DSC

Fascination with Integration

SAP ECTR interface to NX

Installation and User Guide

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SAP ECTR interface to NX [EHB/10000044611/ENU/17-]

Please contact us via e-mail to info@dscsag.com in case of any notes or questions.

Foreword

This manual describes the use of SAP ECTR interface to NX.

Requirements

In this description, it is assumed that the administrator is familiar with using SAP ECTR interface to NX and SAP PLM, with the import of ABAP transports and with BAdI implementations.

Directory names

In the explanations, default options, including directory names created by standard installation, are used. If you intend to use different directory names, these may be substituted accordingly.

As you can freely select the installation directory, the explanations use the synonym `%PLM_INSTDIR%`.

Your comments are always welcome

We value and appreciate your comments and suggestions as a reader of this manual. Your opinion helps us to continuously improve the software and this document.

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Content

1. Installation

1.1. About this Document

1.1.1. Purposes

The Installation and User Manual provides all important information regarding the installation of the SAP ECTR interface to NX. The functions will be explained in more detail.

1.1.2. Integration

A working SAP system and an installed SAP Engineering Control Center (SAP ECTR) are prerequisite for installing SAP ECTR interface to NX.

1.1.3. Add-ons

Menu items and buttons that execute functions of add-ons that are not part of Siemens NX can no longer function if the corresponding add-ons are no longer available.

1.2. System Requirements

The system requirements can be found in the data sheet. This can be downloaded from REDPOINT.

1.2.1. User

The following users are required for successful installation:

SAP system

- User with role SAP_ALL (incl. RFC authorization)
- User with development key (for BAdIs)

Operating system

- User with administrator rights

1.3. Installer

SAP ECTR interface to NX is installed in your system landscape via an installer.

1. Start the installer with administrator rights.
2. In the following dialog, choose the components to be installed.
3. Follow the instructions of the installer.

1.4. Business Configuration Set

Together with the SAP ECTR interface to NX, Business Configuration Sets are delivered for new and existing customers.

1.4.1. For new customers

DSCSAG/ECTR_NX

- Viewcluster for Customizing CAD-Desktop
  - CAD systems
    - UGS
  - Group maintenance
    - UGS
  - Explosion scenario
    - UGS
  - Explosion rules
    - UGS

- DVS: Define document types
  - Define document types
    - UDF
    - UGD
    - UGM
    - UGN

- Describe the document type language-dependently
  - DE – UDF – UG NX UDF
  - DE – UGD - UG NX Drawing
  - DE – UGM – UG NC Modell
  - DE – UGN - UG NX Standard

- Define document status
  - Pre-defined status network for the document types UDF, UGD, UGM, UGN

- Display document status language-dependently
  - Status texts for the pre-defined status

- Define object link
  - Assigns allowed object links to pre-defined document types UDF, UGD, UGM, UGN.

- Define CAD fields used for the explosion scenario
  - DE – MARA - material master

- Describe the document language-dependently
  - Status texts for the pre-defined status

- Define CAD fields used for the explosion scenario
  - RES4
  - SORTF

- Define CAD field abbreviations for the explosion scenario
  - RES4
  - SORTF

- Define workstation application
  - UGI - X - NX File

- Define workstation application in the network
  - PC – UGI

1.4.2.   For existing customers

/DSCSAG/ECTR_NX_CDESK

- Viewcluster for Customizing CAD-Desktop
  - CAD systems
    - UGS
  - Gruppenpflege
    - UGS

- Explosion scenario
  - UGS

- Explosion rules
  - UGS

- Define CAD fields used for the explosion scenario
  - RES4
  - SORTF

- Define CAD field abbreviations for the explosion scenario
  - RES4
  - SORTF

A general explanation and instructions for the activation can be found in the SAP Help Portal.

1.5. Requirements in the file dtype.xml

To guarantee an unobstructed process of the integration, the following entry must be made in this file:
`%PLM_INSTDIRF%\applications\ugs\customize\config\dtype.xml`

`one_version_in_session_only="yes"`

1.6. FAQ about the file custom_dir.dat

Symptom

Why does the NX integration not start when I launch NX?

Reason

In version 5.1 or earlier, the integration started by default using the `UGII_VENDOR_DIR` variable. The configuration was possible via `UGII_USER_DIR` or manually using the `custom_dirs.dat` file.

if the variables are blocked by other third-party integrations in NX.

With version 5.2 the handling has been changed. Now only the handling with the help of the file `custom_dirs.dat`. (until 5.2.130.0 see Advanced Solution) is supported.

This means: If not all required dictionaries are included in the .dat file, the NX integration will not be started correctly by the NX startup procedure.

Solution

Please add the following lines to the `custom_dirs.dat` file.

```
UGII_CUSTOM_DIRECTORY_FILE =
\\user02\appsdata\CAD_NX12\nx12\windows\ugii\menus\custom_dirs.dat
```

If a custom custom_dirs.dat is used, the file must be extended manually.

```
# Settings
${UGII_D_INTEGRATION_DIR}
${UGII_D_INTEGRATION_DIR_CAM}
${UGII_D_MENU_DIR}
${UGII_D_DIALOG_DIR}
```

Otherwise, the NX interface did not work.

Advanced solution as of 5.2.130.0

If the `custom_dirs.dat` file is additionally used in other contexts or is not modifiable, we recommend the following procedure:

Using the environment variables `UGII_VENDOR_DIR` or
`UGII_USER_DIR.UGII_D_STARTUP_INTEGRATION=<startup variable from NX>`

Example

Comment out the environment variable `UGII_CUSTOM_DIRECTORY_FILE`.
insert the environment variable `UGII_D_STARTUP_INTEGRATION` into the text file with the value `UGII_VENDOR_DIR`.

`UGII_D_STARTUP_INTEGRATION=UGII_VENDOR_DIR`

The result is that we have a configured `UGII_VENDOR_DIR` variable to the required directories and this can also be loaded by NX.

1.7. Information about patches

See SAP note 2806807.

2. Overview of Functions

In this chapter you will find an overview of the most important functions.

2.1. SAP Engineering Control Center

- **Open SAP Engineering Control Center**
  Go to SAP ECTR.

- **Application Structure**
  Opens the window Application Structure and shows originals loaded in the application. The structure is driven by the application. Additional information of the SAP system and the session directory are shown. So you see very quickly if the parts are still up-to-date or if they are modified by another user.

2.2. Original

- **New**
  Generates a new original.

- **Open**
  To open an existing original, a search dialog is opened.

- **Save**
  Saves the active NX part and saves the file in the SAP system. If you want to save parts, open the parts with write rights. When you save, the document structure and the attributes are also updated and previews are generated according to your settings. By default, the attributes are only updated after re-opening. No neutral formats are generated during buffering. After saving, the document still has write rights and is still open for editing. The parts stay open.

- **Edit**
  If you want to edit a part, open it with write rights. Editing rights must be available.

- **Save and Display**
  Saves the current part in the SAP system. After saving, the part is displayed read-only in the application.

- **Save and Close**
  Saves the current part in the SAP system. After saving, the part is closed in the application.

- **Save as...**
  – **Save as New Version**
    Saves the part as a new version. If the part is used in an assembly, the assembly references the old version or the predecessor version of this part.
  – **Save as New Document**
    Saves the part and stores it as a new document in the SAP system and replaces all references to the old part.

- **Update**
  - **Update Originals**
    Refreshes the originals. If the parts are no longer up-to-date in the working directory after they have been re-resolved in SAP, they are replaced. Changes that have not yet been saved can be lost on parts that have already been loaded.
  - **Update Attributes**
    Updates the attributes for the selected part.

- **Cancel**
  Closes the active part without saving the changes made. The SAP system is reset and all changes are discarded. The change status is reset to the status the part had the last time it was saved.

- **Import**
  Checks whether the selected part exists in SAP. If this is not the case, a dialog for creating the parts opens. To prevent a dialog from being displayed after the import that shows a summary of the import, select "Skip optional summary overview".

- **Add**
  Adds a component out of the SAP system.

2.3. Document

- **Document**
  - **Display Document**
    Opens the SAP PLM document info record for displaying the data.
  - **Add to object list**
    Opens a dialog to add the original to an object list.
  - **Dependent Document**
    - **Open Original of Dependent Document**
      Opens the dependent document for the current part. If several documents are available, a selection is displayed in list form.
    - **Create Dependent Document**
      Creates a new dependent document for the current part.

2.4. Additional Functions

- **Bill of Material**
  - **Display Bill of Material**
    Opens the Bill of Material for viewing in the SAP system.
  - **Edit Bill of Material**
    Edits the Bill of Material for viewing in the SAP system.

- **Material**
  - **Assign Material**
    If you are searching for materials and want to assign these to a part, SAP ECTR interface to NX opens a search dialog.
  - **Display Material**
    If an object link between the document and a material exists for the current part, this function opens

the material in an SAP dialog. The data is displayed in the SAP dialog. Here, the part can be either an assembly or an individual part.

▪ **Ballooning**
Maintains balloons on drawings according the bill of material of the SAP system. The function reads the position numbers out of SAP ECTR and writes them into the component attributes.

▪ **Auto Ballooning**
Inserts a parts list to the current sheet and automatically provides each of the drawing objects with a balloon.

▪ **Extras**
  – **Save and close part family instances**
    Saves all new generated or changed part family members into the SAP system.
  – **Toggle part selection (native / SAP)**
  – **Create monolithic JT**
  – **Save 2D file as dependent document**

▪ **Info**
Displays information about the current version.

▪ **Options**
Opens the options dialog in SAP ECTR.

2.4.1. Functional restrictions for ballooning

▪ Identical components on the same parts list level cannot be distinguished.
▪ Components that were dragged upwards on a single or on multiple levels, are ignored.
▪ Inherited views are ignored.
▪ If there are multiple models in the drawing, the surrounding geometry is partly ignored.

2.4.2. Configuration of multiple CAD environments

Description

It is possible to support multiple CAD system environments by configuration without having to restart SAP ECTR. For this you can configure the file `plm_options.txt`. This can be found in the directory `<PLM_INSTDIR>\applications\ugs\customize\config`

The file is prepared in the delivery from the **version *.*.120.0**.

This allows you to select several different configurations alternately as needed. Now the selection dialog can be shown separately via `System->Start Application->Set NX Environment`, or directly when NX restarts.

If you have made a configuration selection during the runtime of SAP ECTR, the existing background processes in SAP ECTR recognize this and use this setting automatically (e.g. when renaming references or cloning assemblies).

Notes

- **Older installations**
  It is also possible to use the dialog before this specified integration version when restarting NX, but there is still no connection to the background processes in SAP ECTR and no possibility to generate these settings directly for them.

- **Deactivate NX selection dialog or use other start center**
  If desired, one can deactivate this function in the file `<INST>\customize\config\plm_initialitze.bat` with the help of the preference variable set `PLM_UG_USE_INTERACTIVE_CONFIG=false`, since the delivery contains a per default activated, prepared configuration. Likewise the file `plm_options.txt` must be renamed or deleted, since the start script otherwise assumes that one wishes the past behavior when starting NX.

2.5. Define NX load options in SAP ECTR

SAP ECTR allows to define the load options for assemblies according to the load options. These can be set via the preferences. For this purpose, click the cogwheel in the top right corner and select **Preferences**. In the dialog that appears, click **Applications --> NX**.

All preferences with the corresponding values are listed there. Select your corresponding setting and confirm it.

2.5.1. Presetting loading options for NX

General information

- There is currently no way to "lock" a load option value so that it would not be changeable.
- The load options are set once when starting NX.
- The load options are set when a part is opened by SAP ECTR.
- The load options cannot be set by selecting anything from the last loaded parts.
- The load options cannot be set if you open / add something via drag&drop.
- The load options cannot be set when working with NX and an automatic reload operation is initiated during this work.
- The load options cannot be set for native load functions (if the native function Open or Add Component is available).

3. Further Functions in NX

3.1. Mirroring Assemblies and Components

SAP PLM uses the function **Mirror Assembly...** to generate a mirrored version of the entire assembly or of selected components. The new version is created as a new assembly or component in the SAP system.

1. Select the mirrored component in the Assembly Navigator and save it in NX (Ctrl + S)
2. Select **SAP PLM → Save as new documet**
3. The Import dialog opens. Select the component to be imported and click **OK**.
4. The New document dialog opens. Create a new document of the document to be imported into SAP PLM.

Upon completion of the import to SAP PLM, the mirrored component is displayed with the assigned document number in the **Assembly Navigator**.

3.2. Handling Part Families

As of NX1953, you must enable the **Keep all part families add-ins in spreadsheet** function in the user defaults.

3.2.1. Generating a Part Family under NX

1. Create a document for a part family.
2. Switch to the development application under NX.
3. Switch to engineering mode.
4. Call up the function via **Tools → Part Families…**
5. Ensure that **Importable Part Family Template** is not selected.
6. Choose the expressions and attributes that are required as columns in the spreadsheet.
   The selection of expressions is used to model the 3D geometry.
   If you want to specify the properties separately for each part, you can add attributes.
7. The **part_name** field is included in **selected columns**.
8. Choose **Generate**.
9. Choose **Generate Part Family/Parts**. The part family child is generated.
   Note: The SAP system only takes into account the selected rows.
10. Choose **Continue** to go to the spreadsheet template.
11. Choose **Save Part Family/Family**. The spreadsheet is saved back to the part.

Note

Creating and editing family members is only possible in one instance at a time.

3.2.2. Numbering Part Family Children

The SAP system determines the document number during manual document creation with internal number assignment. The original is renamed and saved to the SAP system.

For part-family children, the full name must be defined beforehand in the **part_name** column.

External number assignment

You can define a separate document type that allows external numbering. You can use the DType settings to prevent a part family child from being created interactively.

To do this, set preference variable `UGII_A_FAM_PNAME_RULES` to `false`.

Advantage

This setting simplifies the handling of part family children if the part name of a new part family child can be specified directly in the spreadsheet. The specified name implicitly results in the SAP document number, which is why the required migrated templates require little post-processing.

Disadvantage

Numbers can possibly be assigned twice. If you use internal number assignment for other document types, the use of external number assignment represents a discontinuity.

Internal Number Assignment

The names of the parts in the spreadsheet are generated via a function. The function creates documents in the SAP system and enters the generated numbers in the table as part names.

Advantage

Consistency in numbering, if the other document types are also numbered internally. Using unique numbers means that there is no risk of duplicates.

Disavantage

The DIRs must be created using an additional functionality beforehand. Later on, as many part family children must be generated as DIRs were created.

You have to integrate an additional menu in Microsoft Excel. Execute the following file:

`ExcelFamilyPartsNET.msi`
The file can be found here:

`%PLM_INSTDIR%\applications\ugs\basis\sys\win\bin\FamilyPartsAddin.NET\x64 bzw. x86.`

Part Names of Part Family Children

If you want to create versions of the part family children, you have to enter the fully qualified part name in the **part_name** column. You can thus distinguish different child versions in the part name.

If you do not require versions, you can set fixed values for the document type, part document number and version. In this case, the name suffices as the document number.

If you have set up external number assignment, you no longer have to post-process migrated templates. In the other cases you have to add `<Doc.Type><Part_doc.>_<Version>` between `.prt` and the document number.

If templates are migrated with a new internal number, the entire **part_name** column has to be revised. For part family assemblies you must also check the references to components.

3.2.3. Enhanced Part Family Classification

You have the option of immediately classifying the generated part family children at the time of generation. In doing so, you have to enter the classification as follows in the NX spreadsheet:

Tabelle von Part Family - 10000002854UGM000~05

	A	B	C	D	E	F
1	Part_Name	p0	p1	p2	SAP_DESCRIPTION	
2	MARA!SCHRAUBEN	LAENGE	BREITE	HOEHE	DESC	
3	DRAW!SCHRAUBEN	LAENGE	BREITE	HOEHE	DESC	
4	112233ugm000~00	100	100	100	kind 1	
5	112244ugm000~00	80	60	30	test desc	
6	112255	111	30	60	test desc	
7	112266	11	22	33	test 44	
8	112277	22	33	44	test 55	
9						
10						

- Part_Name: Class information. Use a separator to separate the class type from the class name. For MARA classes, the assigned part family member material is determined and then classified. The class is NOT created anew. Ensure that the class and characteristics exist in the SAP system.
- Under the individual parameters (p0, p1, p2) enter the corresponding characteristic that is filled with the entered value.

Required preference variables in file `default.txt`:

- # Separator- can be any character string
  `UGII_A_FAM_ADV_CLASSIFY_IDENT = !`
- # Activation of the enhanced part family classification
  `UGII_A_FAM_ADV_CLASSIFY = true`
- # Identifier for the material class in the spreadsheet
  `UGII_A_FAM_ADV_CLASSIFY_MARA = MARA`
- # Identifier for the document class in the spreadsheet
  `UGII_A_FAM_ADV_CLASSIFY_DRAW = DRAW`

3.2.4. ExcelFamilyPartsAddin

Installation

For this, the integration of an additional menu in Microsoft Excel. To do this, run the file

`ExcelFamilyPartsNET.msi`

The file can be found here:

```
%PLM_INSTDIR%\applications\ugs\basis\sys\win\bin\FamilyPartsAddin.NET\x64
bzw. x86
```

Functions

Create Family Member document

Placeholder documents are created for the part family member to be created. The document numbers generated there are entered in the selected data records.

Possible Selection in the Excel Sheet

- Direct selection of all desired cells
- Selection of entire rows (the relevant cell is identified using the "Part_Names" column header)

Provide Components

For all selected data records, the originals are made available in the session directory.

Possible selection in the Excel sheet:

- Direct selection of all cells that contain the document number
- Selection of entire rows (the relevant cell is identified using the "Part_Names" column header)

Provide+Create (sheet)

This corresponds to "Provide Components;" the function "Generate Parts" is called automatically from the NX part family menu in Excel after the provision.

Possible selection in the Excel sheet:

- Selection of entire rows (the relevant cell is identified using the "Part_Names" column header)

Update Part Name

The document number of the selected data records is updated.

Possible selection in the Excel sheet:

- Direct selection of all cells that contain the document number
- Selection of entire rows (the relevant cell is identified using the "Part_Names" column header)

3.2.5.   Edit existing part families

Just as with assemblies, it is possible to extend existing part families.

Note: For these steps, the SAP PLM Family menu is required for Microsoft Excel.

Approach

▪ Open the part family to be changed for editing in SAP ECTR.
▪ In NX, select **Tools – Part Families**.
The Part families window opens.

In this window,

▪ deselect the option **Importable Part Family Template**
▪ select the desired columns for the Excel tables
▪ execute the **Edit** function.

The Excel table opens.

▪ Change the desired part family member.
▪ Mark the desired paert family member.
▪ In the **SAP PLM Family** menu, select function **Provide Components**.

A message appears that indicates the number of available components.

▪ Click **OK**.

In the Excel table, select the **Update parts** function in the **Part Families** menu.

In NX
▪ click the **Resume** function in the **Part Families** window.
▪ execute the **Save families** function in the **Part Families** menu.
▪ save the changed part family member in SAP ECTR:
  SAP PLM – Document – New – Create part family member.

The part family member has been changed according to your entries.

3.2.6.   Expand existing part family

▪ Open the part family for editing in SAP ECTR.
▪ In NX, **select Tools – Part Families**.
▪ In the **Part Families** window, click the **Edit** function.

The Excel table opens.

In this table,

▪ create a new row.
  Important: Do not fill out the cell in the **Part_Name** column.
▪ select the cell in the **Part_Name** column.
▪ in the **SAP PLM Family** menu, select the **Create Family Member DIRs** function.

A new number has been entered in the cell.
- Select this row.
- Execute the **Create parts** function.
- In NX, click the **Resume** function in the **Part families** window.
- Execute the **Save families** function in the **Part Families** menu.
- In NX, select **SAP PLM – Document – New – Create part family member**.

The new member has been created in the part family.

3.2.7.   Add attributes using an environment variable

Requirements

- Set environment variable `UGII_A_FAM_MEM_UPD_ATR=true`
- Rename callback needs to be active (default setting)
- Set environment variable `UGII_A_FAM_MEM_UPD_ATR_SKIP` as mentioned above
- Creation of the part family member DIR before generating the part family member file so that an attribute update for part family members can take place at all.
  (For instance: **Excel -> SAP menu Part Families -> Generate Part Family/Parts**)

When creating a part family member (from Excel), the configured attributes (`attributes_from_sap.xml`) are optionally entered into the member via attribute mapping (`UGII_A_FAM_MEM_UPD_ATR=true`). If an attribute is used in the Excel spreadsheet, which also occurs in the mapping, it is overwritten with the value from the mapping.

Alternatively, it is possible to use the environment variable

`UGII_A_FAM_MEM_UPD_ATR_SKIP`

to define which attributes can be skipped for a family attribute update in the creation process.

Example

`UGII_A_FAM_MEM_UPD_ATR_SKIP=SAP_CC_NAME;SAP_DESCRIPTION_EN`

In this example, the descriptive part name and the Englisch-speaking description are defined manually in the family spreadsheet. The other attributes are overwritten by the SAP system as usual for the part family member.

4. Attribute Transfer

The attribute transfer is used to write various pieces of information from the SAP system to the application file.

4.1. Transfer Boolean attribute values from NX to SAP

For the correct output of Boolean attribute values, the corresponding environment variables must be set as follows:

UGII_D_ATR_BOOL_TRUE=T

UGII_D_ATR_BOOL_FALSE=F

By setting the environment variables like this, the SAP system displays the values T and F.

4.2. Displaying attributes on the drawing frame

Various information from the SAP system is written to the application file via the attribute transfer. This information is linked in the drawing frame. The attributes are referenced by the application via the "Annotation Editor" (**Menu -> Insert Text**).

You can specify an attribute name, which is then placed on the drawing. The attribute value is visible and will be displayed updated when updating via the attribute transfer.

You must place the attributes in the template file that was defined when the drawing was created. The definition of which templates are available can be found in the DType file in the following section:

```
<primary_application attribute_section="MASTERMODEL"...>

<document_create>
  <seedfile filename="DIN-A0-NX3.prt" type="template"…>
    <description language="DE" text="A0 Zeichnung"    />
    <description language="EN" text="A0 size drawing" />
  </seedfile>

</document_create>
```

5. NX Environment Variables

The following list of NX environment variables is a snapshot of the scope of functions at the time the product was released by SAP ECTR interface to NX. Due to ongoing development of the software, the type and scope of this list may change.

5.1. Activation of the NX environment

Variable	Description

`UGII_D_NX_ENVIRONMENT`	The variable can be used to set the environment in NX.
	
	Example
	`plm.check.environment.UGS = true`
	`plm.check.environment.UGS.name = NX`
	
	During check-in, the corresponding attributes are filled in at the DIS (`CDESK_DRAW`).
	
	Output example
	`CAD_VERSION = NX V12.0`
	
	`CAD_ENV = 12.0.2`

5.2. NX User-Exit Activation

NX user exits are set automatically via the start script. If they are set manually, the affected user exits are automatically overwritten by the values set in the start script. The variable `PLM_USER_EXITS` for the configuration can be adjusted in the following file:

`%PLM_INSTDIR%\applications\ugs\customize\config\plm_setenv.bat`

`set PLM_USER_EXITS=USER_RCOMP;USER_SCOMP2`

5.2.1. User Exits for Components (manual)

Variable	Description
`USER_RCOMP`	Replaces the native insertion of a component. **Value** `%PLM_UGDIR_VOS%\startup\plm++ug.dll`
`USER_SCOMP2`	Replaces the native exchanging a component. **Value** `%PLM UGDIR VOS%\startup\plm++ug.dll`

5.2.2. User Exits for Native NX Functions

In file `ugs\customize\config\plm_setenv.bat` you have the option of deactivating the native NX functions or redirecting them to other functions by means of additional user exits.

Variable	Description
USER_RETRIEVE	Replaces the native opening a part. **Value** `%PLM_UGDIR_VOS%\startup\plm++ug.dll`
USER_CREATE	Replaces the native creating a part. **Value** `%PLM UGDIR VOS%\startup\plm++ug.dll`
USER_FILE	Replaces the native saving a part. **Value** `%PLM UGDIR VOS%\startup\plm++ug.dll`
USER_SAVEAS	Replaces the native executing 'save as' for a part. **Value** `%PLM UGDIR VOS%\startup\plm++ug.dll`
USER_MERGE	Replaces the native importing a part. **Value** `%PLM_UGDIR_VOS%\startup\plm++ug.dll`

5.3. Callbacks

Variable	Description
UF_save_part_reason	When a part is saved, SAP ECTR is writing the necessary SAP information into a XML-file and saves it in the directory, which has the same name as the part itself. (without `.prt`)
UF_create_part_reason	When a part has been created, SAP ECTR checks if the file exists. If it does not, a `UF PART save` is called. In this event, depending on the environment variable `UGII D CRE USE SEED`, a template is imported which can be defined in the variable `UGII D CRE SEEDPART`.

Variable	Description
`UF_open_part_reason`	Is used to execute various actions after opening a part. **Example** `UGII_D_ATTR_OPENEVENT = true` This is set to update attributes
`UF_rename_part_reason`	If necessary, this variable is used to update attributes of part family members.

`UF_change_work_part_reason`	SAP ECTR starts a script if the variable `UGII_D_WP_USE_SCRIPT = true`
	
	The script is named:
	`plm_changeworkpart.bat`
	`<'Additional directory of the workpart'>`
	
	By means of this script it is possible, for instance, to set a drive letter such as `"W:\"` on the work part directory by using the DOS command subst. In this way, it is easier for the user to store data there.

`UGII_D_NOCALLBACKS`	Ignore all callbacks **Values** `true / false`
`UGII_D_ATTR_REL`	Writes the NX version of the part in the defined attribute. **Example** `NX V12`
`UGII_D_ATTR_REL_EXT`	Writes the enhanced NX version of the part in the defined attribute. **Example** `12.1.3.3`
`UGII_D_CB_IGN_REN`	Ignore rename callback **Values** `true / false`
`UGII_D_CB_IGN_SAV`	Ignore save callback **Values** `true / false`
`UGII_D_CB_IGN_CRE`	Ignore create callback **Values** `true / false`

Variable	Description
`UGII_D_CB_IGN_OPEN`	Ignore open callback
	Values
	`true / false`
`UGII_D_CB_IGN_CW`	Ignore change work part callback
	Values
	`true / false`

5.4. Script Definitions

Variable	Description
`UGII_D_WP_USE_SCRIPT`	SAP ECTR starts this script when the part is changed. To do this, the NX callback **change work part** is used. The script could then e.g. set drive W: (for work part) on the additional directory of the part. SAP ECTR calls the script with the name of the part as the first parameter.
	Value
	`<Name of a batch file>`
	File
	`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

5.5. Warnings and error messages

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_ADD_ERROR`	Setting this variable to true, an error message is displayed if the user tries to add a component to a read-only assembly.
	Values
	`true`: Display error message
	`false`: Suppress error message

Variable	Description
UGII_D_ADD_WARNING	Setting this variable to `true`, a warning is displayed if the user tries to add a component to a read-only assembly. **Values** `true`: Display warning `false`: Suppress warning
UGII_D_CRE_ERROR	Setting this variable to true, an error message is displayed if the user tries to create a component in a read-only assembly. **Values** `true`: Display error message `false`: Suppress error message
UGII_D_CRE_WARNING	When setting this variable to true, a warning is displayed if the user tries to create a component in a read-only assembly. **Values** `true`: Display warning `false`: Suppress warning
UGII_D_CANCEL_EDIT_OPTION	**Values** `0` (default): Show cancel dialog `1`: Do not show dialog. Continue with the first option from dialog `2`: Do not show dialog. Continue with the second option from dialog.
UGII_D_OPEN_SUPPRESS_WARNINGS	When opening assemblies, the update warning can be disabled using this variable. **Values** `true`: Update warning is not displayed `false`: Update warning is displayed (default)
UGII_D_OPEN_SUPPRESS_WARNINGS_ FOR_FILES_IN_THIS_PATHS	**Requirement** `UGII_D_OPEN_SUPPRESS_WARNINGS = false` Update warnings for parts are ignored when they are opened from a path defined in this variable. Sub-directories are also considered. **Values** Semicolon-separated list of directories

Variable	Description
`UGII_D_SAVE_WARN_WP`	Defines whether a warning is displayed during intermediate save in case components of the work part have been modified and are read-only. **Values** `true`: Displays a warning for modified and read-only components. `false`: No warning if components of the WP are modified and read-only.
`UGII_D_DRAW_WARN_OUTOFDATE`	This variable determines whether a message should be generated when saving parts with obsolete drawings. **Values** `true`(default): When saving each part, the user is asked whether the drawing should be updated. `false`: All drawings are saved as they are..
`UGII D DRAW WARN OUTOFDATE_FOR_ALL`	This variable is set to display the warning for all parts which are in the process queue. It is then possible to confirm for all parts with a reply, either **Yes for all** or **No for all**. **Values** `true` (default): The user is asked only once whether all sheets should be updated in case they are marked obsolete. `false`: The user is asked separately for each part, whether the obsolete drawings - if available - should be updated.
`UGII_D_WARN_FOR_ERROR_ON_ DETECT_LOADED_PARTS`	By setting this variable, a warning is issued if an error has occurred during the determination of the part characteristics (assembly / read-only mode, etc.). **Values** `true`(default):Display warning `false`: Suppress warning
`UGII_D_WARN_FOR_ERROR_ON_ DETECT_LOADED_PARTS_ASK_FOR_ CANCEL`	When determining the characteristics of the parts, this variable will suggest the user aborting the triggered operation in case of an error. **Values** `true` (default) / `false`

5.6. Warning and error control for attribute matching between NX and SAP ECTR

Error messages and warnings appear if

- an attribute in the attribute template does not match the datatype that comes from the SAP System (SAP ECTR),
- an attribute is locked in the attribute template when it is saved,
- an attribute in the attribute template may adopt FIRMLY defined values, but otherwise no further values (selection list).

File for setting the variables:

```
%PLM_INSTDIR%\applications\ugs\customize\config\default.txt
```

Variable	Description
`UGII_D_UPD_ATTR_ SHOW_MSGBOX_FAIL`	Displays a message box if an error occurs. **Values** `true` (Default) / `false`
`UGII_D_UPD_ATTR SHOW_MSGBOX_WARN`	Displays a message box in case of a warning. **Values** `true` / `false` (Default)
`UGII_D_UPD_ATTR_ SHOW_WARN_AS_ERRORS`	Displays warnings of known problems, such as why an attribute could not be set as desired, as an error. **Values** `true` / `false` (Default)

5.7. Start configuration for external NX programs

In SAP ECTR, the start batches of NX can be adapted. With the according settings, the environment variable is no longer set as default for the partfile analysis program and a fallback is used. In the case of NX, the fallback automatically triggers the analysis program `++ convert.exe` to carry out the analysis. This analysis is required for ++dataExchange.

Variable	Description
`PLM_APPL_USE_ STARTCOMMAND_UGS`	This variable is used to customize the startup batch file. **Value** **Example:** `startCustomerNX.bat` This sets the variable `PLM_APPLSTART_UGS` to `D:\SAP ECTR\applications\ugs\basis\sys\win\bin\ startCustomerNX.bat`". The variable `PLM_APPLANALYSE_UGS` is then no longer set and the fallback is active.
`PLM_APPLANALYSE_UGS`	In the event that an error occurs because the file `++convert.exe` cannot be found, this environment variable can additionally be set. **Value** **Example:** `D:\SAP ECTR\applications\ugs\basis\sys\win\bin\ analyse ugs.exe`

5.8. Communication Control

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_ATTR_FN_SAP`	Defines the name of the attribute file for the attributes in CAD that are transferred to SAP. **Value** `plm metainf-sap.xml`
`UGII_D_ATTR_FN_CAD`	Defines the name of the attribute file for the attributes in SAP that are transferred to NX. **Value** `plm metainf-cad.xml`
`UGII_D_WRITE_XML_IF_ ADDDIR_EXISTS`	Specifies whether an attribute file is only written if an additional directory already exists. Otherwise, a missing additional directory is created before writing the attribute file. **Values** `true`: Write attribute file only if an additional directory exists. `false`: Create missing attribute directory prior to writing the attribute file.

Variable	Description
`UGII_D_ATTR_REAL_PREC`	Defines the number of decimal digits. **Values** `<Number>` e.g. `8`.
`UGII_D_ATTR_REAL_W_UNIT`	Defines if the unit is displayed next to the number. **Values** `true`: Display unit `false`: : Do not display the unit (Default)
`UGII_D_ATTR_REAL_SHOW_EXPO`	Defines if the value should be displayed in exponential form if necessary. This environment variable controls derivations from attributes and expressions into the metainf-cad as well as the automatically generated attributes such as weight, bounding box etc. **Values** `true`: Display in exponential form `false`: Do not display in exponential form (Default).

`UGII_D_METAINFCOMP_LOCKED_SYSATTR`	Overwrites component attributes which are not supposed to be used because of stability issues. Conflicting variables are not taken by the `metainf-cad` but skipped.
	
	Default Values
	
	`SAP_WRM_TEXT2`
	
	`COMPONENT_ID`
	
	`SUPPRESSED`
	
	`VISIBLE`
	
	`ISDEFORMED`
	
	`REFSET_PARENT_ID`
	
	`REFSET_PARENT_NAME`
	
	`REFSET_CHILD_ID`
	
	`REFSET_CHILD_NAME`

`UGII_D_EXP_DETAILS`	For part attributes and expressions, this environment variable can be used to output extended attribute information in the `metainf-cad.xml` file. This includes `<attribute> UNIT` and `<attribute> UNITNAME`. **Values** `true` = Enables the additional output of further expressions in the file `metainf-cad.xml` in the form of "`<exp name>`" and " `UNIT`" as well as " `UNITNAME`" `false` = (Default) No additional expressions are written to the file `metainf-cad.xml`.

Variable	Description
UGII_D_EXP_WRITE_BASE_UNIT	By setting this variable to `true`, the units are written to the base value in the form of `<exp_name> + "_UNIT"` and `<exp_name> + "_UNIT-NAME"`. `false` = No units are written out for the base value **Values** `true` (Default) / `false`
UGII_D_EXP_WRITE_DISPLAY_UNIT	By setting this variable to `true`, the units are written to the "defined" / "displayed" value in the form of `<exp name> + " DUNIT"`, `<exp name> + " DUNITNAME"` as well as `<exp name> + " DUNITVALUE"`. `false` = No units are written out for the base value **Values** `true` / `false` (Default)
UGII_D_EXP_CREATE	When setting expressions with `convert.exe -upd_attr` only existing expressions are set. No new expressions are created. **Values** `true` / `false` (Default)

Variable	Description
UGII D METAINFPART LOCKED_SYSATTR	Overwrites part attributes, which are not supposed to be used because of stability issues. Conflicting variables are not taken by the `metainf-cad` but skipped.

Default Values

UG PART FILESIZE

UG PART TYPE

UG PART PARTUNITS

UG PART ISDEFORMABLE

UG PART HASGEOMETRY

UG PART HASDEFORMEDCOMPS

UG PART HASPROMOTEDCOMPS

UG PART HASDRAFTENTS

UG PART HASDIMENSIONS

UG PART HASVALIDSHEETS

LINKED EXPRESSION

UG PART HAS OLD OBJECT

UG CAM TOOLS

UG PART ISASSEMBLY

PART SHEETS

PART HAS DRAWING ENTITIES

PART FAMILY TEMPLATE

PART HAS DIMENSION

PART RELEASE

PART RELEASE EXT

UG PART VERS

Release Ext

CAD Environment

BBOX Attribute Name

REFSET PARENT ID

REFSET PARENT NAME

5.9. Load, save and delete options

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_A_IGN_CMOD`	Controls whether external references such as user-defined feature are stored as external references in SAP. This requires that the user-defined feature parts are also managed by SAP. If the user-defined feature parts are not managed by SAP, this variable has to be set to `false` to avoid "part not available in SAP" error messages when saving. **Values** `true` / `false`
`UGII_A_NONGEO_COMPS`	Defines whether components with the attribute "non-geometric" are included in the NX integration. Among other things, non-geometric components will then be written to the `plm++metainf-cad.xml` file (additional attribute of the CHILD element: `NONGEO-METRIC="true"`), updated in the SAP system and subsequently be displayed within the assembly in SAP ECTR. **CAUTION:** Non-geometric components will not be included in the NX integration by default. **Values** `true` / `false`
`UGII_A_SEARCHDIRS`	Extends the search path of NX by additional directories. This may be necessary, e.g. if SAP parts have to be stored additionally to other directories e.g. for certain external products. **Values** `<Search Directories>`
`UGII_A_SUPP_COMPS`	Defines whether components with the attribute "suppressed" are included in the NX integration. Among other things, suppressed components will then be written to the `plm++metainf-cad.xml` file, updated in the SAP system and subsequently be displayed within the assembly in SAP ECTR. **CAUTION:** Suppressed components will not be included in the NX integration by default. **Values** `true` / `false`

Variable	Description
UGII_A_SUPP_COMPS_RELTYPE	Creates a special sort field entry for a suppressed component during the save. By default, suppressed components are treated analogous to normal components depending on their relation type. **Values** `<empty>` / not defined: no own relation type for suppressed components. `CS`: CS is used as relation type for the sort field in BOD.
UGII_D_ACP_MAT_SEARCH	Provides the option to change the standard search for materials or documents. **Values** `true` (search for materials) `false` (search for documents)
UGII_D_ATTR_CATEGORY	When writing attributes (create or change) the attribute category is set to a defined value. **Values** <Name of the category>, e.g. SAP
UGII_D_ATTR_OPENEVENT	Defines if the attributes in the Callback are refreshed when parts are opened. **Values** `true` / `false`
UGII_D_ATTR_UPD_REGEN_MOD_VIEW	Switches-on a "regenerate" after the attribute update. **Values** `true` / `false`
UGII_D_ATTR_UPD_RO_PARTS	Defines if the attributes are refreshed when opening RO parts with the standard Open function. **Values** `true` / `false`
UGII_D_ATTR_UPD_RW_PARTS	Defines if the attributes are refreshed when opening RW parts with the standard Open function. **Values** `true` / `false`
UGII_D_ATTR_UPDATE_LOAD_PART	Defines if components get loaded to make an attribute update. **Values** `true` / `false`

Variable	Description
`UGII_D_BBOX_TO_ATTR_NAME`	Name of the additional attribute in `plm_metainf-cad.xml` file, which contains the length, width and height of the BoundingBox using following notation: `<length>x<width>x<height>` ▪ `highest Values = length` ▪ `middle Values = width` ▪ `lowest Values = height` **Values** `NX_DIMENSION` (Default)
`UGII_D_BBOX_TO_ATTR_NAME_X`	Name of the additional attribute in the `plm metainf-cad.xml`, which includes the length. **Values** `NX DIMENSION` (Default)
`UGII_D_BBOX_TO_ATTR_NAME_Y`	Name of the additional attribute in the `plm_metainf-cad.xml`, which includes the height. **Values** `NX DIMENSION` (Default)
`UGII_D_BBOX_TO_ATTR_NAME_Z`	Name of the additional attribute in the `plm metainf-cad.xml`, which includes the width. **Values** `NX DIMENSION` (Default)
`UGII_D_BBOX_TO_ATTR_ONLY_FOR`	Defines for which document types the attribute containing the dimensions of the BoundingBox are created and thus written in the `plm_metainf-cad.xml` file. **Values** Semicolon-delimited list of the document types (i.e. `UKM;UGM`) **Note:** `UGII_D_BBOX_TO_ATTR_ONLY_FOR` is case sensitive. For lowercase file names, this should be considered when setting the variable, e.g. `UGII_D_BBOX_TO_ATTR_ONLY_FOR=UGM;ugm`
`UGII_D_BBOX_TO_ATTR_SHOW_UNIT`	Defines, whether the unit of the attribute values containing the dimensions of the BoundingBox is displayed or not. **Values** `true` / `false`

Variable	Description
UGII_D_BBOX_TO_ATTR_UNIT	Unit of the attribute values for the dimensions of the BoundingBox. Default settings for decimal places: meter → 3 decimeter → 2 centimeter → 1 millimeter → 0 `UGII_D_BBOX_TO_ATTR_PRECISION=3` overwrites the default setting **Values** `M`, `DM`, `CM`, `MM`
UGII_D_CAM_TEMPLATE_DIR	CAM assemblies and components in the directory and its subdirectories configured in this variable are ignored when saved. **Values** `<dir>`
UGII_D_CLEAN_EXPR	Along with the variable `UGII_D_SAV_CLEANUP` an extended part cleanup is executed including an unref. expression cleanup. **Values** `true` / `false`
UGII_D_CLEAN_VAR1	Along with the variable `UGII D SAV CLEANUP` an extended part cleanup is executed including a mating cleanup. **Values** `true` / `false`
UGII_D_CLOSE_QUIT_ASK	When detecting modifications or temporary components: **Values** `true`: The user is asked if he wants to quit NX when modified or temporary parts are detected. `false`: All loaded parts will be closed without asking the user if he wants to cancel the exit of NX

Variable	Description
`UGII_D_CLOSE_QUIT_M`	Defines the macro that performs a **Close All** and also starts the **SAP_QUIT** button.
	The macro is automatically set up with the file `closeall-quit.marco` in the directory `basis/macros`, but it can be overwritten.
	This is only used if closed macros are actively handled (`UGII CLOSE USE M and UGII CLOSE M`)
	Values
	`@PLM UG APPLDIR@\basis\macros\closeallquit.macro`
`UGII_D_CLOSE_QUIT_STILL_ OPEN_PARTS_DO_HARD_QUIT`	If NX is terminated incorrectly, if components cannot be closed:
	Values
	`true`: NX is closed by the API. No NX message appears.
	`false`: NX functionality is used for closing. In this case an NX message may appear.
`UGII_D_COMPATTR_TO_SAP`	The component attributes that are written to SAP ECTR can be filtered in a semicolon-separated list. All other component attributes would be invisible in SAP ECTR (SAP). If the environment variable is empty, all existing attributes will be written to SAP ECTR (performance-relevant).
	Values
	`IGNORE;POSNR`
`UGII_D_CRE_SEEDPART`	Defines which part template has to be imported additionally when a component has been created.
	Value
	`%PLM_INSTDIR%\applications\ugs\templates\ model-mm.prt`
`UGII_D_CRE_USE_SEED`	When a component is created, SAP ECTR can be instructed to import a seedpart in order to set the layers.
	Values
	`true` / `false`
`UGII_D_CREATE_COMP_OLD_ SAVE_BEHAVIOR`	As of now, it is possible to save a first-level assembly after every action (add new component, delete old component etc.). This Variable activates the old behavior again.
	Values
	`true` / `false` (Default)

Variable	Description
`UGII D CREATE COMP SAVE WP_AT_END`	At the end of a successful process, the assembly is saved. **Values** `true` (Default) / `false` (Unless `UGII D CREATE COMP OLD SAVE BEHAVIOR=true`)
`UGII_D_CREATE_COMP_SAVE_NEW_COMP`	Makes it optional to save new components. **Values** `true` (Default) / `false`
`UGII_D_FAM MEM_UPDATE_ATTR_FOR_OPEN`	Defines if the attributes are refreshed when opening part families with the Standard Open function. **Values** `true` / `false`
`UGII_D_FIT_NOTATSAVE`	Don't do a fit model when saving temporarily (processed only when `UGII_D_SAV_DO_FIT=true`) **Values** `true` / `false`
`UGII_D_IGN_PART_DIR`	Assemblies and components in directories configured in this variable are ignored when saving. **Values** `<dir>`
`UGII_D_IGN_PROOF_OF_VALID_APP`	Defines whether the check of the NX application under which a file may be stored (e.g. `UF_APP_GATEWAY` or `UF_APP_DRAFTING`) should be deactivated. If the variable is not set to `true`, this file is, for instance, that under kinematics (`UF_APP_MECHANISMS`) saving is not executed and a message appears stating that the active application needs to be changed for saving. **Values** `true` / `false`
`UGII_D_IOD_WRITE_ALL_PARTS_TO_PLM`	Defines whether natively designed parts, which haven't been saved on hard disk or in the SAP system previously, respond to **Import on Demand**. **Values** `true` / `false`

Variable	Description
`UGII_D_LOADOPT_IGN_SUBS`	The **Allow replacement** load option is always overwritten and activated when setting load options from SAP ECTR. This is done as several workflows using SAP ECTR only work entirely this way. However, if the user wants to manipulate this setting himself, he can set this variable to `true` so that the interface no longer enforces this activation. **Values** `true` (Default) / `false` **Note** Functions that automatically replace the version will no longer work properly if the **Allow replacement** option is disabled in the load options.
`UGII_D_LOADOPT_KEEP_SEARCHDIRS`	This setting catches the existing search directories in NX and supplements the search directories of SAP ECTR when they are opened from SAP ECTR. The value `false` always sets the search directories back to the configuration when opening from SAP ECTR. **Values** `true` / `false` (Default)
`UGII_D_LOADOPT_SET_AT_STARTUP`	When starting NX directly from SAP ECTR without opening a document, NX adopts the load options from SAP ECTR if the environment variable `UGII_D_LOADOPT_SET_AT_STARTUP` is set to `true`. If the variable is set to "false", no load option is adopted from SAP ECTR when starting NX without opening a document. In this case, the variable `UGII_LOAD_OPTIONS = <file-name.def>` can be configured. **Values** `true` (Default) / `false`
`UGII_D_OPEN_M`	Defines the name of the macro. `<Makro-Name>` e.g.: `%PLM_INSTDIR%/applications/ugs/templates/open.macro`
`UGII_D_OPEN_RO_WARN`	Hides a warning, which appears when loading a read-only part. This message says that changes on the read-only part will not be saved. **Values** `true` / `false`

Variable	Description
`UGII_D_OPEN_USE_M`	Defines if a macro is used to open the parts. **Values** `true` / `false`
`UGII_D_PART_SELECTION_METHOD`	Determines which path is selected on a part for Opening / Add / Replace. **Values** `NX`: NX dialog `ECTR`: Java dialog (Default Value) `CDESK`: NX dialog, adapted for CAD Desktop
`UGII_D_POS_APPLIST_ADD`	Defines the NX application which may be used for storage (default: `UF APP GATEWAY`, `UF APP DRAFTING`, `UF APP MODELLING`; `UF APP CAM`, `UF APP SFEM`). The number of application is visible via the NX log following an attempt to save in an application that is not (or cannot) be verified by DSC. Use at own risk. **Values** e.g. `1025` (`UF APP FLEX PCB`)
`UGII_D_REPLACE_KEEP_COMPONENT_NAME`	If this variable is set to `true`, the previous component name is retained when replacing a component. However, this only works if `UGII_D_REPLACE_WITHOUT_NATIVE=true`, i.e. if the replacement is performed via API. `If UGII_D_REPLACE_WITHOUT_NATIVE=false`, you can select in the component replace dialog, if the component name should be kept. **Values** `true` / `false` `(default)`
`UGII_D_SAV_CHECKNM_RELATION`	This environment variable checks the relationship between the document and the dependent document based on several values when saving a dependent document in NX. **Values** `SKIP`: Skips the check to see if the part to be saved is a dependent document. `ASK` (Standard): Initializes the interactive request whether to save the dependent document with an incorrect document. `CANCEL`: Cancels the saving process of the relevant dependent document using an optional message field.

Variable	Description
`UGII_D_SAV_CLEANUP`	Executes a part cleanup in every saving process **Values** `true` / `false`
`UGII_D_SAV_DO_FIT`	Do a fit model during save **Values** `true` / `false`
`UGII_D_SAV_DO_FORCE_UPD_VIEWS`	Ensures that the views are always refreshed when saving – no matter if OutOfDate or not. **Values** `true` / `false`
`UGII_D_SAV_EXT_MOD_RO`	Defines if all modified and read-only parts are displayed in a table before saving. **Value** `true` / `false`
`UGII_D_SAV_UPD_ATTR`	Defines whether all attributes are read again from SAP before saving. If the add-on module ++batchEngine is installed, this variable has to be set to `false`. **Values** `true` / `false`
`UGII_D_SURFACE_ATTR`	Defines the attribute name of the surface. **Values** Any name (If empty or not set, no calculation of area takes place). **Required NX license:** `adv assemblies`
`UGII_D_SURFACE_ATTR_MANUAL`	Automatically skips the automatic recognition of the surface and loads the surface from the NX attribute. **Values** Attribute name. **Default:** `FLAECHE_MANUAL`
`UGII_D_SURFACE_ATTR_VAL_FOR_ZERO`	If the set value is 0.0, the attribute value is overwritten by the given value. **Values** String, Default: `0.0`

Variable	Description
`UGII_D_SURFACE_FOR_REFSET`	If reference sets are used in NX, this variable defines, which reference sets the area calculation is executed for. **Values** Name of the ReferenceSets
`UGII_D_SURFACE_PRECISION`	Defines the number of decimal places for the surface area specification. **Values** Any numerical value
`UGII_D_SURFACE_UNIT`	Sets the desired unit on which the value of the part attribute is based. The attribute value is calculated depending on the unit set here. **Exception:** Surface calculation via the NX attribute. Here, no conversion takes place via the integration. Please refer to the NX documentation for the setting adjustments of the NX system attributes. **Values** `MM2` (default) / `CM2` / `M2` / `DM2` / `INCH` / `FOOT`
`UGII_D_VOLUME_ATTR`	Defines the attribute name for the volume. **Value** Any name (If empty or not set, no calculation of volume takes place) **Required NX license:** `adv assemblies`
`UGII_D_VOLUME_ATTR_MANUAL`	Skips the automatic recognition of the volume and loads the volume from the NX attribute. **Values** Attribute name. **Default:** `VOLUMEN_MANUAL`
`UGII_D_VOLUME_ATTR_VAL_FOR_ZERO`	If the set value is 0.0, the attribute value is overwritten by the given value. **Values** String **Default:** `0.0`

Variable	Description
`UGII_D_VOLUME_FOR_REFSET`	If reference sets are used in NX, this variable defines for which of the reference sets executes the volume calculation. **Values** Name of the reference set
`UGII_D_VOLUME_PRECISION`	Defines the number of decimal places for the volume specification. **Values** `18` (Default) / Any numerical values
`UGII_D_VOLUME_UNIT`	The attribute value is calculated depending on the unit set here. **Exception:** Volume calculation via the NX attribute. Here, no conversion takes place via the integration. Please refer to the NX documentation for the setting adjustments of the NX system attributes. **Values** `MM3` (default) / `CM3` / `M3` / `DM3` / `INCH` / `FOOT`
`UGII_D_WEIGHT_ATTR`	Defines the attribute name for the weight. **Values** Any name (If empty or not set, no calculation of weight takes place)
`UGII_D_WEIGHT_ATTR_MANUAL`	Sets the attribute name for the weight. **Values** Attribute name. **Default:** `GEWICHT_MANUAL`
`UGII_D_WEIGHT_ATTR_FOR_PAT`	Checks whether a weight calculation is done based on the specified filename pattern. If this environment variable is not set, the file name pattern is not checked. **Values** `ugm;ugc`
`UGII_D_WEIGHT_ATTR_ONLY_FOR_MODEL`	If this variable is set to "true", a check is done to determine whether the part should be identified as a drawing by the SAP PLM integration. If set to "false", the drawing is not checked. **Values** `true` / `false` (Default)

Variable		Description
The following settings are possible for the two environment variables		
`UGII_D_ WEIGHT_ATTR_ FOR_PART`	`UGII_D_ WEIGHT_ATTR _ONLY_FOR_ MODEL`	
\<not set>	\<not set> oder `false`	Weight calculation is done for each part.
\<not set>	`true`	Weight calculation is done for the part if it was not identified as a drawing.
`ugm;ugc`	\<not set> oder `false`	The weight calculation only is done for file names that match the pattern for `ugm` or `ugc`.
`ugm;ugc`	`true`	The weight calculation only is done for file names that match the pattern for `ugm` or `ugc` if the part was not identified as a drawing
`UGII_D_WEIGHT_ATTR_VAL_ FOR_ZERO`		If the set value is 0.0, the attribute value is overwritten by the given value.
		Values
		String
		Default: `0.0`
`UGII_D_WEIGHT_FOR_REFSET`		If reference sets are used in NX, this variable defines for which of the reference sets executes the weight calculation.
		Values
		Name of the reference set
`UGII_D_WEIGHT_PRECISION`		Defines the number of decimal places for the weight specification.
		Value
		Any numerical values
`UGII_D_WRITE_BBOX`		Defines whether BoundingBox bvalues and the subsequent BoundingBox attributes are to be written in the `plm++metainf-cad.xml` file. The edges of the BoundingBox are aligned in parallel to the axes of the absolute coordination system. If a body has been trimmed or if it is the result of a Boolean operation, faulty values might occur according to Siemens.
		Values
		`true` / `false`

Variable	Description
`UGII_D_WRITE_BBOX_EXACT`	With this variable another API function is used, which calculates the BoundingBox more exactly, but also takes longer. **Values** `true` / `false`
`UGII_D_WRITE_REFDATA_SW_BACK_APPLICATION`	Setting this variable to `true` causes to restore the application (e.g. Modeling) that was originally active after saving. The option `false` ignores changed applications after saving. **Values** `true` (Default) / `false`
`UGII_LATEST_COMPONENT_VERSIONS_ON_OPEN_AS`	When using the function **Open as** on an assembly in ANT, the user exit starts. If an assembly is loaded from SAP ECTR with a higher version and if this assembly contains parts other than those of the assembly that is currently loaded, these parts will not be substituted. In order to substitute the sub-components this variable must be set to `1`. **Values** `0` or `1` **Note** This is a variable from NX. The complete function description can be found in the NX documentation.
`UGII_UPDATE_WITH_VERSION_NAMES`	When the function **Update Assembly** is started in NX, an **Update Structure** will be executed if at least one component has not been loaded. However, NX does not replace the versions for the native unloaded parts. In order to have the versions replaced this variable must be set to `1`. **Values** `0` or `1` **Note** This is a variable from NX. The complete function description can be found in the NX documentation.

Variable	Description
UGII D COMP DELETE ONLY WITHOUT_COMP_PATTERN	If the structure of an assembly has to be updated from SAP ECTR, this variable becomes relevant.
	If the variable `UGII D COMP DELETE ONLY WITH-OUT COMP PATTERN` is set to `true`, a component is not deleted if it is mounted in a component pattern. A warning is logged in a log file. If set to `false`, the component and the component pattern, if present, will be deleted.
	Values
	`true` (Default) / `false`
UGII_D_OPEN_DEPENDENT_ SCENARIO	If a dependent document is opened, this variable can be used to specify a load scenario, which is stored in the `load_scenar-ios.xml` file.
	The loaded parts in NX do not change. The focus of the load scenario is on the missing or unloaded parts.
	Example
	`UGII_D_OPEN_DEPENDENT_SCENARIO=ONLY_FIRST_ LEVEL_COMPONENTS`
UGII D OPEN DEPENDENT DTYPES	The integration receives the dependent documents from the SAP system unfiltered. With the help of this variable it is possible to filter the documents by DTypes and display them in a selection table.
	If the variable is not set, all documents are displayed in the selection table.
	Example
	`UGII D OPEN DEPENDENT DTYPES=<dtype1>;<dtype2>`
UGII_D_OPEN_DEPENDENT_ DOCTYPES	The integration receives the dependent documents from the SAP system unfiltered. With the help of this variable it is possible to filter the documents according to document types and to display them in a selection table. If the variable is not set, all documents are displayed in the selection table.
	Example
	`UGII_D_OPEN_DEPENDENT_DOCTYPES=<doctype1>; <doctype2>`

Variable	Description

`UGII_D_OPEN_DEPENDENT_COL`	The integration uses a table dialog. The order of the columns is configurable. The default setting can be changed by this variable.
	
	Thus values can be added. Likewise, returned metadata can be displayed (analogous to the debug log) while this process is running. The dictionary process also responds to other columns that are not part of the standard.
	
	Add `CHANGENUMBER=Change Number` to the user-defined dictionary for the example.
	
	Standard
	
	`SAPKEY;NAME;FILENAME;MODIFIED;CHECKEDOUT;`
	`DESCRIPTION;STATUS;SUBTYPE;USERDEFINED4`
	
	Example
	
	`UGII D OPEN DEPENDENT COL=<Col1>;<Col2>;<Col3>`

`UGII_D_OPEN_DEPENDENT_` `HIGHLIGHT_DRAW`	The integration has some configurable rules to detect when a drawing is "valid". **Values** `true` (Default): All recognized valid drawings are displayed as "Bold" font. `false`: no highlighting for automatic recognition of characters.
`UGII_D_OPEN_DEPENDENT_` `HIGHLIGHT_ROW`	The integration highlights all lines that match a particular substring in the non-master file names. The "Bold" font style is used for these lines. If it is empty, no lines are additionally highlighted. **Example** Highlight a specific document type if it is part of the name. The value "`ugd;nxd`" highlights all non-master documents that contain `ugd` or `nxd` in the filename.

`UGII_D_METAINF_COMPONENT_`
`ORDER`
	Change the order of the components that are passed to the PLM system. If no value is given or no value could be found for the order, the components are returned in the order used by the NX API. The system orders of a component are `<ACTIVE>;<ALPHABET>;<ALPHANUM>;<CHRONO>;<SEQUENCE>`.
	
	For a description of how the system jobs work, please research the Siemens NX documentation.
	
	Example
	
	`UGII_D_METAINF_COMPONENT_ORDER=`
	`User Defined 1;User2`

Variable	Description
UGII D METAINF COMPONENT ORDER_REVERSE	**Prerequisite** UGII D METAINF COMPONENT ORDER REVERSE = true If an order was found during the above process, it is possible to invert this order. **Values** `true`: Inverts the list of "found" component order for saving the part. `false` (default): Uses the specified sequence of components (1:1) for PLM evaluation.

5.9.1. Load option handling of the family directory and search directory

The following environment variables control whether the family directory should be added to the search directories when starting NX or opening parts.

Variable	Description
UGII_D_LOADOPT_ADD_ FAMILY_DIR	**Values** `true`: The family directory from `UGII_A_FAM_DIR` is automatically added by the integration each time NX starts and when parts in NX are opened from SAP ECTR. `false` (Default): The family directory is not automatically added by the integration when opening parts (previous behavior).The family directory will only be added at NX start if `UGII D LOADOPT ADD FAMILYDIR AT STARTUP=true`
UGII_D_LOADOPT_ADD_ FAMILYDIR_AT_STARTUP	This variable only applies at startup. **Values** `true` (Default): The family directory is added at NX startup (previous behavior). `false`: The family directory is only added if `UGII D LOADOPT ADD FAMILY DIR=true`
UGII_D_LOADOPT_ADD_ SEARCHDIRS_AT_STARTUP	This variable only applies at startup. **Values** `true` (Default): The directories from `UGII_A_SEARCHDIRS` are added at NX startup (previous behavior) `false`: No directories from `UGII_A_SEARCHDIRS` are added at startup.

5.9.1.1. Behavior at NX startup without opening a file

ADD_ FAMILY_DIR	ADD_ FAMILYDIR_ AT_STARTUP	ADD_ SEARCHDIRS_ AT_STARTUP	Res: Add Family Dir	Res: Add Search Dir
false	false	false	no	bo
false	false	true	no	yes
false	true	true	ja yes	yes
true	false	true	yes	ja yes
true	true	true	yes	yes

5.9.1.2. Behavior at opening a file from SAP ECTR

In this case, search directories are read via SAP ECTR. The startup variables are no longer relevant.

ADD_FAMILY_DIR	Res: Add Family Dir
false	no
true	yes

5.9.2. Alternative save options

The following shows how the standard save options can be over-written according to customer requirements. Depending on the application, this can optimize the backup process and thus contribute to better performance.

Possible alternative configurations:

- UGII_D_CGM_CREATE
- UGII_D_CGM_NOTATSAVE
- UGII_D_EDG_CREATE
- UGII_D_PRV_DRAW
- UGII_D_PRV_MODEL
- UGII_D_PRV_NOTATSAVE
- UGII_D_SAV_UPD_ATR
- UGII_D_SAV_DO_FIT
- UGII_D_FIT_NOTATSAVE
- UGII_D_SAV_FIRST
- UGII_D_SAV_DIRECT_PART
- UGII_D_SAV_MOD_ONLY
- UGII_D_SAV_CLEANUP
- UGII_D_SSL_SUPPORT

- UGII_A_SAV_VDA_CHECK
- UGII_D_WRITE_REFDATA
- UGII_D_WRITE_ARRANGEMENT
- UGII_D_SAVE_TO_PLM

Syntax

- Syntax: <Environment>.ALT=true/false
- Syntax: <Environment>.ALT1=true/false
- Syntax: <Environment>.ALT2=true/false
- Syntax: <Environment>.ALT3=true/false
- Syntax: <Environment>.ALT4=true/false
- Syntax: <Environment>.ALT5=true/false

Example

UGII_D_PRV_MODEL.ALT=false
→ This will disable the Model Preview for the alternate memory configuration.

UGII_D_WRITE_REFDATA.ALT=false
UGII_D_WRITE_ARRANGEMENT.ALT=false
→ This disables the detection of display data for the alternative storage configuration

Configuration as pre-action in `plm_ug.men`

For example for saving:

BUTTON SAP_SAVE_ADV**_ALT**

 LABEL Save Part(s) Alternative

 MESSAGE Save selected or workpart with alternative configuration

 BITMAP $PLM_UG_IMAGESDIR\save_24.bmp

 ACTIONS/PRE sap_use_alternative_save_config_alt

 ACTIONS 139_sap_save_adv

As a result, the variables above with the postfix **`.ALT`** are evaluated preferentially.

Other pre-actions are:

sap_use_alternative_save_config_alt1

sap_use_alternative_save_config_alt2

sap_use_alternative_save_config_alt3

sap_use_alternative_save_config_alt4

sap_use_alternative_save_config_alt5

5.9.3.   Minimal loading

Variable	Description
`UGII_D_OPEN_MINIMAL_LOAD_ SKIP_UPDATEATTRIBUTES`	**Ab Version 4.7.120.0 / 5.2.120.0** With the help of this environment variable, the attribute update can be switched on or off during minimal loading. The minimal loading can lead to problems in connection with the attribute update, since in NX thereby the parts are not completely loaded and only the most necessary is provided. A manual reload and attribute update is possible at any time. **Values** `true` (Default): The attribute update (possibly configured with weight calculation) is skipped if the part is minimally loaded. `false`: The attribute update (possibly configured with weight calculation, if requested by SAP ECTR) is performed even if the part is minimally loaded.

5.10. Weight, volume, surface calculation

5.10.1.   Weight calculation

The weight calculation is activated by setting the variable `UGII_D_WEIGHT_ATTR=<attribute name>`. There are also two alternatives ("Measure Manager", "NX Attributes"), which can be selected via environment variables instead of this calculation type.

If the weight calculation is run via NX, an **adv_assemblies license** is required, but this is not the case for volume calculation via the NX Measure Manager.

By default the weight calculation is carried out via the assemblies weight calculation and therefore requires an **adv_assemblies NX license**. This license deals with Reference Sets and considers overlapping objects.

Using an NX system attribute here, release-dependent, can lead to unforeseen problems. Therefore, choose a neutral attribute that is not used by NX itself.

5.10.1.1. Weight calculation for assemblies

Variable	Description
`UGII_D_WEIGHT_REP_CALC`	This variable defines whether the user is prompted by the dialog box to repeat or skip the automatic calculation in the event of an error. **Values** `true` / `false` `false`: There is only a note in the log and the calculation will not be repeated.
`UGII_D_WEIGHT_FOR_REFSET`	If reference sets are used in NX, this variable defines for which of the reference sets executes the weight calculation. **Values** Name of the reference set

5.10.1.2. Weight calculation via Measure Manager

Variable	Description
`UGII_D_WEIGHT_ATTR_FROM_MEASURE`	Activates the weight calculation via Measure Manager. **Values** `true` / `false` (default)

`UGII_D_WEIGHT_MEASURE_ONLY_ONCE`	This variable optimizes the performance. In order to also calculate the volume and/or the surface, you can do this in one operation. The calculation function is then not called again.
	
	If this variable is set to true, and `UGII D WEIGHT ATTR FROM MEASURE` is set to true, the Measure Manager calculates attributes once per part.
	
	If this variable is set to true, the variables
	
	`UGII D VOLUME ATTR NX ACCURACY`
	`UGII D SURFACE ATTR NX ACCURACY,`
	
	have no effect.
	
	Values
	
	`true` / `false` (default)

Variable	Description
`UGII_D_WEIGHT_MEASURE_SCOPE_ASSEMBLY`	This variable allows the user to switch between Measure Manager behaviors:
	Setting the variable to `true` calculates the weight of all solids in the workpiece and includes solids from pre-arrival, while setting the variable to `false` only captures the solids in the workpiece to calculate the weight.
	Values
	`true` (default) / `false`

5.10.1.3. Weight calculation via NX attributes

Variable	Description
`UGII_D_WEIGHT_ATTR_FROM_NX`	Activates weight calculation from a set NX environment variable.
	Values
	`true` / `false` (default)
`UGII_D_WEIGHT_ATTR_NX`	Sets the mass attribute for user defined standards in NX.
	Values
	Attribute names from NX
	Default: `MassPropMass`
`UGII_D_WEIGHT_ATTR_NX_LOAD_COMPS_FULLY`	Defines whether NX components load fully before a part is updated.
	Values
	`true` / `false` (default)

Variable	Description
`UGII D WEIGHT ATTR NX ONLY_ONE_UPDATE`	If this variable is set to `true` then the mass properties attributes updates only once with the parameters for the sequence weight/surface/volume attribute calculation. This also means in the mentioned sequence that the first calculation defines the evaluated accuracy and the load comps functionality. Then a possible following calculation uses the setting before to optimize process speed.
	If set to `true`, the variables

	`UGII D VOLUME ATTR NX ACCURACY`
	`UGII D VOLUME ATTR NX LOAD COMPS FULLY`
	`UGII D SURFACE ATTR NX ACCURACY`
	`UGII D SURFACE ATTR NX LOAD COMPS FULLY`

	have no effect.
	Values
	`true` / `false` (default)

5.10.1.4. Universal additional setting options

Variable	Description
`UGII_D_WEIGHT_ATTR_NX_ ACCURACY`	Defines the accuracy of weight calculation before the part attribute is updated.
	Values
	The following values are useful:
	0.9, 0.99, 0.999, 0.9999, etc.
	Default: `0.9`
`UGII_D_WEIGHT_ATTR_MANUAL`	Skips the automatic weight calculation and loads the weight from the NX attribute.
	Values
	Attribute name
	Default: `WEIGHT MANUAL`
`UGII_D_WEIGHT_ATTR_USE_COMMA`	Only used if problems occur during transfer to SAP. Converts a "." as decimal separator for transfer to a ",".
	Values
	`true` / `false`

Variable	Description
`UGII_D_WEIGHT_ATTR_USE_POINT`	Only used if problems occur during transfer to SAP. Converts a "," as decimal separator for the transfer to a ".". **Values** `true` / `false`
`UGII_D_WEIGHT_ATTR_VAL_FOR_ZERO`	If the set value is 0.0, the attribute value is overwritten by the given value. **Values** String **Default**: `0.0`
`UGII_D_WEIGHT_UNIT`	Defines the desired unit on which the value of the Part Attribute is based. The attribute value is calculated depending on the unit set here. **Exception:** Weight calculation via the NX attribute. Here, no conversion takes place via the integration. Please refer to the NX documentation for the setting adjustments of the NX system attributes. **Values** `KG` (default) / `G` / `MG` / `POUND`
`UGII_D_WEIGHT_PRECISION`	Defines the number of decimal places for the weight specification. **Value** Beliebiger ZahlenValue
`UGII_D_SAV_UPD_WEIGHT_ATR_NOTATSAVE`	**Precondition:** `UGII D SAV UPD ATTR=false` **Values** `true`: Skips updating the weight attribute when caching. `false` (default): Performs the update of the weight attribute.
`UGII_D_WEIGHT_ATR_ONLY_FOR_MODEL`	Only if the part is not a drawing, a calculation is performed. **Values** `true` / `false` (default)
`UGII_D_WEIGHT_ATR_AT_OCB`	Only if the part is not a drawing, a calculation is performed. **Values** `true` (default) / `false`

5.10.1.5. Restriction of the automatic weight calculation

In order to improve performance in attribute updates, the configurations below can be used to execute the weight calculation only when saving.

Variable	Description
`UGII_D_WEIGHT_GET_META`	For the process "Metadata creation". By setting this variable to `true`, the weight calculation is always performed in the process of recognizing the metadata. **Values** `true` (Default) / `false`
`UGII_D_WEIGHT_GET_META_CONTEXT_SAVE`	To restrict the save process. **Requirement:** `UGII D WEIGHT GET META=true` By setting this variable to `true`, the weight calculation is performed in the metadata recognition process. **Values** `true` (Default) / `false`
`UGII_D_WEIGHT_UPD_ATTR`	For the process "Attribute update". By setting this variable to `true`, the weight calculation is always performed in the attribute update process. **Values** `true` (Default) / `false`
`UGII_D_WEIGHT_UPD_ATTR_CONTEXT_SAVE`	To restrict the save process. **Requirement**: `UGII D WEIGHT UPD ATTR=true` By setting this variable to `true`, the weight calculation is performed during saving in the attribute update process. **Values** `true` (Default) / `false`
`UGII_D_WEIGHT_UPD_ATTR_CONTEXT_PLM`	To restrict the save process controlled by SAP ECTR. **Prerequisite:** `UGII_D_WEIGHT_UPD_ATTR=true` By setting this variable to "true", the weight calculation is performed in the attribute update process by SAP ECTR. **Values** `true` (Default) / `false`

Variable	Description
`UGII D WEIGHT UPD ATTR CONTEXT_BUTTON`	To restrict the manually triggered process.
	Requirement: `UGII D WEIGHT UPD ATTR=true`
	By setting this variable to `true`, the weight calculation is performed in the attribute update process by clicking a button in NX.
	Values
	`true` (Default) / `false`

5.10.2. Volume calculation

The volume calculation is activated by setting the variable `UGII_D_WEIGHT_ATTR=<attribute name>`. There are also two alternatives ("Measure Manager", "NX Attributes"), which can be selected via environment variables instead of this calculation type.
If the volume calculation is run via NX, an **adv_assemblies license** is required, but this is not the case for volume calculation via the NX Measure Manager.
By default, the volume calculation is disabled via the NX Measure Manager.

5.10.2.1. Volume calculation for assemblies

Variable	Description
`UGII_D_WEIGHT_REP_CALC`	This variable defines whether the user is prompted by the dialog box to repeat or skip the automatic calculation in the event of an error.
	Values
	`true` / `false`
	`false`: There is only a note in the log and the calculation will not be repeated.
`UGII_D_VOLUME_FOR_REFSET`	If reference sets are used in NX, this variable defines for which of the reference sets executes the volume calculation.
	Values
	Name des ReferenceSets

Variable	Description
`UGII_D_VOLUME_SHOW_UNIT`	Outputs the attribute value with unit.
	The variable is also valid für weight (`UGII_D_WEIGHT_SHOW_UNIT`) and surface (`UGII_D_SUR-FACE_SHOW_UNIT`) The unit from `UGII_D_VOLUME_UNIT`, `UGII_D_WEIGHT_UNIT` or `UGII_D_SURFACE_UNIT` is appended to the value.
	Values
	`true` / `false` (default)

5.10.2.2. Volume calculation via Measure Manager

Variable	Description
`UGII_D_VOLUME_ATTR_FROM_MEASURE`	Activates the volume calculation via the Measure Manager.
	Values
	`true` / `false` (Default)
`UGII_D_WEIGHT_MEASURE_ONLY_ONCE`	If this variable is set to `true` and `UGII_D_WEIGHT_ATTR_FROM_MEASURE` is set to `true`, the Measure Manager calculates attributes once per part.
	If this variable is set to true, the variables
	`UGII_D_VOLUME_ATTR_NX_ACCURACY, UGII_D_SUR-FACE_ATTR_NX_ACCURACY`
	have no effect.
	Values
	true / false (Default)

5.10.2.3. Volume calculation via NX attributes

Variable	Description
`UGII_D_VOLUME_ATTR_FROM_NX`	Activates the volume calculation from a set NX attribute (User Standards). **Values** `true` / `false` (Default)
`UGII_D_VOLUME_ATTR_NX`	Defines the volume attribute for user-defined standards in NX. **Values** Attribute names aus NX **Default:** `MassPropVolume`

`UGII_D_WEIGHT_ATTR_NX_ONLY_ONE_UPDATE`	If this variable is `true` then the mass properties attributes updates only once with the parameters for the sequence weight/surface/volume attribute calculation. This also means in the mentioned sequence that the first calculation defines the evaluated accuracy and the load comps functionality. Then a possible following calculation uses the setting before to optimize process speed. If set to `true`, the variables
	
	`UGII_D_VOLUME_ATTR_NX_ACCURACY,`
	`UGII_D_VOLUME_ATTR_NX_LOAD_COMPS_FULLY,`
	`UGII_D_SURFACE_ATTR_NX_ACCURACY,`
	`UGII_D_SURFACE_ATTR_NX_LOAD_COMPS_FULLY`
	
	have no effect.
	Values
	`true` / `false` (Default)

`UGII_D_VOLUME_ATTR_NX_LOAD_COMPS_FULLY`	Defines whether NX components load fully before a part is updated. **Values** `true` / `false` (Default)

5.10.2.4. Universal additional setting options

Variable	Description
`UGII_D_VOLUME_ATTR_MANUAL`	Skips the automatic calculation of the volume and loads the volume from the NX attribute. **Values** Attribute name. **Default:** `VOLUMEN_MANUAL`
`UGII_D_VOLUME_ATTR_USE_COMMA`	Defines whether the decimal values of the volume are displayed with a comma. **Values** `true` / `false`
`UGII_D_VOLUME_ATTR_USE_POINT`	Defines whether the decimal values of the volume are displayed with a point. **Values** `true` / `false`
`UGII_D_VOLUME_ATTR_VAL_FOR_ZERO`	If the set value is 0.0, the attribute value is overwritten by the given value. **Values** String-Zahlenreihe **Default:** `0.0`
`UGII_D_VOLUME_ATTR_NX_ACCURACY`	Sets accuracy of volume calculation before the part attribute is updated. **Values** Jede Dezimalzahl, e.g. 0.99, 0.999, 0.9999 **Default:** `0.9`
`UGII_D_VOLUME_PRECISION`	Defines the number of decimal places for the volume specification. **Values** `18` (Default) / Any numerical values
`UGII_D_VOLUME_ATTR_FOR_PAT`	Checks whether a volume calculation is performed based on the specified file name pattern. If this environment variable is not set, no check of the file name pattern takes place. **Values** `true` / `false`

Variable	Description
`UGII D VOL-` `UME_ATR_ONLY_FOR_MODEL`	Only if the part is not a drawing, a calculation is performed. **Values** `true` / `false` (default)
`UGII_D_VOLUME_ATR_AT_OCB`	Only if the calculation is to be performed during the opening of the part, it will be skipped. **Values** `true` (default) / `false`

5.10.2.5. Notes on weight and volume calculation

- `UGII_D_WEIGHT_ATTR_NX_ACCURACY`
  Restrictions: When determining the weight by NX attribute
  (`UGII_D_WEIGHT_ATTR_FROM_NX=true`) the accuracy is always used by the user standard for technical reasons.
- `UGII_D_VOLUME_ATTR_NX_ACCURACY`
  Restrictions: When determining the volume per NX attribute
  (`UGII_D_VOLUME_ATTR_FROM_NX=true`) the accuracy is always used by the user standard for technical reasons.
- `UGII_D_SURFACE_ATTR_NX_ACCURACY`
  Restrictions: When determining the surface by NX attribute
  (`UGII_D_SURFACE_ATTR_FROM_NX=true`) the accuracy is always used by the user standard for technical reasons.
- `UGII_D_WEIGHT_ATTR_NX_ONLY_ONE_UPDATE`
  Restrictions: When determining the measurement data per NX attribute, the default value is `true` because a possible actualization must only be carried out once per part.

5.10.3. Surface area calculation

The surface area calculation is activated by setting the variable
`UGII_D_SURFACE_ATTR=<attribute name>`.
There are also two alternatives ("Measure Manager", "NX Attributes"), which can be selected via environment variables instead of this calculation type. If the surface area calculation is run via NX, an **adv_assemblies" license** is required, but this is not the case for surface area calculation via the NX Measure Manager.
By default, the surface area calculation is disabled via the NX Measure Manager.

5.10.3.1. Surface area calculation for assemblies

Variable	Description
`UGII_D_WEIGHT_REP_CALC`	This variable defines whether the user is prompted by the dialog box to repeat or skip the automatic calculation in the event of an error. **Values** `true` / `false` `false`: There is only a note in the log and the calculation will not be repeated.
`UGII_D_SURFACE_FOR_REFSET`	If reference sets are used in NX, this variable defines for which of the reference sets executes the surface area calculation. **Values** Name of the reference set

5.10.3.2. Surface area calculation via Measure Manager

Variable	Description

`UGII_D_WEIGHT_MEASURE_ONLY_ONCE`	If this variable is set to `true`, and `UGII_D_WEIGHT_ATTR_FROM_MEASURE` is set to `true`, the Measure Manager calculates attributes once per part. If this variable is set to `true`,
	`UGII_D_VOLUME_ATTR_NX_ACCURACY,`
	`UGII_D_SURFACE_ATTR_NX_ACCURACY`
	have no effect.
	Values
	`true` / `false` (Default)
	Prerequisite
	`UGII_D_WEIGHT_ATTR_FROM_NX=false`

`UGII_D_SURFACE_ATTR_FROM_MEASURE`	Activates the surface area calculation via the Measure Manager. **Values** `true` / `false` (Default)

5.10.3.3. Surface area calculation via NX attributes

Variable	Description
`UGII_D_SURFACE_ATTR_FROM_NX`	Activates surface area calculation from a set NX environment variable. **Values** `true` / `false` (Default)

`UGII_D_WEIGHT_ATTR_NX_ONLY_ONE_UPD`	If this variable is set to `true` then the mass properties attributes updates only once with the parameters for the sequence weight/surface/volume attribute calculation. This also means in the mentioned sequence that the first calculation defines the evaluated accuracy and the load comps functionality. Then a possible following calculation uses the setting before to optimize process speed. If set to `true`, the variables
	
	`UGII D VOLUME ATTR NX ACCURACY,`
	`UGII D VOLUME ATTR NX LOAD COMPS FULLY,`
	`UGII D SURFACE ATTR NX ACCURACY,`
	`UGII D SURFACE ATTR NX LOAD COMPS FULLY`
	
	have no effect.
	
	Values
	
	`true` / `false` (Default)

`UGII_D_SURFACE_ATTR_NX`	Sets the mass attribute for user-defined standards in NX. **Values** Attribute name from NX **Standard:** `MassPropMass`
`UGII_D_SURFACE_ATTR_NX_LOAD_COMPS_FULLY`	Defines whether NX components load fully before a part is updated. **Values** `true` / `false` (Default)

5.10.3.4. Universal additional setting options

Variable	Description
`UGII_D_SURFACE_ATTR_MANUAL`	Automatically skips the automatic calculation of the surface and loads the surface from the NX attribute. **Values** Attribute name **Default:** `VOLUMEN_MANUAL`
`UGII_D_SURFACE_ATTR_USE_COMMA`	Defines whether the decimal values of the surface are displayed with a comma. **Values** `true` / `false`
`UGII_D_SURFACE_ATTR_USE_POINT`	Defines whether the decimal values of the surface are displayed with a comma. **Values** `true` / `false`
`UGII_D_SURFACE_ATTR_VAL_FOR_ZERO`	If the set value is 0.0, the attribute value is overwritten by the given value. **Values** String **Default:** `0.0`
`UGII_D_SURFACE_ATTR_NX_ACCURACY`	Defines the accuracy for the surface calculation before updating the attribute of the part. **Values** Any floating point value, e.g. 0.99, 0.999, 0.9999 **Default:** `0.9`
`UGII_D_SURFACE_PRECISION`	Defines the number of decimal places for the surface area display. **Values** Any numerical values
`UGII_D_SURFACE_ATTR_FOR_PAT`	Checks whether an area calculation is performed based on the specified file name pattern. If this environment variable is not set, no check of the file name pattern takes place. **Values** `true` / `false`

Variable	Description
`UGII D SUR-` `FACE_ATR_ONLY_FOR_MODEL`	Only if the part is not a drawing, a calculation is performed. **Values** `true` / `false` (default)
`UGII_D_SURFACE_ATR_AT_OCB`	Only if the calculation is to be performed during the opening of the part, it will be skipped. **Values** `true` (default) / `false`

5.11. Copy

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_MAKE_UNIQUE_` `COPY_ALL_NM`	When copying a document after the usage of the "Make Unique" function in NX, this variable defines if the dependent documents are also copied during the process. **Values** `true`/`false`
`UGII_D_MAKE_UNIQUE_` `ASK_FOR_SAVE_ORIGIN`	Display a warning message and ask for save or cancel before making unique a part in an assembly when the file in NX is not saved. **Values** `true`/`false` (Default)

5.12. Function "Insert view from other part"

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_ADD_BASEVIEW_NAT`	By setting this environment variable to `true`, the overlay of the NX-native function "Insert basic view" is switched off. Thus, the native dialog for placing the view appears directly when executing the NX command "Add basic view". Through the separate NX button it is then possible to reach the part selection via PLM, which is now missing here.
	The function then executes a macro after the part selection, which fills the native dialog for placing the basic view with the selected part. The macro is NX release dependent and must be configured if necessary.
	Values
	`true`/`false` (Default)
`UGII_D_INSERT_VIEW`	Macros should already exist in the subdirectory `basis/macros`. These will be found automatically by default. If this does not happen, it is necessary to create an additional variable with the desired macro.
	This occurs if the required macro changes within an NX base release or the one from previous releases still works. If no overridden macro is specified for a base release, the variable `UGII D INSERT VIEW M` is used. If this is also empty, the automatism takes effect.
	Example
	`UGII D INSERT VIEW M.NX12=@PLM INSTDIR@/ applications/ugs/basis/macros/ insertviewNX12.0.1.macro`
	or also (also applies to the update releases NX1984 etc.)
	`UGII D INSERT VIEW M.NX1980=@PLM INSTDIR@/ applications/ ugs/basis/macros/ insertviewNX1980.macro`

5.12.1. Button configuration

In the file %`PLM_INSTDIR%\applications\ugs\customize\appdata\plm_ug.men` set the following menu definition at the desired position of the NX GUI:

```
BUTTON DSC_ADDVIEWFROMOP
 LABEL {LABEL_DSC_ADDVIEWFROMOP}
 MESSAGE {MESSAGE_DSC_ADDVIEWFROMOP}
 ACTIONS 101_sap_open_part_for_insert_view_from_op
```

If possible, this button should be added to the **SAP PLM DSC** menu under **Additional Functions**.

5.13. CGM generation

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_A_SHEET_VALID`	Specifies whether a CGM/preview is only generated for certain drawings. SAP ECTR checks whether the drawing starts with one of the texts that are separated with ";" in this variable.
	Value
	`<TEXT>;<TEXT>;…`
	Example
	`Page_;Sheet_`
	In this example, a CGM/preview is generated for all drawings that start with `PAGE_` or `SHEET_`. For all drawings with different names, the CGM/preview generation is suppressed.
`UGII_D_CGM_COLOR`	Defines whether a single-color or multi-color CGM is to be generated.
	Values
	▪ `0`: Use black for all geometries.
	▪ `1`: Use the displayed colors.
	▪ `2`: Use colors from the part color table.
	▪ `3`: Use the colors determined for the session.
	▪ `4`: Use black for all geometries.
	▪ `5`: The first three entries (recognizable by thin, normal and thick) determine the colors for the session. In other words, the color is determined by the thickness index. All thin objects are drawn with the first color entry, all normal objects with the second color entry and all thick objects with the third color entry.

Variable	Description
`UGII_D_CGM_CREATE`	Specifies whether or not a CGM is to be generated for each drawing during check-in to the SAP system. **Value** `true`: Automatic CGM generation is deactivated `false`: Automatic CGM generation is activated
`UGII_D_CGM_MIN_S`	Specifies whether generated CGM files with less than the set value in bytes are deleted again immediately, i.e. not stored in SAP. For example, if you set the value to 3000, no CGM is generated for empty drawings. **Value** `<Number Bytes>`
`UGII_D_CGM_MULTIPAGE`	Generates multi-page CGMs when saving. **Values** `true` / `false`
`UGII_D_CGM_NOTATSAVE`	This variable can be used to deactivate CGM generation when buffering. **Values** `true`: A CGM is generated during buffering `false`: No CGM is generated during buffering
`UGII_D_CGM_PEN_1`	Settings for the pen assignment in CGM. **Value** `UGII_D_CGM_PEN_1=1`
`UGII_D_CGM_PEN_2`	Settings for the pen assignment in CGM. **Value** `UGII D CGM PEN 2=2`
`UGII_D_CGM_PEN_15`	Settings for the pen assignment in CGM. **Value** `UGII_D_CGM_PEN_15=15`

Variable	Description
`UGII_D_CGM_PNAME`	You can use this variable to specify whether the file name of the CGM file is supposed to contain the part name in addition to the drawing name. If the part name is inserted into the file, the copy process in SAP ECTR must be configured so that the CGMs are deleted. In file `default.txt`, variable `plm.docu-ment.copyas.ignore.wsappl = CGM` must be set. **Values** `true`: CGM file name also includes the part name `false`: CGM file name only consists of the name of the drawing
`UGII_D_CGM_POLY`	Defines whether the texts are to be stored as contour definitions or texts in the CGM files. **Values** `true`: The texts are stored as text in CGM `false`: The texts are stored as contour definitions in CGM

`UGII_D_CGM_SEP`	This variable defines the separator between the drawing name and the part name if CGM is supposed to contain the part name.
	
	Value
	
	`<Seperator>`
	Example
	`UGII D CGM SEP=`

`UGII_D_CGM_UPDATE_VIEWS`	Has the effect that the views that have NX status **OutOfDate** are updated during saving for preview/CGM generation. **Values** `true` / `false`

Variable	Description

`UGII_D_CGM_WIDTH`	Defines the line width of a CGM. The line width can be defined customer-spefic with a WDF file. Which WDF file is used can be set with the variable `UGII D CGM CUST FILE`.
	
	Values
	
	- 1 `UF CGM STANDARD WIDTHS` (default)
	  Use 3 fixed lines
	- 2: `UF CGM SINGLE WIDTH`
	  Use single line width that has been defined in the user-defined settings
	- 3: `UF CGM CUSTOM 3 WIDTHS`
	  Use user-defined widths per width index according to the settings in the user-defined widths. Additional parameter `-cgm width custfile <filename>` specifies the file name of the user-defined width/color file (default `custom width color.txt`). This overwrites the default widths.
	- 4: `UF CGM CUSTOM PALETTE WIDTHS`
	  Apply user-defined widths as per color palette. Additional parameter `-cgm width custfile <filename>` specifies the file name of the user-defined width/color file (default `custom width color.txt`). This overwrites the default widths.
	- 5: `UF CGM DEFAULT FILE WIDTHS`
	  Apply line width settings specified in the CGM default file (`cgmdef.txt`).

`UGII_D_FAM_CREATE_CGM`	Specify whether a CGM file is to be generated when saving a family template in NX with "Save Part Family (DP)." **Value** `true`: CGM file is generated `false`: Do not generate CGM file
`UGII_D_FAM_MEMBER_ CREATE_CGM`	Specifies whether CGM files are to be generated with the NX part family children are generated. **Value** `true`: CGM file is generated `false`: Do not generate CGM file (Standard)
`UGII_D_CGM_CUST_FILE_COLOR`	The setting is supported with the environment variable `UGII_D_CGM_COLOR=3` and `UGII_D_CGM_COLOR=5` with `UGII_D_CGM_CREATE=true`. Multipage is also supported. **Example** `UGII_D_CGM_CUST_FILE_COLOR=<cdf filename>`

5.14. Direct PDF Generation from NX Part Files

It is possible to generate PDFs directly via NXOpen (without the manual detour via CGM). This makes it possible for text that can be changed subsequently to be stored in the PDF and not be saved as a vector graphic. This is used for the following processes:

UGII_PDF_NO_HIDDEN_TEXT=1

Note

This is a variable from NX. The complete function description can be found in the NX documentation.

Program:

++convert.exe

Example: ++convert -p zylinder.prt -pdf -d c:\temp

Variable	Description
UGII_D_PDF_SIZE	Specifies the size of the PDF document. If the size is set to scale, the PDF uses the user-defined scaling factor.
	If the size is set to dimension, the PDF uses the user-defined X and Y measurements.
	Value
	0: SizeOptionFullScale/** Full Scale */,
	1: SizeOptionScaleFactor/** Scale Factor */ (Standard)
	2: SizeOptionDimension/** Dimension */
UGII_D_PDF_UNITS	Specifies the units of the X and Y measurements used if Dimension is selected in the size selection.
	Value
	0: UnitsOptionMetric/** Metric */ (Standard)
	1: UnitsOptionEnglish/** English */
UGII_D_PDF_OUTPUT_TXT	Determines the output text of the PDF. This is used to specify whether the drawing text is exported as a text or as polylines.
	Value
	0: OutputTextOptionText/** Text bleibt Text */ (Standard)
	1: OutputTextOptionPolylines/** Text wird zu Polylinien */

Variable	Description
`UGII_D_PDF_IMG_RES`	Specifies the resolutions of views of generated images that have been shaded for export. **Value** `0`: ImageResolutionOptionDraft/** Draft Resolution */, (Standard) `1`: ImageResolutionOptionLow/** Low Resolution */, `2`: ImageResolutionOptionMedium/** Medium Resolution */, `3`: ImageResolutionOptionHigh/** High Resolution */
`UGII_D_PDF_WIDTHS`	Specifies the width. If the width option is set to Single Width, Custom Three Widths or Custom palette, the PDF document is generated with the user-defined width attributes of the width definition object. Individual width values are set with the following environment variable: `UGII_D_PDF_CUST_WDF` **Value** `0`: WidthStandardWidths/** Standard Widths */, `1`: WidthSingleWidth/** Single Width */, `2`: WidthCustomThreeWidths/** Custom Three Widths */, `3`: WidthCustomPalette/** Custom palette */
`UGII_D_PDF_CUST_WDF`	`UGII D PDF CUST WDF = D:\temp\breiten.wdf` (for Example) If `UGII D PDF WIDHTS` is set to `3` gesetzt ist (Custom palette) then use must define the pallet file. This variable is used to address the file in the file system.
`UGII_D_PDF_COLORS`	Sets the color scheme to be used when the PDF document is generated. If the color option is set to Custom Palette or Colors By Width, a PDF document is generated With the user-defined color attributes that belong to the CDF object. **Value** `0`: ColorAsDisplayed/** As Displayed */, `1`: ColorPartColors/** Part Colors */, `2`: ColorCustomPalette/** Custom Palette */, `3`: ColorBlackOnWhite/** Black on White */, `4`: ColorLegacyColors/** Legacy Colors */, `5`: ColorColorsByWidth/** Part Colors */

Variable	Description
`UGII_D_PDF_SCALE`	Sets the scaling factor to be used when the PDF document is generated. This value ranges from 0.00 to 1.00 and is only used if the set option is set to Scale. **Value** `1` (Standard)
`UGII_D_PDF_SORT_SHEETS_ACCORDING_TO_NR`	This variable defines whether the PDF drawing sheets are sorted according to the sheet number or not. **Values** `true`: sorting is enabled `false`: sorting is disabled
`UGII_D_CGM_SORT_SHEETS_ACCORDING_TO_NR`	This variable defines whether the multipage-CGM sorting is enabled or not. **Values** `true`: sorting is enabled `false`: sorting is disabled
`UGII_D_PDF_XDIM`	Sets the X measurement to be used if Dimension has been selected as the size option. **Value** `8,5` (Default)
`UGII_D_PDF_YDIM`	Sets the Y measurement to be used if Dimension has been selected as the size option. **Value** `11` (Default)
`UGII_D_PDF_RASTERIMG`	Sets the grid images option. This option determines whether grid images are exported to the PDF document or not. **Values** `true` (Default) / `false`
`UGII_D_PDF_WATERMARK`	Sets the watermark text. This user-defined text only appears as a watermark if Add Watermark is set to true. **Value** `""` (Default)

Variable	Description
`UGII_D_PDF_SHADED_GEO`	Switches the Shaded Geometry option to wire-frame mode. If it is set to `true`, the option displays shaded objects as wire-frame models. The shaded objects are set to shaded if this option is set to `false`. **Values** `true` / `false` (Default)

5.15. Configure DTypes NX2D and IGES

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_SAVEAS_` `NONMASTER_2DPRT_DTYPE`	Create 2D drawing as dependent document. **Values** `true` / `false` (Default)
`UGII_D_SAVEAS_` `NONMASTER_2DPRT_SHOW`	Show 2D drawing in NX. **Values** `true` / `false` (Default)
`UGII_D_SAVEAS_` `NONMASTER_IGES_DTYPE`	Create IGES drawing as dependent document. **Values** `true` / `false` (Default)
`UGII_D_SAVEAS_` `NONMASTER_IGES_SHOW`	Show IGES drawing in NX. **Values** `true` / `false` (Default)

5.16. Drawing Options

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_ATTR_DRWATTR`	For **Attributes update**, adjusts notes that are included on drawing sheets that have references to part attributes.. **Values** `true`: Will be adjusted `false`: Will not be adjusted
`UGII_D_ATTR_FORMAT_ TO_PART_ATTR`	Writes a part attribute of the first sheet. The value corresponds to the sheet format/size e.g. "A4". If the values hight/width are within the "proximity" e.g. of "A4", then "A4" is output. The output can be overwritten in a customized way, for instance using `UGII D ATTR SHT FORMAT.höhe.breite=B12`. **Values** `<Attribute name>` **e.g.** `FORMAT`

`UGII_D_ATTR_SCL_PREFIX`	Sets the specified prefix for all following scale variants in from of the scaling.
	
	 `UGII_D_ATTR_SHT_SCL_NAME`
	 `UGII_D_ATTR_SHT_SCL_NUMBER`
	 `GII_D_ATTR_SCALE_TO_PART_ATTR`
	 `UGII_D_ATTR_VIEW_SCALES_TO_PART_ATTR`
	 `UGII_D_ATTR_SCALE_COMBINED_TO_PART_ATTR`
	
	 Values
	
	 `<PREFIX>`
	
	 e.g. `M`

`UGII_D_ATTR_SCALE_TO_ PART_ATTR`	Writes a part attribute in the part to be saved with the specified name. The value is the scale of the first drawing. **Values** <Attributename> **e.g.** `MASSSTAB`

Variable	Description
UGII_D_ATTR_SCALE_COMBINED_ TO_PART_ATTR	If `UGII_D_ATTR_VIEW_SCALES_TO_PART_ATTR` is additionally set, this optimized specification of scalings is then output. The top-scale is the leading part, followed by the additional scales in parentheses. **Values** `<Attribute name>` **e.g.** `MASSSTAB_VIEWS_OPT` Leads to the part attribute `MASSSTAB_VIEWS_OPT` with e.g.value `1:2 (2:3;2:5)` **Prerequisite** `UGII_D_ATTR_VIEW_SCALES_TO_PARTATR` is defined.
UGII_D_ATTR_SHT_SCL_NAME	Writes a part attribute for each valid sheet. Each of the specified attribute name is complemented with a ":" and the sheet name. The value corresponds to the scale. **Values** `<Attribute name>` **e.g.** `MASSSTAB:Blatt1`
UGII_D_ATTR_SHT_SCL_NUMBER	Writes a part attribute for each valid sheet. Each of the specified attribute name is complemented with a ":" and a running sheet number. The value corresponds to the scale **Values** `<Attribute name>` **e.g.** `MASSSTAB:2`
UGII_D_ATTR_VIEW_SCALES_ TO_PART_ATTR	Writes a part attribute with the scales of all views for the first sheet. The leading scale is the "Top" view. Further views are added unsorted. After max.132 characters it will be aborted. **Values** `<Attributename>` **e.g.** `MASSSTAB VIEWS = 1:2`
UGII_D_DELETE_SHEETS_ WITHOUT_VIEWS	Defines whether empty drawing sheets without views that can be generated by the callout linking function can be deleted again. **Values** `true`: Delete empty drawing sheets. `false`: Do not delete empty drawing sheets.

Variable	Description
`UGII_D_EDG_CREATE`	When saving drawings, SAP ECTR can be instructed to save hidden edges of each view in the file. When sending drawings it is then not necessary also to attach the model drawings to the mail. The module ++batchEngine features two options for the creation of view files. **Values** `true`: Drawing contains the hidden edge geometry, thus the drawing is loaded without components. `false`: Drawing does not contain the hidden edge geometry. ++batchEngine, outsources the required models from SAP and loads the drawing including its components.
`UGII_D_SCALE_FROM_DLG`	Write sheet scales specified in the dialog without conversion in the part attribute defined by `UGII_D_ATTR_SHT_SCL_NAME`. This affects ▪ `UGII_D_ATTR_SHT_SCL_NAME` ▪ `UGII_D_ATTR_SHT_SCL_NUMBER` ▪ `UGII_D_ATTR_SCALE_TO_PART_ATTR`
`UGII_D_ATTR_POSNR_NAME`	Name of the PosNr attribute, default: `POSNR`
`UGII_D_AUTOBALLOONING_PARTSLIST`	Definition of a template file for the part list, e.g. `@PLM_INSTDIR@/applications/ugs/templates/partslist-autoballooning.prt`
`UGII_D_BALLOONING_LEVELS`	Indicates up to which assembly level the position numbers are to be determined. **Value** **Default:** `10000`
`UGII_D_AUTO_BALLOONING_PARTNAME_ATTRIBUTE`	When creating a generic BOM, this variable can be used to set the part name column. **Value** **Example:** `SAP CC NAME`

Variable	Description

`UGII D AUTO BALLOONING PARTSLIST_ORIGIN`	Position specification for the place where the ballooning is in-serted. The following environment variables are processed in the described sequence:
	
	`UGII D AUTO BALLOONING PARTSLIST ORIGIN.<DType>.<Format> = Format: "A0", "A0H", "A", "B", ...`
	
	`UGII D AUTO BALLOONING PARTSLIST ORIGIN.<DType>.<custom size> = 800x600 (Example)`
	
	`UGII D AUTO BALLOONING PARTSLIST ORIGIN.<DType> = DType specific Fallback`
	
	`UGII D AUTO BALLOONING PARTSLIST ORIGIN = General Fallback, Default: 150;150`

`UGII_D_AUTO_BALLOONING_ VIEWS`	Specifying a list of views, ordered by priority. **Example** `UGII_D_AUTO_BALLOONING_VIEWS=FRONT;LEFT` If no value is set, a dialog for selecting the views is displayed.
`UGII D AUTO BALLOONING MARK_POSNRS_WITHOUT_BALLOON`	If this environment variable is set to `true`, the POSNR of compo-nents that have not received a balloon are written in italics in the BOM. **Value** `true` / `false` (Default)
`UGII_D_DRAFT_POSNR_ CUT_LEADING_ZEROS`	With this variable, leading zeros of the Posnr can be removed.
`UGII_D_TRANSFER_POSNR_ TO_NORMAL_COMPS`	Controls the transfer of position numbers to normal components. By setting this variable to `true`, the position numbers are trans-ferred to normal components. **Value** `true` (Default) / `false`
`UGII_D_GET_POSNR_FOR_ REFERENCE_COMPS`	By setting this variable to `true`, the position numbers for refer-ence components are determined. **Value** `true`/`false` (Default)
`UGII_D_MULTILEVEL_POSNR`	Creates position numbers in the format "10.20.10" for multi-level parts lists. **Value** `true` / `false` (Default)

Variable	Description
`UGII_D_MULTILEVEL_POSNR_SEPARATOR`	Separator for multi-level position numbers. **Value** String „.“ (Default)
`UGII_D_DRAFT_IDSYM_D`	Symbol diameter, **Default** 12
`UGII_D_DRAFT_IDSYM_TEXT_WEIGHT`	`UF_OBJ_WIDTH_NORMAL` 0 `UF_OBJ_WIDTH_NORMAL` 1 `UF_OBJ_WIDTH_NORMAL` 2 Text weight, **Default**: 2
`UGII_D_DRAFT_IDSYM_TEXT_FONT`	`UF_OBJ_FONT_INVISIBLE` 0 `UF_OBJ_FONT_SOLID` 1 `UF_OBJ_FONT_DASHED` 2 `UF_OBJ_FONT_PHANTOM` 3 `UF_OBJ_FONT_CENTERLINE` 4 `UF_OBJ_FONT_DOTTED` 5 `UF_OBJ_FONT_LONG_DASHED` 6 `UF_OBJ_FONT_DOTTED_DASHED` 7 Text font, **Default**: 1
`UGII_D_DRAFT_IDSYM_TEXT_SIZE`	Text size, **Default**: 5
`UGII_D_DRAFT_IDSYM_LINE_W`	Line width, **Default:** 3
`UGII_D_DRAFT_IDSYM_CONIC_CENTER`	If the variable is set to `true`, the arrow of the balloon is set to the center of the circle. **Value** `true` / `false`

`UGII_D_DRAFT_IDSYM_USE_DRAFTING_PREFERENCES`	If the variable is set to `true`, the following variables are disabled:
	`UGII D DRAFT IDSYM D`
	`UGII D DRAFT IDSYM TEXT SIZE`
	`UGII D DRAFT IDSYM LINE W`
	`UGII D DRAFT IDSYM TEXT WEIGHT`
	`UGII D DRAFT IDSYM TEXT FONT`
	`UGII D DRAFT IDSYM UNDERLINED ARROW TYPE`
	Value
	`true` / `false` (Default)

5.16.1. Recognition of drawings

Variable	Description
`UGII_D_DRAW_DTYPES`	Defines DTypes of documents meant to be recognized as drawings by NX. **Values** `<DTypeA>; <DTypeC>`
`UGII_D_PARTATTR_DTYPE`	To enable the recognition of drawings without an active NX, it is necessary to utilize attribute mapping. Set the name of the DType part attributes. Use `attributes from sap.xml` for the mapping. **Value** `SAP DTYPE` (Default)

The following variables are no longer processed after completing the configuration. Please comment them out.

`UGII_D_OPEN_DRAFT_USE_SHORTCUT`

`UGII_D_OPEN_DRAFT_USE_SHORTCUT_FOR_CREATE_AND_OPEN_FROM_NX`

`UGII_D_OPEN_DRAFT_USE_M`

`UGII_D_OPEN_DRAFT_USE_M_FOR_CREATE_AND_OPEN_FROM_NX`

5.17. Preview Creation

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_PRV_MODEL`	You can use this variable to specify whether a preview is to be generated for models when they are saved. **Value** `true`: Previews are generated for models `false`: Previews are generally not generated for models
`UGII_D_PRV_DRAW`	You can use this variable to specify whether previews are to be generated for models when they are checked in. **Value** `true`: Previews are generated for valid drawing sheets `false`: Previews are generally not generated for drawing sheets

Variable	Description
`UGII_D_PRV_NOTATSAVE`	This variable can be used to deactivate the preview generation when buffering. **Value** `true`: No preview is generated during buffering `false`: A preview is generated during buffering
`UGII_D_PRV_MODEL_DRAW`	Specifies whether a preview for the drawings is to be additionally generated for the model geometry during check-in. **Value** `true`: If at least one valid drawing is available, a model preview is also generated `false`: No additional model preview for drawings
`UGII_D_PRV_MODEL_NAME`	Specifies the name of the preview for the model. **Value** `<Preview-Name>`: (Default: `zmodel`)

`UGII_D_PRV_MODEL_X`
`UGII_D_PRV_MODEL_Y`
	You can use this variable to specify the size of the previews.
	
	Value
	
	`<Integer>`
	
	Example
	
	`UGII D PRV MODEL X=500`

`UGII_D_PRV_MOD_EXT`	Specifies which preview format is to be generated for the models. **Value** `gif`: A GIF preview is generated (low resolution, but smaller than JPG) `jpg`: A JPEG preview is generated (higher resolution but slightly bigger than GIF) `tif`: TIF G4 format. The client then requires an additional JAR archive JimiProClasses.jar (TIF viewer) for displaying these previews
`UGII_D_PRV_MODEL_USEIMAGE`	Uses a screenshot (hard copy) to generate the previews. It is used for the resolution of the graphic window in NX. Because of this procedure, no "shading license" is required. **Value** `true`: Screen excerpt from the model `false`: Rendering of the preview screen

Variable	Description

UGII_A_SHEET_VALID	You can use this variable to specify that a preview is to be generated only for certain drawings. SAP ECTR checks whether the drawing starts with one of the texts that are separated with ";" in this variable.
	
	Value
	
	`<TEXT>;<TEXT>`
	
	Example
	
	`SEITE_;BLATT_`
	
	In this example, a preview is generated for all drawings that start with `PAGE_` or `SHEET_`. The preview generation is suppressed for all other drawings.

UGII_D_PRV_DRAW_ALL	Specifies whether a preview is to be generated for each valid drawing or only for active, valid drawings. **Value** `true`: A preview is generated for each valid drawing `false`: A preview is generated only for the active drawing that is currently visible. "drawing" + extension
UGII_D_PRV_DRW_EXT	Here you can specify the format for the drawing previews. **Value** `gif`: GIF preview is the preferred format, small and sufficiently "high resolution" `jpg`: JPEG format generates rather large files and does not offer "higher resolution" images than GIF (in 2D mode) `tif`: TIF G4 format is generated as the preview format. The client then requires an additional JAR archive JimiProClasses.jar (TIF viewer) for displaying these previews

Variable	Description

UGII_D_PRV_SHT_PREFIX	Specifies the prefix or the file name for drawing previews. Here, the following rules apply depending on the preference variable `UGII D PRV DRAW ALL`:
	
	`UGII D PRV DRAW ALL = true`
	
	If NX previews are generated for all drawing sheets, the prefix is inserted before the sheet name.
	
	Example
	`UGII D PRV SHT PREFIX = PROTOTYP`
	
	The result then looks e.g. as follows:
	
	`PROTOTYP Sheet1.gif`
	`PROTOTYP Sheet2.gif`
	`PROTOTYP Konstruktionszeichnung.gif`
	`PROTOTYP Produktionszeichnungszeichnung.gif`
	
	`UGII D PRV DRAW ALL = false`
	
	Here, the preference variable specifies the entire file name for the drawing preview.
	
	Example
	`UGII D PRV SHT PREFIX = PROTOTYP-draw`
	
	The result then looks e.g. as follows:
	
	`ROTOTYP-draw.gif`

UGII_D_PRV_RM_STR	In the generation of the preview files, it is possible to truncate the ending of the sheet names. This makes sense in particular if the sheet names contain the number of sheets such as SHEET_1_OF_3. SAP ECTR replaces previews in SAP by using the relative file name. **Value** < Text from which the sheet name is to be truncated. Here e.g. `_OF`>
UGII_D_SAV_DO_FIT_ MODELIFDRAW	Adjusts the model to the screen size if previews are generated from the drafting mode. **Value** `true` (default): The model is adjusted to the screen size `false`: The model is not adjusted to the screen size

Variable	Description
UGII_D_SAV_DO_VIEW	Prior to saving/the preview, this changes the view to the view set e.g. "TOP" for the top view. **Value** `TRIMETRIC; TOP; ISOMETRIC; LEFT; FRONT; RIGHT; BACK; BOTTOM`

5.18. Part Family Options

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
UGII_A_FAM_DIR	Specifies the directory for part families. In this directory, new part family members are generated. SAP ECTR only saves part family members that are in the specified directory back to SAP. **Value** `<Verzeichnis, e.g. %PLM_TEMPDIR%/family>`
UGII_D_FAM_DIR_AT_START	Has the effect that the part family directory is set from `UGII A FAM DIR` during startup. During the creation, the correct directory is displayed in the part family dialog. **Value** `true/false`
UGII_A_FAM_ADMIN	Defines which users are administrators for part families. When a part family is opened, the search path is enhanced with the part family directory (`UGII_A_FAM_DIR`) only for users that are listed in this variable. **Value** `<SAP user name>`
UGII_A_FAM_DTYPE	Specifies with which DType the newly created part family member is to be stored in SAP. **Value** `<DType, e.g. MOD or EINZE>`
UGII_A_FAM_DTYPE_ <TEMPLATE_DTYPE>	Specifies the part family DType depending on the template DType. **Value** `<MEMBER_DTYPE>`

Variable	Description
`UGII_A_FAM_DESC`	Specifies which NX attribute is to be used for the description of the document in SAP. **Value** `<NX attribute, e.g. SAP DESCRIPTION>`
`UGII_A_FAM_MAT_ATR`	Specifies which NX attribute contains the material number with which the part family member is to be linked. **Value** `< NX attribute, e.g. SAP_MATERIAL_LINK>`
`UGII_A_FAM_SAVEAS`	Determines whether SAP ECTR allows "Save as" for part family members or not. If "Save as" is permitted for part family members you must take into account the fact that part family members cannot be changed in NX. In NX; a "SAP ECTR Save as" must thus be executed. A "Save as" in SAP ECTR does not suffice because this only copies the file but does not remove the internal NX member flag. **Value** `true`/`false`
`UGII_A_FAM_AUTHGRP_` `FROM_TEMPL`	Specifies whether the authorization group for part family members is to be copied from the part family template. **Value** `true`/`false`
`UGII_A_FAM_AUTHGRP_FIX`	Specifies the authorization group that the part family members are to receive when they are generated. This setting only takes effect if `UGII A FAM AUTHGRP FROM TEMPL = false`. **Value** `<Authorization grpou>`, **Default**: `""`

`UGII_A_FAM_ADV_`
`CLASSIFY_TYPE_MARA`
`UGII_A_FAM_ADV_`
`CLASSIFY_TYPE_DRAW`
`UGII_A_FAM_ADV_`
`CLASSIFY_TYPE_<CLASS>`
	Specifies the class type for **MARA** (default 001) and **DRAW** (default 017) in the Excel table. <CLASS> can also be used to define a class type that differs from **MARA** or **DRAW**
	
	Value
	
	Separate SAP class type, e.g. `Z17`

`UGII_A_FAM_ECM_USE_ACTIVE`	Using the active change number when creating a part family member. **Value** `true`/`false`

5.19. Wave link settings

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_CHECK_ALL_EXTRACT_DATUM_PLANE_FOR_WAVELINKS`	**Values** `true`: Features with **EXTRACT_DATUM_PLANE** will be parsed for wave links. `false` (Default): This type of feature has no reference meaning for SAP PLM.
`UGII_D_CHECK_ALL_SKETCHES_FOR_WAVELINKS`	Check all sketches whether they are wave links or not. **Values** `true` / `false` (Default)

5.20. NX License Options

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_DONT_TERMINATE_API`	Specifies how the license server is used for checking during the NX session. **Values** `true`: At runtime, the interface no longer terminates UGOPEN-API, which retains the initialization until the end of the runtime of NX. This has the effect that the check on the license server only takes place once per session. `false`: The environment within the NX session is initialized and terminated for each function as required during work.
`UGII_D_DONT_REL_LIC`	Specifies how fetched licenses are returned. **Values** `true`: Any reserved/fetches licenses are no longer returned manually from the interface. Due to this, licenses can be in use even though they are currently not being used. The only advantage of this is an improvement in the speed. `false`: The environment manually returns reserved/fetched licenses at the end of a function.

Variable	Description
UGII_D_LIC_TIMEOUT	Number of tries to get an NX license. **Value** `0-9` (**Default**: `3`)

5.21. Transfer Boolean attribute values from NX to SAP

File for setting the variable:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
UGII_D_ATR_BOOL_TRUE	For the correct output of Boolean attribute values of part attribuites, the corresponding environment variables must be set with T for `true`. **Value** `true`: In the SAP system the value T is displayed.
UGII_D_ATR_BOOL_FALSE	For the correct output of Boolean attribute values of part attribuites, the corresponding environment variables must be set with F for `false`. **Value** `false`: In the SAP system the value F is displayed.

5.22. Add component

File for setting the variable:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
UGII_D_CREATEMASTER_ REPLACE_COMP	In the NX menu function **New parent assembly**, if the new part returned by SAP ECTR already contains a component called `component-model.prt`, the NX integration replaces this component with the output part. Otherwise, the output part is added as a component as before.
	Values
	`UGII_D_CREATEMASTER_REPLACE_COMP = componentmodel.prt`
UGII_D_ADD_COMP_USE_ SELECTED	Defines whether a selected and loaded part can be added using the NX Add Component dialog before calling the SAP ECTR Part Selection dialog.
	Values
	`true`: If possible, the selected part is directly passed on to the AddComponent dialog. If not, then the selection dialog of SAP ECTR is called (Default).
	`false`: The selection dialog of SAP ECTR is called directly.
UGII_A_REUSE_TEMP_DIR_ AND_SESSION	This variable can be set to `false` if the parts in the session directory are "not" handled (saved).
	Values
	`true` (Default) /`false`
UGII_A_ADD_FAM_TEMP_ SAVE_TEMP_MEM	When set to `true`, a temporary family member part is saved to the hard drive (family directory) on a rename callback.
	Values
	`true` (Default) /`false`

- The above mentioned functionality is compatible with the variable `UGII_A_FAM_MEM_UPD_ATR`.
- Update of the attributes for family members that are known to the SAP system via FileLookup.
- Generated files can be saved normally with the assembly.
- Generated files can be used to update a family template if this is opened and stored again via the Family Save-and-Close function.

5.23. Viewing Options

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
UGII_D_WRITE_ARRANGEMENT	Specifies whether NX arrangement information is to be written. **Value** `true`/`false`
UGII_D_WRITE_REFDATA	Specifies whether information is to be written via NX reference sets. NX reference set data can't be determined in a CAM application. **Values** `true`/`false`
UGII_D_WRITE_ EXTENDEDINFOFILE	Determines in NX whether a file with extended viewing data should be written. **Values** File name, e.g. `plm_metainf-viewing.xml` The following variable is set for the frontend configuration: `plm.viewer.multi.level.positioning.file = plm_metainf-viewing.xml` **Default:** `<empty>` This preference variable returns a list of file names. Each CAD integration can return its own file names.
UGII_D_WRITE_ EXTENDEDINFOFILE_ MULTILEVEL	Arrangement is only written for one level. **Values** `true` (Default)/`false`
UGII_D_WRITE_ EXTENDEDINFOFILE_STOP_ ON_SUPPRESSED_COMPS	Arrangement analysis is interrupted when coming across a suppressed component. **Values** `true` (Default) /`false`
UGII_D_VIEWING_NOT_FOR_ DRAWING	Defines whether to save viewing data when saving a drawing, which can be time-consuming. **Values** `true` (Default) /`false`

5.24. NX Macros / Shortcuts

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Macros / shortcuts are used to work around functional problems with the NX API. These are normally not necessary.

Variable	Description
`UGII_D_CLOSE_SKIP_SET_DISPLAYPART_AFTER_CLOSE`	If no macro or shortcut has been configured to close NX documents, this variable defines whether a part previously displayed in NX will be displayed again after closing. Setting this variable to `true`"disables this feature. **Values** `true`/`false`
`UGII_D_CLOSE_USE_M`	Defines if a part is closed with a macro. **Values** `true`/`false`
`UGII_D_CLOSE_USE_SHORTCUT`	Defines if a shortcut is used to trigger the closing of the parts. **Values** `true`/`false`
`UGII_D_CLOSE_SHOW_WINDOW_SELECTION`	**Values** `true`: Starts a macro in which the window selection is activated. The user can then choose between the existing windows. `false` (Default): No macro is started for the final window selection.
`UGII_D_CLOSE_SHOW_WINDOW_SELECTION_M`	Macro to open the window selection. **Path** `@PLM_INSTDIR_CONF@\applications\ugs\basis\macros\openWindow.macro` (Default)

Variable	Description
`UGII D CLOSE KEEP REMAINING FIRST COMP IN OWN_WINDOW`	**Values** `true`: (Default): Only the component with the largest structure is displayed in a separate window. **Note:** It may still be the case that even more loaded parts remain in the NX session, which are not displayed in a separate window. `false`: All components/parts that are loaded by the process in the NX session will have their own window. **Note:** It may happen that parts, which are already displayed in another window will then have their own window.
`UGII_D_CLOSEPART_M`	Defines which macro is used to close an individual part. **Path** `@PLM_INSTDIR@/applications/ugs/ basis/macros/closePart(NX-Version).macro`
`UGII D CLOSE SET DISPLAYPART DISPLAY FIRST_FULLY_LOADED`	`true`: If no existing fully loaded part can be displayed that has been memorized by the interface, the first fully loaded part that is returned by NX will be displayed. **Values** `false` (Default): There is no fallback.
`UGII_D_INSERT_VIEW_M`	Adds a view by using a macro. This macro depends on the NX release. If several releases are configured in parallel, the suffix .**NX12**" can be appended to the variable. **Example:** `UGII_D_INSERT_VIEW_M.NX12` It is created on request only. Further information about this variable is available in chapter **Insert view from other part**.
`UGII_D_OPEN_DRAFT_M`	Defines which macro is used to change to the draft mode. **Value** `@PLM INSTDIR@/applications/ugs/ basis/macros/changeApplication.macro`
`UGII_D_OPEN_DRAFT_USE_M`	Defines the macro, which is used to change to the drawing mode. Not to be used for multiple document selections. **Values** `true`/`false`
`UGII_D_OPEN_DRAFT_ USE_SHORTCUT`	Defines if a shortcut is used to change to the "Drawing" application. Not to be used for multiple document selections. **Values** `true`/`false`

Variable	Description

`UGII_D_OPEN_MODEL_M`	Defines which macro is used to change to the construction mode.
	
	Values
	
	`@PLM_INSTDIR@/applications/ugs/`
	`basis/macros/changeApplication.macro`

`UGII_D_OPEN_SPECIFY_` `FILTER_USE_M`	If the variable is set to `true`, the macro configured under `UGII_D_OPEN_M` is started and the parts are opened as if they were interactive. **Values** `true`/`false`
`UGII_D_OPEN_MODEL_USE_M`	Defines if a macro is used to change to the construction mode. Not to be used for multiple document selections. **Values** `true`/`false`
`UGII_D_OPEN_MULTIPLE_` `PART_WITH_MACRO`	**Values** `true` (Default): Basically activates the loading of multiple parts via a macro. `false`: Deactivates the macro for opening multiple parts. This leads to the fact that always only the first part is opened with a selection..
`UGII_D_OPEN_NO_MULTIPLE_` `PART_AT_STARTUP`	**Values** `true`: Disables multiple loading only at first start of NX. `false` (Default): Performs a special treatment the first time NX is started and in the case of multiple parts. This should normally be able to open all parts. In case of error set the variable to `true`.
`UGII_D_OPEN_MODELLING_` `USE_SHORTCUT`	Defines if a shortcut is used to change to the "Construction" application. Not to be used for multiple document selections. **Values** `true`/`false`

`UGII_D_SHORTCUTAPP`	Defines which program is used to execute the shortcuts.
	
	Value
	
	`@PLM_INSTDIR@/applications/ugs/sys/win/bin/`
	`signal_application_ugs.exe`

Variable	Description
`UGII_D_SHORTCUT_ADDCOMP`	Defines which shortcut is used to execute "Add a component". (add from SAP ECTR) **Values** `"{CTRLDOWN}{ALTDOWN}{SHIFTDOWN}a{SHIFTUP}{ALTUP}{CTRLUP}"`
`UGII_D_SHORTCUT_CLOSEALL`	Defines which shortcut is used to close the parts. **Values** `"{CTRLDOWN}{ALTDOWN}{SHIFTDOWN}c{SHIFTUP}{ALTUP}{CTRLUP}"`
`UGII_D_SHORTCUT_DRAFTING`	Defines which shortcut is used to call the "Draft" application. **Values** `"{CTRLDOWN}{SHIFTDOWN}d{SHIFTUP}{CTRLUP}"`
`UGII_D_SHORTCUT_MODELLING`	Defines which shortcut is used to call the "Construction" application. **Values** `"{CTRLDOWN}m{CTRLUP}"`
`UGII_D_SHORTCUT_OPENOM`	Defines which shortcut is used to call the OM from SAP ECTR. **Values** `"{CTRLDOWN}{ALTDOWN}{SHIFTDOWN}o{SHIFTUP}{ALTUP}{CTRLUP}"`

5.25. Extended preview functions

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

There are three ways to create a model preview:

- Screenshot
- Standard Rendering Option (also called **Batch Shade**)
- Advanced rendering option (also called **Batch-Shade with options**)

The two rendering options can cause performance problems because the entire scene is recalculated.

Only two options exist for a drawing preview:

- Screenshot
- CGM generation with subsequent conversion to image format

Variable	Description
UGII_D_PRV_BATCH_W_OPT	Defines whether one preview per rendering with options is created for models upon saving. **Prerequisite** `UGII_D_PRV_MODEL_USEIMAGE = false` **Values** `true`: A Batch Shading with options is created for models. `false`: A Batch Shading with std. options is created for models.

UGII_D_PRV_BATCH_QUALITY	Sets the quality shading style with which a preview is created. (Only not for a model preview if `UGII D PRV MODEL USEIMAGE = true`).
	
	Also valid when shading with options is active (`UGII D PRV BATCH W OPT = true`).
	
	Info from the NX documentation
	
	This determines the type of shading to be generated. The first three methods (`UF DISP flat`, `UF DISP gouraud` and `UF DISP phong`) only require a gateway license to work correctly. If `UF DISP high quality`, `UF DISP preview`, `UF DISP photo real` or `UF DISP raytrace` are used, a Studio Render license is required.
	
	If this license is not available, the shading method defaults to `UF DISP phong`.
	
	Values
	
	`0: UF DISP flat`
	`1: UF DISP gouraud`
	`2: UF DISP phong`
	`3: UF DISP high quality`
	`4: UF DISP preview`
	`5: UF DISP photo real`
	`6: UF DISP raytrace`
	
	Default: 2

UGII_D_PRV_BATCH_W_OPT_DIS_RAYTRACE	Defines whether ray tracing is to be disabled or not. This variable is critical for performance when it comes to models with HighQuality Attribute. **Values** `true`: Raytracing is deactivated. `false`: Raytracing is activated (performance).

Variable	Description
UGII D PRV BATCH W OPT SHADE_DIS	Defines display option. ▪ RGB PLUS NOISE ▪ FS RGB ▪ FS RGB PLUS NOISE ▪ MONOCHROME ▪ GRAY SCALE ▪ NEAREST RG ▪ ORDERED DITHER ▪ TC PLUS NOISE **Values** 0-7: **Default:** 1
UGII_D_PRV_BATCH_W_OPT_DIS_ EXCESS_LIGHT	Determines whether excess light should be distributed. **Values** true/false
UGII D PRV BATCH W OPT FACET_QUALITY	Sets the quality of the details. **Values** 0.01-2.0
UGII_D_PRV_BATCH_W_OPT_FIX_ CAMERA_VIEWING	Determines whether Fixed Camera Viewing is enabled. **Values** true/false
UGII_D_PRV_BATCH_W_OPT_ SHADE_FORMAT	Sets the format. ▪ RASTER ▪ QTVR PANORAMA ▪ QTVR OBJECT LOW ▪ QTVR OBJECT HIGH **Values** 0-3: Default: 0
UGII_D_PRV_BATCH_W_OPT_GEN_ SHADOWS	Determines whether shadows are generated. **Values** true/false

Variable	Description
UGII D PRV BATCH W OPT PLOT QUALITY	Sets quality of graphical representation. ▪ FINE ▪ MEDIUM ▪ ROUGH ▪ COARSE **Values** 0-3 **Default:** 0
UGII_D_PRV_BATCH_W_OPT_ RADIO_QUALITY	Defines radiosity quality. **Values** 0-15 **Default:** 0
UGII_D_PRV_BATCH_W_OPT_ RAYTRACE_MEM	Defines memory in MB for ray tracing **Values** 4, 8, 16, 32, 64, 128 **Default:** 32
UGII_D_PRV_BATCH_W_OPT_RES	Defines dots per inch of image. Values Draft -> 75, Low -> 180, Medium -> 300, High -> 400 Default: 180
UGII_D_PRV_BATCH_W_OPT_ SUBDIV_DEPTH	Sets the depth of the subsections. **Values** 0-6 **Default:** 0
UGII_D_PRV_BATCH_W_OPT_ SUPER_SAMPLE	Super sample **Values** 1-5 **Default:** 1
UGII_D_PRV_BATCH_W_OPT_ TRANSPARENT_SHADOWS	Determines whether transparent shadows are used. **Values** true/false
UGII_D_PRV_BATCH_W_OPT_USE_ MIDPOINTSAMPLING	Defines whether to use midpoint sampling. **Values** true/false

Variable	Description
`UGII_D_PRV_SAVE_TO_DP`	For performance reasons, the preview display is suppressed in NX when saving ("suppressed" mode).This may not generate a preview or part-internal preview. Setting the variable to true causes the unsuppressed save process to create an internal preview. **Values** `true`/`false` (Default)
`UGII_D_PRV_MODEL_USEIMAGE_` `FORCE_UGO`	Switch off new Screen Capture Funktion (use old instead) **Values** `true`: This will force to run the old retired UGO API to make a screen capture. `false` (Default): For NX1847 and above the new NXO API is used to male a screen capture.
`UGII D PRV MODEL USEIMAGE` `BACKGROUND_OPTION`	Switch the Background Mode on new NXO API Function. **Values** `0`: Original Color - Use the currently displayed background `1`: Custom Color - Use the solid color set by `UGII D PRV CHANGE BG COLOR` as implemented before `2` Transparency - Use a transparent background (only available in PNG and TIFF file formats).
`UGII_D_PRV_MODEL_USEIMAGE_` `ENHANCED_EDGES`	When capturing an image with many edges, such as a wireframe view of a part, antialiasing can cause thin edges to blur with the background of the image. This effect can be particularly noticeable when a transparent background is used. Disabling antialiasing. Disable edge smoothing and enable edge enhancement to eliminate this blurring. However, this may result in a more pixelated image. **Values** `true`: Antialiasing umschalten `false` (Default): Antialiasing nicht umschalten

5.25.1. PNG Previews

PNG previews require special handling because they cannot be created directly by the NX API.

Drawing

Required environment:

- `UGII_D_PRV_DRAW=true`

Environment variables

- `UGII_D_PRV_DRAW_USEIMAGE_FORCE_UGO`
- `UGII_D_PRV_DRAW_USEIMAGE_BACKGROUND_OPTION`
- `UGII_D_PRV_DRAW_CHANGE_BG_COLOR`
- `UGII_D_PRV_DRAW_USEIMAGE_ENHANCED_EDGES`

Batch color preview functions for model extension

Extend the functionality with the file format "png". Here a TIFF is created and an API is called to convert the TIFF into a PNG.

- **Environment variables**
- `UGII_D_PRV_MODEL_USEIMAGE=false (default)`
- `UGII_D_PRV_MODEL=true`
- `UGII_D_PRV_MOD_EXT=png (extended from jpg, gif, tif)`
- `New Parameter for Batch Mode "-prv_png"`

Restrictions

- For PNG the transparent background option is not available (for description see
  `UGII_D_PRV_MODEL_USEIMAGE_BACKGROUND_OPTION`)
- For PNG the antialias function is not available (for description see
  `UGII_D_PRV_MODEL_USEIMAGE_ENHANCED_EDGES`)

Enhancement of interactive png mode for drawings

Ability to create interactive thumbnails for png.

Environment variables

- `UGII_D_PRV_DRAW=true`
- `UGII_D_PRV_DRW_EXT=png (extended from jpg, gif, tif)`

5.26. Configure Application Structure window display individually

The following environment variables are used to optionally set the display in the Application Structure View window. The setting options apply to the objects below:

- Wave Links
- Interpart Expressions
- Promotions
- Deformable Features
- UDF-Referenzen

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_ASV_SHOW_WAVE`	This variable defines whether wave elements are returned as individual nodes. **Values** `true`/`false` (Default)
`UGII_D_ASV_SHOW_INTERPARTEXP`	This variable defines whether used expressions are returned from parts other than individual nodes. **Values** `true`/`false` (Default)
`UGII_D_ASV_SHOW_PROMOTION`	This variable defines whether individual nodes are to be returned via used parts when viewed from NX. **Values** `true`/`false` (Default)
`UGII_D_ASV_SHOW_DEFORMABLE`	This variable defines whether deformed objects are to be returned with referenced parts as individual nodes. **Values** `true`/`false` (Default)
`UGII_D_ASV_SHOW_UDF`	This variable defines, insofar as possible, whether the template part is returned as a single node from the UDF tools used. **Values** `true`/`false` (Default)

5.27. Attribut Mapping

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Expressions can be mapped to SAP just like attributes.

Variable	Description
`UGII_D_ATR_ONLY_FIRST_FROM_ARRAY`	This variable can disable the transmission of multi-valued attributes. **Values** `true`/`false` (Default)
`UGII_D_ATTR_DETAILS`	This variable writes additional attributes information for an easier mapping of attributes to the SAP system. **Values** `true`: Additional attributes are written. `false`: No additional attributes are written.
`UGII_D_UPD_EXP_USE_ZERO_FOR_EMPTY_VALUE`	If an empty value is determined during attribute mapping, a default value for the expression can be used. Setting this variable to `true` uses 0 if the mapping value is empty. This setting only applies to NX12. **Values** `true`/`false` (Default)

In the following environment variables are explained, which can create attributes with certain names. In addition to the type, a category can also be specified.

Standard

`UGII_D_ATR_CATEGORY`

New

`UGII_D_ATR_CATEGORY<COUNT>=<Name of Category>`

`UGII_D_ATR_CATEGORY<COUNT>_NAMES=<Attribute 1>;<Attribute 2>;…`

`UGII_D_ATR_TYPE_STRING=<Attribute 1>;<Attribute 2>;<Attribute 3>;...`

`UGII_D_ATR_TYPE_DATE=<Attribute 1>;<Attribute 2>;<Attribute 3>;...`

`UGII_D_ATR_TYPE_INT=<Attribute 1>;<Attribute 2>;<Attribute 3>;...`

`UGII_D_ATR_TYPE_BOOL=<Attribute 1>;<Attribute 2>;<Attribute 3>;...`

`UGII_D_ATR_TYPE_NUMBER=<Attribute 1>;<Attribute 2>;<Attribute 3>;...`

If an attribute is a number, you can add a special unit type and unit to it:

`UGII_D_ATR_TYPE_NUMBER<COUNT>=<Attribute1>`

`UGII_D_ATR_TYPE_NUMBER<COUNT>_UNIT=Meter`

If an attribute is mentioned in `UGII_D_ATR_TYPE_NUMBER` but not in `UGII_D_ATR_TYPE_NUMBER<COUNT>`, then the attribute is unitless.

Configuration Example

`UGII_D_ATR_CATEGORY1=SAP Identify`

`UGII_D_ATR_CATEGORY1_NAMES=SAP_CC_NAME;SAP_DESCRIPTION;SAP_APPLICATION;SAP_DTYPE;SAP_REVLEVEL`

`UGII_D_ATR_CATEGORY2=SAP Key`

`UGII_D_ATR_CATEGORY2_NAMES=SAP_DOCID;SAP_DOCTYPE;SAP_DOCPART;SAP_DOCVERSION`

#Rest Category "SAP"

`UGII_D_ATR_CATEGORY=SAP`

 # Date field for the date information

`UGII_D_ATR_TYPE_DATE=SAP_CREATION_DATE;SAP_LAST_CHANGE_DATE`

 # Number field for the weight from SAP

`UGII_D_ATR_TYPE_NUMBER=SAP_MATERIAL_WEIGHT`

`UGII_D_ATR_TYPE_NUMBER1=SAP_MATERIAL_WEIGHT`

`UGII_D_ATR_TYPE_NUMBER1_UNIT=Gram`

It is always important to note that neither the interface nor NX allows the data type of the attribute to change subsequently. An incorrectly configured attribute can lead to no attribute being updated in the part. This must then either be deleted manually, or the configuration adjusted.

5.28. Attribute Update

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_EXP_TYPE_CONFIGURED`	**Values** `true`/`false` (default) `true`: activates special handling to set expressions `false` deactivates the special handling
`UGII_D_EXP_TYPE_CONFIGURED_USE_FALLBACK`	This function extends the configured method for creating/updating the expression. **Prerequisite** `UGII_D_EXP_TYPE_CONFIGURED = true` **Values** `true`/`false` (default) `true`: If the expression name does not match a configured expression type in an environment variable, an attempt is made to determine the type automatically by value analysis. `false` If the expression name does not match a configured expression type in an environment variable, it will be ignored.
`UGII_D_EXP_TYPE_ONLY_CREATE`	**Values** `true`/`false` (default) `true`: activates the new process only for create `false` the new process is active for create and update
`UGII_D_EXP_TYPE_STRING`	**Values** `list of <expnames>` Missing quotes will be automatically added.
`UGII_D_EXP_TYPE_BOOL`	**Values** `list of <expnames>` Integration interpret given value as true or false.
`UGII_D_EXP_TYPE_INT`	**Values** `list of <expnames>` Integer values, e.g. `432`

Variable	Description
`UGII_D_EXP_TYPE_POINT`	**Values** `list of <expnames>` Expected values e.g. "`4711.3;341.0;124.1`"
`UGII_D_EXP_TYPE_VECTOR`	**Values** `list of <expnames>` Expected values e.g. "`0.0;1.0;0.0`"
`UGII_D_EXP_TYPE_LIST`	**Values** `list of <expnames>` This can be a mixed list. expected values e.g. `0.0; "xyz";6`
`UGII_D_EXP_TYPE_STRINGLIST`	**Values** `list of <expnames>` Missing quotes will be automatically added. Expected Values e.g. `abc;def;gh8`
`UGII_D_EXP_TYPE_NUM`	**Values** `list of <expnames>` Expected Values e.g. `353.2`
`UGII_D_EXP_TYPE_NUM_MM`	**Values** `list of <expnames>` Expected Values e.g. `353.2` Unit: "Millimeter"
`UGII_D_EXP_TYPE_NUM_IN`	**Values** `list of <expnames>` Expected Values e.g. `353.2` Unit: "Inch"
`UGII_D_EXP_TYPE_NUM_DEG`	**Values** `list of <expnames>` Expected Values e.g. `53.2` Unit: "Degrees"
`UGII_D_EXP_TYPE_NUM_RAD`	**Values** `list of <expnames>` Expected Values e.g. `5.2` Unit: "Radian"
`UGII_D_EXP_TYPE_NUM_CUST1`	**Values** `list of <expnames>` Expected Values e.g. `53.2`

Variable	Description
`UGII_D_EXP_TYPE_NUM_CUST2`	**Values** `list of <expnames>` Expected Values e.g. `53.2`
`UGII_D_EXP_TYPE_NUM_CUST3`	**Values** `list of <expnames>` Expected Values e.g. `53.2`
`UGII_D_EXP_TYPE_NUM_CUST4`	**Values** `list of <expnames>` Expected Values e.g. `53.2`

Legende

1. Each matching expression will be created (if not in part) in the unit according the name of the environment variable.
2. Each matching expression will be created (if not in part) in the unit name configured in the variable with postfix "`_NAME`"
   e.g. `UGII_D_EXP_TYPE_NUM_CUST2_NAME = KilogramPerCubicMilliMeter`

5.29. Default loading options of the options.xml file

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\options.xml`

Variable	Description	NX-Option
`plm.loadoptions.applyToAllLevels`	Implement the reference set settings not only on one level, but apply them to all levels of the assembly. **Values** `true`/`false`	Apply to all assembly levels
`plm.loadoptions.compsettings`	Specifies filter settings for components. **Values** `All`, `None`, `LastCompset`, `LastFilter`	-

Variable	Description	NX-Option
`plm.loadoptions.lightweight`	Use lightweight display (if existent in part/if possible). **Values** `true`/`false`	Use lightweight displays
`plm.loadoptions.loadpartially`	Components are, if possible, partially loaded **Values** `true`/`false`	Partial loading
`plm.loadoptions.loadWaveData`	The data for determining the referenced parts are loaded. **Values** `true`/`false`	Load cross-parts data
`plm.loadoptions.patdir.settings`	Define/specify the pattern directory (`patterndir`) in NX. **Values** `PATTERN DIR NONE,` `PATTERN DIR USER EXIT,` `PATTERN DIR SET`	-
`plm.loadoptions.patternDir`	Specify the pattern directory **Prerequisite** `PATTERN_DIR_SET` **Example** `C:\PATTERN`	-
`plm.loadoptions.refset`	Define/overwrite the reference set sequence of the direct children during loading. **Values** `EntirePartName,` `FacetName, AsSavedName,` `ModelName`	"As Saved", "Entire Part", "Empty", "Use Model"

Variable	Description	NX-Option
`plm.loadoptions.` `ugsettings`	Defines whether the currently valid load rules are retained in NX, or whether these should be overwritten before opening a document. **Values** `true`/`false`	-
`plm.loadoptions.` `waveparents`	Referenced parts of the parts data are loaded additionally. **Values** `None, Immediate, All`	None, only middle level, all levels

`plm.control.`
`partnameRules.`
`resolveInSap.UGS`
	Here, a file look-up is carried out in the SAP system to access any existing document number.
	
	Values
	
	`true`/`false`
		-

`plm.shutdown.` `checkinAllOpenParts.UGS`	Check-in all parts when you exit the program. **Values** `true`/`false`	-

These settings can be commented out from the `options.xml` file if necessary. The default setting of this option can then only be specified in
`%PLM_INSTDIR%/applications/ugs/customize/config/default.txt`

Example

`plm.loadoptions.lightweight=true`

The description of the options (`label` in the `option.xml`) corresponds to the dictionary keys that can be adapted via a `dictionary.txt` file to customer-specific requirements.
By default, the path to this file is as follows:

`%PLM_INSTDIR%/customize/dictionary/PLM_LANGUAGE/customer.txt`

5.29.1. New as of SAP ECTR version 1.2.1.0

Only the generic load options are written to the communication file, which all begin with `plm.loadoptions.ugs`.

The only exception is the load option `plm.loadoptions.compsettings`.

Old	New
plm.loadoptions.applyToAllLevels // APPLY_TO_ALL_LEVELS	plm.loadoptions.ugs.applyToAllLevels // APPLYTOALLLEVELS
plm.loadoptions.refset // REFSET	plm.loadoptions.ugs.refset
plm.loadoptions.delayinterpartupdate // DELAY_PART_UPD	plm.loadoptions.ugs.delayInterpartUpdate // DELAYINTERPARTUPDATE
plm.loadoptions.loadWaveData // WAVE	plm.loadoptions.ugs.loadWaveData // LOADWAVEDATA
plm.loadoptions.updatesession // UPD_SESSION	plm.loadoptions.ugs.updateSession // UPDATESESSION
plm.loadoptions.updatestructure // UPD_STRUC	plm.loadoptions.ugs.updateStructure // UPDATESTRUCTURE
plm.option.cadloadlatest // LATEST	plm.loadoptions.ugs.cadLoadLatest // CADLOADLATEST
plm.loadoptions.waveparents // WAVEPARENTS	plm.loadoptions.ugs.waveparents
plm.loadoptions.patdir.settings // PATDIR_SETTINGS	plm.loadoptions.ugs.patdir.settings //PATDIR.SETTINGS
plm.loadoptions.patternDir // PATDIR_NAME	plm.loadoptions.ugs.patdir.name // PATDIR.NAME
plm.loadoptions.ugsettings // UGSETTINGS	plm.loadoptions.ugs.keepSettings // KEEPSETTINGS

5.30. Definition of applications used in NX

Change between applications

Here can be defined which application is used when opening a project in NX. The application is opened depending on the DType of the document or the assembly to be opened.

The following directory is used for the configuration:
`%INSTDIR_CONF%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_APP_CHANGE_DTYPE=` `<DTypeB>;<DTypeC>`	Filters valid DTypes used for the application change. This variable is applicable for opening and saving. **Value** `<DType>`
`UGII_D_APP_CHANGE_` `TOSAVED_DTYPE`	Defines, which part DTypes "remember" the current application upon saving. This preference variable overwrites the configured preference variable. **Value** `<DType>`
`UGII_D_PARTATTR_SAVEDAPPLID`	Defines the attribute name necessary for saving the application ID. The default value is `SAVED_NX_APPLID`. **Value** <Attribute name>
`UGII D APP CHANGE` `<Appl ID Nummer>_DTYPE`	Defines the DType used to choose which application to change to during opening a part. **Value** `<DType>`
`UGII_D_APP_CHANGE_` `<Appl ID Nummer>_NAME`	Defines the button name if button name is different or not present in integration mapping. Application number and menu button name of the application are displayed in the syslog when the application starts. **Value** `<Button Name>`
`UGII_D_APP_CHANGE_USE_M`	Depending on the NX version, the application change can be executed via macro or via API call. This preference variable enables a manual change to execute the start via macros in case the change via API is not working. **Values** `true`: Use macro functionality `false`: use API functionality

Variable	Description
`UGII_D_APP_CHANGE_OPEN_M`	Defines the automatic application change when opening a file. **Value** `@PLM_INSTDIR@/applications/ugs/basis/macros/changeApplication.macro`
`UGII_D_OPEN_SW_APP_FROM_STARTUP`	Enables changing the NX application from the start of NX. **Values** `true`: Changes NX application during the start. `false`: Skips changes of the NX application during the start.

5.31. Environment variables for Import-On-Demand

The following directory is used for the configuration:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_IOD_CHANGE_COMPNAME_TO_DISPNAME`	By setting this variable to `true`, all component names of the imported parts assembly are renamed to the part's display names. The special characters, which would be invalid as a component name, are converted into "_". **Values** `true`/`false`(Default)
`UGII_D_IOD_CHANGE_COMPNAME_TO_DISPNAME_ONLY_FOR_ASSEMBLY`	By setting this variable to `true`, parts that are actually no assemblies, can obtain the component name from the display name (sub-assemblies for individual parts). **Note:** However, the default value is only valid for assemblies, for reasons of backward compatibility and performance. **Values** `true`(Default) /`false`
`UGII_D_IOD_CHANGE_COMPNAME_TO_DISPNAME_ONLY_FOR_IMPORTED`	Only those parts that are actually imported are now assigned a name. **Note:** By default, no non-imported files are matched. **Values** `true` (Default)/`false`

Variable	Description
`UGII_D_IOD_UPD_ATTR_LOCK_UPD`	Shifts the update of the NX session to the end of the entire UpdateAttribute process for Import-on-Demand. **Values** `true` (Default)/`false`

5.32. Handling multiple menu files

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_MENU_FILES`	From now on, a menu folder can be specified with the `UGII_D_MENU_FILES` setting. If this folder is specified, the menus from this folder will be used instead of the default menus. **Example** `UGII_D_MENU_FILES =Menu_files_NX_12` Searches `applications\ugs\customize\appdata` for the directory `Menu_files_NX_12`. If this exists, the menu files from it are used and the respective default menu files from the parent directory are ignored.

5.33. Load options with definitions

The default loading options can be overwritten in this file with the identical keyword:

`%PLM_INSTDIR%\applications\ugs\customize\config\load_scenarios.xml`

Variable	Description
`apply_to_all_levels`	Takeover of ReferenceSets beyond first step **Values** `true` / `false`
`bookmRefset`	Sets behavior regarding bookmarks via reference set. **Values** `IMPORTDATA` / `IMPORTOPTLOAD` / `NOIMPORT`

Variable	Description
bookmRestoreANT	Restores bookmark as shown in ANT last time. **Values** `true` / `false`
bookmRestoreFullyLoaded	Restores fully loaded components. **Values** `true` / `false`
bookmCompToLoad	Defines load options regarding components. **Values** `VISIBLE / LOADED / LOADEDANDNONDISPLAYED`
components	Defines whether components are loaded in NX. **Values** `true` / `false`
compSettings	Defines component preferences. **Values** `LastCompset / LastFilter`
delay_part_upd	Disables Update delay before loading. **Values** `true` / `false`
delayModelUpd	Delays model update. **Path in NX:** `Tools → Update → Delay Model Update` **Values** `true` / `false`
delayPartModuleUpd	Delays model update. **Path in NX:** `Tools → Update → Delay Part Module Update` **Values** `true` / `false`
delayAssyConstUpd	Delays update **Path in NX:** `Tools → Update → Interpart Update → Delay Assembly Constraints Update` **Values** `true` / `false`

Variable	Description
delayGeoExpPMIUpd	Delays updates for PMI, Geometry and expressions **Path in NX:** `Tools → Update → Interpart Update → Delay Geometry, Expressions, and PMI Update` **Values** `true` / `false`
explosionScenario	Name of the explosion scenario of SAP. **Values** `CAD_LOAD; FIRST_LEVEL;-...`
genMissedPFM	Generates missing part family members when template is found. **Values** `true` / `false`
latest	Loads latest version according to partname rules. **Values** `true` / `false`
lightweight	If existent, components are given lighter representations. **Values** `true` / `false`
loadLevel	Defines the load level. **Values** Natürliche Zahlen und 0
loadFailOption	When loading errors occur, an error-tolerant way of loading can be enabled via NX. **Values** `ABORT / NOABORT`
loadFully	Defines whether components are fully loaded. **Values** `true` / `false`
patdir_name	Pattern directory **Values** `C:\TEMP\PATTERN`

Variable	Description

`patdir_settings`	Patterndir-Set takes directory from `patdir_name`. etc.
	
	Values
	
	`PATTERN_DIR_NONE / PATTERN_DIR_SET /`
	`PATTERN_DIR_USER_EXIT`

`refset`	ReferenceSet, which can be used to load components. **Values** `As Saved; Entire Part; Empty; MODEL; FACET`
`showUpdReport`	Creates update log after load. **Values** `true` / `false`
`ugSettings`	Defines whether load options of NX are kept upon start. **Values** `true` / `false`
`upd_session`	Disables updating the structure if parts are existent but not loaded. **Values** `true` / `false`
`upd_struc`	Disables update of structure in case parts are existent but not loaded. **Values** `true` / `false`
`updSubset`	Updates subordinate parts. **Values** `true` / `false`
`wave`	Defines whether cross-part data is loaded. **Values** `true` / `false`
`waveParents`	Defines whether and what parents of the part are loaded. **Values** `NONE / ALL / IMMEDIATE`

5.33.1. Required adjustments

menu_macros.txt

To call up the different load options, the `<name>` from `loadoptions.xml` needs to be referenced in the `menu_macros.txt`. You can find the `menu_macros.txt` in `%PLM_INSTDIR_CONF%\applications\ugs\customize\config.`

Reference as follows

```
? DOC_NX        = fnc.doc.open.by.load.scenario(<name>)
```

Dictionary

Create a dictionary entry in the languages you wish to provide for your load scenario `fnc.doc.open.by.load.scenario(<name>).`

You find the dictionary files here: `%PLM_INSTDIR_CONF%\customize\dictionary`

Note

For the NX Integration menu functions, you define dictionary entries in the following directory: `%PLM_INSTDIR_CONF%\applications\ugs\customize\dictionary\`

5.34. Configure the routing design feature in NX

Installation manual

This chapter describes how to redirect the NX menu function "Place Part" in the NX applications Routing Mechanical and Routing Electrical to the SAP ECTR part selection dialog.

The environment variable `UGII_SHARE` has to refer to the integration-specific .dll file (`plm++ug.dll`). Therefore it does not need to be extended manually.

However, customer-specific extensions can also be manually configured by defining the environment variable in the file `plm_setenv.bat` in the directory `%PLM_INSTDIR%\applications\ugs\customize\config`. The added line with a customer-specific or integration-external .dll could then read as follows:

```
SET UGII_SHARE=%CUSTOMER_DIR%\startup
```

Routing Electrical

In the file `%UGII_BASE_DIR%\UGROUTE_ELEC\appview\ugroute_elec_metric.xml` or `ugroute_elec_inch.xml` the following entry has to be created or customized within the element `<Plugins>`:

```
<Plugin>

        <Name>

            ROUTE_CHOOSE_PART_PLACE_PART

        </Name>

        <External_Dll>

            <DLL_Name>

                plm++ug

            </DLL_Name>

            <Entry_Point>

                DSC_choose_part_sap

            </Entry_Point>

        </External_Dll>

</Plugin>
```

Routing Mechanical

In the file `%UGII_BASE_DIR%\UGROUTE_MECH\appview\ugroute_mech_metric.xml` or `ugroute_mech_inch.xml` this entry also has to be created or customized within the element `<Plugins>`.

Notes

Ab NX 12 hat sich der Pfad geändert.

Routing Electrical: `%UGII_BASE_DIR%\ROUTING\UGROUTE_ELEC\appview\...`

Routing Mechanical: `%UGII_BASE_DIR%\ROUTING\UGROUTE_MECH\appview\...`

5.35. Temporarily Saving Optimizations

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
`UGII_D_FIT_NOTATSAVE`	Do not adjust model when saving (only if `UGII_D_SAV_DO_FIT = true`) **Values** `true` / `false`
`UGII_D_PRV_NOTATSAVE`	Do not create previews when saving (only if `UGII D PRV MODEL = true` or `UGII D PRV DRAW = true`) **Values** `true` / `false`
`UGII_D_CGM_NOTATSAVE`	Do not create a CGM per drawing when saving (only if `UGII_D_CGM_CREATE = true`) **Values** `true` / `false`
`UGII_D_VIEWING_NOTATSAVE`	NX reference sets or NX arrangement information not created on save (only if `UGII D WRITE REFDATA = true` or `UGII D WRITE ARRANGEMENT = true`) **Values** `true` / `false`
`UGII_D_SAV_DO_VIEW_NOTATSAVE`	No change before saving/previewing the view to the set view e.g. for the top view "TOP". (only if `UGII_D_SAV_DO_VIEW`) **Values** `true` / `false`
`UGII_D_EDG_CREATE_NOTATSAVE`	Disable extract edges for each sheet (only if `UGII D EDG CREATE = true`) **Values** `true` / `false`
`UGII_D_SAV_UPD_ATTR_NOTATSAVE`	Disable attributes update on save (only if `UGII_D_SAV_UPD_ATTR = true`) **Values** `true` / `false`

Variable	Description
`UGII D SAV CLEANUP NOTATSAVE`	Disable part cleanup on save (only if `UGII D SAV CLEANUP = true`) **Values** `true` / `false`
`UGII_D_SSL_SUPPORT_ NOTATSAVE`	Disable customize spreadsheet linking (only if `UGII_D_SSL_SUPPORT = true`) **Values** `true` / `false`
`UGII_A_SAV_VDA_CHECK_ NOTATSAVE`	Deactivate VDA Compliance Check (only if `UGII A SAV VDA CHECK = true`) **Values** `true` / `false`

5.36. Release warnings

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description

`UGII_D_SHOW_RELEASE_WARNING`	Enable release warning
	Values
	`true` (default): Displays the NX release warning dialog
	`false`: Skips the warning dialog for NX releases. Supports certain NX releases with major release post-fix, i.e. `UGII_D_SHOW_RELEASE_WARNING.<Haupt-NX-Release>`
	Examples:
	`UGII_D_SHOW_RELEASE_WARNING.NX12=false`
	`UGII_D_SHOW_RELEASE_WARNING.NX2206=false`

5.37. Timeout

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Description
PLM_NX_STARTUP_TIMEOUT	**NX-Start-Up-Timeout**
	This environment variable defines the maximum waiting time for the `start_application_ugs` script until NX is started.
	NX loads the integration (`plm++ug.dll`) at startup and it initiates a "named pipe" for the script to wait for. It is common that this value may need to be increased on slow systems and on newer NX releases.
	Values
	`60` (Default in seconds):
	Example
	`PLM NX STARTUP TIMEOUT = 60`
plm.control.waitForSessionInMs.ugs	**SAP ECTR-Start-Up-Timeout**
	This is the maximum waiting time that SAP ECTR waits for an application session to be established if no termination is signaled. This value is set to the maximum value of `15000` in the delivery of the integration (`customize/config/default.txt`).
	Values
	`15000` (Default in seconds):
	Example
	`plm.control.waitForSessionInMs.ugs = 15000`

5.38. Variants

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Beschreibung
`plm.control.partnameRules.numberSeparator`	Separator is determined from existing preference.
	Determination of the identification mark / Separator for alternatives
	Values
	# (Default)
`UGII_D_PARTNAME_STYLE`	File name with version
	Values
	`<DOCNR><DOCTYPE><DOCPART><VERSSEP><DOCVERS>` (Default)
`UGII_D_PARTNAME_STYLE_VERSLESS`	File name without version
	Values
	`<DOCNR><DOCTYPE><DOCPART>` (Default)
`UGII_D_VARIANT_TO_VERSION_CLOSE_BEFORE_PROVIDE`	Closes all recognized versions of the document if loaded.
	Values
	`true` / `false` (Default)
`UGII_D_VARIANT_TO_NEWVERSION_CLOSE_BEFORE_PROVIDE`	Closes all recognized versions of the document if loaded.
	Values
	`true` / `false` (Default)
`UGII_D_VARIANT_TO_VERSION_POST_SAVE_MODE`	Save the variant
	Values
	`0` No Save
	`1` (Default) Save
	`2` Save and check-in

Variable	Beschreibung
`UGII_D_VARIANT_TO_` `VERSION_POST_UPDATE_ATTRIBUTE_MODE`	Attribute update **Values** `0` Attribute update `1` Attribute update before saving `2` (Default) Attribute update after saving
`UGII_D_VARIANT_TO_` `NEWVERSION_POST_SAVE_MODE`	See `UGII_D_VARIANT_TO_` `VERSION_POST_SAVE_MODE`
`UGII_D_VARIANT_TO_` `NEWVERSION_POST_UPDATE_ATTRIBUTE_MODE`	See `UGII_D_VARIANT_TO_` `VERSION_POST_UPDATE_ATTRIBUTE_MODE`

5.39. Dialog setting for part selection

File for setting the variables:

`%PLM_INSTDIR%\applications\ugs\customize\config\default.txt`

Variable	Beschreibung
`UGII_D_USE_DSC_` `SELECT_PART_DLG`	Setting this variable to `true` sets the alternative to the Java parts-selection-dialog **Add Component**.

Variable	Beschreibung
`UGII D SELECT PART DLG INDIVIDUAL`	Unlocks a selection dialog in the NX dialog **Integration Settings** → **context-dependent**
	Values
	`true / false` (Default)
	Variables for individual fields
	`UGII_D_SELECT_PART_USE_STYLE_OPEN` Part selection when opening a part
	`UGII_D_SELECT_PART_USE_STYLE_ADD` Part selection when adding a part
	`UGII_D_SELECT_PART_USE_STYLE_REPLACE` Part selection when replacing a part
	`UGII_D_SELECT_PART_USE_STYLE_IMPORT` Part selection when importing a part
	`UGII_D_SELECT_PART_USE_STYLE_PLACE_PART` Part selection when placing a part
	Values
	0: native NX dialog
	1: old NX dialog
	2: extended NX dialog
	3: ECTR-Dialog

5.40. Interface User Exit

At various program points there are interface user exits which can call external programs. The following table shows an excerpt of the current possibilities that are already implemented.

NX Callbacks

Callback Type	Name	Param#1	Param#2	Param#3	Param#4
change active part	UE_CB_CHANGE_WP	wp before tag	wp before fn	wp now tag	wp now fn
close part	UE_CB_CLOSE_WP	wp tag	wp fn		
create new part	UE_CB_CREATE_WP	wp tag	wp fn		
modify part	UE_CB_MODIFY_WP	wp tag	wp fn		

NX Environment Variables

Callback Type	Name	Param#1	Param#2	Param#3	Param#4
open part	UE_CB_OPEN_WP	wp tag	wp fn		
save part	UE_CB_SAVE_WP	wp tag	wp fn		
saveas part	UE_CB_SAVEAS_WP	wp tag	wp fn		
post saveas part	UE_CB_POST_SAVEAS_WP	wp tag	wp fn		
rename loaded part	UE_CB_RENAME_WP	wp tag	wp fn		

NX Exits

Exit Type	Name	Param#1	Param#2	Param#3	Param#4
create part	UE_CREATE_PART	loaded part count			
open part	UE_OPEN_PART	loaded part count			
save part	UE_SAVE_PART	wp tag	wp fn		
saveas part	UE_SAVEAS_PART	wp tag	wp fn		
import part	UE_IMPORT_PART	wp tag	wp fn		
Add part	UE_ADD_PART	wp_tag	wp fn		
Replace part	UE_REPLACE_PART	wp_tag	wp fn		
place part	UE_PLACE_PART	wp tag	wp fn		

Interface Function Exits

Exit Type	Name	Param#1	Param#2	Param#3	Param#4
Before Save	UE_SAVE_PART_BEFORE	wp tag	wp fn	what int(1)	how int(2)
After Save	UE_SAVE_PART_AFTER	wp tag	wp fn		
Before SaveAs	UE_SAVEAS_PART_BEFORE	wp tag	wp fn	what int(1)	
After SaveAs	UE_SAVEAS_PART_AFTER	wp tag	wp fn		
Before SaveAs NewVersion	UE_SAVEAS_NEWVERSION_PART_BEFORE	wp tag	wp fn	what int(1)	

Exit Type	Name	Param#1	Param#2	Param#3	Param#4
After SaveAs	UE_SAVEAS_ NEWVERSION_PART_ AFTER	wp tag	wp fn		
Before UpdAttributes	UE_UPDATTR_BEFORE	wp tag	wp fn	what int(1)	
After UpdAttributes	UE_UPDATTR_AFTER	wp tag	wp fn		

For further information please contact your consultant of the integration product.

6. Handling of unknown (native) parts

6.1. Functions

Below is a list of all filter functions that can be used to handle native (non-SAP managed) parts. These filter functions prevent unnecessary parts from being transferred to PLM processes.

Functions A (<ENVIRONMENT FUNCTION>.A) aka "filterNative"

▪ Optionally filter all native parts (unknown documents).

Functions B (<ENVIRONMENT FUNCTION>.B) aka "askToImport"

▪ Optionally import all native parts before the process.

Functions C (<ENVIRONMENT FUNCTION>.C) aka "ShowMessageBox"

▪ Optionally show a messagebox for native parts before the process starts if native parts were detected.

Functions D (<ENVIRONMENT FUNCTION>.D) aka "Cancel"

▪ Optionally cancel the process before it starts if native parts were detected.

Example using the Update Attributes Advanced function.
(Configured in the ribbon toolbar "Update Attributes")

(Advanced = selected files, if nothing is selected, the working part is used).
Each environment variable gets the prefix `UGII_D_MANAGED`.

▪ `UGII_D_MANAGED_UPDATE_ATTR_ADV.A = false`
  Do not filter native parts.
▪ `UGII_D_MANAGED_UPDATE_ATTR_ADV.B = false`
  Do not propose/perform an import.
▪ `UGII_D_MANAGED_UPDATE_ATTR_ADV.C = true`
  Issue warning if native parts are included.
▪ `UGII_D_MANAGED_UPDATE_ATTR_ADV.D = false`
  No abort if native parts are passed to the function.

6.2. Configuration of the filter functions

The following table lists all NX actions with the environment variables that need to be extended by a filter and shows how these filters are set.

First, set the variable `UGII_D_MANAGED_PROOF` to `true`.

Legend

t = `true`
f = `false`

Action	Variable	A	B	C	D
Attribute					
`029_sap_update_attributes`	`UPDATE ATTR WP`	t	t	t	t
`041_sap_sel_attribs`	`UPDATE_ATTR_SEL`	t	t	t	t
`117_sap_upd_attr_adv`	`UPDATE_ATTR_ADV`	t	t	t	t
Save					
`006_sap_save_wp`	`SAVE WP`	f	t	f	t
`134_sap_save_sel`	`SAVE SEL`	f	t	f	t
`139_sap_save_adv`	`SAVE ADV`	f	t	f	t
`005_sap_save_assy`	`SAVE_ASSY`	f	t	f	t
`004_sap_save_all`	`SAVE ALL`	f	t	f	t
SaveCheckin					
`009_sap_save_wp_checkin`	`SAVE_WP_CHECKIN`	f	t	f	f
`133_sap_save_checkin_sel`	`SAVE_SEL_CHECKIN`	f	t	f	f
`131_sap_save_checkin_adv`	`SAVE ADV CHECKIN`	f	t	f	f
`008_sap_save_assy_checkin`	`SAVE_ASSY_CHECKIN`	f	t	f	f
`007_sap_save_all_checkin`	`SAVE ALL CHECKIN`	t	t	f	t
SaveAs					
`014_sap_save_as_nv`	`SAVEAS NV`	f	t	f	f
`137_sap_save_as_new_version_sel`	`SAVEAS_NV_SEL`	f	t	f	f
Checkout					
`013_sap_checkout_wp`	`CHECKOUT_WP`	f	f	t	t
`043_sap_sel_checkout`	`CHECKOUT SEL`	f	f	t	t
`116_sap_checkout_adv`	`CHECKOUT ADV`	f	f	t	t
New					
`002_sap_new_nonmaster`	`NEWNONMASTER`	f	t	t	t
`063 sap new nonmaster wp as_template`	`NEWNONMASTER_WP_AS_TEMPLATE`	f	t	t	t

Action	Variable	A	B	C	D
	Add / Replace				
145_sap_replace_version	REPLACE VERSION	f	f	t	t
171_sap_replace_version_adv REPLACE_VERSION	REPLACE_VERSION_ADV	f	f	t	t
	CAD supported functions				
322_sap_make_unique	MAKEUNIQUE_COMP	f	t	t	t
	SAP- supported functions				
178_sap_check_for_upd_adv UPDATE_CHECK	UPDATE_ASSY	f	f	t	t
144_sap_check_for_upd	UPDATE CHECK	f	f	t	t
329_sap_material_find	MATERIAL_ASSIGN	f	t	t	t
017_sap_create_mat	MATERIAL CREATE	f	f	t	t
018_sap_change_mat	MATERIAL_CHANGE	f	f	t	t
019_sap_display_mat	MATERIAL_DISPLAY	f	f	t	t
068_sap_set_material_for_ component	MATERIAL_ATTR_SET_TO_COMP	f	f	t	t
020_sap_create_bom	BOM_CREATE	f	f	t	t
021_sap_change_bom	BOM_CHANGE	f	f	t	t
022_sap_display_bom	BOM DISPLAY	f	f	t	t
048_sap_display_bom_multi	BOM_DISPLAY_MULTI	f	f	t	t
023_sap_create_ecn	ECN CREATE	f	f	t	t
024_sap_change_ecn	ECN_CHANGE	f	f	t	t
025_sap_display_ecn	ECN DISPLAY	f	f	t	t
026_sap_display_dir	DIR_DISPLAY_WP	f	f	t	t
042_sap_sel_display_dir	DIR DISPLAY SEL	f	f	t	t
115_sap_display_dir_adv	DIR DISPLAY ADV	f	f	t	t
331_sap_display_dir_ob_sel	DIR DISPLAY SEL OBJ	f	f	t	t
330_sap_display_dir_ob_adv	DIR_DISPLAY_ADV_OBJ	f	f	t	t

Action	Variable	A	B	C	D
034_sap_change_dir	DIR CHANGE WP	f	f	t	t
035_sap_ps_dir	DIR_DISPLAY_PS_WP	f	f	t	t
036_sap_ps_mat	MATERIAL DISPLAY PS WP	f	f	t	t
	SAP Additionals				
135_sap_send_selected_parts	SEND SEL PARTS	t	t	t	t
147_sap_send_loaded_parts	SEND_LOADED_PARTS	t	t	t	t
126_sap_save_temporary	STORE TEMPORARY	f	t	t	t
113_sap_change_status	STATUS_CHANGE	f	t	t	t
122_sap_change_multi	CHANGE_MULTI	f	t	f	f
	CAD Family				
030_sap_family_save_close	SAVE FAMILY CLOSE	f	t	t	t
132_sap_family_save	SAVE_FAMILY_SAP	f	t	t	t
	CAD Additionals				
103_sap_create_id_object	CREATE_BALLOON	f	f	t	t
123_sap_create_id_object_under-line	CREATE_BALLOON_UNDERLINE	f	f	t	t
146_sap_auto_ballooning	AUTOBALLOONING	f	f	t	t
107_sap_update_drf_symbols	UPDATE DRAFTINGSYMBOLS SEL	f	f	t	t
108_sap_update_all_drf_symbols	UPDATE_DRAFTINGSYMBOLS_ALL	f	f	t	t
055_sap_drw_upd_posnr	UPDATE POSNR	f	f	t	t
141_sap_drw_upd_posnr_data	UPDATE_POSNR_DATA	f	f	t	t
101_sap_open_part_for_in-sert_view_from_op	INSERTVIEW_FROM_OTHER_PART	f	t	t	t
149_sap_create_monolithic_jt	CREATE_JT_MONOLITHIC	f	t	t	t

7. ++convert.exe file

7.1. Using the ++convert.exe file in a separate script

This chapter describes how to use the `++convert.exe` file in a separate script.

The ++convert.exe is a program of the NX integration which can handle parts without having an open NX session.

- The NX environment has to be set with the following directory variables:
  - `UGII_BASE_DIR`

The PATH environment variable must include `root` and `nxbin dir`.

```
SET UGII_BASE_DIR=C:\Program Files\Siemens\NX 12.0

SET PATH=%%UGII_BASE_DIR%\nxbin;%UGII_BASE_DIR%\ugii;%PATH%

SET UGII_LOCAL_USER_DEFAULTS=%PLM_INSTDIR_CONF%\applications\ugs\
customize\appdata\userdefaults.dpv

%PLM_TEMPBIN%\..\ugs\bin\++convert.exe %* -copy_nxlog "%PLM_LOGDIR%"\
applications\ugs\userscript.syslog

SET XER_LEV=%ERRORLEVEL%

ECHO Errorlevel: %XER_LEV%

EXIT /b %XER_LEV%
```

When calling the script from the DType `<checkin_rules><scripts>...`, the part is then opened in NX and it is necessary to specify the parameter `-dont_save_part` so that no problem occurs in the "second" save process in NX because of this.

Example call in a script file (within the DType)

```
%PLM_TEMPBIN%\..\ugs\bin\++convert.exe -p "<full qualified partname>" -d
"<Additional Directory>" -dont_save_part -search_dirs
"%PLM_SESS_DIR%"-load_components
```

By adding the parameter `pdf` or `cgm`, for example, a PDF/CGM file is created in the additional directory. If partner name rules need to be set, the same should be set as interactively:

```
UGII_LOCAL_USER_DEFAULTS=%PLM_INSTDIR_CONF%\applications\ugs\customize\
appdata\userdefaults.dpv
```

Excerpt of keys from the DType script

Description	Key in the DType
Additional Directory	`$(add_dir)`
Master File Name	`$(masterfile)`
Working directory	`$(session)`

Example call in the DType

```
<checkin_rules>
  <scripts>
    <script name="@PLM_BINDIR_UGS@\userscript.cmd">
  <params>
    <param name="-p" value="$(masterfile)"/>
    <param name="-d" value="$(add_dir)"/>
    <param name="-search_dirs" value="$(session)"/>
    <param name="-dont_save_part"/>
    <param name="-pdf"/>
    <param name="-load_components"/>
  </params>
  </script>
</checkin_rules>
```

Return codes of ++convert.exe

Typ	ID	Code	Process	Text
E	10	InitialisingXercesFailed	DscProcessInitialize	Error at XERCES Initialisation: %1
E	11	NoPartSpecified	DscProcessInitialize	No parts specified
W	12	InvalidParameter	DscProcessInitialize	Invalid parameter: %1, maybe '-' is missing
W	13	NoLicenseTryingAgain	DscProcessGetNxLicense	Could not get an NX license. Trying again. Sleep
E	14	NoLicense	DscProcessGetNxLicense	Failed to get an NX license (number of trials: %1)
E	15	AssemblyFromJtFailed	DscProcessBuild AssemFrom JTAccToXML	Error building NX assembly from JT file
E	16	OpeningAndSaving JTFailed	DscProcess OpenJtAndSave	Error opening and saving JT file
E	17	OpeningAndSavingJt AssemblyFailed	DscProcess OpenJtAndSave	Error opening and saving JT assembly
E	18	JtConversionNx Exception	DscProcess OpenJtAndSave	NX-Exception in JT conversion: %1
E	19	JtConversionDsc Exception	DscProcess OpenJtAndSave	DSC-Exception in JT conversion: %1
E	20	JtConversionException	DscProcess OpenJtAndSave	Exception in JT conversion: %1

Typ	ID	Code	Process	Text
E	21	JtConversion UnknownException	DscProcess OpenJtAndSave	Unknown exception in JT conversion
E	22	SavingFamily MemberFailed	DscProcessUpd AttribFamMembers	Error saving part family member. Error %1
E	23	CopyingFamily MemberFailed	DscProcessUpd AttribFamMembers	Error copying part family member %1 -> %2
E	24	LoadingPartFailed	DscProcessOpen	Failed to load part
E	25	SavingFailed	DscProcessSave	Error saving file. Error %1
E	26	SavingAsFailed	DscProcessSave	Error saving file as. Error %1
E	27	ChangingFamily MembersFailed	DscProcessChangeFamilyMembers	Error changing family members. Error %1
W	28	GettingInterpartLinked PartsFailed	DscProcessCreate MetaInf	Error getting InterpartLinkedParts. Error %1
E	29	UpdatingModelFailed	DscProcessUpd Expression	Error while updating model after expression set. Error %1
E	30	CadRenamerError	DscProcessCad Renamer	Error while running cad renamer
E	31	CadRenamerException	DscProcessCad Renamer	Exception while running cad renamer
E	32	SaveAsSimNxException	DscProcessSaveAsSim	NX-Exception in SaveAs for Simulation files: %1
E	33	SaveAsSimDsc Exception	DscProcessSaveAsSim	DSC-Exception in SaveAs for Simulation files: %1
E	34	SaveAsSimException	DscProcessSaveAsSim	Exception in SaveAs for Simulation files: %1
E	35	SaveAsSim UnknownException	DscProcessSaveAsSim	Unknown exception in SaveAs for Simulation files
E	36	ClosingFileFailed	DscProcessMake Monolithic	Error closing file. Error %1
W	37	---	---	ReportLog can't be created on %1

Typ	ID	Code	Process	Text
W	38	InconsistentBaseUnits	DscProcessMake Monolithic	Inconsistent base units detected. The display part %1 has %2 units, the component part %3 has %4 units. Parameter -export_monolithic_daof set, so skip part to avoid errors.
E	39	CreatingDirectoryFailed	DscProcessMake Monolithic	Error creating directory. Error %1 - %2
W	40	SettingDaof	DscProcessMake Monolithic	setting update failure Option to acceptAll.to support export functionality cause of -export_monolithic_daof
I	41	NotAllObjectsExported	DscProcessMake Monolithic	This is declared as Info %1
E	42	ExportFailed	DscProcessMake Monolithic	Error during export. Error %1. Use parameters \"-output_part_name\" and \"-output_part_dir\" to specify different part name and directory
E	43	InconsistentBaseUnits	DscProcessMake Monolithic	Inconsistent base units detected. The display part %1 has %2 units, some of the component parts has %3 units.
E	44	ExportError	DscProcessMake Monolithic	Error during export. Error %1 - %2
E	45	ExportedFileNotFound	DscProcessExpPara	Error file not found after export. %1
W	46	SettingFailure Method Failed	DscProcessOpen	cant set update failure Method to %1
I	47	Info	DscProcessImport	Info %1: %2 - %3
E	48	SavingReadonlyFailed	DscProcessSave	Error saving file. file %1 is readonly.
W	49	RoModified	DscProcessOpen	Warning %1: %2 - %3
W	51	FamilyMemberNotFound	DscProcessChange FamilyMembers	Could not find member %1 during changing family members
E	52	GettingFamilyDataFailed	DscProcessChange FamilyMembers	Error cant get family data from Spreadsheet

Typ	ID	Code	Process	Text
E	53	EditingFamily MemberFailed	DscProcess ChangeFamilyMembers	Error in UF_FAM_edit_member. Error %1
W	54	ClearingPartFailed	DscProcessImport	Could not clear all objects in part
E	55	FileNotFound	DscProcessOpen	Opening the part failed. File not found: %1
W	56	BadLoadStatus	DscProcessOpen	Warning/Error(s) from load status(%1): %2
E	57	OpeningPartFailed	DscProcessOpen	Opening the part %1 failed with error %2
E	58	ImportFailed	DscProcessImport	Error on import: %1 - %2
E	59	CopyingSyslogFailed	DscProcessCopyNXLog	Error cant copy nxlog to %1
W	60	ClosingPartFailed	DscProcessClose	Error closing part file. Error %1
W	61	UpdateAttributesFailed	DscProcessUpdAttrib	Updating attributes failed. File %1 could not be found
W	62	IgnoredFamilyMember	DscProcessUpdAttrib	Part ignored, because it`s a part family member.
W	63	UpdateAttributes Exception	DscProcessUpdAttrib	Exception in Update attributes: %1
W	64	UpdateAttributes UnknownException	DscProcessUpdAttrib	Unknown exception in Update attributes.
W	65	VdaComplianceFailed	DscProcessVda ComplianceCheck	Error calling UF_MODL_ask_vda_4955_compliance. Error %1
W	66	VdaConfigNotFound	DscProcessVda ComplianceCheck	VDA config file %1 not found.
W	67	VdaConfigNotSpecified	DscProcessVda ComplianceCheck	Environment variable UGII_A_SAV_VDA_CONF_FILE is not defined.
W	68	WritingDimensionsFailed	DscProcessWrite Dimensions	Error writing all dimensions to file %1
W	70	NoFlatPatternFound	DscProcessTrumpf Export, DscProcess FlatPatternExport	Error: no Flat Pattern found in part.
W	71	CreatingVrmlFailed	DscProcessCreateVrml	Error creating vrml file. Error %1

Typ	ID	Code	Process	Text
W	72	SolidToStlFailed	DscProcessExpStl	Error putting solid into stl file.
W	73	NoFeatureNameFound	DscProcessExpStl	Error: no feature name found.
W	74	StlWarning	DscProcessExpStl	Errors occured, but file has been found.
W	75	StlFileNotFound	DscProcessExpStl	Errors occured, no file found.
W	76	GettingPartFailed	DscProcessExpPdf	Error getting part object.
W	77	NoValidSheets	DscProcessExpPdf	Error: no valid sheets recognized.
W	78	SettingColorWidthFailed	DscProcessExpPdf	Exception during setting custom color / width
W	79	LoadingWidthFileFailed	DscProcessExpPdf	Error loading custom width file %1
W	80	NoCustomFileLoaded	DscProcessExpPdf	Error: no custom file loaded. Configure UGII_D_PDF_CUST_WDF correctly or check syntax of file.
E (W)	82	SettingLoadOptionsFailed	DscProcessSet Loadoptions	Error: Setting the load options failed, please check if the directory exists.
W	83	DeletingAttributeFailed	DscProcessDelete Attributes	Error deleting attribute %1 - %2
E	84	ExtractAreaDataFailed	DscProcess ExtractAreaData	Extracting Area Data failed
W	85	UpdateStructureFailed	DscProcess UpdateStructure	Updating structure failed. Error: %1
W	86	DeleteLayerFailed	DscProcessDeleteLayer	Deleting Layer failed. Error: %1
W	87	RenameSpreadsheet Failed	DscProcess RenameSpreadsheet	Renaming Spreadsheet failed. Error: %1
W	88	FitViewFailed	DscProcessFitView	Error in Fit view: %1
W	89	CreateCgmFailed	DscProcessExpCgm	Error creating cgm: %1
E	90	ReplaceComponents Failed	DscProcess ReplaceComponents	File not found: %1
I	91	FileOpen	DscProcessOpen	Load File: %1

Typ	ID	Code	Process	Text
E	92	AssemblyFromSleFailed	DscProcessBuild AssemFromSle AccToXML	Error building NX assembly from SLE file
E	93	SleConversionException	DscProcessBuild AssemFromSle AccToXML	Exception in SLE conversion: %1
E	94	OpeningAndSaving SLEFailed	DscProcessOpen SleAndSave	Error open and save sle file
E	95	ExportError	DscProcessFlatPattern Export	Error to export file for part: %1 (%2)
E	96	CantGetNXLicense	DscProcessGetNx License	Error cant get nx license %1 for %2
I	100	StartPartLoop	DscProcessStartLoop	Analyzing part %1
E	101	GenerateHolderDataFailed	DscProcessGenerateHolderData	Error: Generating the holder data failed
E	102	ReplaceToolsFailed	DscProcessReplaceTools	Error: Replacing tools failed
E	103	Error updating expressions	DscProcessUpdExpression	Expression file: %1
E	104	NoMachineToolBuilderLicense	DscProcessPostToolAssembly	Getting machine tool builder license failed. Required license: ug_isv_full (\"Full functionality for Integrated Simulation and Verification\") OR nx_isv_mtb (\"Machine Tool Builder\") OR resource_manager_nx (\"Teamcenter Resource Manager\")
E	105	PostToolAssemblyException	DscProcessPostToolAssembly	Exception in kinematic builder
E	106	PostToolAssemblyError	DscProcessPostToolAssembly	Error: couldn`t find an MCS Csys in any component
E	107	ExportToolsFailed	DscProcessExportTools	Error: Parameter -tooldata_exportdir is missing
W	108	NoFlatPatternFound	DscProcessFlatPattern-Export	Error: no Flat Pattern found in part.
E	109	MovingMcsFailed	DscProcessMoveMcs	Error: Moving MCS failed

Typ	ID	Code	Process	Text
E	110	MoveMcsFailed	DscProcessMoveMcs	Error detecting tool tip position: %1
E	111	UpdateToolAttributesFai-led	DscProcessUpdToolAttrib	Tool not found.
E	112	CreateCgmFilesByLayer-ConfigFailed	DscProcessCgmByConfig	environment variable UGII_DSC_LAYER_CON-FIG_DIR is not configured
E	113	UnknownException	DscProcessUnknown	Error: Unknown exception oc-cured
E	114	setLayersOnOff	DscProcessLayerOnOff	Error getting drawings: %1 Error setting layer visibility
W	115	CgmMinSizeUnderrun	DscProcessExpCgm	Deleted cgm file %1, because it was smaller than UGII_D_CGM_MIN_S
E	116	UpdateViews	DscProcessUpdateViews	Error: Update Views for part: %1 on sheet: %2
E	117	CreatePreview	DscProcessCreatePre-view	Error creating Preview for: %1 with error: %2
E	118	OpenSingleLevelFailed	DscProcessOpenSin-gleLevel	Load error in open single level components: %1
E	119	CreateHpglFailed	DscProcessCreateHpgl	Error create Hpgl File for: %1 for sheet: %2 error: %3
E	120	CreatePsFailed	DscProcessCreatePs	Error create PS File for: %1 for sheet: %2 error: %3
E	121	ImportCgmFailed	DscProcessImportCGM	Error import CGM File: %1 for part: %2 error: %3
E	122	ConfigurationFailed	DscProcessConfigurati-onProof	Error config Setting: %1 content: %2 error: %3
E	123	PostToolAssemblyExcep-tion	DscProcessPostToolAs-sembly	Exception in kinematic builder
E	124	DscProcessCgmModel	DscProcessCgmModel	adding job failed: %1 saving cgm failed: %1

8. Known NX Issues

8.1. Working Remote

If you work remote with SAP ECTR interface to NX and NX and on your host computer the keyboard input is locked, communications problems could occur. NX does not react anymore to your input.

Ensure that the keyboard input is not locked on your host computer.

8.2. Previews from NX11

On a preview of a 3D model or an assembly, which is generated during the check-in process, the geometry can be detected only with difficulty.

This is due to the new Iray and Render mode, which is activated by default from NX 11 onwards.

This can be seen in the message for loading / the entry in the syslog:

This part is now converted to use the new Iray+ Ray Traced studio rendering which produces the best rendering results.

Any System Materials found in this part are converted to the new Iray+ materials.

In order to prevent this, you can deactivate the new Iray and Render mode (NX_RTS_IRAY=0) or change the preview generation using the variable UGII_D_PRV_MODEL_USEIMAGE=true.

8.3. Minimal loading

When using minimal loading, it is recommended to load parts without Part Name Rules, unless at least NX 1953 is used.

9. Handling of personal data

Personal data is backed up in the NX syslog through the NX integration. To locate the data, navigate to the following path in the Windows Explorer:

`%TEMP%\SAP\ECTR\%PLM_INSTID%\logs\applications\ugs`