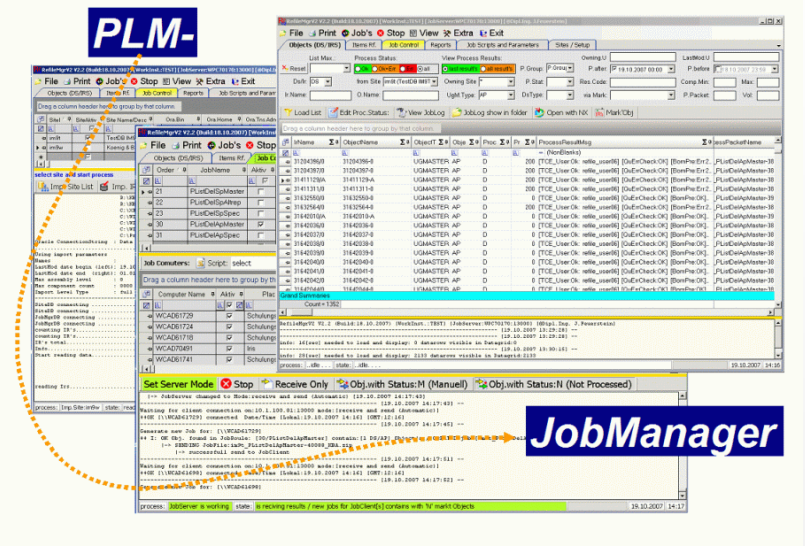


PLMJobManager

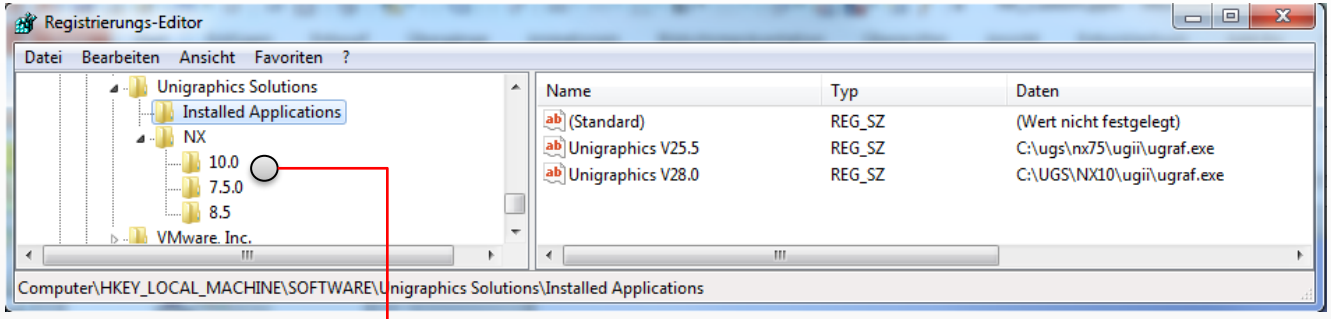
NX –Dokumentation - Mitschriften

Erstellt von: Josef Feuerstein
#LUp: 29.07.2024

Inhaltsverzeichnis

Setup to Control Ug – Version Settings

Registry



Name	Typ	Daten
(Standard)	REG_SZ	(Wert nicht festgelegt)
INSTALLDIR	REG_SZ	C:\UGS\NX10
LANGUAGE	REG_SZ	english
LICENSESERVER	REG_SZ	28000@jf-26
SETUPTYPE	REG_SZ	Custom
UGII_BASE_DIR	REG_SZ	C:\UGS\NX10

NX Environment

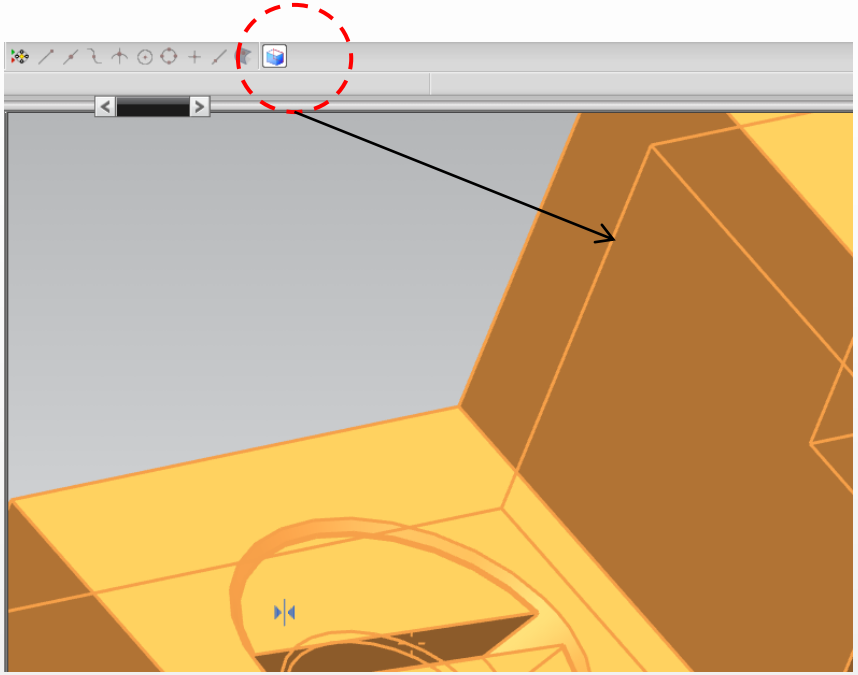
Description:	Kategorie	Description // Example	#New add
Basics UGII_XXX_DIR *1	**Startup**	.\startup Contains: .dpv = Customer defaults .\udo Contains: .ddl that are loadet at statup of NX	
set UGII_SITE_DIR=%	**Startup**	startup\nx100_site.dpv startup\nx_**#Key#**_Drafting_Standard_Site.dpv	
set UGII_GROUP_DIR	**Startup**	startup\nx100_group.dpv	
set UGII_USER_DIR	**Startup**	startup\nx100_user.dpv	
set UGII_LOAD_OPTION	**Startup**	startup**load_options.def**	
UGALLIANCE\SITE\udo	**Startup**	**.\UGALLIANCE\SITE\udo** Contains: .ddl that are loadet at statup of NX	**12/15**
Set UGII_ENV_FILE=	**Startup**	**.\ugii_env.dat** **# The following list is the master list of environment variables for** **# Windows NT systems. The variables are read from the file "ugii_env.dat"** **# when unigraphics processes start up. This list is meant to be** **# a master version of the UGII_ENV file.** **#** **# The following variables are exceptions, they must still be set correctly** **# in the user's environment. This is done by the UG installation.** **# UGII_BASE_DIR UGII_ROOT_DIR UGII_LICENSE_FILE** **# There is now an environment variable, UGII_ENV_FILE, that can be used to** **# locate this file. This variable can be set in the environment, and must** **# point to a valid environment file. The search for the environment file** **# proceeds as follows:** **# 1. If the environment variable UGII_ENV_FILE is set, then the file** **# it refers to is used.** **# 2. If there is a ugii_env.dat file in the directory that UG is** **# started from then it is used.** **# 3. If there is a ugii_env.dat file in the users home directory as** **# specified by the HOME environment variable, it is used.** **# 4. If none of the above found a file, ugii_env.dat in UGII_ROOT_DIR is used.**	
UGII_CUSTOM_DIRECTORY_FILE	**Startup**	**.\custom_dirs.dat** All in file listed directorys are loading nx settings in Mechanismen like **UGII_XXX_DIR (*1)** **set UGII_CUSTOM_DIRECTORY_FILE=%CmdCurRoot_DP%\dummy.dat**	**01/17**
Set UGII_USER_PROFILE_DIR	**Startup**	, UGII_USER_PROFILE_DIR=$UGII_USER_DIR # Keep NX user profile files (user.mtx; history.pax; history_ugmgr.pax; dialogmemory.dlx) # in User Profile (${APPDATA}\Unigraphics Solutions\NX)	**01/17**

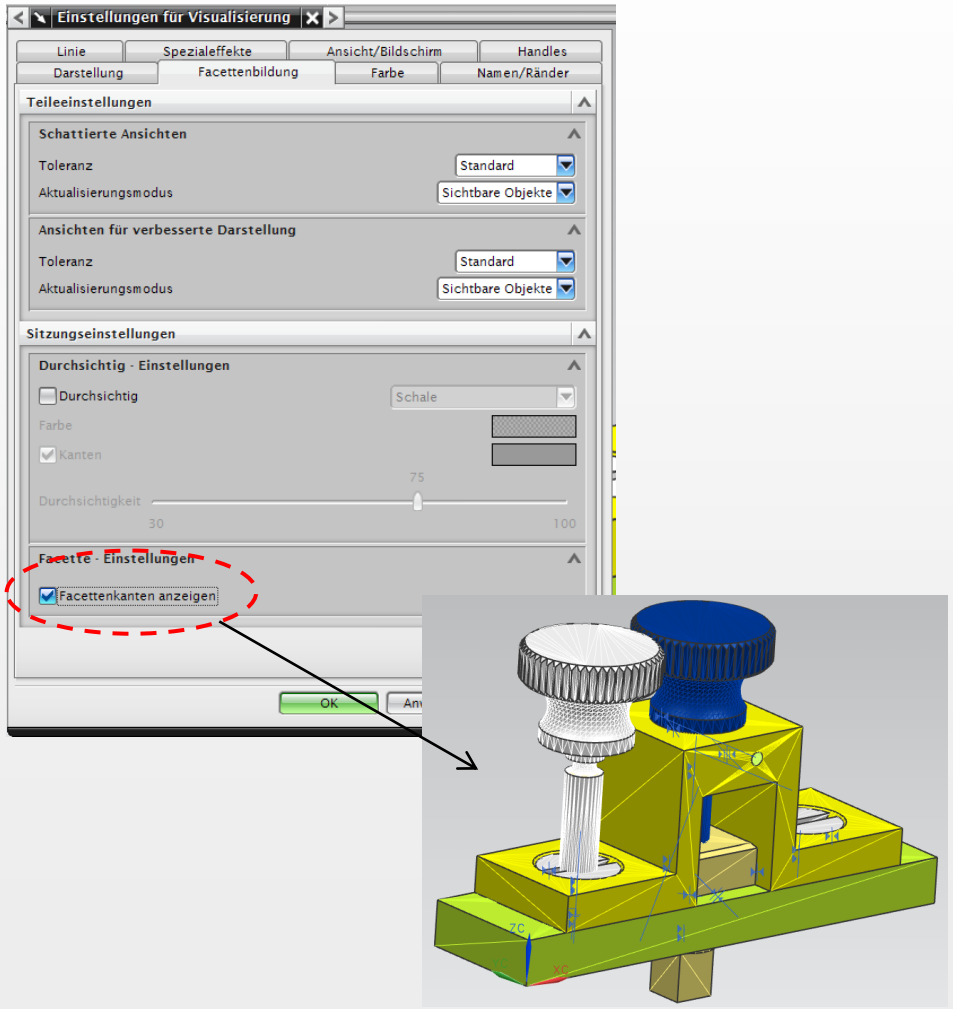
NX Environment

Description:	Kategorie	Example	#New
BCT_EOMS_DIR		Example set BCT_EOMS_DIR=%UGII_BASE_DIR%\BCT_v15\	
UGII_CONVERT_LEGACY_?????_ LINEWIDTH_TO_NEW_LINEWIDTH	Convert	NX ignores variables and default settings for line width Symptom --------------- Wrong line width using legacy NX6 data, or create new parts basing on templates. Variables and customer default get ignored. 1 == 0.13 mm 2 == 0.18 mm 3 == 0.25 mm 4 == 0.35 mm 5 == 0.50 mm 6 == 0.70 mm 7 == 1.00 mm 8 == 1.40 mm 9 == 2.00 mm set UGII_CONVERT_LEGACY_THIN_LINEWIDTH_TO_NEW_LINEWIDTH=3 # (0.25) Set UGII_CONVERT_LEGACY_NORMAL_LINEWIDTH_TO_NEW_LINEWIDTH=4 # (0.35) Set UGII_CONVERT_LEGACY_THICK_LINEWIDTH_TO_NEW_LINEWIDTH=5 # (0.5) in ugii_env_ug.dat and start NX again.	09/2016

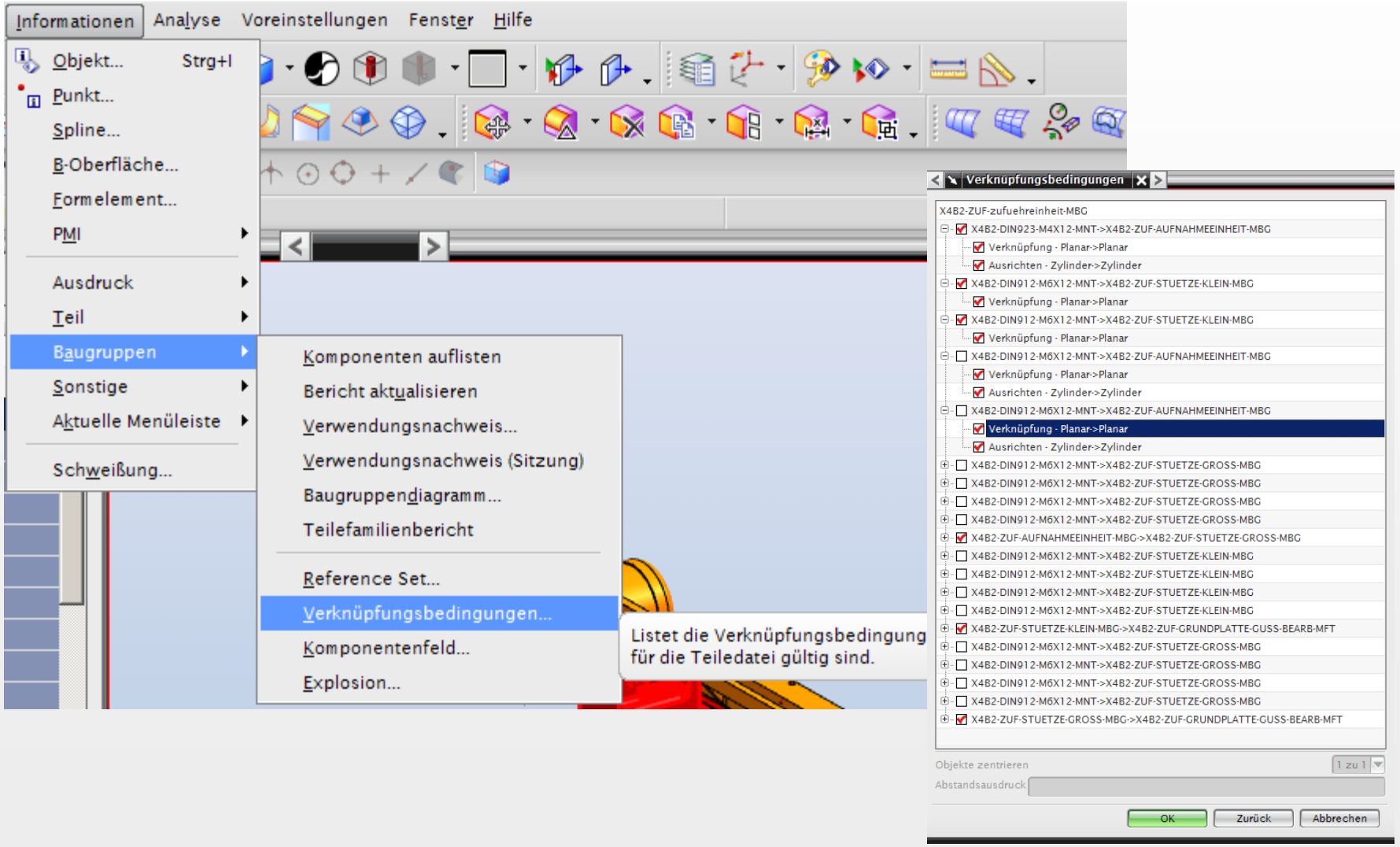
Baugruppen Anwenderstandards

Einstellungen der Anwenderstandards





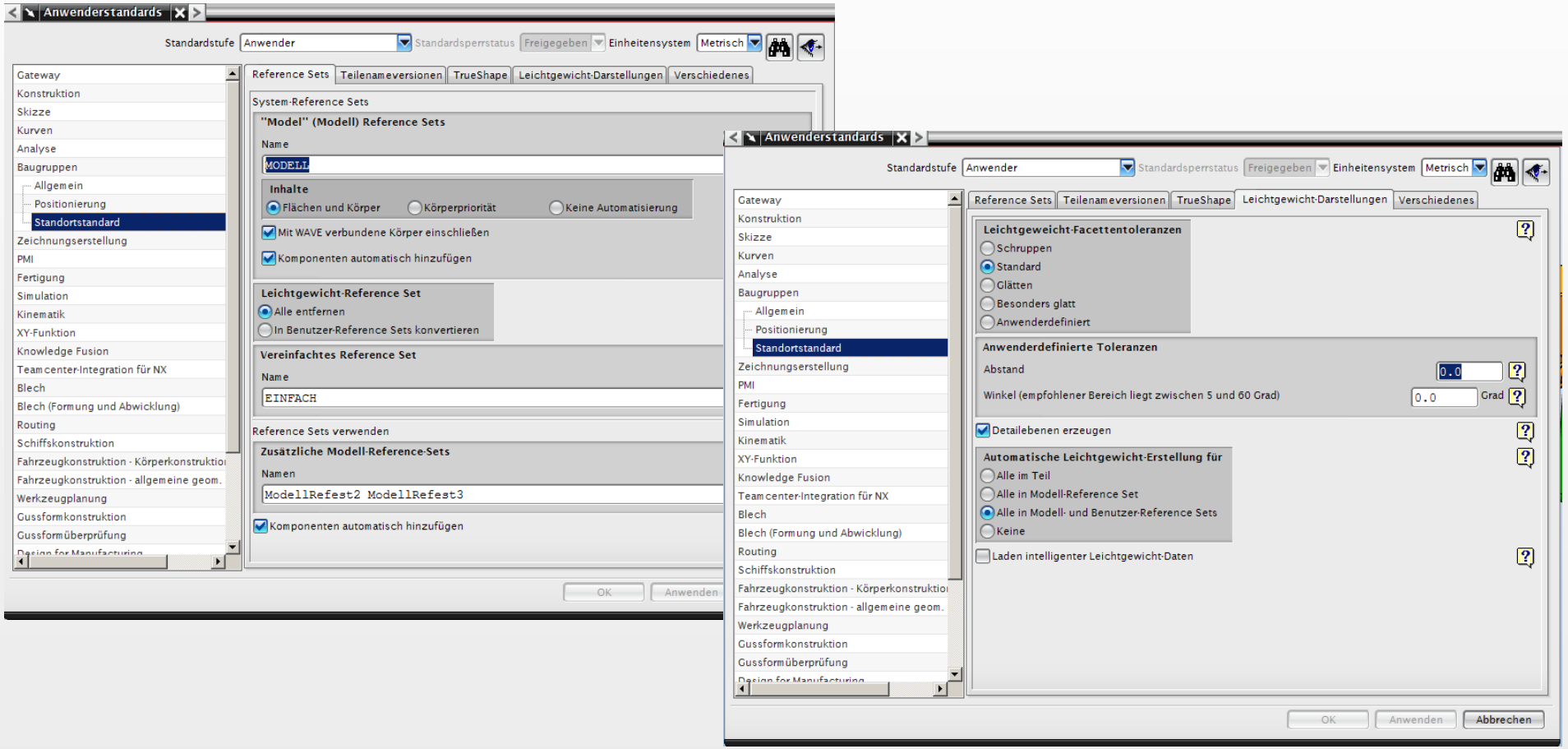
Baugruppen Verknüpfungsbedingungen auflisten



Baugruppen Verknüpfungsbedingungen …

Verzögert Aktualisierung → Performance

Wie funktioniert das Laden der Struktur genau.?
Tool erstellen lassen das ein Speichern der aktuellen Komponenten POS durchführt und dieses Daten zu einem 2 Zeitpunkt miteinander Vergleichen kann
Bestehende Facetten ersetzen bzw. löschen lassen? → wie geht das? Beim refile?

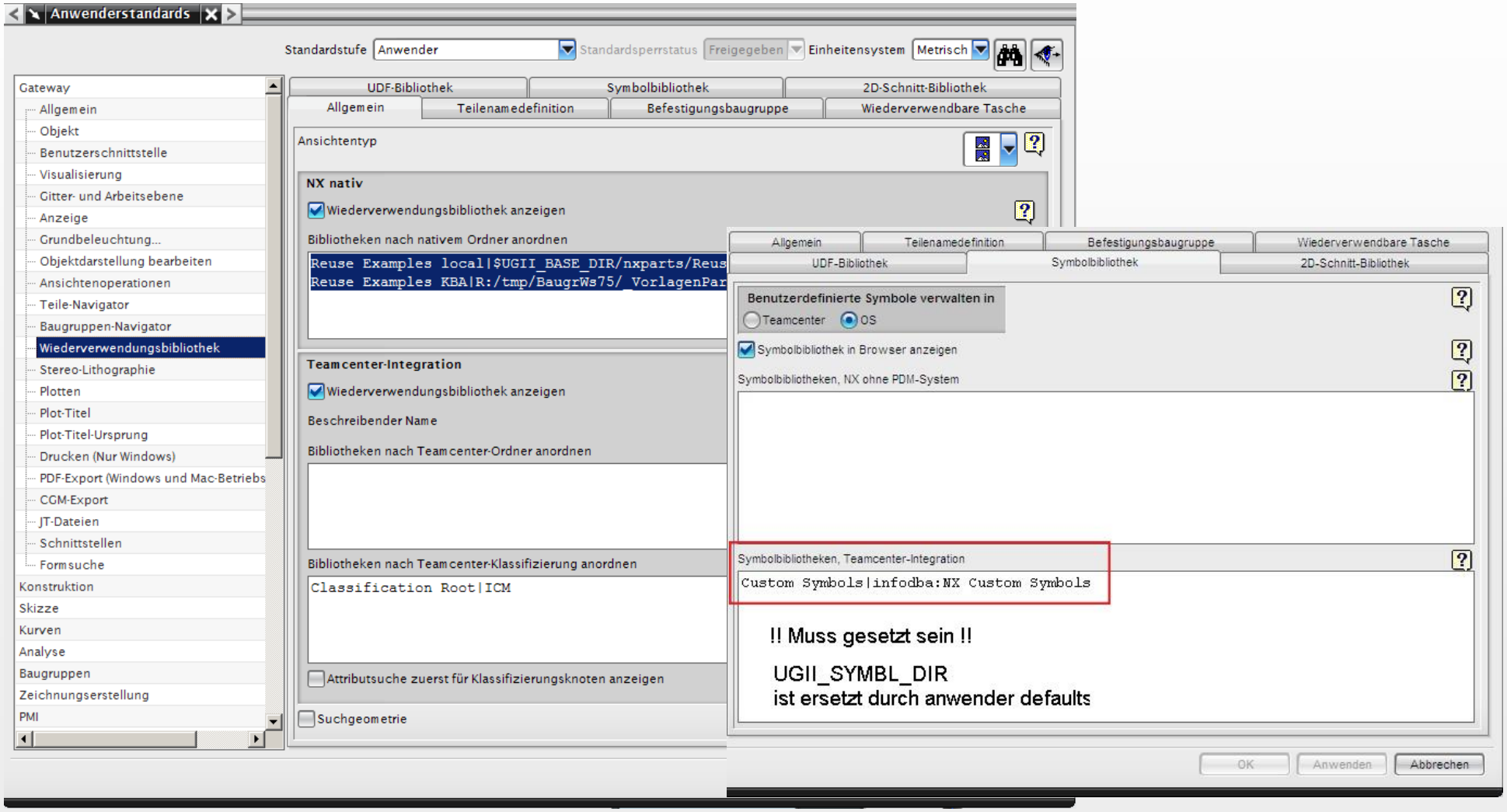


Baugruppen Zeichnungserstellung

Ansichten Stil → Verdeckte Kanten → Volumenkörper Durchdringung →

Reuse

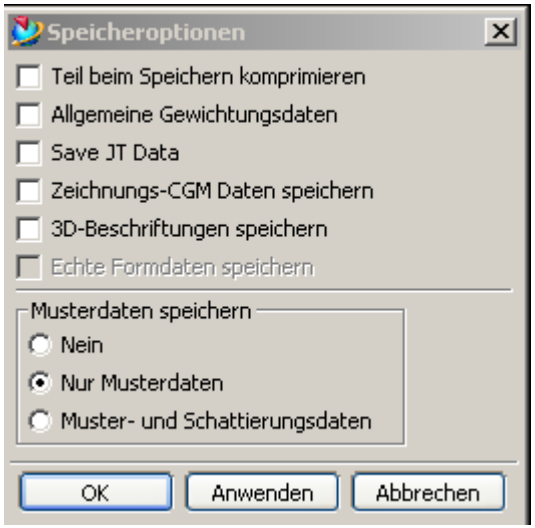
Anwenderstandards



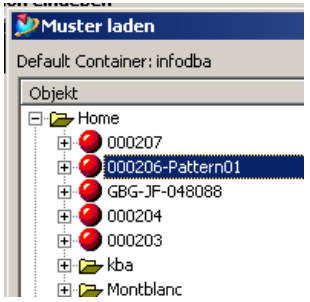
Dokumentation: Arbeiten mit Pattern/Musterdaten

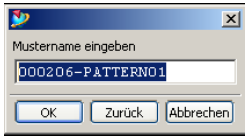
Erzeugung:

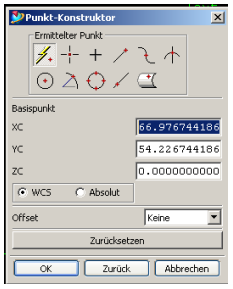
Datei → Optionen → Speicheroptionen → Nur Musterdaten → Anwenden → Ok



Format: → Muster → Muster laden



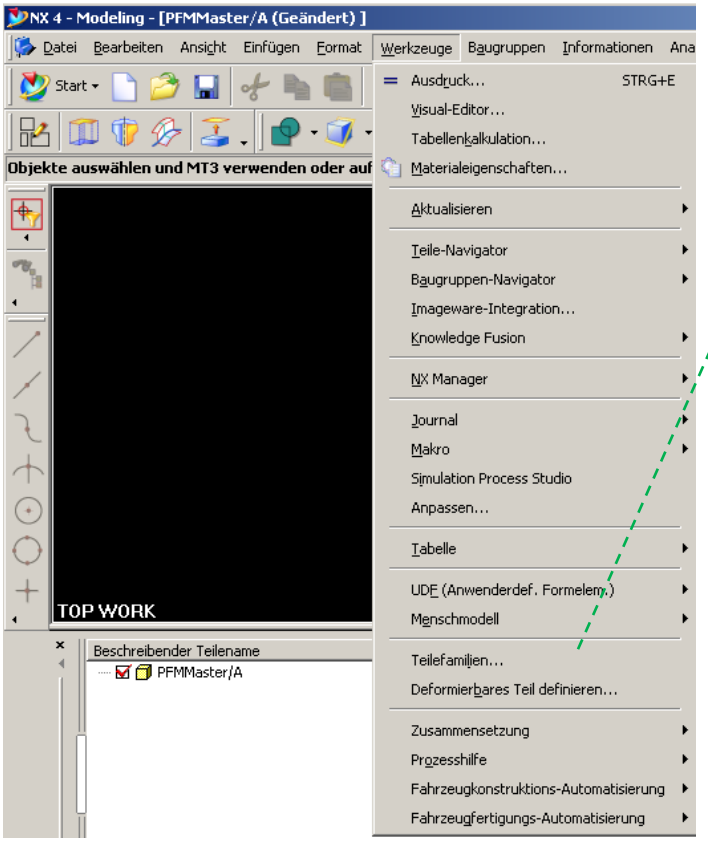


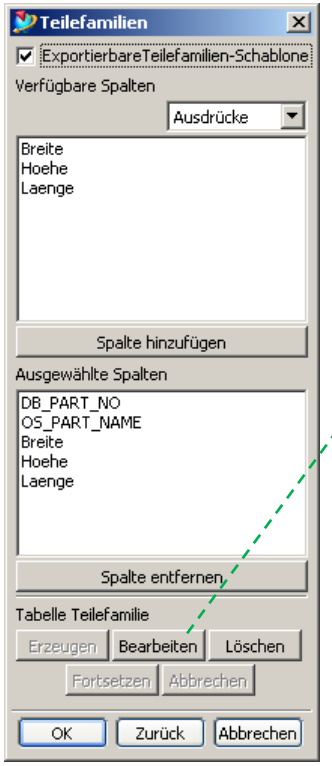


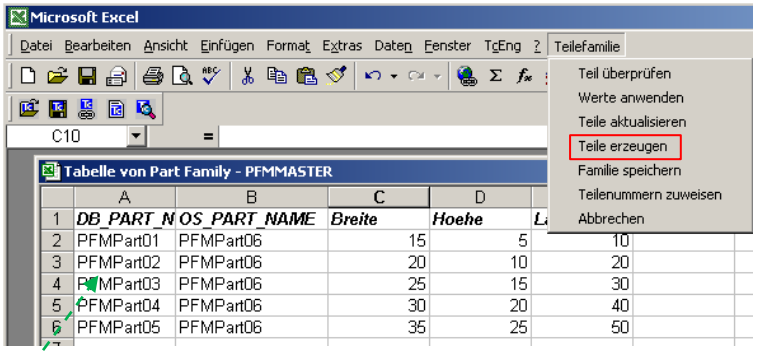
Dokumentation: Arbeiten mit PFM PartFamilieMembers

Erzeugung: Werkzeuge → Teilefamilien..

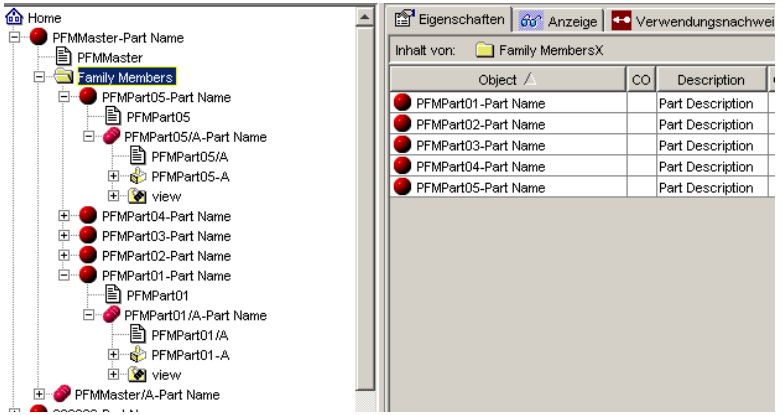
Voraussetzung: !! - Excel muss verfügbar sein - !!







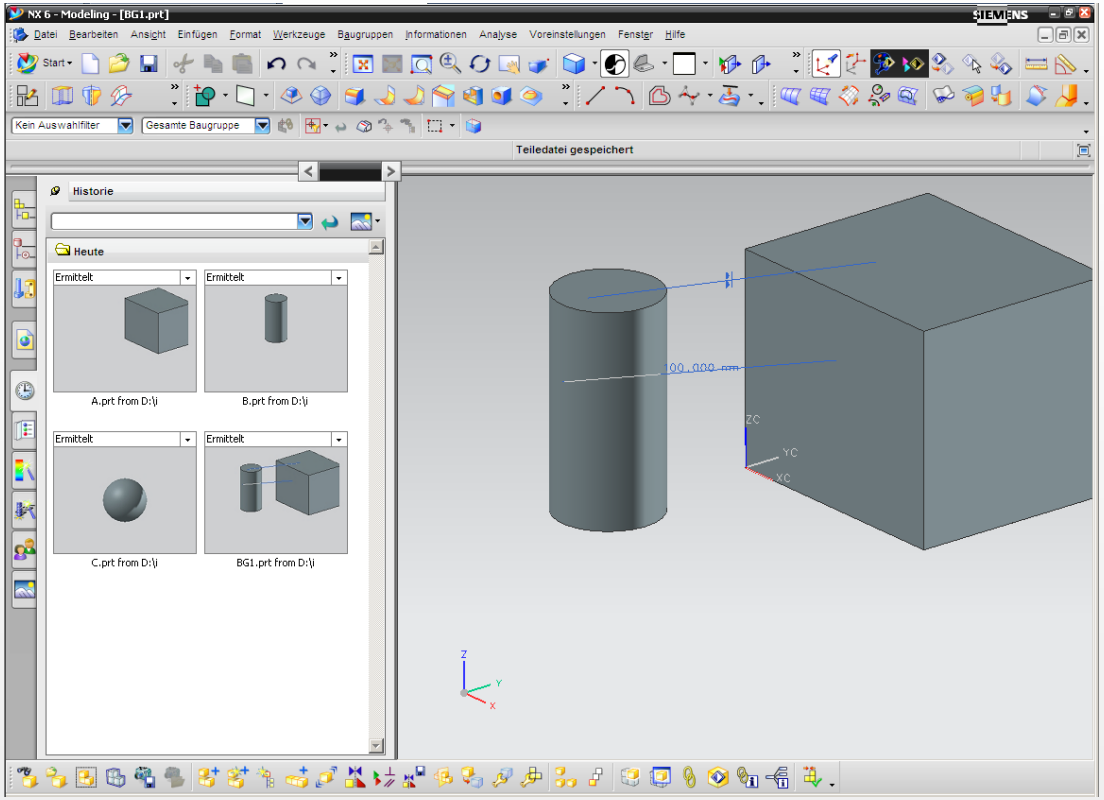
TCE



Load Options: Allow Substitution

allow_substitution Native

Initial situation:

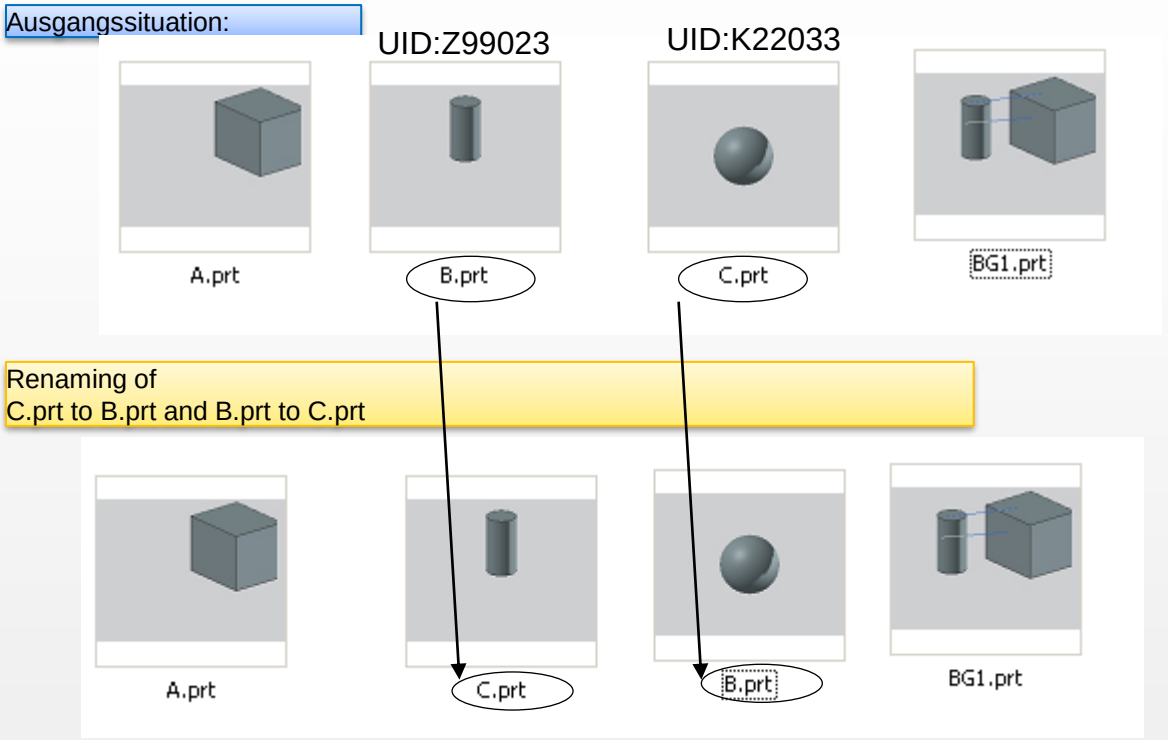


Allow Replacement (Ersatz zulassen)

Allows the assembly to be loaded with a component with an incorrect internal identifier (but the correct name), even though it is a completely different part.
Note: If the new component and the replaced component do not have a common history, the update will not contain any common history either, so all data associated with the original component will be lost.
Once the opening operation has been completed, NX issues a report stating that the replacement has taken place.
*** Translated with www.DeepL.com/Translator (free version) ***

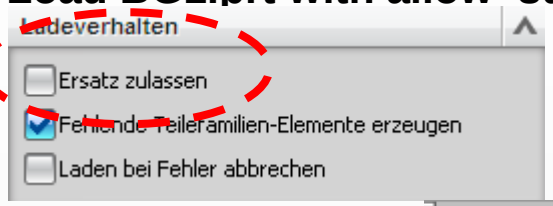
Load Options: Allow Substitution

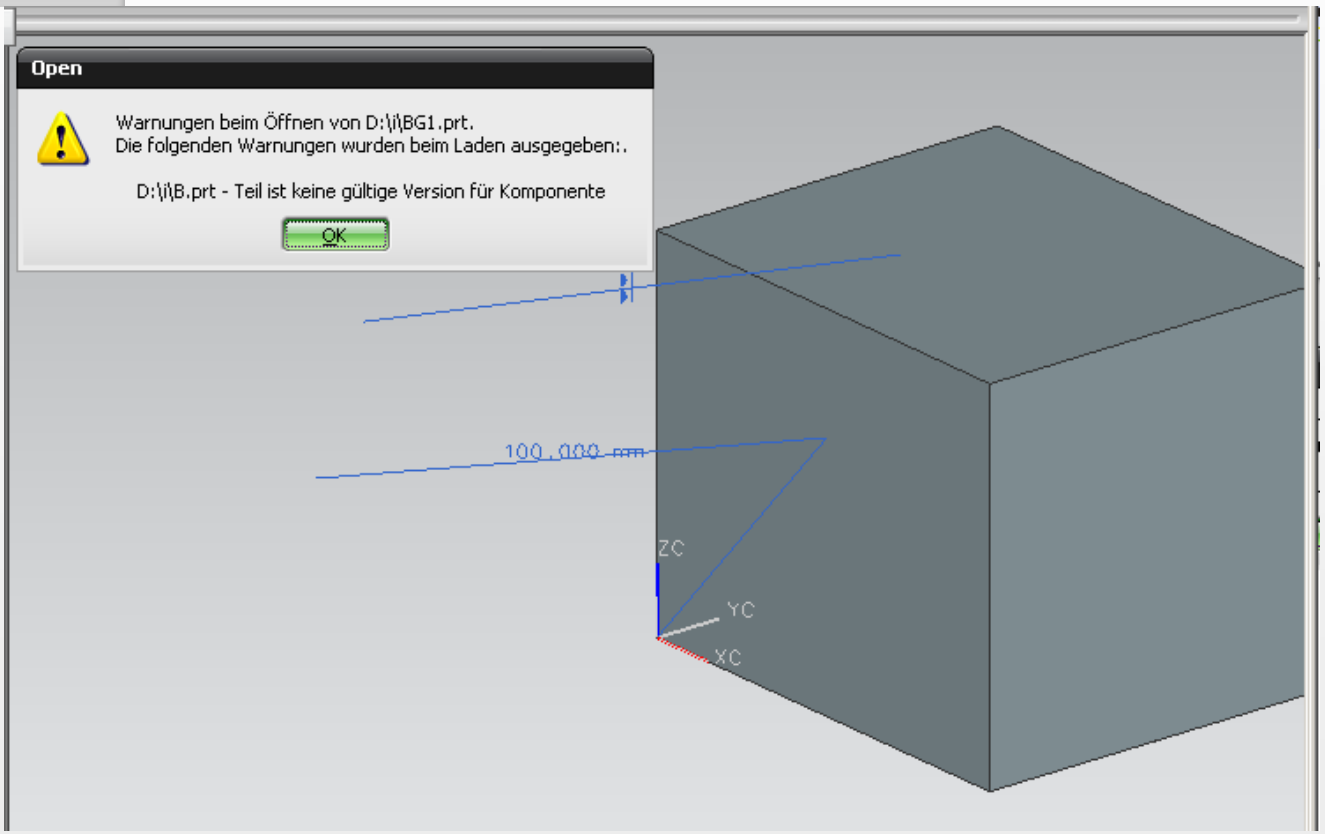
allow_substitution



Load Options: Allow Substitution

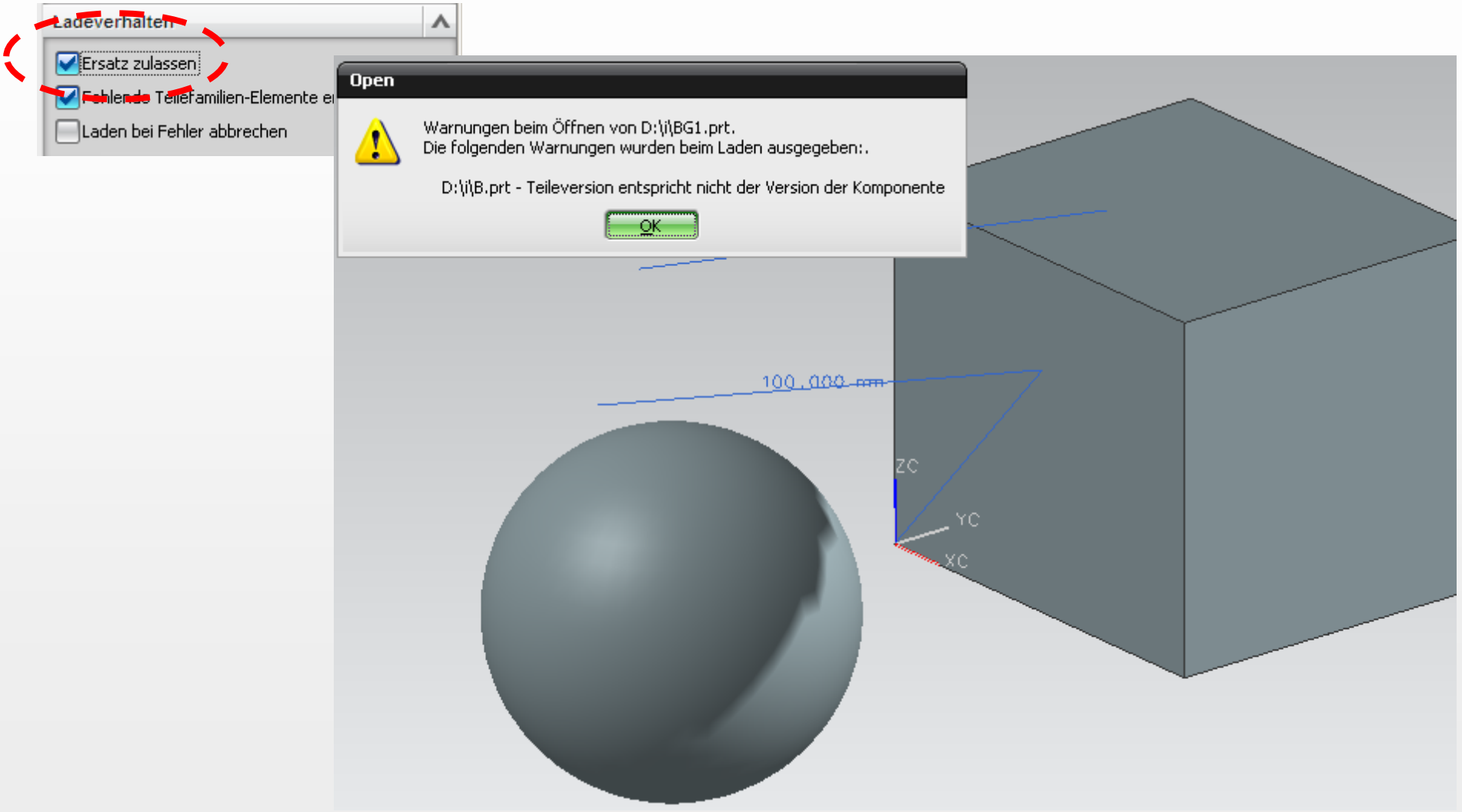
Load BG1.prt with allow_substitution=no





Load Options: Allow Substitution

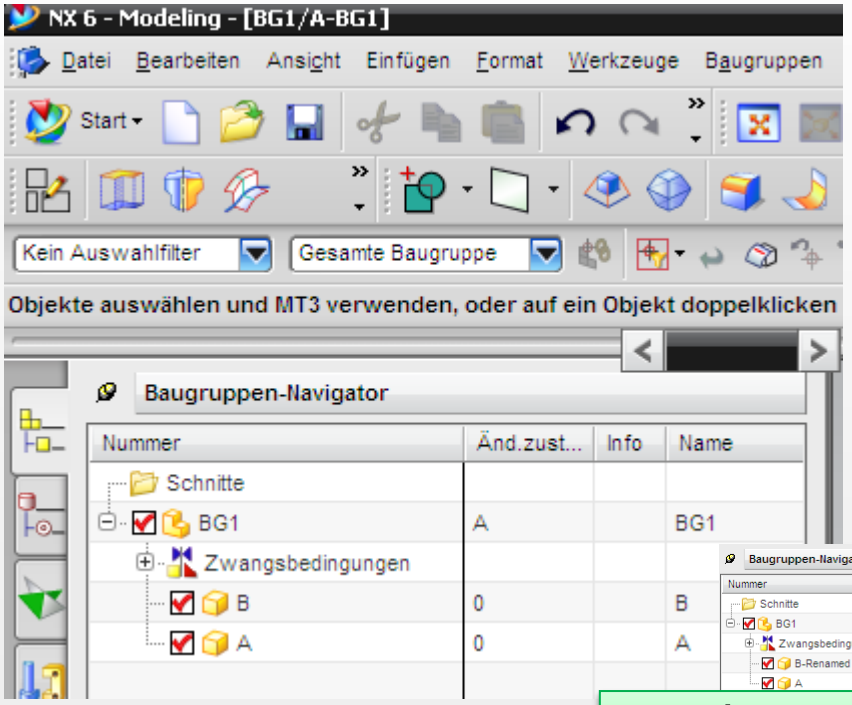
Loading the BG1.prt with allow_substitution=yes



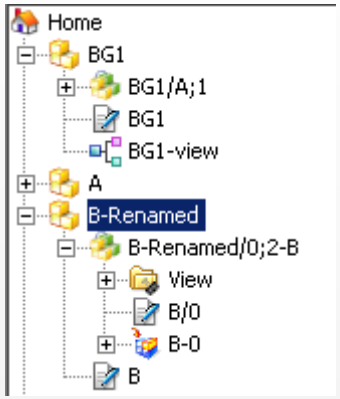
Load Options: Allow Substitution

allow_substitution Tc Check after renaming the ItemID

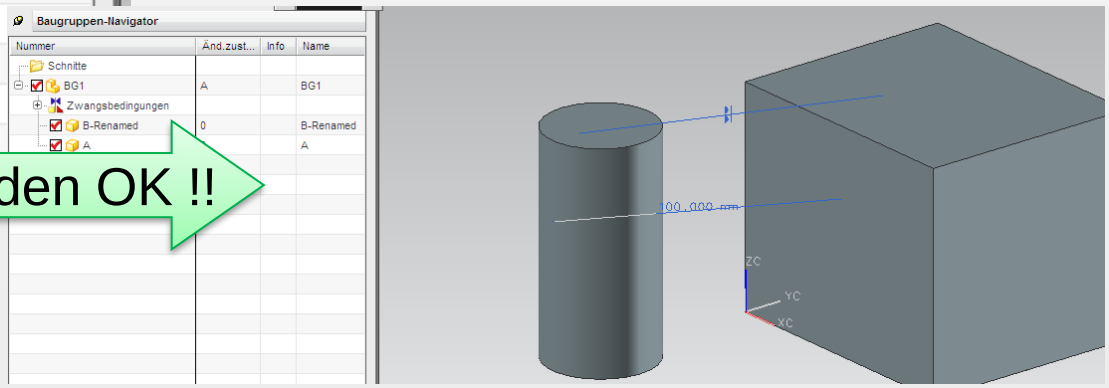
Ausgangssituation:



Situation nach umbenennen der Item ID



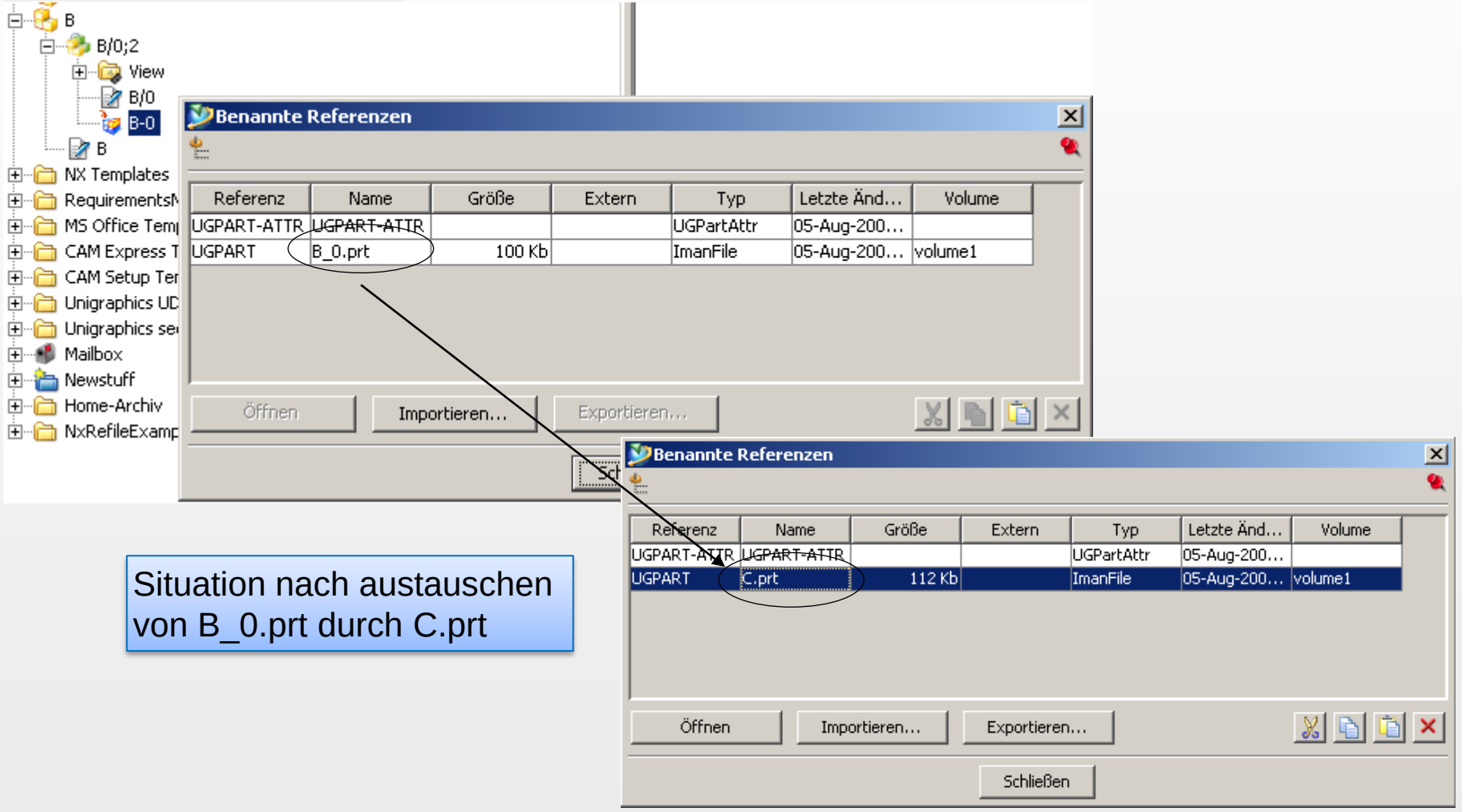
Laden OK !!



Load Options: Allow Substitution

allow_substitution Tce Überprüfung nach dem Austausch von B durch anderes Part via Benannte Referenz

Ausgangssituation:

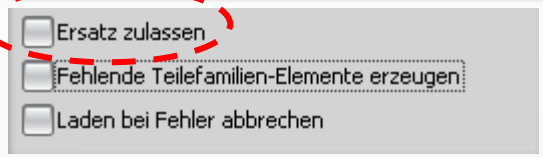


Situation nach austauschen von B_0.prt durch C.prt

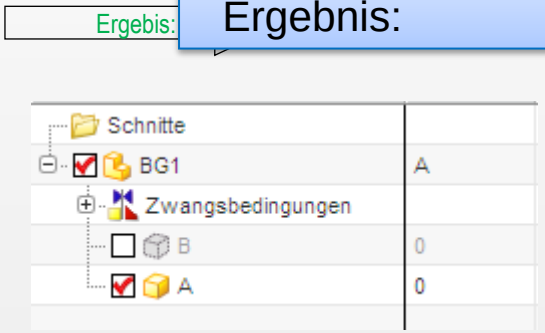
Load Options: Allow Substitution

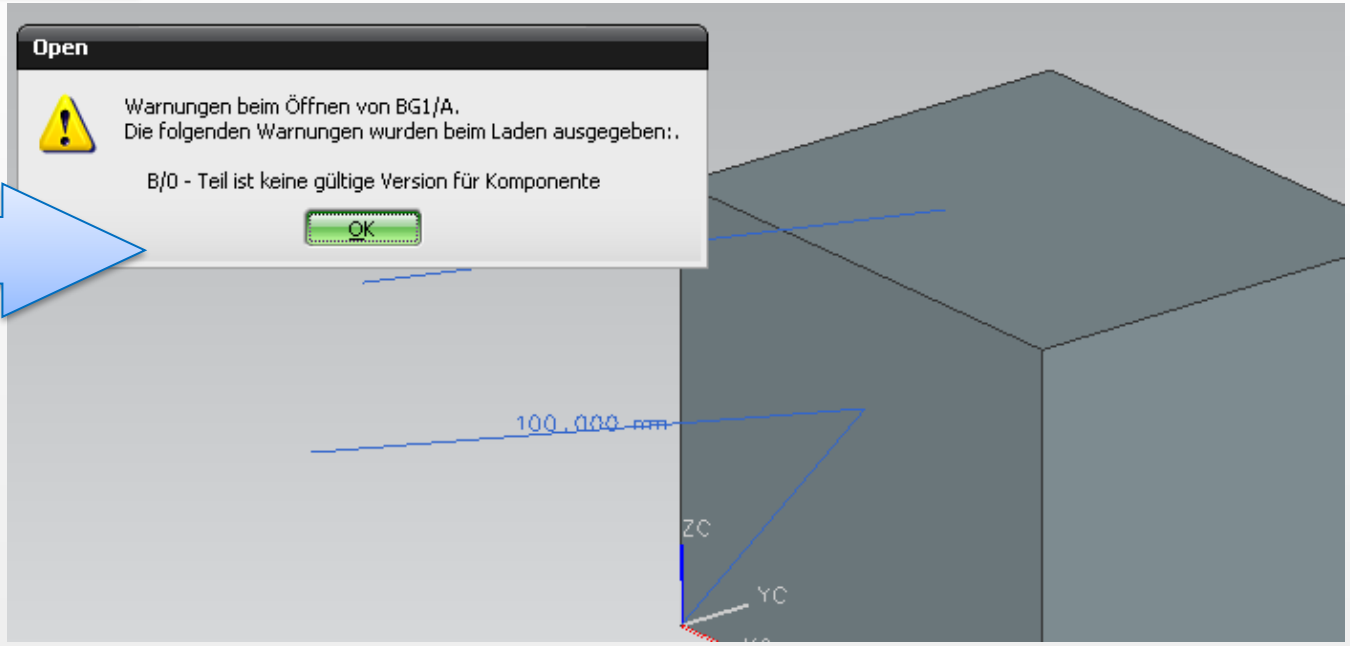
allow_substitution Tc Überprüfung nach dem Austausch von B durch anderes Part via Benannte Referenz

Laden mit Einstellung:



Ergebnis:

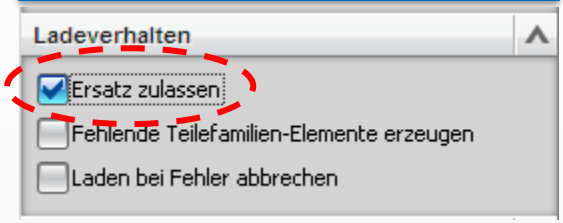




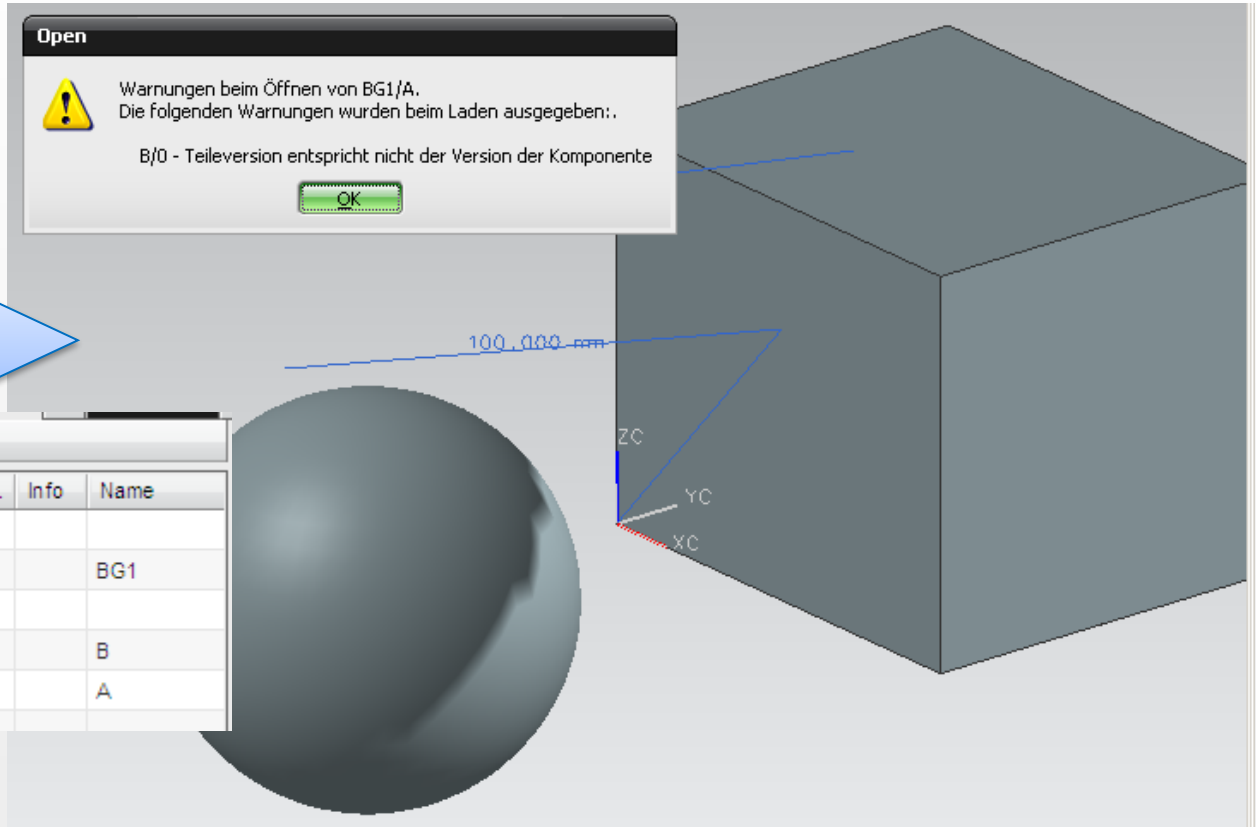
Load Options: Allow Substitution

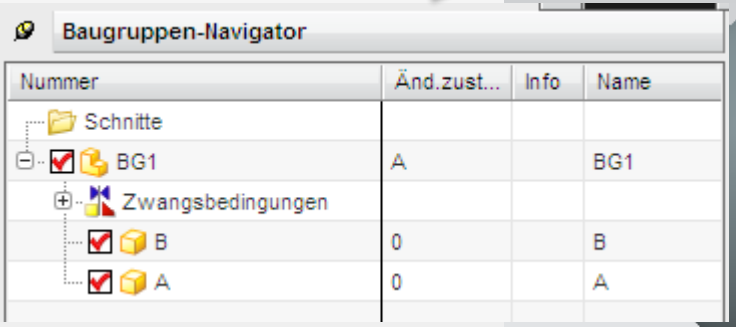
allow_substitution Tce Überprüfung nach dem Austausch von B durch anderes Part via Benannte Referenz

Laden mit Einstellung:

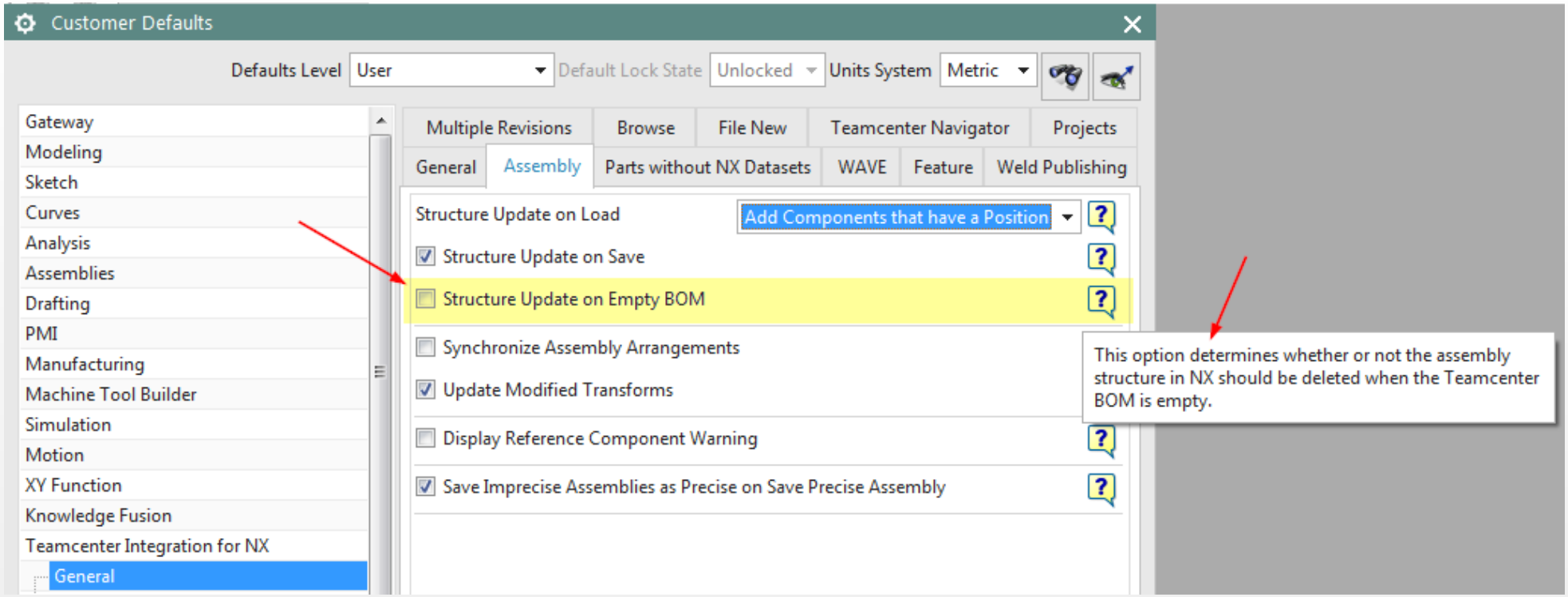


Ergebnis:



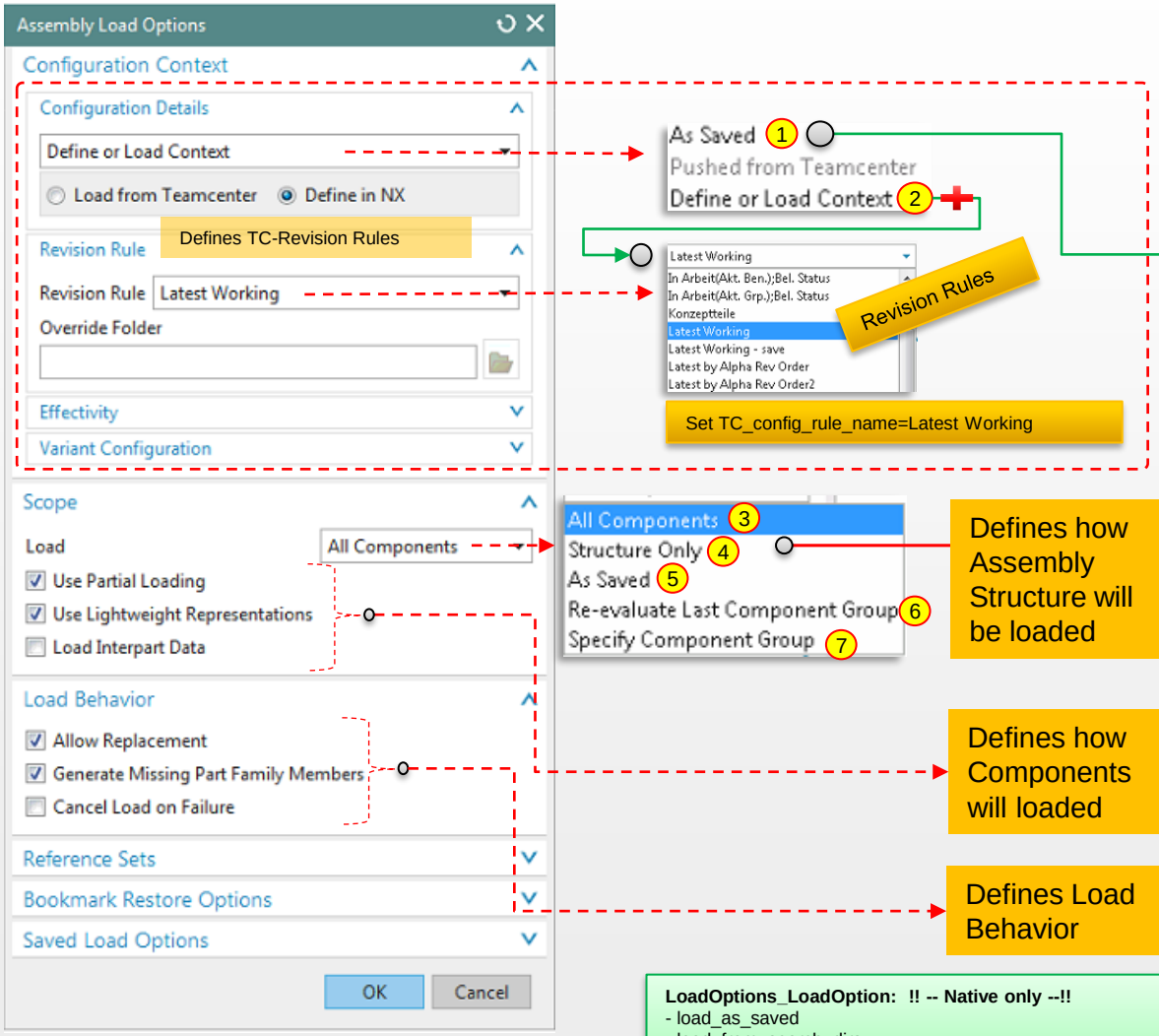


Customer Defaults Teamcenter Integration for NX General Assembly



NX Load Options

User interface and details in ‘Load option file’



LoadOptions_LoadOption: !! -- Native only --!!
- load_as_saved
- load_from_search_dirs.
- load_from_dir

‘Load option file’

```
1  LoadOptions_SearchPaths: ${temp}
2  LoadOptions_LoadComponents: load_no_components
3  LoadOptions_LoadFully: YES
4  LoadOptions_UseLightweightRepresentations: NO
5  LoadOptions_LoadWAVE: NO
6  LoadOptions_LoadWAVEParents: NONE
7  LoadOptions_LoadSubstitution: dont_allow_substitution
8  LoadOptions_LoadLatest: NO
9  LoadOptions_LoadOption: load_as_saved
10 LoadOptions_ManagedModeLoadOption: load_as_saved
11 LoadOptions_LoadFilters: use_last_set
12 LoadOptions_LoadFailOption: dont_abort
13 LoadOptions_ReferenceSets: "As Saved" "Entire Part" "Us
14 LoadOptions_ApplyAllLevels: NO
15 LoadOptions_ActiveVariants:
16 LoadOptions_GenerateMissingPFM: NO
17 LoadOptions_BookmarkRefSets: No_Change
18 LoadOptions_BookmarkPartsLoad: Load_Visible
19 LoadOptions_BookmarkRestoreFullyLoadedState: no
20 LoadOptions_SubsetLoadBehavior: Do_Not_Update
```

Scope.Load = ‘All Components’ (3*)
- LoadOptions_LoadComponents: load_all_components
- LoadOptions_LoadFilters: load_no_components

Scope.Load = ‘Structure Only’ (4*)
- LoadOptions_LoadComponents: load_no_components
- LoadOptions_LoadFilters: load_no_components

Scope.Load = ‘Load As Saved’ (5*)
- LoadOptions_LoadComponents: load_no_components
- LoadOptions_LoadFilters: use_last_set

Scope.Load = ‘Re-evaluate Last Component Group’ (6*)
- LoadOptions_LoadComponents: load_no_components
- LoadOptions_LoadFilters: use_last_filter

Scope.Load = ‘Specify Component Group’ (7*)
- LoadOptions_LoadComponents: load_no_components
- LoadOptions_LoadFilters: use_specified_filter

LoadOptions_ManagedModeLoadOption
- load_as_saved (1*)
- load_by_revision_rule (2*)

#LUp:03.01.2017/J.Fes

NX Load Options

Structure Update on Load

This option specifies if changes made to the Teamcenter product structure are reflected in the assembly when it is opened and if so which changes are applied.

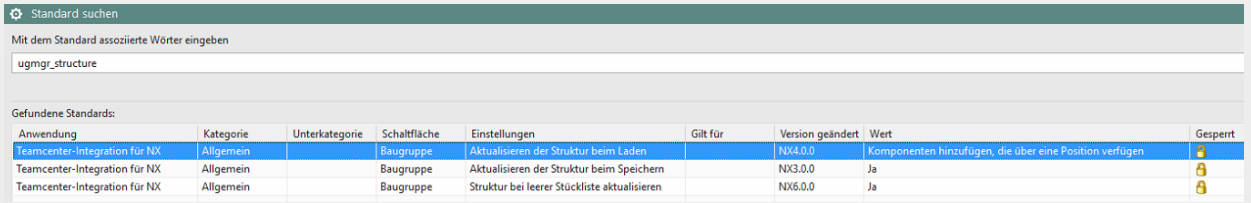
Default Name: **UGMGR_StructureUpdateOnLoad**
Valid Options: [Complete,Add Components that have a Position,None]

Notes:
'Complete': All components not already present in NX will be added on load, those without transforms being positioned at the origin.
‘add_positioned’ -> 'Add Components that have a Position': Changes to the product structure will be processed, but intervention (via the Manage Pending Components dialog box) will be required for components without valid transforms in the database.
'None': The structure in the database is ignored and the NX structure is used as it is.

Structure Update on Save

This option determines whether or not any changes made to the assembly are reflected in the Teamcenter product structure when the assembly when is saved.

Default Name: **UGMGR_StructureUpdateOnSave**
Valid Options: [Yes,No]



NX Load Options

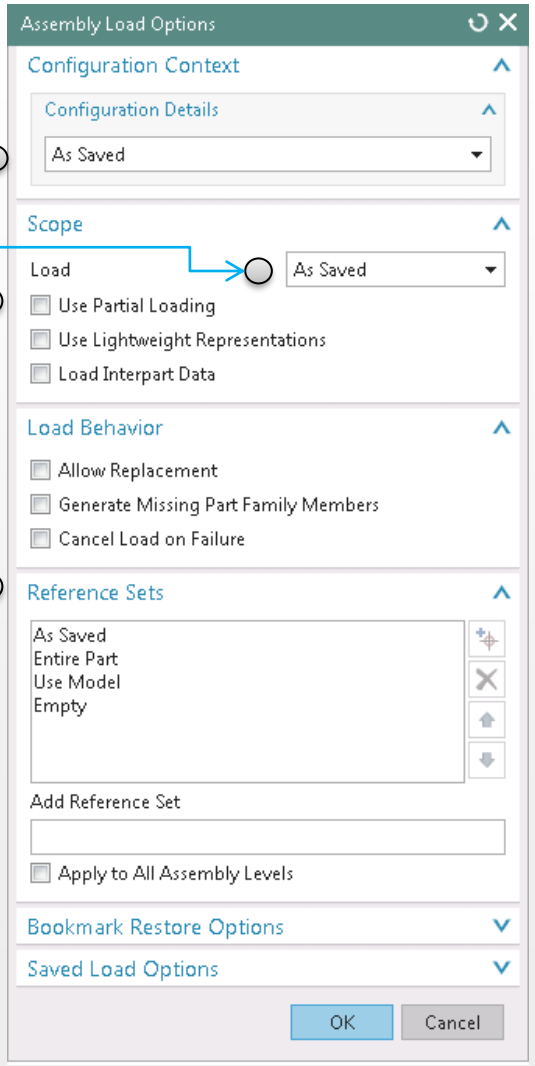
Details about ‘NX documentation’ and ‘Assembly Load Options’

Assembly Load Options

Use the **Assembly Load Options** command to configure the way components of the part you are opening are loaded into memory.

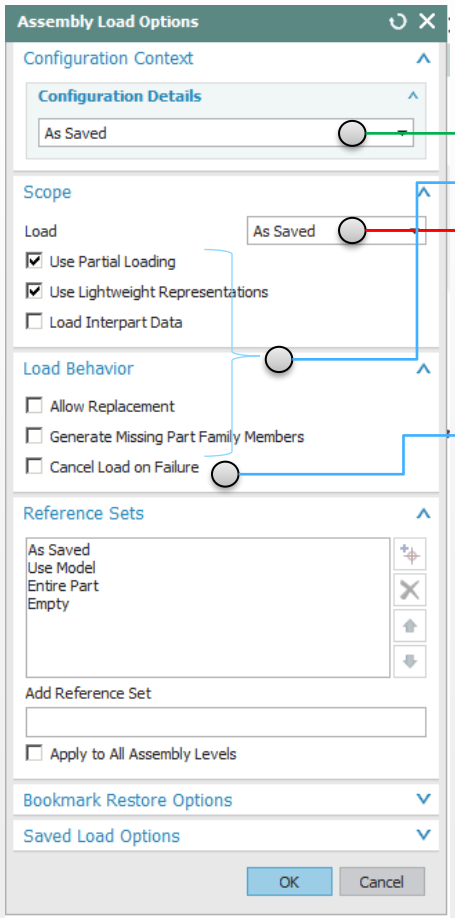
For example, you can specify:

- How to load parts with multiple versions or revisions.
- Where to find components when you work in native NX.
- Whether to load components fully or partially.
- Which default reference sets are loaded.
- How assembly bookmark files are loaded.



NX Load Options

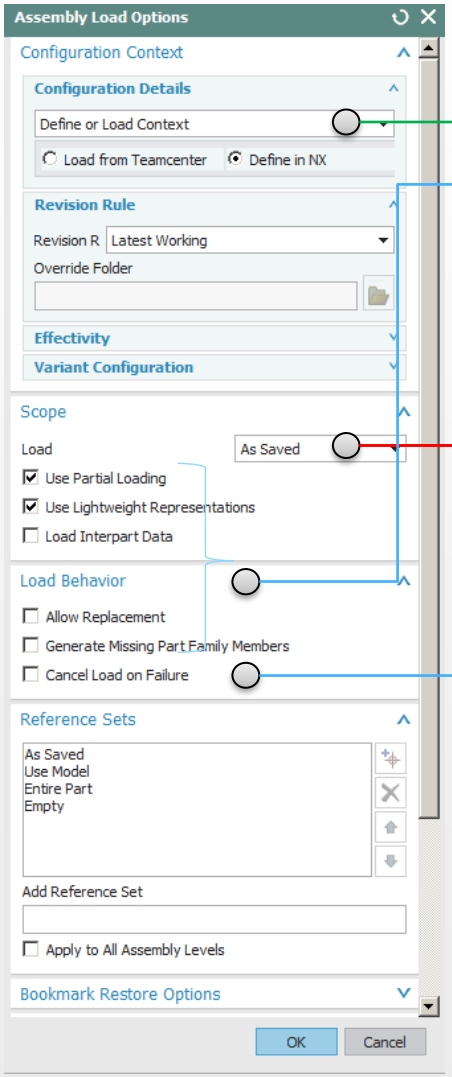
Details about used Refile Load Options: ..\ClientScripts\startup\load_options_refile_LoadCompAsSaved.def




```
1  LoadOptions_SearchPaths: {$temp}
2  LoadOptions_LoadComponents: load_no_components
3  LoadOptions_LoadFully: NO
4  LoadOptions_UseLightweightRepresentations: YES
5  LoadOptions_LoadWAVE: NO
6  LoadOptions_LoadWAVEParents: NONE
7  LoadOptions_LoadSubstitution: dont_allow_substitution
8  LoadOptions_LoadLatest: NO
9  LoadOptions_LoadOption: load_from_dir
10 LoadOptions_ManagedModeLoadOption: load_as_saved
11 LoadOptions_LoadFilters: use_last_set
12 LoadOptions_LoadFailOption: dont_abort
13 LoadOptions_ReferenceSets: "As Saved" "Use Model" "Entire Part" "Empty"
14 LoadOptions_ApplyAllLevels: NO
15 LoadOptions_ActiveVariants:
16 LoadOptions_GenerateMissingPFM: NO
17 LoadOptions_BookmarkRefSets: No_Change
18 LoadOptions_BookmarkPartsLoad: Load_Visible
19 LoadOptions_BookmarkRestoreFullyLoadedState: no
20 LoadOptions_SubsetLoadBehavior: Do_Not_Update
```

NX Load Options

Details about used Refile Load Options: ..\ClientScripts\startup\load_options_LatestWorking.def

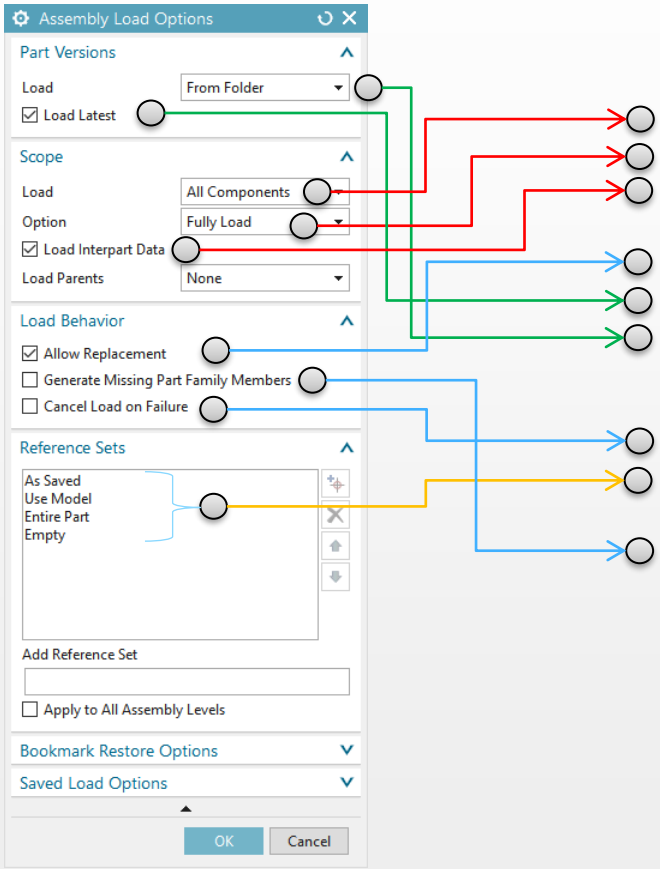



```
1  LoadOptions_SearchPaths: {$temp}
2  LoadOptions_LoadComponents: load_no_components
3  LoadOptions_LoadFully: NO
4  LoadOptions_UseLightweightRepresentations: YES
5  LoadOptions_LoadWAVE: NO
6  LoadOptions_LoadWAVEParents: NONE
7  LoadOptions_LoadSubstitution: dont_allow_substitution
8  LoadOptions_LoadLatest: NO
9  LoadOptions_LoadOption: load_from_dir
10 LoadOptions_ManagedModeLoadOption: load_by_revision_rule
11 LoadOptions_LoadFilters: use_last_set
12 LoadOptions_LoadFailOption: dont_abort
13 LoadOptions_ReferenceSets: "As Saved" "Use Model" "Entire Part" "Empty"
14 LoadOptions_ApplyAllLevels: NO
15 LoadOptions_ActiveVariants:
16 LoadOptions_GenerateMissingPFM: NO
17 LoadOptions_BookmarkRefSets: Import
18 LoadOptions_BookmarkPartsLoad: Load_Visible
19 LoadOptions_BookmarkRestoreFullyLoadedState: no
20 LoadOptions_SubsetLoadBehavior: Do_Not_Update
```

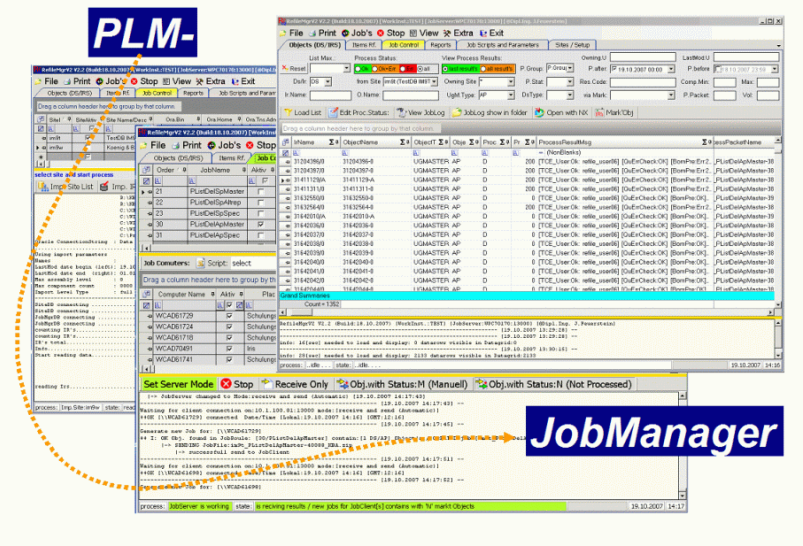
Set TC_config_rule_name=Latest Working

Load Options

Details about used Nativ Refile Load Options: ..
…\ClientScripts\startup\load_options_Native_RefileNX12.def




```
1  LoadOptions_SearchPaths: D:\\NXDataNX120\\...
2  LoadOptions_LoadComponents: load_all_components
3  LoadOptions_PartLoadOption: fully_load_lightweight_display
4  LoadOptions_LoadWAVE: YES
5  LoadOptions_LoadWAVEParents: NONE
6  LoadOptions_LoadSubstitution: allow_substitution
7  LoadOptions_LoadLatest: YES
8  LoadOptions_LoadOption: load_from_dir
9  LoadOptions_ManagedModeLoadOption: load_by_revision_rule
10 LoadOptions_LoadFilters: load_no_components
11 LoadOptions_LoadFailOption: dont_abort
12 LoadOptions_ReferenceSets: "As Saved" "Use Model" "Entire Part" "Empty"
13 LoadOptions_ApplyAllLevels: NO
14 LoadOptions_GenerateMissingPFM: NO
15 LoadOptions_BookmarkRefSets: Import
16 LoadOptions_BookmarkPartsLoad: Load_Visible
17 LoadOptions_BookmarkRestoreFullyLoadedState: no
18 LoadOptions_SubsetLoadBehavior: Do_Not_Update
```



PLMJobManager

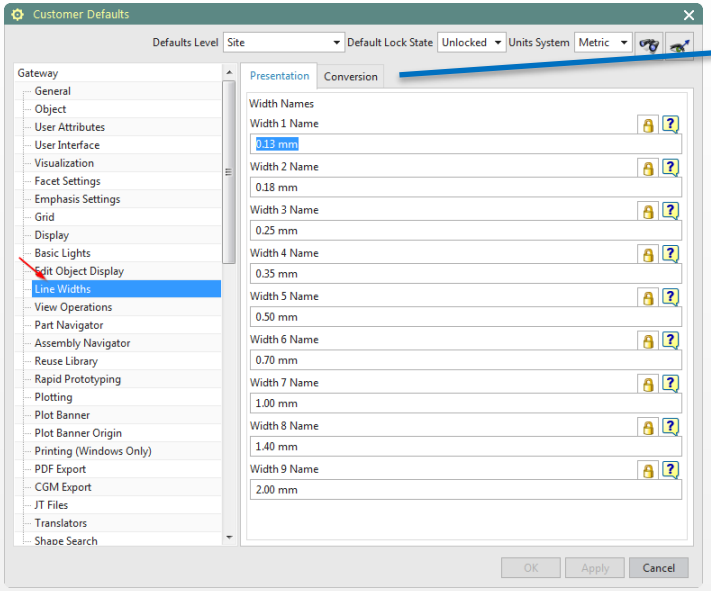
NX –Dokumentation – convert LineWidth

Erstellt von:Josef Feuerstein

Line Width

Before start working with NX10 or Refiling you need to setup your customer default setting regarding converting linewidth of your legacy Data.

Setup definition of your default line width



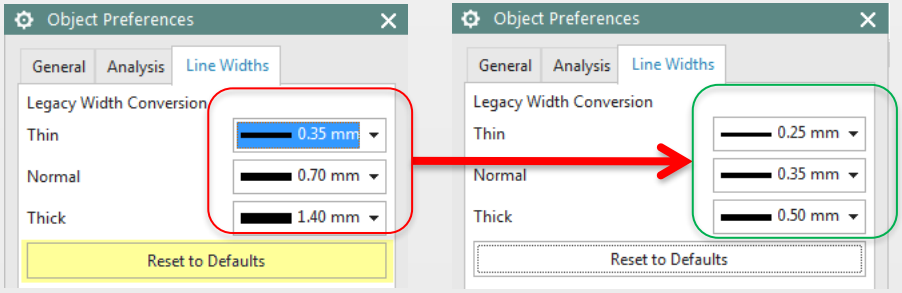
Picture below shows **Siemens default** 'Line Width Conversion' settings

Regarding to most **customers** it makes sense to use the following settings:

Hint:
Setting must be defined in your customer defaults ***before*** usage of NX10 because NX **stores** 'Line Width Conversion rules' **in the NX Part** during ***first*** opening a Part.
When a user changes later the Object Linewidth then user gets the convert setting that was first stored in the NX Part.

Hint:
If You need to reset the Defaults you can use the following Dialog to reset the default line width conversion setting.

Preferences → Object →



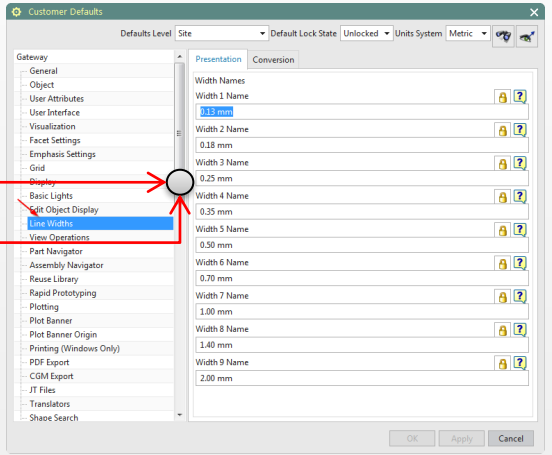
Line Width

All settings controlling convert Line with

Value=#Nr#+4
Example=3+4=7

Customer defaults:

```
<PrefValues defaultLockStatus="unlocked">
<Pref Application="Gateway" Category="Line Widths" Tab="Conversion" displayValue="0.25 mm" modified="2017-01-30T17:19:49"
name="UG_thinLineWidthToNewLineWidth" title="Thin" value="7"/>
<Pref Application="Gateway" Category="Line Widths" Tab="Conversion" displayValue="0.35 mm" modified="2017-01-30T17:19:49"
name="UG_normalLineWidthToNewLineWidth" title="Normal" value="8"/>
<Pref Application="Gateway" Category="Line Widths" Tab="Conversion" displayValue="0.50 mm" modified="2017-01-30T17:19:49"
name="UG_thickLineWidthToNewLineWidth" title="Thick" value="9"/>
```



Environvariablen:

```
REM 23.02.2016/J.Fes set UGII_CONVERT_LEGACY_XXX_LINEWIDTH_
REM  # (0.25)
set UGII_CONVERT_LEGACY_THIN_LINEWIDTH_TO_NEW_LINEWIDTH=3
REM  # (0.35)
set UGII_CONVERT_LEGACY_NORMAL_LINEWIDTH_TO_NEW_LINEWIDTH=4
REM  # (0.50)
set UGII_CONVERT_LEGACY_THICK_LINEWIDTH_TO_NEW_LINEWIDTH=5
```

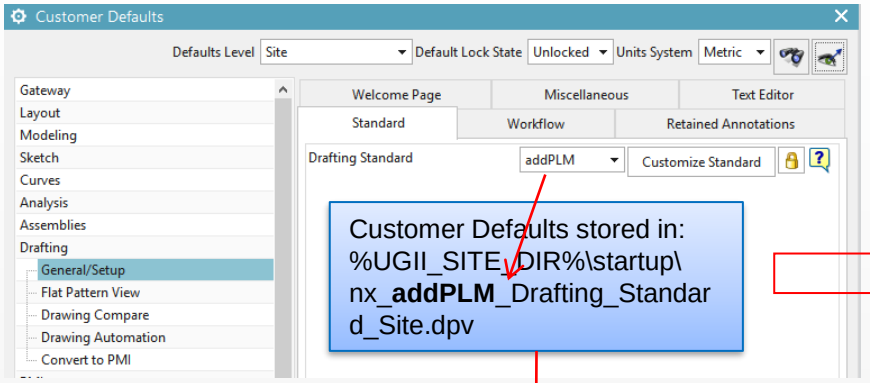
Rules:

1 findet in DPV Konvertierung → dann diese Einstellungen nehmen
2 existieren keine .dvp Konvertierung → dann die der Umgebungsvariablen UGII_CONVERT_LEGACY*
3 müssen beide gesetzt sein YES !! → Verhalten wenn beide Einstellungen gesetzt sind? #New 09.01.2018/J.Fes
→ If both settings is used then it is ensured that convers settings is updateed by Values from customer default and or Environment variables (`UGII_CONVERT_LEGACY*`)

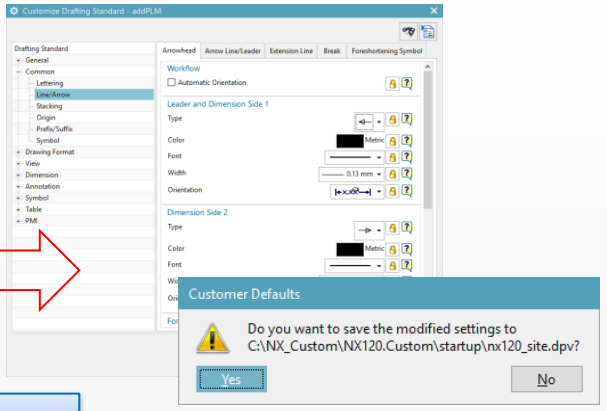
Line Width

Setup Line width in Views – Drawings

Customer Defaults



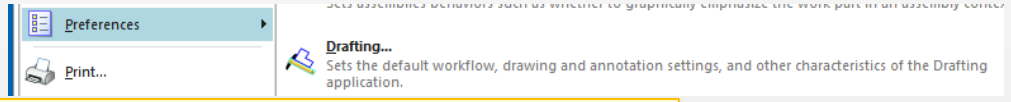
Customer Defaults stored in: %UGII_SITE_DIR%\startup\nx_**addPLM**_Drafting_Standard_Site.dpv



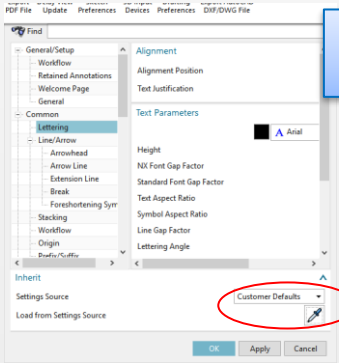
Customer Defaults stored in: %UGII_SITE_DIR%\startup\nx120_site.dpv

Part File

Drawing Defaults stored in: NX.prt



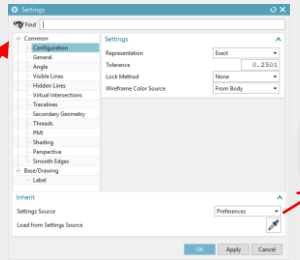
If you create new View / Dim the Drawing defaults will be used



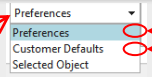
Update's defaults in your existing NX.prt to Custom Default in existing Drawing

View in Part File

Each NX.prt Drawing View stores settings



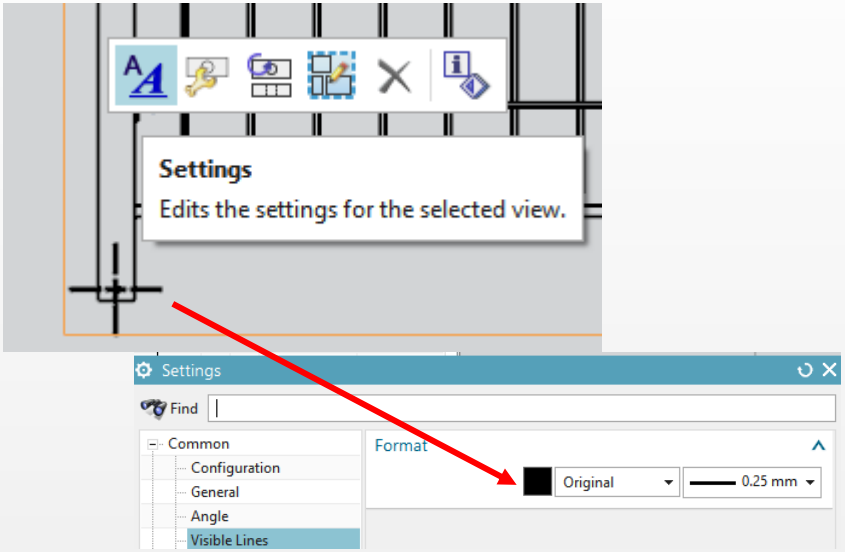
To Inherit View/DIM settings to Custom Defaults / NX.prt Defaults use



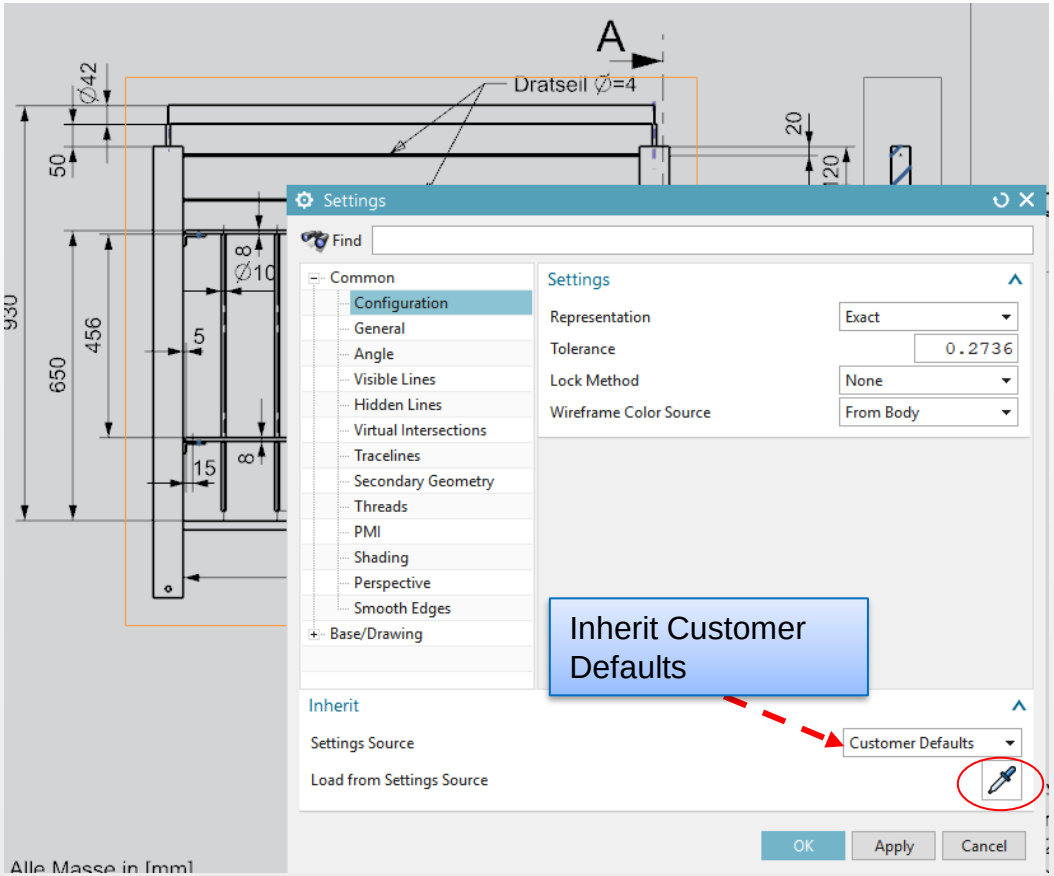
Line width

Edit view Settings // in Views – Drawings

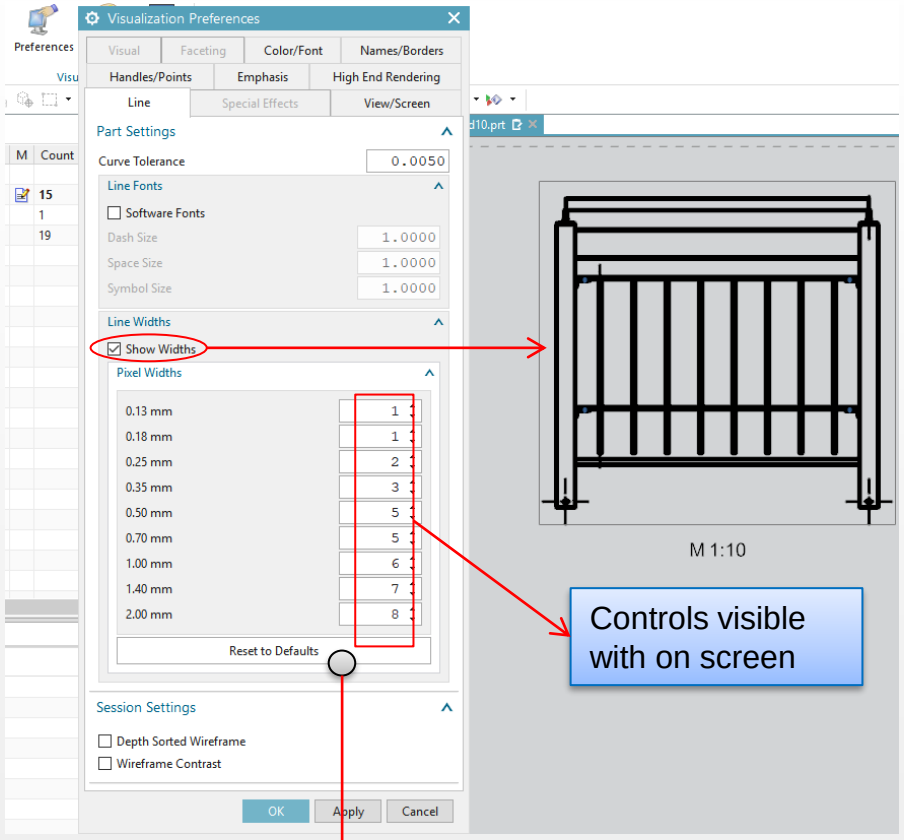
Update individual settings in existing View

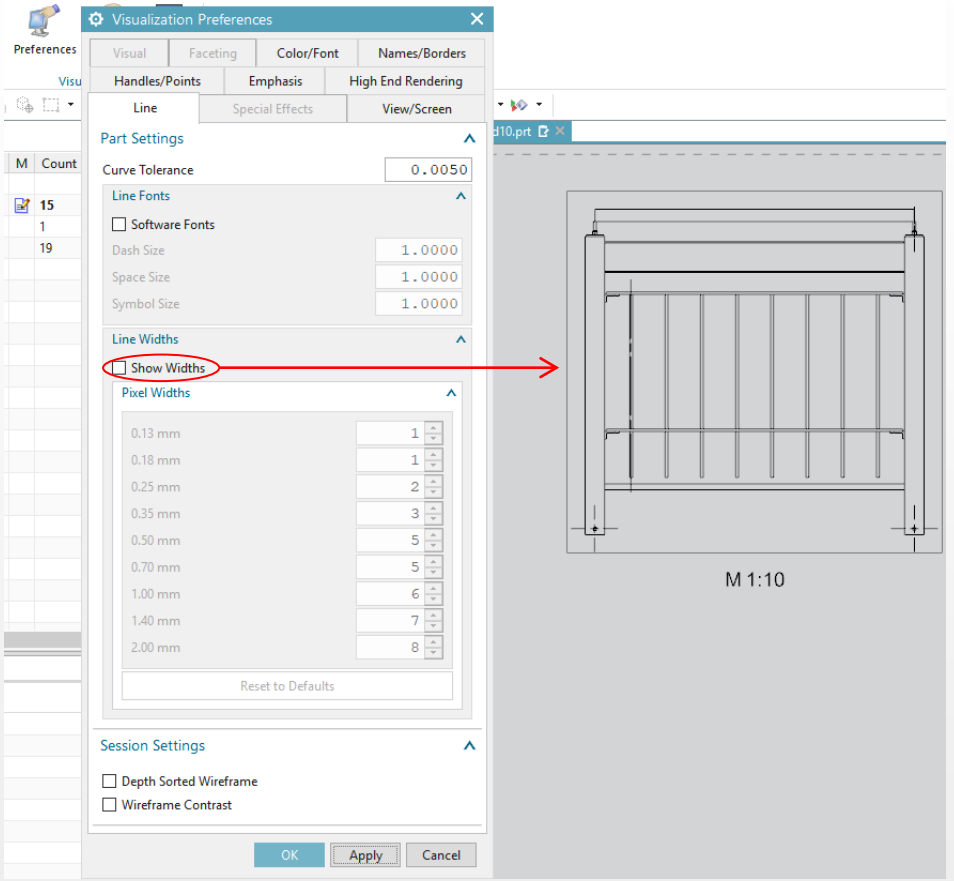


Update Existing View to customer defaults



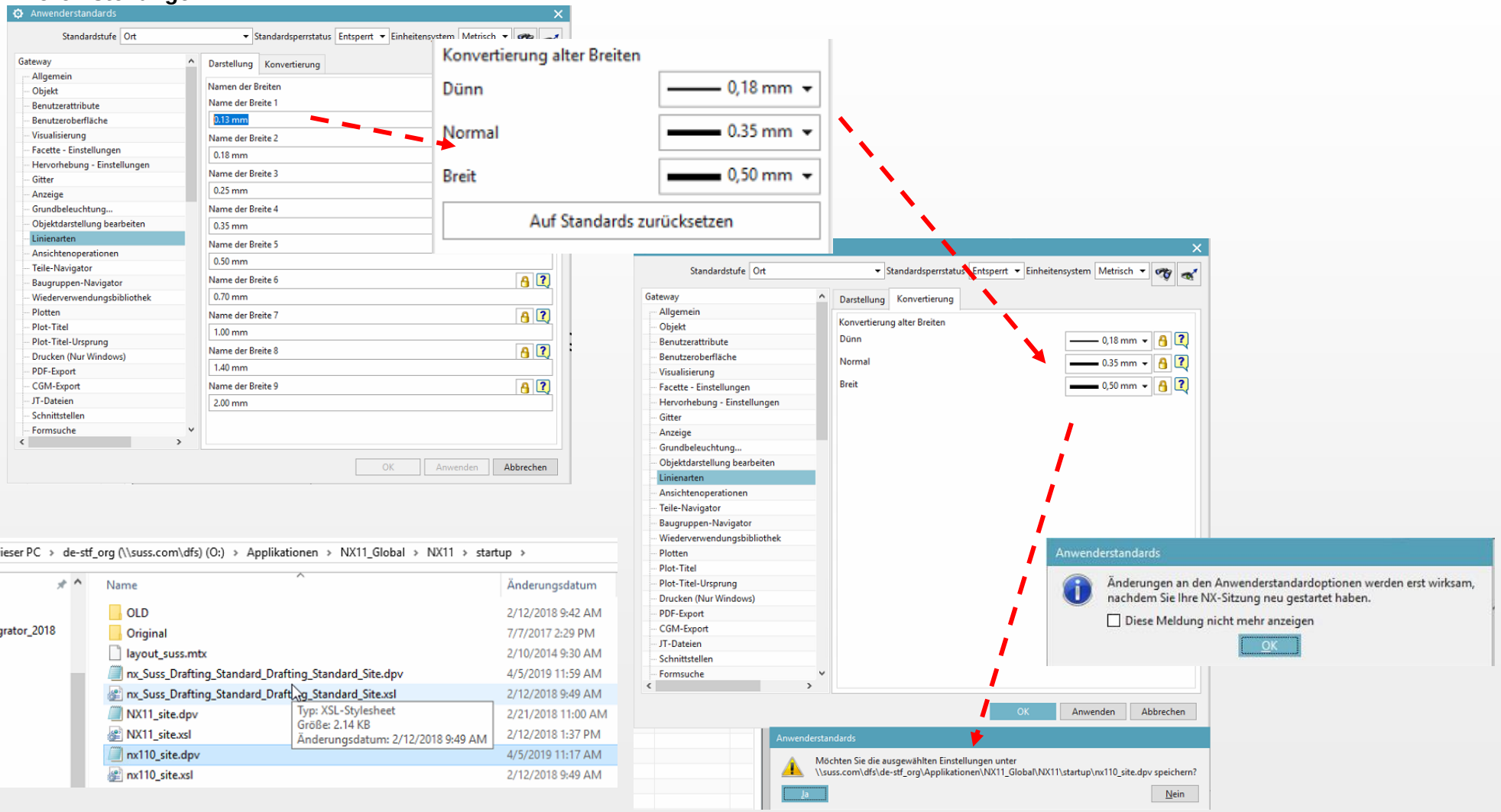
Control visibility of line width in drawing / view





Line width

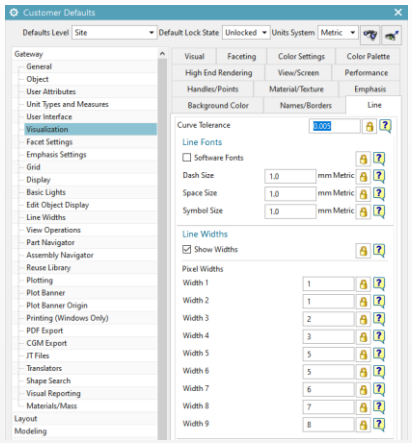
Voreinstellungen



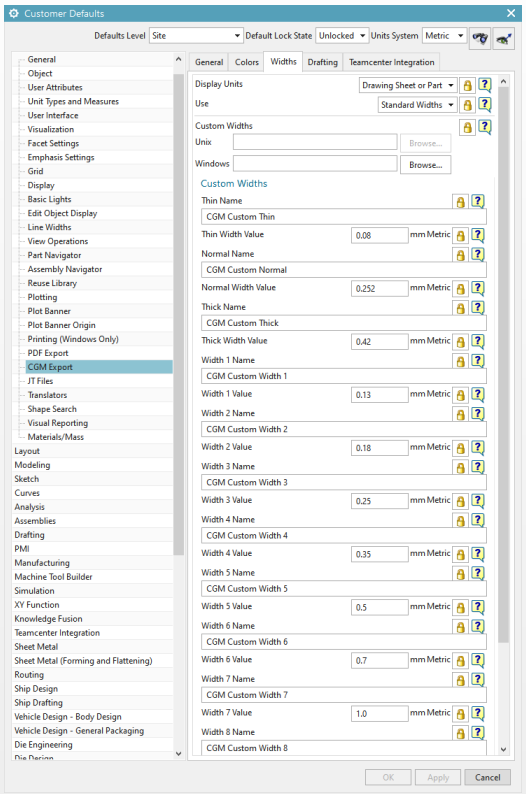
Line width

Settings on Screen on Output on Export

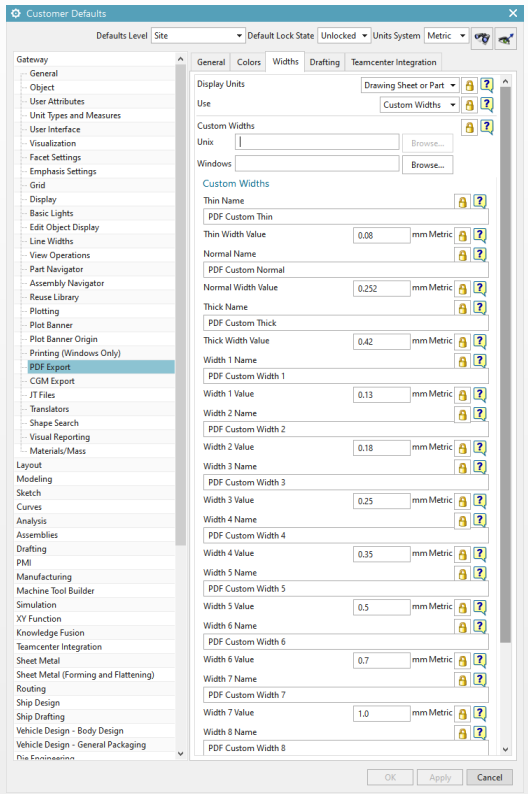
CGM - Export



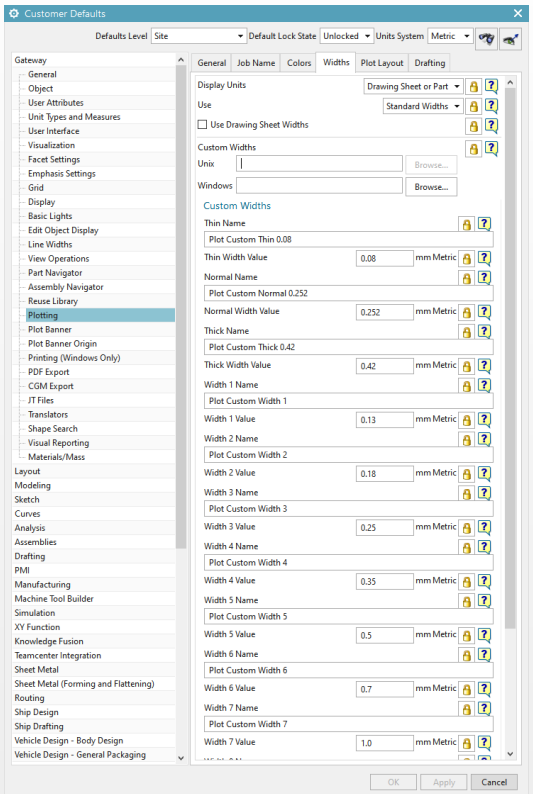
CGM - Export



PDF - Export



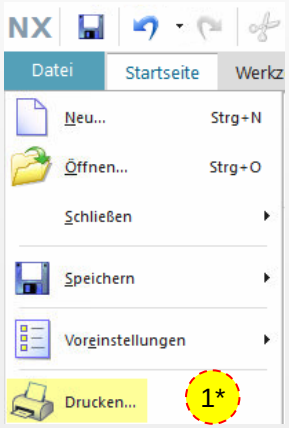
Plotting



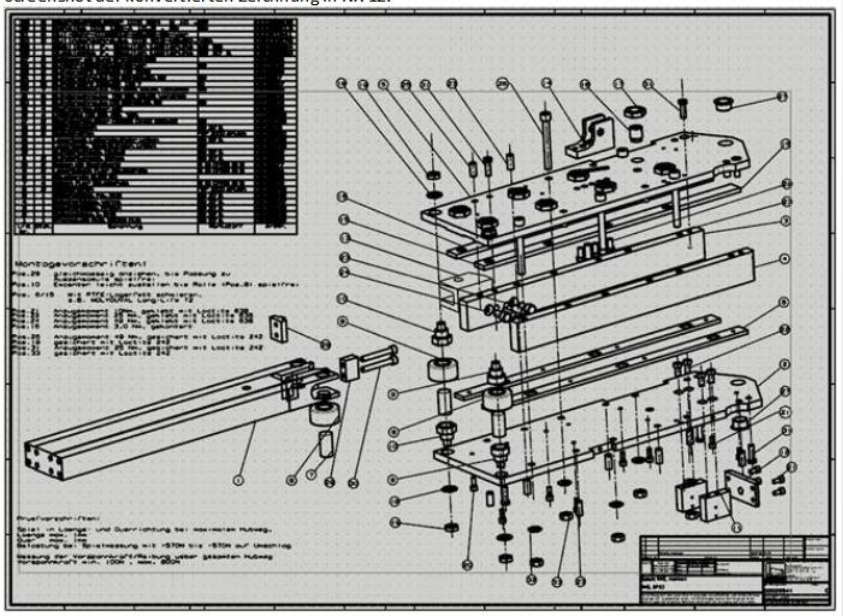
Linienbreiten beim Drucken

Beim Drucken von bestehenden Zeichnungen wurde festgestellt das die Linienbreiten bei der Ausgabe auf die Drucker **(1*)** zu Dick ausfallen.

Bei der Prüfung hat sich herausgestellt das durch Anpassen der Anwenderstandards und dem umstellen der Voreinstellungen für die Visualisierung diese korrigiert werden kann.

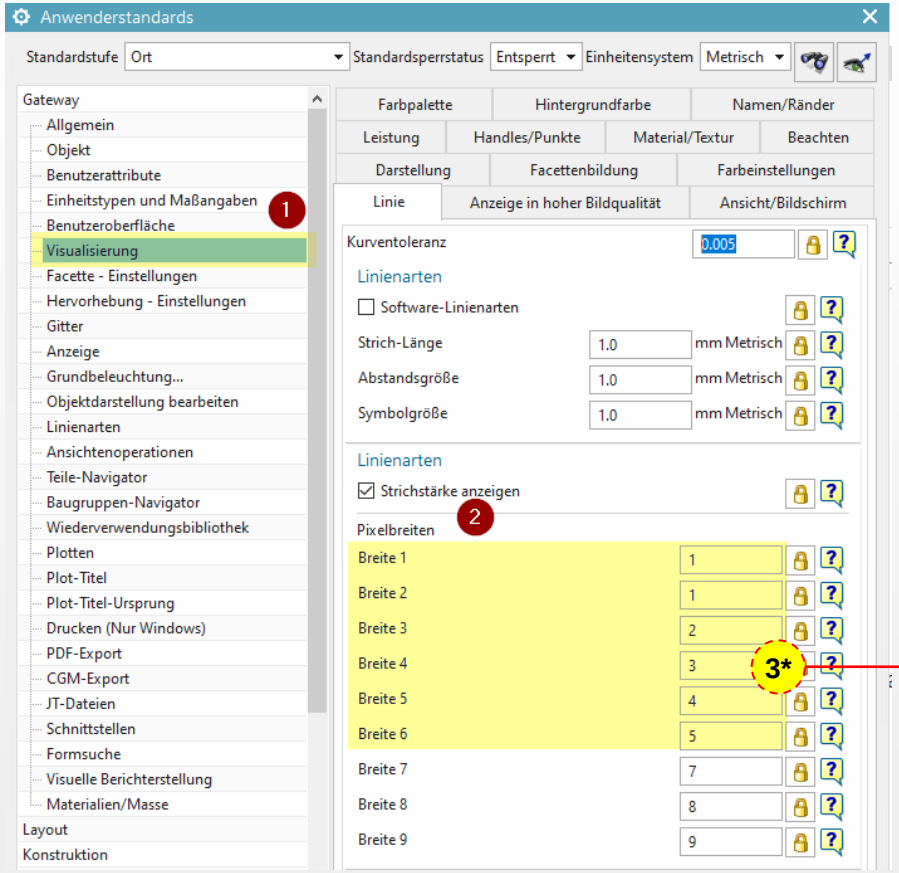


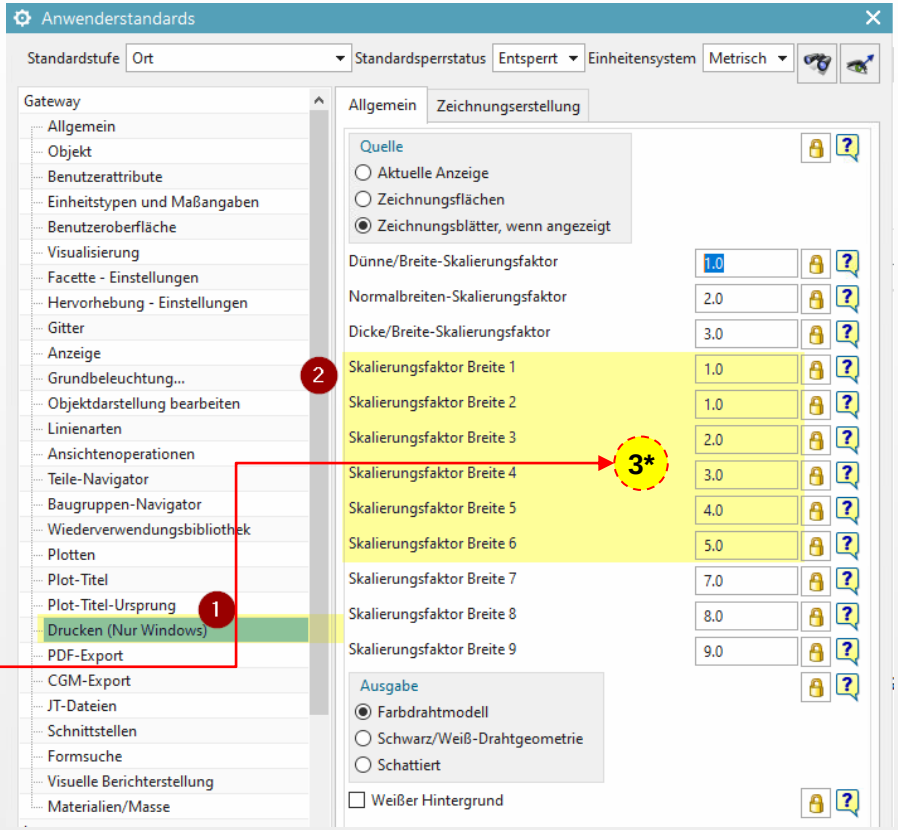
Screenshot der konvertierten Zeichnung in NX 12:

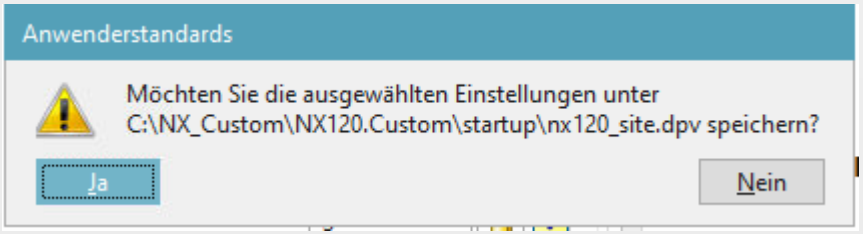


Linienbreiten beim Drucken

Die folgenden Einstellungen wurden hierfür in den Anwenderstandards vorgenommen:





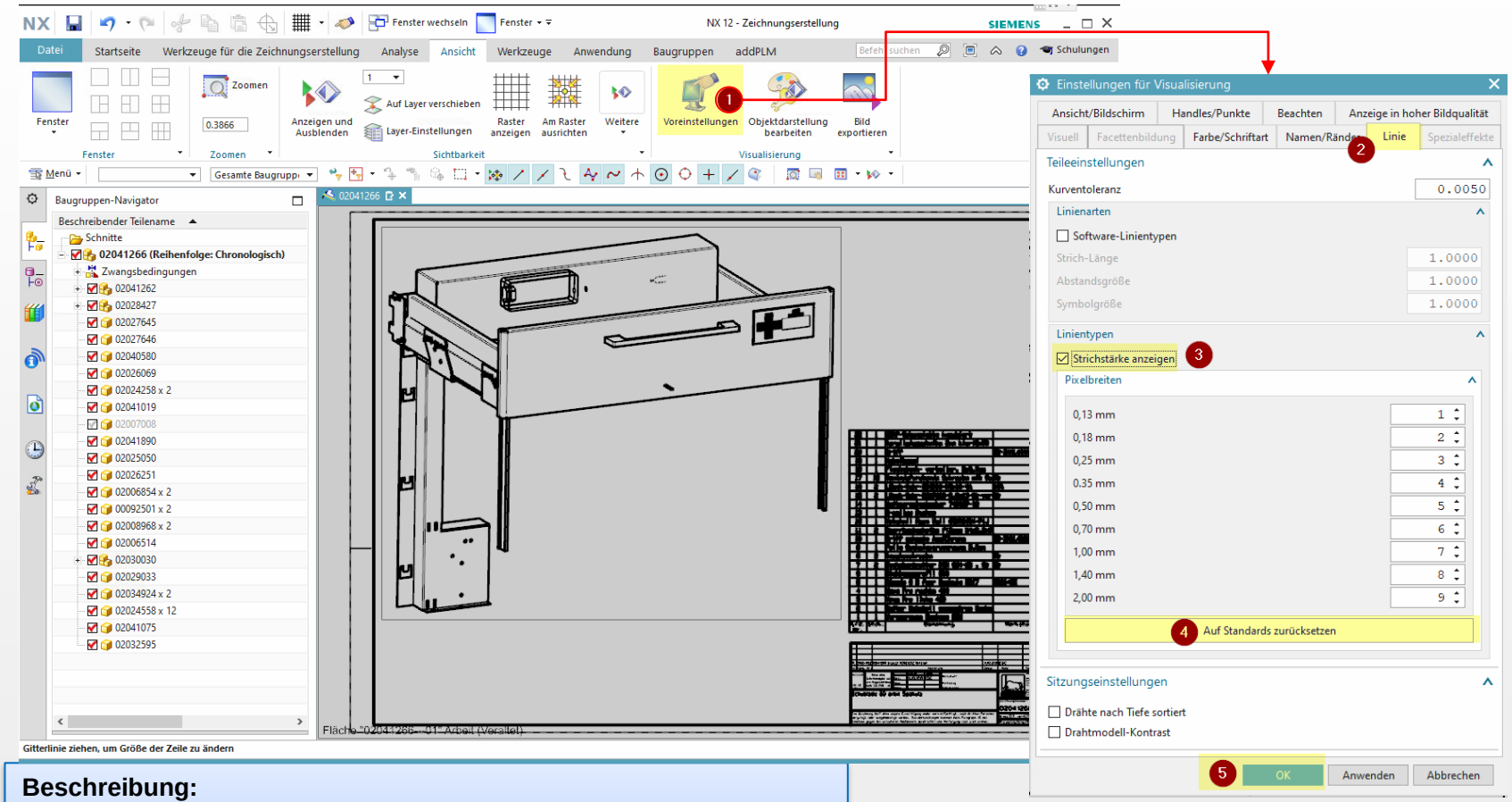


Setup:

- Die Beiten sind bei beiden einstellungen auf die gleichen werte einzustellen **(3*)**

Linienbreiten beim Drucken

Um eine bestehende Zeichnung mit den richtigen Breiten drucken zu können ist folgendes vor dem Drucken anzupassen:

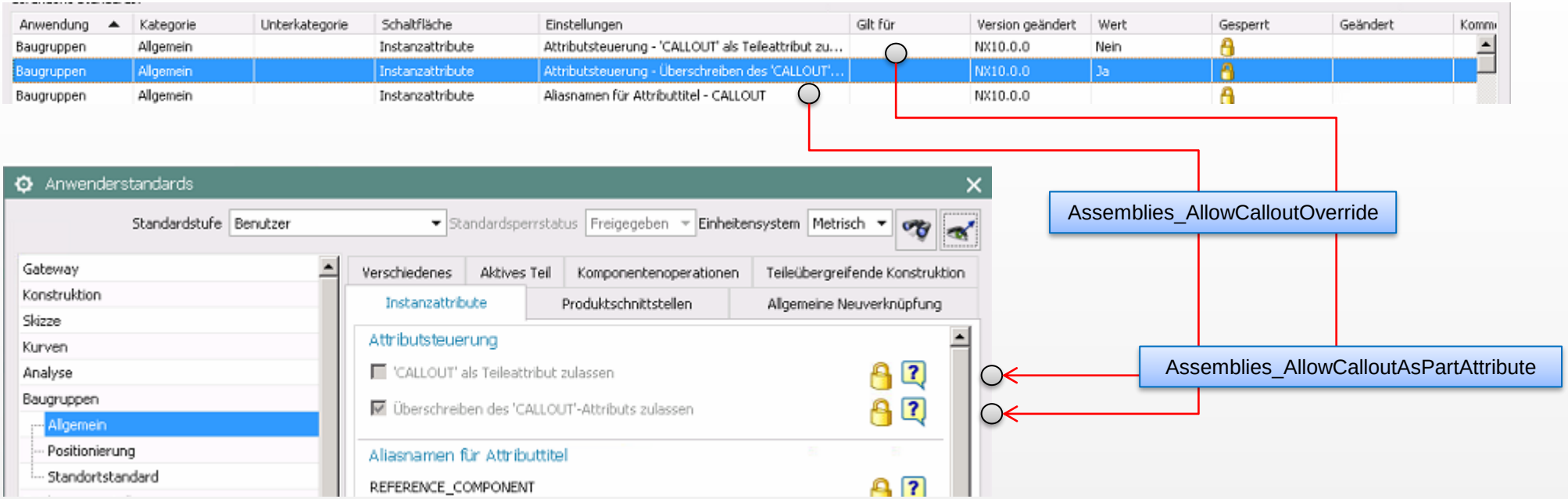


Beschreibung:

- Ansicht → Voreinstellungen **(1)**
- Register Linie **(2)**
- Strichstärken anzeigen **(3)**
- Auf Standards zurücksetzen **(4)**
- OK **(5)**
- Drucken via Windows Drucker kann jetzt ausgeführt werden

Notes:
Dieser Vorgang muss 1x je Zeichnung ausgeführt werden. Wurde die Zeichnung gespeichert so bleiben die Einstellungen in dieser Zeichnung erhalten.

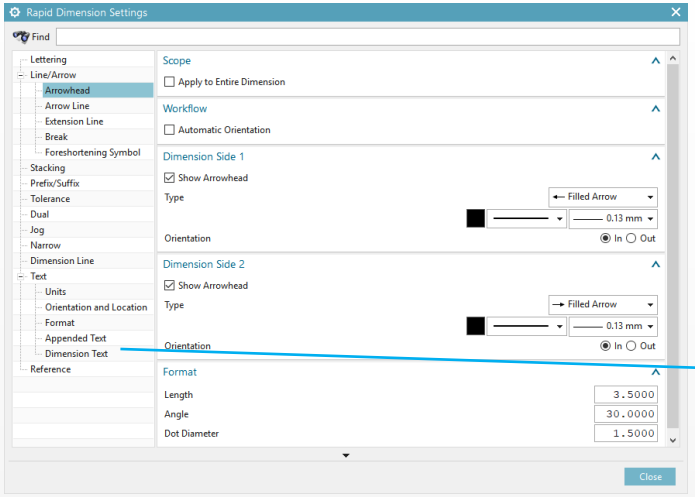
Callout Sync

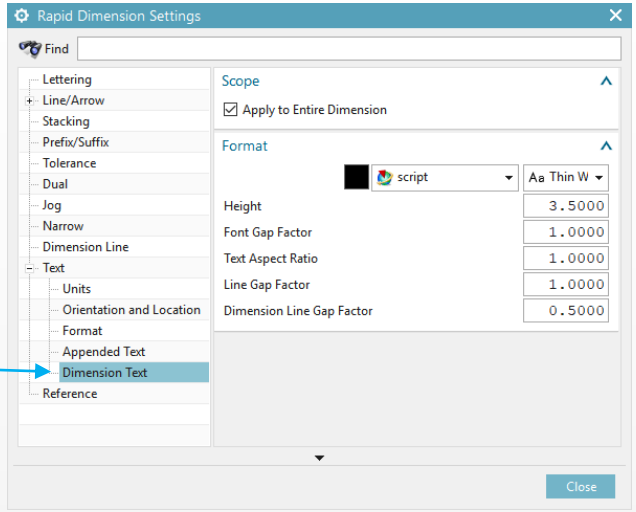


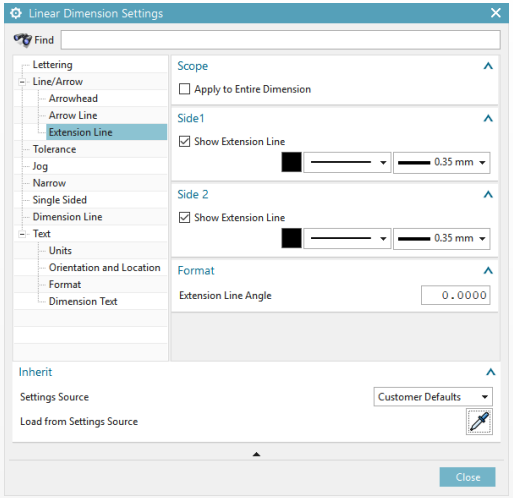
If TC Settings
PS_new_seqno_mode=?Value? → If this Variable exists then Callouts will be transferred from NX to TC?

Customer Defaults DIM

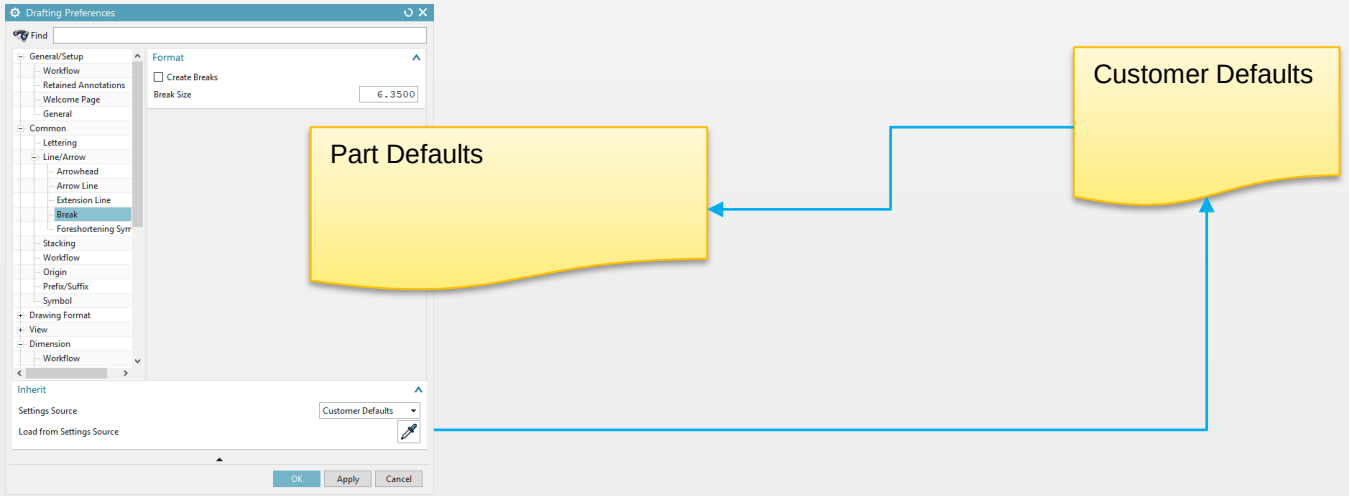
Screenshots from sketch dialog



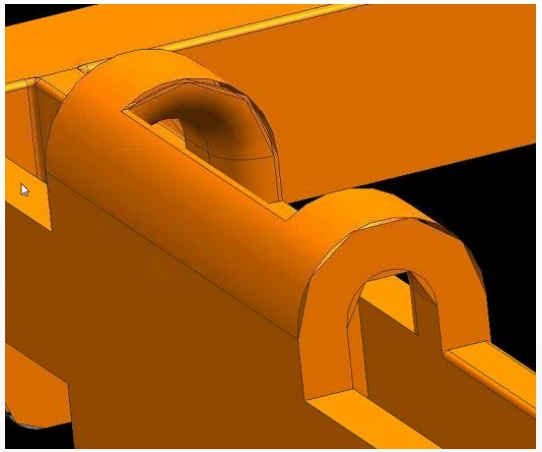


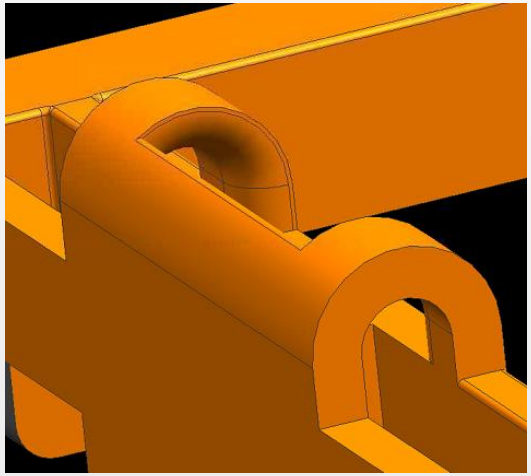


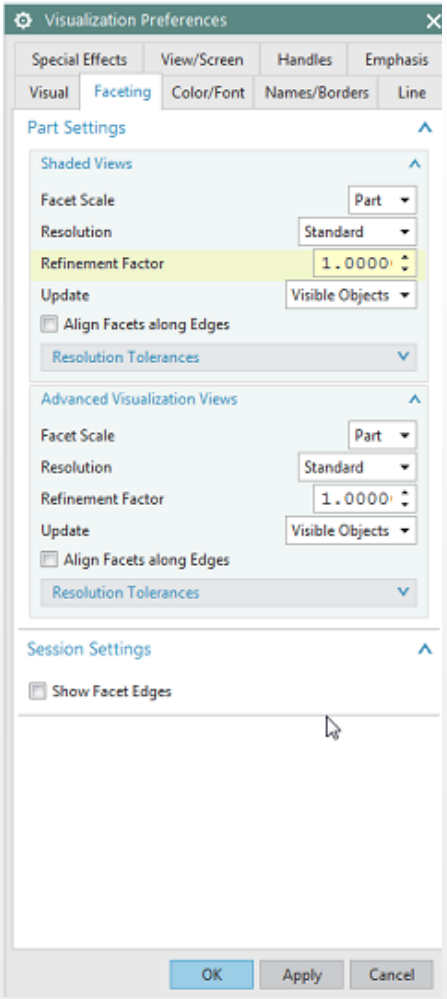
Screenshots from preferences drafting
→ saved in Part



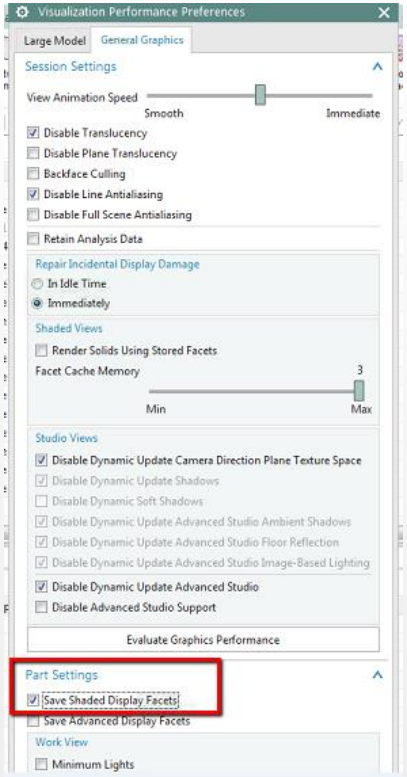
NX Save Shaded Display Facets NX10.0.3.5 MP4



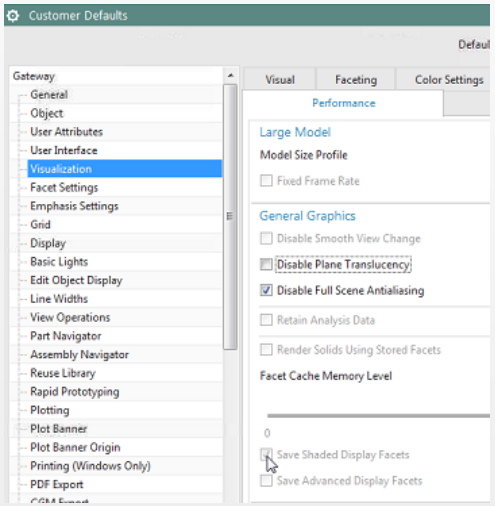




Set to 2 and then backu to 1



From GTag



Interpret - Nx.sylogs find out Variable locations

Method to see in what 'Variable locations' an NX env/setting where defined

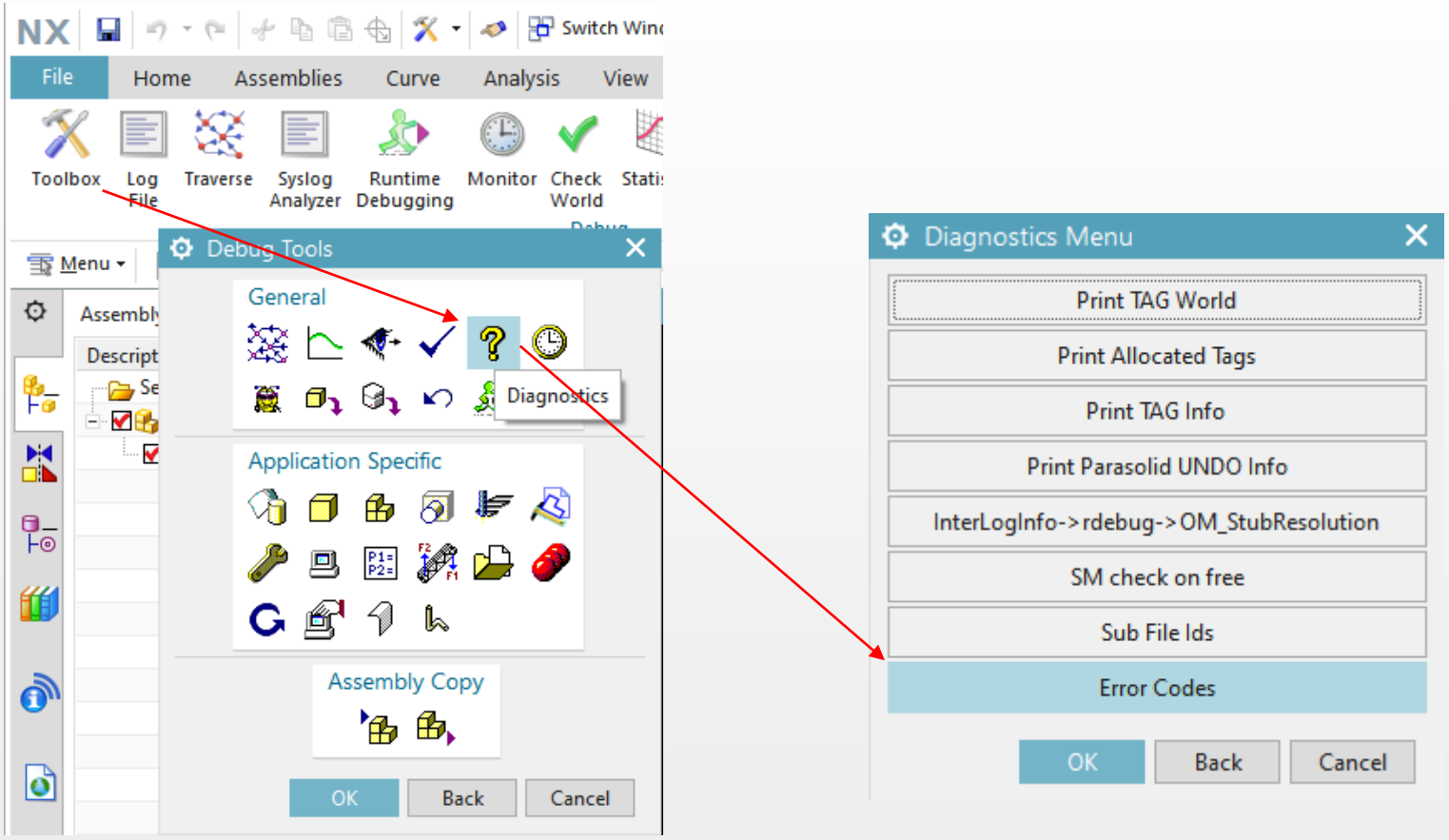
```
 ************** Unlocked NX Configuration Variables **************
   [4] AUTOSTAMPING_DATA_DIR            C:\Program Files\Siemens\NX1872\ugautomotive\diedes
   [16] DESIGN_TOOLS_APP_DIR            C:\Program Files\Siemens\NX1872\design_tools

Variable locations:

    [1] System Environment
    [2] C:\Program Files\Siemens\NX1872\design_tools\checkmate\customization\ugcheckmate.dat
    [3] Set internally
    [4] C:\Program Files\Siemens\NX1872\ugii\ugii_env_ug.dat
    [5] Registry
    [6] C:\Program Files\Siemens\NX1872\TDP\manifest\TDP_env.dat
    [7] C:\Program Files\Siemens\NX1872\NXHUMAN\manifest\hm_env.dat
    [8] C:\Program Files\Siemens\NX1872\UGII\manifest\dmu\dmu_env.dat
    [9] C:\Program Files\Siemens\NX1872\UGII\manifest\texture_modeling\texture_modeling_env.dat
    [10] C:\Program Files\Siemens\NX1872\MPA\manifest\mpa_env.dat
    [11] C:\Program Files\Siemens\NX1872\UGII\manifest\polygon_modeling\polygon_modeling_env.dat
    [12] C:\Program Files\Siemens\NX1872\UGII\manifest\nx_realize_shape\nx_realize_shape_env.dat
    [13] C:\Program Files\Siemens\NX1872\DRAFTING\manifest\drafting_env.dat
    [14] C:\Program Files\Siemens\NX1872\UGPHOTO\manifest\ugphoto_env.dat
    [15] C:\Program Files\Siemens\NX1872\UGII\manifest\morph_mesh\morph_mesh_env.dat
    [16] C:\Program Files\Siemens\NX1872\DESIGN_TOOLS\manifest\design_tools_env.dat
    [17] C:\Program Files\Siemens\NX1872\DRAFTING\manifest\MFGViewMaker_env.dat
```

NX – Diagnostic Redrive Error Codes

Method to see where a NX setting has been coming from



The Information is Displayed in Footer Line

NX12 – Infos and Links

SPLM Links:

NX Part-utility #New 04/2018:
https://docs.plm.automation.siemens.com/tdoc/nx/12.0.1/nx_help#uid:xid1128423:index_command_line_utilities:xid1481909:xid1483665

Minimal loading tips #New 08/2018:
https://docs.plm.automation.siemens.com/tdoc/nx/12.0.2/nx_help/#uid:xid1566807

addPLM:
Presentation PLM Deutschland 2018:
..\04-Documentation_ConferencsPresentations\11-NX Refile aktueller Status und Info zum Thema Software und Daten Qualität Sicherung_PLMde2018.pdf

Presentation PLM World 2018
..\04-Documentation_ConferencsPresentations\10-ASML-addPLM_How_to_manage_NX9_to_NX11_upgrade_with_6_million_NX-parts_Romers_JFeuerstein_PLMWorld2018.pdf