

Successful Insight Implementation Tips

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Premium Partners:



Microsoft

Solid Solutions, LLC

- Established in 2000
- Office Location: Boise, Idaho
- Lines of Business:
 - 1) Software Implementations Group
 - Insight
 - Teamcenter Express
 - 2) Consulting & Contract Design Group
 - Mechanical Engineering, Detailing, FEA
 - Training, Implementation, Support
 - System Integration & Custom Application Development with Partners

Insight Advantages

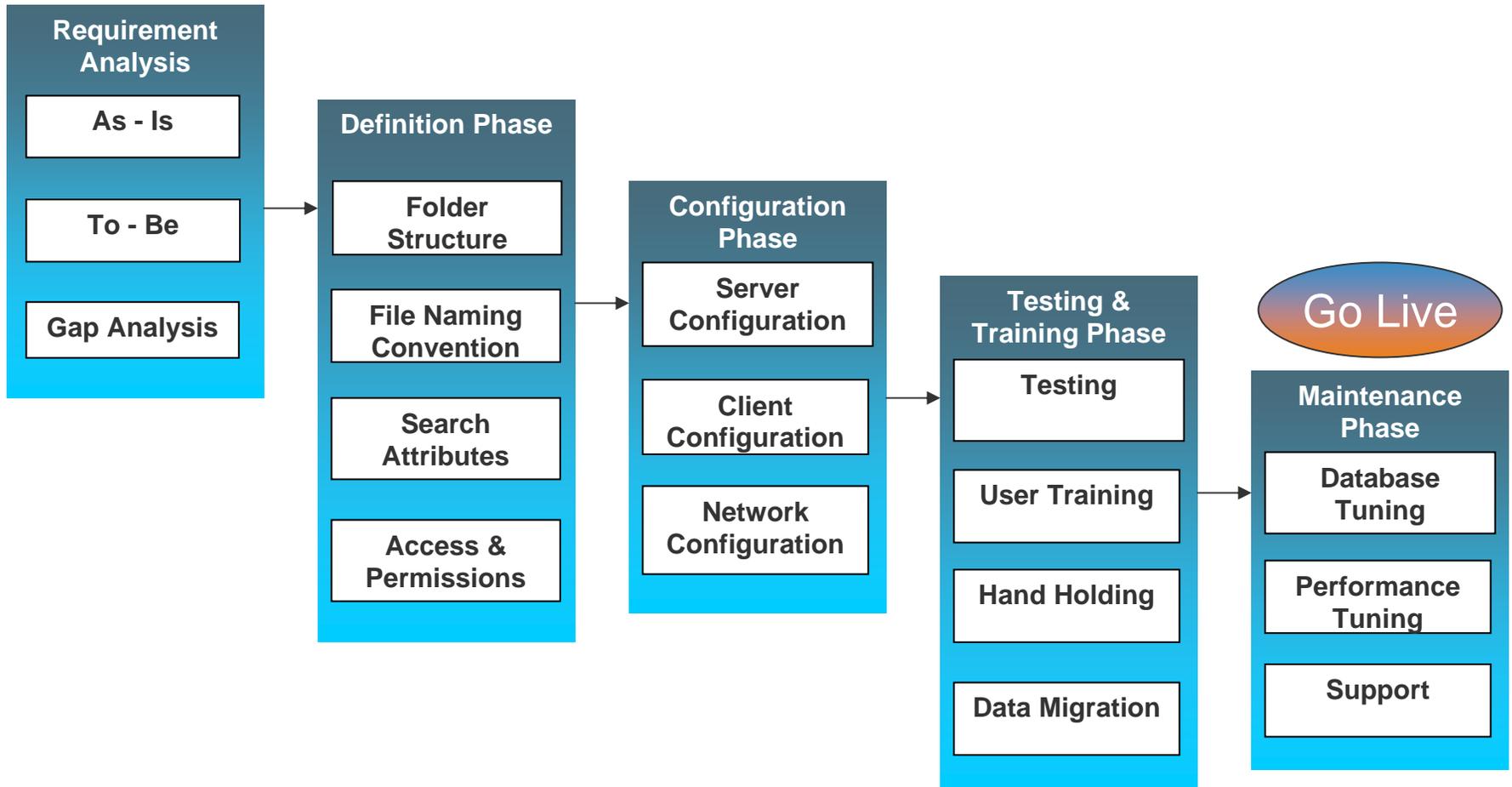
- Users friendly GUI
- Automatic Check-in / Check-out through Solid Edge
- Design collaboration tools available
- Fully configurable user roles & permissions
- User defined attributes and indexing to facilitate search
- BOM Management & Accessibility
- Where Used searches (< 1 min on large databases)
- Customizable workflow & Notifications
- Local cache with server synchronization & off line support
- Client for consumers of design data
- Integrated View and Mark Up
- Complete link management



Successful Insight Installation

- Management & User Buy In
- Define Scope
- Folder Structure / Mapping
- Data Clean-up / Organization
- Server Set-ups
- Client Set-ups / Options-XML
- Permissions
- Testing
- Training
- Understand Limitations
- References

Implementation Methodology



Define Scope of Implementation

- Evaluate existing data condition
- Standard Parts library usage?
- Implement Notifications
- View & Markup
- Life Cycle Assistant Release Process
- Data Import
 - What Comes First / How Long Will it Take?
- Extend Sharepoint to storage or Indexing of other document types

Engineering Lifecycle Workflow



➤ Typically four major areas of document lifecycles:

1. Concept/Design work



2. Release Submission / Released work



3. ECO/N/R (sometimes have lifecycles of their own)



4. Retirement / Obsolete work (history)



Folder Structure / Mapping

➤ Set-up Foldermap.txt

The screenshot shows a SharePoint site titled 'Engineering Projects' with a 'Home' page. The top navigation bar includes 'Home', 'Documents and Lists', 'Create', 'Site Settings', and 'Help'. A search bar is located in the top right corner. The left sidebar contains a 'Quick Launch' menu with categories: Documents (Shared Documents, ChangeControl, ChangeOrderForm-Default), Pictures, Lists (Contacts, Tasks, Workflow Definitions, Workflow Instances, Workflow Rules, Workflow Definitions 2, Workflow Instances 2, Workflow Rules 2), Discussions (General Discussion), and Surveys. The main content area is divided into sections: 'Work in Progress', 'Announcements' (no active announcements), 'Events' (no upcoming events), and 'Site Navigation' (Engineering). The 'Engineering' section contains a tree structure: Engineering Projects (Library: Release; Lists: Announcements, Projects Released to Manufacturing, Solid Edge and Insight Links; Obsolete: Library: Obsolete; Lists: Announcements, Obsolete parts and projects, Solid Edge and Insight Links; Projects: Library: ECR, p1, p2, PreRelease). On the right, there is a 'Solid Edge Search' button, the 'Microsoft Windows SharePoint Services' logo, and a 'Links' section (no favorite links).

Site Examples

Home Documents and Lists Create Site Settings Help

 Projects
PreRelease

This Library Contains Pre-Released Engineering Data.

New Document | Upload Document | New Folder | Filter | Edit in D

Type	Name	Modified	Modified By	C
Folder	022	11/11/2005 11:38 PM	kbaxter	
Folder	036	11/11/2005 11:38 PM	kbaxter	
Folder	0591	11/8/2005 1:17 AM	kbaxter	
Folder	10			

Home Documents and Lists Create Site Settings Help

 Obsolete
Obsolete

Select a View

All Documents

Explorer View

Sort by Document Number

Sort by Title

Sort by last Modified date...

Sort by Last Modified by User...

New Document | Upload Document | New Folder | Filter | Edit in Datasheet

Type	Name	Modified	Modified By	Checked Out To
Folder	012	2/9/2006 2:33 PM	kbaxter	
Folder	019	11/11/2005 11:38 PM	kbaxter	
Folder	020	2/9/2006 3:28 PM	kbaxter	
Folder	022	11/11/2005 11:38 PM	kbaxter	

Document Library View

Home Documents and Lists Create Site Settings Help

Up to Engineering Projects



Projects
PreRelease

Select a View

All Documents

Explorer View

Sort by
Document
Number

Sort by Title

Sort by last
Modified date...

Sort by Last
Modified by
User...

Checked Out By,
No Folders

Actions

- Alert me
- Export to spreadsheet
- Modify settings and columns

This Library Contains Pre-Released Engineering Data.

[New Document](#) | [Upload Document](#) | [Filter](#) | [Edit in Datasheet](#)

Type	Name	Modified	Checked Out To	Modified By	Document Number	Revision Number	SEStatus
Count = 10							
Checked Out To : SEAdmin (1)							
Count = 1							
	2018677+A	11/11/2005 11:59 PM	SEAdmin	kbaxter		A	Available
Checked Out To : kbaxter (9)							
Count = 9							
	2019972+A	3/23/2006 10:19 AM	kbaxter	kbaxter	2019972	A	Available
	2019972+A	3/23/2006 10:19 AM	kbaxter	kbaxter			
	2020766	2/27/2006 6:51 PM	kbaxter	kbaxter		-	Available
	2024479	1/21/2006 11:19 AM	kbaxter	kbaxter	2024479	-	Available
	2024479	1/21/2006 11:19 AM	kbaxter	kbaxter			
	2024489	11/8/2005 2:55 PM	kbaxter	kbaxter	2024489		Available
	2024489	11/8/2005 2:55 PM	kbaxter	kbaxter			
	2024490	11/8/2005 2:55 PM	kbaxter	kbaxter	2024490		Available
	2024490	11/8/2005 2:55 PM	kbaxter	kbaxter			
Checked Out To : (68)							

Solid Edge Information

Promotes Collaboration

The screenshot displays the Solid Edge software interface. On the left is a file tree showing a project structure with various assembly files (asm) and parameter files (par). The main window shows a 3D model of a mechanical suspension assembly. Overlaid on the bottom is the 'Cache Assistant' dialog box, which contains a table of document information.

Document	Folder	Size	Checked-Out by	Up-To-Date
CabSuspension.a	solidvm\engineering\PreReleased\PreReleasedDocLib	326.00KB	Checked Out to You	Yes
2351898.par	solidvm\engineering\PreReleased\PreReleasedDocLib	163.00KB	Checked Out to You	Modified
WheelAssy.asm	solidvm\engineering\PreReleased\PreReleasedDocLib	129.50KB	No	Yes
Wheel4Trim.par	solidvm\engineering\PreReleased\PreReleasedDocLib	185.00KB	No	Yes
Wheel3Trim.par	solidvm\engineering\PreReleased\PreReleasedDocLib	184.00KB	No	Yes
Wheel2Trim.par	solidvm\engineering\PreReleased\PreReleasedDocLib	191.00KB	No	Yes
Wheel1Trim.par	solidvm\engineering\PreReleased\PreReleasedDocLib	191.50KB	No	Yes
Tire.par	solidvm\engineering\PreReleased\PreReleasedDocLib	192.50KB	No	Yes
Thumbs.db	solidvm\engineering\PreReleased\PreReleasedDocLib	500.00KB	No	Yes
Rim.par	solidvm\engineering\PreReleased\PreReleasedDocLib	460.00KB	No	Yes
2351898cyl.par	solidvm\engineering\PreReleased\PreReleasedDocLib	182.00KB	SOLIDVM\administrator	Yes

Below the table, the 'Cache Assistant' dialog shows a small 3D model of a wheel assembly and a metadata table:

Title	CabSuspension.asm
Author	SchmidtC
Template	Normal.asm
Document Number	314559-6Einbau
Revision Number	a
Application Name	Solid Edge
Date created	9/1/2005 8:10 AM
Date last modified	9/1/2005 10:02 AM

Insight Connect - Searching

- Search using SolidEdge search tool, very fast. Can search a 40,000 part library in less than 1 min.
 - *From File Open, Edge Bar or Dashboard Web Part*

Search

File

Saved searches: [dropdown]

Search by any or all of the criteria below:

Search: Searchscope libraries [dropdown]

Look in folder: http://insightsvr/rel/Rel_DL:http://insightsvr/presub/Pre_Rel_DL:http://insightsvr/obsub/Obsol [icon]

For: [dropdown]

Search Now...

Search by Properties

Document Number [dropdown] = [dropdown] [text box] AND

Status [dropdown] = [dropdown] [text box] AND

Keywords [dropdown] = [dropdown] [text box]

Search by Date

All Documents

Documents: Created [dropdown] in the last [spinner] day(s) [dropdown]

Property Manager Cancel Help

Select "Searchscope Libraries"

Search by filename.
Wildcards (?,*) are allowed.

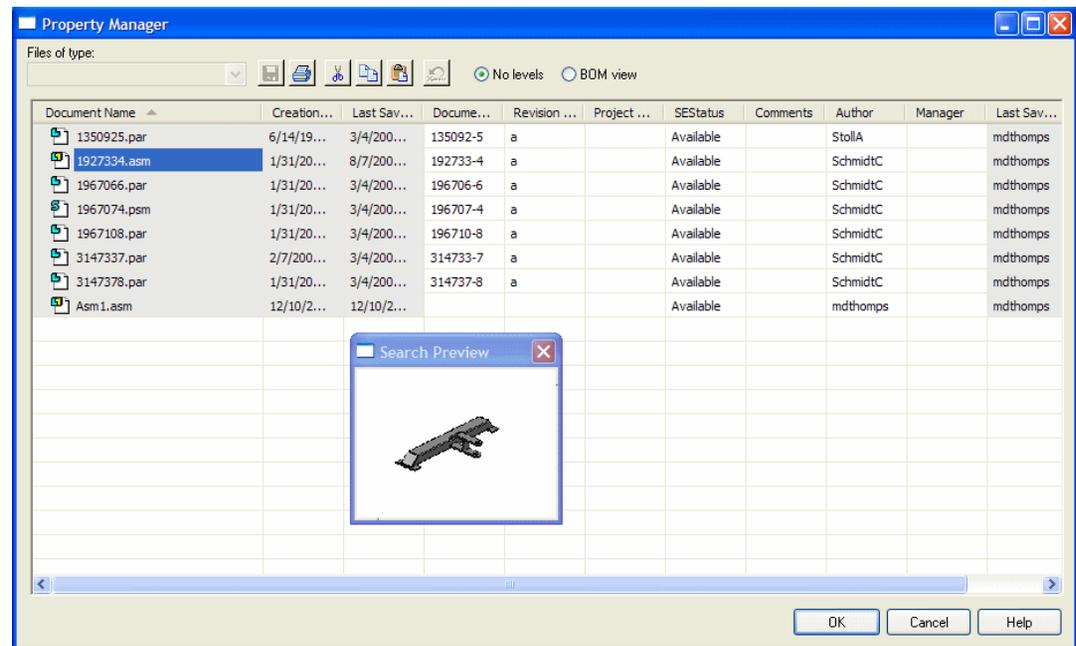
Search by properties. Wildcards (?,*) are NOT allowed.

Hidden Properties can be searched.

User can key in custom property.

Insight Connect - Searching

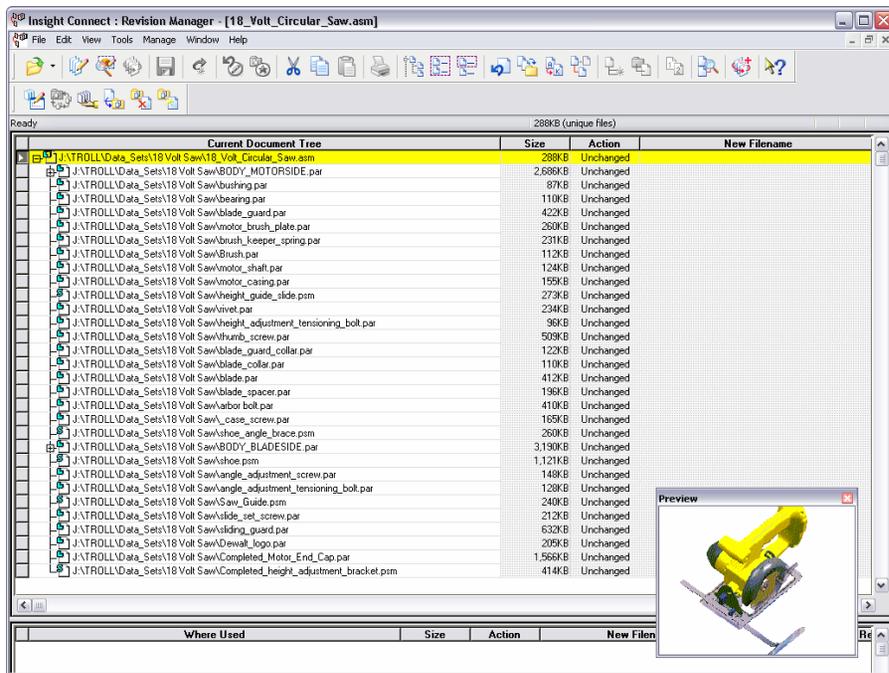
- Built in Search
 - Floating preview available of selected item
- Quick “Where Used” for searched items
 - 2nd floating preview available of selected item



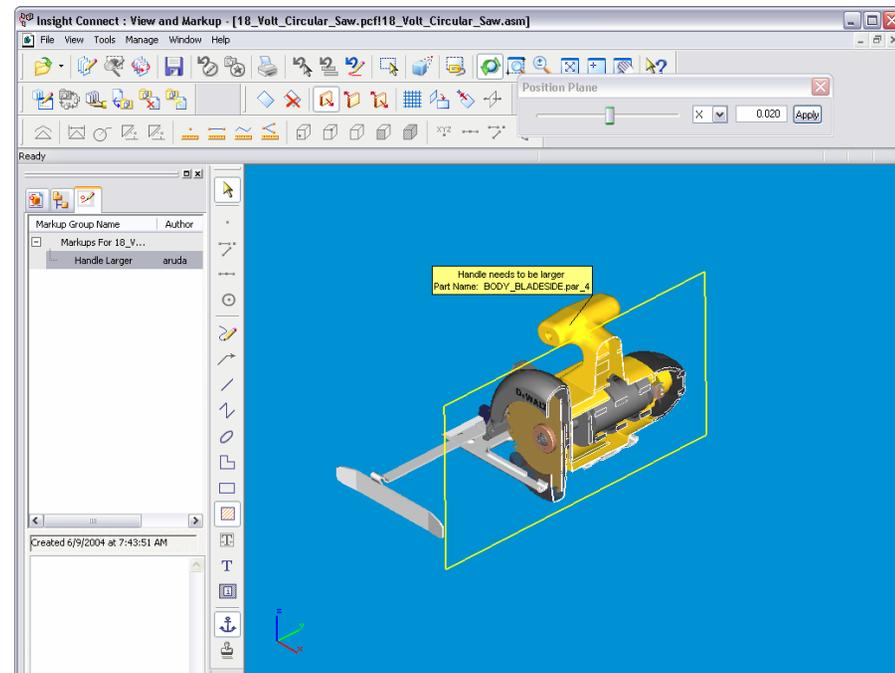
Insight Connect

- Insight Connect consist of two environments:

1. Revision Manager



2. View and Markup



Insight Connect

- Insight Connect is loaded with every copy of Solid Edge
- Insight Connect can be loaded as a standalone program on a machine that does not have Solid Edge.
- Solid Edge Viewer is our Free viewer, which is a sub set of Insight Connect. i.e. viewing only.
- Here are the file formats for Insight Connect and the Viewer:



Viewer

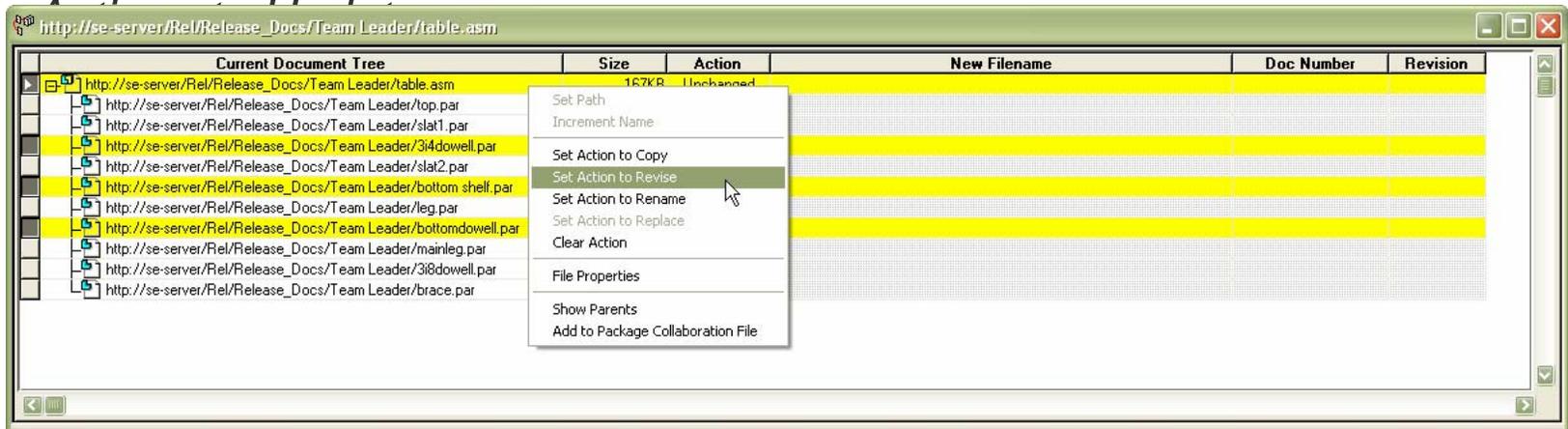
Assembly Document (*.asm)
Draft Document (*.dft)
Part Document (*.par)
Sheetmetal Document (*.psm)
Weldment Document (*.pwd)
Packaged Collaboration File (*.pcf)
AutoCAD Files (*.dxf)
AutoCAD Files (*.dwg)
All Solid Edge Files (...)

Insight Connect

Assembly Document (*.asm)
Draft Document (*.dft)
Part Document (*.par)
Sheetmetal Document (*.psm)
Weldment Document (*.pwd)
Parasolid Files (*.x_t *.x_b)
Packaged Collaboration File (*.pcf)
Unigraphics Files (*.prt)
AutoCAD Files (*.dxf)
AutoCAD Files (*.dwg)
DirectModel Documents (*.it)
Microstation documents (*.dgn)
CGM Metafile documents (*.cgm)
HP CoCreate ME 10 documents (*.mi)
STL documents (*.stl)
All Solid Edge Files (...)
All Files (*.*)

Insight Connect – Revision Manager

- Let's look at what it takes to make a new revision of a document in a Released Document Library.
- From Revision Manager open the file that you want to revise.
- Perform a where used on the files that you want to change and see if they are effected in any other files. (i.e. *.dft and/or *.asm or other *.psm and *.par files, such as piping or part copies and also assy cuts linked to other models)
- Select the files you want to revise in the upper half of the window, *RMB* and select “*Set Action to Revise*”
- Select items from the results in the lower half of the window that need to be updated to use the new revisions or the renamed models. *RMB*, then *Select*



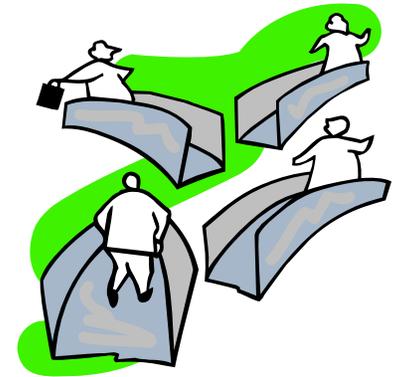
11 May, 2006 ➤ This will change the file location and revision level

Extending to Other Documents

- Set up other Sites to allow entire organization to take advantage of Sharepoint.
- Use iFilters to allow indexing of other document types.
 - <http://www.ifilter.org/Links.htm> (Free iFilters)
 - CAB, ZIP, RAR, HTML, CSF, Email, HLP, Image, MHT, MP3, PDF, RTF, Office Suite, Visio, XML and more.

Data Clean-Up

- Renaming files
- Avoid Data Duplication, Only single copy of SE files
- Fixing Broken Links
- File Naming Conventions
- Periods in front of Names aren't allowed
- Illegal Characters
- Folder structure
 - Easier if it parallels Insight Sites/Document Libraries
 - Parts Libraries in their own Site/Document Library
- Quick navigation tree
- Open & Save
- File Size Reduction
- Non SE Data Management
 - File conversion from other formats (ACAD, Pro-E, etc.)



Requirements, Server Software

Minimum System Configuration

- Microsoft Windows 2003 server (Standard or Enterprise edition). The drive must be formatted as NTFS file system. If STD edition is used you will require to install IIS as it does not install by default.
- Microsoft Windows SharePoint Services (WSS) or SharePoint Portal Server (SPS).
- Microsoft SQL Server 2000 with Service pack 3 or 3a.
- Microsoft Internet Explorer version 6 or later
- Microsoft Office 2003 or Microsoft Office XP and latest available service packs
- Microsoft .NET Framework (default loaded with server 2003)
- Solid Edge Insight Server latest available service packs (version MUST match Solid Edge version)
- Outlook / Outlook Express (This would be required for Notifications / alerts as this requires an e-mail application)
- Microsoft FrontPage (Only required for Portal customization)

Server Set-up Requirements, Implementation

➤ Sharepoint Implementation Guide

- Applications CD: Insight Server\sespimpgde.chm
 - See the section *Implementing Insight / System Rquirements, Lists minimum and recommended.*
 - *2GB+ minimum recommended Ram on server*

➤ Insight Server Implementation Guide

- Applications CD: Insight Server\iconnect.chm

➤ Hardware Requirements, Client

- <http://www.solidedge.com/overview/system.requirements.htm>

Server Set-ups

➤ LinkFixupMgr.exe

- Reduces the number of link fix-ups that are happening during file open. Logs and automatically opens files as scheduled on the server and fixes links that are changed due to LCA release process.

➤ Prevent Duplicate File Names

- This functionality uses the document libraries in searchscope.txt to define the scope and standard SharePoint access rights to determine what the user can search
- If a document library is not in the searchscope.txt file or the user doesn't have at least read privileges for a document library, we will not search that library to see if a duplicate name exists
- Will REDUCE the number of duplicate filenames, but there are still opportunities for users to create duplicate files if they don't have the correct permissions

Options-XML Setup

Option	Allow Override	Value
Pre-Released Documents	No	http://java/eng/ewip/PreRelease
Released Documents	No	http://java/eng/rman/Vault
Obsolete Documents	No	http://java/eng/Obsolete/Obsolete
Packaged Collaboration Documents	No	http://java/eng/ChangeControl
ECR Documents	No	
ECO Documents	No	
Log files	No	C:\SECACHE\Logs
Insight folder mapping	Yes	\\LAPTOP1\SE-SetupV18\FolderMap.txt
Standard Parts SAC file	No	
Life cycle - make obsolete	No	True
Life cycle - update draft	No	True
Allow broken links	No	True
Prevent duplicate document na...	No	False
Revision delimiter	No	+
User templates	Yes	\\LAPTOP1\SE-SetupV18\Template
Property seed file	No	\\LAPTOP1\Setup\propseed.txt
Custom settings file	No	C:\Program Files\Solid Edge V18\Program\Custom.xml
Hole size file	No	C:\Program Files\Solid Edge V18\Program\Holes.txt
Pipe threads file	No	C:\Program Files\Solid Edge V18\Program\PipeThreads.txt
Link mgmt file	Yes	\\LAPTOP1\Setup\LinkMgmt.txt
Search scope	Yes	\\LAPTOP1\Setup\searchscope.txt
Solid Edge Admin	Yes	\\LAPTOP1\Setup\OptionsNO-Demo.xml
Linear revisions	No	False
Store geometry in Part file for f...	No	True

Otpions-XML Setup, con't.

Disable Revision Manager	No	False
Inactivate all parts when openin...	No	True
Allow unreleased links	No	False
Show Revision Manager actions ...	No	False
Backup folder	No	D:\Temp\SolidEdge\
Frame Local Library Folder	No	D:\Temp\SolidEdge\Frames
Replace Filename	Yes	[Filename]
Start up screen	No	C:\Program Files\Solid Edge V18\Program\ResDLLs\0009\startup\S
Show Start up screen	No	True
Allow checkin Files from Cache ...	No	True
Allow Synchronize Files from Ca...	No	True
Allow Download Files from Cach...	No	True
Material Library	No	True
Wire harness configuration file	No	C:\Program Files\Solid Edge V18\Program\SEHarness.txt
Wire harness conductor file	No	C:\Program Files\Solid Edge V18\Program\SEConductors.txt
Restrict Revision By Group	No	False
EC Co-ord Group Site Location	No	\$Default
EC Co-ord Group Name	No	\$Default
Generate SE manager mappings...	No	Yes
Life cycle - Always process inco...	No	True
Virtual Component names file	No	C:\Program Files\Solid Edge V18\Program\VCNames.txt
Only Use Teamcenter Commands	Yes	False
Teamcenter Formula	No	[Document Number]-[Revision Number]-[Version]

Permissions

➤ Identify PDM System Users Roles

Engineering Insight Project									
Sharepoint Insight Library Permission Worksheet - Group Permissions									
		1	2	3	4	5	6	7	
Site Group	url	Engineers	Engineer Mgr	Draftsman	Checker	Checker Manu	Viewers Local	Viewers Remote	Administrator
PreRelease Sites									
Projects	http://java/eng/ewip	E	R	E	E	R	R	-	E
Tooling	http://java/eng/twip	R	E	E	R	E	R	-	E
ECO		E	E	E	E	E	E	E	E
Released Sites									
ReadyForManufacturing	http://java/eng/rman	R	R	R	E	E	R	R	E
Acces-Hardware	http://java/eng/Library	R	R	R	E	E	R	R	E
Obsolete Sites									
Obsolete	http://java/eng/obsolete	R	R	R	E	E	-	-	E
		Key:							
		Abbr	Description						
		-	No Access						
		R	Read Only (View)						
		E	Edit, Read, & Write						
		*	CM - People that will start ECO's, ECN's, or redline using Insight Connect will need "E" Permissions						
		**	In the "released" area only the users performing the Life Cycle Assistant release process will need "E" permissions. All others only need "R" permissions.						

Training

- Complete management buy-in from the start
- Upfront planning for hardware, software and IT resource requirements to implement and maintain
- Structured implementation and training plan that keep users from feeling “overwhelmed”
- CAD training commitment by management & users
- Setup a training Site on Sharepoint so real data doesn't get manipulated.
 - Can have the data outside the system and do an “add to library” periodically to bring back clean training data
- Train users & new hires on system periodically
- Training must be included in every facet of the implementation to realize or maximize ROI
- Understand your software, it's capabilities and the resources required to implement it.

Understanding Limitations

Some limitations exist and knowledge of these will minimize complications later.

- Links to other files can present challenges.
 - XpressRoute piping links
 - Assembly links to other parts (Cutouts, Ref's, Etc.)
 - FOP's
 - FOA's

Challenges in Insight PDM implementation

- Resistance to change
 - System discipline
 - Manual control
 - Flexibility
 - Transparency
 - Ignorance
- Legacy data migration
- Collaboration over limited bandwidth
- Meeting user specific needs

Requirements, IT Administrator

- Ensure that you have understood thoroughly the **Backup & Restore Procedures, Adding and Removing Users, Granting and Revoking Rights & Privileges to Users.**
- These tasks are critical to a successful implementation.

End User Efficiency Requirements

- Network Places onto each Clients Profile
- Shortcuts in Internet Explorer and Start Menu
- Dashboard Views
 - “Checked Out by User” per Document Library
 - Sort by Day
 - Sort by User
- Templates for new documents
- Common Parts Library
- Continual Education on New Features and Company Standards

Maintenance / Disaster Recovery Plan

- Backup database regularly
 - Use the built in backup inside SQL
 - Enterprise Manager DB, SE DB, WSS DB & Master DB
 - Back up these to another location
- Use backup utility to backup entire Db.
- Truncate log files
- Monitor “Log File” drive on a regular basis.
 - If it’s getting full, investigate reason
- Do an Open/Save on SE version Upgrade
 - Will save time opening files for users, especially on Released Documents. (Only admin can open and save these files)
- Have a plan for the failure of the backup plan

Trouble Shooting

- User unable to see files in managed location
 - User can go to a managed file folder through windows explorer or IE but cannot see existing files
 - User needs view and browse permissions at all levels to the top level site.
- Enable Insight Logging
 - Executable file located on client machine in solid edge program folder.
 - DO NOT LEAVE ON for regular usage

Trouble Shooting, con't

- User gets pausing 19250 ms 1 of 10 times error message
 - Invalid entry in searchscope file
 - Permissions not given to all entries in searchscope file.
 - Not all document libraries that the assembly points to exist in the searchscope file
 - Database LOG drive runs out of space on server, and becomes corrupt.
- Add to library fails
 - User permissions
 - Lack of entries in Foldermap (need to be able to write to foldermap.txt file)
 - Invalid entries in searchscope file

Client Checklist Example

Detail Insight Implementation Checklist

Client Checklist

Client machine: _____ User _____

- Stop and Disable Web Client from the Services menu
- Create Network Place to top level site (http://server_name) and name it Insight
- Delete the “MSN” Network Place
- Create mapped network drive S:\SEAdmin
- Verify Solid Edge version xx Update xx is installed
- Create C:\SECache directory
- Point to Options.xml file from within SE on the previously mapped S: drive
- Change the location of the Cache folder under Tools>Options>File Locations
- Select “Always synchronize cache to get latest version” under Tools>Options>Manage in both SE and IC
- Set Internet Security options to Medium or Medium-Low
- Set Home Page to http://server_name or set a link
- Goto Tools>Internet Options and select “Delete cookies” and “Delete Files” including offline content.

Testing

- Add to Library via Insight Connect
- Save directly to Library from Solid Edge
- Webpart Viewer
- Searching using the “Solid Edge Search” tool and selecting “Searchscope” as the folder to “Look In”
- Uploading non SE data (Excel, Word, IGES, etc.)
- Opening and deleting
- All Tests Complete and Working

Server Checklist Example

Detail Insight Implementation Checklist

Server Checklist

Installation

- Windows Server 2003 Installed**
- ASP.net Installed**
- Install SMTP and POP if req'd**
- Install Critical Updates**
- Install SQL Server**
- Install SQL Service Pack 3**
- Install WSS**
- Select Server Farm*
- Configure Virtual Server*
- Identify Owner*
- Configure virtual Server Email Settings*
- Turn On Event Handlers*
- Adjust Maximum File Upload Size*
- Install Insight Server**

Sites and Libraries

- Create Top Site**
- Create Webpart Library**
- Create Webpart Page**
- Add path to Webpart page to Script file**
- All subsites created**
- Basic permissions and site groups**
- Mandatory Properties on Solid Edge Libraries**

Administration

- Create Share Drive for map files and options.xml file.**
- Create and set up options.xml**
- Locate all text files to this location**
- Complete the Searchscope.txt file**