

SmartPlant Instrumentation 2016 Upgrade Procedures

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FLUOR[®]

Assumptions



- ◆ These instructions are intended for Project Data Integrators, Project Automation Specialists and Discipline Application Specialists
- ◆ There were significant improvements in SPI 2009 SP2. Enough so that the upgrade routine in 2009 SP4 requires a database be at 2009 SP2 as a minimum to upgrade. It is assumed that SPI 2013 also requires at least 2009 SP2.
- ◆ The Intergraph Documentation indicates the you should be able to upgrade directly from SPI 2009 SP2 to SPI 2016

Prerequisites for SPI 2016



- ◆ Start with SPI 2009 SP2 or Higher
 - 1. Rebuild stored procedures and triggers for all domains.
 - 2. Rebuild projects in As-Built domains.
- ◆ Perform a Database Check and Make Domain Backups
- ◆ Free Disk Space
 - Oracle table spaces are set as **autoextended**
 - SQL Server file groups are set to **automatically grow files**
 - Sybase Adaptive Server Anywhere data file is permanently set as **autoincremented**

Specific Prerequisites for SPI 2016



- ◆ Back Up Symbols Used in Enhanced Reports before installing the latest version of the Enhanced Report Utility.
- ◆ Upgrading the To Do List
 - To Do Lists from previous versions do not Upgrade:
 1. Run all outstanding To Do List tasks.
 2. Delete the To Do List.
 3. Upgrade to SmartPlant Instrumentation 2016.
 4. Retrieve your documents.
 - Open the To Do List.
- ◆ Release all Claimed Items in As Built before Upgrading

Specific Prerequisites for SPI 2016



- ◆ Import Utility ODBC driver
 - The Import Utility is not supported by Microsoft Office 2016
- ◆ User Defined Fields
 - UDFs defined at Plant Level will be at Domain level in 2016
- ◆ Select List Values not Supplied with SmartPlant Instrumentation will not appear in EDE, Examples:
 - Units of Measure (UOM)
 - Control Valve Fail Position
 - Control Valve Seat Leak
 - Smart Support utility called “LutChk” will assist in cleaning up these Imported Select Lists

Specific Prerequisites for SPI 2016



◆ Missing Sequence Properties After Upgrade

- You must check certain database tables by running an SQL query to make sure that every item has a value in the sequence property
- The tables that require checking are:
 - Wire
 - Cable set
 - Apparatus
 - Panel_Strip
 - Panel_Strip_Terminal
 - Cabinet rack
 - Position
 - Channel

Oracle Upgrade of SPI 2016



- ◆ You must Upgrade to **Oracle 12c** for SPI 2016
- ◆ Prerequisites:
 - You must have an earlier version of Oracle 10 or 11c installed
 - SPI must be run in the Oracle “national environment” for Units of Measure to show properly
- ◆ Two Workflows for Upgrading Oracle are recommended:
 - Workflow 1 - Upgrade of Oracle from previous version on one server and Oracle 12c on another server
 - Workflow 2 - Upgrade of Oracle on an existing server without new instance creation or domain initialization

Oracle Upgrade of SPI 2016



Workflow 1: Two Oracle Servers

- Create a Oracle backup dump your previous Oracle version
- Restore the Oracle backup on the new Oracle 12c server.
- Connect using SmartPlant Instrumentation and use the Smart Upgrade (Admin) to update your database to SmartPlant Instrumentation 2016.
- If you upgraded from a non-Unicode database, create a new Oracle Unicode instance and initialize domains from the upgraded database to this new instance

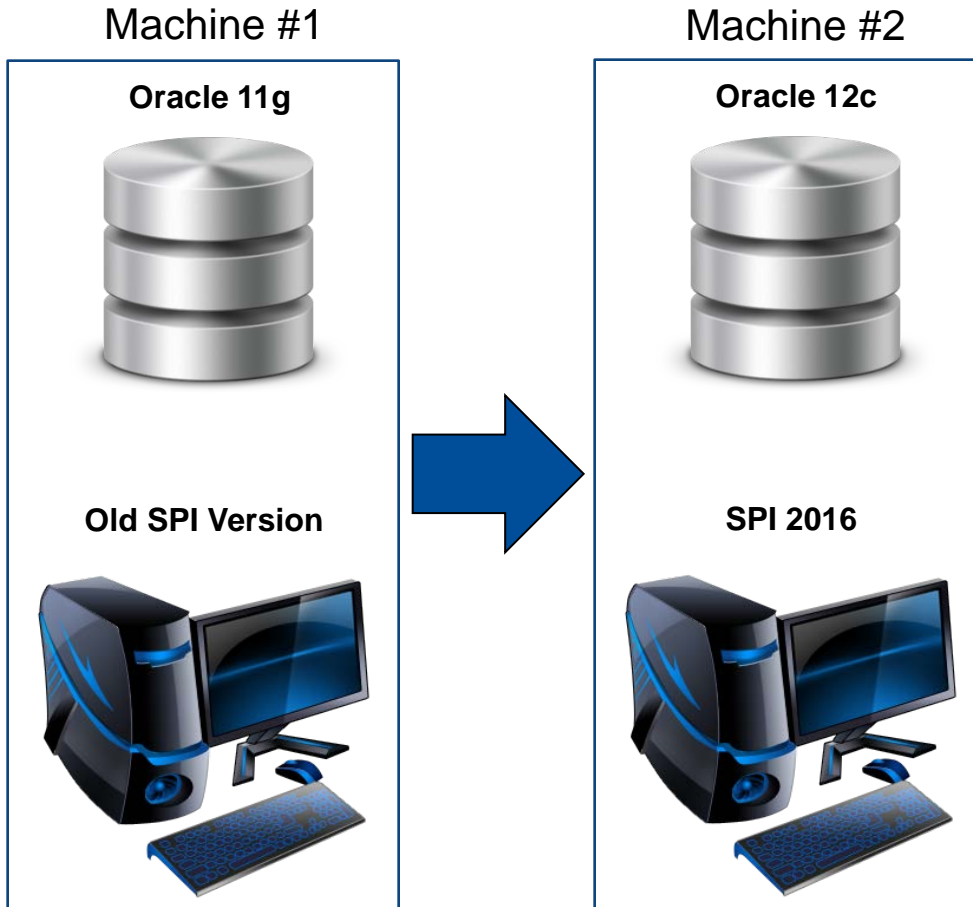
Oracle Upgrade of SPI 2016



Workflow 2: One Oracle Server

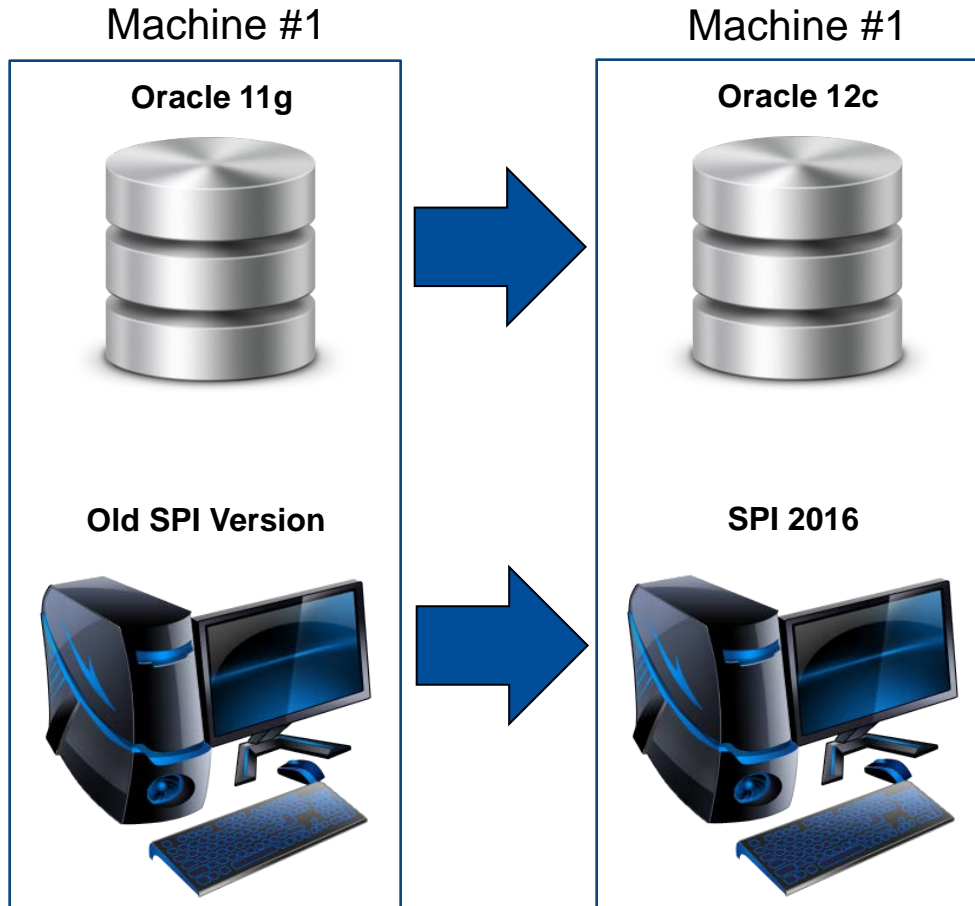
- Select the instance in Oracle Database Upgrade Assistant
- Select the sys account for the instance.
- Accept the values on each page of the wizard, except:
 - Move Database Files during Upgrade.
 - For the storage mechanism, choose File System.
- After installing SmartPlant Instrumentation 2016, use the Smart Upgrade (Admin) to update your database to SmartPlant Instrumentation 2016.
- If you upgraded from a non-Unicode database, create a new Oracle Unicode instance and initialize domains from the upgraded database to this new instance.

Oracle Upgrade Process Overview



- ◆ Do Pre Upgrade Activities
- ◆ Backup Oracle from Machine #1 and Restore to Machine #2
- ◆ Upgrade Old Version of SPI (>2009 SP2) on Machine #2 with SPI 2016
- ◆ Do Post Upgrade activities

Oracle Upgrade Process Overview



- ◆ Do Pre Upgrade Activities
- ◆ Upgrade Oracle to Version 12c using the Oracle Database Upgrade Assistant
- ◆ Upgrade Old Version of SPI (>2009 SP2) on Machine #2 with SPI 2016
- ◆ Do Post Upgrade Activities

Oracle Upgrade of SPI 2016



- ◆ Large SPI Oracle Database Upgrade
 - Large SPI database exceeds 800,000 records or tables
Panel_strip_term, Wire and Wire_terminal
 - Must use Oracle 12c 64-bit client to upgrade your database
 - Must use Oracle 12c 32-bit client to run SPI 2016
- ◆ Initialize from Oracle 10g/11g to Oracle 12c
- ◆ After you Upgrade to SPI 2016
 - You must have installed Oracle 12c 64-bit server.
 - You must have installed Oracle 12c 32-bit client.

Watcom Upgrade of SPI 2016



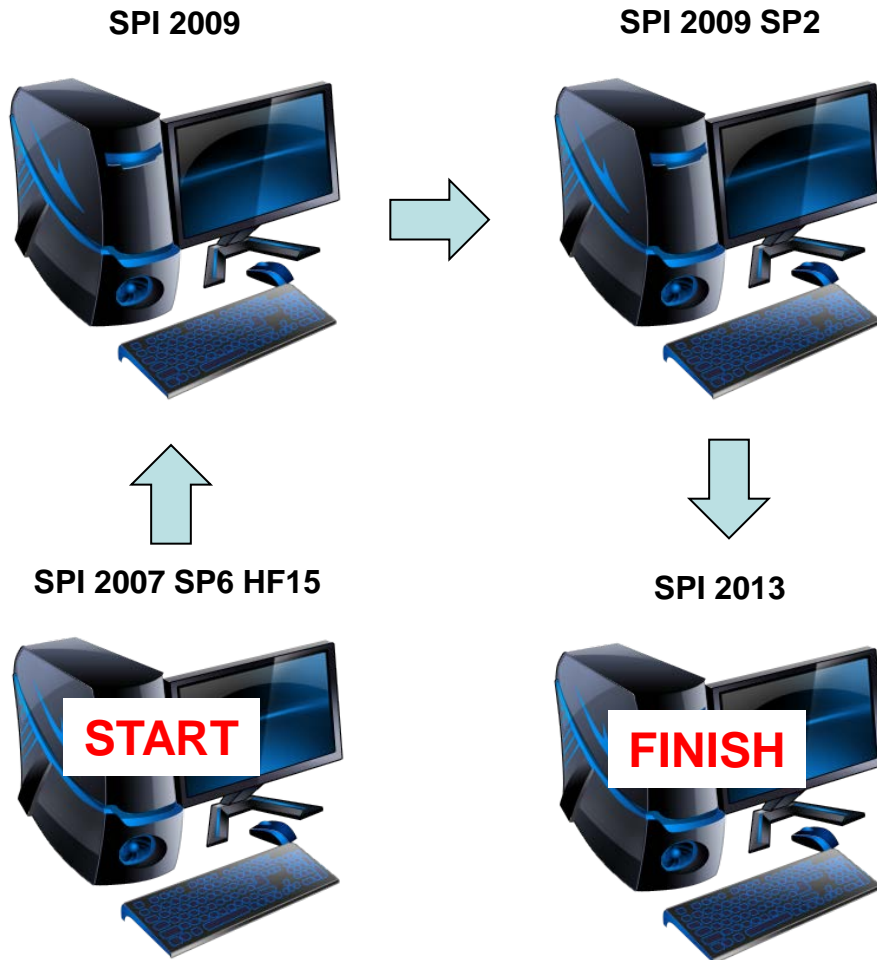
- ◆ **NOTE: Intergraph does not recommend Upgrading large SPI databases to SPI 2016 with Watcom**
- ◆
- ◆ **Work Instructions – Step by Step**
 - Step 1: Create backup of SPI O11g to Watcom
 - Step 2: Run Check and resolve any issues
 - Step 3: Create backup of cleaned SPI O12c to Watcom
(To be used for upgrade)
 - Step 4: Install old SPI version on O12c machine.
 - Step 5: Run DB Setup Utility (Administrator on W7)

Watcom Upgrade of SPI 2016



- ◆ Create backup of old SPI with a Watcom dump
- ◆ Run CheckDB and resolve issues
- ◆ Create second backup of old SPI with a Watcom dump
- ◆ Restore Watcom to new production system
- ◆ Regenerate Stored Procedures and Views, Re-index
- ◆ Upgrade instance to SPI 2016
- ◆ Run CheckDB and resolve issues
- ◆ Apply Process Data fix
- ◆ Test and Confirm Upgrade
- ◆ Upgrade User local installations (Oracle, SPI, SPF comp)

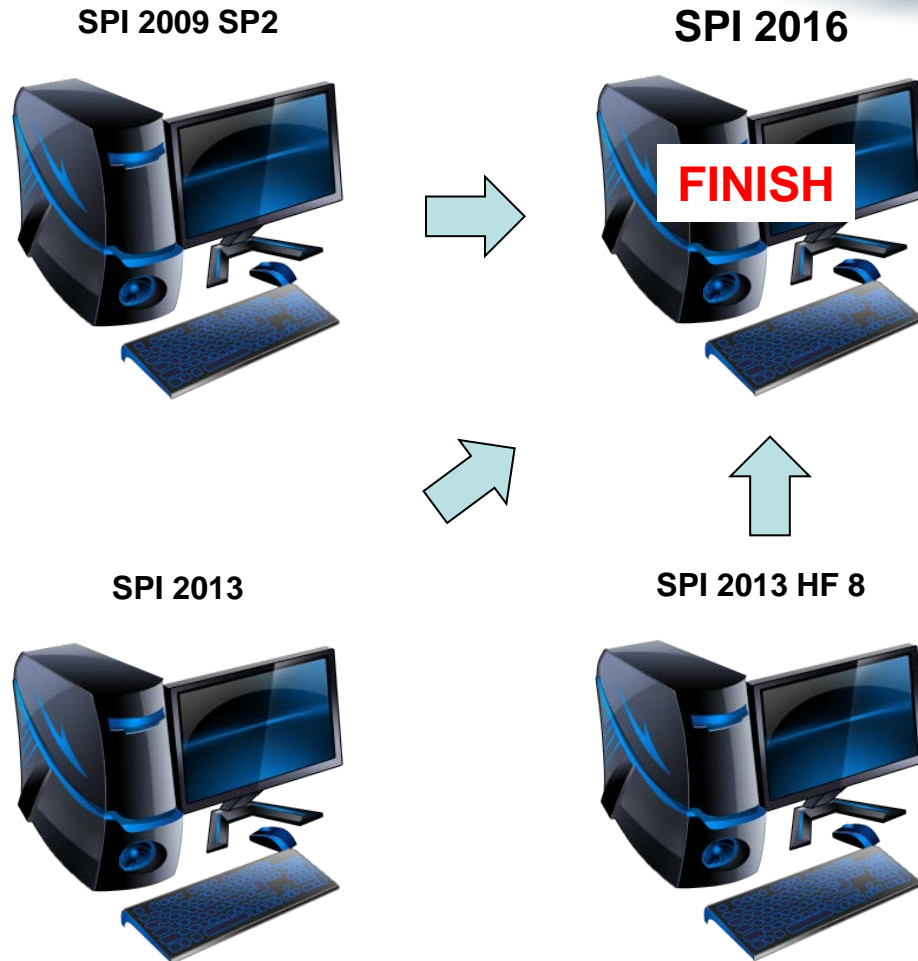
Watcom Upgrade Process Overview



- ◆ Any Version prior to SPI 2009 SP2 Requires a step through to upgrade to SPI 2013
- ◆ Be sure to make a backup and run CheckDB between each Upgrade

Watcom Upgrade Process Overview

- ◆ Per Intergraph the upgrade to SPI 2016 can be made from any Version from 2019 SP2 up



Post SPI 2016 Upgrade Tasks



- ◆ Update Link Definitions for Importing Data into the PANEL Table
- ◆ Perform a Database Check
- ◆ Rebuild Default Views
- ◆ Rebuild Projects in a Domain on Sybase Adaptive Server Anywhere
- ◆ Optimize Indexes

Questions?



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