if you use a font size other than Normal, note that in some dialog boxes (for example, in the **Preferences** dialog box) command buttons or tabs do not fit the dialog box area. In this case, the software displays scroll arrows on top of SmartPlant Instrumentation GUI objects. To prevent this from happening, you need to open the **Windows Display Properties** dialog box, and in the **Appearance** tab folder, from **Font size** list, select Normal.

Working with Interfaces

Requirements for Running TEF, SmartPlant Electrical or DeltaV on Oracle

Changing the Process Parameter Value

In the Oracle Instance Configuration file of your Oracle instance, change the Processes parameter value to 300. This is the minimum requirement for the Process parameter. You can use a bigger value, if needed.

Checking RAM

Before starting an Oracle database you need to ensure that the RAM that this database occupies does not exceed the available RAM on your server.

Do the following:

1. First of all, make sure that the Oracle database parameter SHARED_POOL_SIZE is set as follows:
   - At least 10 million bytes if you use Windows
   - 20 million bytes if you use Unix
2. Then, you need to calculate the MB RAM occupied by your Oracle database. After you perform these operations, the software does not display the Oracle error message ORA-04031. For details of calculating the MB RAM occupied by your Oracle database, in the Installation Guide, see *Installing SmartPlant Instrumentation on Oracle > Oracle Instance Creation > SmartPlant Instrumentation Requirements for Oracle 8i, 9i, 10g Instance Creation*.

Notes

- If your Oracle database administrator decides to improve the Oracle database performance by pinning SmartPlant Instrumentation stored program units (stored procedures, triggers, functions, and packages), the software might display the ORA-04031 message even after you completed the above. If this happens, you need to increase the value of the SHARED_POOL_SIZE parameter even higher.
- If your Oracle server machine resources do not allow the use of a higher SHARED_POOL_SIZE parameter value, in the Oracle Instance Configuration file, set the CURSOR_SHARING parameter value as follows:

  CURSOR_SHARING=FORCE

Switching the Interface for SmartPlant P&ID Versions 3, 4.1, 4.2, or 4.3

The following procedure describes how to switch the Interface for use with SmartPlant P&ID Version 3, 4.1, 4.2, or 4.3. The interface is identical for both versions, but each SmartPlant P&ID version requires the appropriate version of the file SPPIDproj.ocx. By default, the file provided with this name is the file suitable for SmartPlant P&ID Version 4.1, 4.2, or 4.3. An alternative .ocx file SPPIDproj3.ocx is available for use with SmartPlant P&ID Version 3.

Switch the SmartPlant P&ID Interface for Use with a Different Software Version

1. Unregister the currently selected version of the .ocx file.
2. Make a backup copy of the file SPPIDproj.ocx.
3. Rename the file SPPIDproj3.ocx to SPPIDproj.ocx.
4. Register the switched version of the .ocx file.

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