

TCI Release 3.15
Settings Reference

T Systems

Copyright

© 2012, 2026 T-Systems International GmbH.
All rights reserved. Printed in Germany.

Issued by

T-Systems International GmbH
Business Unit Product Lifecycle Management
Fasanenweg 5
70771 Leinfelden-Echterdingen
Germany

Contacts

web: http://www.cmi-support.com

email: cmi_support@t-systems.com

phone: +49 (0) 40 30600-5544

Brief details

Settings reference for TCI.

This guide lists settings of TCI.

Before using this guide, be sure you understand:

- the administration of 3DEXPERIENCE,
- the administration of Teamcenter.

Trademarks

3DEXPERIENCE is a registered trademark of Dassault Systèmes.

Teamcenter is a registered trademark of Siemens Digital Industries Software.

Oracle is a registered trademark of Oracle Corporation.

Names of other products mentioned in this manual are used only for identification purpose and may be trademarks of their companies.

Table of Contents

1 Overview 1

2 General Settings 2

2.1 Conversion 2
2.2 PDM 14
2.3 Teamcenter 20
2.4 Enovia 22
2.5 Features 27

3 Administration settings 29

3.1 Administration 29
3.2 Pdm 36
3.3 Teamcenter 38
3.4 Enovia 41
3.5 XciWeb 48
3.6 Scheduler 49
3.7 TSI3DXBatch 52
3.8 COMReconV5 55
3.9 COMReconNX 57
3.10 FileConversion 58

1 Overview

TCI settings are organized in two clusters:

- **general settings** control mapping between Teamcenter and 3DEXPERIENCE, for example custom attribute mapping or state mapping
- **administration settings** control infrastructure configurations, for example server connection definitions for Teamcenter and 3DEXPERIENCE

Settings are stored in two XML files in the **`XCI_HOME`** directory:

- XCISettings.xml contains the general settings
- XCIAdminSettings.xml contains the administration settings

This reference lists the settings for each category.

2 General Settings

The file **`XCISettings.xml`** in **`XCI_HOME`** defines settings that control mapping between Teamcenter and 3DEXPERIENCE, for example custom attribute mappings, state mappings or which file types to export.

It is divided into sections:

- **`Conversion`**: contains mapping settings that affect both systems (e.g. mapping of Release status)
- **`Pdm`**: settings for Teamcenter export or import
- **`Teamcenter`**: specific settings Teamcenter
- **`Enovia`**: specific settings for 3DEXPERIENCE
- **`Features`**: enable or disable TCI features

The next subchapters list settings available in these sections.

2.1 Conversion

2.1.1 DisablePdmImportSkipNotModified

To disable the skipping the import of objects to Teamcenter which are not modified since the last import, it must be set to **`true`**. Default setting is **`false`**.

```
<DisablePdmImportSkipNotModified>true</DisablePdmImportSkipNotModified>
```

2.1.2 DummyProductData

Define a placeholder ItemRevision that is imported into 3DEXPERIENCE for ItemRevisions excluded from Teamcenter export – see 2.1.4.

```
<DummyProductData>
    <Type>ItemRevision</Type>
    <ID>MyDummy</ID>
    <Revision>1</Revision>
    <Name>Replace</Name>
    <Description>DummyPart for ExclusionList</Description>
    <Owner>Owner</Owner>
    <String>Display String</String>
</DummyProductData>
```

2.1.3 ExclusionCATProductsListFile

Define a list of objects for which the CATProduct files should be ignored for 3DEXPERIENCE import. See 2.1.4 for an example of an exclusion list file.

```
<ExclusionCATProductsListFile>
  C:\tmp\exclusioncplist.xml
```

```
</ExclusionCATProductsListFile>
```

2.1.4 ExclusionListFile

Define Items or ItemRevisions that should not be exported from Teamcenter.

Set **`replaceWithDummy`** to true to replace excluded ItemRevisions with a placeholder ItemRevision defined in **`DummyProductData`** setting – see 2.1.2. The placeholder object will be imported into 3DEXPERIENCE.

Note: every excluded ItemRevision will be replaced with the same placeholder ItemRevision

```
<ExclusionListFile replaceWithDummy=”false”>
  C:\tmp\exclusionlist.xml
</ExclusionListFile>
```

Example for an exclusion list file:

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<EL>
  <ItemRev>
    <Id>000123</Id>
    <Type>Design Revision</Type>
    <Revision>1</Revision>
  </ItemRev>
  <Item>
    <Id>000567</Id>
    <Type>Design Revision</Type>
   </Item>
</EL>
```

2.1.5 FolderNamingConcatenation

Build the new folder name in Teamcenter from Root Folder Name, this setting, and the Folder Name. Disabled by default.

```
<FolderNamingConcatenation enabled="true">_</FolderNamingConcatenation>
```

2.1.6 HandleAuxFileAsMainFile

Relevant for PDM to 3DX. True to handle auxiliary files (non-BOM CATParts) like main files -> Create Product and Rep3DAggr in XpdmXml. Relevant for e.g. users of CMIR2 CATIA Integration that use non-BOM CATParts. Default value is **`false`**.

```
<HandleAuxFileAsMainFile>true</HandleAuxFileAsMainFile>
```

2.1.7 IgnoreNon3DPartGeometries

Enables the ignoring of geometries which are not 3DPart in 3DEXPERIENCE if enabled. Disabled by default.

```
<IgnoreNon3DPartGeometries enabled=”true” />
```

2.1.8 OverwriteReleasedWithForce

True to update released objects if force is true. Disabled by default.

```
<OverwriteReleasedWithForce>true</OverwriteReleasedWithForce>
```

2.1.9 Part3DTypeList

List of file types which should be imported as 3DPart product type to 3DEXPERIENCE, the default is 'CATPart'.

```
<Part3DTypeList>
  <Part3DType>CATPart</Part3DType>
</Part3DTypeList>
```

2.1.10 PartNumberMapping

Modify part numbers when transferring by adding a prefix and / or suffix to the part number. This can be set in general for all types or type specific. Disabled by default.

Note: when changed part number mapping is only used for new objects that have not been transferred yet. Previously transferred objects or new revisions of such objects will be transferred with the old mapping.

- **`To3DXPrefix`**: prefix to add when transferring to 3DEXPERIENCE
- **`To3DXPostfix`**: suffix to add when transferring to 3DEXPERIENCE
- **`ToPDMPrefix`**: prefix to add when transferring to Teamcenter
- **`ToPDMPostfix`**: suffix to add when transferring to Teamcenter

For type specific mappings with **`TypeMapping`**:

- set **`typePDM`** when transferring to 3DEXPERIENCE and specify the source Teamcenter type
- set **`type3DX`** when transferring to Teamcenter and specify the source 3DEXPERIENCE type

```
<PartNumberMapping enabled="true">
  <Default>
    <To3DXPrefix>TCI_</To3DXPrefix>
  </Default>
  <TypeMapping typePDM="MyItemRevision">
    <Mapping>
      <To3DXPrefix/>
      <To3DXPostfix/>
      <ToPDMPrefix/>
      <ToPDMPostfix/>
   </Mapping>
  </TypeMapping>
 <TypeMapping type3DX="MyPhysicalProduct">
   <Mapping>
    ...
```

```
   </Mapping>
  </TypeMapping>
</PartNumberMapping>
```

2.1.11 PdmExportValidation

Define validation checks to run during Teamcenter export. Each check is disabled by default and must be enabled. The optional **onlyWarning** flag can be set to handle a check only as warning condition and continue processing.

- **AttributeCheck** checks the maximum length of an exported attribute specified by **maxlength**. Optionally, the attribute value can be truncated if the maximum length is exceeded by setting the **truncate** flag.
- **InstanceNameCheck** checks the uniqueness of instance names under a parent object.
- **FileRefCheck** checks multiple use of the same File Ref from different objects.
- **FileNameCheck** checks the uniqueness of file names in the files section.
- **ProductLeafRepresentationCheck** checks the existence of an attached Representation at a Product node if the Product node is a leaf node.
- **RepNameCheck** checks for duplicate representation names by checking ID Attribute in Rep3D, Drawing, Document, and GenericDocument object.
- **ValidateMainFileCount** checks if more than one main file is attached.
- **ValidateMissingFileForDocument** checks if a file for document is attached.
- **ValidateMultipleReferencedDocument** checks if a document is referenced by more than one part.
- **ValidateMultipleRevisions** checks if more than one revision of the same part is found.
- **ValidateIncorrectRevisionSequence** checks if the revision sequence is correct.
- **InvalidCharactersObjectNameCheck**: 3DEXPERIENCE does not allow certain set of characters for business object names. Validate object names and, if configured, replace them either all with the same string or configure specific replacement strings per invalid character. Enabled by default. Disallowed characters: *$?'",;\n\r

```
<PdmExportValidation>
  <AttributeCheck enabled="true">
    <XType xname ="Product">
      <XAttribute xname="Description"
                  mappingtype="DefaultCustomization"
                  maxlength="60"
                  truncate="true" />
    </XType>
  </AttributeCheck>
  <InstanceNameCheck enabled="true" />
  <FileRefCheck enabled="false" />
  <FileNameCheck enabled="false" />
  <ProductLeafRepresentationCheck enabled="false" onlyWarning="true" />
  <RepNameCheck enabled="true" />
  <ValidateMainFileCount enabled="true" />
  <ValidateMissingFileForDocument enabled="true" />
  <ValidateMultipleReferencedDocument enabled="true" />
```

```
  <ValidateMultipleRevisions enabled="true" />
  <ValidateIncorrectRevisionSequence enabled="true" />
  <InvalidCharactersObjectNameCheck enabled="true">
    <InvalidCharacterReplacement invalidCharacter="$"
                                 replaceWith="-#-" />
  </InvalidCharactersObjectNameCheck>
</ PdmExportValidation>
```

2.1.12 PdmImportValidation

Define validation checks before Teamcenter import.

- **AttributeCheck** checks the maximum length of an exported attribute specified by **maxlength**. Optionally, the attribute value can be truncated if the maximum length is exceeded by setting the **truncate** flag.
- **UnknownDocumentTypeStrategy** defines the handling of unmapped document types during transfer. If there is no **V6FileFormat** mapping available for an exported file from 3DEXPERIENCE, this setting will define how to handle Teamcenter import.
    - **WARNING**: Default. No unmapped files will be transferred. The transfer will finish in state “Warning” and more information can be found in the report.
    - **ERROR**: Unmapped files will cause the transfer to fail. No data will be transferred.
    - **IMPORT**: Unmapped files will be transferred using the settings in **GenericDocumentFormat** - see chapter 2.1.28 for more information. No warning or error will be reported.

```
<PdmImportValidation>
  <AttributeCheck enabled="true">
    <XType xname ="Product">
      <XAttribute xname="Description"
                  mappingtype="DefaultCustomization"
                  maxlength="60"
                  truncate="true" />
    </XType>
  </AttributeCheck>
  <UnknownDocumentTypeStrategy>WARNING</UnknownDocumentTypeStrategy>
</ PdmImportValidation>
```

2.1.13 PdmStatusUpdateHandling

Set status to related objects on Teamcenter import that are not directly mapped from a 3DEXPERIENCE object, for example Master forms, BOMView Revisions or Datasets.

- **sourceType**: ItemRevision type for which additional objects are updated
- **targetRelation**: if the secondary object is attached by a relation (e.g. IMAN_specification)
- **targetRelationAttribute**: if the secondary object is attached by an object property
- **targetObjectType**: type of the secondary object

If specified relation and target object are found below the source object, then the target object status is mapped according to **V6MaturityToPdmStatusMapping**. If the target object type is not configured in **V6MaturityToPdmStatusMapping**, it is mapped based on the parent object.

```
<PdmStatusUpdateHandling enabled=”true”>
  <AdditionalPdmStatusUpdate sourceType=”Design Revision”
                             targetRelationType="IMAN_master_form”
                             targetObjectType=”Design Revision Master” />
  <AdditionalPdmStatusUpdate
    sourceType=”Design Revision”
    targetRelationAttribute=”structure_revisions”
    targetObjectType=”BOMView Revision” />
</PdmStatusUpdateHandling>
```

2.1.14 PdmStatusToV6MaturityMappingList

Define mapping from Teamcenter status to 3DEXPERIENCE maturity state for transferring objects to 3DEXPERIENCE.

- **`v6maturity`**: target maturity in 3DEXPERIENCE
- **`pdmTyp`**: for which Teamcenter type to apply on Teamcenter export
- **`pdmstatus`**: source Teamcenter status

This mapping can be switched on or off with the enabled flag. Disabled by default.

```
<PdmStatusToV6MaturityMappingList enabled=”true”>
  <PdmStatusToV6MaturityMapping v6maturity=”RELEASED”
                                pdmTyp=”Design Revision”
                                pdmstatus=”TCM Released” />
</PdmStatusToV6MaturityMapping>
```

2.1.15 PdmV6FileType

Define mapping of exported files from Teamcenter to 3DEXPERIENCE representation type.

- **`fileextension`**: specify file extension for which to apply this mapping, can contain wildcard *
- **`doctype`**: Dataset type in Teamcenter from which the file is exported
- **`fileformat`**: optional format of the representation for 3DEXPERIENCE import if **`fileextension`** is not the format (e.g. when **`fileextension`** contains wildcards)
- **`aux`**: true if it is an aux Dataset, default is false
- **`filenameSuffix`**: Suffix which is appended to filename on Teamcenter download. Can be used to differentiate files with the same name but belonging to different Dataset attached to the ItemRevision (e.g. ItemRevision geometry and drawing).

Each **`V6Representation`** defines a **`RepresentationType`** and optionally a **`DerivedType`**.

`RepresentationType` can be one of **`Drawing`**, **`Rep3D`**, **`Rep3DAndOriginalDocument`**, **`Product`**, **`ProductOrRep3D`**, **`Document`**, or **`GenericDocument`**. If representation type is not set, it must be defined with a customization implementation.

```
<PdmV6FileType>
  <V6Representation fileextension="CATPart" doctype="CMI2Part">
    <RepresentationType>Rep3D</RepresentationType>
    <DerivedType>DirectModel</DerivedType>
```

```
  </V6Representation>
  <V6Representation fileextension="CATProduct" fileformat="CMI2Product"
doctype="CreoPart">
    <RepresentationType>Rep3D</RepresentationType>
  </V6Representation>
</PdmV6FileType>
```

2.1.16 Projects

Define mapping of Teamcenter projects to 3DEXPERIENCE collaborative space and user. The **`Projects`** section must include one **`DefaultProject`** that will be used when no other project mapping matches matches.

Note: in Teamcenter objects can be assigned to multiple projects. Only the first project is considered for this mapping.

- **`ProjectName`**: owning collaborative space in 3DEXPERIENCE
- **`Organization`**: owning organization in 3DEXPERIENCE
- **`Owner`**: owning user in 3DEXPERIENCE
- **`LifeCycle`**: policy for created 3DEXPERIENCE objects, can be override by policy mapping (see 2.1.26)
- **`Maturity`**: default 3DEXPERIENCE maturity for Teamcenter objects with status, can be overridden by maturity mapping (see 2.1.272.1.26)
- optional default 3DEXPERIENCE maturity mappings, can be overridden by maturity mapping (see 2.1.27)
    - **`MaturityNoStatus`**: Teamcenter objects without status
    - **`DocumentMaturity`**: Teamcenter non-CAD datasets with status that will be imported as Document
    - **`DocumentMaturityNoStatus`**: Teamcenter non-CAD datasets without status that will be imported as Document
    - **`GenericDocumentMaturity`**: Teamcenter non-CAD datasets with status that will be imported as GenericDocument
    - **`GenericDocumentMaturityNoStatus`**: Teamcenter non-CAD datasets without status that will be imported as GenericDocument
- optional default policy for created 3DEXPERIENCE objects, can be override by policy mapping (see 2.1.26)
    - **`DocumentLifeCycle`**: Teamcenter non-CAD datasets that will be imported as Document
    - **`GenericDocumentLifeCycle`**: Teamcenter non-CAD datasets that will be imported as GenericDocument

```
<Projects>
  <DefaultProject name="Default">
    <ProjectName>Common Space</ProjectName>
    <Organization>Company Name</Organization>
    <Owner>DemoDesigner</Owner>
    <LifeCycle>VPLM_SMB_Definition_MajorRev</LifeCycle>
    <Maturity>RELEASED</Maturity>
    <MaturityNoStatus>IN_WORK</MaturityNoStatus>
```

```
    <DocumentLifeCycle>Document Release</DocumentLifeCycle>
    <DocumentMaturity>RELEASED</DocumentMaturity>
    <DocumentMaturityNoStatus>IN_WORK</DocumentMaturityNoStatus>
    <GeneralDocumentLifeCycle>
      Controlled Production Release Rev2
    </GeneralDocumentLifeCycle>
    <GeneralDocumentMaturity>Released</GeneralDocumentMaturity>
    <GeneralDocumentMaturityNoStatus>
      WIP
    </GeneralDocumentMaturityNoStatus>
  </DefaultProject>
</Projects>
```

2.1.17 RenameDuplicateInstanceNames

Used to rename duplicate instance names. Duplicates will be renamed to the Object Id of the relation.

The default setting is “false”.

```
<RenameDuplicateInstanceNames>true</RenameDuplicateInstanceNames>
```

2.1.18 RevisionCleanupForPdm

Control behavior during revise in Teamcenter.

If **`cleanChildren`** is enabled, all children are removed for new revisions of existing ItemRevisions during Teamcenter import. The default BVR type is **`view`** and can be configured by the **`bvrType`** attribute. Disabled by default.

If **`cleanDocuments`** is enabled, all objects that are attached by one of the defined relations (**`ExpandRelationType`**) and belong to one of the listed types (**`ExpandType`**) are removed for new revisions of existing ItemRevisions during Teamcenter import. Disabled by default.

```
<RevisionCleanupForPdm>
  <cleanChildren enabled="true" bvrType="view" />
  <cleanDocuments enabled="true">
    <ExpandRelationType>IMAN_specification</ExpandRelationType>
    <ExpandRelationType>IMAN_Rendering</ExpandRelationType>
    <ExpandType>CMI2Part</ExpandType>
    <ExpandType>CMI2Product</ExpandType>
    <ExpandType>CMI2Drawing</ExpandType>
    <ExpandType>DirectModel</ExpandType>
  </cleanDocuments>
</RevisionCleanupForPdm>
```

2.1.19 SetTimeModified

Control if modification date is written for XPDM import. Modification date controls whether data needs to be updated on 3DEXPERIENCE import or can just be referenced. Disabling write of modification date will update the object on every import.

By default, write of modification date is enabled. This can be disabled per class of 3DEXPERIENCE object: **Rep3D**, **Drawing**, **Document**, **GenericDocument**, **ProductFile**, **Product**, and **ProductInst**.

This optimization can be disabled, e.g. to resolve multi model links in several contexts.

```
<SetTimeModified enabled=”true”>
  <Rep3D disabled ="true" />
  <Drawing disabled ="true" />
  <Document disabled ="true" />
  <GenericDocument disabled="true" />
  <ProductFile disabled="true" />
  <Product disabled="true" />
  <ProductInst disabled="true" />
</SetTimeModified>
```

2.1.20 SharedFileTypeExtensions

Control if 3D or Drawing representations are imported to 3DEXPERIENCE as aggregated or shared. By default, representations are imported as aggregated.

For all file extensions specified a shared representation will be imported to 3DEXPERIENCE.

```
<SharedFileTypeExtensions>
      <SharedFileTypeExtension>model</SharedFileTypeExtension>
      <SharedFileTypeExtension>cgr</SharedFileTypeExtension>
      <SharedFileTypeExtension>CATDrawing</SharedFileTypeExtension>
</SharedFileTypeExtensions>
```

2.1.21 TimeModifiedExclusionListFile

Define a list of objects for which modification date should be changed or removed. If **removeTimeStamp** flag is set, modification date is removed otherwise it will be reduced by two seconds.

```
<TimeModifiedExclusionListFile removeTimeStamp="false">
  C:\tmp\exclusiontmlist.xml
</TimeModifiedExclusionListFile>
```

2.1.22 TypeMapping

Define type mapping between 3DEXPERIENCE and Teamcenter object types to map custom types. Disabled by default.

```
<TypeMapping enabled="true">
  <V6ToPdm>
    <Mapping v6Type="VPMReference" pdmType="ItemRevision"/>
    <Mapping v6Type=" VPMReference" pdmType="Design Revision"/>
   </V6ToPdm>
  <PdmToV6>
```

```
    <Mapping v6Type="VPMReference" pdmType="ItemRevision"/>
    <Mapping v6Type=" VPMReference" pdmType="Design Revision"/>
   </PdmToV6>
</TypeMapping>
```

2.1.23 UnitConversionDefinition

Defines a list of conversions between different units to be applied during Teamcenter import or 3DEXPERIENCE import. Attributes exported from the source system might not be exported in the unit which is displayed in the user interface. For example, in 3DEXPERIENCE an attribute with input unit “cm” is exported with unit “m”.

Conversion calculation: **`new_value = old_value * multiplier + offset`**.

The unit conversions are applied during import of custom attributes in Teamcenter or 3DEXPERIENCE when the conversion is specified in the **`CustomAttributeMapping`** (see section for Teamcenter 2.2.4 and section 2.4.2 for 3DEXPERIENCE import).

```
<UnitConversionDefinition>
  <UnitConversionname="kelvinToFahrenheit" unit="F" >
    <Multiplier>1.799999999999998560000000000012</Multiplier>
    <Offset>-459.669999999999232264000000000061</Offset>
  </UnitConversion>
  <UnitConversion name="FahrenheitToKelvin" unit="K" >
    <Multiplier>0.555555555555556</Multiplier>
    <Offset>255.372222222222</Offset>
  </UnitConversion>
</UnitConversionDefinition>
```

2.1.24 UserMappingForPdm

Transfer object ownership to new user and group during Teamcenter import.

Warning: This can cause access problems if you want to transfer objects a second time to Teamcenter.

If **`owner`** or **`group`** is not configured, the default Teamcenter behavior defines the owner.

If **`AdditionalChangeOwnerObjectsForPdm`** is configured, all objects that are attached by one of the defined relations (**`ExpandRelationType`**) and belong to one of the listed types (**`ExpandType`**) will also be assigned to the Teamcenter **`owner`** and **`group`**.

```
<UserMappingForPdm owner="user1" group="Engineering">
      <AdditionalChangeOwnerObjectsForPdm>
            <ExpandRelationType>IMAN_specification</ExpandRelationType>
            <ExpandRelationType>IMAN_master_form</ExpandRelationType>
            <ExpandType>CMI2Product</ExpandType>
            <ExpandType>ItemRevision Master</ExpandType>
      </AdditionalChangeOwnerObjectsForPdm>
</UserMappingForPdm>
```

2.1.25 V6CollaborativeSpaceToPdmProjectMapping

Map 3DEXPERIENCE collaborative spaces to Teamcenter projects when transferring objects from 3DEXPERIENCE to Teamcenter. Based on the owning collaborative space in 3DEXPERIENCE, one or multiple Projects can be assigned in Teamcenter. Disabled by default.

If an object is already assigned to the mapped Project, the assignment operation is skipped.

If **`removeFromNotMappedProjects`** is set, then objects will be removed from Projects in Teamcenter if the respective Projects is not mapped. Default is **`false`**.

```
<V6CollaborativeSpaceToPdmProjectMapping enabled="true"
    removeFromNotMappedProjects="true">
  <CollaborativeSpace name="TCI">
    <Project>ProjectA</Project>
  </CollaborativeSpace>
  <CollaborativeSpace name="Common Space">
    <Project>ProjectA</Project>
    <Project>ProjectB</Project>
  </CollaborativeSpace>
</V6CollaborativeSpaceToPdmProjectMapping>
```

2.1.26 V6LifecycleForPdmTypeMappingList

Specify 3DEXPERIENCE policy when creating objects in 3DEXPERIENCE based on the source Teamcenter object type.

- **`pdmtyp`**: source Teamcenter object type

This mapping can be switched on or off with the enabled flag. Disabled by default.

```
<V6LifecycleForPdmTypeMappingList enabled=”true”>
  <V6LifecycleForPdmType pdmtyp=”ItemRevision”>
    VPLM_SMB_Definition_MajorRev
  </V6LifecycleForPdmType>
  <V6LifecycleForPdmType pdmtyp=”Design Revision”>
    VPLM_SMB_Definition_MajorRev
  </V6LifecycleForPdmType>
</V6LifecycleForPdmTypeMappingList>
```

2.1.27 V6MaturityToPdmStatusMappingList

Define mapping from 3DEXPERIENCE maturity state to Teamcenter status for transferring objects to Teamcenter.

- **`v6maturity`**: source maturity in 3DEXPERIENCE
- **`pdmTyp`**: for which Teamcenter type to apply on Teamcenter import
- **`pdmstatus`**: which Teamcenter status to set

This mapping can be switched on or off with the enabled flag. Disabled by default.

```
<V6MaturityToPdmStatusMappingList enabled=”true”>
```

```
  <V6MaturityToPdmStatusMapping v6maturity=”RELEASED”
                                pdmTyp=”Design Revision”
                                pdmstatus=”TCM Released” />
</V6MaturityToPdmStatusMappingList>
```

2.1.28 V6PdmFileType

Define which Files are imported to Teamcenter and their target Dataset type and relation type. There can be multiple **V6FileFormat** and **ImportFormat** blocks and a single **GenericDocumentFormat** block.

Each **V6FileFormat** defines a Main section for mapping of aggregated 3DEXPERIENCE representations and an AUX section for mapping of shared 3DEXPERIENCE representations.

Each **ImportFormat** block defines mapping for additional files besides the main geometry file that have been exported from 3DEXPERIENCE. For example, images for thumbnails or secondary geometry files, like .dxf file for .CATDrawing.

GenericDocumentFormat defines, how unmapped document types will be handled, when the strategy is set to **IMPORT** (see chapter 2.1.11 for more details).

Mapping options:

- **PdmDocType**: Dataset type to create in Teamcenter
- **PdmDocRelation**: name of relation between ItemRevision and Dataset
- **PdmRefType**: type of named reference
- **RemoveOrigExtensionForPdm**: true if the original file extension should be removed from the filename, e.g. rename the image myfile.CATPart.png to myfile.png. Default is false.
- **UseOrigFileNameForPdm**: true to use the original filename as exported from 3DEXPERIENCE. Default is false.
- **UseOrigFileNameForDocumentName**: true to use the original filename as exported from 3DEXPERIENCE for the Document created in Teamcenter. Default is false.

```
<V6PdmFileType>
  <V6FileFormat v6format="CATPart">
    <Main>
      <PdmDocType>CMI2Part</PdmDocType>
      <PdmDocRelation>IMAN_specification</PdmDocRelation>
      <PdmRefType>CATPart</PdmRefType>
    </Main>
    <Aux>
      <PdmDocType>CMI2AuxPart</PdmDocType>
      <PdmDocRelation>IMAN_specification</PdmDocRelation>
      <PdmRefType>CATPart</PdmRefType>
    </Aux>
  </V6FileFormat>
  <ImportFormat fileFormat = "PNG" v6PdmType="Rep3D">
    <PdmDocType>Image</PdmDocType>
    <PdmDocRelation>IMAN_specification</PdmDocRelation>
    <PdmRefType>Image</PdmRefType>
  </ImportFormat>
```

```
  <GenericDocumentFormat>
    <PdmDocType>Text</PdmDocType>
    <PdmDocRelation>IMAN_specification</PdmDocRelation>
    <PdmRefType>Text</PdmRefType>
  </GenericDocumentFormat>
</V6PdmFileType>
```

2.2 PDM

2.2.1 Configuration

Defines the model mapping from 3DEXPERIENCE to Teamcenter.

`name` attribute on **`ModelMapping`** defines the model name from 3DEXPERIENCE.

The Teamcenter ItemRevision configuration object can be defined statically with Item ID and Revision or dynamically with Item ID and Revision Rule UID. The configuration object is used to store the Variant Rules and Options.

Set **`UpdateModel`** flag to update the configuration object with the configuration effectivity transfer.

```
<Configuration>
  <ModelMapping name="X021">
    <ItemId>X021-config</ItemId>
    <Revision>A</Revision>
  </ModelMapping>
  <ModelMapping name="X120">
    <ItemId>X120-config</ItemId>
    <RevisionRuleUid>QkqJD2AWr9tFBC</RevisionRuleUid>
  </ModelMapping>
  <UpdateModel>true</UpdateModel>
</Configuration>
```

2.2.2 CreatePartClass

Name of the Teamcenter Item type to use.

The default class is “Item”. This behavior can be changed by overwriting the **`com.tsystems.xci.customization.CustomPartType`** class.

```
<CreatePartClass>Item</CreatePartClass>
```

2.2.3 CreateFastenerPartClass

Name of the Teamcenter Item type to use for Fastener items.

The default is “WeldPoint”. This behavior can be changed by overwriting the **`com.tsystems.xci.customization.CustomItemType`** class.

```
<CreateFastenerPartClass>WeldPoint</CreateFastenerPartClass>
```

2.2.4 CustomAttributeMapping

Define custom type and attributes that are exported from Teamcenter or imported to Teamcenter. Disabled by default.

A list of **`CustomObject`** definitions specifies the object types and their attributes.

- **`type`**: Teamcenter object type
- **`mappingtype`**: intermediate mapping type to / from which the Teamcenter object type is mapped
- **`xname`**: 3DEXPERIENCE object class (Product, Rep3D, Drawing, Document, …)
- **`createType`**: optional type of Teamcenter object to create when object with above **`mappingtype`** is first created in Teamcenter

A **`CustomObject`** may contain multiple **`CustomAttribute`**.

- **`name`**: Teamcenter name of the attribute
- **`xname`**: intermediate mapping name of the attribute to / from which the Teamcenter attribute is mapped
- **`type`**: attribute type, one of string, boolean, dateTime, double, duration, integer or positiveInteger
- **`export`**: true to export this attribute from Teamcenter, default value is false
- **`import`**: true to import this attribute from Teamcenter, default value is true
- **`core`**: true if this attribute should be mapped to a XPDMXML standard attribute on export or from a standard attribute on import. Default value is false.
- **`maxlength`**: maximum length of the attribute
- truncate: true to truncate attribute value if **`maxlength`** is exceeded
- **`defaultValue`**: set a default value on Teamcenter import if the attribute is empty
- **`isNote`**: true when this attribute should be mapped to a Occurrence Note instead of an Occurrence attribute when mapping Instance attributes
- **`unitConversionImport`**: to convert the attribute value to a different unit on Teamcenter import. Set attribute to name of a conversion as defined in **`UnitConversionDefinition`** (see 2.1.23).

A **`CustomObject`** may contain **`CustomFormAttributes`**.

- **`formtype`**: Teamcenter type of the form
- **`relationname`**: name of relation that attaches form to object
- may contain mutliple `CustomAttribute` as defined above

```
<CustomAttributeMapping enabled="true">
  <CustomObject xname="Product" type="ItemRevision"
      mappingtype="DefaultCustomization">
    <CustomAttribute xname="Description"
                     name="object_desc"
                     type="string"
                     export="true"
                     import="false" />
    <CustomFormAttributes formtype="ItemRevision Master"
                          relationname="IMAN_master_form_rev">
      <CustomAttribute xname="Supplier Name"
                       name="user_data_1"
```

```
                        type="string"
                        export="true"
                        import="true"
                        maxlength="128"
                        truncate="true"
                        defaultValue="FavoriteSupplier" />
    </CustomFormAttributes>
  </CustomObject>
</CustomAttributeMapping>
```

2.2.5 DocumentRelations

Defines the relation types to be followed to Datasets when exporting from Teamcenter.

```
<DocumentRelations>
  <Relation>IMAN_specification</Relation>
  <Relation>IMAN_Rendering</Relation>
</DocumentRelations>
```

2.2.6 DocumentRevisionSeparator

In Teamcenter, the revision may be part of the dataset name. (e.g. 000123/B). If the dataset is copied with each revision, but the name changes to include the new revision (e.g. 000123/C), the mapped name in V6 would change as well. To get consistent naming, this separator can be defined. The dataset name will be split at the last occurrence of the configured separator and the revision will be discarded when naming the document in V6.

```
<DocumentRevisionSeparator>/<DocumentRevisionSeparator>
```

2.2.7 ExportWithStateFilter

If enabled only objects with the configured state are exported from Teamcenter. The value is a comma separated list of allowed states. Disabled by default.

```
<ExportWithStateFilter enabled="true">
  Frozen,Released
</ExportWithStateFilter>
```

2.2.8 GetMetadataSettings

Define the attributes which are returned from the Show Teamcenter Attributes command in the TCI 3DEXPERIENCE Rich Client.

```
<GetMetadataSettings>
  <!-- used as default for all ItemRevision with subclasses -->
  <ResultAttributeNames pdmType="ItemRevision">
   <ResultAttributeName>item_id</ResultAttributeName>
   <ResultAttributeName>item_revision_id</ResultAttributeName>
   <ResultAttributeName>creation_date</ResultAttributeName>
```

```
    <ResultAttributeName>last_mod_date</ResultAttributeName>
    <ResultAttributeName>object_type</ResultAttributeName>
    <ResultAttributeName>object_name</ResultAttributeName>
    <ResultAttributeName>object_desc</ResultAttributeName>
    <ResultAttributeName>owning_user</ResultAttributeName>
    <ResultAttributeName>owning_group</ResultAttributeName>
    <ResultAttributeName>owning_site</ResultAttributeName>
  </ResultAttributeNames>
  <!-- used as default for all Document with subclasses -->
  <ResultAttributeNames pdmType="Dataset">
    <ResultAttributeName>creation_date</ResultAttributeName>
    <ResultAttributeName>last_mod_date</ResultAttributeName>
    <ResultAttributeName>object_type</ResultAttributeName>
    <ResultAttributeName>object_name</ResultAttributeName>
    <ResultAttributeName>object_desc</ResultAttributeName>
    <ResultAttributeName>owning_user</ResultAttributeName>
    <ResultAttributeName>owning_group</ResultAttributeName>
    <ResultAttributeName>owning_site</ResultAttributeName>
  </ResultAttributeNames>
  <!-- used for CMI2Part class -->
  <ResultAttributeNames pdmType="CMI2Part">
    <ResultAttributeName>last_mod_date</ResultAttributeName>
    <ResultAttributeName>object_name</ResultAttributeName>
    <ResultAttributeName>object_desc</ResultAttributeName>
    <ResultAttributeName>owning_user</ResultAttributeName>
    <ResultAttributeName>owning_group</ResultAttributeName>
  </ResultAttributeNames>
</GetMetadataSettings>
```

2.2.9 IgnoreRemoveNonExistingDocuments

Disable the remove non existing document functionality. Default value is false.

```
<IgnoreRemoveNonExistingDocuments>
  true
</IgnoreRemoveNonExistingDocuments>
```

2.2.10 LinkedDrawingHandling

Defines a list of Teamcenter drawing Dataset types which should be searched as referenced at ItemRevisions. The TCIC integration uses links for the drawing handling in Teamcenter.

If **`LinkedDrawingHandling`** is enabled the integration searches for referenced drawings and transfers these drawings to 3DEXPERIENCE. Disabled by default.

```
<LinkedDrawingHandling enabled="true">
  <LinkedDrawingDocumentType>CATDrawing</LinkedDrawingDocumentType>
  <LinkedDrawingDocumentRelationType>
       IMAN_external_object_link
```

```
  </LinkedDrawingDocumentRelationType>
</LinkedDrawingHandling>
```

2.2.11 LinkedRevisionHandling

Defines a list of Teamcenter link types which should be used to search for referenced Item Revisions related to Documents. The TCIC integration uses links for the drawing handling in Teamcenter.

If **`LinkedRevisionHandling`** is enabled the integration searches for referenced Item Revisions and transfers these Item Revisions to 3DEXPERIENCE. Disabled by default.

```
<LinkedRevisionHandling enabled="true">
     <LinkType>IMAN_external_object_link</LinkType>
</LinkedRevisionHandling>
```

2.2.12 MetaUpdate

The **`MetaUpdate`** section defines the Teamcenter and 3DEXPERIENCE attributes for the metadata update command. Disabled by default.

`MetaObject` defines the Teamcenter type with the **`type`** attribute. The **`MetaAttribute`** defines the attributes for the update functionality.

- **`name`**: the attribute name in Teamcenter.
- **`v6name`**: the 3DEXPERIENCE attribute name

With the **`MetaFormAttributes`** attached forms with attributes can be used for the meta update. The **`formtype`** defines the type of the form and the **`relationname`** defines the relation name between the ItemRevision and the Form.

```
<MetaUpdate enabled="true">
  <MetaObject type="ItemRevision">
    <MetaAttribute name="object_name"
                   v6name="attribute[PLMEntity.V_Name]"/>
    <MetaFormAttributes formtype="ItemRevision Master"
                        relationname="IMAN_master_form_rev">
      <MetaAttribute name="user_data_1"
                     v6name="attribute[PLMEntity.V_description]"/>
    </MetaFormAttributes>
  </MetaObject>
  <MetaObject type="Design Revision">
    <MetaAttribute name="object_desc"
                   v6name="attribute[PLMEntity.V_description]"/>
    <MetaAttribute name="object_name"
                   v6name="attribute[PLMEntity.V_Name]"/>
  </MetaObject>
</MetaUpdate>
```

2.2.13 OverwriteOriginal

Set to **`false`** to prevent overwriting of data originating from Teamcenter (after CLOC). Enabled by default.

```
<OverwriteOriginal enabled="true" />
```

2.2.14 RemoveUnmappedInstances

Setting whether to remove unknown occurrences in Teamcenter or not. Disabled by default.

```
<RemoveUnmappedInstances enabled="true" />
```

2.2.15 RemoveDuplicateInstances

On Teamcenter import, remove duplicate instances if removeExistingNotProvided is enabled. Duplicated instances are identified by the occurrence name. Enabled by default.

```
<RemoveDuplicateInstances>true</RemoveDuplicateInstances>
```

2.2.16 RevisionQuerySettings

Define settings for running Teamcenter ItemRevision Saved Queries. **`RevisionTypes`** defines list of object types to search for, use empty **`RevisionType`** for search all types.

`RevisionAttributeNames` contains a mapping of Teamcenter Saved Query parameter name (User Entry Name) to object attributes.

`ResultAttributeNames` lists which attributes should be returned. If empty, all attributes are returned.

`MaxResultToReturn` specifies a maximum number of matches to be returned. Default value is `0`, which means no limit.

```
<RevisionQuerySettings>
  <RevisionTypes>
    <!-- Use empty RevisionType for search all types. -->
    <RevisionType/>
    <RevisionType>ItemRevision</RevisionType>
    <RevisionType>Design Revision</RevisionType>
    <RevisionType>Part Revision</RevisionType>
  </RevisionTypes>
  <!--  The RevisionAttributeName must be the "User Entry Name" in the
        Saved Query definition of the Teamcenter Query Builder
        application. For exmaple, for the item_id attribute it is "Item
        ID" -->
  <RevisionAttributeNames>
    <RevisionAttributeName display="Item ID">
      Item ID
    </RevisionAttributeName>
    <RevisionAttributeName display="Item Revision">
```

```
      Revision
    </RevisionAttributeName>
    <RevisionAttributeName display="Name">
       Name
    </RevisionAttributeName>
    <RevisionAttributeName display="Description" >
      Description
    </RevisionAttributeName>
  </RevisionAttributeNames>
  <!-- If ResultAttributeNames tag does not exist, then all not empty
       attributes are returned. -->
  <ResultAttributeNames>
    <ResultAttributeName>item_id</ResultAttributeName>
    <ResultAttributeName>item_revision_id</ResultAttributeName>
    <ResultAttributeName>sequence_id</ResultAttributeName>
    <ResultAttributeName>creation_date</ResultAttributeName>
    <ResultAttributeName>owning_user</ResultAttributeName>
    <ResultAttributeName>owning_group</ResultAttributeName>
    <ResultAttributeName>last_mod_user</ResultAttributeName>
    <ResultAttributeName>last_mod_date</ResultAttributeName>
    <ResultAttributeName>checked_out_user</ResultAttributeName>
  </ResultAttributeNames>
  <MaxResultToReturn>25</MaxResultToReturn>
</RevisionQuerySettings>
```

2.2.17 StructureCompare3DXRevRuleUid

Revision rule to use when expanding structure for comparison with 3DEXPERIENCE structure.

```
<StructureCompare3DXRevRuleUid>
  QokBHeBxZN8TTB
<StructureCompare3DXRevRuleUid>
```

2.3 Teamcenter

2.3.1 ConfigurationImport

Settings for the Option and Variant Rule import:

- **`ConfigurationCreateItemType`**: the Item type to use for the creation of new Item configuration objects. Default is “Item
- **`ConfigurationType`**:
- **`RemoveExistingOptionValues`**: true to remove existion option values, default is false.
- **`VariantRuleType`**: Variant Rule Type (VariantRule) to use when importing 3DX Variant Rules in Teamcenter, default is VariantRule. It must be set same as in Teamcenter Preference Cfg0CreateVariantRuleType.
- **`VariantRuleRelationType`**: the variant rule relation type, default is IMAN_specification.
- **`RevisionRuleForVariants`**: the Revision rule uid to use for option update.

- **`RemoveOldVariantRule`**: true to remove old variant rules from the configuration object, default is true.
- **`DeleteOldVariantRule`**: true to delete old variant rules, default is false.
- **`SkipRemoveUnneedeBrackets`**: true to skip the removeUnneedeBrackets functionality, default is false
- **`DummyOption`**: dummy option to add if the variant condition starts with a bracket
  - **`name`**: name of the dummy option
  - **`value`**: value of the dummy option
  - **`vnItemId`**: VariantNode Item ID
  - **`itemId`**: Item ID to set to the Variant Condition Item ID field

Settings for the Date Effectivity import:

- **`OccurrenceEffectivityStartDateINF`**: the start date for INF values from 3DEXPERIENCE, default is 1970-01-01.
- **`OccurrenceEffectivityTimeZone`**: the ID for a TimeZone, either an abbreviation such as "PST", a full name such as "America/Los_Angeles", or a customID such as "GMT-8:00".
- **`ProductConfiguratorNamespace`**: namespace when importing Families in Product Configurator data model. Default is 3DEXPERIENCE.

```
<ConfigurationImport>
  <ConfigurationCreateItemType>Item</ConfigurationCreateItemType>
  <RemoveExistingOptionValues>false</RemoveExistingOptionValues>
  <VariantRuleType>VariantRule</VariantRuleType>
  <VariantRuleRelationType>IMAN_specification</VariantRuleRelationType>
  <RevisionRuleForVariants>rev-rule-uid</RevisionRuleForVariants>
  <RemoveOldVariantRule>true</RemoveOldVariantRule>
  <DeleteOldVariantRule>false</DeleteOldVariantRule>
  <SkipRemoveUnneedeBrackets>false</RemoveExistingOptionValues>
  <OccurrenceEffectivityStartDateINF>
    1970-01-01
  </OccurrenceEffectivityStartDateINF>
  <OccurrenceEffectivityTimeZone>MET</OccurrenceEffectivityTimeZone>
  <ProductConfiguratorNamespace>
    3DEXPERIENCE
  </ProductConfiguratorNamespace>
</ConfigurationImport>
```

2.3.2 WorkingGroup

Name of TCI working group in Teamcenter. Item Revisions owned by 3DEXPERIENCE will be moved to this group.

```
<WorkingGroup>V6Group</WorkingGroup>
```

2.4 Enovia

2.4.1 Configuration

Define settings for the configuration data import to 3DEXPERIENCE, for example the default revision when creating a new Model in 3DEXPERIENCE.

All settings are optional and have default values.

- **`DefaultModelVersionRevision`**: revision string for creating Model Version in Configuration import to 3DEXPERIENCE. Default revision is START.
- **`EnableDeallocateVariant`**: true to enable the deallocation of not existing Variants in 3DEXPERIENCE. Disabled by default.
- **`EnableDeallocateVariantValue`**: true to enable the deallocation of not existing Variant values in 3DEXPERIENCE. Disabled by default.
- **`ModelConfigurationSeparator`**: separator between Model name and Product Configuration when importing Product Configuration into 3DEXPERIENCE. Default separator is -.
- **`ModelVariantSeparator`**: separator between Model name and Variant name when importing Variants into 3DEXPERIENCE. Default separator is -.
- **`VariantValueSeparator`**: separator between Variant name and Variant value when importing Variants into 3DEXPERIENCE. Default separator is -.

```
<Configuration>
  <DefaultModelVersionRevision>START</DefaultModelVersionRevision>
  <EnableDeallocateVariant>false</EnableDeallocateVariant>
  <EnableDeallocateVariantValue>false</EnableDeallocateVariantValue>
  <ModelConfigurationSeparator>-</ModelConfigurationSeparator>
  <ModelVariantSeparator>-</ModelVariantSeparator>
  <VariantValueSeparator>-</VariantValueSeparator>
</Configuration>
```

2.4.2 CustomAttributeMapping

Define custom type and attributes that are exported from 3DEXPERIENCE or imported to 3DEXPERIENCE. Disabled by default.

A list of **`CustomObject`** definitions specifies the object types and their attributes.

- **`type`**: 3DEXPERIENCE object type
- **`mappingtype`**: intermediate mapping type to / from which the 3DEXPERIENCE object type is mapped
- **`xname`**: 3DEXPERIENCE object class (Product, Rep3D, Drawing, Document, …)

A **`CustomObject`** may contain multiple **`CustomAttribute`**.

- **`name`**: 3DEXPERIENCE name of the attribute
- **`extensionname`**: name of the attribute extension in 3DEXPERIENCE, if applicable
- **`xname`**: intermediate mapping name of the attribute to / from which the 3DEXPERIENCE attribute is mapped
- **`type`**: attribute type, one of string, boolean, dateTime, double, duration, integer or positiveInteger

- **`export`**: true to export this attribute from Teamcenter, default value is false
- **`import`**: true to import this attribute from Teamcenter, default value is true
- **`core`**: true if this attribute should be mapped to a XPDMXML standard attribute on export or from a standard attribute on import. Default value is false.
- **`basic`**: true if this 3DEXPERIENCE is a basic attribute not defined on an object type, for example type, description, physicalid. In ExportXpdm or ExportFiles mode these attributes will be exported from 3DEXPERIENCE.
- **`maxlength`**: maximum length of the attribute
- **`truncate`**: true to truncate attribute value if **`maxlength`** is exceeded
- **`defaultValue`**: set a default value on Teamcenter import if the attribute is empty
- **`unitConversionImport`**: to convert the attribute value to a different unit on 3DEXPERIENCE import. Set attribute to name of a conversion as defined in **`UnitConversionDefinition`** (see 2.1.23).
- **`xpdmExposed`**: false to export attributes from 3DEXPERIENCE that are not exposed with XPDM interface. These attributes are only exported if **`TDXExportMode`** is set to **`ExportXPDM`**.

`CustomAttributeMapping` may also contain attribute flags to control if pdm-cust-config mapping files are generated for XPDM import or export – **`createPdmCustConfigForExport`** and **`createPdmCustConfigForImport`**. These mapping files control which attributes are exported or imported when transferring objects through XPDM interface and are generated from the **`CustomAttributeMapping`**. Alternatively, you can supply existing pdm-cust-config files with **`PdmCustConfigFileImport`** and **`PdmCustConfigFileExport`**.

Following example defines the **`V_versionComment`** attribute for export of VPMReference types.

```
<CustomAttributeMapping enabled="true"
                        createPdmCustConfigForExport="true"
                        createPdmCustConfigForImport="true">
  <CustomObject xname="Product" type="VPMReference"
                mappingtype="VPMReference">
    <CustomAttribute xname="V_versionComment" name="V_versionComment"
                     type="string" export="true"
                     extensionname="MyExtension" />
  </CustomObject>
</CustomAttributeMapping>
```

2.4.3 EnableNonCatiaExpand

Is only relevant if the **`TDXExportMode`** is set to **`ExportFiles`**.

If set to **`true`** all geometries are exported, else only 3DPart geometries are exported.

Default setting is **`false`**.

```
<EnableNonCatiaExpand>false</EnableNonCatiaExpand>
```

2.4.4 ExportWithStateFilter

If enabled only objects with the configured state are exported from 3DEXPERIENCE. The value is a comma separated list of allowed states.

```
<ExportWithStateFilter enabled="true">
  FROZEN,RELEASED
</ExportWithStateFilter>
```

2.4.5 FileExportConfiguration

The configuration for the FileExport (**`TDXExportMode`** is set to **`ExportFiles`**) can be configured with FileExportConfiguration settings.

The FileExportConfiguration can be used to disable the CATPart or CATDrawing export. Also, Thumbnails or neutral formats can be exported. For detailed information about the configuration see the documentation of the Export batch in the “Readme_TSI3DXBatch.txt” file.

The **`ignoreError`** flag can be set to true to ignore error at file export and continue processing..

The 3DXML export and the XCAD export can set the **`enableAssemblyCaching`** attribute to true to enable the Assembly file caching at export.

`RestApiExport` defines exports with the Rest API from 3DEXPERIENCE.

- **`AssemblyExport`**: enableExport set to false will skip the assembly file (POWER’BY) export. ignoreError set to true will continue on error.
- **`PartExport`**: enableExport set to false will skip the part file (POWER’BY) export. ignoreError set to true will continue on error.
- **`DrawingExport`**: enableExport set to false will skip the drawing file (POWER’BY) export. ignoreError set to true will continue on error.

```
<FileExportConfiguration>
  <Source type="3DShape">
    <CATPart enableExport="false"/>
    <Thumbnail enableExport="true" viewableSize="300">PNG</Thumbnail>
    <XCAD enableExport="false" xCadFormat="wrl">VRML</XCAD>
    <XCAD enableExport="false" >JT_COMFOX</XCAD>
  </Source>
  <Source type="VPMReference">
    <TDXML enableExport="false" />
  </Source>
  <Source type="Drawing">
    <CATDrawing enableExport="false"/>
    <Thumbnail enableExport="true" viewableSize="300">PNG</Thumbnail>
    <Print enableExport="true"/>
  </Source>
  <RestApiExport enabled="true">
    <AssemblyExport enableExport="true" ignoreError="true"/>
    <PartExport enableExport="true" ignoreError="false"/>
    <DrawingExport enableExport="true" ignoreError="true"/>
  </RestApiExport>
</FileExportConfiguration>
```

2.4.6 GetMetadataSettings

Defines the attributes which are returned from the “Show 3DEXPERIENCE Properties” command in the TCI Teamcenter Rich Client.

```
<GetMetadataSettings>
  <ProductObject enoviaType="VPMReference">
    <AttributeName display="Type">type</AttributeName>
    <AttributeName display="Name">name</AttributeName>
    <AttributeName display="Revision">revision</AttributeName>
    <AttributeName display="Vault">vault</AttributeName>
    <AttributeName display="Policy">policy</AttributeName>
    <AttributeName display="State">current</AttributeName>
    <AttributeName display="Created">originated</AttributeName>
    <AttributeName display="Modified">modified</AttributeName>
    <AttributeName display="Owner">owner</AttributeName>
    <AttributeName display="Organization">organization</AttributeName>
    <AttributeName display="Project">project</AttributeName>
    <AttributeName display="External ID">
      attribute[PLMEntity.PLM_ExternalID]</AttributeName>
    <AttributeName display="Title">
      attribute[PLMEntity.V_Name]</AttributeName>
    <AttributeName display="">
      attribute[PLMEntity.V_description]</AttributeName>
  </ProductObject>
</GetMetadataSettings>
```

2.4.7 OverwriteOriginal

Disable to not overwrite original data (after CLOC) in 3DEXPERIENCE. Enabled by default.

```
<OverwriteOriginal>false</OverwriteOriginal>
```

2.4.8 QuerySettings

The TCI integration inside Teamcenter provides an online query in 3DEXPERIENCE without changing the application. Based on the query result a data transfer from 3DEXPERIENCE to Teamcenter can be initiated.

The corresponding configurations for the query in 3DEXPERIENCE are defined in the **`QuerySettings`** section.

`DefaultEnoviaRole` and the **`DefaultEnoviaVault`** are used as defaults for the 3DEXPERIENCE login. The configured values are presented in the 3DEXPERIENCE login dialog window and can be modified by the user. If no default values are configured, empty input fields are presented to the user.

`QueryLimit` defines the maximum number of query results presented to the user. If more matching objects are available in 3DEXPERIENCE, an information message will appear inside the user interface. The default setting is “100”.

QueryTypes defines a list of selectable object types for the 3DEXPERIENCE query. Each **QueryType** defines one 3DEXPERIENCE object type (3DEXPERIENCE internal type name). The **display** attribute defines the type name presented to the user. If no query type is configured, an empty input field is presented to the user. In this case, the user has to input the 3DEXPERIENCE internal type name, like “VPMReference”.

QueryAttributes defines the 3DEXPERIENCE attributes, which will be presented in the result table. The order of the attributes in the result table is also defined here and corresponds to the attribute sequence. Each **QueryAttribute** defines one 3DEXPERIENCE attribute, e.g. “majorrevision”. The **display** attribute defines a corresponding name used in the results window, e.g. “Major Revision”. If the **visible** attribute is set to “false”, the 3DEXPERIENCE attribute will not be visible inside the result window. The default for the **visible** attribute is “true”. If no query attributes are configured, a list of default attributes is used.

```
<QuerySettings>
  <DefaultEnoviaRole>VPLMProjectLeader.Company Name.Common
Space</DefaultEnoviaRole>
  <DefaultEnoviaVault>vplm</DefaultEnoviaVault>
  <QueryLimit>200</QueryLimit>
  <QueryTypes>
    <QueryType display="Physical Product">VPMReference</QueryType>
  </QueryTypes>
  <QueryAttributes>
    <QueryAttribute display="Identification code" visible="true">
      id
    </QueryAttribute>
    <QueryAttribute display="Type" visible="true">
      type
    </QueryAttribute>
    <QueryAttribute display="Name" visible="true">
      name
    </QueryAttribute>
    <QueryAttribute display="Revision" visible="true">
      revision
    </QueryAttribute>
    ...
  </QueryAttributes>
</QuerySettings>
```

2.4.9 RemoveNon3DPartRep3D

True to remove Rep3D/Rep3DInst and Rep3DAggr from the XPDM export which are not connected with a 3DPart.

```
<RemoveNon3DPartRep3D>false</RemoveNon3DPartRep3D>
```

2.5 Features

Enable or disable features if not required by use case. For example, in case of unidirectional transfer from 3DEXPERIENCE to Teamcenter only, disable Teamcenter to 3DEXPERIENCE functionality.

- **`SendTo3DX`**: transferring ItemRevisions to 3DEXPERIENCE. Default is enabled.
- **`SendToPDM`**: transferring Physical Product to Teamcenter. Default is enabled.
- **`FolderSendTo3DX`**: transfer Folders to 3DEXPERIENCE. Default is enabled.
- **`BookmarkSendToPDM`**: transfer Bookmarks to Teamcenter (or legacy Engineering Folder if configured). Default is enabled.
- **`ListTo3DX`**: transfer lists of ItemRevisions to 3DEXPERIENCE. Default is enabled.
- **`ListToPDM`**: transfer lists of Physical Products to Teamcenter. Default is enabled.
- **`StructureCompare`**: compare transferred objects between Teamcenter and 3DEXPERIENCE. Default is enabled.
- **`ReviseIn3DX`**: revise transferred objects in 3DEXPERIENCE without transferring structure. Default is disabled.
- **`MetaUpdateIn3DX`**: synchronize attributes from Teamcenter to 3DEXPERIENCE without transferring structure. Default is disabled.
- **`Query3DXPhysicalProduct`**: search for Physical Products in 3DEXPERIENCE. Default is enabled.
- **`Query3DXBookmark`**: search for Bookmarks (or legacy Engineering Folders) in 3DEXPERIENCE. Default is enabled.
- **`Query3DXConfiguration`**: search for Models in 3DEXPERIENCE. Default is disabled.
- **`ConfigurationExportFrom3DX`**: export of variant management dictionaries (Model, Model Version, Variants, Options) and effectivities. Default is disabled.
- **`QueryPDMPartRevision`**: search for ItemRevisions in Teamcenter. Default is enabled.
- **`QueryPDMPart`**: search for Items in Teamcenter. Default is enabled.
- **`QueryPDMFolder`**: search for Folders in Teamcenter. Default is enabled.
- **`QueryPDMConfiguration`**: search for Variant Rules in Teamcenter. Default is disabled.
- **`ConfigurationExportFromPDM`**: export of Variant Conditions, Options and Variant Rules. Default is disabled.
- **`DetailsServlet`**: show Teamcenter or 3DEXPERIENCE object details based on object UID in Tools -> Details. Default is disabled.
- **`FileCacheInfoServlet`**: show file cache entries in Tools ->File Cache. Use **`maxReturn`** to control how many results are shown. Default is disabled.
- **`JobServlet`**: show information about submitted jobs in Tools -> Job. Default is disabled.
- **`TableInfoServlet`**: query TCI Product and Document table in Tools -> Table Info. Default is disabled.

```
<Features>
      <SendTo3DX enabled="true"/>
      <SendToPDM enabled="true"/>
      <FolderSendTo3DX enabled="true"/>
      <BookmarkSendToPDM enabled="true"/>
      <ListTo3DX enabled="true"/>
      <ListToPDM enabled="true"/>
      <StructureCompare enabled="true"/>
      <ReviseIn3DX enabled="false"/>
      <MetaUpdateIn3DX enabled="false"/>
      <Query3DXPhysicalProduct enabled="true"/>
      <Query3DXBookmark enabled="true"/>
      <Query3DXConfiguration enabled="false"/>
      <ConfigurationExportFrom3DX enabled="false"/>
      <QueryPDMPartRevision enabled="true"/>
      <QueryPDMPart enabled="true"/>
      <QueryPDMFolder enabled="true"/>
      <QueryPDMConfiguration enabled="false"/>
      <ConfigurationExportFromPDM enabled="false"/>
      <DetailsServlet enabled="false"/>
      <FileCacheInfoServlet enabled="true" maxReturn="50"/>
      <JobServlet enabled="true"/>
      <TableInfoServlet enabled="true"/>
</Features>
```

3 Administration settings

The file **XCIAdminSettings.xml** in **XCI_HOME** defines administration settings for the integration, for example connection parameters to Teamcenter and 3DEXPERIENCE.

It is divided into sections:

- **Administration**: settings defining integration behavior
- **Pdm**: settings for Teamcenter behavior
- **Teamcenter**: specific settings Teamcenter
- **Enovia**: specific settings for 3DEXPERIENCE
- **XciWeb**: settings for the TCI web client
- **Scheduler**: settings for scheduling automated processes
- **TSI3DXBatch**: configuration of 3DEXPERIENCE import and export batch utility
- **COMReconV5**: configuration of CATIA V5 pre- and postprocessing
- **COMReconNX**: configuration of NX preprocessing
- **FileConversion**: configuration of file conversion batches

The next subchapters list settings available in these sections.

3.1 Administration

3.1.1 CleanupPersistentDir

True to clean up the persistent directory when the content is successfully transferred. Disabled by default.

```
<CleanupPersistentDir>true</CleanupPersistentDir>
```

3.1.2 CleanupReportDirDaysToKeep

Define how many days to keep the reports in the Report directory. Default is -1 meaning results are kept indefinitely.

```
<CleanupReportDirDaysToKeep>30</CleanupReportDirDaysToKeep>
```

3.1.3 ConversionServerLoadBalancer

Control behavior for the Conversion Server load balancer.

- **Timeout**: timeout in seconds to wait for a free Conversion Server if all are in use. If timeout is reached, without receiving a free Conversion Server, the process is terminated with error. Default is 0 meaning unlimited timeout.
- **Taskkill**: command to kill running processes on CS when processes are canceled. Enabled by default and default command is “taskkill /F /PID ___PID___” where ___PID___ represents the system process ID.

Define HTTP connection settings when connecting to Conversion Servers:

- **`ConnectionRequestTimeout`**: timeout in milliseconds when requesting a connection from connection pool. Default: 15000. Set to 0 for no timeout and to negative to use system default.
- **`ConnectTimeout`**: timeout in milliseconds until connection is established. Default: 15000. Set to 0 for no timeout and to negative to use system default.
- **`SocketTimeout`**: timeout in milliseconds between two consecutive data packages. Default: 50000. Set to 0 for no timeout and to negative to use system default.

```
<ConversionServerLoadBalancer>
  <Timeout>3600</Timeout>
  <Taskkill enabled=”true”>
    <Command>taskkill /F /PID ___PID___</Command>
  </Taskkill>
  <HTTPClient>
    <ConnectionRequestTimeout>15000</ConnectionRequestTimeout>
    <ConnectTimeout>15000</ConnectTimeout >
    <SocketTimeout>50000</SocketTimeout>
  </HTTPClient>
</ConversionServerLoadBalancer>
```

3.1.4 CORS Filter

Teamcenter AWC plugin communicates with TCI and as AWC is a browser-based web application, these requests are subject to browser CORS policies. CORS policies can limit on the server side from which client requests are accepted. Servers return the CORS configuration to the client and browsers may or may not execute requests based on the returned configuration.

TCI will by default accept all requests by returning “**`AllowedOrigin: *`**”. If this should be limited to certain clients, a CORS filter can be configured to list the allowed client origins.

```
<CORS>
 <AllowedOrigin>https://client-one:port</AllowedOrigin>
 <AllowedOrigin>https://client-two:port</AllowedOrigin>
</CORS>
```

3.1.5 Customizations

The behavior of the integration can be modified using customization points. The **`Customizations`** tag may contain multiple **`CustomizationPoints`** defining which customization implementation should be used. Each **`CustomizationPoint`** defines a **`custpoint`** to be overridden and an **`entrypoint`** specifying the overriding implementation. The optional attribute **`enabled`** has the default **`true`**.

If you require any kind of customization, please contact the support team.

```
<Customizations>
  <CustomizationPoint
    custpoint="com.tsystems.xci.customization.CustomizationPointX"
    entrypoint="my.customization.MyCustomizationPointImpl" />
</Customizations>
```

3.1.6 Database

TCI makes use of a database to store and keep track of required data. The used database must be configured using the resource definition of the application server. TCI will read the resource defined as **jdbc/xciDB**.

The resource must be configured at the Tomcat application server in **<CATALINA_HOME>/conf/context.xml.** The default resource can be overridden by defining the **PersistenceUnitName**.

```
<Database>
  <PersistenceUnitName>jdbc/myXciDB</PersistenceUnitName>
</Database>
```

Example resource definition for Oracle:

```
<Resource name="jdbc/xciDB" type="javax.sql.DataSource"
      auth="Container" driverClassName="oracle.jdbc.OracleDriver"
      maxTotal="100" maxIdle="10" maxWaitMillis="-1"
      url="jdbc:oracle:thin:@my.db-server-url.com:1521:orcl"
      username="XCI"
      password="XCI" />
```

Example resource definition for MS SQL:

```
<Resource name="jdbc/xciDB" type="javax.sql.DataSource"
      auth="Container"
     driverClassName="com.microsoft.sqlserver.jdbc.SQLServerDriver"
      maxTotal="100" maxIdle="10" maxWaitMillis="-1"
      url="jdbc:sqlserver://my.db-server-url.com\SQLEXPRESS;
           databaseName=XCI"
      username="XCI"
      password="XCI" />
```

Example resource definition for H2:

```
<Resource name="jdbc/xciDB" type="javax.sql.DataSource"
      auth="Container" driverClassName="org.h2.Driver"
      maxTotal="100" maxIdle="10" maxWaitMillis="-1"
      url="jdbc:h2:C:\XCI\XCI_HOME\xciDB\xciDB;AUTO_SERVER=TRUE"
      username="XCI"
      password="XCI" />
```

If the resource is not defined at the application server, a local and file based H2DB will be created in **XCI_HOME** directory.

3.1.7 DwcProductStructureExport

Export product structure with DownwardComaptibilty batch (export CATPart and CATProduct files from 3DEXPERIENCE with one call). Disabled by default.

```
<DwcProductStructureExport enabled="true" />
```

3.1.8 ImportPdm

Strategy how to import the 3DEXPERIENCE structures to Teamcenter:

- **enableLevelSplitUp**: true will enable the split up of the Teamcenter import in a level-based import. Disabled by default.
- **enableLevelSetBased**: true will enable the set-based approach for the import of one level. The level-based import will start at the deepest level nodes of the product structure and will first import these leave nodes, then the parent objects up to the top level are imported including the direct children. If **enableLevelSetBased** is set to true then the same levels are imported in one import process (using the set-based import), else each object is imported in its own import process. Disabled by default.
- **enableQueuing**: true will enable the functionality to not handle the same part number in parallel running Teamcenter imports. Disabled by default.
- **timeoutQueuing**: timeout for the import queuing in ms. Default value is 10 minutes.
- **enableLevelQueuing**: true will enable the functionality to not handle the same part number in parallel running Teamcenter level imports. Disabled by default.
- **timeoutLevelQueuing**: timeout for the import queuing in ms. Default value is 10 minutes.

```
<ImportPdm enableLevelSplitUp="true"
           enableLevelSetBased="false"
           enableQueuing="false"
           timeoutQueuing="600000"
           enableLevelQueuing="true"
           timeoutLevelQueuing="600000" />
```

3.1.9 JobDatabaseRefreshInterval

Interval to query the database for new transfer jobs in in ms. Default value is 5 seconds.

```
<JobDatabaseRefreshInterval>10000</JobDatabaseRefreshInterval>
```

3.1.10 JobReceiverComplexThreadPoolSize

The size of the Job Receiver complex thread pool (used for folder or list transfers). Restart needed to use the new value. Default value is 3.

```
<JobReceiverComplexThreadPoolSize>6</JobReceiverComplexThreadPoolSize>
```

3.1.11 JobReceiverThreadPoolSize

The size of the Job Receiver thread pool. Restart needed to use the new value. Default value is 5.

```
<JobReceiverThreadPoolSize>10</ JobReceiverThreadPoolSize>
```

3.1.12 JobRetrySeconds

The number of seconds to wait for the Job retry if the job fails. 0 will disable the retry. Default is 30 seconds.

```
<JobRetrySeconds>0</JobRetrySeconds>
```

3.1.13 JobSchedulingStrategy

Strategy which selects the next Job to run. Whenever there is free capacity in the job queue, this strategy reads queued jobs from the database and determines the next to job to run. Supported strategies:

- FIFO: jobs are run in a first-in, first-out fashion, i.e. jobs are sorted by creation date and the oldest jobs is selected to run. Default strategy.
- RoundRobin: jobs are separated into buckets. TCI then alternates between the buckets whenever there is a job to run. Jobs are divided into
    - one bucket for all standard job submitted by client (web client, Teamcenter or 3DEXPERIENCE client plugin)
    - one bucket for each complex jobs (List, Folder, …) – all child jobs of one complex job are grouped into the same bucket
    - one bucket for jobs started by the scheduler

```
<JobSchedulingStrategy>RoundRobin</JobSchedulingStrategy>
```

3.1.14 LegacyTransformationSupport

Enables the support for legacy transformation in Teamcenter. Enabled by default.

```
<LegacyTransformationSupport enabled="true" />
```

3.1.15 PersistentDir

Optional definition of a directory to be used by TCI to store persistent data. TCI must have read and write access to this directory.

If the value is not defined the path **<XCI_HOME>\persistent** will be used.

```
<PersistentDir>C:\persistent</PersistentDir>
```

3.1.16 PdmDocumentRevisionMapping

Defines the revision numbers in Teamcenter for 3DEXPERIENCE representations.

If **PdmDocumentRevisionMapping** is configured, TCI will perform a direct assignment between the revisions of Teamcenter and 3DEXPERIENCE. As a result of this configuration, the revisions in Teamcenter or 3DEXPERIENCE may have gaps if only selected revisions are transferred.

- **alphabetical**: revisions in Teamcenter are alphabetical (A, B, C, …)
- **numerical**: revisions in Teamcenter are numerical (1, 2, 3, …)

If the **PdmDocumentRevisionMapping** is not configured the next free revision/index will be used, based on TCI mapping. As a result, revisions in the target system are in the order in which they are transferred which may not be the order in the source system.

```
<PdmDocumentRevisionMapping>alphabetical</PdmDocumentRevisionMapping>
```

3.1.17 PdmRevisionMapping

Defines the revision numbers in Teamcenter.

If **PdmRevisionMapping** is configured, TCI will perform a direct assignment between the revisions of Teamcenter and 3DEXPERIENCE. As a result of this configuration, the revisions in Teamcenter or 3DEXPERIENCE may have gaps if only selected revisions are transferred.

- **alphabetical**: revisions in Teamcenter are alphabetical (A, B, C, …)
- **numerical**: revisions in Teamcenter are numerical (1, 2, 3, …)
- **identical**: no mapping, use the same revision between Teamcenter and 3DEXPERIENCE

If the **PdmRevisionMapping** is not configured the next free revision/index will be used, based on TCI mapping. As a result, revisions in the target system are in the order in which they are transferred which may not be the order in the source system.

```
<PdmRevisionMapping>alphabetical</PdmRevisionMapping>
```

3.1.18 ProcessStatusMaxDuration

The search period used to search for ProcessStatus information when retrieving process status from client plugins. Default value is P7D to retrieve info for the last seven days.

```
<ProcessStatusMaxDuration>P7D</ProcessStatusMaxDuration>
```

3.1.19 ProcessStatusMaxReturn

The maximum number of ProcessStatus information to return when retrieving process status from client plugins. Default value is 50.

```
<ProcessStatusMaxReturn>50</ProcessStatusMaxReturn>
```

3.1.20 ProcessStatusOnlySessionUser

Filter the result of the ProcessStatus by the current session user when retrieving process status from client plugins. Enabled by default.

```
<ProcessStatusOnlySessionUser>true</ProcessStatusOnlySessionUser>
```

3.1.21 ResourceBalancer

Limits concurrent use of resources across all Converter Server hosts. A resource can be licenses for example and is identified by a string.

The resource must then be assigned to a batch type, see 3.7 for TSI3DXBatch, 3.8 for COMReconV5 and 0 for file conversion.

```
<ResourceBalancer>
  <Resource name="V6" maxParallel="2" />
  <Resource name="V5" maxParallel="2" />
</ResourceBalancer>
```

3.1.22 SetFilterIn3DX

True to enable the functionality to set filter in 3DX when sending structure names. Enabled by default.

```
<SetFilterIn3DX>true</SetFilterIn3DX>
```

3.1.23 SkipRepWithoutFile

True to remove Representations without file -> no document without file. Disabled by default.

```
<SkipRepWithoutFile>false</SkipRepWithoutFile>
```

3.1.24 TDXExportMode

The 3DEXPERIENCE export mode can be configured.

- **`ExportXPDM`**: export from 3DEXPERIENCE using the XPDMImportExportBatch utility. On Premise only.
- **`ExportFiles`**: export from 3DEXPERIENCE using Matrix and DWC utility. On Premise only.
- **`ExportDesign`**: export from 3DEXPERIENCE using web services and DWC utility.
- **`ExportStepx`**: export from 3DEXPERIENCE using the Enterprise IP Exchange service. Cloud only.

Default value is **`ExportFiles`**.

```
<TDXExportMode>ExportXPDM</TDXExportMode>
```

3.1.25 TDXImportMode

The 3DEXPERIENCE import mode can be configured.

- **`ImportXPDM`**: import to 3DEXPERIENCE using the XPDMImportExportBatch utility. On Premise only.
- **`ImportStepx`**: import to 3DEXPERIENCE using the Enterprise IP Exchange service. Cloud only.

Default value is **`ImportXPDM`**.

```
<TDXImportMode>ImportXPDM</TDXImportMode>
```

3.1.26 TempDir

Optional definition of a temporary directory to be used by TCI. TCI must have read and write access to this directory.

If the value is not defined the path **`<XCI_HOME>\temp`** will be used.

```
<TempDir>C:\temp</TempDir>
```

3.1.27 UidAsFileName

Define if filenames of files exported by Teamcenter should be renamed to their Teamcenter uid + file extension. Files in different datasets in Teamcenter may have the same filename which can lead to collisions.

If the setting does not exist, no files will be renamed.

If **`rename`** is true, then all files will be renamed except files with extension specified in **`ExcludeFileExtension`**.

If **`rename`** is false, only files with extension specified in **`ExcludeFileExtension`** will be renamed.

```
<UidAsFileName rename=”true”>
  <ExcludeFileExtension>CATPart</ExcludeFileExtension>
  <ExcludeFileExtension>CATProduct</ExcludeFileExtension>
</UidAsFileName>
```

3.1.28 XCIServerUrl

URL of TCI integration webapp. Must be configured if distributed Conversion Server are used, so that they can communicate back to TCI.

```
<XCIServerUrl>https://my-tci-server:8080/XCI</XCIServerUrl>
```

3.2 Pdm

3.2.1 Dispatchers

Definitions for optional dispatchers to use. Each dispatcher can be enabled separately.

```
<Dispatchers>
  <Dispatcher enabled="true">
    <DocumentType>CMI2Part</DocumentType>
    <FileType>CATPart</FileType>
    <Provider>TSYSTEMS</Provider>
    <Priority>3</Priority>
    <Servicename>cmitojt</Servicename>
    <Type>ONDEMAND</Type>
  </Dispatcher>
  <Dispatcher enabled="true">
    <DocumentType>CMI2Drawing</DocumentType>
    <FileType>CATDrawing</FileType>
    <Provider>TSYSTEMS</Provider>
    <Priority>3</Priority>
    <Servicename>cmitopdf</Servicename>
    <Type>ONDEMAND</Type>
  </Dispatcher>
```

```
</Dispatchers>
```

3.2.2 ExpandChunkSize

Define how many objects to expand per Teamcenter call. Default value is 1000.

Warning: can affect the performance of the tool and die utilization of the Teamcenter server.

```
<ExpandChunkSize>1000</ExpandChunkSize>
```

3.2.3 FileDownloadChunkSize

Define how many files to download per request using the Teamcenter FCS. Default value is 1.

```
<FileDownloadChunkSize>1</FileDownloadChunkSize>
```

3.2.4 FileUploadChunkSize

Define how many files to upload per request using the Teamcenter FCS. Default value is 1.

```
<FileUploadChunkSize>1</FileUploadChunkSize>
```

3.2.5 GetPropertiesChunkSize

Define for how many objects to retrieve properties per Teamcenter call. Default value is 1000.

Warning: can affect the performance of the tool and die utilization of the Teamcenter server.

```
<GetPropertiesChunkSize>1000</GetPropertiesChunkSize>
```

3.2.6 HoldConnectionOpenInSeconds

Seconds to keep the Teamcenter service connection open while waiting for new service connection request. Default value is 60 seconds.

```
<HoldConnectionOpenInSeconds>60</HoldConnectionOpenInSeconds>
```

3.2.7 RefreshChunkSize

Define how many objects to refresh per Teamcenter call. Default value is 1000.

Warning: can affect the performance of the tool and die utilization of the Teamcenter server.

```
<RefreshChunkSize>1000</RefreshChunkSize>
```

3.2.8 ReportReceiverList

Defines a list of Teamcenter users to receive reports on TCI transfers. The reports will be delivered through Teamcenter to the mailbox of the defined users. Enabled by default.

```
<ReportReceiverList enabled="false">
  <Receiver>myTCIUser1</Receiver>
```

```
  <Receiver>infodba</Receiver>
</ReportReceiverList>
```

3.2.9 SendJobNotifications

Enable to send user a message in the Teamcenter Mail system after the Job is finished.

```
<SendJobNotifications enabled="true"/>
```

3.2.10 TemplateProductImport

The location of the template product file to use on import. The product file will be added on Teamcenter imports. The location may be relative to the **XCI_HOME** directory or an absolute path.

```
<TemplateProductImport enabled="true">
  TemplateProduct.CATProduct
</TemplateProductImport>
```

3.3 Teamcenter

3.3.1 CMIRIICompatibility

To support as most as possible environments TCI can be configured to run in CMI RII compatibility mode. This will modify the default behavior to match some specialties of the environment.

To switch on the CMI RII compatibility mode the following configurations must be set in the TCI configuration file in the Teamcenter section.

Additionally, the following optional settings can be set:

- **HandleAuxForms**: true to handle aux files for CMI RII, default is true

```
<CMIRIICompatibility enabled=”true”>
  <HandleAuxForms>true</HandleAuxForms>
</CMIRIICompatibility>
```

3.3.2 FileManagement

If the useFsc is set to true, the tccs is not used, but the direct connection to the fsc is used.

Define FileManagementUtility to use with parameters:

- **ClientIPAddress**: This client's address which can be optionally used to determine the FSC assignments.
- **AssignedFSCURIs**: Optional array of FSCs assigned to this client. These are passed in the form {"http://192.168.1.1:1234", "http://192.168.1.2:1234"}. These are configured in fmsmaster.xml as fscid and clientmap.
- **BootstrapFSCURIs**: An array of bootstrap FSCs to get FSC assignments from. These are passed in the form {"http://192.168.1.1:1234", "http://192.168.1.2:1234"}. These are set as values for the preference FMS_Bootstrap_Urls and can be listed by running the command line utility backup_xmlinfo.

This initialization can be a direct assignment of assigned FSCs URIs, or via a bootstrap procedure that queries the FMS system to find assigned FSCs based on the supplied client IP. Direct initialization is invoked by passing assignedFSCURIs. The FMS system is not queried for assigned FSCs. Bootstrap initialization is invoked by passing bootstrapFSCURIs and clientIPAddress. The bootstrap FSCs will be queried to get assigned FSCs for the given client IP. If the client IP is null or an empty string, the bootstrap servers will use the client address off the connection. Assigned FSCs are kept in the proxy and used by default on all other APIs. Optionally, specific FSCs to be used for a given API call by passing them in fscServerURIs.

```
<FileManagement useFsc="true">
     <!-- ClientIPAddress is empty -->
     <AssignedFSCURIs>http://fschost:fsc-port/</AssignedFSCURIs>
     <!-- BootstrapFSCURIs is empty -->
</FileManagement>
```

3.3.3 LatestRevisionRuleUid

The revision rule UID used to get the latest Revision.

```
<LatestRevisionRuleUid>da12b3d4ef54gt</LatestRevisionRuleUid>
```

3.3.4 MinimizeLoadProperties

Enable to aggressively minimize loadProperties calls. Disabled by default.

```
<MinimizeLoadProperties enabled="true" />
```

3.3.5 PolicyName

Name of Teamcenter SOA policy to use.

```
<PolicyName>Default</PolicyName>
```

3.3.6 PolicyPath

File path to Teamcenter SOA policy definition file.

```
<PolicyLocalPath>C:\TCI\TCI_PolicyFile.xml</PolicyLocalPath>
```

3.3.7 ReportDatasetNamedRef

Defines named reference type when storing reports in Teamcenter. Default value is Text.

```
<ReportDatasetNamedRef>Text</ReportDatasetNamedRef>
```

3.3.8 ReportDatasetType

Defines dataset type when storing reports in Teamcenter. Default value is Text.

```
<ReportDatasetType>Text</ReportDatasetType>
```

3.3.9 Server

Definition of the Teamcenter server and the login credentials for Teamcenter.

- **`Url`**: Teamcenter 4-tier server URL
- **`Username`**: username of Teamcenter user
- **`Password`**: password for Teamcenter, encrypted by default (see installation manual for password encryption). Set **`plaintext`** flag to use password without encryption.
- **`Group`**: group for connecting to Teamcenter
- **`Role`**: role for connecting to Teamcenter
- **`Locale`**: specify locale when connecting to Teamcenter. Default locale is **`en_US`**.
- **`UseBypass`**: set bypass flag for user. Disabled by default.
- **`WaitForWarmServer`**: define time to wait for a warm server in ms, default value is 5000
- **`LoginRoleFailedCode`**: partial error code to reset group and role info for, default value is 214102.

```
<Server>
  <Url>http://my.tc-server.url:8080/tc</Url>
  <Username>myTCIUser</Username>
  <Password plaintext="true">myTCIPassword</Password>
  <Group></Group>
  <Role></Role>
</Server>
```

3.3.10 SessionPool

Defines the Session Pool handling. The session pool holds connections to Teamcenter open and uses this connection to login and logout with the Teamcenter Server.

- Sessions are created as needed.
- If **`Login`** is not enabled logins will only be issued on new created connections, but not on previously suspended connections. The default setting is “true”.
- If **`Logout`** is not enabled logouts without discarding the session are suppressed. The default setting is “true”.
- If **`DiscardOnFailedLogin`** is enabled connections will be discarded when a TC session login fails on them otherwise not. The default setting is “true”.
- When a new session (using the same server, user, group and role) is needed the dormant connection will be reused.
- If **`DiscardIdle`** is enabled a cyclic check will be executed to log out sessions that are idle for the timeout defined in the setting. The default setting is “false”.
- If **`DiscardUsed`** is enabled connection will be discarded after the defined number of virtual TC sessions has used the connection. The default setting is “false”.

By default, TCI uses a dedicated Teamcenter session for each transfer process. If Teamcenter sessions are limited, **`MaxSessions`** may be set to limit how many Teamcenter sessions TCI can open (default is **`0`** for unlimited number of sessions). If **`MaxSessions`** is set, **`SessionSharing`** controls if sessions are shared once all available sessions are allocated (default is **`true`**). If sessions are shared, then TCI will share existing, open sessions among processes. This may degrade performance, as the Teamcenter server serializes request on the server side. If sessions are not shared, transfer processes will wait until a session becomes available.

```
<SessionPool enabled="true">
  <Login enabled="false" />
  <DiscardOnFailedLogin enabled="false" />
  <Logout enabled="false" />
  <!-- 60 min session timeout (3600000) -->
  <DiscardIdle enabled="true">3600000</DiscardIdle>
  <DiscardUsed enabled="false">100</DiscardUsed>
  <MaxSessions>0</MaxSessions>
  <SessionSharing enabled="true" />
</SessionPool>
```

3.3.11 TcICCompatibility

To support as most as possible environments TCI can be configured to run in TcIC compatibility mode. This will modify the default behavior to match some specialties of the environment.

To switch on the TcIC compatibility mode the following configurations must be set in the TCI configuration file in the Teamcenter section.

Additionally, the following optional settings can be set:

- **`OccurrenceProperty`**: default is “bl_occurrence_name”
- **`OccurrenceNote`**: default is “catiaOccurrenceName”
- **`BomLineOccurrenceProperty`**: default is “catiaOccurrenceName”
- **`BomViewRevisionType`**: default is “catia”

```
<TcICCompatibility enabled="true">
  <BomViewRevisionType>view</BomViewRevisionType>
</TcICCompatibility>
```

3.4 Enovia

3.4.1 BookmarkDisplayPattern

Display pattern for Bookmark. Default setting is “{name}”.

```
<BookmarkDisplayPattern>{name}</ BookmarkDisplayPattern>
```

3.4.2 BulkOperation

Specific operations can be parallelized by running multiple threads. Define how many threads can be started in parallel for:

- **`VPMReferenceQueryParallelSize`**: query for VPMReference objects. Default is 1 because ADK seems to serialize the queries and there would be a performance loss due to overhead. For REST / Cloud this should be set to a higher value (e.g. 20).

```
<BulkOperation>
     <VPMReferenceQueryParallelSize>1</VPMReferenceQueryParallelSize>
</BulkOperation >
```

3.4.3 CatiaV5ExportVersion

The CATIA V5 version used to store the info in Teamcenter.

```
<CatiaV5ExportVersion>V5R28</CatiaV5ExportVersion>
```

3.4.4 ChildObjectExpandPattern

Optional expand pattern for child part objects. Comma separated list of types. Default setting is “VPMReference”.

```
<ChildObjectExpandPattern>VPMReference</ChildObjectExpandPattern>
```

3.4.5 ChildRelationExpandPattern

Optional expand pattern for child relations. Comma separated list of relation types. Default setting is “VPMInstance”.

```
<ChildRelationExpandPattern>VPMInstance</ChildRelationExpandPattern>
```

3.4.6 ConfigurationModelDisplayPattern

Display pattern for Configuration Model. Default setting is “{name} {attribute[Marketing Name]}”.

```
<ConfigurationModelDisplayPattern>
  {name} {attribute[Marketing Name]}
</ConfigurationModelDisplayPattern>
```

3.4.7 ConfigurationModelVersionDisplayPattern

Display pattern for Configuration Model Version. Default setting is “{name} {attribute[Marketing Name]} {revision}”.

```
<ConfigurationModelVersionDisplayPattern>
  {name} {attribute[Marketing Name]} {revision}
</ConfigurationModelVersionDisplayPattern>
```

3.4.8 Customization

Definition of the customization to use in XPDM events. This customization must be defined in the **`pdm-cust-config.xml`** in the 3DEXPERIENCE installation.

The **`com.tsystems.xci.customization.CustomTypeMapping`** customization class can overwrite this setting.

```
<Customization>DefaultCustomization</Customization>
```

3.4.9 DocumentDisplayPattern

Display pattern for documents. Default setting is “{name} {revision}”.

```
<DocumentDisplayPattern>{name} {revision}</VPMReferenceDisplayPattern>
```

3.4.10 DocumentRelationExpandPattern

Expand pattern for document relations. Comma separated list of relation types.

- If not configured, the default relation VPLMrel/PLMConnection/V_Owner will be expanded.
- If configured but empty, no documents will be expanded.

```
<DocumentRelationExpandPattern>VPLMrel/PLMConnection/V_Owner
</DocumentRelationExpandPattern>
```

3.4.11 ExportStep

Settings for the Stepx export from 3DEXPERIENCE cloud by the Enterprise IP Exchange service.

- **`ExportJobPollingSleepPeriod`**: time in milliseconds to wait between job result polling. Default is 10000 (10 seconds).
- **`ExportJobMaximumDuration`**: time in minutes to wait for the job result. 0 or negative for infinite. Default is 60.

```
<ExportStep>
     <ExportJobPollingSleepPeriod>10000</ExportJobPollingSleepPeriod>
     <ExportJobMaximumDuration>60</ExportJobMaximumDuration>
</ExportStep>
```

3.4.12 FolderConnectionDisplayPattern

Display pattern for FolderConnections. Default setting is “{attribute[PLMEntity.PLM_ExternalID]}”.

```
<FolderConnectionDisplayPattern>
  {attribute[PLMEntity.PLM_ExternalID]}
</FolderConnectionDisplayPattern>
```

3.4.13 FolderDisplayPattern

Display pattern for Folder. Default setting is “{attribute[PLMEntity.PLM_ExternalID]}”.

```
<FolderDisplayPattern>{attribute[PLMEntity.PLM_ExternalID]}</FolderDispl
ayPattern>
```

3.4.14 FileCache

Defines the File Cache URL used to cache files for the export files mode. Disabled by default.

Define HTTP connection settings when connecting to the File Cache:

- **`ConnectionRequestTimeout`**: timeout in milliseconds when requesting a connection from connection pool. Default: 15000. Set to 0 for no timeout and to negative to use system default.
- **`ConnectTimeout`**: timeout in milliseconds until connection is established. Default: 15000. Set to 0 for no timeout and to negative to use system default.

- **SocketTimeout**: timeout in milliseconds between two consecutive data packages. Default: 50000. Set to 0 for no timeout and to negative to use system default.

```
<FileCache enabled="true">
  <XciFcUrl>http://my.tci-integration-server.url:port/XCI_FC</XciFcUrl>
  <HTTPClient>
    <ConnectionRequestTimeout>15000</ConnectionRequestTimeout>
    <ConnectTimeout>15000</ConnectTimeout >
    <SocketTimeout>50000</SocketTimeout>
  </HTTPClient>
</FileCache>
```

3.4.15 HoldConnectionOpenInSeconds

Seconds to keep the 3DEXPERIENCE service connection open while waiting for new service connection request. The default value is 60.

```
<HoldConnectionOpenInSeconds>60</HoldConnectionOpenInSeconds>
```

3.4.16 HTTPClient

Define HTTP connection settings when connecting to 3DEXPERIENCE:

- **ConnectionRequestTimeout**: timeout in milliseconds when requesting a connection from connection pool. Default: 15000. Set to 0 for no timeout and to negative to use system default.
- **ConnectTimeout**: timeout in milliseconds until connection is established. Default: 15000. Set to 0 for no timeout and to negative to use system default.
- **SocketTimeout**: timeout in milliseconds between two consecutive data packages. Default: 50000. Set to 0 for no timeout and to negative to use system default.

```
<HTTPClient>
  <ConnectionRequestTimeout>15000</ConnectionRequestTimeout>
  <ConnectTimeout>15000</ConnectTimeout >
  <SocketTimeout>50000</SocketTimeout>
</HTTPClient>
```

3.4.17 ImportPowerBy

Enable to activate 3DEXPERIENCE import in POWER'BY mode. Data will be imported in native V5 format into 3DEXPERIENCE and can then be loaded using the Dassault POWER'BY Integration of 3DEXPERIENCE and V5. Disabled by default.

```
<ImportPowerBy enabled="true" />
```

To control which CAD data is imported with or without conversion in a multi-CAD setup, configure a filter. If the root of the assembly matches the defined filter, it will be imported without conversion (POWER'BY). If the root does not match the filter, the assembly will be imported with conversion.

```
<ImportPowerBy enabled="true">
```

```
  <Filter>
    <FileFormat>NX</FileFormat>
  </Filter>
</ImportPowerBy>
```

From 3DEXPERIENCE 2025x FD04 onwards in an On-Premise deployment, Derived Outputs can be generated on import. By default, it will always be generated.

```
<ImportPowerBy enabled="true" generateDerivedOutput="true" />
```

Derived Output generation can also be controlled for specific CAD data.

```
<ImportPowerBy enabled="true">
  <Filter>
    <FileFormat generateDerivedOutput="false">CATProduct</FileFormat>
    <FileFormat generateDerivedOutput="false">CATPart</FileFormat>
    <FileFormat>NX</FileFormat>
  </Filter>
</ImportPowerBy>
```

3.4.18 ImportStep

Settings for the Stepx import to 3DEXPERIENCE cloud by the Enterprise IP Exchange service.

- **`ImportCompanyName`**: company name for the STEP header. Default is "T-Systems International GmbH".
- **`ImportCompanyId`**: company id for the STEP header. Default is "www.t-systems.com".
- **`ImportJobPollingSleepPeriod`**: time in milliseconds to wait between job result polling. Default is 10000.
- **`EnableNon3DPartGeometryImport`**: true to enable the import of non 3DPart geometries, e.g. cgr, V4 model.

```
<ImportStep>
  <ImportCompanyName>My Company name</ImportCompanyName
  ...
</ImportStep>
```

3.4.19 MappingContextName

The mapping context name to use, used to find the correct mapping in 3DEXPERIENCE.

```
<MappingContextName>XPDM<MappingContextName>
```

3.4.20 RepObjectExpandPattern

Optional expand pattern for representation objects. Comma separated list of types. Default setting is “VPMRepReference”.

```
<RepObjectExpandPattern>VPMRepReference</RepObjectExpandPattern>
```

3.4.21 RepRelationExpandPattern

Optional expand pattern for representation relations. Comma separated list of relation types. Default setting is “VPMRepInstance”.

```
<RepRelationExpandPattern>VPMRepInstance</RepRelationExpandPattern>
```

3.4.22 RestApiUseOneSearchField

True to use only one untyped search field for the 3DEXPERIENCE search in the web client.

```
<RestApiUseOneSearchField>true</RestApiUseOneSearchField>
```

3.4.23 RootBookmarkDisplayPattern

Display pattern for Root Bookmark. Default setting is “{name}”.

```
<RootBookmarkDisplayPattern>{name}</RootBookmarkDisplayPattern>
```

3.4.24 RootFolderDisplayPattern

Display pattern for Root Folder. Default setting is “{attribute[PLMEntity.PLM_ExternalID]}”.

```
<RootFolderDisplayPattern>
  {attribute[PLMEntity.PLM_ExternalID]}
</RootFolderDisplayPattern>
```

3.4.25 SecurityContextTranslation

The TCI Teamcenter client plugin provides a 3DEXPERIENCE login enhancement to select a security context in 3DEXPERIENCE based on Role, Organization, and Collaborative space. The display values for Role, Organization and Collaborative Space can be configured to translate internal names to user friendly ones.

```
<SecurityContextTranslation>
     <Role name="VPLMAdmin" display="Administrator"/>
     <Role name="VPLMCreator" display="Author"/>
     <Role name="VPLMExperimenter" display="Contributor"/>
     <Role name="VPLMProjectAdministrator" display="Owner"/>
     <Role name="VPLMProjectLeader" display="Leader"/>
     <Role name="VPLMViewer" display="Reader"/>
     <Role name="VPLMSecuredCrossAccess" display="Public Reader"/>
     <Role name="VPLMAdmin" display="Administrator"/>
</SecurityContextTranslation>
```

3.4.26 Server

Define 3DEXPERIENCE server connection. Parameters may be different for On Premise or Cloud deployment.

Connecting to On Premise:

- **`webServiceOnly`**: flag to connect only with web services. Disabled by default.
- **`SpaceUrl`**: 3DSpace URL
- **`PassportUrl`**: 3DPassport URL
- **`Username`**: username for connecting to 3DEXPERIENCE
- **`Password`**: password for connecting to 3DEXPERIENCE, encrypted by default (see installation manual for password encryption). Set **`plaintext`** flag to use password without encryption.
- **`SecurityContext`**: Security Context for connecting to 3DEXPERIENCE provided as Role.Organization.CollaborativeSpace (e.g. VPLMProjectLeader.Company Name.Common Space)
- **`Vault`**: optional, vault to set on connection
- **`Use3DPassport`**: optional, false if connecting to internal 3DSpace. Enabled by default.
- **`Environment`**: optional, 3DEXPERIENCE to use when connecting with batch utilities. Default value is UnifiedTyping.

Connecting to Cloud:

- **`webServiceOnly`**: flag to connect only with web services. Must be set to true.
- **`SpaceUrl`**: 3DSpace URL
- **`PassportUrl`**: 3DPassport URL
- **`Username`**: username for connecting to 3DEXPERIENCE
- **`Password`**: password for connecting to 3DEXPERIENCE, encrypted by default (see installation manual for password encryption). Set **`plaintext`** flag to use password without encryption.
- **`SecurityContext`**: Security Context for connecting to 3DEXPERIENCE provided as Role.Organization.CollaborativeSpace (e.g. VPLMProjectLeader.Company Name.Common Space)
- **`Tenant`**: must be set to the Cloud tenant ID
- **`ExchangeUrl`**: optional, URL of Enterprise IP Integration framework, must be set exchanging Stepx with the Cloud.
- **`Language`**: optional, language in which attribute names are returned by 3DEXPERIENCE web services. Default language is en.
- **`IndexSearchRetryCount`**: optional, number of retries when creating Variant and Options in case they are not indexed yet. Set flag **`firstRetryDelay`** to delay first retry in milliseconds (default is 10000). Set flag **`interval`** to define interval between retries in milliseconds (default is 60000).
- **`Environment`**: optional, 3DEXPERIENCE to use when connecting with batch utilities. Default value is UnifiedTyping.

Example for connection to On Premise 3DEXPERIENCE:

```
<Server webServiceOnly=”false”>
     <SpaceUrl>https://space-server.url:port/3dspace</SpaceUrl>
     <PassportUrl>
       https://passport-server.url:port/3dpassport
      </PassportUrl>
     <Username>user</Username>
     <Password>XXX</Password>
```

```
      <SecurityContext>
        VPLMProjectLeader.Company Name.Common Space
      </SecurityContext>
      <Vault>vplm</Vault>
</Server>
```

3.4.27 SessionTimeout

Defines the timeframe of inactivity in the 3DEXPERIENCE session before a relogin is done in the next operation in the session. Default value is 30 minutes.

```
<SessionTimeout enabled="true">30</SessionTimeout>
```

3.4.28 UseBookmark

True to use Bookmark class for Folder functionality. Default is false.

```
<UseBookmark>true</UseBookmark>
```

3.4.29 UseBookmarkRestApi

True to use the Bookmark Rest API for bookmark import (**`UseBookmark`** must be true). Default is false.

```
<UseBookmarkRestApi>true</UseBookmarkRestApi>
```

3.4.30 VPMReferenceDisplayPattern

Display pattern for VPMReference (Physical Products). Default value is “{attribute[PLMEntity.PLM_ExternalID]} {revision} {attribute[PLMEntity.V_Name]}”.

```
<VPMReferenceDisplayPattern>{attribute[PLMEntity.PLM_ExternalID]}
{majorrevision}</VPMReferenceDisplayPattern>
```

3.5 XciWeb

3.5.1 AdminPassword

Admin password for TCI web client. For password encryption, please see installation manual. Password must be encrypted by default.

```
<AdminPassword plaintext="true">XXX</AdminPassword>
```

3.5.2 MaxDBReturnNumber

The maximum number of objects returned for the DB queries. Default value is 25.

```
<MaxDBReturnNumber>50</MaxDBReturnNumber>
```

3.5.3 MaxQueryReturnNumber

The maximum number of objects returned for the 3DEXPERIENCE and Teamcenter queries. Default value is 25.

```
<MaxQueryReturnNumber>50</MaxQueryReturnNumber>
```

3.5.4 SessionTimeout

The session timeout in seconds used for the TCI web client. Default timeout is 1800 seconds.

```
<SessionTimeout>2000</SessionTimeout>
```

3.5.5 UseFluid

Use full display width for TCI web client. Disabled by default.

```
<UseFluid>true</UseFluid>
```

3.6 Scheduler

Scheduler can be used to automatically run processes at defined intervals. Disabled by default.

- **`ThreadPoolSize`**: initializes the size of the Scheduler thread pool. Default is 5, minimum is 3. A restart is needed to use the new value.
- **`StartupDelay`**: defines the startup delay for tasks without `startTime` setting in seconds. Default is 60 seconds.
- **`TaskList`**: list of tasks to run. TCI includes two tasks, `HandleReleasedPdmObjects` and **`HandleReleasedEnoviaObjects`**, which are described in following sections.

```
<Scheduler enabled="true">
  <ThreadPoolSize>5</ThreadPoolSize>
  <StartupDelay>120</StartupDelay>
  <TaskList>
    <Task>...</Task>
    ...
  </TaskList>
</Scheduler>
```

`TaskList` contains a list of **`Task`** objects to be run with the scheduler.

`Task` contains a list of common control flags and a set of **`TaskSetting`** specific for each task.

- **`enabled`**: true to run the task.
- **`name`**: unique name of the Task.
- **`loadClass`**: class to use which implements task logic
- **`startTime`**: the start time of the task, e.g. "14:12:00".
- **`period`**: the period in seconds to wait for next start of the task.
- **`type`**: the scheduler type **`FixedRate`** or **`FixedDelay`**
    - **`FixedRate`**: enabled first after the given initial delay, and subsequently with the given period.

- **FixedDelay**: enabled first after the given initial delay, and subsequently with the given delay between the termination of one execution and the commencement of the next.

3.6.1 HandleReleasedPdmObjects

The **HandleReleasedPdmObjects** task queries for objects with a defined state in Teamcenter. If the found revision is a new version of a formerly transferred object a new Transfer Job is initiated for this revision.

The following **TaskSetting** are supported.

- **initialStartTime**: initial start time if no further run of this task is known.
- **objectType**: ItemRevision types to search for.
- **objectName**: object name to search for
- **itemId**: item id pattern.
- **statusList**: list of status to search for.
- **projectId**: list of project ID's to search for.
- **revRuleName**, **revRuleUid**, **force**, **removeExistingNotProvided**, and **withGeometricalConversion**, are the settings for the created Jobs.
  - **revRuleName**: Revision Rule name, empty for default.
  - **revRuleUid**: Revision Rule UID, empty for default.
  - **force**: true to disable skip functionality
  - **removeExistingNotProvided**: true to remove existing children in 3DEXPERIENCE.
  - **withGeometricalConversion**: true to convert the imports to 3DEXPERIENCE.
- **waitForDesignJobs**: true to wait for the Jobs to finish.
- **writeReport**: true to write a report in the persistent directory

The **objectType**, **objectName**, **itemId**, **statusList**, and **projectId** can contain multiple entries with the configured delimiting character in Teamcenter (Teamcenter default ";").

Example Task setting for **HandleReleasedPdmObjects**, start the task at 2:00 AM and repeat the task every 24h.

```
<Task name="Teamcenter-Released"
      startTime="2:00:00"
      period="86400"
      loadClass="com.tsystems.xci.scheduler.HandleReleasedPdmObjects"
      type="FixedRate">
  <TaskSetting name="initialStartTime">
    2020-11-09T00:00:00.000Z
  </TaskSetting>
  <TaskSetting name="objectType">
    ItemRevision;Design Revision
  </TaskSetting>
  <TaskSetting name="itemId"></TaskSetting>
  <TaskSetting name="statusList">TCM Released;Frozen</TaskSetting>
  <TaskSetting name="revRuleName">Any Status; No Working</TaskSetting>
  <TaskSetting name="revRuleUid">QoU5$iOt5wQEgB</TaskSetting>
  <TaskSetting name="force">false</TaskSetting>
```

```
  <TaskSetting name="removeExistingNotProvided">true</TaskSetting>
  <TaskSetting name="withGeometricalConversion">true</TaskSetting>
  <TaskSetting name="waitForDesignJobs">false</TaskSetting>
  <TaskSetting name="writeReport">true</TaskSetting>
</Task>
```

3.6.2 HandleReleasedEnoviaObjects

The **HandleReleasedEnoviaObjects** task queries for objects with a defined state in 3DEXPERIENCE. If the found revision is a new version of a formerly transferred object a new Transfer Job is initiated for this revision.

The following **TaskSetting** are supported.

- **initialStartTime**: initial start time, if not provided the time of the first run is used.
- **objectType**: revision types to search for (comma separated to search for multiple types).
- **objectName**: title (V_Name) search pattern.
- **plmExternalId**: part number (PLMExternalId) search pattern.
- **statusList**: list of status to search for (comma separated to search for multiple types).
- **collaborativeSpace**: list of collaborative spaces to search for (comma separated to search for multiple types).
- **force**, and **removeExistingNotProvided**, are the settings for the created Jobs.
  - **force**: true to disable skip functionality
  - **removeExistingNotProvided**: true to remove existing children in Teamcenter.
- **waitForDesignJobs**: true to wait for the Jobs to finish.
- **writeReport**: true to write a report in the persistent directory

Example Task setting for **HandleReleasedEnoviaObjects**, start the task at 2:00 AM and repeat the task every 24h.

```
<Task name="TDX-Released"
      startTime="2:00:00"
      period="86400"
      loadClass="com.tsystems.xci.scheduler.HandleReleasedEnoviaObjects"
      type="FixedRate">
  <TaskSetting name="initialStartTime">
    2020-11-09T00:00:00.000Z
  </TaskSetting>
  <TaskSetting name="objectType">VPMReference</TaskSetting>
  <TaskSetting name="objectName"></TaskSetting>
  <TaskSetting name="plmExternalId"></TaskSetting>
  <TaskSetting name="statusList">FROZEN,RELEASED</TaskSetting>
  <TaskSetting name="collaborativeSpace">Common Space</TaskSetting>
  <TaskSetting name="force">false</TaskSetting>
  <TaskSetting name="waitForDesignJobs">false</TaskSetting>
  <TaskSetting name="writeReport">true</TaskSetting>
</Task>
```

3.7 TSI3DXBatch

Define installation of TSI3DXBatch to run 3DEXPERIENCE utilities, for example for import or export of files.

TSI3DXBatch installations can be distributed to multiple hosts. Each installation has following settings.

- **`id`**: identifier for this installation, must be unique
- **`conversionServerUrl`**: optional, set URL of Conversion Server if this installation is on a remote host. If not specified, this installation is local on the same host as TCI server.
- **`maxParallel`**: how many batches can run in parallel for this installation
- **`cleanupWorkdir`**: true to remove workdir on Conversion Server if running remotely and execution was successful. Enabled by default.
- **`sharedPersistentDir`**: true if Conversion Server and TCI integration server share persistent directory (e.g. via mapped network drive). Avoids file transfer to Conversion Server. Disabled by default.
- **`CatStartPath`**: defines path to CATSTART.exe
- **`CatStartEnv`**: defines name of 3DEXPERIENCE environment file
- **`CatStartDirEnv`**: defines directory where environment file is located
- **`Username`**: username for connecting to 3DEXPERIENCE
- **`Password`**: password for connecting to 3DEXPERIENCE, encrypted by default (see installation manual for password encryption). Set **`plaintext`** flag to use password without encryption.
- **`SecurityContext`**: security context for connecting to 3DEXPERIENCE
- **`LoginTicket`**: login ticket may be used instead of username, password and security context. If all are defined, login ticket is used. Encrypted by default (see installation manual for password encryption). Set **`plaintext`** flag to use login ticket without encryption.
- **`JTV5`**: optional, path to script for convert exported CATIA files to JT after export
- **`PrintTemplate`**: optional, path to template file for export of PDF for Drawings

Supported TSI3DXBatch tasks are:

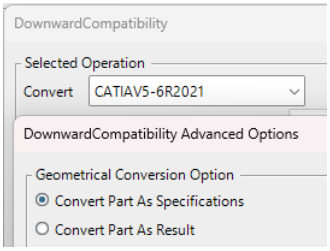
- **`Cloc`**: transferring data mastership between Teamcenter and 3DEXPERIENCE
- **`EffectivityExport`**: export effectivites from 3DEXPERIENCE
- **`FileExport`**: export files from 3DEXPERIENCE using DownwardCompatibility, DataExchangePLMBatch, PLMPrintBatch or Export 3DXML.
- **`FolderExport`**: export folders from 3DEXPERIENCE
- **`FolderImport`**: import folders to 3DEXPERIENCE
- **`MappingInfo`**: export coexistence mapping information from 3DEXPERIENCE
- **`Revise`**: revise objects in 3DEXPERIENCE
- **`SetFilter`**: import structure filter to 3DEXPERIENCE
- **`XPDMExport`**: export structure with XPDM from 3DEXPERIENCE
- **`XPDMImport`**: import structure with XPDM to 3DEXPERIENCE

Each task can contain a **`Target`** with a list of **`Installation`** to limit execution of the specific task to specific installations. If no **`Target`** is specified, the task can run on all installations.

They can also contain a **`Timeout`** in seconds after which processing is terminated with error.

Some tasks have task specific options:

- **Cloc**:
  - **ContextName**: coexistence mapping context name. Default value is XPDM.
- **FileExport**:
  - **BatchInactivityTimeout**: terminate with error when DownwardCompatibility or DataExchangePLMBatch do not change anything in the working directory for specified number of seconds.
  - **DownwardCompatibility**:
    - **Format**: target CATIA V5 format, must match CATIAVRxx for R18 – R21 or CATIAV5-6Rxxx for 2012 or greater
    - **GeometryType3D**: export geometries with specification tree (**AsSpecifications**) or as solid body (**Exact**). Default: **AsSpecifications**. Note: "**AsSpecifications**" works only for the corresponding CATIA V5 version e.g., for 3DEXPERIENCE 2021x the CATIA V5 target version is CATIA V5-6R2021. Also, early 3DEXPERIENCE releases like GA may not support the export of CATIA V5 CATParts with specifications at all. To make sure please check first if the 3DEXPERIENCE batch option is available:



    - **TemplateCATPart**: create CATParts based on a template CATPart. Must specify full path.
    - **RetryGeometryExport**: retry geometry export if export of a list of objects fails, to isolate the failed object and export all other objects. Set to true or false.
    - **JT_ContinueOnError**: continue exporting if JT generation fails. Set to true or false.
    - **CreateJtForClass**: create JTs only for these 3DEXPERIENCE object types. Separate multiple types with ",". Types must be subtypes of PLMCoreRepReference. Default: 3DShape.
    - **CATFileFormatForJt**: create JTs only for these file formats of exported files (e.g. CATPart). Separate multiple formats with ",". Default: CATPart.
  - **DataExchangePLMBatch**:
    - **MaxXCadBatchObjects**: restrict maximum number of objects for a single DataExchangePLMBatch call. Default: 200.
    - **XCadInvalidCharacters**: replace invalid characters with "_" when constructing filenames for exported files. Default: \/:*?"<>| and tab character.
  - **Export3DXML**:
  - **RepresentationExport**: export all representations (All), export 3DShapes (Yes) or export no representations (No). Default: Yes.
  - **Format**: export with (WithAuthoring) or without authoring information (ForReview). Default: WithAuthoring.
  - **PropagateDepth**: how many structure levels are included in the export: All, 1, 2, 3, … Default: All

  - **CompatibilityMode**: export 3DXML in compatibility mode: Yes or No. Default: Yes.
  - **CompatibilityLevel**: Specify compatibility level when exporting in compatibility mode: CompatibilityLevel2013x, CompatibilityLevel2020x. Only available from 2021x onwards. If defined, CompatibilityMode will be automatically set to YES. Default: none.
- **MappingInfo**:
  - **MappingInfoResult**: **All** to export MappingInfo result to one file. **Each** for one result file for each mappinginfo entry in the input file. Default value is **All**.
  - **MappingInfoExposed**: **TRUE** to export only exposed mapping. **FALSE** to export exposed and internal mapping. Default value is **TRUE**.
  - **ContextName**: mapping context name. Default value is XPDM.
- **XPDMExport**:
  - **FileFormat3D**: target CATIA V5 format for geometry export
  - **GeometryType3D**: type of geometry to export. **Exact** transfers the authoring data, **Tesselated** transfers the visualization data, **AsSpecifications** exports all specifications information
  - **FileFormat2D**: target CATIA V5 format for 2D Drawing export
  - **SiteId**: defines mapping context. Default value is XPDM.
  - **WithFiles**: **Yes** to export files. **No** to not export files. **IfModified** to only export Modified Files. Default value is **Yes**.
  - **WithDocuments**: **Yes** to export non-CAD documents. **No** to not export non-CAD documents. Default value is **Yes**.
  - **WithPLMParams**: **Yes** to export PLM Parameter. **No** to not export PLMParameter. Default value is **Yes**.
- **XPDMImport**:
  - **SiteId**: defines mapping context. Default value is **XPDM**.
  - **SkipPostprocessMappedObjects**: skip XPDM postprocessing for previously mapped objects. This will speed up XPDM post processing as mapping information is only retrieved for objects that have not been mapped by TCI. Default value is **true**.

To limit concurrent usage globally you can define a resource in **ResourceBalacner** (see 3.1.21) and reference the resource.

When distributing to remote hosts, **XCIServerUrl** must be defined – see 3.1.28.

Following example defines one local installation and one remote installation. Task specific options are configured for **XPDMExport** and **FileExport**. All other tasks run with default parameters. **XPDMExport** can only run on the remote installation and all other batch tasks can run on both installations. **XPDMExport** and **FileExport** tasks use resource V6 to globally limit usage with **ResourceBalancer**, all other not explicitly defined tasks are not limited.

```
<TSI3DXBatch>
  <InstallationList>
    <Installation id="tsi3dxbatch-cs-1"
                  conversionServerUrl="http://remote-host:8080/XCI_CS"
                  maxParallel="4">
      <CatStartPath>
        C:\Program Files\DassaultSystemes\B426\win_b64\code\bin\
        CATSTART.exe
```

```
      </CatStartPath>
      <CatStartEnv>XCI_3DX_BATCH_Env</CatStartEnv>
      <CatStartDirEnv>
        C:\Program Files\T-Systems\XCI_3DX_BATCH_R2024x_V3.11.0.0\
        config
      </CatStartDirEnv>
      <LoginTicket plaintext="true">XXX</LoginTicket>
    </Installation>
    <Installation id="tsi3dxbatch-local" maxParallel="2">
      <CatStartPath>
        C:\Program Files\DassaultSystemes\B426\win_b64\code\bin\
        CATSTART.exe
      </CatStartPath>
      <CatStartEnv>XCI_3DX_BATCH_Env</CatStartEnv>
      <CatStartDirEnv>
        C:\Program Files\T-Systems\XCI_3DX_BATCH_R2024x_V3.11.0.0\
        config</CatStartDirEnv>
      <LoginTicket plaintext="true">XXX</LoginTicket>
    </Installation>
  </InstallationList>

  <XPDMExport resource="V6">
    <Target>
      <Installation>tsi3dxbatch-cs-1</Installation>
    </Target>
    <FileFormat3D>CATIAV5-6R2024</FileFormat3D>
    <GeometryType3D>AsSpecifications</GeometryType3D>
    <FileFormat2D>CATIAV5-6R2024</FileFormat2D>
  </XPDMExport>

  <FileExport resource="V6">
    <DownwardCompatibility>
      <Format>CATIAV5-6R2024</Format>
      <GeometryType3D>asSpeCifIcation</GeometryType3D>
    </DownwardCompatibility>
  </FileExport>
</TSI3DXBatch>
```

3.8 COMReconV5

Define installation of COMReconV5 and enable or disable Preprocessing or Postprocessing of CATIA V5 files.

To enable, include **`V5ToV6Preprocessing`** or **`V6ToV5Postprocessing`**. To disable, omit the settings.

COMReconV5 installations can be distributed to multiple hosts. Each installation has following settings:

- **id**: identifier for this installation, must be unique
- **conversionServerUrl**: optional, set URL of Conversion Server if this installation is on a remote host. If not specified, this installation is local on the same host as TCI server.
- **maxParallel**: how many batches can run in parallel for this installation
- **cleanupWorkdir**: true to remove workdir on Conversion Server if running remotely and execution was successful. Enabled by default.
- **sharedPersistentDir**: true if Conversion Server and TCI integration server share persistent directory (e.g. via mapped network drive). Avoids file transfer to Conversion Server. Disabled by default.
- **COMReconPath**: base installation path of COMReconV5

V5ToV6Preprocessing or **V6ToV5Postprocessing** can contain a **Target** with a list of **Installation** to limit execution of the specific task to specific installations. If no **Target** is specified, the task can run on all installations.

They can also contain a **Timeout** in seconds after which processing is terminated with error.

To limit concurrent usage globally you can define a resource in **ResourceBalacner** (see 3.1.21) and reference the resource.

When distributing to remote hosts, **XCIServerUrl** must be defined – see 3.1.28.

Following example defines one local installation and one remote installation. **V6ToV5Postprocessing** can only run on the remote installation and **V5ToV6Preprocessing** can run on both installations. Both tasks use resource V5 to globally limit usage with **ResourceBalancer**.

```
<COMReconV5>
  <InstallationList>
    <Installation id="comrecon-cs-1"
                  conversionServerUrl="http://remote-host:8080/XCI_CS"
                  maxParallel="4">
      <COMReconPath>
        C:\TCI\COMReconV5\240613_COMReconV5_R34
      </COMReconPath>
    </Installation>
    <Installation id="comrecon-local" maxParallel=”2”>
      <COMReconPath>
        C:\TCI\COMReconV5\240613_COMReconV5_R34
      </COMReconPath>
    </Installation>
  </InstallationList>

  <V5ToV6Preprocessing resource=”V5” />

  <V6ToV5Postprocessing resource=”V5”>
    <Target>
      <Installation>comrecon-cs-1</Installation>
    </Target>
    <Timeout>120000</Timeout>
  </V6ToV5Postprocessing>
```

```
</COMReconV5>
```

Preprocessing of CATIA V5 data during transfer from Teamcenter to 3DEXPERIENCE can be applied to the complete structure or only CATIA V5 data. If preprocessing is applied to the complete structure, CATProducts will be created for ItemRevisions without attached CAD files in Teamcenter. If preprocessing is applied to ItemRevisions with attached CATIA V5 data, then the structure being transferred may be split into multiple structures if the CATIA V5 data starts on a lower level. This allows transfer of multi-CAD data in the same transfer.

For CATIA V5 preprocessing for the complete structure, no filter has to be defined. This is mutually exclusive with NX preprocessing, see next section, only one preprocessing type may be configured for complete structure preprocessing.

```
<V5ToV6Preprocessing resource="V5" />
```

For preprocessing only CATIA V5 data, define a filter. The filter identifies the root ItemRevision of the subassembly for which preprocessing should be run. Two types of filters are supported:

- **`ObjectType`**: identifies the object type of a CATIA V5 assembly, e.g. "**`Design Revision`**"
- **`FileFormat`**: specifies file types attached to a CATIA V5 assembly, e.g. "**`CATProduct`**" and "**`CATPart`**"

```
<V5ToV6Preprocessing resource="V5">
  <Filter>
    <ObjectType>Design Revision</ObjectType>
    <FileFormat>CATProduct</FileFormat>
    <FileFormat>CATPart</FileFormat>
  </Filter>
</V5ToV6Preprocessing>
```

3.9 COMReconNX

Define installation of COMReconNX and enable or disable Preprocessing of NX files.

To enable, include **`NXToV6Preprocessing`**. To disable, omit the settings.

COMReconNX installations can be distributed to multiple hosts. Each installation has following settings:

- **`id`**: identifier for this installation, must be unique
- **`conversionServerUrl`**: optional, set URL of Conversion Server if this installation is on a remote host. If not specified, this installation is local on the same host as TCI server.
- **`maxParallel`**: how many batches can run in parallel for this installation
- **`cleanupWorkdir`**: true to remove workdir on Conversion Server if running remotely and execution was successful. Enabled by default.
- **`sharedPersistentDir`**: true if Conversion Server and TCI integration server share persistent directory (e.g. via mapped network drive). Avoids file transfer to Conversion Server. Disabled by default.
- **`COMReconPath`**: base installation path of COMReconNX

NXToV6Preprocessing can contain a **Target** with a list of **Installation** to limit execution of the specific task to specific installations. If no **Target** is specified, the task can run on all installations.

They can also contain a **Timeout** in seconds after which processing is terminated with error.

To limit concurrent usage globally you can define a resource in **ResourceBalacner** (see 3.1.21) and reference the resource.

When distributing to remote hosts, **XCIServerUrl** must be defined – see 3.1.28.

Following example defines one remote installation.

```
<COMReconNX>
  <InstallationList>
    <Installation id="comrecon-cs-1"
                  conversionServerUrl="http://remote-host:8080/XCI_CS"
                  maxParallel="4">
      <COMReconPath>
        C:\TCI\COMReconNX\230731_COMReconNX_R2306
      </COMReconPath>
    </Installation>
  </InstallationList>

  <NXToV6Preprocessing />
</COMReconNX>
```

Preprocessing of NX data during transfer from Teamcenter to 3DEXPERIENCE can be applied to the complete structure or only NX data. If preprocessing is applied to ItemRevisions with attached NX data, then the structure being transferred may be split into multiple structures if the NX data starts on a lower level. This allows transfer of multi-CAD data in the same transfer.

For NX preprocessing for the complete structure, no filter has to be defined. This is mutually exclusive with CATIA V5 preprocessing, see previous section, only one preprocessing type may be configured for complete structure preprocessing.

```
<NXToV6Preprocessing resource=″V5″ />
```

For preprocessing only NX data, define a filter. The filter identifies the root ItemRevision of the subassembly for which preprocessing should be run. Two types of filters are supported:

- **ObjectType**: identifies the object type of a NX assembly, e.g. "**Design Revision**"
- **FileFormat**: specifies file types attached to a NX assembly, e.g. "**NX**"

```
<NXToV6Preprocessing resource=″V5″>
  <Filter>
    <ObjectType>Design Revision</ObjectType>
    <FileFormat>NX</FileFormat>
  </Filter>
</NXToV6Preprocessing >
```

3.10 FileConversion

Define file conversion batches which can convert exported files after Teamcenter export to different formats.

Batch installations can be distributed to multiple hosts. Each installation has following settings:

- **`id`**: identifier for this installation, must be unique
- **`conversionServerUrl`**: optional, set URL of Conversion Server if this installation is on a remote host. If not specified, this installation is local on the same host as TCI server.
- **`maxParallel`**: how many batches can run in parallel for this installation
- **`cleanupWorkdir`**: true to remove workdir on Conversion Server if running remotely and execution was successful. Enabled by default.
- **`sharedPersistentDir`**: true if Conversion Server and TCI integration server share persistent directory (e.g. via mapped network drive). Avoids file transfer to Conversion Server. Disabled by default.

`ConversionTask` specify a concrete conversion from an input format to an output format.

- **`inputType`**: input format
- **`outputType`**: output format
- **`onlyConvert`**: only convert the file and do not add it to the structure. Disabled by default.
- **`acceptList`**: indicate if this task accepts a list of files as input instead of a single file. Default value is true.

`ConversionTask` can contain a **`Target`** with a list of Installation to limit execution of the specific task to specific installations. If no **`Target`** is specified, the task can run on all installations.

`ConversionTask` can contain a **`Timeout`** in seconds after which processing is terminated with error.

`ConversionTaskPowerBy` are defined the same way as **`ConversionTask`** but indicate special task that are required by NX POWER'BY visualization file generation. These will not be called during the generic file conversion process step.

To limit concurrent usage globally you can define a resource in **`ResourceBalacner`** (see 3.1.21) and reference the resource.

When distributing to remote hosts, **`XCIServerUrl`** must be defined – see 3.1.28.

Input to a file conversion task is passed in environment variable **`XCI_CONVERT_INFO`**. This variable points to a text file where each line contains a mapping of input file path to output file path separated by pipe character "|". The script should parse the input path, convert the file and write it to the output path.

Following example defines two file conversion tasks to different output formats that run on different installations.

```
<FileConversion>
  <InstallationList>
    <Installation id="cgrconv-cs-1"
                  conversionServerUrl="http://remote-host:8080/XCI_CS"
                  maxParallel="4">
      <ConversionCommand>C:\TCI\cgrconv.bat</ConversionCommand>
```

```
    </Installation>
    <Installation id="jtconv-local" maxParallel=”2”>
      <ConversionCommand>C:\TCI\jtconv.bat</ConversionCommand>
    </Installation>
    ...
  </InstallationList>

  <ConversionTaskDefinitions>
    <ConversionTask resource="V5"
                    inputType="CATPart"
                    outputType="jt"
                    onlyConvert="true">
      <Target>
        <Installation>jtconv-local</Installation>
      </Target>
    </ConversionTask>

    <ConversionTask resource="V5"
                    inputType="CATPart"
                    outputType="cgr"
                    onlyConvert="true">
      <Target>
        <Installation>cgrconv-cs-1</Installation>
      </Target>
    </ConversionTask>
    <ConversionTaskPowerBy inputType="prt" outputType="stp"
                           onlyConvert="true">
      <Target>
         <Installation>prtToStp</Installation>
       </Target>
    </ConversionTaskPowerBy>
    <ConversionTaskPowerBy inputType="stp" outputType="cgr"
                           onlyConvert="true">
      <Target>
        <Installation>stpToCgr</Installation>
       </Target>
    </ConversionTaskPowerBy>
  </ConversionTaskDefinitions>
</FileConversion>
```