Proprietary and restricted rights notice; Trademarks

Proprietary and restricted rights notice

This software and related documentation are proprietary to Siemens Product Lifecycle Management Software Inc.

© 2013 Siemens Product Lifecycle Management Software Inc.

Trademarks

Siemens and the Siemens logo are registered trademarks of Siemens AG. Solid Edge is a trademark or registered trademark of Siemens Product Lifecycle Management Software Inc. or its subsidiaries in the United States and in other countries. All other trademarks, registered trademarks, or service marks belong to their respective holders.
Contents

Proprietary and restricted rights notice; Trademarks ............... 2
Preface ........................................................................... 7
Solid Edge Embedded Client system requirements .................. 1-1
    Hardware .................................................................... 1-1
    Operating System ......................................................... 1-2
    Software ..................................................................... 1-2
    Licensing .................................................................... 1-4
Installing Solid Edge Teamcenter Administrator ....................... 2-1
    Preparing for Solid Edge Teamcenter Administrator installation . 2-1
    Solid Edge Teamcenter Administrator with Teamcenter Express ........................................................................ 2-2
    Solid Edge Teamcenter Administrator with Teamcenter ............................................................................. 2-2
    Solid Edge Teamcenter Administrator installation .................................................................................. 2-4
    Installing Solid Edge Teamcenter Administrator from a Solid Edge update ............................................. 2-5
    Silent installation of Solid Edge Teamcenter Administrator ...................................................................... 2-5
    Uninstalling Solid Edge Teamcenter Administrator ............................................................................. 2-6
Installing Solid Edge Teamcenter Client ..................................... 3-1
    Preparing for Solid Edge Teamcenter Client installation ........................................................................ 3-1
    Solid Edge Teamcenter Client installation ...................................................................................... 3-3
    Silent installation of Solid Edge Teamcenter Client ............................................................................. 3-4
    Verifying your installation of Solid Edge Teamcenter Client ..................................................................... 3-4
    Uninstalling Solid Edge Teamcenter Client ...................................................................................... 3-5
Configuring the Solid Edge Embedded Client environment .......... 4-1
    Defining Teamcenter databases for use with Solid Edge Teamcenter Client ............................................. 4-1
    Solid Edge Embedded Client 2-Tier and 4-Tier configurations ..................................................................... 4-2
    Providing a private cache for each user ................................................................................................. 4-4
    Sizing 4-Tier Teamcenter deployment .................................................................................................. 4-5
    Enabling image file generation ............................................................................................................ 4-7
    Defining site-level separator options .................................................................................................. 4-9
    Limit the list of available Item Types .................................................................................................... 4-10
    Using display names ............................................................................................................................. 4-10
    Using multifield keys in the Teamcenter managed environment .................................................................. 4-12
    Teamcenter Preferences ....................................................................................................................... 4-14
Working with managed documents ................................................. 5-1
    Understanding Teamcenter terms .................................................. 5-1
    Starting Solid Edge with Teamcenter enabled .................................................................................... 5-2
    Determining your default modeling environment .................................................................................. 5-3
    Choosing a help system ....................................................................................................................... 5-4
## Contents

Using the Structure Manager .............................................. 5-5
Managing document releases ............................................ 5-6
Revising documents ....................................................... 5-11

### Multi-CAD in the Teamcenter managed environment .............. 6-1
Multi-CAD in the Teamcenter managed environment ................. 6-1
Multi-CAD document workflow (SEEC) ................................ 6-3
Take Ownership command .................................................. 6-3
Take ownership of a foreign CAD document ............................ 6-4

### Attribute mapping ..................................................... 7-1
Attribute synchronization ................................................ 7-1
Attribute mapping syntax and examples ................................ 7-2

### Preparing unmanaged documents for Teamcenter ................. 8-1
Preparing unmanaged documents for Teamcenter ...................... 8-1
Importing non-Solid Edge documents into Teamcenter ............... 8-3
Add unmanaged documents to Teamcenter .............................. 8-4
Using automated utilities to import unmanaged Solid Edge data into Teamcenter ........................................ 8-9

### Solid Edge to Teamcenter data preparation utilities .......... 9-1
Considerations before accessing the Solid Edge to Teamcenter utilities ........................................ 9-2
Using the data preparation utilities ................................... 9-3
Perform a Solid Edge file analysis ..................................... 9-3
Analysis Report ..................................................................... 9-5
Modify Solid Edge files using data preparation programs .......... 9-9
Fix links in Solid Edge files ................................................. 9-10
Import process checklist ..................................................... 9-10

### Using Smart Codes ..................................................... 10-1
Enable Smart Codes ........................................................ 10-3
Create a List of Values (LOV) ............................................. 10-4
Edit the Smart Code configuration file ................................ 10-5
Import or export the Smart Code configuration file .................... 10-5

### Troubleshooting .......................................................... 11-1
Duplicate Item IDs .......................................................... 11-1
BOM View Revision not created or updated .............................. 11-1
Missing Property for Synchronous file ................................... 11-1
Export attribute mapping .................................................. 11-2
Troubleshooting Teamcenter .............................................. 11-2
Run SEEC diagnostics ...................................................... 11-4

### Solid Edge Technical Support ........................................ 12-1
SEEC diagnostics ............................................................ 12-1

### Solid Edge Embedded Client best practices ....................... A-1
Assembly Best Practices .................................................. A-1
Manually clear cache before redefining cache location ............... A-4
Solid Edge to Teamcenter Data Preparation dialog box reference material .......................... B-1
Analyze Files dialog box ................................................................. B-1
Analysis Template ........................................................................ B-2
Link Fix-Up dialog box .................................................................. B-6
Modify Files dialog box .................................................................. B-7

Smart Code configuration file reference material ................................. C-1
Smart Code configuration file parameters ......................................... C-1
Preface

This manual describes the installation and basic processes used to work with managed Solid Edge documents using utilities delivered on the Solid Edge software installation media, and installed with Solid Edge Teamcenter Client ST6.

Note

This document supplements the Solid Edge help installed with Solid Edge ST6.

Audience

This manual is intended for Solid Edge Embedded Client administrators who want to use Solid Edge in a Teamcenter or Teamcenter Express managed environment. An understanding of Solid Edge and Teamcenter concepts are required.

Note

If you are importing unmanaged files into a prepopulated Teamcenter database, please contact your Siemens representative for consultation.

Conventions

The following conventions represent items of specific interest to you:

Tip

Indicates information that helps you apply the techniques and procedures described in the text.

Note

Identifies general instructions or comments that need to be emphasized.

Caution

Identifies practices that can either produce results contrary to what you expect or result in damage to software or data.

Warning

Identifies practices that could result in permanent loss of data or software.

Teamcenter documentation

Teamcenter documentation is provided outside the context of this document as help and as printable manuals:

- You can access help from the menu bar of a Teamcenter rich client application or by clicking one of the links under the Help icon in the Teamcenter thin client user interface.
• You can access the printable manuals from the Teamcenter Documentation CD-ROM. To view the PDF-formatted manuals, use Adobe Acrobat Reader.

**Submitting comments**

Please feel free to give us your opinion of the usability of this manual, to suggest specific improvements, and to report errors. Mail your comments to:

Solid Edge Learning Media Development  
675 Discovery Drive, Suite 100  
Huntsville, Alabama 35806

To submit your comments online, you can also use the Siemens GTAC online support tools at [http://support.ugs.com](http://support.ugs.com).
Chapter

1 Solid Edge Embedded Client

system requirements

Solid Edge Embedded Client provides seamless connectivity between Solid Edge, the revolutionary computer-aided design (CAD) system, and Teamcenter. Solid Edge ST6 commands and supporting tools interact with the Teamcenter data structure to manage your documents so you do not have to.

Solid Edge Embedded Client takes full advantage of Teamcenter's Service Oriented Architecture (SOA). Service Oriented Architecture relies on a set of web services that run in the Teamcenter four-tier environment. The four-tier architecture combines the resource tier, enterprise tier, and web tier with a client tier.

Solid Edge Embedded Client can also be configured to be used with a Teamcenter 2–Tier deployment where Teamcenter executes on the user’s workstation with the client application.

Additionally, Solid Edge uses File Management Services (FMS) to exchange documents with Teamcenter.

Hardware

The hardware running Solid Edge and the Solid Edge Embedded Client must meet the minimum requirements for Solid Edge and Teamcenter as stated in their respective documentation.

Hardware recommendations for Solid Edge are available both in the Readme.htm file delivered with the product and on the web at http://www.plm.automation.siemens.com/. In the web page, click Explore Solutions by Product Line. Then select Velocity Series → Solid Edge. In the Solid Edge page, click What is Solid Edge. In the Related Links column, click Solid Edge System Requirements.

The recommended hardware configuration for systems importing large amounts of unmanaged data into Teamcenter is:

- 64–bit (x64) processor
- Windows 7 Professional with latest service pack
- 4 GB RAM (Minimum)
- True Color (32–bit) or 16 million colors (24–bit)
- Screen resolution set to 1280 x 1024 or higher
Chapter 1  

Solid Edge Embedded Client system requirements

- 3+ GB disk space (required for installation)
  Unmanaged data being imported into Teamcenter is copied to the local drive (SEEC cache). The amount of free disk space on your disk must be greater than the size of unmanaged data being imported into Teamcenter.

  **Note**
  Refer to the Considerations before accessing the Solid Edge to Teamcenter utilities portion of this document for additional information.

The minimum hardware configuration for running Solid Edge Embedded Client is:

- 32–bit (x86) or 64–bit (x64) processor
- 2GB RAM
- Windows 7 Professional with Service Pack 1
- 65K colors
- Screen resolution 1280 x 1024 or higher
- 3+ GB disk space (required for installation)
  Unmanaged data being imported into Teamcenter is copied to the local drive (SEEC cache). The amount of free disk space on your disk must be greater than the size of unmanaged data being imported into Teamcenter.

  **Note**
  Be sure to consult the individual Solid Edge and Solid Edge Embedded Client readme files for additional information.

**Operating System**

Supported operating systems and other information is available both in the Solid Edge Readme.htm file delivered with the product and on the web at http://www.plm.automation.siemens.com/. In the web page, click Explore Solutions by Product Line. Then select Velocity Series→Solid Edge. In the Solid Edge page, click What is Solid Edge. In the Related Links column, click Solid Edge System Requirements.

Information specific to Solid Edge Embedded Client is available from the SEEC_Readme.htm file delivered with the product.

  **Note**
  Be sure to consult the individual readme files for the latest information available.

**Software**

Software recommendations for Solid Edge and Solid Edge Embedded Client are available both in their respective readme files delivered with the products and on

**Caution**

Consult the SEEC_readme file for specific software compatibility information as well as maintenance pack and patch information.

The following software is required:

- Solid Edge ST6
- Solid Edge Teamcenter Client ST6

**Note**

If Solid Edge is installed as 64-bit, then Solid Edge Teamcenter Client must also be installed as 64-bit.

- Solid Edge Teamcenter Administrator - 32-bit
  Only installed on the Teamcenter corporate server.

Supported releases of Teamcenter are:

- Teamcenter 10.1
- Teamcenter 9.1.2.x
- Teamcenter Rapid Start 10.1
  Teamcenter Rapid Start replaces Teamcenter Express starting with release 10.1.
- Teamcenter Express 9.1
  Teamcenter 9.1 is available as a native 64-bit application.

**Caution**

Solid Edge ST6 is not supported with:

- Teamcenter 9.0
- Teamcenter 8.x
- Teamcenter 2007.2
- Teamcenter 2007.1
- Teamcenter Engineering
- All Teamcenter Express versions based on any of the above.
Chapter 1  

**Solid Edge Embedded Client system requirements**

## Licensing

When you purchase Solid Edge or Solid Edge Premium with Solid Edge Embedded Client, you receive the license file `SELicense.dat` customized for your installation. You will not be able to run the Solid Edge Embedded Client application without it.

The license for running Solid Edge Embedded Client as an integration of Solid Edge and Teamcenter includes the entry:

```
FEATURE seembeddedclient
```

The prerequisite for using Solid Edge in a Teamcenter managed environment is a Teamcenter Author license. Additional configurations may include:

<table>
<thead>
<tr>
<th>Solid Edge License Type</th>
<th>Support for Solid Edge Embedded Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium</td>
<td>License can be purchased for Solid Edge Embedded Client support</td>
</tr>
<tr>
<td>Classic</td>
<td>License can be purchased for Solid Edge Embedded Client support</td>
</tr>
<tr>
<td>Foundation</td>
<td>License can be purchased for Solid Edge Embedded Client support</td>
</tr>
<tr>
<td>Design and Draft</td>
<td>License can be purchased for Solid Edge Embedded Client support</td>
</tr>
<tr>
<td>Solid Edge 2D Drafting (with maintenance)</td>
<td>Includes support for Solid Edge Embedded Client</td>
</tr>
<tr>
<td>Solid Edge Free 2D Drafting</td>
<td>No support for Solid Edge Embedded Client</td>
</tr>
</tbody>
</table>

Licensing information for Solid Edge can be found in the *Solid Edge Installation and Licensing Guide*.

### Note

For assistance with licensing, please contact your Siemens PLM Software Solution Partner.
Chapter

2 Installing Solid Edge Teamcenter Administrator

Solid Edge Teamcenter Administrator is required on the Teamcenter server. The Solid Edge Teamcenter Administrator installation delivers prerequisite files to the Teamcenter application directory and to the Teamcenter data directory, and can optionally configure the database. You must have write access to the Teamcenter Data directory (TC_DATA) in order to install Solid Edge Teamcenter Administrator.

Note
You only need to install Solid Edge Teamcenter Administrator on the corporate server where Teamcenter is installed.

Only one instance of Solid Edge Teamcenter Administrator is required per installation site where Teamcenter is used.

Preparing for Solid Edge Teamcenter Administrator installation

In preparation for the installation of Solid Edge Teamcenter Administrator, you should:

- Back up your Teamcenter data directory (%TC_DATA%).
- Validate the installation in a test environment before installing in your production environment.
- Perform a complete backup of your Teamcenter database and Teamcenter volumes.
- Close all Teamcenter applications (for example, rich client).
- Confirm your installation and configuration of FMS and Teamcenter 4-tier infrastructure.
- Remove any previous version of Solid Edge Embedded Client Administrator or Solid Edge Teamcenter Administrator.
- Export Teamcenter Preferences before running Solid Edge Teamcenter Administrator. Afterward, validate multi-line Teamcenter preference values.
Solid Edge Teamcenter Administrator with Teamcenter Express

Once the Teamcenter Express installation is complete, there is a requirement to install the Solid Edge Teamcenter Administrator before you attempt to use Solid Edge. The Solid Edge Teamcenter Administrator installation uses the Teamcenter rich client installation and delivers prerequisite files to the Teamcenter data directory.

You must have write access to the Teamcenter Data directory (TC_DATA) to install the Administrator. Installation should be performed on the server where Teamcenter is installed.

Follow the recommendations in Preparing for Solid Edge Teamcenter Administrator Installation, and then the steps for installation later in this section.

Solid Edge Embedded Client Overlay Template

The SEEC Overlay Template contains the Solid Edge Embedded Client schema.

If you build custom templates with a dependency on the SEEC Overlay templates, you will need to be aware of this requirement to update the existing template.

Solid Edge Teamcenter Administrator with Teamcenter

The installation of Solid Edge Teamcenter Administrator is required for Teamcenter. The Solid Edge Teamcenter Administrator installation includes the Solid Edge Embedded Client Overlay Template. This template is used by the Teamcenter Environment Manager (TEM) and is required for upgrades to Teamcenter or new installations of Teamcenter. Solid Edge Teamcenter Administrator should be installed on the Teamcenter server.

The Solid Edge Teamcenter Administrator installation uses the Teamcenter rich client installation and delivers prerequisite files to the Teamcenter data directory.

You must have write access to the Teamcenter Data directory (TC_DATA) to install the Administrator. For this reason, it is recommended that this installation be performed on the server where Teamcenter is installed.

The Solid Edge Embedded Client Overlay Template

The Solid Edge Embedded Client Overlay Template is used for both Teamcenter upgrades and new Teamcenter installations. The SEEC Overlay Template contains the Solid Edge Embedded Client schema. BMIDE is not required to install the SEEC Overlay Template. You should review the Teamcenter documentation when upgrading an existing Teamcenter installation. This is critical to a successful upgrade.

1. On the Select Features dialog box, click Browse and select feature_seec.xml from the \SEECoverlay template\Teamcenter <MP> folder, where Teamcenter <MP> represents the Teamcenter Maintenance Pack.

2. On the Select Features dialog box, look for the feature Solid Edge Embedded Client Overlay under Teamcenter Corporate Server.
Caution
Do not browse for the SEEC Overlay Template in the Business Modeler IDE Templates dialog box.

3. In the Database Template Summary dialog box, you should see the Template named Solid Edge Embedded Client Overlay, and Template file seec_template.xml.

If the Solid Edge Overlay Template was previously applied to your Teamcenter installation, your Teamcenter upgrade plan should consider impacts to your Solid Edge Overlay Template. See Teamcenter documentation for additional details.

Updating the Solid Edge Embedded Client Overlay Template

When the Solid Edge Embedded Client Overlay Template needs to be updated, you should:

• Use Solid Edge Teamcenter Administrator as the delivery mechanism for an updated Solid Edge Embedded Client Overlay Template.

• Follow Teamcenter documented procedures for updating a template. This must include a full backup of Teamcenter.

Note
This procedure does not capture every possible Teamcenter deployment scenario.

• Start Teamcenter Environment Manager (TEM).

• Perform maintenance on an existing configuration.

• Update the database by choosing Full Model – System downtime required.
  1. Select Solid Edge Embedded Client Overlay (seec).
  2. Browse and select feature_seec.xml.
     The row associated with the template name Solid Edge Embedded Client Overlay should update to indicate a template refresh.
  3. Select the Apply check box for Solid Edge Embedded Client Overlay.
  4. Confirm your selections. You should see the Solid Edge Embedded Client Overlay (seec) in the list.
  5. Click Next to install.
  6. Restart your 4-tier configuration.

• Remove any previous versions of Solid Edge Embedded Client Administrator.

• Start the rich client, Structure Manager, and Insert column(s). SE Assembly reports should be in the list.
Chapter 2  Installing Solid Edge Teamcenter Administrator

Note
See the section Silent Installation of Solid Edge Teamcenter Administrator for silent installation instructions.

Solid Edge Teamcenter Administrator installation

1. Insert the application DVD Disk 3 in the DVD-ROM drive. If autorun is enabled, setup begins.
   - Click Solid Edge Teamcenter Administrator.
   
   Note
   If autorun does not start, double-click autorun.exe on the Solid Edge DVD.

2. The Solid Edge Teamcenter Administrator - InstallShield Wizard is displayed. The wizard assists you in the installation of the Teamcenter Administrator software.
   - Click Next.

3. Read and accept the terms of the license agreement.
   - Click Next.

4. On the Customer Information page, enter the information for your organization, and click Next.

5. On the Custom Setup page, select the program features you want installed.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEEC Administrator Program Files</td>
<td>Installs the program files, copies the Solid Edge Embedded Client policy files, and Teamcenter Preferences.</td>
</tr>
<tr>
<td>Deliver Policy files to TC_DATA</td>
<td>Teamcenter policy files are installed to your Teamcenter data folder (TC_DATA).</td>
</tr>
<tr>
<td>Import Preferences and Queries</td>
<td>Teamcenter preferences are imported and the installation looks for Solid Edge Embedded Client.</td>
</tr>
</tbody>
</table>

- If you are performing a new Teamcenter installation, install all features.
- Click Next.
6. Select your Teamcenter data folder (TC_DATA) location and enter a Teamcenter database administrator Login ID and password.

   If you are installing Teamcenter Express, specify the location for the folder containing the Teamcenter data set (TC_DATA).

   If you are installing Teamcenter, you must use the Universal Naming Convention (UNC) to specify the location of TC_DATA.

   □ Enter the Teamcenter database administrator Login ID and Password used to configure the database.

   □ Click Next.

   Note

   Solid Edge templates are now delivered with Solid Edge to the \Solid Edge ST6\Template folder. They can be imported into the managed environment using the Import Solid Edge templates program. For more information, see Import Solid Edge Templates into SEEC in Solid Edge Help.

7. Click Install, and then click Finish.

   Note

   Your selections are remembered and presented as defaults the next time you install Solid Edge Teamcenter Administrator.

Installing Solid Edge Teamcenter Administrator from a Solid Edge update

If you are installing Solid Edge Teamcenter Administrator from a Solid Edge update downloaded from GTAC:

1. Run SEEC_AdministratorV106.zip.

2. In the Remove Installation files dialog box, choose to save the file once setup completes.

   □ Specify a folder to save the files to.

   The SEEC Overlay Template is contained in the kit.

3. Continue the installation following the steps in the Solid Edge Teamcenter Administrator installation portion of this document.

Silent installation of Solid Edge Teamcenter Administrator

The following example contains information for silently installing Solid Edge Teamcenter Administrator.
Chapter 2  Installing Solid Edge Teamcenter Administrator

Note

All arguments containing spaces should be enclosed in double quotation marks.

C:\>msiexec /i"<DVD>\Solid Edge Teamcenter Administrator\Teamcenter Administrator.msi"
INSTALLDIR="C:\SiemensPLM\2005SR1"
TCROOTDIR="C:\SiemensPLM\2005SR1"
TCDATADIR="C:\SiemensPLM\tcdata"
DBUSERNAME="infodba"
DBPASSWORD="infodba"
ADDLOCAL=ALL /qn+ /l*v c:\Teamcenter_Administrator.log

<table>
<thead>
<tr>
<th>&lt;DVD&gt;</th>
<th>Drive letter of your DVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Computer Name&gt;</td>
<td>Name of the computer sharing Teamcenter data (TC_DATA)</td>
</tr>
<tr>
<td>INSTALLDIR</td>
<td>Installation location for Teamcenter Administrator (TC_ROOT). The path should be enclosed by quotes.</td>
</tr>
<tr>
<td>TCROOTDIR</td>
<td>Teamcenter application folder (TC_ROOT) in 8.3 file format enclosed in quotes.</td>
</tr>
<tr>
<td>TCDATADIR</td>
<td>Teamcenter data folder (TC_DATA) in 8.3 file format enclosed in quotes.</td>
</tr>
<tr>
<td>TCTEMPLATEFOLDER</td>
<td>Solid Edge template folder in 8.3 file format enclosed in quotes</td>
</tr>
<tr>
<td>DBUSERNAME</td>
<td>Defines the user name for Teamcenter. The default is infodba.</td>
</tr>
<tr>
<td>DBPASSWORD</td>
<td>Defines the password for Teamcenter database. The default is infodba.</td>
</tr>
<tr>
<td>ADDLOCAL</td>
<td>Defines</td>
</tr>
<tr>
<td></td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>ProgramFiles</td>
</tr>
<tr>
<td></td>
<td>ConfigureDB</td>
</tr>
<tr>
<td></td>
<td>ImportTemplates</td>
</tr>
</tbody>
</table>

For additional information on options for the msiexec command, at a command prompt, type: C:>msiexec /h.

Uninstalling Solid Edge Teamcenter Administrator

Select the Uninstall a Program option from your operating system’s Control Panel to remove the application.

Select Solid Edge Teamcenter Administrator, then click Remove.

Note

When you uninstall the Solid Edge Teamcenter Administrator, no files supporting the data model are removed.
Chapter

3 Installing Solid Edge Teamcenter Client

The Solid Edge Teamcenter Client (also known as Solid Edge Embedded Client) provides seamless connectivity between Solid Edge, the revolutionary computer-aided design (CAD) system, and Teamcenter. Solid Edge ST6 commands and supporting tools interact with the Teamcenter data structure to manage your documents so you do not have to.

Note

Solid Edge and Solid Edge Teamcenter Client bit structure must match. If Solid Edge is installed as 64-bit, then Solid Edge Teamcenter Client must also be installed as 64-bit.

Preparing for Solid Edge Teamcenter Client installation

Review the information in this chapter before installing Solid Edge Teamcenter Client.

Prerequisites

The prerequisites for installing Solid Edge Teamcenter Client as an integration of Teamcenter or Teamcenter Express and Solid Edge include:

☐ Teamcenter or Teamcenter Express is installed and configured.

☐ The Teamcenter rich client, 2-tier or 4-tier, is installed on your computer.

☐ Solid Edge ST6 (32-bit or 64-bit) is installed on your computer.

Caution

Solid Edge ST6 delivers a set of Solid Edge templates. The list of available templates is shown in the Create portion of the Solid Edge startup screen. Your templates can be loaded into Teamcenter so the templates presented in the Create portion of the Solid Edge startup screen are available as managed templates. Use the Import Solid Edge templates program by choosing Start→Programs→Solid Edge ST6→SEEC→Import Solid Edge Templates, once installation is complete.
Chapter 3  Installing Solid Edge Teamcenter Client

☐ Solid Edge Teamcenter Administrator is installed on the server.

☐ You are logged in to an account belonging to the Windows Administrator group.

Installation instructions for Teamcenter and Teamcenter Express can be found on the GTAC Support web site at http://support.industrysoftware.automation.siemens.com/html/documentation.shtml. A WebKey is required to access the web site.

Installation checklist

Solid Edge Embedded Client supports a single installation of Solid Edge on the client workstation. Review this checklist before installing the Solid Edge Teamcenter Client.

☐ If you have an existing installation of Solid Edge Embedded Client, documents have been checked in and the cache has been reset.

☐ All Solid Edge and Teamcenter sessions are closed.

☐ Previous versions of Solid Edge Embedded Client are removed before beginning the update of the installation.

☐ Solid Edge ST6 32-bit or 64-bit is installed and configured.

☐ Teamcenter Express or Teamcenter is installed and configured.

☐ A Teamcenter rich client is installed to support the activities of an Author. The rich client installation delivers and configures the Teamcenter FMS client.

☐ You know your Teamcenter database URL (example: http://myteamcenter.siemens.com:8080/tc).

Solid Edge Teamcenter Client implements Teamcenter’s SOA framework and setup requires a Teamcenter URL that is used by SEEC to determine the specific Teamcenter 4-tier infrastructure to connect to and communicate with.

☐ You are prepared to provide a Teamcenter Database Description that will be displayed on the Login dialog box (example: Production Database).

☐ If you are using Solid Edge Standard Parts with this database, you are prepared to provide the Standard Parts configuration file (example: \myteamcenter\Siemens PLM\Solid Edge Standard Parts\SMAPINIfile.sac).

Note

Solid Edge Standard Parts installations must be maintained and managed with one and only one Teamcenter database.

☐ For Teamcenter Express users, you have validated your server configuration using your Teamcenter web client. You can test your Teamcenter database URL by typing http://myteamcenter.siemens.com:8080/tc/webclient where you substitute your server name for myteamcenter.siemens.com.
Solid Edge Teamcenter Client installation

The Solid Edge Teamcenter Client must be installed on each workstation requiring access to Teamcenter-managed Solid Edge data. The following steps provide instructions for installing Solid Edge Teamcenter Client.

1. Stop all Solid Edge and Teamcenter sessions.

2. Remove any existing Solid Edge Embedded Client installation.

3. To begin a new installation, insert the Solid Edge DVD into the DVD-ROM drive. If autorun is enabled, setup begins.

   **Note**
   
   If autorun does not start, double-click autorun.exe located on the Solid Edge DVD.

   □ Click Solid Edge Teamcenter Client.

4. The Solid Edge Teamcenter Client - InstallShield Wizard is displayed.
   This wizard assists in the installation of the software.
   □ On the Welcome page, click Next.

5. Read the License Agreement page, click I accept the terms in the license agreement, and click Next.

6. On the Customer Information page, enter the information for your organization, and click Next.

7. Select your installation of Teamcenter.
   □ Select Teamcenter Express if your organization uses Teamcenter Express or Teamcenter Rapid Start.
   □ Select Teamcenter if your organization uses any of the supported Teamcenter platforms.

8. Enter the Teamcenter database information.
   □ Specify the location of the Teamcenter database.

   **Note**
   
   The Teamcenter Database URL is required for connecting to the Teamcenter 4–tier infrastructure.

   □ Enter a description for the database.
   
   The Teamcenter Database Description will be displayed at login.

   □ If you use Standard Parts, specify the location of the Standard Parts SAC file.

9. Click Next, and then click Install.
Once the Solid Edge Teamcenter Client is successfully loaded, you are ready to use Teamcenter to manage your Solid Edge documents in a 4–tier implementation. If a 2–tier configuration is required, refer to the Configuring Solid Edge Embedded Client for a 2–Tier Deployment section of this document.

**Silent installation of Solid Edge Teamcenter Client**

The following example contains information for silently installing the Solid Edge Teamcenter Client.

**Note**

All arguments containing spaces should be enclosed in double quotation marks.

C:\>msiexec /i"<DVD>\Solid Edge Teamcenter Client\Solid Edge Teamcenter Client ST6.msi" INSTALLDIR="C:\Program Files\Solid Edge ST6" ALLUSERS=1 TEAMCENTERTYPE="TCX" TCDBURL="http://myteamcenter.solidedge.com:8080/tc" TCDBDESC="Production" SPSACFILE="\myteamcenter\SiemensPLM\Solid Edge Standard Parts\SMAPIN1File.sac" TCDBDEFAULT=1 /qn+ /1*v c:\Teamcenter_Client.log

<table>
<thead>
<tr>
<th>&lt;DVD&gt;</th>
<th>Drive letter of your DVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Computer Name&gt;</td>
<td>Name of the computer sharing Teamcenter data (TC_DATA)</td>
</tr>
<tr>
<td>INSTALLDIR</td>
<td>Installation location for Teamcenter Client (the Solid Edge ST6 installation folder). The path should be enclosed by quotes.</td>
</tr>
<tr>
<td>ALLUSERS</td>
<td>Defines the users that can execute the installed application. 1 = All Users.</td>
</tr>
<tr>
<td>TEAMCENTERTYPE</td>
<td>TCX or TCE enclosed in quotes</td>
</tr>
<tr>
<td>TCDBURL</td>
<td>Teamcenter Database URL. The path should be enclosed by quotes. Required</td>
</tr>
<tr>
<td>TCDBDESC</td>
<td>Teamcenter Database Description enclosed in quotes. Required</td>
</tr>
<tr>
<td>SPSACFILE</td>
<td>If Solid Edge Standard Parts were configured for use with Teamcenter, enter the SAC file configured for this Teamcenter Database. Optional</td>
</tr>
<tr>
<td>TCDBDEFAULT</td>
<td>Default Teamcenter Database; 0=FALSE or 1=TRUE. Optional</td>
</tr>
</tbody>
</table>

For additional information on options for the msiexec command, at a command prompt, type: C:>msiexec.

**Verifying your installation of Solid Edge Teamcenter Client**

The installation of Solid Edge Teamcenter Client enables Teamcenter mode. You can verify this by starting Solid Edge and looking at the application title.

2. Notice the window title bar indicates Solid Edge ST6 – Teamcenter.
   The Solid Edge Teamcenter Client is enabled and you are working in a managed environment.
   If your window title bar indicates Solid Edge ST6, you are working in an unmanaged environment.

   **Tip**
   You can enable the Teamcenter client by choosing the Application button→Manage→Teamcenter.

3. In the Application menu, click Open and log in to Teamcenter.
   With a successful login, the Open dialog box is displayed showing the contents of your Teamcenter Home folder.

**Uninstalling Solid Edge Teamcenter Client**

Select the Uninstall a Program option from your operating system’s Control Panel to remove the application.

Select Solid Edge Teamcenter Client ST6, then click Remove.
Chapter

4 Configuring the Solid Edge Embedded Client environment

After loading the Solid Edge Teamcenter Client, there are several options for configuring the environment, including:

- Defining additional Teamcenter databases for use.
- Configuring a 2-tier architecture.
- Providing a private cache for each user.
- Enabling image file generation.
- Defining site-level separator options.
- Setting item types for each Solid Edge dataset type.
- Configuring Teamcenter Preferences.

Defining Teamcenter databases for use with Solid Edge Teamcenter Client

The Define Teamcenter Databases application is automatically run during Solid Edge Teamcenter Client setup creating a list of available databases and servers for all users of the workstation.

Once your initial installation of Solid Edge Teamcenter Client is complete, you can use the application to maintain an accurate list of Teamcenter databases by adding, modifying, or deleting entries.

The following steps describe the workflow for using Define Teamcenter Databases:

1. Choose Start→Programs→Solid Edge ST6→SEEC→Define Teamcenter Databases.

2. In the Define Teamcenter Databases dialog box, click the Teamcenter Database URL box and type the URL of a Teamcenter database. (Example: http://myteamcenter.siemens.com:7001/tc)

   Note

   The number 7001 in the example defines the port.
3. Type a database description to identify the database you are adding. (Example: Production)
   
The description you provide is visible on the Login to Teamcenter dialog box and the URL displays as the associated tooltip.
   
   **Tip**

   At least one Teamcenter database and corresponding database description must be defined.

4. If the configuration will use a two-tier connection to the database, select the 2-Tier check box.

   For detailed information on 2-Tier and 4-Tier configuration, refer to the *Solid Edge Embedded Client 2-Tier and 4-tier configurations* portion of this document.

   **Note**

   You are limited to one 2-tier definition, but you can have an infinite number of 4-tier definitions.

5. (Optional) Define a Standard Parts SAC file location using the URL.

6. If the database will be used as the default database, select the Default Database check box.

7. Click Add to add the URL to the list of Teamcenter Database URLs.

8. If you selected the 2-Tier check box, provide the Teamcenter application and data folder location information on the Define Teamcenter 2-Tier Server dialog box and click OK.

9. (Optional) Use Move Up or Move Down to rearrange the order of display of the registered database in the Current Teamcenter Database Selection list.

   The order of the registered databases is visible on the Login to Teamcenter dialog box in the Database list box.

---

### Solid Edge Embedded Client 2-Tier and 4-Tier configurations

Solid Edge Teamcenter Client implements Teamcenter's Service-Oriented Architecture (SOA) and File Management System (FMS). This implementation can be used with Teamcenter's 4-Tier deployment, or it can be configured to be used with a Teamcenter 2-Tier deployment.

**Note**

Setup delivers Solid Edge Teamcenter Client as a 4-tier configuration.

The Solid Edge Teamcenter Client setup requires you to enter a 4-tier Teamcenter database definition. In a 4-Tier deployment, only the client application executes on the user's workstation; the Enterprise tier, database, volume, and other resource tier components are executed on the server providing improved performance for customers working in a high-latency WAN environment. Then Solid Edge
Teamcenter Client only requires Teamcenter FMS, which is installed on the workstation by a 2-tier or a 4-tier Teamcenter rich client installation.

If a high-latency WAN is not a factor, but rather a larger number of users, you should use a 2-tier configuration. In a 2-tier configuration, Teamcenter executes on the user's workstation with the client application, and provides separation between Solid Edge, the Teamcenter Client and the Teamcenter server processes. This provides the maximum in available memory for the Teamcenter Client application. This configuration adds scalability because each client workstation is responsible for the Teamcenter server process and this process communicates with the Resource tier.

Note
A single Teamcenter environment can support both a 4-tier and 2-tier configuration.

If a Solid Edge Teamcenter Client 2-tier deployment is required, the client should be configured after setup completes using the Define Teamcenter Databases application.

Prerequisites for 2-Tier configuration

In preparation for configuring a 2-tier environment:

- Install a Teamcenter 2-tier rich client. This installation delivers the required Teamcenter application support for a SEEC 2-tier deployment and it delivers and configures FMS.

- Apply all Teamcenter patches to the workstation to meet the minimum Teamcenter application requirements.

  As future patches are applied to the server, they must be deployed to all 2-tier Teamcenter clients.

- Verify your rich client installation: My Navigator, FMS, and Portal Visualization.

  Note
  You cannot deliver a Teamcenter 4-tier rich client client for a SEEC 2-tier deployment.

Configuring Solid Edge Embedded Client as a 2-tier client

Complete the steps outlined in Installing Solid Edge Teamcenter Client and then:

1. Add a 2-tier connection using the Define Teamcenter Database application.
   - Select Start→All Programs→Solid Edge ST6→SEEC→Define Teamcenter Databases.

2. Select the 2-Tier check box under Teamcenter Database URL and enter a database description.
   - Click Add.

   The Define Teamcenter 2-Tier Server dialog box is displayed.
Chapter 4  Configuring the Solid Edge Embedded Client environment

3. Enter the location of your Teamcenter 2-tier rich client Application folder (TC_ROOT).

   □ Enter the location of your Teamcenter data folder (TC_DATA).

   □ Click OK.

   A new row is added to the table.

   Note
   You are limited to one 2-tier database definition.

   □ Click OK to save the changes.

When you are prompted to log on to Teamcenter, select the 2-tier connection from the database list box.

   Note
   Solid Edge Embedded Client can run as either a 4-tier or 2-tier client. However, the cache is on the selected Teamcenter database URL. Therefore, a 4-tier connection does not use the same physical cache as a 2-tier connection for the same Teamcenter database and user id.

Providing a private cache for each user

When working with Solid Edge Embedded Client, each user should have access to an assigned computer and individual cache.

   Caution
   The location of the cache should be on the physical disk of the local machine. This is a personal cache and must not be shared by multiple users.

However, when this is not possible, you can use shared computers which have individually assigned cache configurations. In this instance, you should set up private caches for each user in a network location that can be accessed from any work location.

The following steps describe the procedure for implementing a remote-mounted cache configuration:

1. Log on to the operating system of the computer.

2. Create a mapped network drive utilizing the method recommended by your specific operating system.

3. Start Solid Edge with Teamcenter enabled.

4. Create a new part file and login to Teamcenter when prompted.
Configuring the Solid Edge Embedded Client environment

Tip
If Teamcenter is not enabled, ensure that Teamcenter is installed and licensed, and that Teamcenter mode is checked on the Solid Edge Applications menu.

5. From the Application menu, choose Solid Edge Options and then click the File Locations tab on the Options dialog box.

6. Select SEEC Cache and click Modify.

7. Browse to the mapped drive and select the cache root folder. If this is the first time, this will result in the creation of an SEEC sub-folder.

8. Click OK to exit each dialog box.

Follow the process for each system to create the same mapped drive and set the SEEC cache using the File Locations tab.

Tip
If the mapped drive changes, you will need to reconfigure the mapped drive on each computer that uses the remote-mounted cache configuration.

Sizing 4–Tier Teamcenter deployment

While using Solid Edge Embedded Client as a 4-tier application, you must configure the Teamcenter middle tier with enough Teamcenter Business Logic Server processes to handle the incoming requests. You cannot arbitrarily set these numbers, as this will adversely impact reliability and performance. If the specified numbers are set too low, you will see reliability issues with Solid Edge operations that interact with Teamcenter, such Open and Save. If the numbers are set too high, then performance is impacted. The following information is provided to help educate and guide you in configuring your server processes.

Teamcenter

In Teamcenter, the Server Manager configuration is managed in the %TC_ROOT%\pool_manager\serverPool*.properties file. The file entries in which you are most interested are PROCESS_MAX, PROCESS_WARM, and PROCESS_TARGET.

- PROCESS_MAX – Specifies the maximum number of Teamcenter Business Logic Server processes allowed to run in the pool. The total number of servers will never exceed this number.

Example
PROCESS_MAX=30

In this example, the total number of servers will never exceed 30.
Caution

The value for PROCESS_MAX should always be larger than the value for PROCESS_TARGET and PROCESS_WARM.

- PROCESS_WARM – Specifies the minimum number of Business Logic Server processes in the pool that are started, but not logged into. The server manager always tries to maintain this minimum number of servers ready (warm). The Server Manager may time out servers in use, in order to ensure that there are at least the required number of minimum warm servers at all times.

Example

PROCESS_WARM=1

This ensures that one server is always ready (warm), in addition to those being used.

- PROCESS_TARGET – Specifies the target number of server processes to be available in this pool during specified times. Specify these values as time and integer pairs separated by commas.

Example

PROCESS_TARGET=0700 3, 1700 2

This value sets the target number of server processes as 3 between 7:00 a.m. and 5:00 p.m. and as 2 between 5:00 p.m. and 7:00 a.m.

If the number of server processes is below the specified target, then warm servers are added to reach this number. In this case, the number of warm servers exceeds the minimum, so none are added. If the number of server processes exceeds the specified target, only the minimum number of warm servers is maintained and servers are terminated as they time out.

If you expect 10 concurrent users, you would want to configure to keep 10 servers running and 1 ready (warm) at all times.

Example

PROCESS_WARM=1
PROCESS_TARGET=0000 11

Depending on the server load and activity, these values should be modified. However, this must be considered with respect to the amount of physical memory and the other work this server is expected to perform. You should also consider the following:

- Number of concurrent Teamcenter logins from all 4-tier enabled clients (SEEC, rich client, WebClient, etc.)

- If you are in the data migration phase of the project (AddtoTeamcenter), more servers may be needed.
Teamcenter Express

In Teamcenter Express, the Server Manager configuration can be managed via a web page, for example, http://myteamcenter.ugs.com:8080/tc/admin, where you would substitute your server in the URL.

After a successful login, the Global Configuration page is displayed. Select the Server Manager pool in the Server Manager Instances section. (State should be running.) The Pool Configuration is displayed and can be updated using Edit. The Process Target is the parameter of interest.

Note
Consult Teamcenter documentation for additional details and information regarding other parameters.

Enabling image file generation

Image files are representations of Solid Edge models that can be easily distributed on the internet as e-mail attachments, or used to enable quick rendering in the rich client application.

Part, Sheet Metal, and Draft

The Teamcenter Preference SEEC_Image_Generate_3D enables image file generation for viewing 3D model types (part, sheet metal, and weldment). Preference settings are either always on or always off. JT is the default file format for 3D data, and it is saved to the item when you save the part in Solid Edge. For more information, see Teamcenter Preferences.

Note
This does not include PMI.

2D draft files

You can generate image files when saving draft files to Teamcenter using the Save As command. You can use the Save As Image command to save 2D images in the following formats:

- None
- Enhanced Metafile (*.emf)
- JPEG (*.jpg)
- TIFF Image (*.tif)
- Windows Bitmap (*.bmp)
- DXF (*.dxf)

The Teamcenter Preferences SEEC_Image_Generate_Draft and SEEC_Image_Generate_PDF_for_Draft enable 2D draft image file generation. The image is saved in the draft dataset. The .pdf is saved into a separate dataset.
Tip

The Enhanced Metafile (*.emf) format provides the best data fidelity for viewing purposes.

Assemblies

You can generate image files when saving assembly files to Teamcenter using the Save As command. You can use the Save As Image command to save assembly images in the JPEG (*.jpg) format.

The Teamcenter Preference SEEC_Image_Generate_Assembly creates an image file using the options you define, and checks it in to Teamcenter as part of the assembly dataset reference. The options for the preference are:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SizeWidth</td>
<td>The width of the image. The default of 1024 pixels is used when /Units=1.</td>
<td>/SizeWidth=1024</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/SizeWidth=10.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/SizeWidth=4.0315</td>
</tr>
<tr>
<td>SizeHeight</td>
<td>The height of the image. The default of 768 pixels is used if the /Units=1.</td>
<td>/SizeHeight=768</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/SizeHeight=7.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>/SizeHeight=3.02362</td>
</tr>
<tr>
<td>RevisionRuleShow</td>
<td>Adds a watermark (PMI) to the image to indicate the revision rule and variant rule used to open the assembly.</td>
<td>/RevisionRuleShow=True</td>
</tr>
<tr>
<td>DisplayConfigShow</td>
<td>Adds a watermark (PMI) to the image to indicate the display configuration active at the time the image was created.</td>
<td>/DisplayConfigShow=True</td>
</tr>
<tr>
<td>Autofit</td>
<td>Fits the view before saving and uploading the file into Teamcenter. The default is false if the line is not set.</td>
<td>/Autofit=True</td>
</tr>
</tbody>
</table>

Note

The /Units option determines the unit of measure used.
**Option** | **Description** | **Value**
--- | --- | ---
ImageQuality | Specifies the quality setting applied to the .jpg files.  
1=medium image quality  
2=high image quality  
Medium image quality is the default if not specified. | /ImageQuality=1  
/ImageQuality=2

WaterMarkOrigin | Defines the corner of the watermark to use as the origin. Default is bottom left.  
1=bottom left  
2=bottom right  
**Note**  
The watermark is controlled using the RevisionRuleShow or DisplayConfigShow options. | /WaterMarkOrigin=1  
/WaterMarkOrigin=2

---

**Defining site-level separator options**

Solid Edge Embedded Client supports the definition of separator options at the Teamcenter site level. Separators are used between the Item ID and Item Revision as well as between the Item ID, Item Revision, and the Item Name in many of the common property dialog boxes you see when you work in a managed environment.

The values for Teamcenter preferences `FLColumnCatIVFSeparatorPref` and `FLColumnCatObjSeparatorPref` are read at startup. Any changes you specify are not recognized until after you start a new application session. The preferences only apply to combined information obtained from Teamcenter. The preferences are not used to modify the Document Name Formula. Some examples of where you can see the implementation of separator options is in the Identifier column on the Open File dialog box and anywhere the Dataset Name is displayed.

**Note**

If the separator options are not defined at the site level or are blank in Teamcenter, the system default of “/” and “-” are used.

**Add a site-level separator**

1. In the rich client, choose Edit→Options.
2. From the list of General items, click Item.
Chapter 4  Configuring the Solid Edge Embedded Client environment

3. On the General page, type a separator to divide the Item and ItemRevision.

<table>
<thead>
<tr>
<th>General</th>
<th>Related Object</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separator between Item and ItemRevision: /</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. From the list of General options, click Item Revision.

5. Define the separator to use between the Item/Item Revision and name and the Item/Item Revision and sequence id.

<table>
<thead>
<tr>
<th>General</th>
<th>Related Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separator between Item/Item Revision and name: -</td>
<td></td>
</tr>
<tr>
<td>Separator between Item/Item Revision and sequence id: ;</td>
<td></td>
</tr>
</tbody>
</table>

Limit the list of available Item Types

Use the following Teamcenter preferences to limit the list of available Item Types displayed on the common property dialog boxes. For each preference, provide a list of Item Types used to manage the Solid Edge Dataset type. The default is All which returns a long list.

- SEEC_ItemTypeList_SE Part
- SEEC_ItemTypeList_SE Assembly
- SEEC_ItemTypeList_SE Draft
- SEEC_ItemTypeList_SE SheetMetal
- SEEC_ItemTypeList_SE Weldment
- SEEC_ItemTypeList_SE Component
- SEEC_ItemTypeList_SE Connection
- SEEC_ItemTypeList_DirectModel
- SEEC_ItemTypeList_Image
- SEEC_ItemTypeList_MSExcel
- SEEC_ItemTypeList_MSExcelX
- SEEC_ItemTypeList_MSWord
- SEEC_ItemTypeList_MSWordX
- SEEC_ItemTypeList_PDF
- SEEC_ItemTypeList_UGMASTER
- SEEC_ItemTypeList_DisplayableName

Using display names

When Solid Edge transacts data with Teamcenter, it uses an object’s name that is unaffected by localization. This is referred to as the real name. The real name has also been used for the display of the object’s name in the user interface: for example, Color. However, with the introduction of Teamcenter 8.3, the new BMIDE templates require a unique prefix for each name. The prefix is added to all new business objects to guarantee uniqueness: for example, SE99_Color. The resulting name is often not desirable for display in the user interface.
Support for the use of a *display name* addresses this issue and brings consistency in what you see in Solid Edge when compared to Teamcenter rich client.

Consider the example:

<table>
<thead>
<tr>
<th>Real Name</th>
<th>Real Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE99_Color</td>
<td></td>
</tr>
<tr>
<td><strong>Display name (Base)</strong></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Red</td>
</tr>
<tr>
<td><strong>Display name (Localized)</strong></td>
<td></td>
</tr>
<tr>
<td>Farbe</td>
<td></td>
</tr>
</tbody>
</table>

What is transacted with Teamcenter continues to be the *real name*, however, what you see in the user interface is the *displayable (display) name*. Therefore, a value has a real name and can have multiple display names.

You can control whether you view real or display names in the Solid Edge user interface. The Teamcenter preference, *TC_display_real_prop_names*, determines which is used. The preference is delivered by Teamcenter and controlled in the rich client’s Options dialog box.

There is no change to the process an administrator uses to define the property mappings between Teamcenter and Solid Edge. Mandatory properties such as Item Type, Item ID, Revision, Dataset Name, Dataset Description, Project ID, and Folder continue to be managed by Solid Edge. Meta model and mapped attributes use the displayable name returned by Teamcenter.

An additional read-only row is displayed in common property dialog boxes that lists the displayable property name of mapped properties.

- The column headers show Solid Edge property names.
- The first row is a read-only row showing the display name.
- The second row provides a description.
- The third row displays details for range and interdependent lists of values.

Using the information presented in the common property dialog boxes, you can learn what Solid Edge property name is used and what Teamcenter property it is mapped to.

A new preference, *SEEC_Item_Type_DisplayableName* determines whether the real name or displayable name is written to Solid Edge for Item Types. By default, it is set to 0 to use the real name.

**Caution**

If you set the SEEC_Item_Type_DisplayableName preference to 1 to write the displayable Item Type name to the custom properties value, opening legacy documents in Solid Edge results in the Item Type property being out-of-date and the displayable property name is written into the custom property. This impacts the time it takes to open an assembly or draft. Additionally, if this property is used in an annotation, it is also out-of-date.

Other things to be aware of:
Chapter 4  Configuring the Solid Edge Embedded Client environment

- The column headers on common property dialog boxes and the property information on the Open dialog box remain the same for all mandatory properties. Column headers for mandatory properties are based on the localized version of Solid Edge.

- There are no changes to the column order of common property dialog boxes. Mandatory properties are followed by meta model properties, and then mapped properties which are displayed in alphabetical order.

- Add to Teamcenter supports Item Type display names as input.

- The Teamcenter rich client presents both the Property Display Name and the Property Display Value. With system administrator privileges, you can configure the rich client to display real names by changing your options in the general folder. Once the option is set, you can log on to the rich client and see real property names.

Using multifield keys in the Teamcenter managed environment

In Teamcenter, the Item ID uniquely identifies an Item. Beginning with Teamcenter 10, the property used to make an Item business object unique can be extended to include more than just the Item ID (for example, Item ID and Type). When this new Teamcenter functionality is deployed, Solid Edge is able to reuse the Item ID for instances of different Item business objects (including Item, Design, Drawing, and Document). This functionality enables you to create multiple related items using the same Item ID, for example, when you want to refer to a design and drawing using the same Item ID.

Prior to Teamcenter 10, this was not possible because both design and drawing types are children of the Item type and are both considered items. Now, using the Business Modeler IDE in Teamcenter, you can create multifield key definitions per domain or object type.

Multifield keys define what makes an object unique in the database. The default multifield key definition for Item business objects is:

Item[item_id]

The value of the item_id property is the object’s unique ID.

In the case of design and drawing, you can define the unique key for design business objects and their children as Design[item_id] and for drawing business objects and their children as Drawing[item_id]. When these definitions are applied, it results in a unique key identifier for each instance of an object type in the database, even though the different object types can share the same Item ID. You can also create a unique key by adding a property in addition to the item_id property, such as object_type. For example, Design[item_id,object_type].

You create a business object’s unique key definition using the MultiFieldKey business object constant in Teamcenter. A list of properties available for each business object type is provided in the Available Properties dialog box when you create a multifield key. For more information about creating multifield key definitions, refer to the Configuring business object identifiers with multifield keys portion of the Teamcenter Business Modeler IDE Guide.
Multifield key domains

The multifield key is composed of a domain name (the name of the business object type) and a combination of one or more of the business object’s properties:

domain{properties}

For example, in the Design[item_id] key, Design is the domain.

All business object types with the same multifield definition constitute a domain. Because children business object types (design, drawing) inherit the key definition from their parent (Item), they belong to the same domain as the parent business object unless a different multifield key definition is created for a child type. Custom business objects also inherit the key from their parents.

For more information about multifield key domains, refer to the Multifield key domains portion of the Teamcenter Business Modeler IDE Guide.

Multifield keys in Solid Edge

Prior to Teamcenter 10, only the Item ID could be used to uniquely identify an item. By using multifield key definitions, instances of different Item business object types (such as items, designs, drawings, documents, and specifications) can use the same item ID. When these definitions are applied, it results in a unique key for each instance of an object type in the database, even though the different object types can use the same item ID.

Redefining what makes an object unique in Teamcenter impacts what is required to create an object though Solid Edge Embedded Client. Properties that comprise the multifield key are identified in common property dialog boxes such as the New Document dialog box with a gold asterisk *. The gold asterisk indicates the property (cell) is an input to the multifield key and the property is required.

When using multifield keys, your experience with Solid Edge can change from the default in the following ways:

- Common property dialog boxes such as the New Document dialog box may require additional property definition (as indicated by the gold asterisk *).

- The Filename is now the Item ID with a unique system-generated number appended to it.

  <item ID><unique number>.extension

- Searches based on the item ID can now return more than one result. If you search for an item ID that is used by multiple objects, the Search dialog box displays more than one result so that you can choose the desired object from the list of all objects with the same item ID.

  **Tip**

  As a best practice, do not map the keys that make an object unique when you use the mapped properties functionality in Solid Edge Embedded Client.
Teamcenter Preferences

Preferences are environment variables stored in the Teamcenter database. They are read from the \textit{SEEC\_preferences.xml} file during application usage. You can use Preferences to configure your experience with Solid Edge Embedded Client.

Preferences can be viewed in the Teamcenter rich client after you log in by choosing Edit→Options→Index. You can find a specific preference by clicking Search.

\textbf{Caution}

Always export your preferences before running Solid Edge Embedded Client Administrator, then validate multi-line values before continuing.

The following are Teamcenter preferences that impact Solid Edge Embedded Client.

\textbf{SE \textit{Draft} DefaultChildProperties}

Lists properties that can be used as children for the indicated type. Double-click in the Teamcenter rich client is expand.

\textbf{SE \textit{Draft} PseudoFolder}

Creates a pseudo folder for the dataset showing related objects for the defined relation.

\textbf{SE \textit{Part} DefaultChildProperties}

List of properties that can be used as children for the indicated type.

\textbf{SE \textit{Part} PseudoFolder}

Creates a pseudo folder for the Dataset showing related objects for the defined relation.

\textbf{SEEC \textit{Asm} Weldment \textit{Feature} \textit{Type}}

Creates a Solid Edge Assembly Weldment Feature with the Teamcenter Item Element Type you define, and attaches the corresponding geometry as JT. If this value is not defined, or it is not set to a valid Teamcenter Item Element type, the weldment features are not written to Teamcenter's product structure.

Scope=Site

Default=Null

Value \langle a single valid item element type\rangle

Delivered by SEEC Admin: Yes

\textbf{SEEC \textit{BOM} Synchronize}

When true, changes to the Teamcenter BOM are synchronized with Solid Edge Assemblies on Open.

\textbf{SEEC \textit{Create} \textit{Form} \textit{Type} \textit{SE} \textit{Draft}}

Creates a single Form and attaches it to the SE Draft Dataset during New, Revise, and Save As. The operation must be executed from Solid Edge, the Form Type must exist, and both the Form Type Name and Relation are required in the syntax.

Scope=Site

Default=Null
Configuring the Solid Edge Embedded Client environment

Syntax: <Form Type Name>:<Relation>

Delivered by SEEC Admin: No

SEEC_Date_Format
Specifies the date format recorded in Teamcenter and used by the Search command in SEEC. The value is %d-%b-%Y where %d is day, %b is month, %Y is year. This is a site-level option.

Note
If you do not specify this option, or its value is blank, the default date format (English) is used.

SEEC_Default_Item_Type
Specifies the default Item Type for new documents being uploaded to Teamcenter. The preference supports two values. The value specified on the first row defines the default item type of a part or assembly file. The value specified on the second row defines the default item type for draft files. The default value is displayed on common property dialog boxes.

Note
Add to Teamcenter will use this preference while importing data when no Item Type is defined. Item Type syntax is case-sensitive.

SEEC_Default_View_Type
Site preference that specifies the default BOM View Revision type to be used by SEEC. The BOM View Revision type must be defined in Teamcenter. If not defined, the default BOM View Revision view is used.

For Teamcenter product structure expansions, this preference must have a scope of site.

SEEC_DrivenReference_DoNotCopy_Revise
Provides for an override of deep copy rules. Specifies a list of dataset types that should not be copied to a new revision. This preference is specific to Take Ownership workflow and design reuse of geometry using multi-CAD.

Scope=All
Default=<empty>
Values: UGMASTER, UGPART, ProPart, ProASM

SEEC_DrivenReference_DoNotCopy_SaveAs
Provides for an override of deep copy rules. Specifies a list of dataset types that should not be copied to a new revision. This preference is specific to Take Ownership workflow and design reuse of geometry using multi-CAD.

Scope=All
Default=<empty>
Delivered by SEEC Admin
Chapter 4  Configuring the Solid Edge Embedded Client environment

SEEC_ExpandStructure
Determines how Solid Edge expands product structures. Valid values are integers 0 or 1. Enter 0 to expand all levels. Enter 1 to expand the structure, one level at a time.
Scope=All
Default=0
Delivered by SEEC Administrator: Yes

SEEC_Foreign_Datasets
Specifies the non-Solid Edge dataset types to use when a Solid Edge 3D dataset is not saved to the Item Revision. This is a multi-line preference. The first line determines whether the functionality is disabled or enabled. The subsequent lines contain the definition.
Scope=All
Default=False (0)
Delivered by SEEC Administrator: Yes
Values: False (0), True (1)
DatasetType="DirectModel" NamedReference="JTPART"
NamedReferenceFormat="BINARY" NamedReferenceTemplate="jt"

Note
Only JT is supported at this time.

SEEC/Image_Generate_3D
Generates an image file for Solid Edge part (.par), sheet metal (.psm) and legacy weldments (.pwd).

SEEC/Image_Generate_Assembly
Defines the options for generating an image file of type JPG for Solid Edge assemblies. This image file is then checked into Teamcenter as part of the assembly dataset. This preference enables you to view the assembly from the rich client without having to open it in Structure Manager (formerly Product Structure Editor). Scope=Site

Note
This is a multi-line preference. The first line of the preference definition must contain either True or False. The remaining lines of the preference definition can be in any order. See the Enabling image file generation portion of this chapter for details.

SEEC/Image_Generate_Draft
Generate an Image file of type: EMF, BMP, TIF, JPG or DXF; None if one is not required. This image file is then checked in as a Named Reference to SE Draft Dataset and intended to be rendered by Embedded Visualization.

SEEC/Image_Generate_PDF_for_Draft
Generate a PDF for each Draft and attach it to the Item Revision as a separate Dataset. This PDF would be the 2D neutral file and would include all draft
sheets. This file could then be used by Portal Visualization for Markup and Reviews.

**SEEC_Item_Type_DisplayableName**
Captures the Item Type’s display name. Determines whether to write the real name or displayable name when the Item Type name is written to Solid Edge. The preference TC_display_real_prop_names controls the presentation of real property name or displayable name for other objects.

For a new implementation of Solid Edge Embedded Client, setting the preference to 1 is recommended so the displayable name is written to Solid Edge.

Scope=Site

Values: 0=real name. 1=displayable name

Default=0

Delivered by Solid Edge Embedded Client Administrator

**SEEC_ItemTypeList_SE Assembly**
List of available Item Types for specified dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE Component**
List of available Item Types for specified Dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE Connection**
List of available Item Types for specified Dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE Draft**
List of available Item Types for specified dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE Part**
List of available Item Types for specified dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE SheetMetal**
List of available Item Types for specified dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_SE Weldment**
List of available Item Types for specified dataset type. This list drives the common property dialog boxes.

**SEEC_ItemTypeList_StructureEditor**
List of available Item Types for use by Structure Editor. Edit this preference to include only the item types needed.

Scope=All

Default=All

Delivered by Solid Edge Embedded Client Administrator
Chapter 4  Configuring the Solid Edge Embedded Client environment

SEEC_MakeReadOnly_ItemID
Assigning a value of True sets the Item ID to read-only and the user must use the Assign or Assign All command to obtain the value from Teamcenter. This preference is a site level preference.

Note
Enabling Teamcenter SmartCodes will automatically set the Item ID to read-only when the selected Item Type is configured. You must use the Assign or Assign All command to configure or code the Item ID.

SEEC_MakeReadOnly_Revision
Assigning a value of True sets the Revision to read-only and the user must use the Assign or Assign All command to obtain the value from Teamcenter. This preference is a site level preference.

SEEC_PDF_Dataset_Type
Prerequisite: SEEC_Image_Generate_PDF_for_Draft = TRUE.
Scope=Site only.
Syntax “SEEC_PDF_Dataset_Type” = "Dataset Type:RelationName"

Example
SEEC_PDF_Dataset_Type = "PDF:Adobe-pdf" If the SITE preference listed does not exist, the system will continue to use Dataset Type=PDF and RelationName (or Reference)=Adobe-pdf

SEEC_Property_AssignToProject_Name
Defines a list of assigned projects. This list displays on the common property dialog boxes.
Scope=Site

Note
If the /write_once option is set, the custom property will only be used to get projects from files during Add to Teamcenter or while adding unmanaged content.

SEEC_Property_Dataset_Description
Solid Edge Custom Property for Dataset Description displayed in English. Do not define for default behavior. The preference supports multiple values.

SEEC_Property_Dataset_Name
Solid Edge custom property defining Dataset Name. Contains an English value. Solid Edge will display a localized string. Do not define for default behavior.

SEEC_Property_Item_Name
Specifies the Solid Edge property name that defines the Item Name. The default value is Project Name. The preference supports multiple values. The first value indicates the Solid Edge property to be used (example, Title) and the remaining values define options such as /write_once and /description. The Solid Edge property name is in English, however Solid Edge manages displays the appropriate resource based on the localized version of Solid Edge.
Note

If the SEEC_Property_Item_Name is <null>, missing, or incorrectly defined, the Item Name is mapped to Project Name.

**SEEC_Property_Item_Type**

Solid Edge Custom Property for Item Type displayed in English. Do not define for default behavior.

**SEEC_Property_Synchronize**

Synchronizes with Solid Edge when a document is downloaded or opened.

**SEEC_Property_Synchronize_AsmOcc**

Controls assembly occurrence property synchronization. By default, the property is set to False.

**SEEC_Property_Synchronize_FullCache**

Prerequisite: SEEC_Property_Synchronize = TRUE. The document is downloaded to cache and is up-to-date. When this preference is TRUE, Query Teamcenter for the mapped properties, and if a property has changed, synchronize those changes to the cached document. This does not mark the document as Modified.

**SEEC_Property_Sync_PDM_Master**

Following a Solid Edge Save to Teamcenter, retrieve the mapped properties and sync those with the Solid Edge document. This should only be set to "Yes" if you have Teamcenter Properties which change or are created when the Teamcenter Object is created or modified.

**SEEC_Search_Limit**

Determines the number of objects that are returned as a result of a search. When the objects found exceed the number specified, you are prompted to show the results equal to the number defined in the preference, return all results, modify the search criteria, or cancel the search. A positive integer is accepted as the value.

Default=30

**SEEC_Search_NamedQueries**

Defines the named searches you want to use with Solid Edge search. Enter one named search per line. The default value, All, displays all the named searches returned by Teamcenter. If the preference is missing or determined to be in error, all named queries are shown.

Scope=User

Value=All

Delivered by SEEC Administrator: Yes

Values: All predefined named queries

**SEEC_Status_Working**

Defines the string written to Solid Edge properties when there is no Teamcenter Status. When a new file is created in Solid Edge and the Teamcenter Status property is mapped to a Solid Edge custom property, the custom property is
created and the value is the value of this preference. The status is obtained from
the dataset, however, another option is the Item Revision.

**SEEC_Synchronize_ItemNumbers**
Enables the integration of Solid Edge Assembly Item Numbers with Teamcenter
Find No. This preference synchronizes the Solid Edge Item Number options.
Required input: /Method, /Start, /Increment, and /AtT. Missing or invalid
required input assumes the default value.
Scope=Site
Default=False (0)
Delivered by SEEC Administrator: Yes
Values: True (1), False (0)

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/Method=1 (Default)</td>
<td>Maintain Item Numbers, Top Level Only</td>
</tr>
<tr>
<td>/ExpandWeldment=0</td>
<td>Do not expand weldments.</td>
</tr>
<tr>
<td>/Start=10</td>
<td>Start item numbers with 10.</td>
</tr>
<tr>
<td>/Increment=10</td>
<td>Increment item number by 10.</td>
</tr>
<tr>
<td>/UniqueBasedOnCutLength=1</td>
<td>Create unique item numbers based on cut length.</td>
</tr>
<tr>
<td>/UniqueBasedOnMass=0</td>
<td>Do not create unique item numbers based on mass.</td>
</tr>
<tr>
<td>/UniqueBasedOnMiter=0</td>
<td>Create unique item numbers based on miter.</td>
</tr>
<tr>
<td>/AtT=1 (Default)</td>
<td>Save Solid Edge Item Numbers to Teamcenter</td>
</tr>
</tbody>
</table>

**SEEC_TakeOwnership_Limit**
Determines the number of objects that can be selected for a single multi-CAD
Take Ownership transaction.
Scope=All
Default=10
Delivered by SEEC Administrator: Yes

**SEEC_Template_Folder_Name**
Defines the Teamcenter folder name containing the Solid Edge templates.

**SEEC_Template_Username**
Defines the Teamcenter User ID with the Teamcenter folder in their Home folder.

**SEEC_UOM_List_as_Geometric**
Lists the unit of measure values that represent geometric components. This
preference is dependent on mapping between Solid Edge par or psm documents
and unit of measure. When configured, unit of measure is processed during BOM
synchronization. The preference is delivered with no values and is hard-coded
with the default of each, ea, or "".
Scope=Site
Default=each, ea or <Null>
Delivered by SEEC Administrator: Yes
Values: Empty

**Note**
The default values are always processed. The Administrator can add each unit of measure value, one per line. An Item with an empty of <Null> unit of measure is considered a geometric component.

**SEEC_UOM_Name_or_Symbol**
Defines the property value written to the Solid Edge document when Unit of Measure (UOM) is mapped to Solid Edge. The valid value is either the name or symbol.

*Scope=Site*
*Value=0 Name*
*Value=1 Symbol*
*Default=0*

**Note**
If the property does not exist or does not contain a valid value, the Name is used.

**FLColumnCatIVFSeparatorPref**
Specifies the character used to separate the ItemID from the Item Revision.

**FLColumnCatObjSeparatorPref**
Specifies the character used to separate the ItemID and the Item Revision from the Item Name.

**IMAN_BOM_Precision_Preference or TC_BOM_Precision_Preference**
Specifies the BOM precision to be used during the creation of new BOMViews/BOM View Revisions.

**IMAN_truncate_file_name or TC_truncate_file_name**
Determines if truncation of original file name is necessary.

**LOV_user_id_display**
Integer value that specifies how the User ID is displayed within a List of Values. Valid values are zero (0) and one (1) where 0=Person Name and 1=User ID.

**LOV_hide_desc**
Determines whether side-by-side List of Values value/descriptions display. By default, Lists of Values are configured to display the value alongside its description in the user interface. Use this preference to specify specific Lists of Values whose descriptions you do not want to display.

**LOV_value_desc_seperator**
Defines the separator character used between the values and descriptions. Any character can be used as a separator, however Siemens PLM Software recommends using one of the following characters: dash (-), at sign (@), pound sign (#), or ampersand (&).
**PS_new_seqno_mode**
Determines how new find numbers are allocated when items are inserted into a BOM view or BOM view revision.

Scope=Site
Default=New

Values: New, Existing, None

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New(Default)</td>
<td>Causes the behavior of Sequence Number, not Item Number. Every item is given a new find number within the current BOM view, starting with 10, and incrementing by 10.</td>
</tr>
<tr>
<td>Existing</td>
<td>If an item of the same ID already exists in the BOM view, the inserted item is given the same find number. If not, the item is given a new find number as above. Recommended value for synchronizing Solid Edge Item Numbers with Teamcenter Find No.</td>
</tr>
<tr>
<td>None</td>
<td>No find number is allocated to items inserted into a BOM view; users can add their own later.</td>
</tr>
</tbody>
</table>

**TC_Allow_Longer_ID_Name**
Used to enable the 128 character length for Item ID and Name attributes.

**TC_config_rule_name**
Defines the default revision rule used when opening Imprecise BOMView or BOMViewRevisions.

**TC_display_real_prop_names**
Determines the presentation of the real property name or displayable (display) name in Solid Edge user interface.

Scope=All
Delivered by Teamcenter and controlled in rich client options

**TC_truncate_file_name**
Preference used by Teamcenter Unified Architecture to decide if truncation of original file name is necessary.

**TCX_Smart_Codes**
Enables Smart Code functionality in Teamcenter’s rich client. Setting the value to 0 disables the functionality and setting the value to 1 enables it.

**WsoInsertNoSelectionsPref**
Defines the behavior when an Item is saved to Teamcenter with no folder defined. The item can be placed in Teamcenter and referenced by the (1)Newstuff folder, the (2)root folder, or (3)none. In the case where none is selected, the Item is placed in the database with no references to it. By default the item is saved to the (1)Newstuff folder.
Define a preference

1. In the Teamcenter rich client, choose Edit→Options→Index.
2. Click New.
3. Type the name of the preference in the Name input box.
4. Set the scope to Site.
5. Set Multiple Values to False.
6. Define the value for the preference.
7. Click Create.

Property mapping definitions

The Teamcenter preferences used to identify specific property mapping definitions where the scope equals the site are:

<table>
<thead>
<tr>
<th>Teamcenter preference</th>
<th>Solid Edge Custom property name</th>
<th>Value or default</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEEC_Default_Item_Type</td>
<td>Used on common property dialog boxes</td>
<td>Item</td>
<td>Default Item Type for Solid Edge</td>
</tr>
<tr>
<td>SEEC_Property_Item_Type</td>
<td>Item Type</td>
<td>Teamcenter Item Type</td>
<td>Localized property. Example: English</td>
</tr>
<tr>
<td>SEEC_Property_UOM</td>
<td>Unit of Measure</td>
<td>None</td>
<td>Value is based on what you define in Attribute Mapping. Solid Edge displays a localized string.</td>
</tr>
<tr>
<td>SEEC_Property_DatasetName</td>
<td>Dataset Name</td>
<td>Dataset Name</td>
<td>English value. Solid Edge displays a localized string.</td>
</tr>
<tr>
<td>SEEC_Property_Dataset_Description</td>
<td>Dataset Description</td>
<td>TC Engineering Description</td>
<td>Localized property. Example: English</td>
</tr>
</tbody>
</table>
Chapter 5  Working with managed documents

Understanding Teamcenter terms

Teamcenter uses objects to store information that describes each Solid Edge document, in addition to storing the document or file itself. An Item is a commonly used Workspace object that captures the metadata describing all the associated revisions. An Item Revision captures the revision-specific metadata. A Dataset captures the document specific metadata and it holds the physical document(s). Datasets can capture unique document types such as .asm, .doc, and .pdf.

It is metadata that is useful in data retrieval and reuse. The Item, Item Revision and Dataset combine to fully describe the associated document.

Note

Datasets have the ability to capture versions of a document.

If you want to think of these objects in terms of hierarchy, from top to bottom, it would be Item, Item Revision, Dataset. You can view this hierarchy from the Teamcenter Client. Each object is represented by a unique image, and as you expand each level, you can see the structure. Once you reach the Item Revision, you may see more than one Dataset. When your business process requires the Solid Edge draft file to have the same Document Number as its 3D part (.par), assembly (.asm), sheet metal (.psm) or weldment (.pwd) file, you will have a draft (.dft) file with the corresponding number under the Item Revision. This practice impacts how a company manages Revisions.

Each object must have a unique identifier (ID). For Items, this is called an Item ID. In the following example, the Item ID for the Item (A) is 000130. The Item Revision (B) for this item is /A, which adds a unique Revision designation, followed by the Dataset (C) and its Name.

The attributes that describe these objects are often the same, but when applied to the Item, Item Revision or Dataset, they provide uniqueness. For example, since the
Name attribute is used by these three objects, to get a specific piece of information you can specify the Item Name, Item Revision Name, and Dataset Name.

For more information on Teamcenter terminology, see the Getting Started With Teamcenter Express Guide or the Teamcenter Express Installation and Configuration Guide available with Teamcenter documentation.

Starting Solid Edge with Teamcenter enabled

To start Solid Edge with Teamcenter enabled:

- Start Solid Edge ST6.
- Click the Application button and choose Manage→Teamcenter. Teamcenter appears in the startup page and in application title of the title bar of the window. You can toggle Teamcenter on and off using this option.

**Note**

The Solid Edge Embedded client is only activated when Teamcenter is displayed in the window title bar. If Teamcenter is not displayed, you are working in an unmanaged environment.

Connecting to Teamcenter

The first time you create a new document or open an existing document in a new Solid Edge session in Teamcenter mode, the Login to Teamcenter dialog box is displayed and this is the context for the Solid Edge session. You only have the option to change the group or role after you log in to Teamcenter.

![Login to Teamcenter dialog box]

This dialog box uses a user ID, password, group, and role assigned by the Teamcenter administrator to access the Teamcenter database selected from the list of databases available to you. The user ID and password are required entries.
Note

This dialog box only appears when you begin a new Solid Edge session. Once a Solid Edge document is open and you are connected to Teamcenter, you work within this context for the duration of the Solid Edge session. You can only change your group and role once you have logged in.

When working with Teamcenter data through the Solid Edge Embedded client, you use the same commands that you normally would in Solid Edge. When Teamcenter is checked under the Applications menu, Solid Edge automatically adjusts the user interface as needed to provide you access to Teamcenter functions.

This normally changes the user interface in the following ways:

- When browsing for Solid Edge files you are presented with the data from the Teamcenter database. You will see a similar presentation in the Teamcenter Parts Library tab and in most other places where you need to access data. If you want to change the behavior so that you are no longer accessing the Teamcenter database, but accessing the local file system instead, you must close all Solid Edge documents. You can then deselect Teamcenter mode.

- When new documents are created you are prompted to upload them to the Teamcenter database, as they are not yet present. This is accomplished through a variety of common properties dialog boxes, as described in the Saving Documents section of this guide.

- When you save files, they are only saved locally to your cache. But when you close the document, it is checked back into the Teamcenter database. When you close files, you are presented with the same common properties dialog boxes, as described in the Saving Documents section of this guide.

Understanding the Cache

To optimize performance, documents from Teamcenter are downloaded once to the local machine when accessed and then only downloaded again if they are out-of-date. The local download area is called a cache. The cache is a folder in the Windows file system where a copy of each file is kept. The cache location is predefined as %APPDATA%\Unigraphics Solutions\Solid Edge\SEEC.

Note

The location of the cache should be on the physical disk of the local machine. This is a personal cache and must not be shared with other users.

The Cache Assistant, located on the Manage menu, provides many functions for managing the cache. In most instances you do not need to use this command. However, if you need to update or change the cache in some way, make sure you use Cache Assistant and do not attempt to modify the cache by manually changing data in the Windows folder on disk.

Determining your default modeling environment

Solid Edge ST6 provides you the opportunity to specify the modeling environment you want to start in when creating a Part or Sheet Metal document. A model can
Chapter 5  Working with managed documents

contain only synchronous features, only ordered features, or a combination of both feature types. Since Assembly documents can be comprised of both Synchronous and Ordered content, there is no need to specify a starting environment for Assembly. The default environment is typically set by the system administrator, who may also choose to allow individuals to change their default environment on the Helpers page of the Solid Edge Options dialog box.

The available environments are:

• Synchronous — collection of faces that define the feature shape. There is no history retained of how a synchronous feature was created. Face(s) of a synchronous feature can be edited.

• Ordered — history based. You can edit an ordered feature by returning to any step used in the feature creation process. No face(s) of an ordered feature can be edited.

  Note
  The setting is only used when a new Part or Sheet Metal document is created. Opening existing documents is not affected by the setting.

For more information, see the Solid Edge Help topic, *Modeling synchronous and ordered features*.

To determine your default modeling environment:

1. Start Solid Edge.

2. From the Application menu, click Solid Edge Options→Helpers.

   The section labeled *Start Part and Sheet Metal documents using this environment* determines which environment you enter when you create a new document.

   • Synchronous
   
   • Ordered

3. Click Cancel to dismiss the Solid Edge Options dialog box.

Choosing a help system

In Solid Edge, you can choose the help system you want to use: web help or local help. When you access user assistance in Solid Edge, it is displayed over the Internet by default. However, if you do not have access to the Internet, you can view the locally installed help.

Web help is not available in Solid Edge applications. When you access user assistance in a Solid Edge application such as Solid Edge 2D Drafting or Revision Manager and View and Markup, local help is displayed.

Advantages of using web help

Using web-served help instead of locally installed help provides the following advantages:

• Content that is searchable across all help and training.
• Direct links between help topics and tutorials and videos.

• Access to the Learning Portal.

Changing help systems

It is easy to switch between web help and local help. The option, Use my web browser to display help (requires Internet access), which is located on the Helpers tab (Solid Edge Options dialog box), controls which system is used to display content. You do not have to exit Solid Edge for the change to take effect.

For example, you can use this technique to change from web help to local help when there are problems with the Internet connection or if you do not have user privileges to access the public Internet.

Specifying a web help server location

By default, web help is accessed from a public Siemens PLM Software server. The location of this server is predefined in the Help location text box on the Helpers tab in the Solid Edge Options dialog box.

If your company wants to use web-served help but does not want to give their Solid Edge users access to the public Internet, you can download the Solid Edge HTML help system files to a private server behind your company firewall. Then, you can use the Help location text box to specify the path to the private Internet server where the Solid Edge web help system files are located.

Note

For information about installing and configuring this option, contact GTAC.

Using the Structure Manager

Formerly known as Product Structure Editor (PSE), the Structure Manager is delivered with Teamcenter and used to view and change BOM structure. For example, when a Solid Edge assembly is saved to Teamcenter, the assembly occurrence structure is written to Teamcenter and viewed with Structure Manager. You can use revision rules and variant rules to control the configuration of the information displayed in the editor.

For detailed information about Structure Manager, see the Structure Manager Guide in the Teamcenter help Collection.

Before creating or modifying product structure, you should also read Getting Started with Product Structure, which describes the basic concepts behind product structure and includes advanced information on how to use and administer it.

Draft files in Structure Manager

The Solid Edge Embedded Client supports multiple draft files for a single Item Revision. When displayed in the Structure Manager, there is an entry for each draft file beneath the Item Revision in the tree structure.
Managing document releases

Teamcenter has a number of tools designed to enable administrators and users to work together to manage document releases.

Administrative tools allow the administrator to design workflow process templates that define practices and procedures that meet their business needs. End users use these templates to take documents through the release cycle.

This chapter shows a few examples of the many workflow tools Teamcenter offers. For more information, see the Getting Started With Teamcenter Express Guide or the Teamcenter Express Installation and Configuration Guide available with Teamcenter documentation.

Changing the workflow of a document in Teamcenter Express

The following example describes the steps used to change the workflow of a document in Teamcenter Express.

1. While working in Teamcenter Express, click an Item Revision.


   The New Process dialog box is displayed, which provides options for changing the workflow for an Item Revision.

3. In the New Process dialog box, select Status Change from the Process Template list.
Tip

You can click the Process Templates tab to display a list of statuses. This example uses Status Change, which provides a single-step release process.

4. In the New Process dialog box, click OK.
   A Tasks to Perform entry is added to the Inboxes page.

5. In the Signoff Team pane, from the Profiles list, select the appropriate role needed to make the change.
   In this example, the profile is */Checker/1. The “1” indicates that there is one user needed in the “Checker” role.
   Click the Plus button to assign a user to the role.
6. Click Apply to change the status and move the Item Revision to the next state, which is shown in this example.

The Signoff Decision dialog box is displayed.

7. In the Decision column, click No Decision.

This displays the Signoff Decision dialog box, which enables you make a decision on the status change and includes comments about the change.
8. In the Signoff Decision dialog box, select a Decision, type any comments, and then click OK.

The status value is added adjacent to the Item Revision in the tree structure.

Viewing the process in the Workflow Viewer

The Workflow Viewer creates a graphical view of the status of an Item Revision within the workflow. You can track the progress of an Item Revision and determine the other users involved in the release process.

To view the process:

1. Right-click the Item Revision.

2. On the shortcut menu, choose Send To→ Workflow Viewer. The Item Revision is displayed in the Workflow Viewer.
For more information on managing document releases, see the Workflow section of the Teamcenter help Collection.

**Viewing the document status in Solid Edge**

Changes made in Teamcenter to the status of a document are displayed when you open the document in Solid Edge.
In the Open File dialog box, the status is displayed in the Teamcenter Status field for the document.

Revising documents

The Revisions command, located on the shortcut menu when an assembly document is selected in PathFinder, specifies a new Revision for a document, but keeps it under the same Item ID.

**Note**

To revise a part document, choose Manage→Revisions from the Application menu, and follow the same procedure described below.

1. In PathFinder, right-click the document.

2. On the shortcut menu, choose Manage→Revisions.

   The Revisions dialog box is displayed.
3. In the Revisions dialog box, click **New**.

Notice that the new revision is calculated for you. The Revision cell contains a red asterisk denoting it is a required attribute. You can also define the folder for the revision.

4. In the Revisions dialog box, click OK.

When you close the document, it is uploaded to Teamcenter.
Multi-CAD in the Teamcenter managed environment

In today’s collaborative working environment, it is rare that an entire product is designed in only one CAD system. The term multi-CAD describes the ability for Solid Edge assemblies to include models in Teamcenter that were not created or owned by Solid Edge. Using the multi-CAD capability, you can manage content from multiple CAD sources and then create an integrated single design using content from more than one CAD authoring system without a translation. Assembly structures are resolved through Bill of Materials (BOM) or BOM View Revisions in Teamcenter. Geometry is communicated through DirectModel or JT and is updated automatically providing up to date assembly structures and models.

An example of working in a multi-CAD environment is designing a vehicle in Solid Edge using an engine designed in another CAD application where the structure is defined and managed in Teamcenter, the components are defined by JT, and Solid Edge Draft documents the product. The engine is placed in the vehicle in Solid Edge and assembled into position. The foreign authoring system owns the content placed in the native Solid Edge design. The Teamcenter preference, SEEC_Foreign_Datasets is used to define the foreign data source.

This workflow introduces the concept of a driven reference where a document’s geometry is defined by a non-Solid Edge source. The driven reference is read-only whether opened or in-place activated. The Save As command is available if you want to create a new item and then edit that content with Solid Edge.

Driven references go through an out-of-date check. If the foreign source changes, the change is synchronized the next time the file is opened. Driven references are uniquely identified in Assembly PathFinder by ✽.

Working with multi-CAD documents

Product structure is obtained from Teamcenter BOM View and configured per Revision Rule. The configured structure is evaluated where the BOM lines provide position data and each unique item revision is queried for geometric information (Dataset). When the Teamcenter preference for multi-CAD is enabled, Solid Edge considers geometric content in the following order:

- Native Solid Edge content
- Driven references (foreign data containing a geometric representation)
- Non–modeled content (no geometric representation exists)
Use Solid Edge Assembly commands to position the content. Use the Open command to search for the Solid Edge assembly and open the document, synchronize structure changes and check out the assemblies. Use the Assemble command or the Move command to position the foreign assembly in the context of its parent. Then you can save the Solid Edge assembly to Teamcenter and create a drawing saving the drawing to the same item revision with the Solid Edge assembly or saving the drawing to a new item.

Add Solid Edge Datasets option

Since foreign data is expected to change, an ability to track if it is out-of-date and synchronize product design is required. The Solid Edge option to save Solid Edge content back to Teamcenter is Add Solid Edge Datasets. The option is available in Solid Edge Options→Manage when a document is open in Solid Edge. The option is enabled on a per user basis. Using this option, when an assembly is saved to Teamcenter, Solid Edge creates a Solid Edge Dataset under the source Item Revision and then uploads the Solid Edge document into Teamcenter as a driven reference. This option also saves a Solid Edge part file as a driven reference when the JT file is opened.

There are two things to keep in mind:

- Solid Edge Embedded Client requires the structure to configure only one item revision. There is no support for multiple revisions from the same Item.

- Solid Edge Embedded Client does not support foreign CAD assembly features.

Enabling multi-CAD in Solid Edge

Teamcenter captures JT content in a dataset called DirectModel. The relation that connects a DirectModel Dataset to an Item Revision is IMAN_Rendering. The JT file is connected with a named reference JTPART.

There are two preferences that need to be enabled in order to use foreign CAD data in Solid Edge:

- SEEC_Foreign_Datasets

- SEEC_BOM_Synchronization

The Teamcenter site preference SEEC_Foreign_Datasets determines what datasets to consider when a Solid Edge 3D dataset is not saved to the item revision. The preference is included with SEEC Administrator and is False (0) by default. Currently, Solid Edge supports DirectModel (JT) only.

Teamcenter provides the product structure or BOM view for documents created outside the Solid Edge environment. BOM synchronization is controlled by the Teamcenter preference SEEC_BOM_Synchronization. Enabling this preference allows Solid Edge to compare the BOM in Teamcenter with its own BOM and add or remove based on changes seen in Teamcenter. SEEC Administrator delivers this preference with BOM Synchronization off. To enable BOM synchronization, set the SEEC_BOM_Synchronization preference to true.

The Teamcenter preference SEEC_BOM_Synchronization supports the following search order:

- Search for Solid Edge 3D managed content.
Multi-CAD in the Teamcenter managed environment

- If the item revision does not include Solid Edge 3D content, then search for an alternate 3D representation, DirectModel (JT).

- If there is no DirectModel, then consider the item a non-modeled occurrence.

Preference syntax details are available in the Teamcenter Preferences chapter of this guide.

Tip
If your environment has the preference, SEEC_Synchronize_ItemNumbers set to true, it is recommended that you create the preference PS_new_seqno_mode and set it to existing. By default, Teamcenter assigns a new Find Number for each item added to the BOM View Revision. When the same item is added to Structure Manager multiple times, this preference will cause all entries to be packed or have the same Find Number. Not setting this preference will cause a conflict with item numbers in Solid Edge resulting in a warning message.

Multi-CAD document workflow (SEEC)

The structure of a multi-CAD document is built using the Teamcenter rich client and Teamcenter’s Structure Manager or Teamcenter Structure Editor. To add a foreign assembly or non-modeled assembly to an existing Solid Edge assembly:

- Find the foreign assembly or non-modeled assembly in the Teamcenter rich client.

- Select the item revision and copy it to the clip board.

- Using either Teamcenter rich client Structure Manager or Solid Edge Structure Editor, paste the item revision into the top level assembly of an open Solid Edge assembly.

- Save the structure changes to complete the edit of the Solid Edge assembly.

- Open the Solid Edge assembly in Solid Edge.

The placement of driven references in the Solid Edge assembly is based on the Transformation Matrix in the BOM View Revision. Grounded assembly relationships are applied to the driven references. The components can be positioned once the grounded relationship has been removed from the foreign subassembly.

Take Ownership command

The Take Ownership command is used when the product being designed in Solid Edge uses geometric content authored in another CAD system. Taking ownership removes the driven reference status from the Solid Edge document and enables the user to add geometric value. The command creates a new revision and Solid Edge is the CAD author of the new revision.
Note

Use of the command requires the following Teamcenter preference settings:

\[
\text{SEEC\_BOM\_Synchronize} = \text{True} \\
\text{SEEC\_Foreign\_Datasets} = \text{True}
\]

When these preferences are set, the Take Ownership command is available in:

- Application menu → Manage → Take Ownership.
- Assembly PathFinder shortcut menu.
- Read-Only Assistant when the document is determined to be driven.

The number of objects that can be selected for a single take ownership transaction is determined by the Teamcenter preference:

\[
\text{SEEC\_TakeOwnership\_Limit}
\]

If the number of objects selected exceeds the limit defined by the preference, a message is displayed to reduce the number of objects selected and rerun the command.

The Take Ownership command uses additional Teamcenter preferences to govern how datasets are processed. The preferences contain lists of dataset types that should not be copied to the new revision, giving the administrator the ability to override deep copy rules. Each preference is specific to the take ownership workflow and design reuse of geometry using multi-CAD.

- \[
\text{SEEC\_DrivenReference\_DoNotCopy\_Revise}
\]
- \[
\text{SEEC\_DrivenReference\_DoNotCopy\_SaveAs}
\]

If either preference is empty or all entries are in error, Teamcenter Deep Copy Rules are responsible for all the datasets except the ones being transacted.

Once Solid Edge has ownership of the item revision (it is no longer a driven reference), Solid Edge generates JT and writes it to the DirectModel dataset when the document is saved or uploaded to Teamcenter.

Caution

This command is not intended to be used as a bulk migration tool. Its focus is on foreign geometry reuse in the context of an assembly.

Take ownership of a foreign CAD document

In order to take ownership of foreign CAD documents the following prerequisites must be met:

- The Teamcenter Preferences \text{SEEC\_BOM\_Synchronize} and \text{SEEC\_Foreign\_Datasets} must be set to \text{True}.

- The foreign data must be added to the document structure in the Teamcenter rich client.
• BOM Synchronization must be set to Yes so that structures are synchronized.

• The direct document must be a Solid Edge assembly document.

1. Open the Solid Edge Assembly that uses the foreign data.

2. In PathFinder, select the foreign CAD documents for taking ownership.

   If you select a subassembly, you do not have to take ownership of each subassembly between the component and the direct document. Solid Edge Embedded Client is capable of managing and addressing soft edits so the intermediate subassemblies stay up to date.

3. Right-click and select Manage→Take Ownership.

   Status messages indicate the command is validating input and verifying business rules. If at least one object fails validation, details are presented in the Take Ownership Validation dialog box. You must decide whether to continue with the objects that passed validation or exit the command.

4. Select continue to display the Take Ownership dialog box.

   This dialog box combines the capability of the Revise command with processing multiple objects simultaneously. Objects are displayed with property values from Teamcenter and the new revision cell populated. The default action is to upload the documents into Teamcenter.

5. Click OK to upload the new revision of the selected documents into Teamcenter.

   PathFinder indicates the new revision is checked out to you, and you can edit the document.
Attribute mapping defines what Solid Edge document properties you exchange between Solid Edge and Teamcenter. Using mapping definition files, Solid Edge attributes are stored in the Teamcenter database and displayed and modified both in Solid Edge and Teamcenter.

Each mapping definition has a title and description that are used when displaying the attribute value. There are also optional qualifiers that affect the behavior of the mapping, such as whether a default value is created for an attribute if none exists in Teamcenter. The syntax of attribute mapping is covered later in this chapter.

There are a number of property mapping definitions that are delivered for you. The properties are shown on common property dialog boxes such as the New Document dialog box and the Upload Document dialog box.

<table>
<thead>
<tr>
<th>Solid Edge property</th>
<th>Teamcenter attribute</th>
<th>Required/Optional</th>
<th>File Property</th>
<th>Maximum character length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamcenter Item Type</td>
<td>Item Type</td>
<td>Required</td>
<td>Custom</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Localized)</td>
<td></td>
</tr>
<tr>
<td>Document Number</td>
<td>Item ID</td>
<td>Required</td>
<td>Project</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revision Number</td>
<td>Revision</td>
<td>Required</td>
<td>Project</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Name</td>
<td>Item Name</td>
<td>Required</td>
<td>Project</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dataset Name</td>
<td>Dataset Name</td>
<td>Required</td>
<td>Custom</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(English)</td>
<td></td>
</tr>
<tr>
<td>TC Engineering</td>
<td>Dataset Description</td>
<td>Optional</td>
<td>Custom</td>
<td>140</td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td>(Localized)</td>
<td></td>
</tr>
</tbody>
</table>

The Dataset Name is not required on common property dialog boxes. However, if no Dataset Name is specified, one will be computed from the Item ID and Revision.

**Attribute synchronization**

Synchronization enables an attribute in one application to be updated automatically when a modification is made to the corresponding attribute in another application. The synchronization of attributes between Solid Edge and Teamcenter occurs when a document is checked in or uploaded into the Teamcenter database. A Reverse Property Synchronization (RPS) occurs when a document is downloaded from the Teamcenter database.
Unidirectional and bidirectional synchronization

Synchronization is usually thought of as being unidirectional or bidirectional. In unidirectional synchronization, synchronization only occurs from one application to another. For example, synchronization of physical properties such as Volume and Surface Area only occurs from the Solid Edge document to Teamcenter. A change to the property in Solid Edge is recorded in Teamcenter.

In bidirectional synchronization, synchronization occurs both from the Solid Edge file to Teamcenter and from Teamcenter to the Solid Edge file. For example, the value of physical property Accuracy can be changed in Teamcenter and the change is reflected in Solid Edge. The value for Accuracy can also be changed in Solid Edge and the value is recorded in Teamcenter.

Using the qualifier /master=iman sets Teamcenter as the property owner and prevents bidirectional synchronization. Using the qualifier /master=both, or specifying no qualifier establishes a shared property ownership. The property can be authored in Solid Edge or another Teamcenter application. The use of qualifiers is discussed later in the section Attribute mapping syntax and examples.

NULL value synchronization

By default, the synchronization of null values is prevented. Therefore, overwriting an existing value with a null value is not supported by default. This restriction helps maintain the integrity of your data.

However, there are cases in which a null value is recorded. In the event that you use /master=iman, null values are written to Solid Edge properties. In the event that you use /master=CAD, null values are written to Teamcenter.

The following table describes the behavior when a property is null and /master=both. It is important to consider the direction of the transaction (whether you are uploading documents from Solid Edge to Teamcenter or downloading documents from Teamcenter to Solid Edge).

<table>
<thead>
<tr>
<th>Case</th>
<th>CAD</th>
<th>Teamcenter</th>
<th>Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>/master=both on upload</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Non-Null</td>
<td>Non-Null</td>
<td>CAD</td>
</tr>
<tr>
<td>2</td>
<td>Non-Null</td>
<td>Null</td>
<td>CAD</td>
</tr>
<tr>
<td>3</td>
<td>Null</td>
<td>Non-Null</td>
<td>CAD</td>
</tr>
<tr>
<td>4</td>
<td>Null</td>
<td>Null</td>
<td>CAD</td>
</tr>
<tr>
<td></td>
<td>/master=both on download</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Non-Null</td>
<td>Non-Null</td>
<td>TC</td>
</tr>
<tr>
<td>6</td>
<td>Null</td>
<td>Non-Null</td>
<td>TC</td>
</tr>
<tr>
<td>7</td>
<td>Non-Null</td>
<td>Null</td>
<td>CAD</td>
</tr>
<tr>
<td>8</td>
<td>Null</td>
<td>Null</td>
<td>TC</td>
</tr>
</tbody>
</table>

Attribute mapping syntax and examples

The syntactical form for the specification of Teamcenter attribute mapping is:

```plaintext
Part-Attr-Name : Path Teamcenter-Property [Qualifier]
```
Use English in the mapping definitions. The syntax is defined as follows:

**Part-Attr-Name**
Specifies the name of a Solid Edge attribute.

Example
Material

**Path**
Specifies a series of Teamcenter objects denoting a path starting from the dataset object that represents the corresponding Solid Edge part file. It is further defined as Path=[Teamcenter-Step..] where Teamcenter-Step is one of the following:

**GRM** (relationship-type[,object-type])
Specifies a GRM relation whose type is relation-type, whose primary object is the current object, and whose secondary object gives the next object. In the case that more than one relation of the given type is associated with the current object, the optional second argument object-type is used to identify the type of the referenced object.

**Item revision**
Specifies the item revision object that owns the current object. That is, the item revision to which the current object is associated via a GRM link.

**Item**
Specifies the item object corresponding to the current owning item revision object.

**Job**
Specifies the job in which the current object is included; or, if there is no current job, then the most recent job that the object was in (assuming the job has not been deleted).

**Property**
Specifies the name of a Teamcenter property, representing a named property of the current object in the object path.

**Teamcenter-Property**
Specifies the name of the Teamcenter property to be synchronized with the Solid Edge part attributes.

**Qualifier**
Specifies various controls or conditions for the particular attribute synchronization and can be any one of the following:

/master=cad  
the property owner is the CAD application Solid Edge. The property is authored in the CAD application and changes are saved to Teamcenter.

/master=iman  
The property owner is Teamcenter. The property is authored by an application other than Solid Edge. The property value cannot be changed in Solid Edge.

/master=both  
Property ownership is shared and can be authored in CAD (Solid Edge) or another Teamcenter application.
Chapter 7  
Attribute mapping

/description="note" Displays the content of note, a character string enclosed in single or double quotation marks, in the first row of the Solid Edge common property dialog boxes such as the New Document dialog box and the Upload Document dialog box.

/required Sets the attribute as a required field when you create a new file. The New File dialog in Solid Edge displays a red asterisk (*) indicating that the attribute is required.

/write_once Enables you to assign a value for the attribute once if the value does not have an existing value. After a value exists for the attribute, it becomes read-only.

/default Defines a default value for the attribute. The default value appears in the common property dialog box.

Edit the attribute mapping file

Mappings of Solid Edge properties to Teamcenter attributes are stored in the Teamcenter database. Additional mappings can be added by importing a modified mapping definition file into the database. The existing file is overwritten each time a new file is imported so the new file must include all your definitions.

Caution

Be sure to export your existing mappings before adding new ones. The existing file is overwritten each time a new file is imported.

The following steps describe the procedure for exporting the attr.map file on the Teamcenter Server and then importing the file back into Teamcenter. It is important to note that only the full path syntax method can be used. The abbreviated path is not supported.

Note

The Solid Edge standard property names used in the mapping should be in English. Solid Edge custom properties are displayed as they are defined according to your business practice and must consider deployment logistics such as the character set.

1. Export the attribute mapping file by typing the following command in a Teamcenter Command prompt window:

   ```
   %TC_ROOT%\bin\export_attr_mappings -u=<username> -p=<password> -g=<group> -file=c:\temp\attr.map
   ```

   The path you specify for the file option is the location for the exported attr.map file.

2. Once exported, open attr.map using your text editor.

3. Edit the attr.map file.

4. Save the attr.map file, and import the mapping into the Teamcenter database by entering the following command at the Teamcenter Command prompt:

   ```
   %TC_ROOT%\bin\import_attr_mappings
   ```
Attribute mapping

-u=<username>  -p=<password>  -g=<group>  
-file=c:\temp\attr.map

The mappings are imported into the database. Attribute values are updated on
the forms when files are saved in Teamcenter.

5. Restart your services.

Attribute mapping of Model_Type for Synchronous content

In Solid Edge Embedded Client versions prior to ST3, you must export your existing
attribute mapping information and add Model_Type for SE Part, SE Assembly, and
SE SheetMetal in order to save a Synchronous document.

Teamcenter Express
Model_Type : ItemRevision.GRM(IMAN_master_form,ItemRevision Master).
TCX_Model_Type /master=cad /description="Traditional or Synchronous"

Teamcenter
Model_Type : ItemRevision.GRM(IMAN_master_form,ItemRevision Master).
user_data_3/master=cad /description="Traditional or Synchronous"

Your data model may differ, however, the recommended configuration is that
Model_Type become a property on the Item Revision or the 3-D Solid Edge dataset.

Note
Beginning with ST3, Model_Type is no longer a required attribute.

Attribute mapping of physical properties

Use the Solid Edge Material Library to distribute a consistent set of materials and
associated physical properties to all designers. Physical properties such as mass,
volume, surface area, material, accuracy, and density can be defined for use in the
Teamcenter-managed environment.

Tip
The best practice for implementing the exchange of the material, density, and
accuracy properties in a managed environment is to set the property as owned
by CAD, driving the design from CAD.

Synchronization of physical properties occurs from Solid Edge to Teamcenter.
Physical properties are not synchronized from Teamcenter to Solid Edge. The only
exception to this is are the Material and Accuracy properties. Mapping the material,
density, and accuracy properties as owned by CAD (/master=cad) is especially
important when two physical properties such as material and density are used in the
Teamcenter-managed environment. Density is a dependent property of Material.
Changing the material type affects the density, so the density is automatically
updated for you. This update results in physical properties becoming out of date in
the Solid Edge document. In this case, when you open a document that is out of
date, you are notified that you need to open and check out the document to update
the physical properties and then save the changes. The same conditions apply for
Accuracy. When the accuracy is changed in Teamcenter, and you open the document,
you are notified that the physical properties are out of date.
Chapter 7  

**Attribute mapping**

**Note**

All physical properties are presented as a read-only value on the common property dialog boxes with the exception of Material and Accuracy.

The following is a sample attribute mapping for Material:

**Teamcenter Express**

- Material: ItemRevision.GRM(IMAN_master_form, ItemRevision Master).
- TCX_Mat1/master=cad/description=”Material”

**Teamcenter**

- Material: ItemRevision.GRM(IMAN_master_form, ItemRevision Master).
- user_data_1/master=cad/description=”Material”

The Material property is an English-only attribute for mapping, but is presented in the language used by Solid Edge on the dialog box entries.

Solid Edge physical properties such as mass, volume, and density can also be mapped. The following example specifies a Teamcenter Item Type of Document.

- Material: ItemRevision.GRM(IMAN_master_form, DocumentRevision Master).
- SE_Material/master=cad/description=”Material”

- Mass: ItemRevision.GRM(IMAN_master_form, DocumentRevision Master).
- SE_Mass /master=cad /description=”Mass, Physical Properties”

- Volume: ItemRevision.GRM(IMAN_master_form, DocumentRevision Master).
- SE_Volume /master=cad /description=”Volume, Physical Properties”

- Density: ItemRevision.GRM(IMAN_master_form, DocumentRevision Master).
- SE_Density /master=cad /description=”Density, Physical Properties”

**Additional attribute mapping examples**

**Author mapped to Teamcenter Item Name**

In the following example, the Solid Edge standard property, Author is mapped to the Teamcenter standard attribute Item Revision, and the owning user’s name (the person who created the object).

Author:ItemRevision.owning_user.user_name/master=iman /write_once /description=”Owning User”

**Unit of Measure mapped to Teamcenter standard attribute, Unit of Measure**

The Solid Edge custom property UOM is mapped to the Teamcenter standard attribute Unit of Measure.

UOM:Item.uom_tag /default=’Each” /description=”Unit of Measure”

**Custom property mapped to Teamcenter standard attribute Item Revision, created date**

In the following example, the Solid Edge custom property is mapped to the Teamcenter standard attribute Item Revision, create date.

Item_Rev_Creation_Date:ItemRevision.creation_date /master=iman /description=”ItemRevision date created”
Custom property mapped to Teamcenter standard attribute, Dataset, status

The Solid Edge custom property is mapped to the Teamcenter standard attribute Dataset, status.

Dataset_Status:last_release_status.name /master=iman /description="Dataset Status"
Dataset_Status_Date:date_released /master=iman /description="Dataset Status Date"

Custom property mapped to Teamcenter standard attribute, Item Revision, status

The Solid Edge custom property is mapped to the Teamcenter standard attribute Item Revision, status.

ItemRev_Status:ItemRevision.last_release_status.name /master=iman
/description="ItemRevision Status"
ItemRev_Status_Date:ItemRevision.date_released /master=iman
/description="ItemRevision Status Date"

Custom property mapped to Teamcenter standard attribute, Item Revision, description

ItemRev_Name:ItemRevision.object_name /master=both /write_once
/description="ItemRevision Name"

Custom property mapped to Teamcenter standard attribute, Item Revision, description

ItemRev_Desc:ItemRevision.object_desc /master=both
/description="ItemRevision Description"

Sample Sheet Metal attribute mapping definition using List of Values

Any mapping definition exercise must use an explicit mapping definition.

```json
{ Dataset type="SE SheetMetal"
  Author : ItemRevision.owning_user.user_name /master=iman /write_once
  /description="Owning User ID"
  ITEM_REV_CREATION_DATE : ItemRevision.creation_date /master=iman
  /description="ItemRevision Date Created"
  { Item type="Item"
    Title : ItemRevision.object_desc /master=cad /description="IR Description"
    IR_Name : ItemRevision.object_name /master=cad /description="IR Name"
    ID_01 : Item.GRM(IMAN_master_form,Item Master).user_data_1 /master=cad
    /description="Interdependent, 1"
    ID_02 : Item.GRM(IMAN_master_form,Item Master).user_data_2 /master=cad
    /description="Interdependent, 2"
    CAS_01 : Item.GRM(IMAN_master_form,Item Master).user_data_3 /master=cad
    /description="Cascading LOV"
    EXH_01 : ItemRevision.GRM(IMAN_master_form,ItemRevision Master).user_data_1
    /master=cad /description="Exhaustive"
    SUG_01 : ItemRevision.GRM(IMAN_master_form,ItemRevision Master).user_data_2
    /master=cad /description="Suggestive"
    RAN_01 : ItemRevision.GRM(IMAN_master_form,ItemRevision Master).user_data_3
    /master=cad /description="Range"
  }
  { Item type="Document"
    EXH_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
    EXH_S01 /master=cad /description="Exhaustive, Str"
    EXH_I01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
    EXH_I01 /master=cad /description="Exhaustive, Int"
    SUG_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
    SUG_S01 /master=cad /description="Suggestive, Str"
}
```
Chapter 7  Attribute mapping

```
RAN_I01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
RAN_I01 /master=cad /description="Range, Int"
RAN_D01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
RAN_D01 /master=cad /description="Range Double"
CAS_EXH_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
CAS_EXH_S01 /master=cad /description="Cascading LOV, exhaustive"
CAS_SUG_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
CAS_SUG_S01 /master=cad /description="Cascading LOV, suggestive"
CAS_SUG_C01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
CAS_SUG_C01 /master=cad /description="Cascading LOV, suggestive"
CAS_SUG_T01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
CAS_SUG_T01 /master=cad /description="Cascading LOV, suggestive"
ID_EXH_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
ID_EXH_S01 /master=cad /description="Interdependent, 1, exh"
ID_EXH_S02 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
ID_EXH_S02 /master=cad /description="Interdependent, 2, exh"
ID_SUG_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
ID_SUG_S01 /master=cad /description="Interdependent, 1, sug"
ID_SUG_S02 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
ID_SUG_S02 /master=cad /description="Interdependent, 2, sug"
DPA_SUG_S01 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
DPA_SUG_S01 /master=cad /description="Added Prop Desc Attachment, Value"
DPA_SUG_S02 : ItemRevision.GRM(IMAN_master_form,DocumentRevision Master).
DPA_SUG_S02 /master=cad /description="Added Prop Desc Attachment, desc"
```
Preparing unmanaged documents for Teamcenter

Importing thousands of unmanaged Solid Edge documents into Teamcenter can be a time-consuming process. Careful attention is needed to analyze existing documents, modify file properties based on your desired managed structure, and correct broken links and duplicate filenames discovered during analysis. Automated tools are available to help you prepare your unmanaged data and import it into a Teamcenter-managed environment.

You can import unmanaged, properly prepared files into Teamcenter using the Add to Teamcenter application. The Add to Teamcenter application is available when you install Solid Edge Embedded Client. Successful use of the Add to Teamcenter application requires that all property information is defined correctly in the unmanaged files. Typical problem areas requiring correction include: broken links, duplicate filenames, undefined property information, and property values which exceed the maximum character length as defined by Teamcenter.

Preparing unmanaged documents for Teamcenter

**Document preparation**

To prepare your unmanaged documents for Teamcenter, you should:

- Remove documents you do not want to manage.
- Find duplicate document names.
- Scan for invalid document names.
- Map Solid Edge properties to Teamcenter attributes.
- Create custom properties to define the Item Revision for non-Solid Edge documents (image files, .pdf documents, and Microsoft Office documents) and to define the properties for non-graphic parts (grease, paint, etc.).

**Remove unwanted files**

When you add a folder to the library, every document in the folder is added to the library, regardless of whether or not you want to manage them. You should remove any documents that you do not want to manage before adding the folder to the library. These documents might include text or log files that reside in the folder you want to import.
Find duplicate document names

You can add duplicate documents to a managed library, but duplicate document names cannot exist in the same folder. If duplicate document names are found, you should ensure that you are adding the correct document to the library.

Find invalid document names

Teamcenter supports the same conventions that the file system supports for naming folders and documents. Folder and document names can consist of all Unicode characters except the following characters: # : \ ? * < > % / | " ~ !

Search your local folder for invalid document names before adding them to Teamcenter.

Map Solid Edge properties to Teamcenter attributes

In Teamcenter, the key attributes used to track part numbers and revisions are Item ID, Revision, and Item Name. The corresponding Solid Edge properties are displayed in Solid Edge on the Project tab of the Properties dialog box. You can access the Properties dialog box by choosing Application button→Properties→File Properties. Defining these properties in Solid Edge before adding the documents to Teamcenter minimizes your future efforts and your Teamcenter database will be more accurately populated from the start.

Some things to consider regarding Solid Edge property mapping:

- If the Solid Edge Document Number property is left blank, an Item ID is automatically generated and assigned for you when you import the data into Teamcenter. You should define the Document Number, Revision Number, and Project Name before loading your data into Teamcenter.

- If any of the Solid Edge properties contain more than the maximum character length, or if the Document Number plus the Revision is greater than the maximum character length, you are notified of an error on import into Teamcenter. The error is recorded in the log file generated by the import application. Windows 7 records the log file in \AppData\Roaming\Unigraphics Solutions\Solid Edge\Version 106\Log Files.

- In the Teamcenter-managed environment, only one Solid Edge 3D dataset is allowed per Item. However, multiple Drafts can be associated with each item as item revisions. When unmanaged 3D datasets using the same Document Number property are imported into Teamcenter, you must decide to save your Solid Edge Draft documents to the same Item Revision as the Solid Edge 3D content or save your Solid Edge Draft documents to a separate Item.

- Solid Edge Properties and Teamcenter Attributes should match Type (For example: String with String, Date with Date and Numeric with Numeric).

- Mapping the Project ID is not supported.

The Dataset Name property is required. If it is null or blank, Solid Edge Embedded Client uses the default of Item ID<separator>Revision.

The Item Type and Dataset Description are localized, while the Dataset Name is English-only.
Note
The Solid Edge property to Teamcenter attribute mapping is case sensitive.

Creating custom properties
You can create custom Solid Edge properties to map to Teamcenter attributes. For example, you can create custom properties to define the Item Revision for non-Solid Edge documents including image files, .pdf documents, and Microsoft Office documents (MS Word, MS Excel, MS PowerPoint). You can also create custom properties to define the properties for non-graphic parts.

There are three basic steps to creating custom properties:

• Provide a name for the custom property.
• Select the type of property you are creating.
• Type a value for the property.

Tip
Refer to the Solid Edge Help topic for instructions.

In the event you are importing non-graphic parts into Teamcenter, you should create the custom properties SE_Assembly_Quantity_Ourride, SE_Assembly Quantity_String, and Unit of Measure (UOM). These custom properties should also be added to the columns of the analysis spreadsheet datapreutilitiestemplate.xlsm explained in the Fine Tune Your Data section.

Importing non-Solid Edge documents into Teamcenter
When non-Solid Edge documents are added to the Teamcenter database using Add to Teamcenter, the custom properties that map Solid Edge properties to Teamcenter attributes is used. If the Item Type, Item ID, and Item Revision are defined, the non-Solid Edge document is uploaded into Teamcenter using the defined property mappings. However, if any defining properties are missing, the Teamcenter attribute is automatically assigned as with any other document type.

Caution
If the Solid Edge property that defines the Teamcenter Item ID/Item Revision is not defined, the values will be auto-assigned upon import. The non-Solid Edge document may not receive the same Item Revision number as its parent document. Create custom properties to map Solid Edge properties to Teamcenter attributes defining the Item Revision before adding the non-Solid Edge document to Teamcenter.

To set properties in groups of files:
1. Start Solid Edge.
2. On the Startup screen, click the Application button and choose Property Manager.
Chapter 8  Preparing unmanaged documents for Teamcenter

3. In the Select dialog box, navigate to and select a folder containing the files whose properties you want to edit.

4. Click Add to add the file folder to the list of files to process.

5. Click OK.

6. In the Property Manager dialog box, expand the list by clicking the + beside the folder name.

   **Warning**

   A warning dialog box may be displayed indicating that some files cannot be processed. This happens if there are files in the folder that do not support properties. If this warning message is displayed, click OK on the dialog box to dismiss the warning.

7. Type the values for the various properties.

   **Tip**

   You can click the right mouse button to display a list of commands that assist in making this process quicker.

---

### Add unmanaged documents to Teamcenter

1. Choose Start→Programs→Solid Edge ST6→Data Preparation→Add to Teamcenter.

   **Caution**

   Running Add to Teamcenter while Solid Edge documents are open can cause interference with documents that exist in the cache. As a best practice, close all Solid Edge documents before running Add to Teamcenter.

   Optionally, you can clear existing cache content prior to running Add to Teamcenter.

   - In the Add to Teamcenter dialog box, click Cache.

   - Log on to Teamcenter by entering your User ID and Password.

   - Clear your cache by clicking Delete All.

   - Click Yes to confirm that you want to delete all the documents from the project.

   - Close the Cache Assistant dialog box.

2. In the Add to Teamcenter dialog box, select the folder or documents you want to add to the managed library.
3. Click Add and your selection is added to the Folders and Documents To Be Added list.

4. To link the files that are added to Teamcenter to a specific folder, select the Add Documents to This Folder check box.

   Use Browse for Library Folder \(\text{Folder}\) to choose a folder from the Select Folder dialog box or create a new folder.

   **Note**

   Leaving the Add Documents to This Folder check box cleared adds the files to Teamcenter, but the folder is determined by the Teamcenter Preference WsoInsertNoSelectionsPref. By default, they are linked to the Newstuff folder.

5. Click Dry Run to examine the selected unmanaged files for broken links or missing information and generate an ordered list of your documents.

   The documents are not added to the library and the documents remain in the queue for you to make any necessary corrections and return to Add to Teamcenter.

6. (Optional) Select the Update Status On All Documents to Checked-In check box to check the documents into Teamcenter.

7. Determine how you would like the software to handle an overwrite condition by setting the Overwrite option.

   The Add to Teamcenter program compares the Teamcenter import date with the date the files were last modified to see if the files have already been loaded into Teamcenter. You can set the overwrite option to prompt you, to overwrite all documents it finds, or to not overwrite any documents. This option is particularly helpful if you are loading unmanaged documents unattended.

   **Note**

   You can load files over files that already exist in Teamcenter. Add to Teamcenter checks the item, revision, and dataset against those already in the database and gives you the option to check out the document and overwrite it, check out all files that exist and overwrite them, leave the file and use the file already in the database, leave all files and use the ones that already exist in the database or cancel the import process.

8. Set the Revision Rule for use with the documents.

   Your choice specifies the revision rule used to create the BOM. If this is the first time you have run Add to Teamcenter, the Teamcenter default Revision Rule is used. The Teamcenter Preference TC_config_rule_name defines the default Revision Rule.

9. (Optional) Set the Automatically Retry Documents That Fail to Load check box to retry the load of any documents that failed to load on the previous attempt.

10. Click OK to perform the Dry Run.
While the dry run is processing, you can monitor its progress on the Add to Teamcenter Status dialog box. The files in a dry run are not validated against what is in Teamcenter.

If broken links are found during the dry run, the Broken Links dialog box is displayed. You can choose to suspend the process, find alternates, or ignore the broken links.

**Caution**

Repair any broken links before proceeding with adding your unmanaged documents into Teamcenter.

You can suspend Add to Teamcenter and use the Analyze, Link Fixup, and Modify data preparation programs to correct reported problems in your unmanaged files.

Once any broken links or other problems have been corrected, restart Add to Teamcenter to complete any unfinished actions.

11. If no broken links or missing information were found, respond to the Validations Complete dialog box by clicking View Log, Summary, Continue, Cancel, or Suspend.

Clicking Continue loads the documents into Teamcenter.

12. When your selected documents successfully load into Teamcenter, you are notified that the Add to Teamcenter process is complete.

13. (Optional) Click Cache to view your documents in the cache.

**Overwriting documents using Add To Teamcenter**

The Add to Teamcenter application compares the item number, revision, and dataset values of a document with those existing in the Teamcenter database. As a result, you can import files over files that already exist in the Teamcenter database. Add to Teamcenter adds the import time to the original file, and on subsequent loads, it checks to see if the modified date is after the import date. If the document being imported has not been modified since the last import, it is recognized as already being in the database and is not re-added to Teamcenter on subsequent imports. However, if the unmanaged file is modified after its initial import into the database, on subsequent imports you are given the options to:

- Check out the document and overwrite it.
- Check out all files that exist and overwrite them.
- Leave the file and use the file already in the database.
- Leave all files and use the ones that already exist in the database.
- Cancel the import process.

In the event the Add to Teamcenter comparison discovers an item number that already exists in the database, it compares the file being imported to all revisions, datasets, and files that comprise the dataset. If a match is found, you are given the opportunity to determine the action on the file being imported. If no match is
found, the file is assigned a new item number and a record of the action is placed in the log file.

For example, if the following information exists in Teamcenter:

- Item ID 000100
- Revision A
  - Dataset SE Part 000100/A
  - Named Reference part1_04112007.par
- Revision B
  - Dataset SE part 000100/B
  - Named Reference 000100.par

Then when you import a file with 000100 as the document number, a comparison is made between the file name of the file being imported against all named references (i.e., part1_04112007.par and 000100.par in this example). If it matches, you are given the option to overwrite the file. If you choose not to overwrite, the file is assigned a new item ID, which is recorded in the log file.

**Log files**

When you run the Add to Teamcenter process, log files are generated that contain errors or warnings occurring during the file upload transaction. The default location for log files is determined on the File Locations page of the Solid Edge Options dialog box.

You can use log files to monitor the success or failure of your documents loading into the Teamcenter database. The log files you will interact with most often are grouped in the subfolder \Add to Teamcenter that is created when you run Add to Teamcenter. Each file uses a naming convention consisting of a description, timestamp, and file extension. For example, AddToTeamcenter_20120514131232.log. The timestamp is a 14 digit unique identifier using the format YYYYMMDDHHmmss where:

- **YYYY** is the year. In the example, 2012.
- **MM** is the month. In the example, 05 is May.
- **DD** is the day. In the example, 14 is the 14th.
- **HH** is the hour using a 24-hour clock beginning at midnight which is 00 and going through 23, which is 11:00pm. In the example, 13 is 1:00pm.
- **mm** is the minute. In the example, 12 is 12 minutes past the hour.
- **ss** is the seconds. In the example, 32 is 32 seconds past the minute.

<table>
<thead>
<tr>
<th>Log File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AddToTeamcenter_&lt;timestamp&gt;.log</td>
<td>Contains all Add to Teamcenter option settings. The setting names are not localized for this development log file.</td>
</tr>
</tbody>
</table>


**Chapter 8  *Preparing unmanaged documents for Teamcenter***

<table>
<thead>
<tr>
<th>File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ATTHistory_&lt;timestamp&gt;.xml</code></td>
<td>Contains information regarding the blocks of data being added to Teamcenter, the number of links within the block, and how long each block took to load. The history is only reset and cleared if you start a new Add to Teamcenter process.</td>
</tr>
<tr>
<td><code>SEEC User Log &lt;unique id&gt;.xml</code></td>
<td>Contains a summary of actions taken by the Add to Teamcenter process to correct the data and load it into the database. These actions are logged as warnings with messages specific to why the corrective action was taken. If a file fails to load, an error is shown in the summary log with a message explaining why the file failed to load. The contents of this log file displays in the SEEC Summary dialog box when you are importing files using Add to Teamcenter.</td>
</tr>
<tr>
<td><code>TALLog_&lt;timestamp&gt;.xml</code></td>
<td>The Teamcenter Application Layer log file. Includes a timer so the total time for input is measured accurately.</td>
</tr>
</tbody>
</table>

All log files persist from one Add to Teamcenter session to another, so you need to work with your system administrator to develop a schedule to archive the contents of the \Unigraphics Solutions\Solid Edge\Version 106\Log Files folder and free space on your computer.

### Output files

When you run the Add To Teamcenter process, files are generated as output of the process. All output files created from one input list have the same timestamp so it is easy to identify which output file is related to another. The default location for output files is, \Unigraphics Solutions\Solid Edge\Version 106\Log Files.

<table>
<thead>
<tr>
<th>Output File</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>BrokenLinkLog_&lt;timestamp&gt;.xml</code></td>
<td>Contains information regarding the broken link and the parent document.</td>
</tr>
</tbody>
</table>
| `Unordered_<timestamp>.CSV` | Lists input files after the completion of the scan for broken links. You must have Microsoft Excel or another .csv editor installed to open this file. **Caution**

   This file cannot be used as input to the Add to Teamcenter process. |
Preventing unmanaged documents for Teamcenter

| Ordered_<timestamp>.CSV | Contains an ordered list of your input files along with their reverse links. If a file has a reverse link, it is listed twice with two order numbers and also listed twice in the pass/fail log. The ordered list is generated by either the output from a dry run or as a result of the pass/fail log.  

**Note**  
You can rename the *Ordered_<timestamp>.csv* file and use it as an input file to Add to Teamcenter; however the format must match the expected input. You can only submit one .CSV file for processing at a time. |

| SuccessFailureLog_<timestamp>.CSV | Lists the documents you are importing and provides a summary of success or failure of the import process for each file. The log is written once per Add to Teamcenter session even if you elect to suspend or retry the upload process. The order number in this file matches the order number from the *Ordered_<timestamp>.CSV* file so you can match up entries between the two files during troubleshooting.  

**Note**  
Each of the output files persist from one Add to Teamcenter session to another, so you need to work with your system administrator to develop a schedule to archive the contents of the `\Unigraphics Solutions\Solid Edge\Version 106\Log Files` folder and free up space on your computer. |

### Using automated utilities to import unmanaged Solid Edge data into Teamcenter

A set of utilities are available to assist you with analyzing your data prior to importing it in to Teamcenter. The programs are delivered on the software installation media, and they are available when Solid Edge Embedded Client is installed.

**Note**  
Microsoft Office Professional 2007 must be installed for you to run the Solid Edge to Teamcenter Data Preparation Utilities.

Choose Start→Programs→Solid Edge ST6→Data Preparation to access the utilities.  
The following chapter, *Solid Edge to Teamcenter data preparation utilities*, provies instructions for using the tools.
By utilizing the Solid Edge to Teamcenter data preparation utilities to prepare your data to properly map existing Solid Edge properties to these attributes before adding them to Teamcenter, you can minimize future efforts.
Chapter

9 Solid Edge to Teamcenter data preparation utilities

The Solid Edge to Teamcenter data preparation utilities is a set of programs designed to assist you with preparing large batches of unmanaged data using an automated process.

This chapter documents the Solid Edge to Teamcenter data preparation utilities available to you when Solid Edge is installed. Included in this section is information about how to:

- Access the Solid Edge to Teamcenter data preparation utilities.
- Use the Analyze program, to perform an analysis of your existing data. The program:
  o Evaluates Solid Edge files for duplicate document number values, duplicate file names, empty revision entries, empty project names, and broken links.
  o Performs a file name length analysis.
  o Evaluates the Solid Edge to Teamcenter property mapping.
- Fine-tune the data generated by the analysis through the use of the Analysis Template, datapreutilitiestemplate.xlsm, and Analysis Report so that it correctly represents the data that will be imported into Teamcenter.

Caution

It is imperative for your unmanaged data to be evaluated and corrected prior to import so you can have a correctly populated Teamcenter database from the start and minimize future efforts.

If you use custom Solid Edge data properties, you must define the custom properties for use in Teamcenter using the spreadsheet datapreutilitiestemplate.xlsm located in \Program Files\Solid Edge ST6 \Program.

- Repair broken links using the Link Fixup program.
- Update the unmanaged files with changes identified using the Modify program.
Considerations before accessing the Solid Edge to Teamcenter utilities

The processing of unmanaged documents by the Solid Edge to Teamcenter data preparation utilities takes place on the client system running the utilities. Considerations prior to running the utilities are:

- The Solid Edge to Teamcenter data preparation utilities are not compatible with the Windows 2000 operating system.

- A minimum of 4gb of memory is recommended on the client system.

- Available disk space 1.5 times the size of the dataset being processed is recommended for the client system.

- Microsoft Office Professional 2007 must be installed on the client to run the Solid Edge to Teamcenter data preparation utilities.

  Note
  Processing more than 65,536 files requires Office 2007 and the input file must be in .xlsm document format.

- Perform a backup of your data prior to using the Solid Edge to Teamcenter data preparation utilities.

- The computer containing data being analyzed or imported should be on an isolated network and inaccessible by users actively modifying the documents in a production environment.

- Identify the non-Solid Edge files you want to import before running the utilities. If the non-Solid Edge files are not linked to Solid Edge files, they should be imported into Teamcenter outside this environment. Consult Teamcenter documentation for importing the non-linked, non-Solid Edge files into Teamcenter.

- Identifying a target data set (mass of data that has been broken down into logical pieces) for importing, such as a specific folder of data, is recommended over a mass importation of data into a Teamcenter-managed environment.

  Caution
  If you are importing more than 20,000 documents, it is recommended that you contact Support to discuss best practices.

- A significant amount of time is required to analyze, prepare, and import your Solid Edge data into Teamcenter. An estimate for analyzing and preparing your files is one week per 15,000 files being imported, depending on the state of your existing data.

  While actual import rates vary, you can assume approximately 250 files per hour. There are several factors that affect this estimate including, but not limited to the following:

  o Available system memory.

  o Number of unmanaged files being imported.
o Size of unmanaged files.

o Number of top level assemblies.

o Network bandwidth.

• Previously installed versions of the Solid Edge to Teamcenter utilities should be removed before you install the latest version.

Using the data preparation utilities

Workflow overview

A general overview of the steps required to utilize the tools are:

• Perform a dry run on the unmanaged Solid Edge files identified for import into Teamcenter using Add to Teamcenter.

• Run the Analyze program to check for duplicate document number values, duplicate filenames, broken links, and to evaluate the Solid Edge to Teamcenter property mapping in your unmanaged files.

• Repair any problems identified during the analysis using the commands in the Analysis Template and apply corrections to the files listed in the Analysis Report.

• If you rename files using the commands on the Analysis Template, use the Link Fixup program to correct any broken links that were the result of renaming the files.

• Use the Modify program to modify the unmanaged Solid Edge files with the changes you specified in the analysis spreadsheet.

The following section of this document contains a detailed, step-by-step procedure for completing the file analysis, link fix-up, and modify files processes. Use the checklist provided at the end of this section to assist you with moving through the process.

Perform a Solid Edge file analysis

1. If your Solid Edge files contain custom properties, define those properties prior to running the Analyze Files program. See the Help file Define custom properties prior to analysis for instructions.

2. Choose Start→Programs→Solid Edge ST6→Data Preparation→Analyze.

3. Select the data management application for which you are preparing your data:
   • Teamcenter
   • Solid Edge SP
   • Unmanaged or Insight
4. Select whether the files to be analyzed are located in a file output from a dry run of Add to Teamcenter, or in a specified system folder.

<table>
<thead>
<tr>
<th>Use this option</th>
<th>To do this</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze output from Add To Teamcenter Dry Run</td>
<td>Identify the location of either the brokenlinks.xml file or the ordered or unordered CSV file containing the list of files for analysis.</td>
</tr>
<tr>
<td>Analyze files from specified folder</td>
<td>Identify the location of the system folder containing the files for analysis.</td>
</tr>
</tbody>
</table>

5. Use the Browse button associated with your selection to locate the file or folder specified in the previous step.

6. Refine the analysis by selecting additional, appropriate check boxes.

You can choose from these options to define the criteria for your analysis:

- Perform Broken Links Analysis
- Crawl Links To Build Complete List Of Solid Edge Files To Be Imported

**Note**

This option is only available if you select the option to specify a folder containing Solid Edge files.

7. In the Report File box, define a location for the report file generated as output of the analysis.

**Tip**

The report file generated is AnalysisOfSolidEdgefiles.txt.

8. Click OK to start the analysis.

The length of time required for processing depends on the number of files analyzed. When processing is finished, the Reports section of the Analyze Files dialog box updates and displays the statistics of the files analyzed.

An Excel document is displayed in a separate window. The Analysis Report lists the files you analyzed.

9. (Optional) To display the report in a separate text file, in the Analyze Files dialog box, in the Select Report Log Files To View area, click one of the reporting option buttons.

In addition to displaying the results of the analysis in the dialog box, the results are saved to disk in the location you define in the Report File portion of the dialog box. You can click View Report Text File to view the contents of the file on disk.

10. Save the Analysis Report to a name other than datapreutilitytemplate.xlsm.
Note

The commands for making changes to your Solid Edge files are dependent on macros. If you close and reopen the spreadsheet, macros may be disabled due to your Microsoft Office security settings. Discuss your security policy with your system administrator before making changes to your security settings.

11. In the Analyze Files dialog box, click Cancel to close the program.

12. To fix problems identified in the analysis, use the tools in the Analysis Report to apply corrections to the files listed.

Examples of the type of corrections you might need to apply are: changing the Project ID, changing revisions, or renaming existing unmanaged files. See the Help document *Rename files using the Analyze data preparation utility* for instructions on renaming files.

Tip

- If broken links were identified in the file analysis, use the Link Fix-Up program to repair them. This program modifies the files directly. To learn how to do this, see *Fixing Links for Solid Edge Files*.

- To modify the unmanaged Solid Edge files with the changes you specified in the Excel document, run the Modify program.

Analysis Report

The Analysis Report displays the results of data analysis in the spreadsheet area of the Analysis Template. The Analysis Report utilizes the commands at the top of the spreadsheet for correcting or confirming data prior to importing into a managed environment.

You can use the Analysis Report to:

- Define or correct property data prior to importing into the managed environment.
- Rename unmanaged files.
- Separate the file name and revision number in an existing file name.
- Mark documents to delete from disk.

The commands for manipulating your Solid Edge files are dependent on macros being enabled. If you notice the warning,

![Security Warning](Security Warning)

Macros may be disabled due to your Microsoft Office security settings.

Note

Discuss your security policy with your system administrator before making changes to your security settings.
The Analysis Report user interface has the functionality of Microsoft Office 2007. A horizontal, tabbed command ribbon makes all commands visible and accessible. On each tab, functions are organized by group to help you locate them.

The tabs containing commands you will use most frequently to define or correct property data prior to importing your documents into the managed environment are:

- SE Data Prep
- SE Final Check
- SE Misc

**SE Data Prep**

Mark Previous Revisions
Searches the files listed as a result of the analysis and finds the latest revision of the files based on the document number. All revisions prior to the latest revision are marked for deletion with an X in the Delete column.

Remove Custom Properties
Removes the specified custom properties from the documents listed in the spreadsheet.

Delete Marked
Scans the Delete column of the spreadsheet for those marked with an X. When processed, these files are immediately deleted from disk.

**Caution**
Deleting files from disk can create broken links. Use care when marking files for deletion.

Remove Timestamp
Deletes the timestamp from each listed file so the same data can be imported more than once into the database.

Set File Status
Immediately resets the Solid Edge status property of selected files to Available.

Get SE Version
Searches the files listed and locates the latest saved version.

Set Write Access
Sets the files with Write access.

Set Read Only Access
Sets the files with Read Only access.

Split Filename
Searches for a delimiter defined in the ribbon and divides the file name into two portions. Data to the left of the delimiter is used in the Document Number property definition. Data to the right of the delimiter is used in the Revision property definition.
Copy Filename to Doc Num
Copies the existing file name of a document without its extension to the Document Number property. As a result, once the data is imported into Teamcenter, the file name is used for the Item ID.

Copy Filename to Project
Copies the existing file name of a document without its extension to the Project name property. As a result, once the data is imported into Teamcenter, the file name is used for the Item Name.

Copy Doc Num to Filename
Copies existing document numbers to new file names. Existing data is not modified.

Append DFT to Doc Num
Appends -DFT to the existing document number for draft files only.

Increment Doc Num
Increments the existing document number with the prefix and starting value you specify.

Parse Filename
Sorts the data by the value you specify. You supply the Start and To information along with the Column where you want the results displayed.

Note
The value for the column is the numerical value as counted left to right on the spreadsheet.

Append Doc Num
Adds the string you specify to either the beginning or end of the document number.

String in Filename
Finds files with the string you specify, and then places another string you specify in the column you specify.

Tip
Standard parts usually have something unique in the file name. This function can be used to add the word Standard in the Teamcenter Item Type column for that file.

Multiple 3D
Finds Draft (.dft) documents with links to multiple 3D Solid Edge documents.

From Linked 3D
Populates Draft (.dft) document numbers from the linked 3D Solid Edge document.

From Linked Draft
Populates 3D document numbers from the Draft (.dft) document with the same file name.
Solid Edge SP Content Type  
Checks for entries in the Part Content Type, Revision Content Type, and Content Type columns of the spreadsheet, and compares the entries with the values in the table in the Content Types-Solid Edge SP worksheet. Discrepancies are denoted by coloring the cell of the spreadsheet red, and adding an error message to the delete column noting an invalid content type. 

If the cells of the spreadsheet are empty, the content type is assigned from the Content Types-Solid Edge SP table and it is noted that a content type has been assigned.  

Solid Edge SP Invalid Characters  
Creates a new file name by replacing invalid characters in an existing file name with the default replacement character dash (-). The replacement value can be changed when you are presented the Replace Invalid Characters dialog box. 

Generate Solid Edge SP URL  
Generates the relative Solid Edge SP URL and replaces the local path with the given URL. Set this URL to upload the document to the Solid Edge SP location during Add to Solid Edge SP. 

SE Final Check  
Remove Cell Background Color  
Removes the color coding of cells in the spreadsheet. This command should be performed prior to rechecking for duplicates in the document number and file name. 

Compute Longest  
Calculates the total character length of each column and reports it for evaluation.  

Note  
There is no logic applied to compare the values reported to the maximum character limit of fields within Teamcenter. You must manually verify the maximum character limit which varies depending on the version of Teamcenter you are running. 

Duplicates  
Evaluates modified data to ensure the property information is correct and contains no duplicate data prior to importing into Teamcenter. Duplicate file names are shown in red, and duplicate document numbers are shown in yellow.  

- Filename  
- Document Number and Revision  
- Solid Edge SP-StatusNr  
- Solid Edge SP URL  

If duplicates are found, the cell is colored red and a message indicates Duplicate Filename or Duplicate Document Number.
Check Revision
Determines the linked 3D file for each draft file found, then marks the files where there is a mismatch between the revision of the draft and 3D files. This command is helpful for identifying situations where the draft and 3D files will be imported into separate Teamcenter Item Revisions when the intention is to import them into the same item revision.

Remove String
Deletes the defined string from each of the cells in the spreadsheet.

All
Creates a text file for exporting. The file contains all documents in the list.

SE Misc
Synchronize
Synchronizes legacy standard parts with generated Teamcenter standard parts. You have the option to indicate if you have CAD partner standard parts installed.

Help About
Displays the version number of the Solid Edge data preparation tools.

Modify Solid Edge files using data preparation programs

The Modify program modifies the files listed in the Analysis Report according to the specifications you enter in the spreadsheet.

Note
The Modify program updates properties of the unmanaged files directly. You must have write access to the unmanaged files to use the Modify program.

1. Choose Start→Programs→Solid Edge ST6→Data Preparation→Modify.
2. In the Data Prep Utilities - Modify Files dialog box, click Browse.
3. Locate the Excel spreadsheet on your computer that contains the unmanaged Solid Edge files to be modified.
   This file was generated by the Analyze program. The default location for the spreadsheet is \Program Files\Solid Edge ST6\Program. The default name for the spreadsheet is datapreputilitiestemplate.xlsm.
4. Click Process.
   The length of time required for processing depends on the number of files to process. A status notification is displayed to let you know when processing is complete, and the graphic window updates to display the results.
   The results of processing the data are also written to a log file.
5. (Optional) Click View Logfile to view the contents of the log generated during modification of the spreadsheet data.
Fix links in Solid Edge files

1. Choose Start→Programs→Solid Edge ST6→Data Preparation→Link Fix-Up.

2. In the Solid Edge to Teamcenter Data Prep Utilities - Link Fix-Up dialog box, click Browse to identify the location of your spreadsheet.

   This is the Excel spreadsheet on your computer that lists the Solid Edge files to be repaired and the specifications for updating them.

   This file was generated by the Analyze program. The default location for the spreadsheet is \Program Files\Solid Edge ST6\Program.

   **Caution**

   If you are correcting links in Solid Edge files created prior to the Solid Edge ST release, you must click Activate Pre-ST Link Fix-Up and use the alternate dialog box for identifying your spreadsheet of data.

3. Your analysis information can be spread across multiple datasheets in Excel. Select the datasheet that contains the link replacement information.

   **Note**

   For each broken link, the spreadsheet must define both the old file location and the old link as well as the new file location and the new link. Columns 3 and 4 are used for the new path and new link definition.

4. In the Solid Edge to Teamcenter Data Prep Utilities - Link Fix-Up dialog box, click Locate Folder Containing SE Files.

5. Browse to the folder that contains the Solid Edge files to be repaired and click OK.

6. In the Doc Types area of the Link Fix-Up dialog box, select one or more document types that you want to modify.

7. In the Define Scope area of the Link Fix-Up dialog box, define the scope of the files to be processed by setting one of the options.

8. Click OK to modify the files.

9. (Optional) Click View Logfile to display the information generated during the Link Fix-Up process.

**Import process checklist**

- Perform an Add to Teamcenter Dry Run on your unmanaged documents identified for import into Teamcenter.

- Use the Analyze program to check for duplicate document number values, duplicate filenames, and to evaluate the Solid Edge to Teamcenter property mapping in your unmanaged files.
Repair any problems identified during the analysis using the tools in the Analysis Template and Analysis Report. Apply corrections to the files listed in the Analysis Report.

Use the Modify program to modify the unmanaged Solid Edge files with the changes you specified in the analysis spreadsheet.

If you rename files using the Analysis Report, use Link FixUp to correct any broken links that were the result of renaming the files.
Chapter

10 Using Smart Codes

Solid Edge Embedded Client supports the use of Smart Codes. By using Smart Codes, you can assign intelligent part numbers to new items that meet your organization's part coding requirements.

When you use Smart Codes, Item IDs are created when you make selections from various sections of the Compose Item ID dialog box within Solid Edge. Using Smart Codes, you can preconfigure the label and contents of each section that makes up the Item ID providing uniformity within your organization.

Note

The use of Smart Codes requires Teamcenter Express v4.1.1 or greater. Smart Codes are implemented in the rich client only and are not available in the web client. Refer to SEEC_Readme.htm for software compatibility details.

Using Teamcenter Preferences with Smart Codes

Solid Edge Embedded Client recognizes that Smart Codes are in use when a non-zero value is present in the Teamcenter site preference TCX_Smart_Codes. When Smart Codes are in use, the Item ID is disabled within common property dialog boxes and the value is set by Teamcenter.

Teamcenter database administrators can add the following Teamcenter preferences to further customize your interaction with the common property dialog boxes when Smart Codes are in use:

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
<th>Default value</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEEC_MakeReadOnly_ItemID</td>
<td>Sets the Item ID to read-only</td>
<td>False</td>
<td>Site</td>
</tr>
<tr>
<td>SEEC_MakeReadOnly_Revision</td>
<td>Sets the Revision to read-only</td>
<td>False</td>
<td>Site</td>
</tr>
</tbody>
</table>

When the value of these options is True, the Item ID and/or Revision will be read-only to prevent the entry of a value. The Assign or Assign All command must be used to assign a value. If the options are not used or the values are blank, it is assumed they have a value of False, and the Item ID and Revision can be changed.

Smart Code creation workflow

The following workflow describes the process of enabling Smart Codes and then configuring them for use.

1. Plan your Smart Code deployment.
2. Enable Smart Codes.

Before you can create new items using Smart Codes functionality, Smart Codes must be enabled using the Teamcenter preference TCX_Smart_Codes. For information on how to enable Smart Codes, see the topic Enable Smart Codes in this guide and also available in Solid Edge Help.

3. Create a List of Values for each section of the Item ID.

Lists of values (LOV) are lists of data entry items accessed through a dialog box. You must create a list of values for each section of the Item ID. The topic Create a List of Values describes how to use this feature.

4. Define your Smart Code configuration.

A sample configuration file is located in \TCROOT\install\tx\data\EN\SmartCodes, and it defines the order, dependency, and label for each section of the Item ID. Edit the tx_sc_config.txt configuration file as described in the topic Edit the Smart Code configuration file.

**Note**

Smart Code configuration file parameters are defined in the appendix of this guide.

5. Import the configuration file.

The Smart Code configuration file is imported and exported using the smartuibldr_configure utility. The utility is located in the \TC_ROOT\bin directory on your Teamcenter server. When you import a file, the contents of your configuration file are written to the Teamcenter database. Refer to the instructions in the topic Import and export the Smart Code configuration file to import your configuration files into the database.

Once you enable Smart Codes, the Compose Item ID dialog is displayed any time you create a new document or choose the Save As or Save Copy As commands in a Teamcenter managed environment of Solid Edge or Structure Editor.

**Smart Code example**

The following is an example of the Compose Item ID dialog box with Smart Codes enabled and configured. The table below it describes each section of the dialog box.

The Item Type displays the item type selected on the common property dialog box. The Item ID displays the value of the Item ID created based on your selections in the dynamic portion of the dialog box. In this example, the Item ID is composed of five dynamic sections. The first two sections are defined by lists of values (LOVs), the third section assigns a computed value, and the fourth and fifth sections are lists of values.

**Note**

A filtering LOV is a list of values that varies based on a previously selected option.
Using Smart Codes

Enable Smart Codes

Before you can create new items using Smart Code functionality, you must first enable it.

1. Start the Teamcenter rich client and log in to My Teamcenter with database administrator privileges.
Chapter 10  Using Smart Codes

2. Choose Edit→Options.

3. Click Index, and type TCX_ in the Search on preference name box.
The system displays all preferences that begin with TCX.

4. Select TCX_Smart_Codes.

   Note
   This preference is a Site only preference. Modifying it requires database administrator privileges.

5. In the Current Values field, type 1, and click Modify.

6. Click Cancel.

   Tip
   To disable Smart Codes, type 0 (zero) in the Current Values box.

Create a List of Values (LOV)

Use the following instructions with Teamcenter Engineering 2007 or Teamcenter Express 3.x to create a List of Values for each section of an Item ID.

   Note
   Starting with Teamcenter Unified 2007.x and Teamcenter Express 4.x, Teamcenter Business Modeler IDE (BMIDE) is used to create Lists of Values. Refer to the Teamcenter Business Modeler IDE Guide for instructions to add a list of values (LOV).

1. Start the Teamcenter rich client and log in to My Teamcenter with database administrator privileges.

2. On the Teamcenter Express navigation bar in the Administration section, start the List of Values application.

3. In the Details tab, type a name and description for the List of Values.
The name will be used again when you define the section in the configuration file.

4. Click the Values tab.

5. Click the plus sign (+) to add a new value.

6. Type an abbreviated code and full name for the value, using the pipe character (|) between the two values.

   Tip
   If you want the Item ID to include a dash (-) after the value, enter it after the code.
7. Click the plus sign to add another new value. Continue adding values until your list is complete.

**Tip**
To remove a value, click the minus sign (-).

8. Click Create to create the List of Values.

9. Repeat these steps to create the List of Values for each section of your Item ID.

**Edit the Smart Code configuration file**

The `tcx_sc_config.txt` file is used to define the parameters for each section of the Item ID.

1. On the Teamcenter server, use your text editor to open `tcx_sc_config.txt` located in `\TC_ROOT\install\tcx\data\EN\SmartCodes`.

2. Define each section of the Item ID by editing a corresponding section in the configuration file.
   
   Each section in the configuration file contains a list of parameters and corresponding values. Parameters without any influence are ignored. Each parameter must adhere to the format `Parameter : Value`.

3. Save the `tcx_sc_config.txt` file.

**Import or export the Smart Code configuration file**

The Smart Code configuration file is imported and exported using the Smart Code UI Builder utility, `smartuibldr_configure`. The utility is located in the `\TC_ROOT\bin` directory on your Teamcenter server. All imported modifications are immediately available.

**Tip**

Smart Code UI Builder utility syntax is available from a command window by typing `smartuibldr_configure -h`.

**Import a configuration file**

When you import the configuration file, the contents are written to the Teamcenter database.

- Open a command window, and type

  `smartuibldr_configure -u=username -p=password -g=group -imp=drive-letter:\file-location\my-config-file.txt`

**Export a configuration file**

When you export the configuration file, the information in the Teamcenter database is written to the configuration file.
Chapter 10  Using Smart Codes

• Open a command window, and type
  smartuibldr_configure -u=username -p=password -g=group
  -exp=drive-letter:\file-location\myconfig-file.txt
Chapter

11 Troubleshooting

The following information is included to assist you with assessing and correcting problems you may encounter while running Solid Edge Embedded Client.

Duplicate Item IDs

Duplicate Item IDs can occur when a BOM line is added using Structure Editor while the assembly is simultaneously open in Solid Edge Embedded Client. Only a single application on a single computer should load a product structure for modification. An assembly should be closed and uploaded before it is opened by another application.

BOM View Revision not created or updated

In the event the BOM View Revision is not created or updated on your server, check to make sure the out-of-the-box revision rules have not been edited. It is vital that revision rules are not changed from their designed behavior. This is especially true for the revision rule, Latest Working.

Missing Property for Synchronous file

In releases of Solid Edge Embedded Client prior to ST3, a property mapping to capture Model_Type must be defined in Teamcenter for you to open and save Solid Edge Synchronous files in a Teamcenter-managed environment. If you are working with a version of Solid Edge prior to the ST3 release, and the and the property is not mapped, you will see the error message:

If you encounter this error message while working with a pre-ST3 Solid Edge Synchronous file:

1. Save the Solid Edge Synchronous file to an unmanaged location.

2. Contact your Teamcenter administrator to add the Model_Type property to Teamcenter using the instructions found in the Attribute mapping for Synchronous content portion of this guide.
3. Add the Solid Edge Synchronous file you saved to the unmanaged location to the document library using Add to Teamcenter.

Export attribute mapping

Attribute mapping defines what document properties you will exchange between Solid Edge and Teamcenter. Having a list of the attributes you have mapped on the server is significant when troubleshooting problems. A user with system administrator privileges can obtain this information by performing an export of the data using the export_attr_mappings command and arguments. The output of the export is created in the file you specify. The following example if for a server running Teamcenter Express.

Example

C:\Program Files\UGS\Teamcenter\Express\V3\bin>export_attr_mappings
-file=c:\temp\attr.txt -u=myuserid -p=mypassword -g=mygroup

The arguments used are:

-file=the mapping file being created locally
-u=userid for your Teamcenter database
-p=password for your Teamcenter database
-g=Teamcenter group

Troubleshooting Teamcenter

The following information is provided to assist you with troubleshooting your Teamcenter installation.

| Error                              | Description                                                                 | Corrective Action                                                                 |
|------------------------------------|                                                                            |----------------------------------------------------------------------------------|
| Document preview does not display  | Document selected from the Open dialog box does not display a document preview. | Verify FMS is installed and configured properly. From a command prompt type: cd %FMS_HOME%\bin fccstat --status |
| Unexpected http response – 100     | Observed when working with large assemblies.                               | Increase the number of servers in the pool.                                        |
| EJB Exception: nested exception is java.lang.OutOfMemoryError | Application server ran out of memory (J2EE only).                           | Increase application server memory. Example: Xms 1024m and Xmx1024m               |
| Solid Edge Policy file failed to load | Observed when importing large data sets (AddtoTeamcenter)                  | Increase the number of servers in the pool.                                        |
### Troubleshooting

| Login requested for <UserID> to <Description> | Solid Edge Policy file failed to load. | SEEC Administrator must be loaded on the Teamcenter Server.  
Confirm delivery of Policy files to TC_DATA.  
Verify the teamcenter URL was entered correctly.  
Verify the port number is correct.  
If you have a 2-tier connection defined, verify you have access to TC_DATA. |
| --- | --- | --- |
| Login requested for <UserID> to <Description> | The user name, password, group and role combination you used is not valid. | Verify your cap lock key is not on.  
Verify you correctly entered your login.  
Verify you entered a correct group.  
Verify you entered a correct role. |
| Login requested for <UserID> to <Description> | FMS failed to start during %TC_ROOT%\fcc\fcc.xml. | Verify environment variable FMS_HOME %FMS_HOME%\fcc.xml.  
From a command prompt type %FMS_HOME%\bin\fccstat.exe -status |
| Login requested for <UserID> to <Description> | Teamcenter returned 8004A0A0 which SEEC does not recognize as a known error. Review the log files for further information. | For 2-tier, verify you have access to TC_DATA. |
| Partial Error on Checkin/Save | Unable to save new content on TcE 2005SR1 MP8 | For Teamcenter Engineering:  
From a command prompt type install -priv CICO infodba [IMAN_USER_PASSWD] dba  
For Teamcenter:  
From a command prompt type install_am_privilege [-h] -u=<username> -p=<password> -g=<groupname> -n=CICO |
Run SEEC diagnostics

The Solid Edge Embedded Client diagnostic application enables you to easily create a collection of information regarding your Solid Edge Embedded Client configuration. The application is delivered with Solid Edge Embedded Client and collects client information such as software location, database connection, cache information, registry details, and log files into one location to share with product support in the event assistance is needed.

1. On the Start menu, choose Programs→Solid Edge ST6→SEEC→Diagnostic Application.
   
   **Caution**
   
   You should exit Solid Edge, Structure Editor, and Add to Teamcenter prior to running diagnostics.

2. In the SEEC Diagnostics dialog box, notice the selection of the 2-tier or 4-tier button identifying the configuration installed on your client.
   
   The application automatically identifies your connection type. However, if you have both the 2-tier and 4-tier configurations, you can manually set the connection type for the scan.
   
   If you are not sure which configuration you have, refer to the Help topic *Determine your Teamcenter client configuration*.

3. Define the location of information associated with your specific configuration.
   
   For a 2-tier configuration, browse for the location of your TC_ROOT and TC_DATA information.
   
   For a 4-tier configuration, supply the URL of your server.

4. In the Diagnostic Package Location, define a folder where the diagnostics folder and all files created by the scan will be stored.

5. Click Scan.

6. Log on to Teamcenter.
   
   Upon successful login, the scan begins and you are notified when it completes.

7. Click OK to dismiss the Scan Complete dialog box.
   
   The Detail portion of the SEEC Diagnostics dialog box contains the results of the diagnostics scan. The *SEECDiagnostic_timestamp.txt* log file is created in the folder you defined in the Diagnostic Package Location.

8. View the contents of the folder you defined as your diagnostic package location.
   
   **Example**
   
   `C:\Documents and Settings\<username>\My Documents\SEECDiagnostic`
   
   The folder contains the log files and other files generated by running the diagnostics application.
The *SEECDiagnostic_${YYYYMMDDHHMMSS}.txt* is automatically generated by the scan. The YYYY is the year, MM is the month, DD is the day, HH is the hour, MM is the minute, and SS is the second the scan was started.

9. Create an export of your Teamcenter attribute mapping.
   - Open a Command Prompt window by choosing Start→Programs→Accessories→Command Prompt.
   - Set your `tc_root` environment variable equal to the installation location of your Teamcenter client.
     
     **Example**
     
     ```
     C:\>set tc_root=c:\Program Files\UGS\Teamcenter\Express\V3
     ```
   - Set your `tc_data` environment variable equal to the location of your Teamcenter data.
     
     **Example**
     
     ```
     C:\>set tc_data=\myserver\ugs\tcdata\n     ```
     
     This example assumes a 4-tier Teamcenter connection.
   - Change directories to the installation location of your Teamcenter client.
     
     **Example**
     
     ```
     C:\>cd %tc_root%
     ```
   - Change directories to the `\bin` directory.
     
     **Example**
     
     ```
     C:\Program Files\UGS\Teamcenter\Express\V3>cd \bin
     ```
   - Run `%iman_data%\iman_profilevars`.
     
     **Example**
     
     ```
     C:\Program Files\UGS\Teamcenter\Express\V3>iman_data%\iman_profilevars
     ```
   - Export the Teamcenter attribute mappings using the `export_attr_mappings` command and arguments.
     
     **Example**
     
     ```
     C:\Program Files\UGS\Teamcenter\Express\V3>export_attr_mappings
     -file=c:\temp\attr.txt -u=myuserid -p=mypassword -g=mygroup
     ```

   The arguments used are:
   - `–file=the mapping file being created locally`
   - `–u=userid` for your Teamcenter database
–p=password for your Teamcenter database
–g=your Teamcenter group

The output of attribute mappings is created in the file you specified.

10. Create a Zip file of the data in the diagnostic package folder along with the export file containing your Teamcenter attribute mapping.

You are ready to send the information product support in the event assistance is needed. For more information regarding diagnostics, see the *SEEC diagnostics* Help file.
Chapter 12  

Solid Edge Technical Support

The Global Technical Access Center (GTAC) provides technical support for Solid Edge customers.

Accessing Support from Solid Edge

You can access many support functions directly from Solid Edge. On the Help menu, click Technical Support. Then click the appropriate option to request a WebKey account, to access the online support library, and so forth.

Contacting Support

In the USA and Canada, call 1-800-955-0000 or 1-714-952-5444. Outside North America, please contact your local Siemens PLM Software office. For more information or the telephone number of an office near you, call 800-807-2200.

You can also access GTAC on the Web:

http://support.industrysoftware.automation.siemens.com/gtac.shtml

For problems relating to Microsoft, you should contact Microsoft support on the Web:

http://support.microsoft.com

The value of support maintenance, enhancements and technical support

Software maintenance, enhancements and support are essential for your successful utilization of Siemens PLM software products. For detailed information, access the GTAC Services Guide at

http://support.industrysoftware.automation.siemens.com/services.

Click Featured Services→GTAC Services Guide.

SEEC diagnostics

Solid Edge Embedded Client diagnostics enables you to easily create a collection of information regarding your Solid Edge Embedded Client configuration. The application is delivered with Solid Edge Embedded Client and collects client information such as software location, database connection, cache information, registry details, and log files into one location to share with product support in the event assistance is needed.

To run the diagnostics application, from the Start menu, choose Programs→Solid Edge ST6→SEEC→Diagnostic Application. The SEEC Diagnostics dialog box displays. Your current Teamcenter connection configuration information is shown,
you only need to provide a location for the output of the scan. Once the scan is run, read-only output from the scan appears in the Detail portion of the SEEC Diagnostics dialog box. If multiple versions of an application are installed, the scan reports the details for each version.

**Workflow for performing a scan**

1. Start the SEEC Diagnostic application.
   The connection type, 2-tier or 4-tier, defaults to the database you last worked with.

2. Supply either your TC_ROOT and TC_DATA information for a 2-tier configuration or your server's URL for a 4-tier configuration.

3. Define the diagnostic package folder location that will hold the files created by the scan.

4. Start the scan and log into Teamcenter when prompted.
   
   **Caution**
   
   You should exit Solid Edge, Structure Editor, and Add to Teamcenter prior to running the scan.

5. When the scan completes, close the application.

**The SEECDiagnostic log file**

One log file generated by the diagnostics scan is `SEECDiagnostic_YYYYMMDDHHMMSS.txt` where YYYY is the year, MM is the month, DD is the day, HH is the hour, MM is the minute, and SS is the second the scan was started. Types of information the SEECDiagnostic log file can include are:

- System hardware and software information
- Disk size and free space
- Teamcenter preferences
- Template filenames
- Environment variables

The SEECDiagnostic log file and other output generated by the scan is stored in a folder in the diagnostic package location you define. The data in the diagnostic package folder should be zipped along with an export of your Teamcenter attribute mapping and sent to product support for analysis in the event assistance is needed.
Appendix

A  Solid Edge Embedded Client best practices

With any application, there are techniques that are considered to be recommended or best practices for accomplishing tasks. This portion of the document describes practices and processes recommended to you.

Assembly Best Practices

Opening large, managed assembly documents can be time-consuming. The application spends time running a query to determine the assembly structure based on the Teamcenter Revision Rule, checking versions, validating permissions, and transferring the files to your system. You can actively control how some of this time is spent to make working with large assembly documents on a day-to-day basis as efficient as possible.

Depending on your circumstances, you might need to work with all of the files referenced by an assembly, or you might only need to work with a few of them.

When you are not yet sure how many files within an assembly you need to work with, or when you know for sure that you only need to work with a few of them, you should open assemblies with Hide All Components and judiciously open and show only those subassemblies you need to work with.

When you know you need to work with all or most files in a large assembly, you should use the Solid Edge revision rule that reduces the work by validating only the selected assembly document and then uses the version of files in your cache to optimize performance.

Use Hide All Components to efficiently work with large assemblies

When working with a portion of a large assembly, you can control how much of the assembly is downloaded to cache by hiding the components you do not need.

Note

Solid Edge Draft requires the entire Assembly structure. This workflow is not supported when you detail assemblies in the Draft environment.

You should open the assembly with all components hidden, and then use PathFinder to navigate, expand, and show only the components you need. Opening the assembly with all components hidden, only the direct first-level children of the assembly being opened are downloaded to cache.
Appendix A  Solid Edge Embedded Client best practices

Read the PathFinder structure to decide which components you need next, and select
the Expand command or click the + symbol to download the next level of the assembly
to the cache as needed. Once you expand the levels of the assembly you want to work
with, you can then show the parts and subassemblies with optimum performance.

If the entire subassembly branch is required, you can select Expand All, resulting in
a download of all required documents.

1. Start Solid Edge with Teamcenter enabled.

2. From the Application menu, choose Open.

3. Select an assembly and set the Hide All Components option.

4. Click Open and PathFinder displays the first level of the assembly.

5. Right-click a subassembly, and then choose Expand on the shortcut menu.
   The next level of that branch is downloaded to cache, enabling navigation at
   that level.
   To open all of the components within a subassembly, click the Expand All
   command on its shortcut menu.
   When you have expanded the assembly structure, you can then show the
   components in the most efficient manner.

Use Version from Cache to optimize performance with large assemblies

When you know you need to work with all or most files in a large assembly, you
should use the versions of files in your cache to optimize performance.

Solid Edge Embedded Client utilizes a local cache when working with managed
Teamcenter documents. The performance cost of running a query to determine an
assembly structure based on the Teamcenter Revision Rule, checking the versions,
validating permissions and transferring documents increase as the assembly size
increases. When you work with the same data all day and you know the information
is up-to-date, you can improve performance by using the Solid Edge Revision Rule
Version from Cache. With this option, the version information is validated and
the documents are checked out, but no file transfers take place. With Solid Edge
Embedded Client, the cache is persistent between sessions. Using the data in the
cache optimizes performance.

1. Start Solid Edge with Teamcenter enabled.
2. From the Application menu, choose Open and select the assembly.

![Image of Open File dialog box]

3. Set the Revision Rule to Latest Working and click Open. This will open the document and populate the cache for your working session.

4. In a subsequent working session using the up-to-date data, open the assembly using the Revision Rule Version from Cache.
5. Click Open.  
   All subassemblies will be configured to use what is already downloaded to cache, minimizing the impact to performance.

**Manually clear cache before redefining cache location**

To optimize performance, documents from Teamcenter are downloaded once to the local machine when accessed and then only downloaded again if they are out-of-date. The local download area is called a *cache* and is a folder in the Windows file system where a copy of the files is kept. The cache location is predefined as `%APPDATA%\Unigraphics Solutions\Solid Edge\SEEC`.

**Note**

Changing the predefined cache location removes the existing contents of the cache.

When you need to change the predefined location for cache, you should schedule the change at the beginning of a project, use Cache Assistant to check in all files you want to keep in Teamcenter, and manually clear your cache using the Delete All button in the Cache Assistant, which is located on the Manage menu.

1. Start Solid Edge with Teamcenter enabled.

2. From the Application menu, choose Manage→Cache Assistant. Connect to Teamcenter if prompted.
3. Evaluate the contents of the cache. Check in all items that are currently checked out. If you have items checked out that you do not want in Teamcenter, use the shortcut menu option Undo Check-Out.

   **Tip**
   
   Repeat this process for each cache folder in the Project field of the Cache Assistant dialog box.

4. Click Delete All.

   You are notified that deleting all projects from the cache will perform several tasks.

   ![Delete All Projects from Cache](image)
   
   Deleting all projects from the local cache will do the following:
   
   1. Checks in to Teamcenter all checked out documents
   2. Deletes from cache all of the local projects and associated documents
   3. Creates a new project named Default

   ![OK Cancel](image)

5. Click OK, and then verify your intention to reset the cache by clicking Yes. Close the Cache Assistant dialog box.

6. From the Startup screen, under Create, open a new document in any environment.

7. From the Application menu, choose Solid Edge Options→File Locations.

8. Highlight the SEEC Cache entry and click Modify.

   The Browse For Folder dialog box displays.

9. Define the new location for the cache.

   **Tip**
   
   It is recommended that the location of the cache be on the physical disk of the local machine. This is a personal cache and must have exclusive permission for access. It is not to be shared with other users.

10. Click OK on the Browse For Folder dialog box and Reset Connections dialog box.

11. Click OK on the Options dialog box.

Appendix

B Solid Edge to Teamcenter Data Preparation dialog box reference material

The following information is included as reference material and defines the options on each of the dialog boxes that comprise the Solid Edge to Teamcenter data preparation utilities.

Analyze Files dialog box

Defines the parameters related to the evaluation of your Solid Edge files and produces the Analysis Report, a spreadsheet for reviewing your files prior to importing them into Teamcenter, Solid Edge SP, or Insight.

You can use the Analyze Files dialog box to:

- Define the location of the files to process.
- Determine the scope of the analysis.
- Define the location for the report file generated from the analysis.

Prepare data for
Defines the managed application to which you will import your unmanaged data.

Specify options to locate files to process
Defines the location of the data that is evaluated.

Analyze output from Add To <Your_Product> Dry Run
Identifies either the Broken Links XML file or the Ordered, Unordered CSV file, or text file as the list of files for evaluation. These files are generated as a result of performing a dry run. When using a text file for evaluation, click Browse and in the Open dialog box, select the file, and set the filter to the right of the file name to Text Files (*.txt).

Note
Using a text file enables you to specify the individual files you want to process.

Analyze files from specified folder
Identifies a folder that contains the Solid Edge files for analysis.
Perform broken link analysis
Selecting the check box enables the analysis for broken links.

Crawl links to build complete list of Solid Edge files to be imported
When selected, analysis includes a recursive search for external files referenced by Solid Edge files. The recursive search may be outside the folder structure you specified. When deselected, only the folder you specified will be analyzed.

Tip
This command is especially useful when you want to find links to files like Standard Parts held on servers.

Report File
Defines the location for the text file containing the results of the analysis. The default file name of the report file is AnalysisOfSolidEdgefiles.txt

Reports
Displays a summary of the results of the file analysis.

Select Report Log Files To View
Controls the display method for the listed documents.
• View Report Text File
• View Simple Broken Links Report
• View Detailed Broken Links Report

OK
Starts analysis processing. Status messages display at the bottom of the Solid Edge Data Prep Utilities - Analyze Files dialog box.

Cancel
Closes the Solid Edge Data Prep Utilities - Analyze Files dialog box.

Analysis Template
The Analysis Template, datapreputilitiestemplate.xlsm, contains tools for manipulating unmanaged data in preparation for importing it into a managed environment. The default location of the Analysis Template, datapreputilitiestemplate.xlsm, is \Program Files\Solid Edge ST6\Program.

You can use the Analysis Template to:
• Define custom properties prior to running the Analyze utility.
• Perform trial runs on data importation prior to loading the data into the managed environment.
• Identify documents to delete from disk.
• Prepare files with property data prior to importing into the managed environment.
• View the mapping information for document type versus default content type in Solid Edge SP.

The tools for manipulating your Solid Edge files are dependent on macros being enabled. If you notice the warning,

Macros may be disabled due to your Microsoft Office security settings.

**Note**

Discuss your security policy with your system administrator before making changes to your security settings.

The Analysis Template window consists of the following areas:

**A: Application button**
Displays the Application menu, which provides access to all document level functions, such as creating, opening, saving, and managing documents.

**B: Quick Access toolbar**
Displays frequently used commands. Use the Customize Quick Access Toolbar arrow on the right to display additional resources.
Appendix B  Solid Edge to Teamcenter Data Preparation dialog box reference material

C, D: Ribbon with commands grouped on tabs

The ribbon is the area that contains all application commands. The commands are organized into functional groups on tabs. Some tabs are available only in certain contexts.

Some command buttons contain split buttons, corner buttons, check boxes, and other controls that display submenus and palettes.

E: Formula bar

The formula bar contains the name box and the formula box. You can adjust the size of both the name box and the formula box to make it easier to view and edit a long formula or large amount of text in a cell.

F: Spreadsheet

An Excel spreadsheet that displays the results of a file analysis performed on unmanaged documents. Define any custom properties prior to running the Analyze tool.

Caution

In the Teamcenter worksheet, the column headings for columns A (Path) through L (Last Saved Version) are required and should not be edited or removed.

In the Solid Edge SP worksheet, the column headings for columns A (Path) through S (Solid Edge SP URL) are required and should not be edited or removed.

The following are a few of the column headings used in the spreadsheet:

Path
Displays the full path of the folder containing your analyzed files.

Filename
Displays the existing file name of the analyzed file.

New Path
Defines a new folder location for the processed file.

New Filename
Defines a new file name for use in conjunction with copy.

Delete
Marks the file for deletion using the X in conjunction with the Delete Documents Marked By X command.

Document Number
Displays the document number that will be imported into the managed environment.

Note
For Solid Edge SP, a value of “-” causes the Modify utility to ignore this cell.
Revision
Displays the revision that will be imported into the managed environment.

Project Name
Displays the project name that will be imported into the managed environment.

Teamcenter Item Type
Displays the Teamcenter Item Type property. The Teamcenter Item Type string is localized and it is case-sensitive.

Caution
Only modify the column header for this column if localizing outside of English. This is a custom property and is case-sensitive.

Part Type
Defines the Part Type in conjunction with Standard Parts analysis when preparing the files for Teamcenter.

TC_ImportTime
Displays the original import time of documents if they have already been imported into the Teamcenter database.

InsightXT_ImportTime
Displays the original import time of documents if they have already been imported into the Share Point database.

Last Saved Version
Displays the version of the file analyzed.

Solid Edge SP-StatusNr
Displays the object status.

Solid Edge SP URL
Displays the URL of the Share Point folder.

Author
The Author property from the unmanaged file maps to the SharePoint Created By property. If the user specified as Author is not available in SharePoint, the current user is listed in the Created By property.

G: Status bar
Provides fast access to view-control commands—normal, page layout, and page break preview. Also contains the zoom slider.

Use the zoom slider to zoom in and out of the spreadsheet.
Note
For Solid Edge SP, a value of - (hyphen) in the following cells causes the Modify utility to ignore the cells:
• Document Number
• Part Content Type
• Revision Content Type
• Content Type

Link Fix-Up dialog box
Identifies and corrects broken links noted during file analysis.
Use the Link Fix-Up dialog box to:
• Define the location of the Analysis Spreadsheet.
• Define the location of the Solid Edge files containing broken links.

Activate Pre-ST Link Fix-Up
Displays the Pre Solid Edge ST Link Fix-Up dialog box. Use this dialog box to identify the location of Solid Edge files created in versions prior to Solid Edge ST.

Browse For Spreadsheet
Locates the Excel spreadsheet defining the corrected links.

Note
For each broken link, the spreadsheet must define both the old file location and the old link as well as the new file location and the new link. Columns 3 and 4 are used for the new path and new link definition.

Locate Folder Containing SE Files
Defines the folder containing the files to be processed with link corrections.

Locate Broken Links Report File — Summary
Defines the text file containing the list of files discovered to have broken links during the broken link analysis. This list of files will be processed with link corrections.

Doc Types
Filters the types of documents to be processed.
• Parts—Restricts documents to part files (.par).
• Assemblies—Restricts documents to assemblies (.asm).
• Drawings—Restricts documents to draft files (.dft).
• Weldments—Restricts documents to weldments (.pwd).
Excel Search based on
Sets the parameters of the files to be processed.
- Filename Only
- Full pathname

View Logfile
Displays the contents of the log file created during the link correction process on Solid Edge files created prior to the Solid Edge ST release.

Specify the analyze spreadsheet containing broken\replacement link information
Defines the folder where your spreadsheet of data can be found.

Select the sheet in the specified spreadsheet that contains the link replacement information
Identifies the datasheet in Excel where your information exists.

View Logfile
Displays the contents of the log file created during the link correction process.

Modify Files dialog box

The Modify Files dialog box is used to change the unmanaged files as defined in the Analysis Report spreadsheet.

You can use the Modify Files dialog box to:

- Define the location of the Analysis Report spreadsheet containing the data to be modified.
- Process the files saving new property values in the Solid Edge files as defined in the Analysis Report spreadsheet.
- View the results of the process in the log file.

Browse
Defines the location of the Analysis Report spreadsheet used for modifying the data to be imported into the managed environment.

Report Window Pane
Displays the results of the modification of data.

View Logfile
Displays the contents of the log file generated during the processing of the data.
Appendix

C Smart Code configuration file reference material

The following information is included as reference material and defines the options available for defining your tcx_sc_config.txt configuration file. The tcx_sc_config.txt file is located in \TC_ROOT\install\tcx\data\EN\SmartCodes and is used to define the parameters for each section of the Item Id created by using Smart Codes.

Note

Additional information regarding Smart Code parameters can be found in the Teamcenter Express Configuration Guide in the Teamcenter Express Help Collection.

Smart Code configuration file parameters

Each section in the tcx_sc_config.txt Smart Code configuration file contains a list of parameters and corresponding values. Each parameter must use the following format Parameter : Value.

Example

ID : FACILITY_CODE
Action : DEFINE
Label : Facility
Choice : 1
Type : LOV
Repository : PN_Facility_CODE
Generate : COMBO
ReuseNumber : NONE
ForType : Item:Item.item_id

ID

Identifies the section ID. The ID is a string with a maximum length of 63 characters.

Tip

If you use similar ID names for different types, use the type name as a part of the section ID. Example: ID : ITEM_PROJECT
Appendix C  Smart Code configuration file reference material

Action
Defines the action that is performed on this section when the configuration file is imported into the Teamcenter database.

CREATE
Creates the section only if it does not exist.

DEFINE
Creates the section if it does not exist or modifies it if does exist.

MODIFY
Modifies the section if it does not exist.

DELETE
Removes the section if no references exist.

Tip
To delete part-numbering schemes, you must import the configuration file multiple times.

Label
Defines the default label value for the section.

Choice (Optional)
 Defines what is displayed in the selection menu for a List of Values (LOV).

Example
If the LOV has a value of DT|Detroit, and the Choice parameter is set to zero, DT is used in the Item ID and displayed in the selection menu. If the Choice parameter is set to 1, DT is used in the Item ID and Detroit is displayed in the selection menu. If the Choice parameter is omitted, DT is used in the Item ID and DT|Detroit is displayed in the selection menu.

Type
Defines the type of values used for the section. Some of the type definitions also require the Repository parameter.

<table>
<thead>
<tr>
<th>Type</th>
<th>Repository</th>
<th>Allowed Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPHA</td>
<td>None</td>
<td>Any character</td>
</tr>
<tr>
<td>ALPHANUM</td>
<td>None</td>
<td>Any character and digit</td>
</tr>
<tr>
<td>NUMBER</td>
<td>None</td>
<td>Digits</td>
</tr>
<tr>
<td>MASK</td>
<td>Definition Mask</td>
<td>Values specified by mask</td>
</tr>
<tr>
<td>FIXED</td>
<td>Value</td>
<td>Computed value</td>
</tr>
<tr>
<td>LOV</td>
<td>LOV name</td>
<td>Value from LOV</td>
</tr>
<tr>
<td>LOV_PERS</td>
<td>LOV name</td>
<td>Value from LOV snapshot</td>
</tr>
<tr>
<td>LIST</td>
<td>List of values separated by a comma (,)</td>
<td>Value from repository list</td>
</tr>
<tr>
<td>DEFAULT</td>
<td>None</td>
<td>Computed value</td>
</tr>
</tbody>
</table>
Repository
Defines a data source for the specified type parameter. For example, if Type is set to LOV, the Repository section defines which LOV to use: definition mask, pattern matching mask, LOV name, list of values.

File Name
Defines an external file as the source for the section. The file name can be composed dynamically using the functionality of parameter aliases.

Generate
Defines the section display in the Compose Item ID dialog box.

<table>
<thead>
<tr>
<th>Generate setting</th>
<th>Display</th>
<th>Valid Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGN</td>
<td>Text entry box followed by an Assign button</td>
<td>ALPHA, ALPHANUM, NUMBER, MASK, LOV, LOVPERS, LISTPERS, FILE FILEPERS</td>
</tr>
<tr>
<td>LOV</td>
<td>Drop list</td>
<td>LOV, LIST</td>
</tr>
<tr>
<td>OPTION</td>
<td>Radio buttons</td>
<td>LOV, LIST</td>
</tr>
<tr>
<td>COMBO</td>
<td>Edit box and drop list</td>
<td>LOV, LIST</td>
</tr>
<tr>
<td>EDIT</td>
<td>Text entry box</td>
<td>ALPHA, ALPHANUM, NUMBER, MASK, PATTERN, FIXED</td>
</tr>
</tbody>
</table>

Restriction
Defines whether you are allowed to change the value of the section. This parameter is usually combined with an LOV or assigned value.

<table>
<thead>
<tr>
<th>Restriction setting</th>
<th>Effect</th>
<th>Valid generate options</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUGGESTIVE</td>
<td>You are allowed to change values.</td>
<td>ASSIGN</td>
</tr>
<tr>
<td>RESTRICTIVE</td>
<td>you are not allowed to change values.</td>
<td>LOV</td>
</tr>
</tbody>
</table>

ReuseNumber
Controls the behavior for generating number using a counter. The new number can be generated, chosen from a stored list, or assigned the next value after an existing one.

<table>
<thead>
<tr>
<th>ReuseNumber Setting</th>
<th>Effect</th>
<th>Valid Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>The next value generated is based on the last one used.</td>
<td>All</td>
</tr>
</tbody>
</table>
### ReuseNumber Setting

<table>
<thead>
<tr>
<th>ReuseNumber Setting</th>
<th>Effect</th>
<th>Valid Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALLBACK</td>
<td>If a Repository parameter exists, the next value is loaded from the repository. Otherwise, the next value is generated based on the last one used. If the generated ID is not used, it is saved in the repository and used the next time a number is generated. Use FALLBACK if you have few assigned parts. They are consumed quickly.</td>
<td>All</td>
</tr>
</tbody>
</table>

### Example

Numbers 1, 2, 3, 4, and 5 are used in part numbers. Then, the part number using 3 is deleted. If ReuseNumber is set to NONE, the next number generated is 6. If ReuseNumber is set to FALL BACK, the next number used is 3 because that is the first number available.

### CounterKey

Defines the name of the counter used for the assignment. Each counter has a unique name, but multiple sections can share the same counter. You can make the counter dependent on the project but not on the group, so you can use the same counter for single and mirror part numbers.

### Note

The CounterKey does not generate implicit dependencies.

### Length

Defines the maximum length of the value. This parameter is used by the ALPHA, ALPHANUM, and NUMERIC types. For an assign without a FirstValue parameter, the first assigned value is completed with LeadingChar to this length.

### LeadingChar

Defines the leading character used to complete the generated number. For NUMERIC and ALPHANUM types, the default value is zero. For ALPHA types, the default value is A.

### Prefix

Precedes the section value and is a fixed value. You cannot change the value. The prefix parameter permits fixed string values only.

### Suffix

Follows the section value and is a fixed value. You cannot change the value. The suffix parameter permits fixed string values only.
FieldSet
Permits the setting of item master and item revision master form field. The values can be derived from the section values using parameter aliases. Multiple entries within one section are possible. Each entry has the following syntax:

```
I | IM | IRIRM.attribute_name=parameter_aliases_expression
```

<table>
<thead>
<tr>
<th>I</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>Item master form</td>
</tr>
<tr>
<td>IR</td>
<td>Item revision</td>
</tr>
<tr>
<td>IRM</td>
<td>Item revision master form</td>
</tr>
<tr>
<td>form_attribute_name</td>
<td>Any valid form attribute name</td>
</tr>
<tr>
<td>parameter_aliases_expression</td>
<td>Expression defining the value using parameter aliases</td>
</tr>
</tbody>
</table>

Note
- This parameter is active only in sections that are part of the composed Item ID.
- The values are set after property rules and before item_*_msg. If there are mandatory fields in the form, their values must be defined by a property rule of the FieldSet parameter.

StepLength
Defines the increment/decrement size on the counter value if an assign is performed. Negative values indicate decrement. The default value is 1. This parameter permits you to generate numbers in steps. For example, a StepLength of 5 generates counter values of 5, 10, 15, etc.

StepOffset
Defines the relative offset to each step start. It works together with the StepLength parameter and is added to the generated value. The default and minimum value is zero. The maximum value is –1.

Note

the algorithm is LastNumber += (LastNumber % StepLength) + StepLength + StepOffset.

StepFill
Defines the number of IDs and items that can be simultaneously generated by Smart Codes. The default and minimum value is 1. Multiple numbers are generated by larger values. If the StepFill parameter is larger than 1, the numbers from the counter repository cannot be used, but the unused ones are automatically saved and may be used by another section with the same counter key.
Example

StepLength : 5
StepOffset : 2
StepFill : 2
Counter values of 7 and 8, 12 and 13, 17 and 18 and so on, are generated.

FirstValue
Defines the initial value for a new counter. The value is not checked by other rules. You must enter a correct value.

SecondValue
Defines the second value for a counter. The value is used if the counter value is equal to the value of the FirstValue parameter. The value is not checked by other rules. You must enter a correct value.

Select
Give you the ability to exclude a section in a dependency on an expression. the expression supports the =, !-, <, and > operators. Parameter aliases can be used for the left and right side values. The implicit dependencies mechanism automatically displays all sections necessary for the left and right side values.

ForType
Defines the item type for which the section is used. It specifies the first section of the composed ID. the format is Item:ItemType.item_id, where the ItemType is the concrete item type. You can only have one section for each item type.

Extends
Defines the order of the Item ID sections. the value of this parameter represents the section that the current section should follow. this entry may contain multiple values separated by a comma (,). the Extends parameter defines an explicit dependency.