Siemens PLM Connection
Americas

Powered by PLM World

How to manage a NX9 to NX11 upgrade with 6,4 million NX parts?

Mr. Maarten Romers ASML
Mr. Josef Feuerstein addPLM

Abstract: How to manage a NX9 to NX11 upgrade with 6,4 million NX parts?

Summary:
You will learn how ASML managed to upgrade 6,5 million parts from NX9 to NX11 within 14 days. NX is used in a multisite environment on 4 Sites. We used NX-CheckBox to prove the quality of 60.000 legacy parts before go live. We identified issues and show how to solve them.

Full Details:
Since many years CAD Software and PLM Systems are very complex software solutions that is used by a lot of users around the world. Each company is using the software with their own way of working designing their products. This leads to the point that it is very helpful (or even a need) to run quality checks on customer data during the test phase of an upgrade process.

People working on upgrade projects want to get answered this ‘simple’ Question:

Is with a new NX software version the customization and legacy data fit for 'go life’?

This presentation will show how we answered this question for the upgrade from NX9 to NX11 at Company ASML. In Detail we will show how NX-CheckBox and PLMJobManager helped to analyses differences between NX9 and NX11. We will give you an overview how the analyses has been done and how the identified issues has been handled. Additional in acceptance and in production system a refile has been performed using (-convert_line_widths) methods.

We will show: how we managed the refile processes to refile in **~14 days ~6.4 Million parts on 4 multisite** instances. Also the final refile result report including refile statistics will be presented.

About Speakers

Primary Presenter

Josef Feuerstein

addPLM - GmbH

Secondary Presenter

Maarten Romers

ASML

ASML makes the machines for making chips

- ASML makes the machines for making chips
- Lithography is the critical tool for producing chips
- All of the world's top chip makers are our customers
- 2017 sales: €9 billion
- More than 20,000 employees (FTE) worldwide

ASML around the world

Our innovative strength lies in our people and continued R&D investment

20,000+ employees

€9B 2017 Revenue

€1B+ 2017 R&D Spend

16 Countries with offices

North America
4,500 employees

Europe
11,100 employees

Asia
4,500 employees

It’s hard to imagine a world without chips

ASML

The *Internet of Things* will connect a growing number of devices from 12 billion in 2012 to **50 billion in 2020**

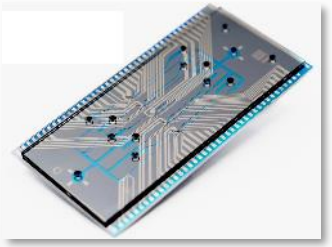
60% 'Things'			30% Mobile			10% PC	
35% Consumer electronics	30% Buildings	10% Utilities	10% Automotive	5% Health	10% Other		

New devices, new applications

Wearable sensors

(Holst Centre)

Imaging drone to monitor crop growth and yield (imec)

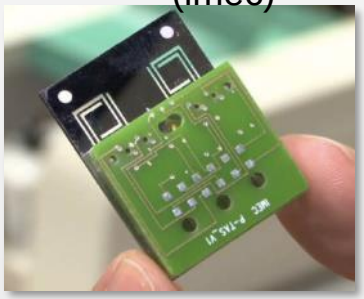


Cell sorter to detect metastization (imec)

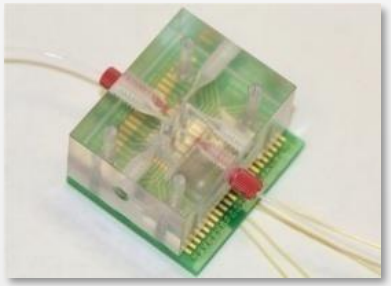
Textile integrated health patch

Simband with health monitoring (Samsung)

Micro mirrors for beamers (TI)

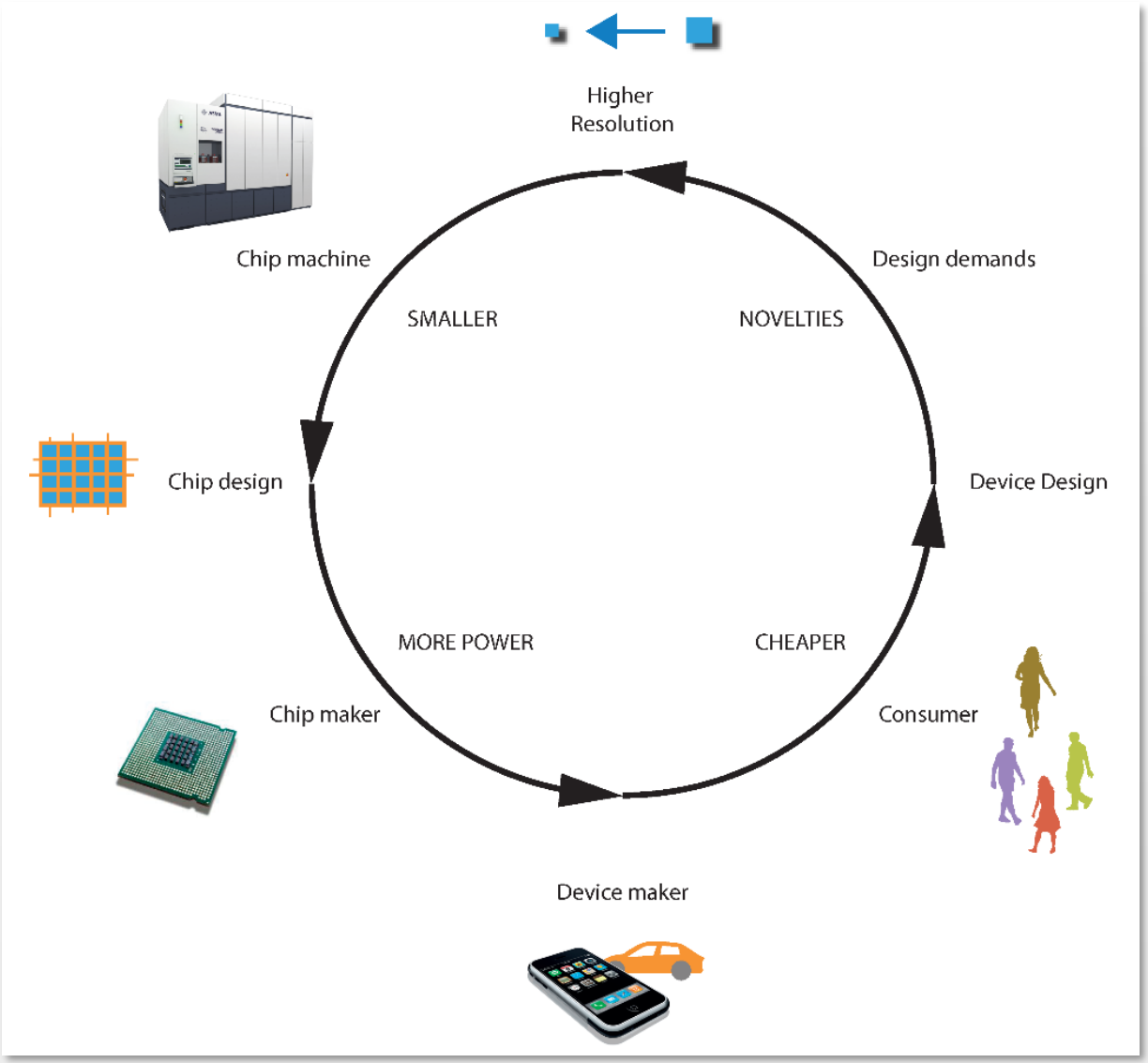


On-Chip DNA amplification and detection (imec/Panasonic)



Lab on a Chip (LOC) for counting red blood cells

A virtuous cycle



All major chipmakers are our customers

Company	Segment	2018 capex (est., $B)
SAMSUNG	Foundry + Memory	24.0
intel	Integrated Devices	14.0
tsmc	Foundry	11.0
SK hynix	Memory	11.0
Micron	Memory	8.5
TOSHIBA / Western Digital	Memory	7.3
GLOBALFOUNDRIES	Foundry	4.5
SMIC	Foundry	1.9
UMC	Foundry	1.1
SONY	Others	1.0
Others		30.7
Total		**115.0**

Source: VLSI Research (1 March 2018)

Introduction

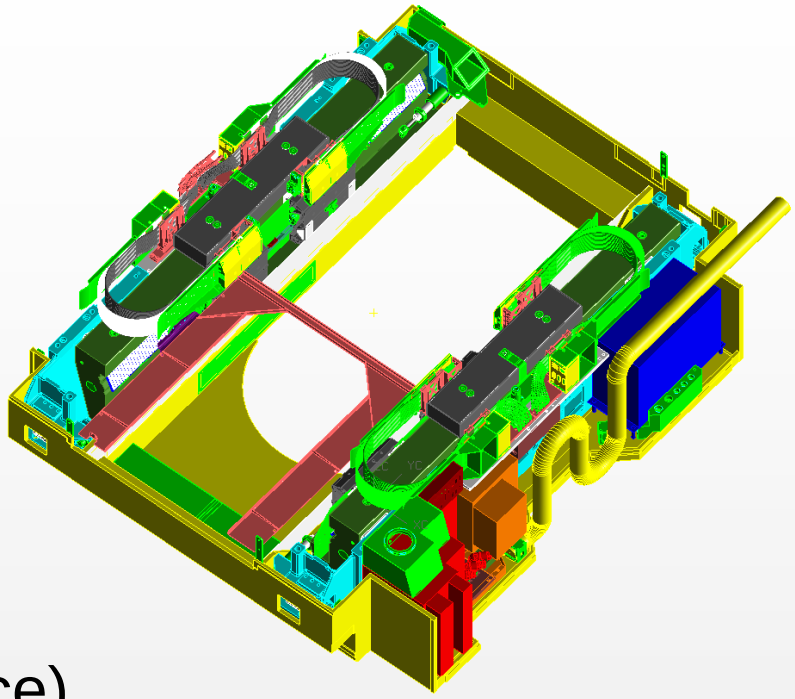
Maarten Romers

- Background Mechanical Engineering
- Started with 3D wireframe CAD in 1986 (Unigraphics 3.6.1)
- ASML since September 1996
- Introduced iMAN 3.4 and Unigraphics 13 at ASML in 1997
- Current Role is PLM business Architect
- Maarten.Romers@ASML.com

Siemens Teamcenter & NX

~ 11.500 Tc users WW

- ~ 1.500 active Nx users WW
- ~ 5.000 Document creators
- ~ 5.000 viewers



- 3D Volume / Layout
- 3D mono / assemblies / Routing
- Product Documentation (NX, MS Office)
- Change control / configuration management

- “co-development”

Configuration Management *Vision, Mission & Strategy*

ASML

addPLM GmbH
Web: www.addPLM.com

Vision

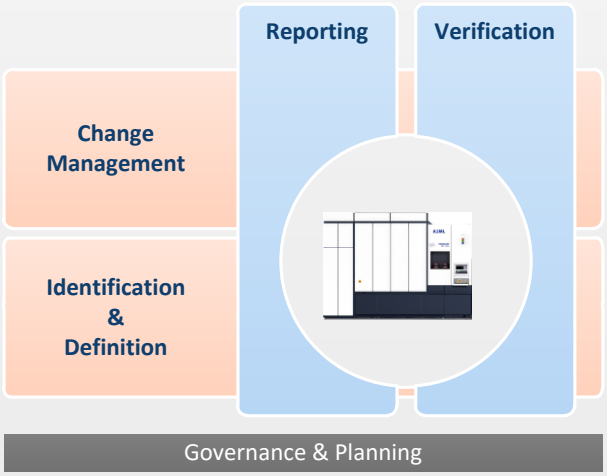
Provide a configuration management solution that enables ASML to deliver **highly customized products** with the best-in-market **cost efficiency**, **time-to-market**, **traceability**, and **performance control throughout the lifecycle**.

Mission

Deliver an enterprise-wide **business process** and **application framework** for end-to-end **product variant** and **product configuration** management.

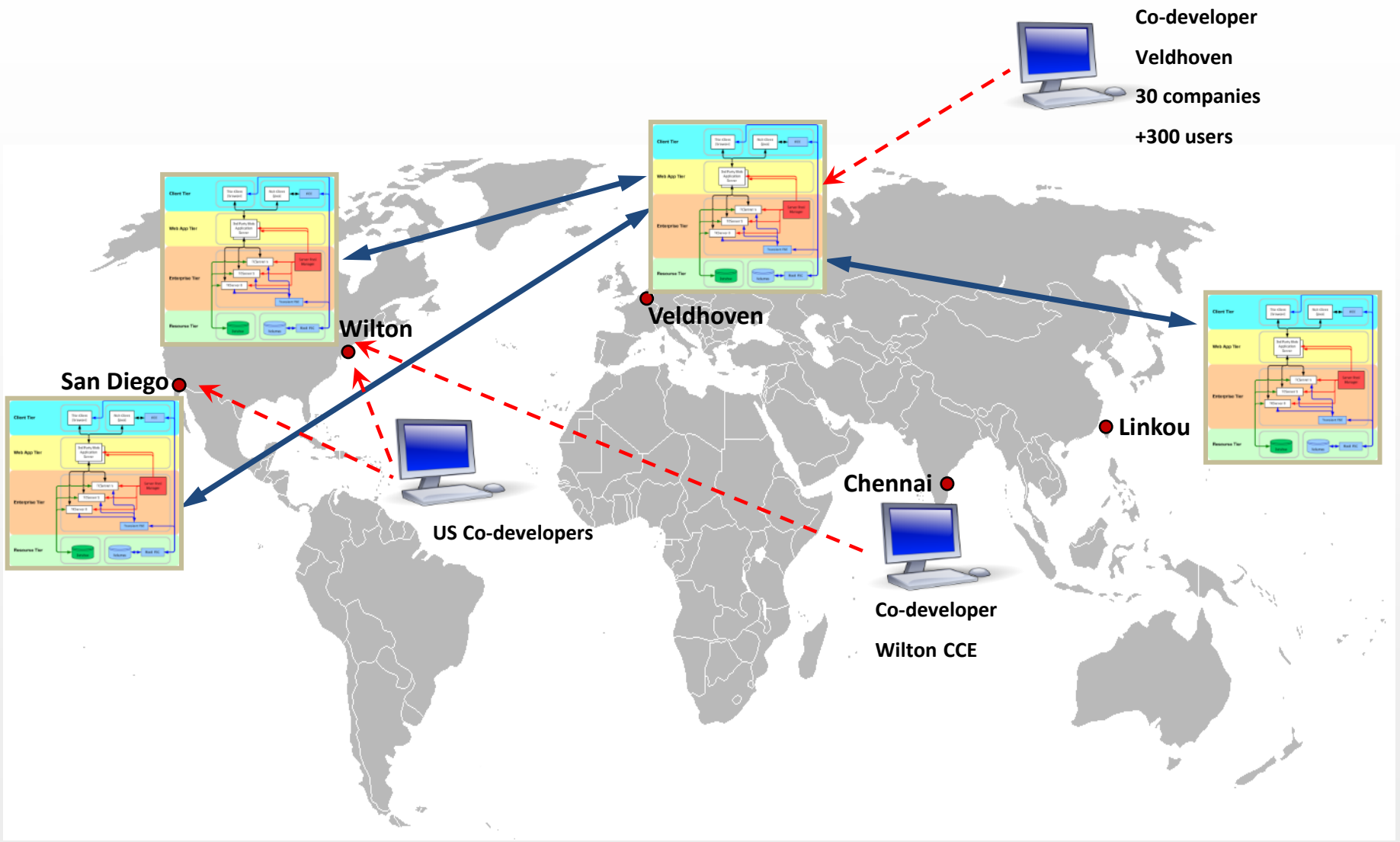
Strategy

- **Implement** product variant and configuration management according to **standards and best practice**.
- **Deviate** from standards and best practice only to satisfy business characteristics **unique to ASML**.
- **Demonstrate** increased efficiency, effectiveness, and satisfaction of our **people** for every change.



4 TC sites @ ASML

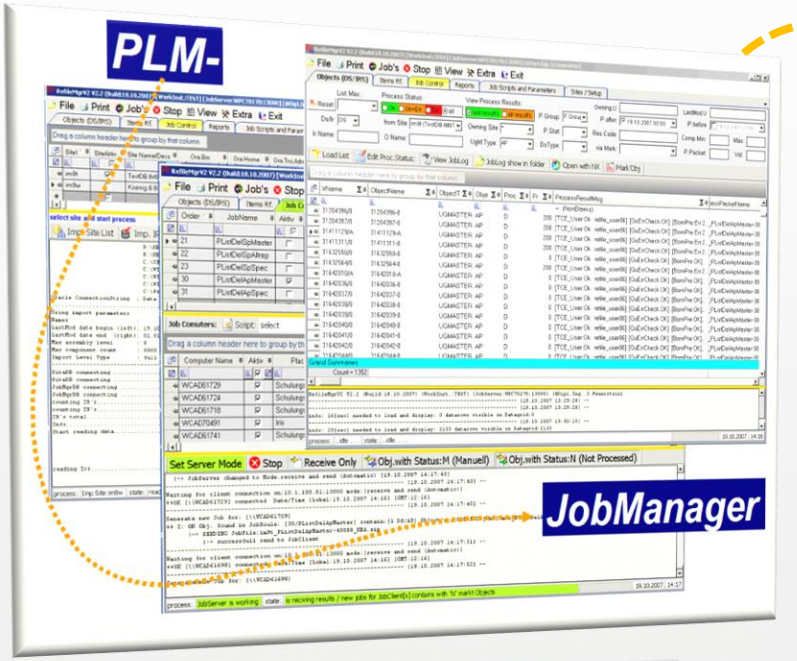
Setup during NX upgrade 2017, current we are consolidating TC



Reason why to Upgrade / ASML Info why to Update to NX11?

- End of maintenance software (lifecycle Maintenance, technical upgrade)
- New functionality in new software (why for ASML?)
- Align on compatibility like Teamcenter version or ready for future
- But also think about:
  - Exchange knowledge with peer companies : KBA, BSH, … Meet Josef!
  - History : NX3.5 → NX7.5, NX7.5 → NX9, NX9 → NX11
  - Mating conditions to assembly constrains
  - Handle released data
  - Multi site situation and how to refile Include multi site slide
  - End of August 2017 last NX upgrade with multi sites, now we are consolidating
  - Be prepared, is the software quality sufficient to do upgrade
  - Co-development, many people work with the NX data, save-as, copy, …..
  - And supplier more and more re-uses the 3D data
  - ASML decided to go with NX refile while upgrading from NX 9.0.3 MP13 to NX 11.0.1 MP1, to improve performance and to avoid issue in future upgrades

Company Introduktion addPLM – GmbH



CheckBox
PLMJobManager

***PLMJobManager* - NX-Refile**
Refiling NX-Parts with Teamcenter environment

PLM
Performance Analyse

Introduction – initial situation

NX5
TCE 9.x

NX7.5
TC8.x

NX2
TCE 8.x

NX9
TC9.x

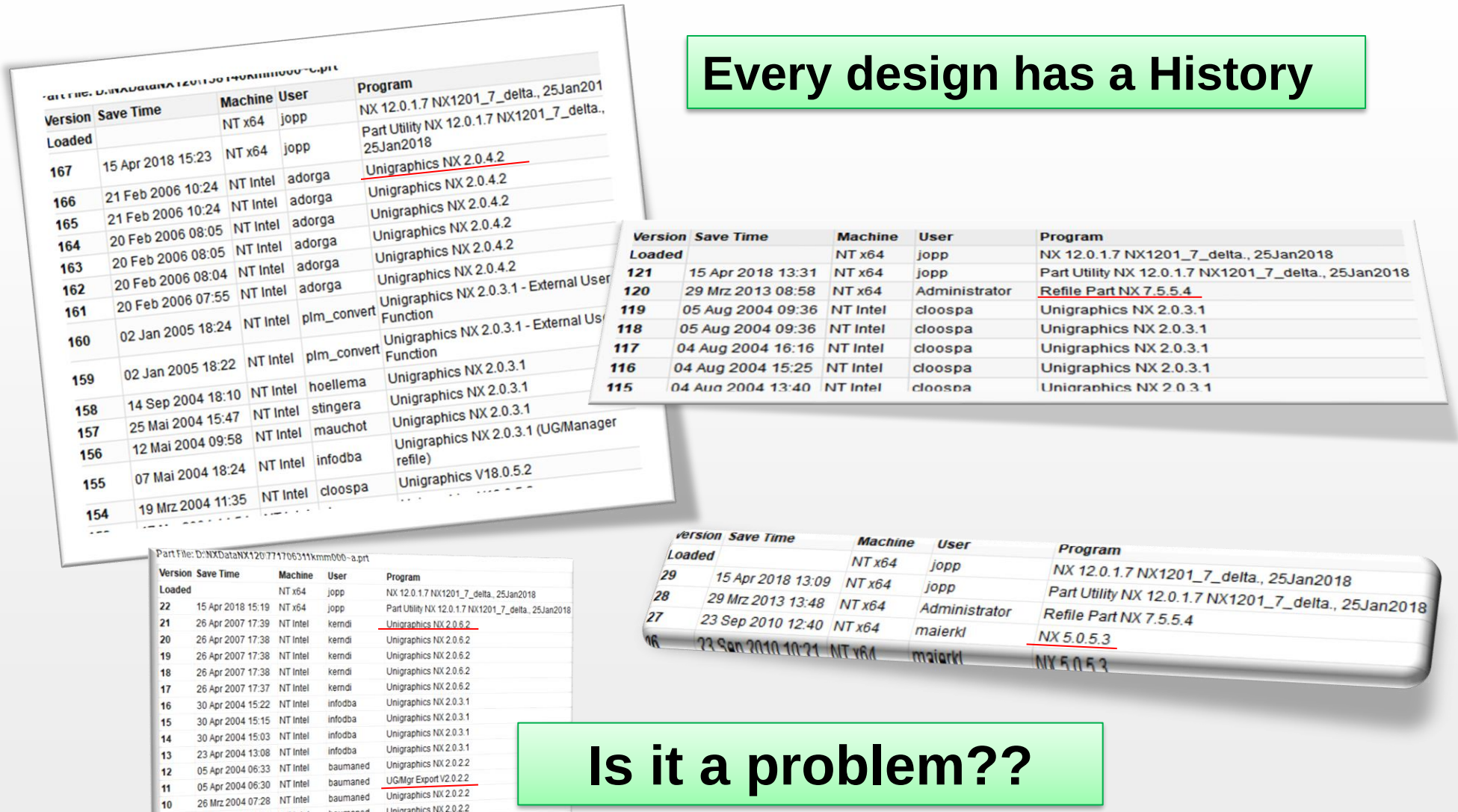
V18..
- IMAN V5.x

NX11
TC11.x

Designs created and updated with different NX Versions …

…. and managed with different TC or PLM System Versions

Introduction – initial situation



Version Loaded	Save Time	Machine	User	Program
167	15 Apr 2018 15:23	NT x64	jopp	NX 12.0.1.7 NX1201_7_delta., 25Jan201
166	21 Feb 2006 10:24	NT Intel	adorga	Part Utility NX 12.0.1.7 NX1201_7_delta., 25Jan2018
165	21 Feb 2006 10:24	NT Intel	adorga	Unigraphics NX 2.0.4.2
164	20 Feb 2006 08:05	NT Intel	adorga	Unigraphics NX 2.0.4.2
163	20 Feb 2006 08:05	NT Intel	adorga	Unigraphics NX 2.0.4.2
162	20 Feb 2006 08:04	NT Intel	adorga	Unigraphics NX 2.0.4.2
161	20 Feb 2006 07:55	NT Intel	plm_convert	Unigraphics NX 2.0.3.1 - External User Function
160	02 Jan 2005 18:24	NT Intel	plm_convert	Unigraphics NX 2.0.3.1 - External Us(Function
159	02 Jan 2005 18:22	NT Intel	hoellema	Unigraphics NX 2.0.3.1
158	14 Sep 2004 18:10	NT Intel	stingera	Unigraphics NX 2.0.3.1
157	25 Mai 2004 15:47	NT Intel	mauchot	Unigraphics NX 2.0.3.1
156	12 Mai 2004 09:58	NT Intel	infodba	Unigraphics NX 2.0.3.1 (UG/Manager refile)
155	07 Mai 2004 18:24	NT Intel	cloospa	Unigraphics V18.0.5.2
154	19 Mrz 2004 11:35	NT Intel	cloospa	

Every design has a History

Version Loaded	Save Time	Machine	User	Program
121	15 Apr 2018 13:31	NT x64	jopp	NX 12.0.1.7 NX1201_7_delta., 25Jan2018
120	29 Mrz 2013 08:58	NT x64	Administrator	Part Utility NX 12.0.1.7 NX1201_7_delta., 25Jan2018
119	05 Aug 2004 09:36	NT Intel	cloospa	Refile Part NX 7.5.5.4
118	05 Aug 2004 09:36	NT Intel	cloospa	Unigraphics NX 2.0.3.1
117	04 Aug 2004 16:16	NT Intel	cloospa	Unigraphics NX 2.0.3.1
116	04 Aug 2004 15:25	NT Intel	cloospa	Unigraphics NX 2.0.3.1
115	04 Aug 2004 13:40	NT Intel	cloospa	Unigraphics NX 2.0.3.1

Part File: D:\NXData\NX120\771706311\kmm000-a.prt

Version Loaded	Save Time	Machine	User	Program
		NT x64	jopp	NX 12.0.1.7 NX1201_7_delta., 25Jan2018
22	15 Apr 2018 15:19	NT x64	jopp	Part Utility NX 12.0.1.7 NX1201_7_delta., 25Jan2018
21	26 Apr 2007 17:39	NT Intel	kerndi	Unigraphics NX 2.0.6.2
20	26 Apr 2007 17:38	NT Intel	kerndi	Unigraphics NX 2.0.6.2
19	26 Apr 2007 17:38	NT Intel	kerndi	Unigraphics NX 2.0.6.2
18	26 Apr 2007 17:38	NT Intel	kerndi	Unigraphics NX 2.0.6.2
17	26 Apr 2007 17:37	NT Intel	kerndi	Unigraphics NX 2.0.6.2
16	30 Apr 2004 15:22	NT Intel	infodba	Unigraphics NX 2.0.3.1
15	30 Apr 2004 15:15	NT Intel	infodba	Unigraphics NX 2.0.3.1
14	30 Apr 2004 15:03	NT Intel	infodba	Unigraphics NX 2.0.3.1
13	23 Apr 2004 13:08	NT Intel	infodba	Unigraphics NX 2.0.3.1
12	05 Apr 2004 06:33	NT Intel	baumaned	Unigraphics NX 2.0.2.2
11	05 Apr 2004 06:30	NT Intel	baumaned	UG/Mgr Export V2.0.2.2
10	26 Mrz 2004 07:28	NT Intel	baumaned	Unigraphics NX 2.0.2.2
9	23 Mrz 2004 14:27	NT Intel	baumaned	Unigraphics NX 2.0.2.2
8	22 Jan 2003 16:59	NT Intel	infodba	Unigraphics V18.0.5.2

Version Loaded	Save Time	Machine	User	Program
29	15 Apr 2018 13:09	NT x64	jopp	NX 12.0.1.7 NX1201_7_delta., 25Jan2018
28	29 Mrz 2013 13:48	NT x64	Administrator	Part Utility NX 12.0.1.7 NX1201_7_delta., 25Jan2018
27	23 Sep 2010 12:40	NT x64	maierkl	Refile Part NX 7.5.5.4
26	23 Sep 2010 10:21	NT x64	maierkl	NX 5.0.5.3

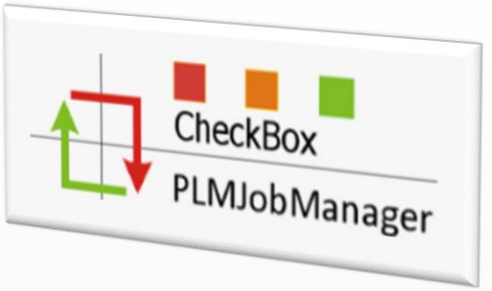
Is it a problem??

Introduction – initial situation

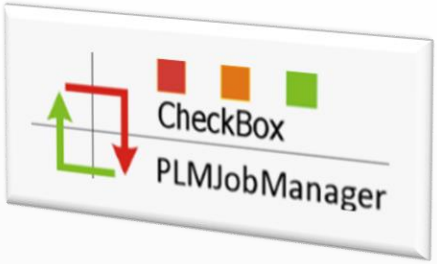
Out of this Situation
Customer wants to get the answer:

Are the data in the new version the same as in the current version?

NX – CheckBox



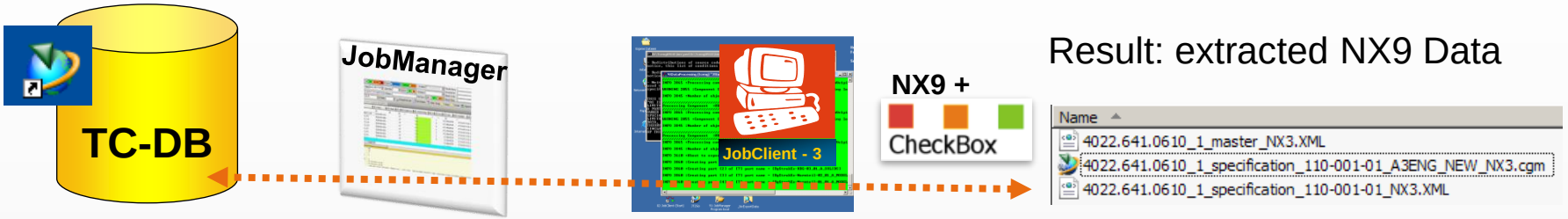
is a solution to find out if and how Software version impacts legacy data and design.



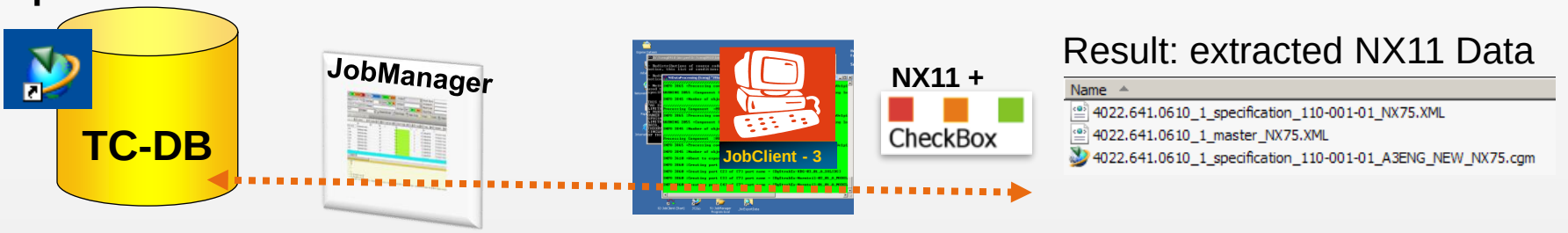
How is NX–CheckBox working?

Introduction NX-CheckBox Process Overview

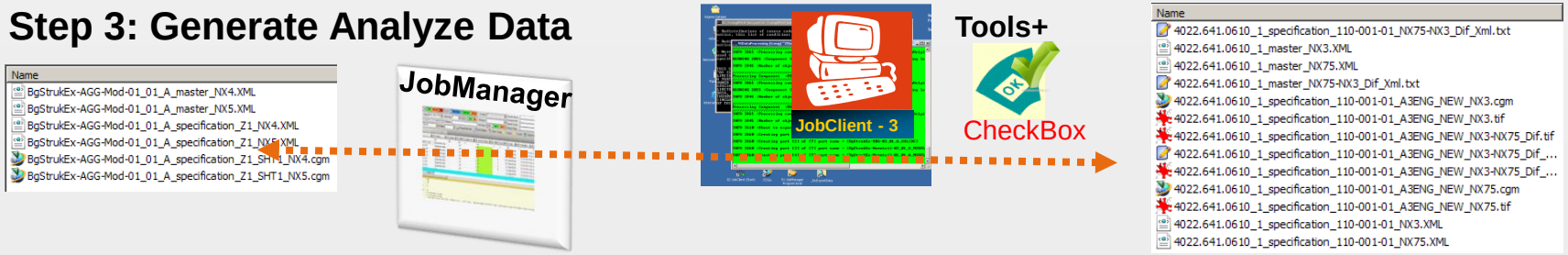
Step 1: Extraction NX9 Data



Step 2: Extraction NX11 Data



Step 3: Generate Analyze Data

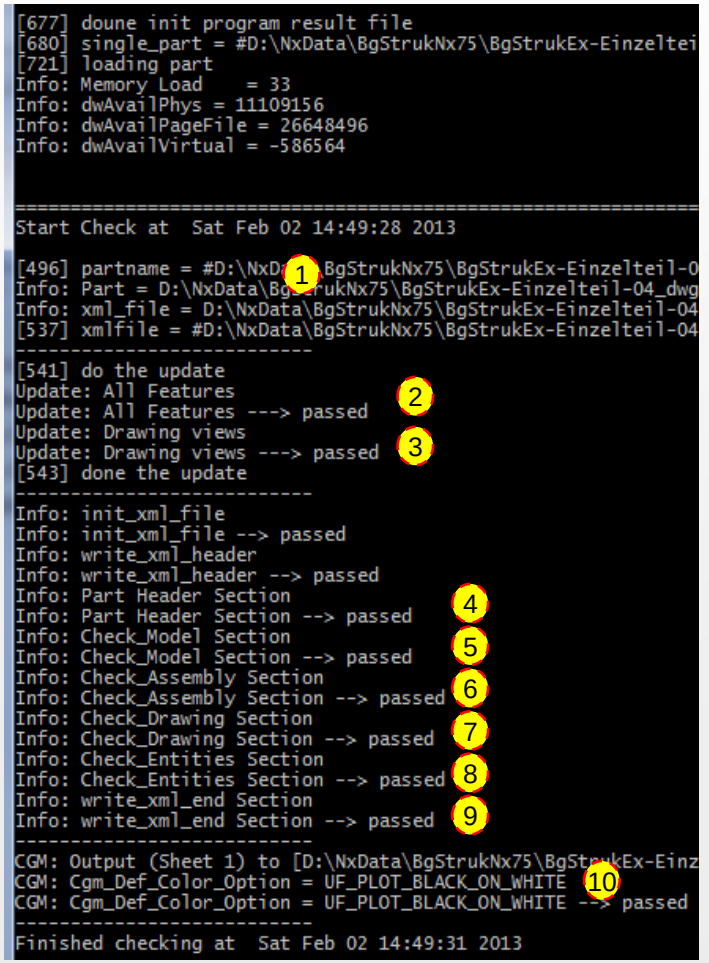


Introduction NX-CheckBox Data Extraction

After extracting CheckBox Data the CB.Log files is analysed an the results are listed as partial Results. The following list shows how we do classify the CheckBox extraction Results.

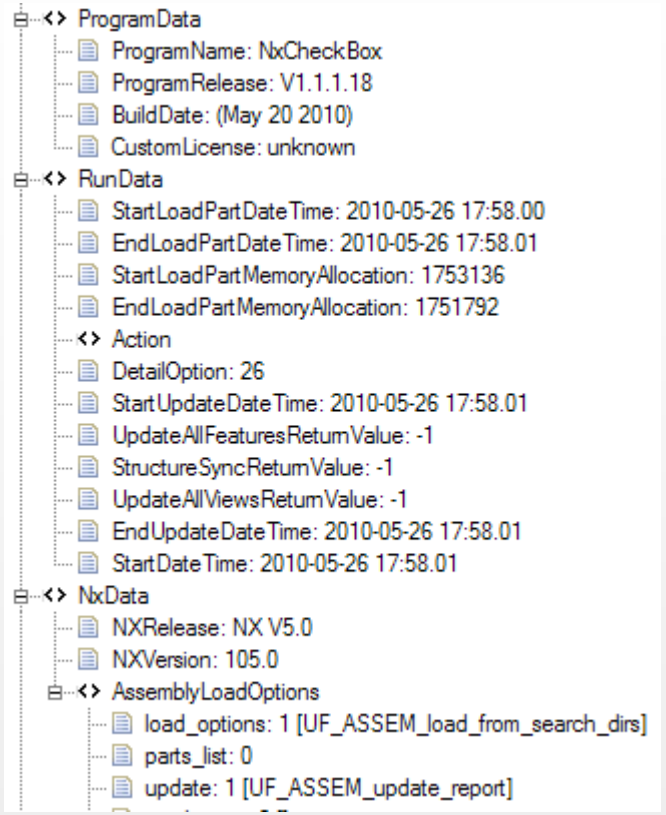
- PL = Part load (1)
- UF = Update all Feature (2)
- UD = Update Drawing (3)
- PH = Part Header (4)
- MD = Model Data (5)
- AS = Assembly Data (6)
- DR = Drawing Data (8)
- EN = Entity (9)
- CBXml = CB.Data File (xml) (10)
- CGM = Drawing .cgm Files

The results of extracting data is imported into the JobServer Database.

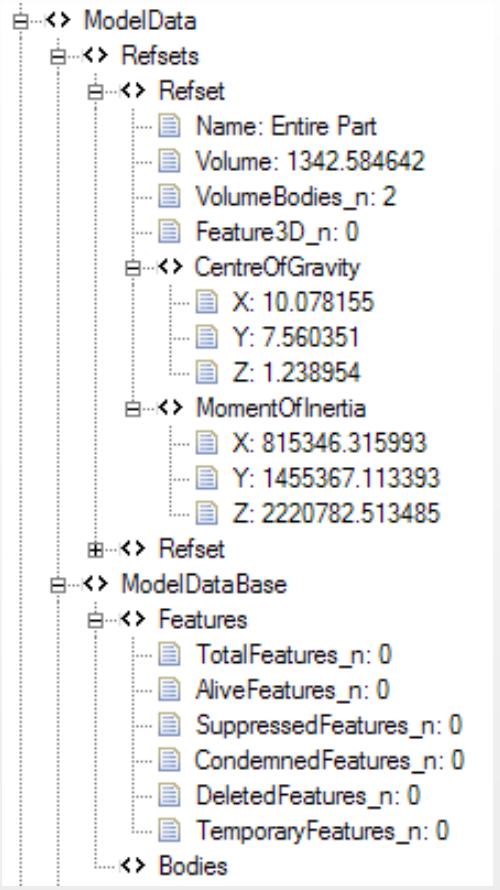


Introduction NX - CheckBox Details off Extracted XML Data

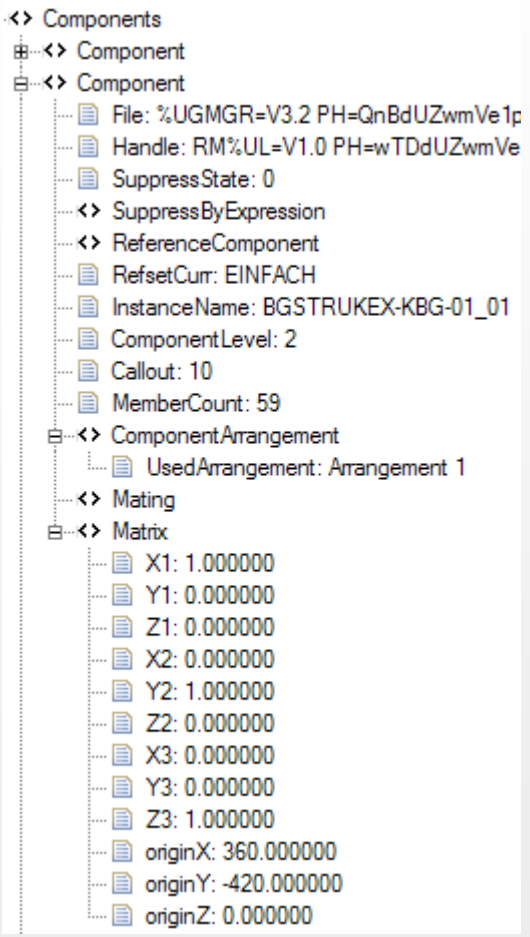
Job Data:



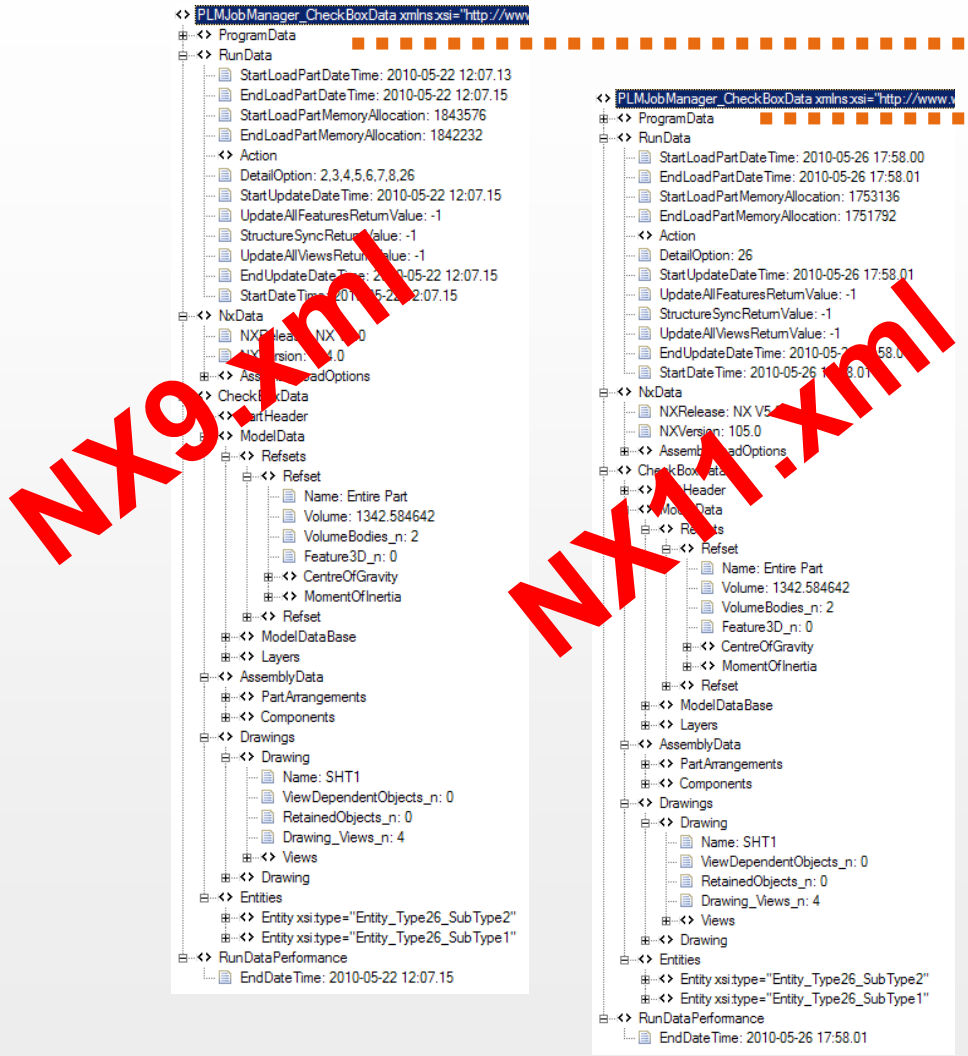
ModelData:



Component:



Introduction CheckBox Compare Data



Compare → having Differences? **YES** **NO**

Create extended Data: **Result Is OK**

- DifReport.txt
- Dif.tif

Result is an Error:

In this case it is required to Check what is the reason for this differences

Introduction CheckBox Details of Difference Report

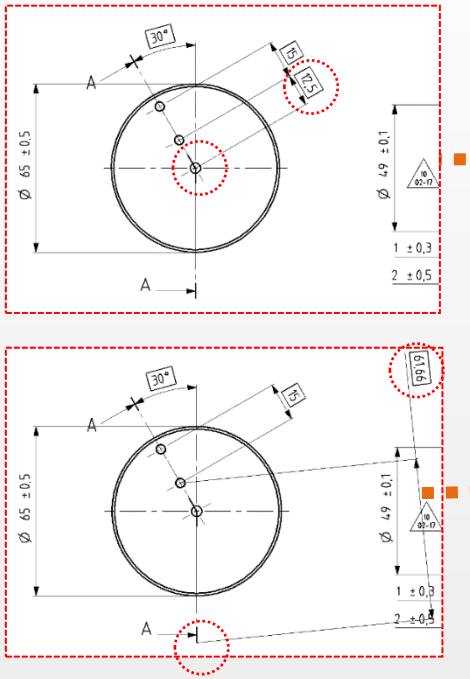
DifReport.txt

```
CheckBox Report:
JM CheckBoxVer...:V2.696 (Build:26.10.2010)
Date.............:26.10.10 22:37:10

CheckBox.Data 1:[NX V3.0[103.0]]                                    |CheckBox.Data 2[NX V7.5[107.0]]
--------------------------------------------------------------------|-------------------------------------------------------------------------
CliName.:[@DB/4022.625.4014/2/specification/110-001-01]             |CliName.:[@DB/4022.625.4014/2/specification/110-001-01]
PartDesc:                                                           |PartDesc:
PartHis.:~                                                          |PartHis.:25 19 Oct 10 00:55 NT Intel jfeuerst NX 7.5.1.5 - External U~
PartHis.:24 18 Oct 10 22:29 NT Intel jfeuerst NX 3.0.3.2 - External ~|PartHis.:24 29 Jul 10 11:47 NT Intel JFeuerst NX 7.5.0.32 (NX Manager~
PartHis.:23 10 May 10 17:00 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>  |PartHis.:23 10 May 10 17:00 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>
PartHis.:22 10 May 10 16:41 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>  |PartHis.:22 10 May 10 16:41 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>
PartHis.:21 10 May 10 16:32 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>  |PartHis.:21 10 May 10 16:32 NT Intel gmiddel NX 3.0.3.2<!<OT_PUB>!>
--------------------------------------------------------------------|-------------------------------------------------------------------------
Data extraction info:                                               |Data extraction info:
NxVer...:NX V3.0[103.0]                                             |NxVer...:NX V7.5[107.0]
NxCB.Rel:V1.1.1.18 Build:(Aug 27 2010)                              |NxCB.Rel:V1.1.1.18 Build:(May 20 2010)
Date....:18.10.10 22:29:51                                          |Date....:19.10.10 00:55:03
=============================================================================================================================================
CheckBox Compair Result:
ResultIsErr......:True
ResultHasWaring..:True
ResultCode.......:64
ResultCodeBinary.:64
ResultMsgShort...:[PH:OK][MD:OK][AS:OK][DR:OK][EN:64 Msg:Err:Origin][Pef:OK]
=============================================================================================================================================
CheckBox compair report:
PartHistoCheck: OK
Warning:DR(32):[ViewDependentObjects_n].[A3ENG_NEW]:[Value Differ(<>)!!]
 |->NX V3.0[103.0]: 74
 |->NX V7.5[107.0]: 73
++Error:EN(64):[Origin]:[X:[240.553540] Y:[291.117523] Z:[0.000000]]
 |->NX V3.0[103.0]: [Type:[26] Subtype:[3] Desc:[UF_dim_parallel] Name:[] Handle:[RM%UL=V1.0 PH=gBmdYwshQS4FxA AUID=Rgod6KgTQS4FxA R0000820300000018]
 |              Origin:[X:[153.753462] Y:[241.003475] Z:[0.000000]] Texts:[12,5]]
 |->NX V7.5[107.0]: [X:[153.753462] Y:[241.003475] Z:[0.000000]]
Warning:EN(64):[Texts.Text]:[61,66]
 |->NX V3.0[103.0]: [Type:[26] Subtype:[3] Desc:[UF_dim_parallel] Name:[] Handle:[RM%UL=V1.0 PH=gBmdYwshQS4FxA AUID=Rgod6KgTQS4FxA R0000820300000018]
 |              Origin:[X:[153.753462] Y:[241.003475] Z:[0.000000]] Texts:[12,5]]
 |->NX V7.5[107.0]: [12,5]
PerfDif.LoadPart.Factor>1.2 Warning:4.00sec(Nx7.5)/1000msec(Nx3)=4.0[PerfDifFactor]
```

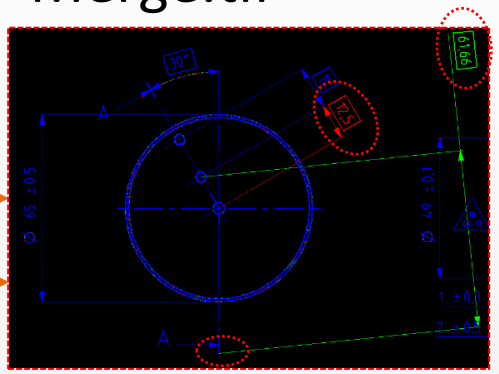
CheckBox extracts CGM files from specifications. These CGM files are used to create output data.

NX9.cgm

NX11.cgm



Merge.tif



From this file we extract the PPM (Parts per Million) value which shows if drawings have differences.
The Merge.tif image file is also be used to see quick differences between drawings.

This method was developed by Thomas Körner from B/S/H.

Introduction CheckBox Analyze Data Compare CB.xml files

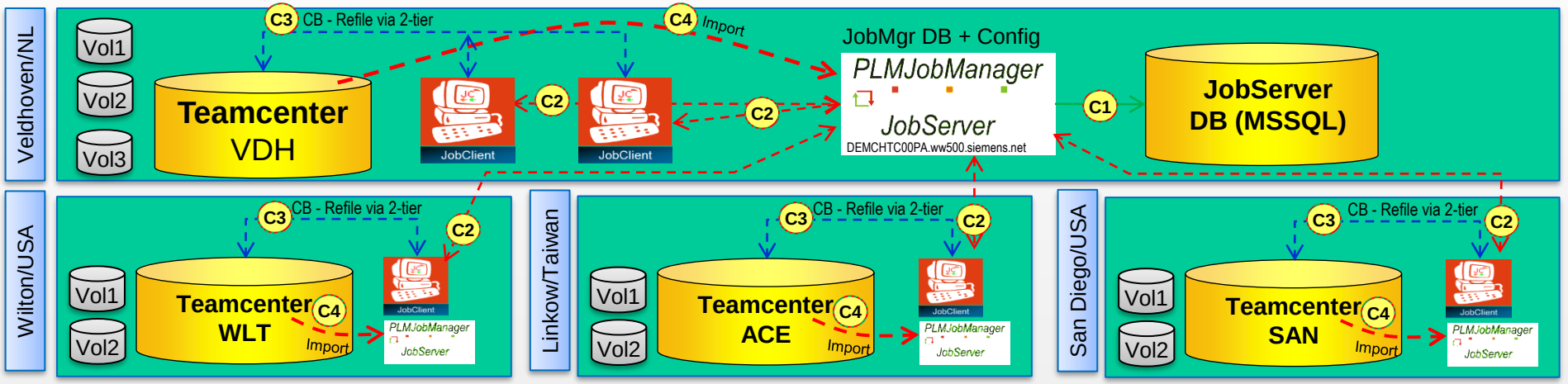
All analyzed Data from XML and from Drawing compare will be combined to one Result:

- PH = Part Header (from XML) 1
- MD = Model Data (from XML) 2
- AS = Assembly Data (from XML) 3
- DR = Drawing Data (from XML) 4
- EN = Entity Data Dim/Text (from XML) 5
- PPM = Dif.tif (from Drawing compare) 6

– If the Result Value is = 0 no differences between the part's are found.
Example:
[PH:OK] [MD:OK] [AS:OK] [DR:OK] [EN:OK] [PPM:OK]
1 2 3 4 5 6

– If the Result Value is > 0 there are differences between the Parts → the Parts must be checked !
Example:
[PH:OK] [MD:ERR:Lay;Refs;AS.Comp;DR.View] [AS:OK] [DR:OK] [EN:OK] [PPM:3078]
1 2 3 4 5 6

ASML Project Results and Examples form NX9 to NX11 Upgrade Project



Next Slides shows Examples and process statistics regarding checkbox and refile.

Introduction Site

In ASML Project we selected Top Product Assembles including all there Components and Analysed them with NX-CheckBox.

Next slides shows:

- **how we structed the Data Analyse**
- **Result Examples**

Section of NX-CheckBox Analyse - Overview

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

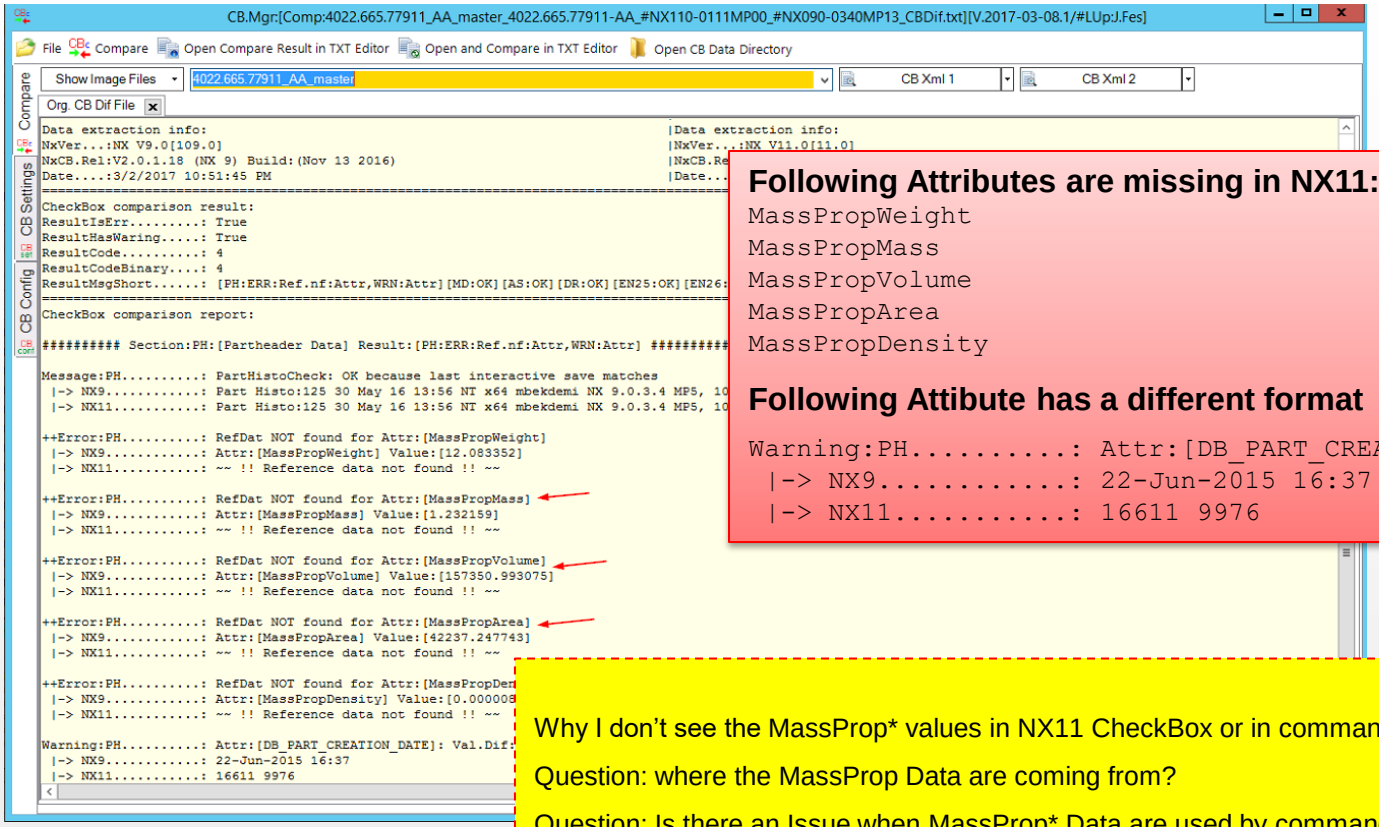
- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

07.03.2017 SP: -> Partheader compare Attributes are missing in NX11

Example: ****.****_AA_master



Following Attributes are missing in NX11:

```
MassPropWeight
MassPropMass
MassPropVolume
MassPropArea
MassPropDensity
```

Following Attibute has a different format

```
Warning:PH.....: Attr:[DB_PART_CREATION_DATE]: Val.Dif:[Is not equal]
 |-> NX9.....: 22-Jun-2015 16:37
 |-> NX11.....: 16611 9976
```

Why I don't see the MassProp* values in NX11 CheckBox or in command line tools

Question: where the MassProp Data are coming from?

Question: Is there an Issue when MassProp* Data are used by command line tools? → also ask Bernd Schieber.

Conclusion Not a blocking Issue but need to be checked by Mr. Bernd Schieber and also send an Information to Erwin.

Selected	Gr.Key	Gr.Name	Gr.Description	ITEM.Count	IR.Count	DS.Count	Obj.Count
			SP: -> Partheader compare Attributes are missing in NX11				
☑	Gr05.2	VDH.CB Issue	SP: -> Partheader compare Attributes are missing in NX11	0	0	339	339

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

- Model compare
- Drawing compare
- Assembly compare

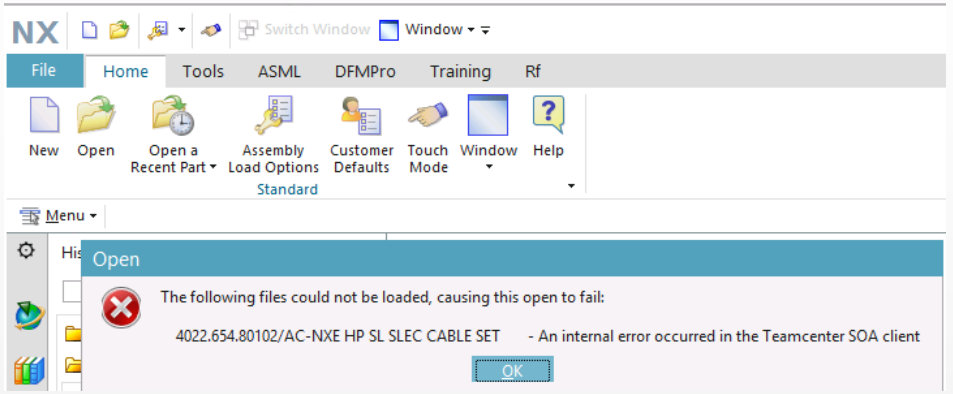
CheckBox Results

- Process- Statistic - Status

14.03.2017 – Issue AP Load in NX11

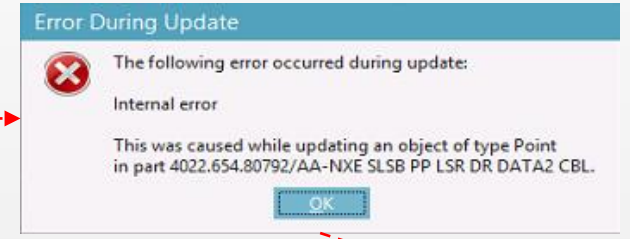
Example: ****.****/AC/****.

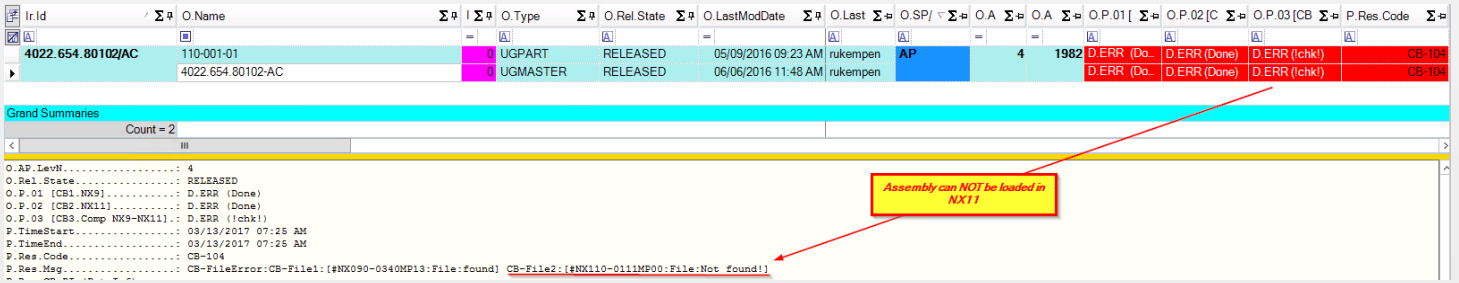
Test with NX11.1.0.11



#Info 14.03.2017
maybe fixed in MP1

Test with NX11.1.0.11 MP1





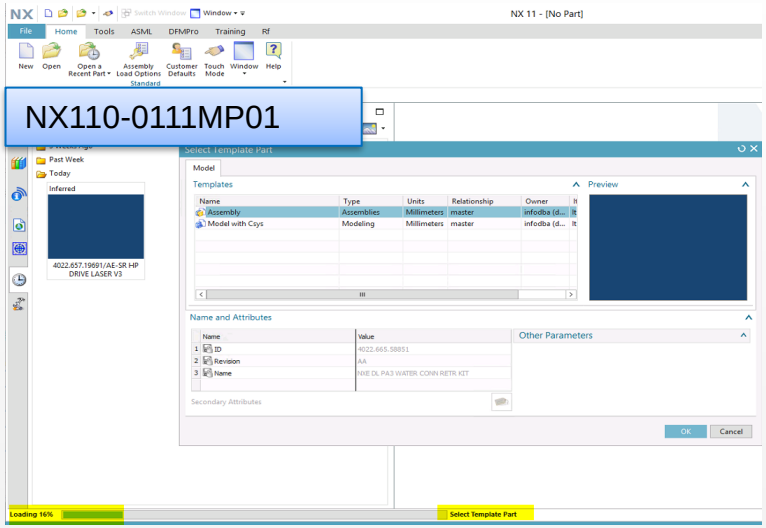
Test with NX11.1.0.11 MP1

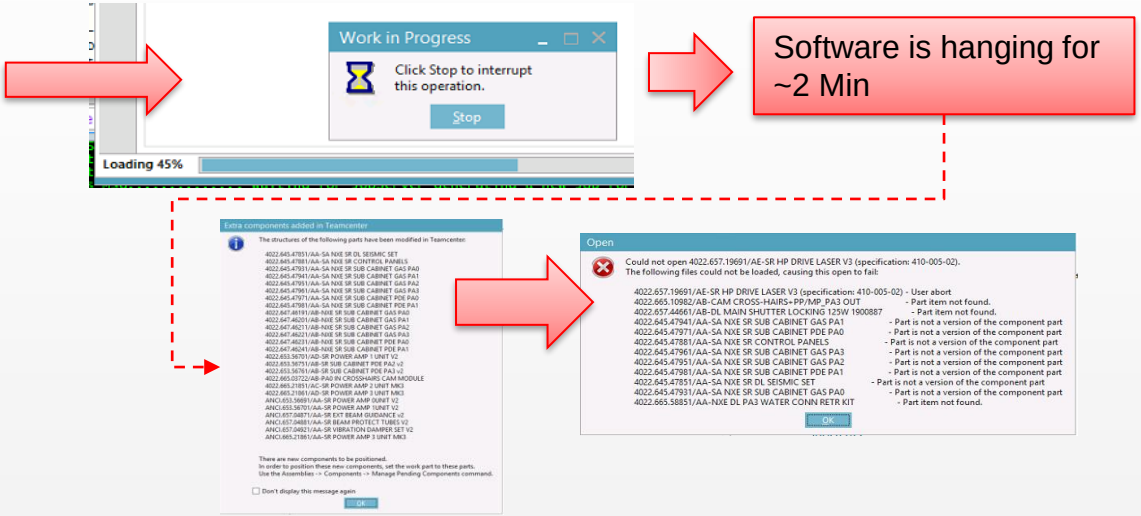
Issue remains

23.03.2017 – Issue AP Load in NX11

Example: ****.****/AE UGPART

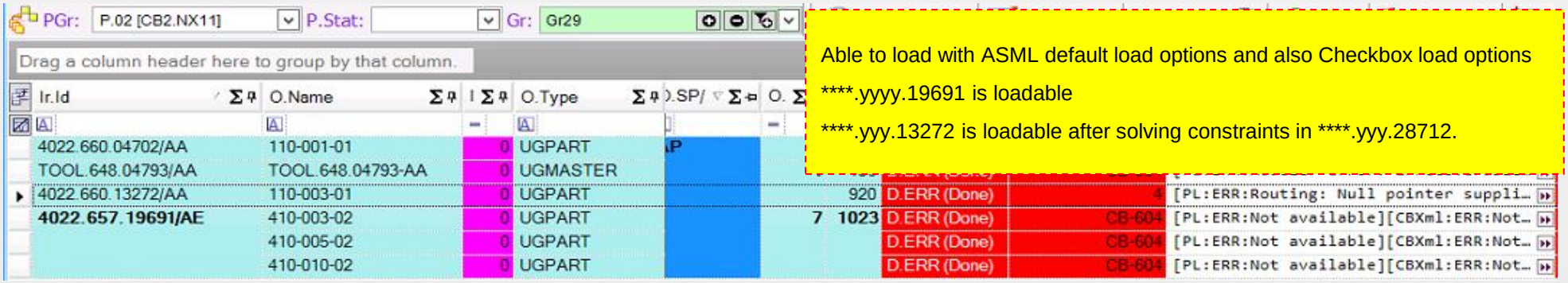
During load the following message appears





In **NX9** it **is** possible to open the drawing but not with **NX11.0.11 MP1** but you are able to open the Drawings with load no components

Same or similar Issue with this Drawings



Able to load with ASML default load options and also Checkbox load options

****.yyyy.19691 is loadable

****.yyy.13272 is loadable after solving constraints in ****.yyy.28712.

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

16.03.2017 – SP: ERR:Refset.Vol,SolBod.Volume.Diff:>0.0001

Example: ****.XXX_AA_master

No issue after fixing edge blend (17)

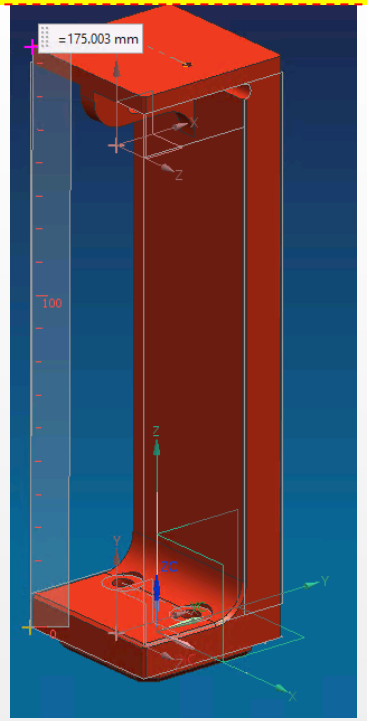
CB.Mgr:[Comp:4022.655.28611_AA_master_4022.655.28611-AA_#NX110-0111MP00_#NX090-0340MP13_CBDif.txt][V.2017-03-08.1/#LUp

File | Compare | Open Compare Result in TXT Editor | Open and Compare in TXT Editor | Open CB Data Directory

Show Image Files | 4022.655.28611_AA_master | CB Xml 1 | CB Xml 2

Org. CB Dif File

```
CliName.:@DB/4022.655.28611/AA/master/                    |CliName.:@DB/4022.655.28611/AA/master/
PartHis.:41 08 Mar 17 05:06 NT x64 plmjobman NX 9.0.3.4 - External User Functi~|PartHis.:41 08 Mar 17 07:16 NT x64 plmjobman NX 11.0.1.11 - External
PartHis.:40 28 Oct 15 10:40 NT x64 alsegers NX 9.0.3.4 MP5, 10Feb15 (Last int.~|PartHis.:40 28 Oct 15 10:40 NT x64 alsegers NX 9.0.3.4 MP5, 10Feb15
PartHis.:39 19 Nov 14 00:46 NT x64 imanupm NX 9.0.3.4 (NX Manager refile) MP1,~|PartHis.:39 19 Nov 14 00:46 NT x64 imanupm NX 9.0.3.4 (NX Manager re
PartHis.:38 21 Nov 13 13:57 NT x64 asegers NX 7.5.5.4     |PartHis.:38 21 Nov 13 13:57 NT x64 asegers NX 7.5.5.4
Data extraction info:                                     |Data extraction info:
NxVer...:NX V9.0[109.0]                                   |NxVer...:NX V11.0[11.0]
NxCB.Rel:V2.0.1.18 (NX 9) Build:(Nov 13 2016)             |NxCB.Rel:V2.0.1.18 (NX 11) Build:(Nov 13 2016)
Date....:3/8/2017 5:06:47 AM                              |Date....:3/8/2017 7:16:18 AM
CheckBox comparison result:
ResultIsErr.........: True
ResultHasWaring.....: False
ResultCode..........: 8
ResultCodeBinary....: 8
ResultMsgShort......: [PH:OK][MD:ERR:Refset.Vol,SolBod.Volume.Diff:>0.0001][AS:OK][DR:OK][EN25:OK][EN26:OK][DC:Tif:No.CGM][PI:OK]
CheckBox comparison report:
########## Section:PH:[Partheader Data] Result:[PH:OK] ##########
Message:PH..........: PartHistoCheck: OK because last interactive save matches
 |-> NX9............: Part Histo:40 28 Oct 15 10:40 NT x64 alsegers NX 9.0.3.4 MP5, 10Feb15
 |-> NX11...........: Part Histo:40 28 Oct 15 10:40 NT x64 alsegers NX 9.0.3.4 MP5, 10Feb15
########## Section:MD:[Model Data] Result:[MD:ERR:Refset.Vol,SolBod.Volume.Diff:>0.0001] ##########
++Error:MD..........: SolidBodies.Volume: Val.Dif:[Diff.>0.0001]
 |-> NX9............: 159076.164 mm^3
 |-> NX11...........: 159075.848 mm^3
 |-> Differnce......: ERROR because Diff.high:[0.316000>0.0001]
++Error:MD..........: Refset.Volume #Info:Entry listed as warning because:'ModelBodysCheck' is already estimated by:PrototypeAnalysis:COfGrN1 or MOf
 |-> Object.........: Refset:Entire Part
 |-> NX9............: 159076.164 mm^3
 |-> NX11...........: 159075.848 mm^3
 |-> Differnce......: ERROR because Diff.high:[0.316000>0.0001]
++Error:MD..........: Refset.Volume #Info:Entry listed as warning because:'ModelBodysCheck' is already estimated by:PrototypeAnalysis:COfGrN1 or MOf
```



- Datum Coordinate Sy...
- Sketch (1) "S_000"
- Extrude (2)
- Sketch (3) "S_001"
- Sketch (4) "S_002"
- Datum Coordinate Sy...
- Sketch (6) "S_003"
- Extrude (7)
- Datum Coordinate Sy...
- Sketch (9) "S_004"
- Extrude (10)
- Extrude (11)
- Sketch (12) "S_006"
- Simple Hole (13)
- Sketch (14) "S_008"
- Threaded Hole (15)
- Edge Blend (17)
- Sketch (18) "S_009"
- Extrude (19)
- Chamfer (20)
- Sketch (21) "S_007"
- Extrude (23)
- Simple Hole (24)
- Chamfer (25)

Ir.Id	O.Name	I	O.Type	O.Rel.State	O.LastModDate	rt.Inf)	P.TimeStart	P.TimeEnd	P.Res.CB:MD2 (Sol.Vol.dif)	P.Res.CB:MD3 (Sol.Vol.%)
4022.655.28611/AA	4022.655.28611-...	0	UGMASTER		10/28/2015 09:40 AM		03/08/2017 07:16 A...	03/08/2017 07:1...	0.31600000	0.00019900

More cases please see:

Gr: Gr26 | Search & List | Ed.P.State | View J.Log | J.Link | Open NX | Extra

Selected	Gr.Key	Gr.Name	Gr.Description	IT	IR	DS.Count	O
☑	Gr26	VDH.ISSUE	SP: ERR:Refset.Vol,SolBod.Volume.Diff:>0.0001			202	

Question: Is it required to put down the tolerances?

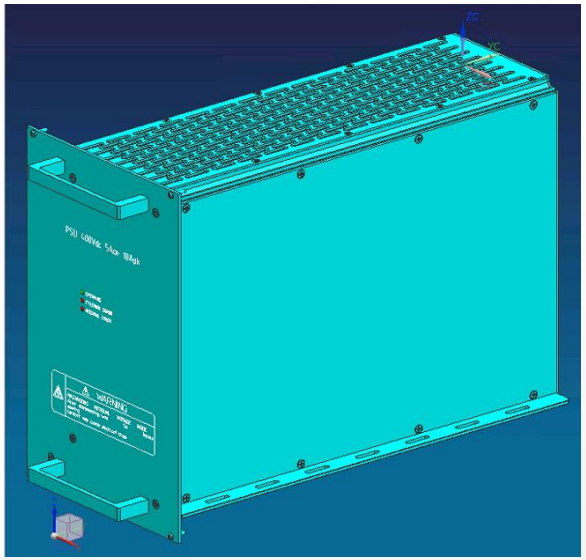
07.03.2017 – Issue Refset.Volume Refset:Entire Part

Example: ****.XXXX_vc_master

Show Image Files | 4022.478.00176_vc_master

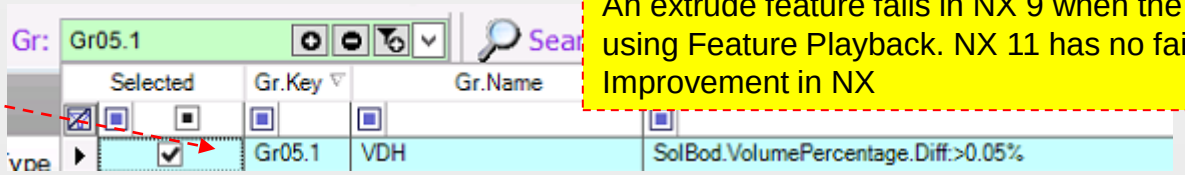
Org. CB Dif File

```
########## Section:MD:[Model Data] Result:[MD:ERR:Ref.nf:ModDB_Body,Refset.MOfIn,Refset.Vol,Ref

++Error:MD.....: SolidBodies.Volume: Val.Dif:[Diff:>0.0001]
 |-> NX9.....: 1519678.556 mm^3
 |-> NX11.....: 11701538.774 mm^3
 |-> Differnce.....: ERROR because Diff.high:[10181860.218000>0.0001]

++Error:MD.....: SolidBodies.Volume: Val.Dif:[Diff:>0.05%]
 |-> NX9.....: 1519678.556 mm^3
 |-> NX11.....: 11701538.774 mm^3
 |-> Differnce.....: ERROR because Deviation high:[87.013002% > 0.05%]

++Error:MD.....: SolidBodies.VolumeBodys_n: Val.Dif:[Is not equal]
 |-> NX9.....: 77
 |-> NX11.....: 78

++Error:MD.....: SolidBodies.CentreOfGravityN1 (!!--serious diff.--!! because Value is Nor
 |-> NX9.....: X:[3.708906] Y:[-18.267583] Z:[-10.584114]
 |-> NX11.....: X:[4.115712] Y:[-17.358608] Z:[-10.144486]
 |-> Differnce.....: ERROR because Diff.high:[1.088577>0.001]
 |-> Differnce in...: X.Dif:[-0.406806] Y.Dif:[-0.908975] Z.Dif:[-0.439628]
 |-> 3D Dist.....: 3D Dist:1.088577 of P1:[X:[3.708906] Y:[-18.267583] Z:[-10.584114]] <-> P2:[X:[4.11571

++Error:MD.....: SolidBodies.MomentOfInertiaN1 (!!--serious diff.--!! because Value is Normalized with
 |-> NX9.....: X:[ 998387.993560] Y:[ 325787.794944] Z:[ 800770.133768]
 |-> NX11.....: X:[6557104.977357] Y:[2159498.645754] Z:[5130235.461531]
 |-> Differnce.....: ERROR because Diff.high:[7280528.827952>0.1]
 |-> 3D Dist.....: 3D Dist:7280528.827952 of P1:[X:[ 998387.993560] Y:[ 325787.794944] Z:[ 800770.133768]

Warning:MD.....: SolidBodies.MomentOfInertia #Info:Entry listed as warning because:'ModelBodysCheck' is
 |-> NX9.....: X:[7817308.323896] Y:[2551087.191731] Z:[6269869.609453]
 |-> NX11.....: X:[7817864.195595] Y:[2551270.562816] Z:[6270302.555986]
 |-> Differnce.....: ERROR because Diff.high:[728.052883>0.1]
 |-> 3D Dist.....: 3D Dist:728.052883 of P1:[X:[7817308.323896] Y:[2551087.191731] Z:[6269869.609453]] <-
```



Issue: Volume in Refest Model differs!!
Posible Reason:
More SolidBodys are evaluatet in NX11

More cases please see:



An extrude feature fails in NX 9 when the part is updated using Feature Playback. NX 11 has no failure. In fact Improvement in NX

16.03.2017 – SP: ERR:Refset.Vol,SolBod.Volume.Diff:>0.0001

Example: ****.XXXX_AA_master

CB.Mgr:[Comp:4022.637.16145_AA_master_4022.637.16145-AA_#NX110-0111MP00_#NX090-0340MP13_CBDif.txt][V.2017-

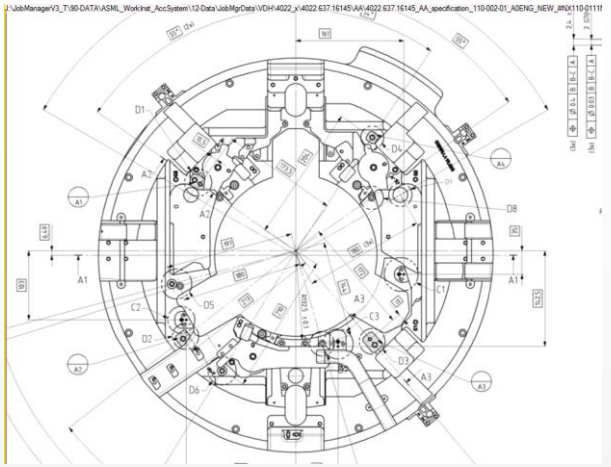
File | Compare | Open Compare Result in TXT Editor | Open and Compare in TXT Editor | Open CB Data Directory

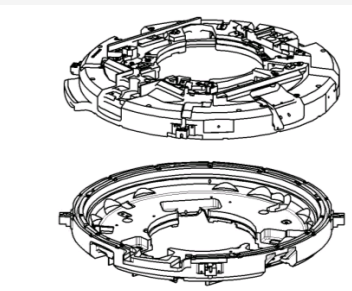
Show Image Files | 4022.637.16145_AA_master | CB Xml 1

Org. CB Dif File

```
########## Section:MD:[Model Data] Result:[MD:ERR:Refset.MOfIn,Refset.Vol,SolBod.MOfInN1.Diff:>0.1,SolBod.Volume.Dif

++Error:MD.........: SolidBodies.Volume: Val.Dif:[Diff:>0.0001]
 |-> NX9............: 5109718.567 mm^3
 |-> NX11...........: 5109718.869 mm^3
 |-> Differnce......: ERROR because Diff.high:[0.302000>0.0001]

++Error:MD.........: SolidBodies.MomentOfInertiaN1 (!!--serious diff.--!! because Value is Normalized with Density=
 |-> NX9............: X:[1743082.357106] Y:[1720408.328395] Z:[3095343.930211]
 |-> NX11...........: X:[1743082.452748] Y:[1720408.423979] Z:[3095344.075140]
 |-> Differnce......: ERROR because Diff.high:[0.198212>0.1]
 |-> 3D Dist........: 3D Dist:0.198212 of P1:[X:[1743082.357106] Y:[1720408.328395] Z:[3095343.930211]] <-> P2:[X:[1

Warning:MD.........: SolidBodies.MomentOfInertia #Info:Entry listed as warning because:'ModelBodysCheck' is already
 |-> NX9............: X:[4636599.069903] Y:[4576286.153531] Z:[8233614.854362]
 |-> NX11...........: X:[4636599.324308] Y:[4576286.407783] Z:[8233615.239872]
 |-> Differnce......: ERROR because Diff.high:[0.527242>0.1]
 |-> 3D Dist........: 3D Dist:0.527242 of P1:[X:[4636599.069903] Y:[4576286.153531] Z:[8233614.854362]] <-> P2:[X:[4

++Error:MD.........: Refset.Volume #Info:Entry listed as warning because:'ModelBodysCheck' is already estimated by:
 |-> Object.........: Refset:Entire Part
 |-> NX9............: 5109718.567 mm^3
 |-> NX11...........: 5109718.869 mm^3
 |-> Differnce......: ERROR because Diff.high:[0.302000>0.0001]
```

P.Res.CB:MD2 (Sol.Vol.dif)	Σ	P.Res.CB:MD3 (Sol.Vol.%)
0.30200000		0.00000600





IR 8818538
No issue if accuracy is increased

Analyse:
Part is quit complex and has no Issues in Drawings

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

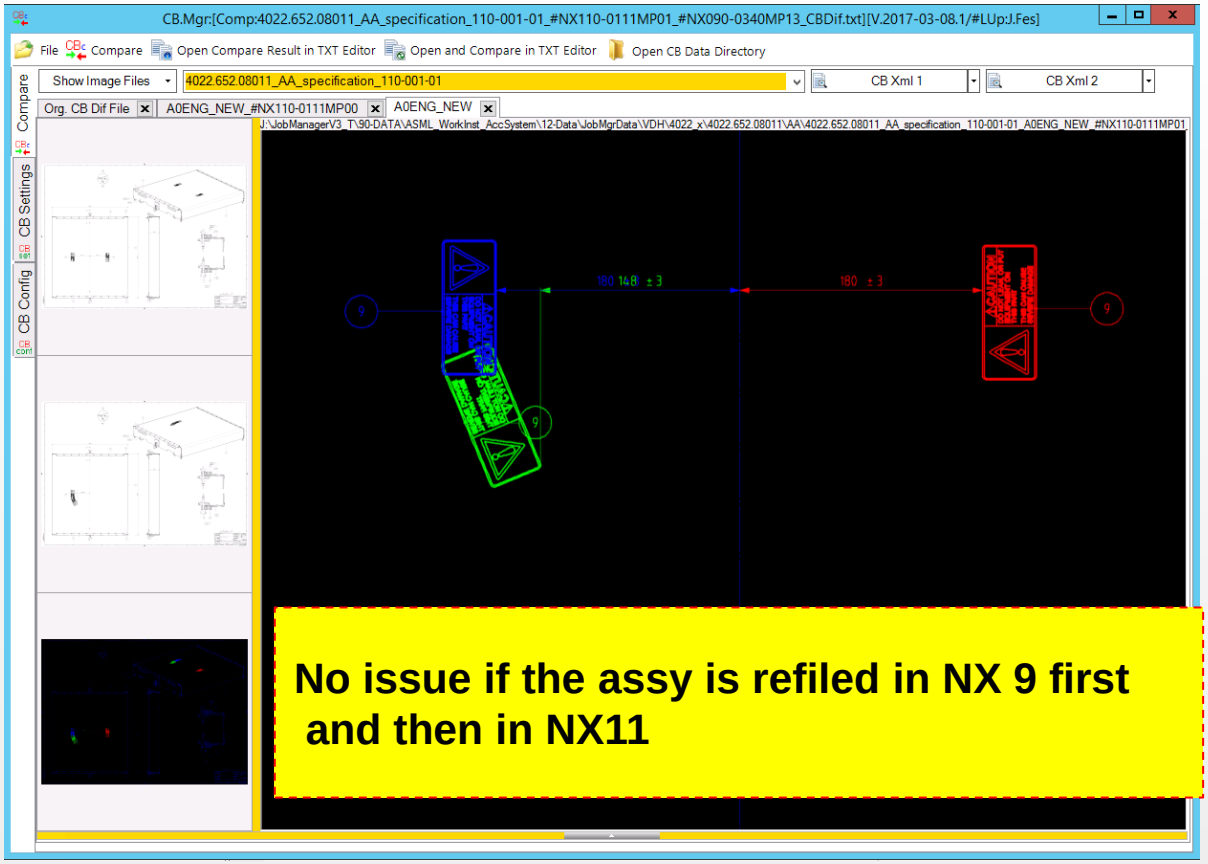
- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

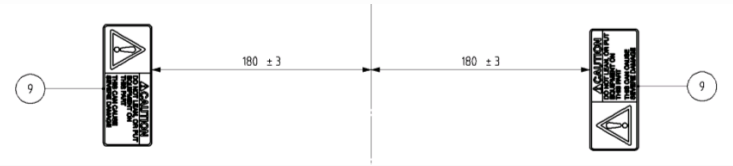
- Process- Statistic - Status

15.03.2017 – Compare SP Drawing / Dimension Issue

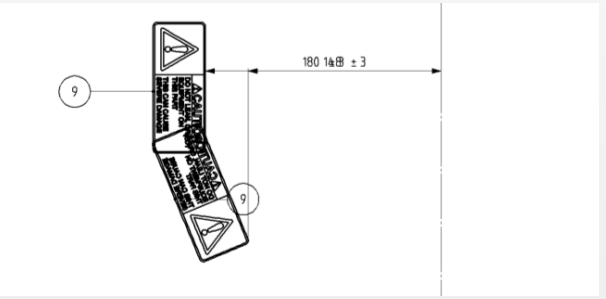
Example: ****.xxxx_specification_110-001-01



NX9

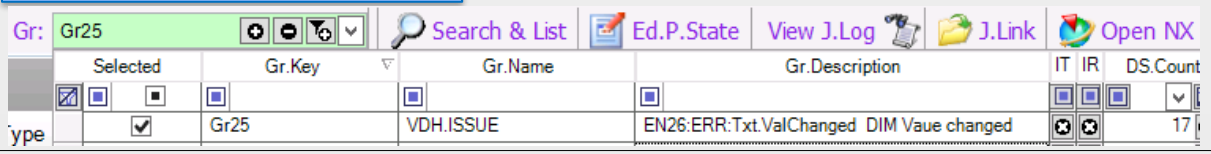


NX110-0111MP01



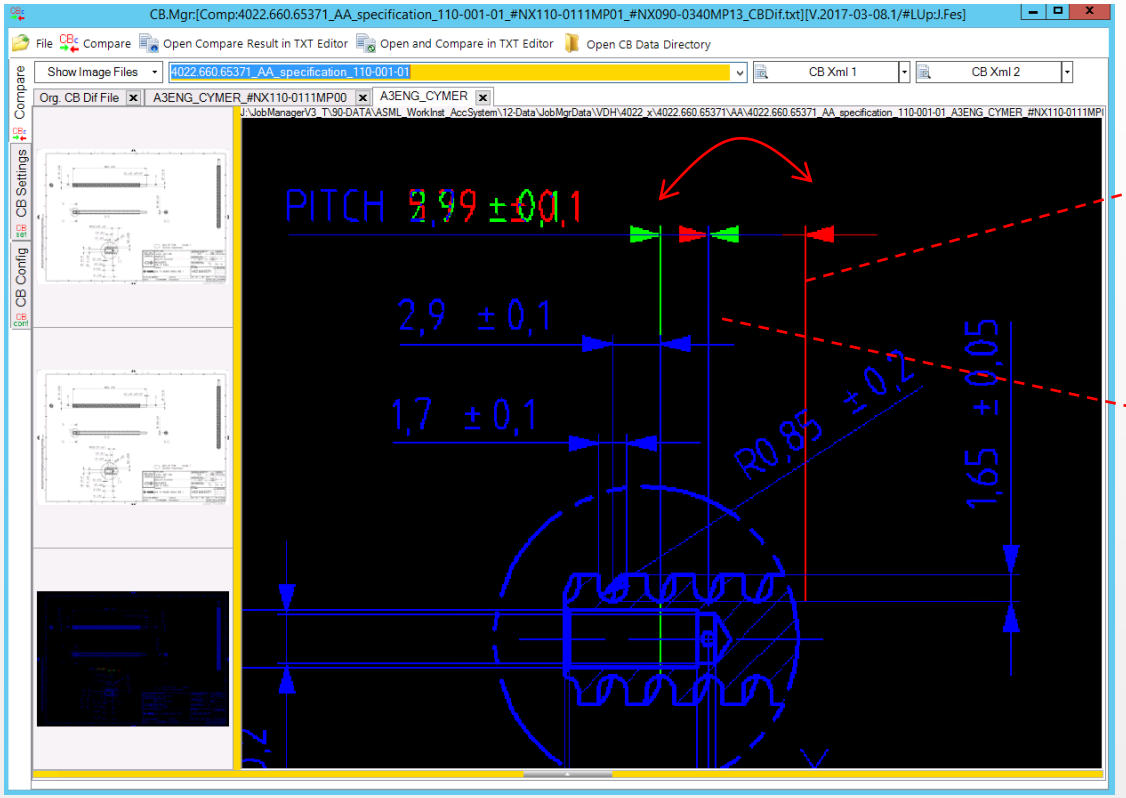
Analyse:
Issue Labels are Moving in NX11

More cases please see:

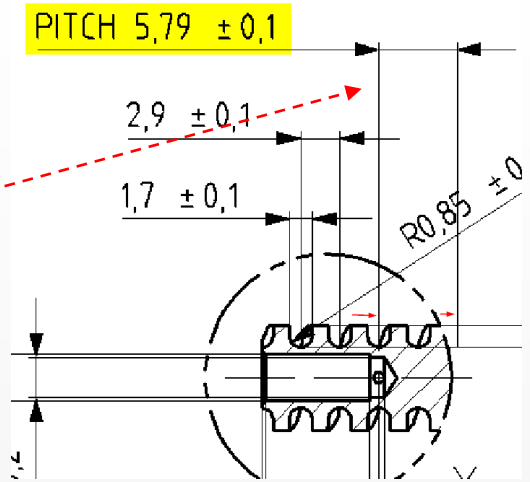


15.03.2017 – Compare SP Drawing / Dimension Issue

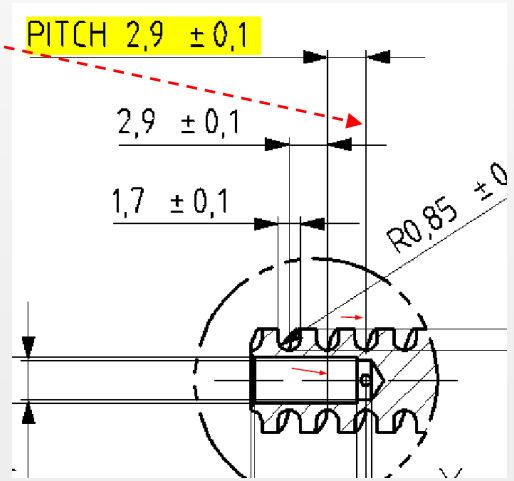
Example: ****.xxxx_specification_110-001-01



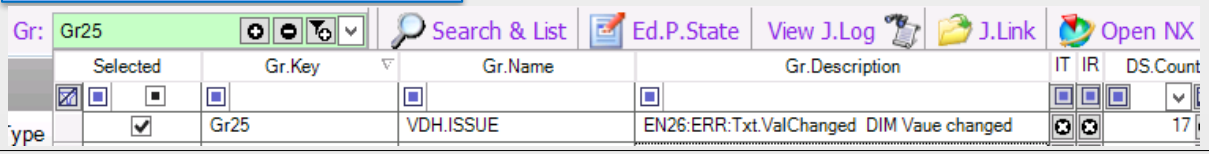
NX9



NX110-0111MP01



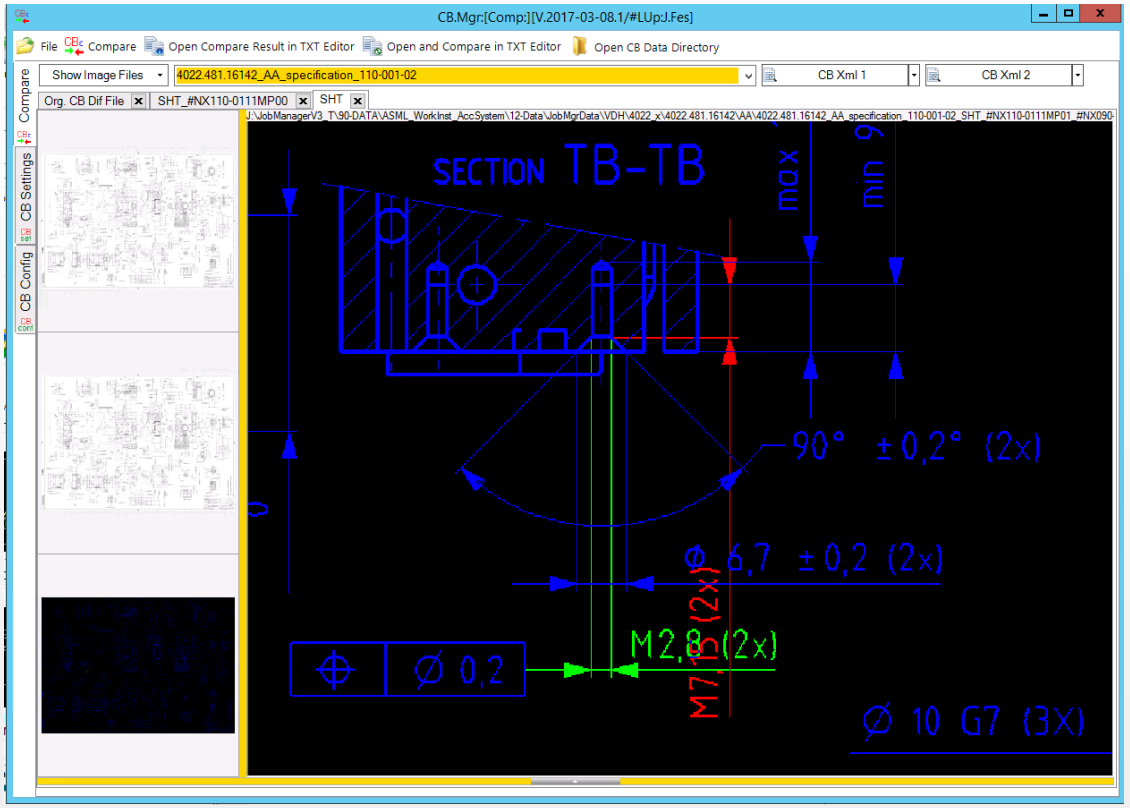
More cases please see:



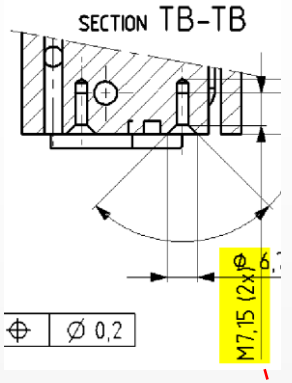
Analyse:
Dim Value unkow waths right?

15.03.2017 – Compare SP Drawing / Dimension Issue

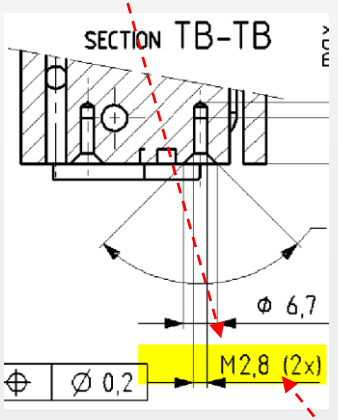
Example: ****.xxxx_AA_specification_110-001-02



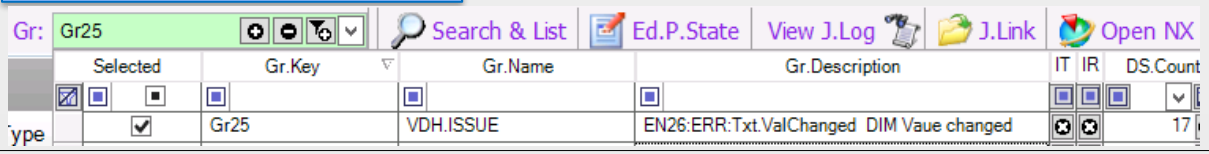
NX9



NX11



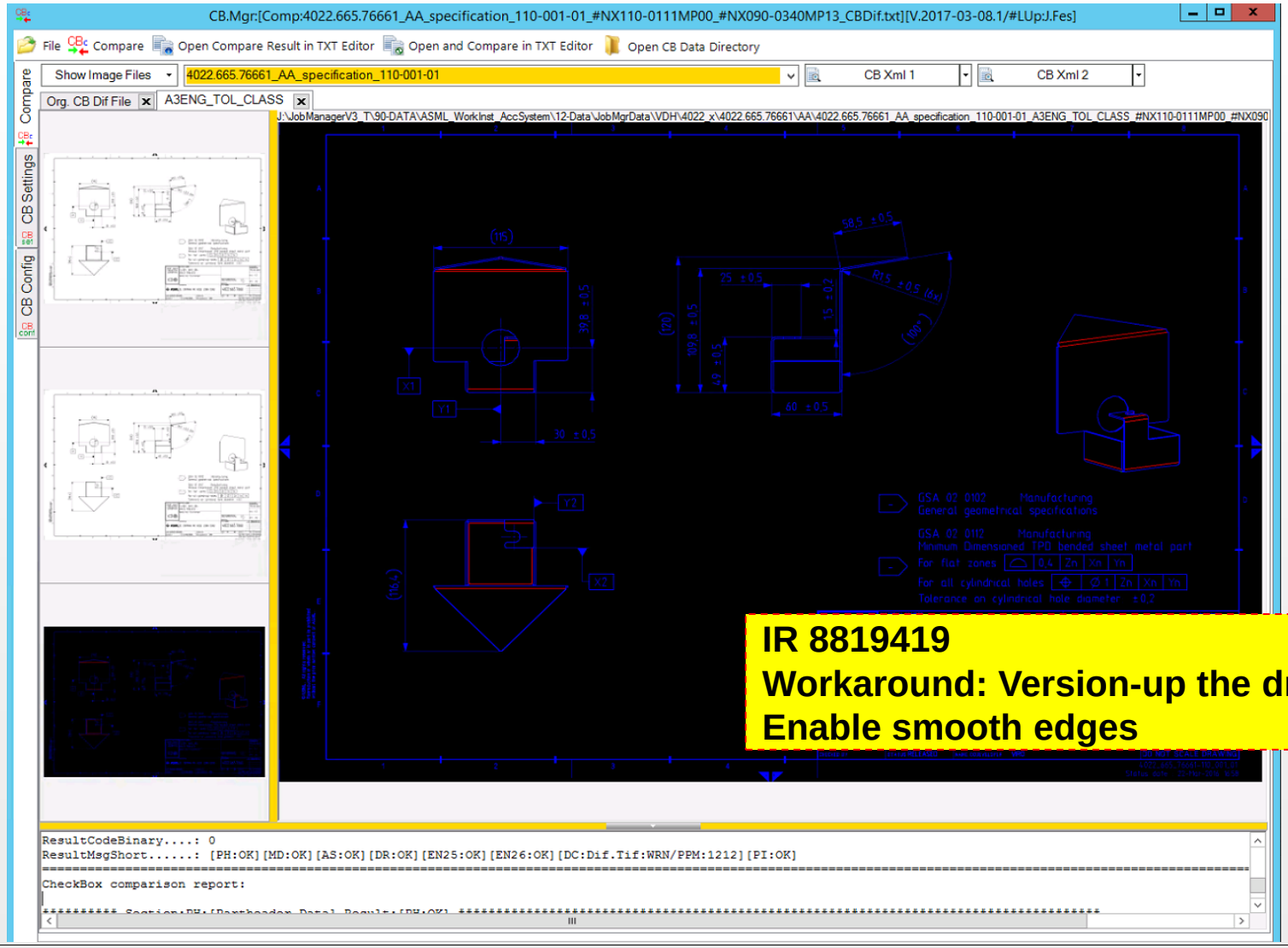
More cases please see:



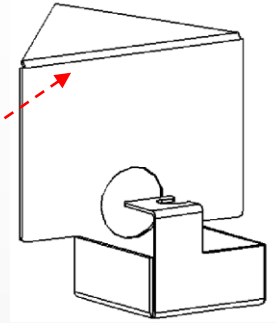
Analyse:
Dim looks in NX11 more OK but M2,8??

17.03.2017 – Compare SP Drawing Silhouetts lines are missing on sheet metal bodys

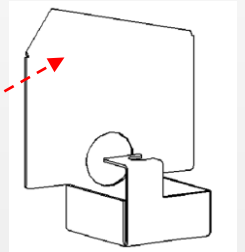
Example: ****.xxxx_AA_specification_110-001-01



NX090-0340MP13



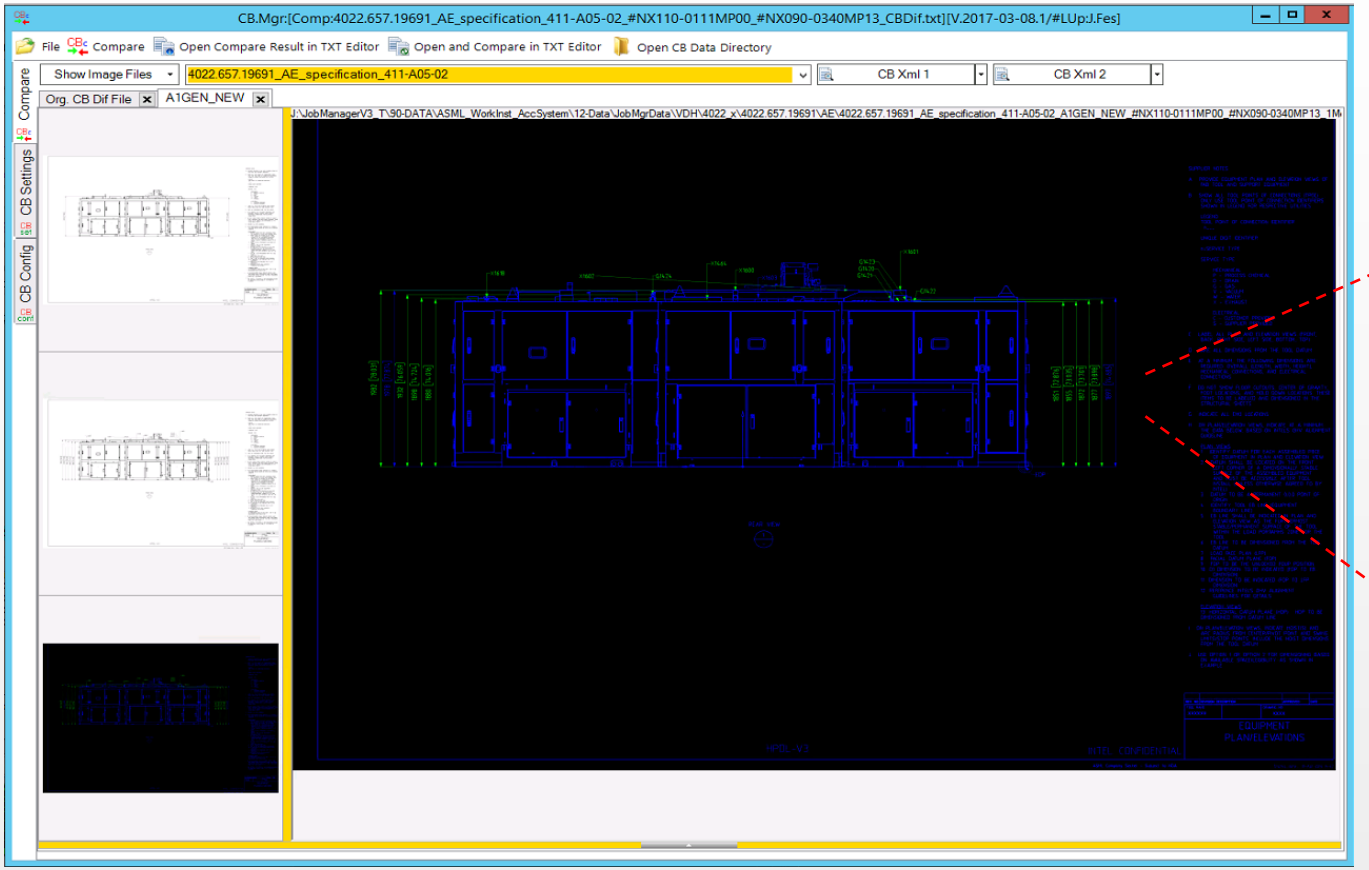
NX110-0111MP01



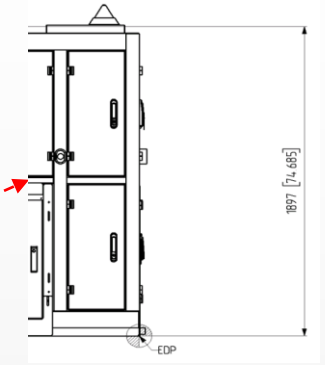
IR 8819419
Workaround: Version-up the drawing
Enable smooth edges

17.03.2017 – Compare SP Dimenstions

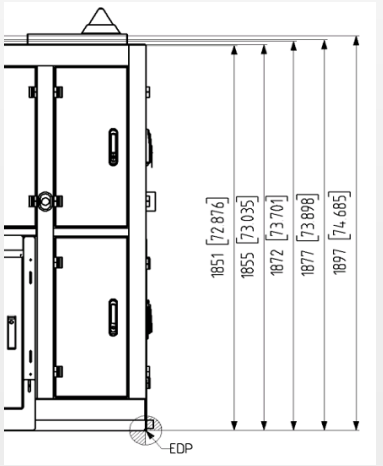
Example: ****.657.19691/AE



NX090-0340MP13



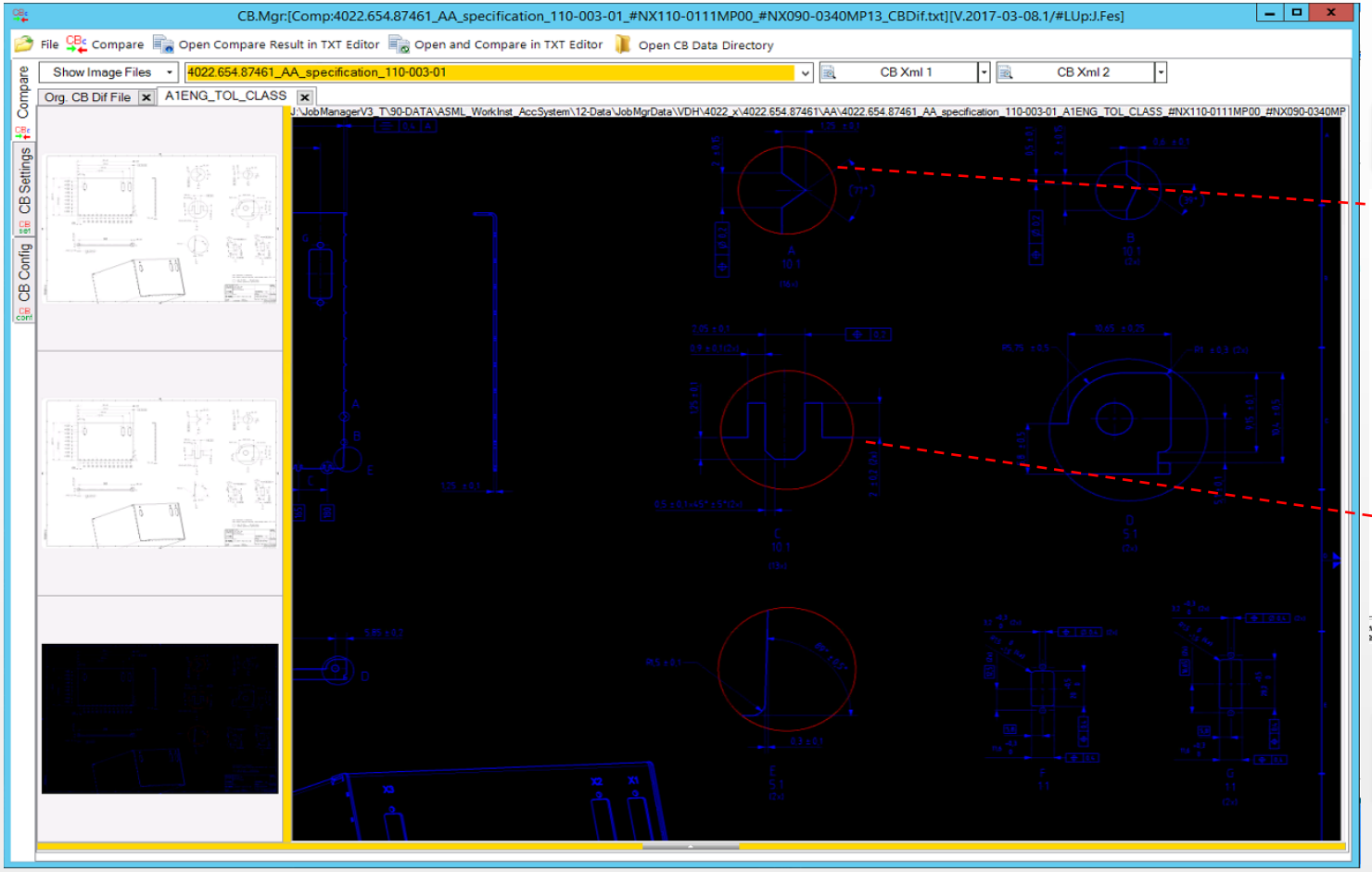
NX110-0111MP00

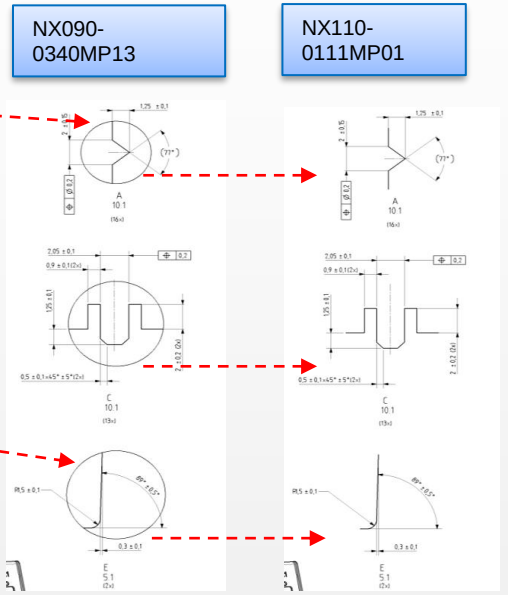


More Dimensions in NX11??

20.03.2017 – Drawing View Borders are missing in NX11

Example: ****.xxxx_AA_specification_110-003-01



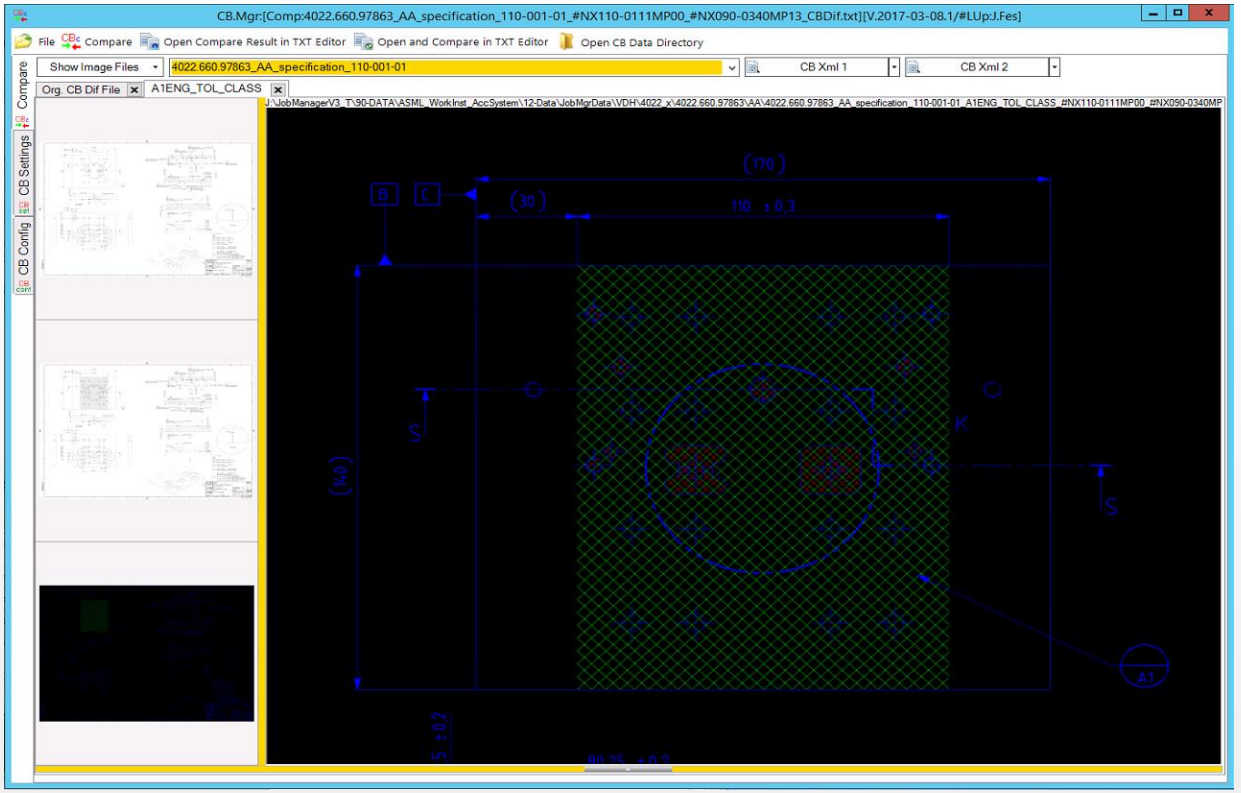


Issue: Drawing View Borders are missing in NX11

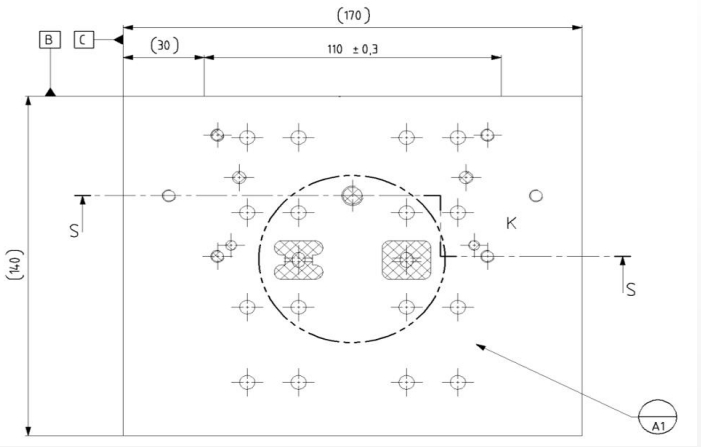
IR 8819521
No fix, only workaround

20.03.2017 – Compare SP Drawing crosshatch are wrong in NX11

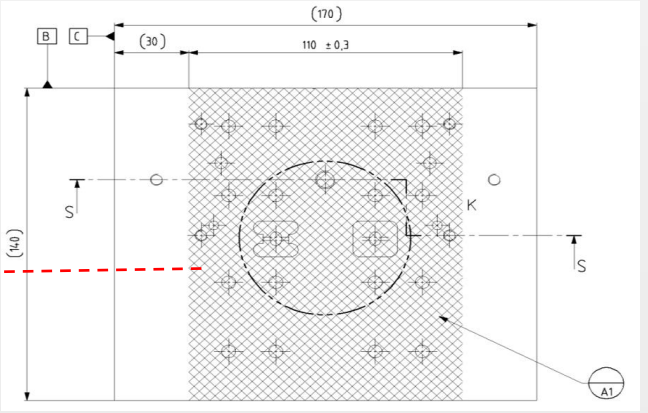
Example: ****.xxxx_AA_specification_110-001-01



NX090-0340MP13



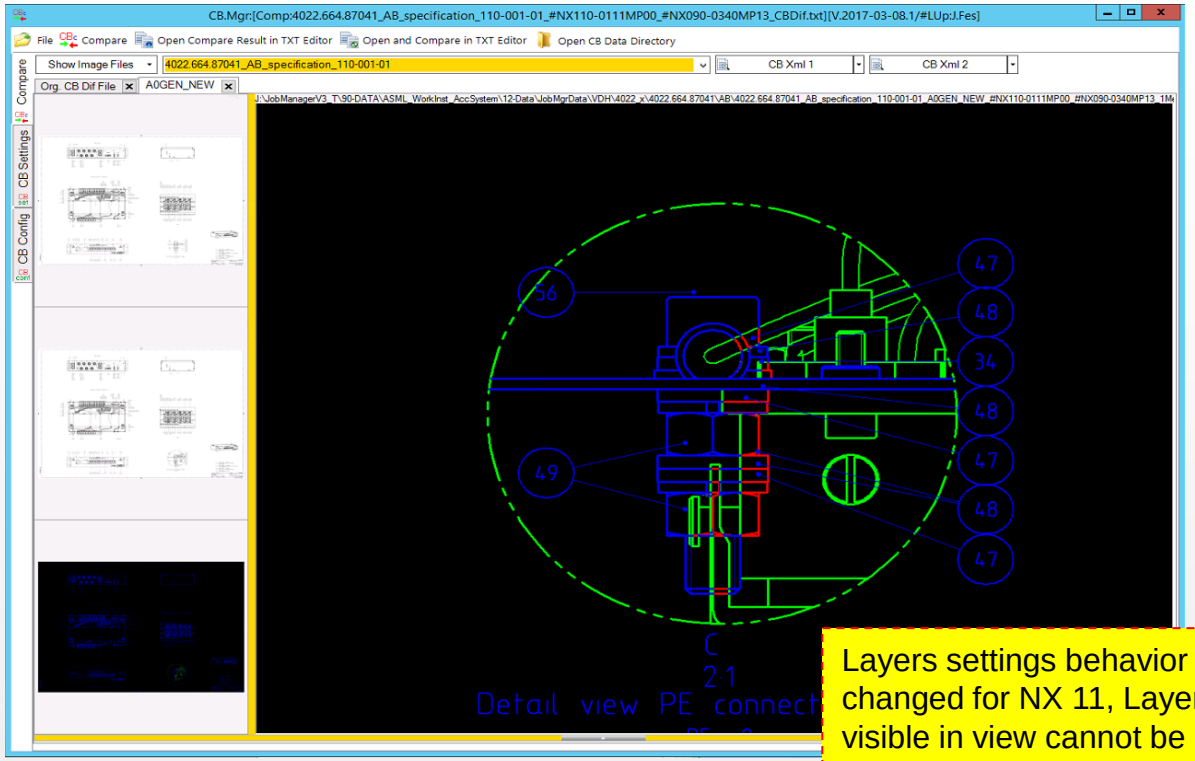
NX110-0111MP00



Drawing crosshatch are wrong in NX11

20.03.2017 – Drawing view shows different content

Example: ****.xxxx_AB_specification_110-001-01

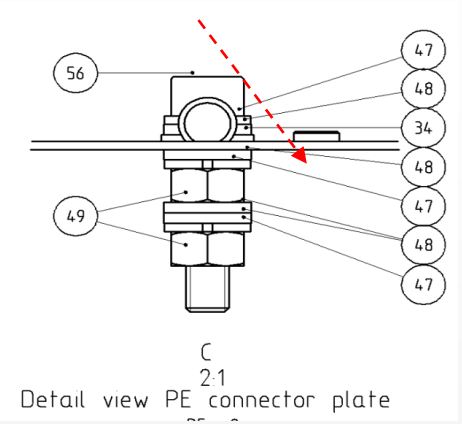


Need to be checked what are the wished content in view

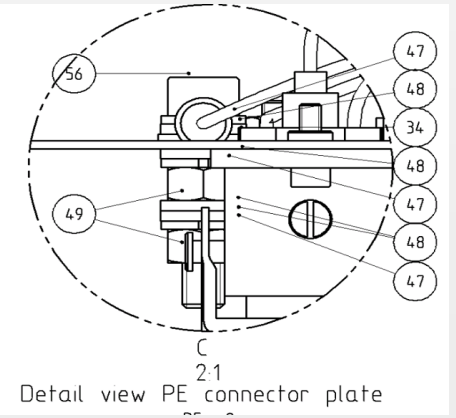
IR 8819521
No fix expected
Only workaround

Layers settings behavior changed for NX 11, Layers visible in view cannot be different b/w parent and detail view (dependent) . In NX 9 it is possible to have different layers switched ON b/w parent view and it's detail view (dependent).Need to raise an IR if it is intended functionality ?

NX090-0340MP13



NX110-0111MP01



Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

24.03.2017 – Issue Assembly Compare

Overview ISSUES found where Assembly Volume more then 0.01%

Solid Body geometry difference **absolute**

Solid Body geometry **difference in %**

1*

PGr: P.03 [CB3.Comp NX9-N | P.Stat: | Gr: Gr32 | Search & List | Ed.P.State | View J.Log | J.Link | Open NX | Extra

Drag a column header here to group by that column.

Ir.Id	O.Name	Ir.Rank	O.Type	O.SP/	O.	O	O.P.01 [	O.P.02 [C	O.P.03 [CB	P.Res.Code	P.Res.CB:M	P.Res.CB:MD3 (Sol.Vol.%
4022.664.42121/AC	4022.664.42121-AC	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.RUNC2.ERR		45.24800000	0.06421400
4022.472.85372/AA	4022.472.85372-AA	0	UGMASTER			22	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		24.48800000	0.03280400
4022.623.41501/AA	4022.623.41501-AA	0	UGMASTER			23	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	7.79400000	0.04718900
4022.636.42501/AA	4022.636.42501-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		60.61200000	0.07931000
4022.654.67891/AA	4022.654.67891-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		467.61400000	0.13133400
4022.636.14573/AA	4022.636.14573-AA	0	UGMASTER			24	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		12.55100000	0.05069200
4022.636.14593/AA	4022.636.14593-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		2.64700000	0.01015400
4022.646.03641/AC	4022.646.03641-AC	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.RUNC2.ERR		60.49100000	0.01611300
4022.664.04851/AA	4022.664.04851-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		4.80100000	0.01135800
4022.664.04891/AA	4022.664.04891-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		2.55200000	0.01054100
4022.636.14583/AA	4022.636.14583-AA	0	UGMASTER			25	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		7.90200000	0.02694000
4022.472.55981/AA	4022.472.55981-AA	0	UGMASTER			26	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		43.26900000	0.02210100
4022.646.03443/AB	4022.646.03443-AB	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.RUNC2.ERR		17.27300000	0.01641600
4022.472.42281/AA	V345157-AA	0	UGMASTER			27	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		15.97200000	0.02367800
4022.472.33982/AA	4022.472.33982-AA	0	UGMASTER			28	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		392.02900000	0.11760800
4022.654.51871/AA	4022.654.51871-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.RUNC2.ERR		2.65500000	0.02235700
4022.664.33271/AA	4022.664.33271-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.RUNC2.ERR		61.85400000	0.08234000
4022.646.26581/AA	4022.646.26581-AA	0	UGMASTER			29	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		12.03800000	0.02714900
4022.646.26761/AA	4022.646.26761-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		5.85300000	0.01213900
4022.646.61953/AA	4022.646.61953-AA	0	UGMASTER				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		29.25000000	0.04298500
4022.640.64121/AA	4022.640.64121-AA	0	UGMASTER			34	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)		54.82100000	0.22313500

Grand Summaries

Count = 172

Gr: Gr32 | Search & List | Ed.P.State | View J.Log | J.Link | Open NX | Extra

Selected	Gr.Key	Gr.Name	Gr.Description	IT	IR	DS.Count	O
	GR32						
✓	Gr32	VDH.ISSUE	AS: with "ERR:"SolBod.Volume.Diff:>0.0001"			172	

Analyse:
We found 172 Assembly where SolidBody of Assembly are differs
It is needed to check why SolidBody are differs in NX11
All the cases I have looked in have been cases with wires and cables assembly's.

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

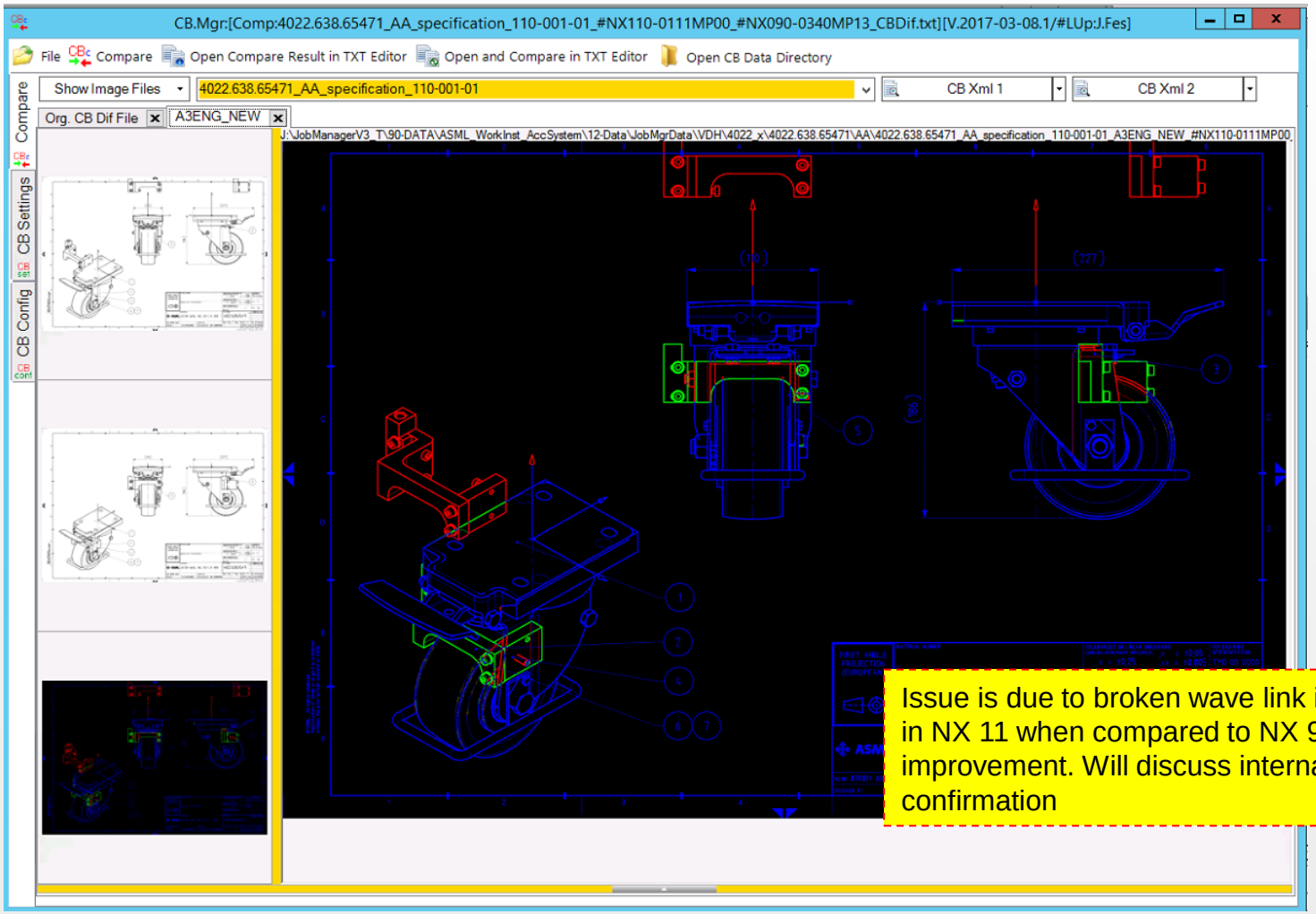
- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

08.03.2017 – Issue Drawing Compare

Example: ****.xxxx_AA_specification_110-001-01



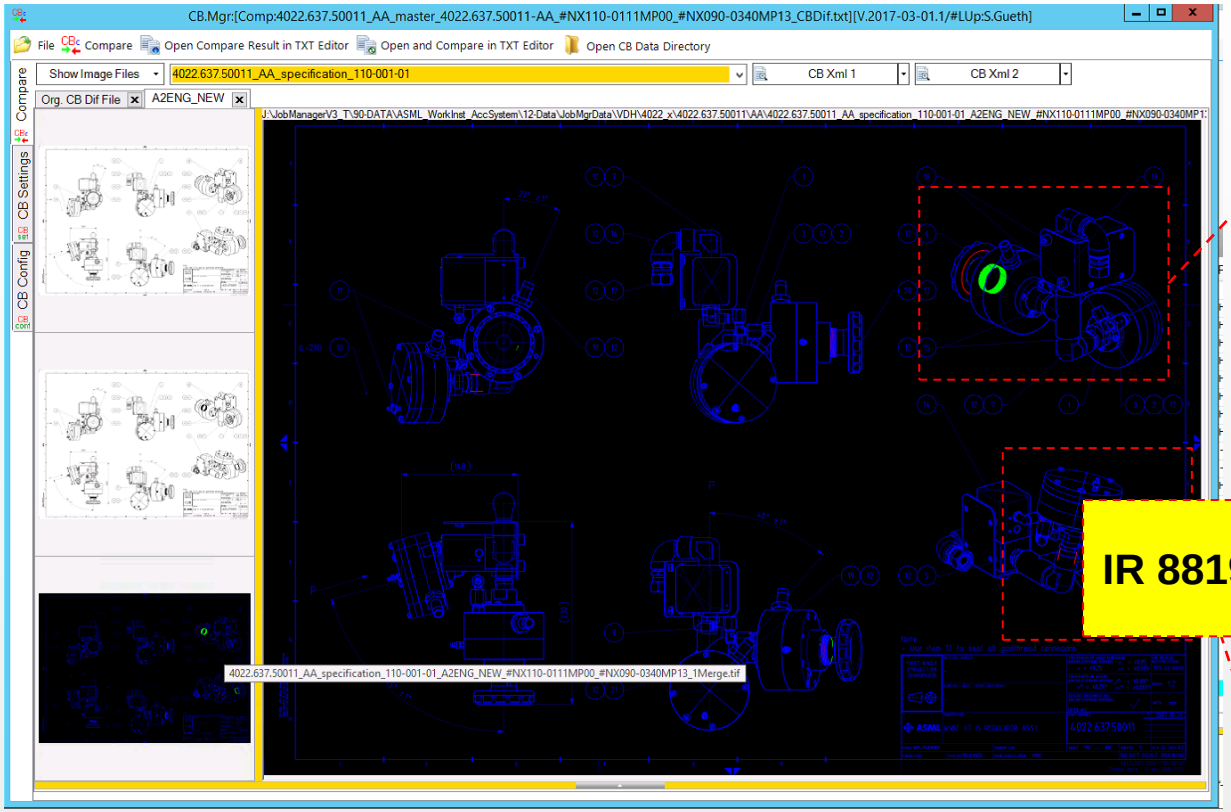
14.03.2017:
ReDo with new Load Rule: ASML Latest Working

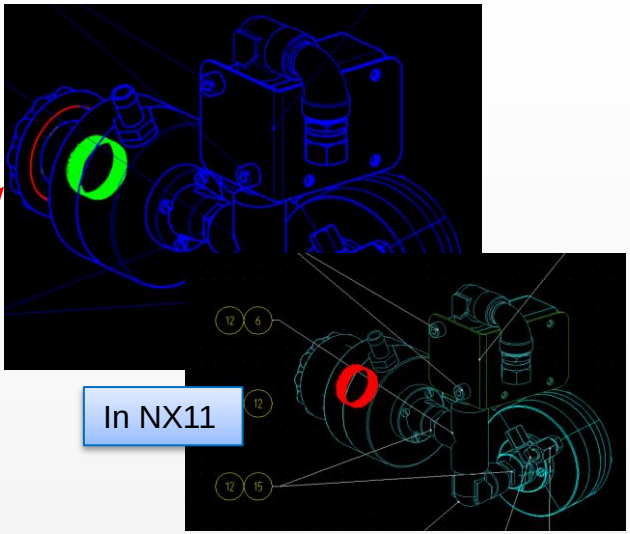
14.03.2017 MP1
Issue ***remains*** also with Rule: ASML Latest Working

Issue is due to broken wave link in the assembly. Behavior changed in NX 11 when compared to NX 9, I believe this to be an improvement. Will discuss internally and raise IR to get confirmation

04.03.2017 – Issue Diff in Drawing

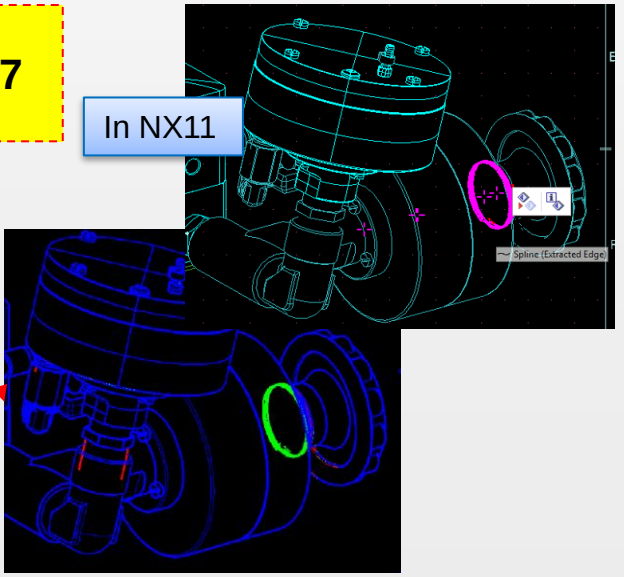
Example: ****.xxxx_AA_specification_110-001-01





In NX11

IR 8819697



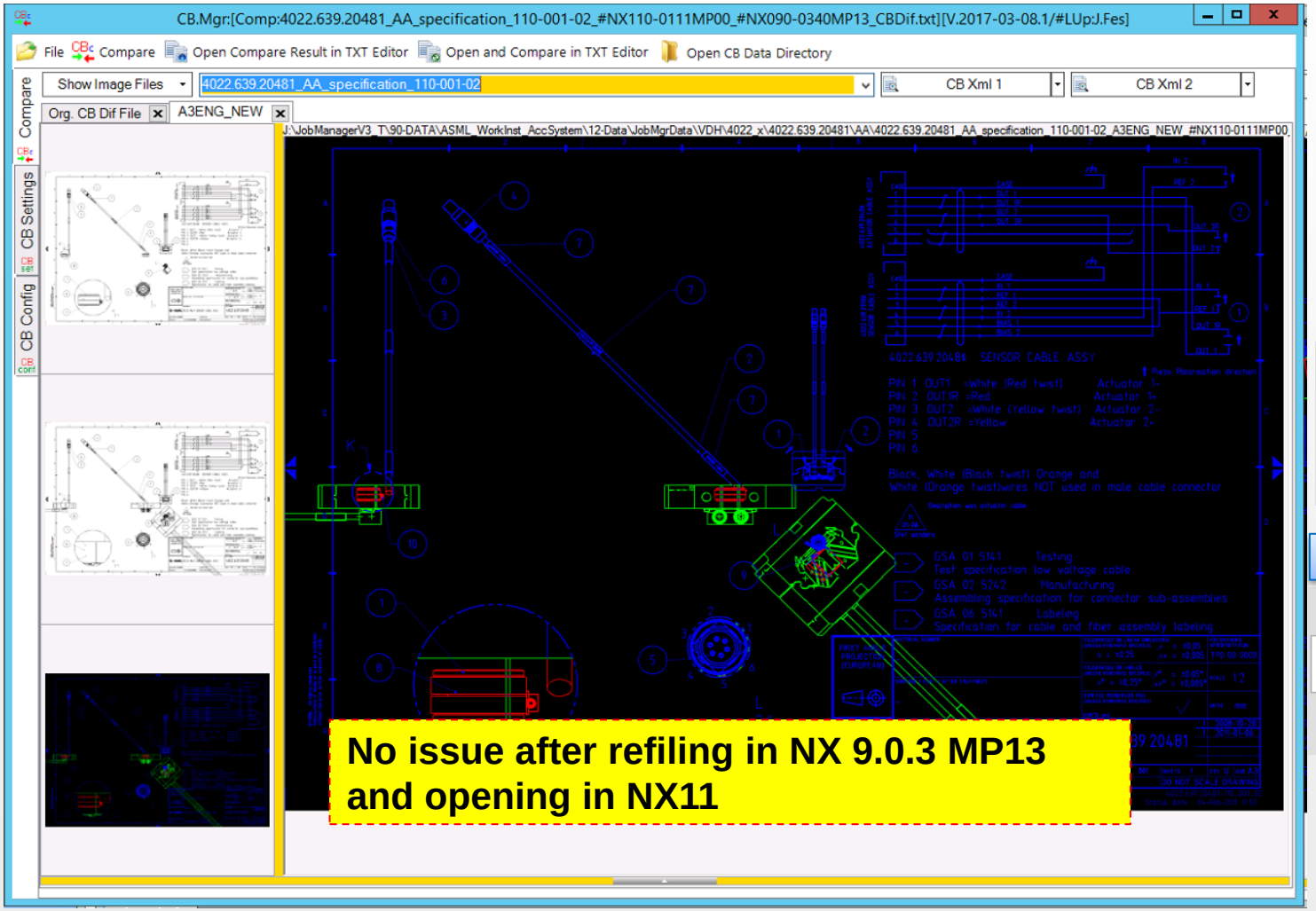
In NX11

```
########## Section:AS:[Assembly Data] Result:[AS:ERR:Callout,WRN:Inst.Handel]

Warning:AS.....: InstanceHandleForCompair: Val.Dif:[Is not equal]
 |-> Object.....: AS.Comp:/Lev:1/Callout:20/PN=4022.637.50181 PRN=
 |-> NX9........: RM%UL=V1.0 PH=AqilcimTQS4FxA O0001b76b00000036
 |-> NX11.......: RM%UL=V1.0 PH=AqilcimTQS4FxA O0001b76b00000042

++Error:AS.....: Callout: Val.Dif:[Is not equal]
 |-> Object.....: AS.Comp:/Lev:1/Callout:20/PN=4022.637.50181 PRN=
 |-> NX9........: 20
 |-> NX11.......: 13
```

Issue in NX 11, detailed thread of a dumb solid. Representation issue in drafting. No issue in NX 9

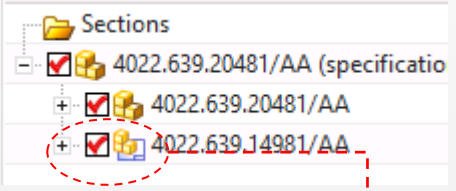
08.03.2017 – Issue Drawing Compair

Example: ****.xxxx_AA_specification_110-001-02

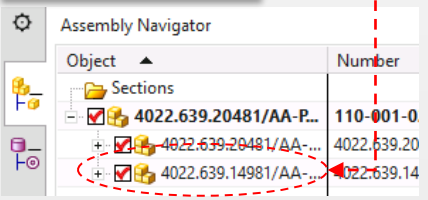


16.03.2017:
Test with NX110-0111MP01
leads to same Issue

NX9

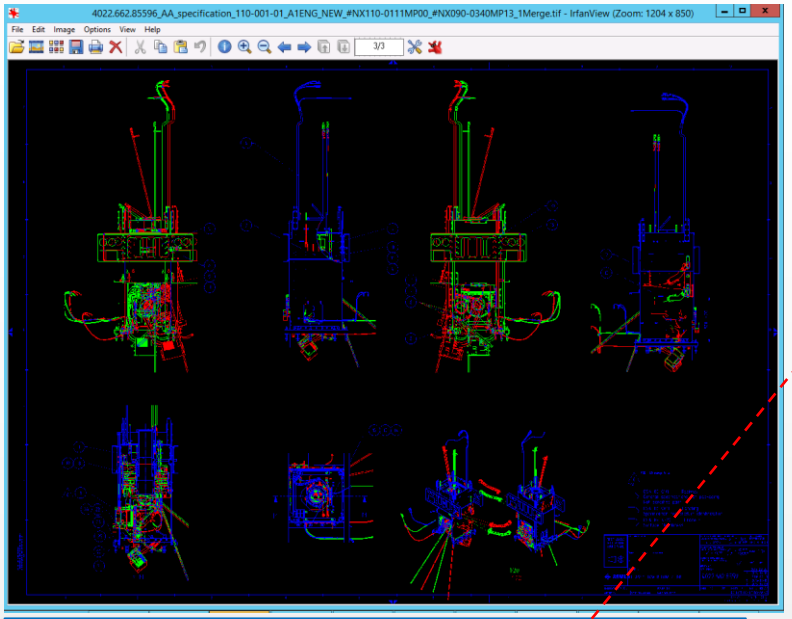


NX110-0111MP01



14.03.2017 – Issue Drawing Compare

Example: ****.xxxx_AA_specification_110-001-01



Issue:
View Anchor Points moving because components are moving.

Problem is maybe caused by NX9 because in NX.syslog you see issue:
Adding load status for ****.438.73419/vc - Part file is from a newer version of NX than this one (641003)

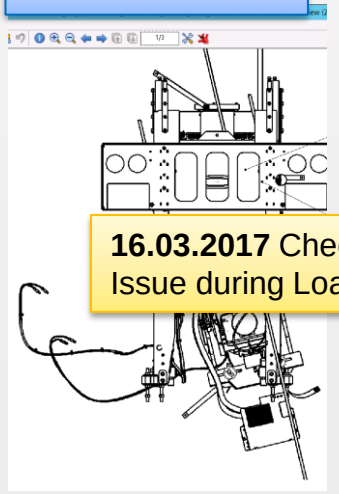
Analyse:
Assembly can be fully loaded in NX11 but not in NX9
Perhaps it is an improvement of NX11

NX9 load AP ****.xxxx/AA
|-> ****.yyy.xxxx/vc

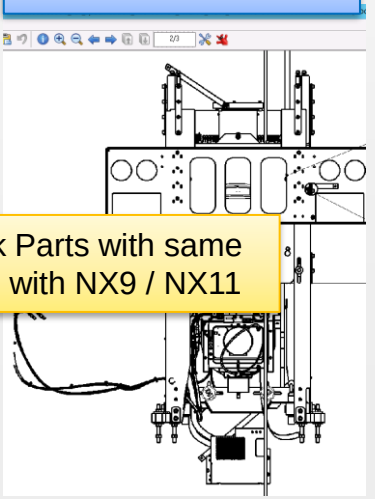
```
2172 *** EXCEPTION: Error code  641003 in line 1863 of D:\workdir\Reference\NX903_4\src\part\no\ind\part_file_header.c
2173 +++ Illegal part version number 53
2174 [ 1] 7FFCF3EF8A5C                                          (KERNELBASE)
2175 ..
2176 [40] 7FF7C035D043                                          (NxCheckBox_64_9_V.2.0.1.18)
2177 [41] 7FFCF44213D2                                          (KERNEL32)
2178 [42] 7FFCF6AD54E4                                          (ntdll)
2179 >>>> Error code  641003 caught in file "D:\workdir\Patches\nx903_patch\src\part\no\ind\part_load.c" at line numbe
2180 Adding load status for 4022.438.73419/vc - Part file is from a newer version of NX than this one (641003)
2181 >>>> Error code  641003 successfully handled and acknowledged
```

```
2217: Adding load status for 4022.438.73419/vc - Part file is from a newer version of NX than this one (641003)
2289: Adding load status for 4022.438.73419/vc - Part file is from a newer version of NX than this one (641003)
2347: Adding load status for 4022.438.73419/vc - Part file is from a newer version of NX than this one (641003)
```

NX090-0340MP13



NX110-0111MP01



16.03.2017 Check Parts with same Issue during Load with NX9 / NX11

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

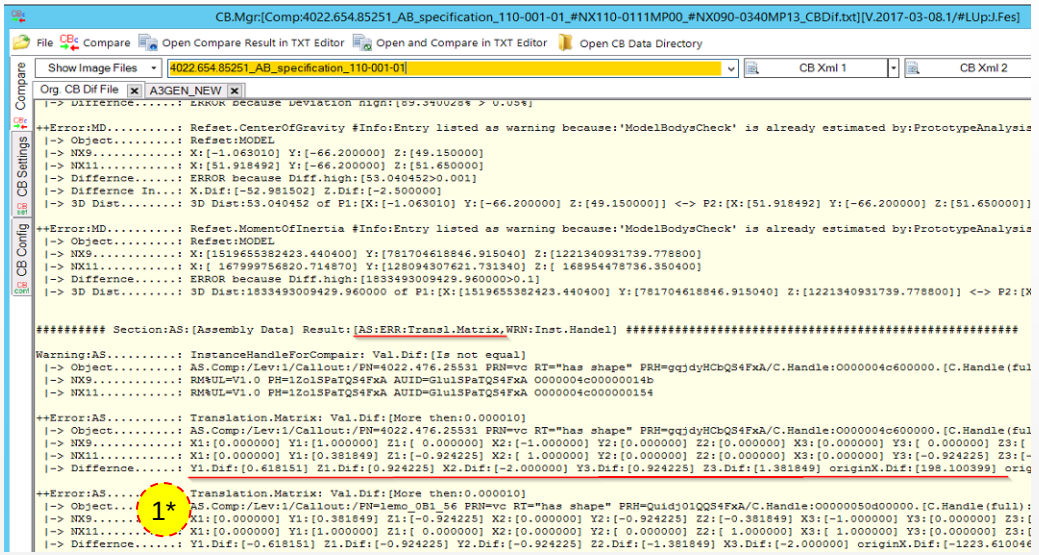
- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

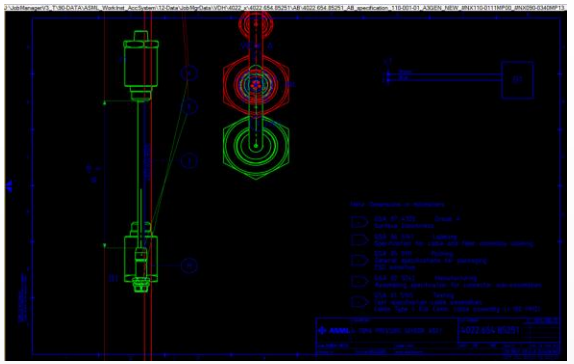
- Process- Statistic - Status

24.03.2017 – Issue Assembly Compare

Example: ****.xxxx_AB_specification_110-001-01

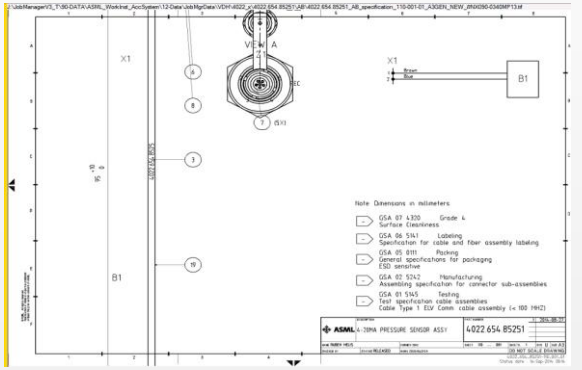


2*



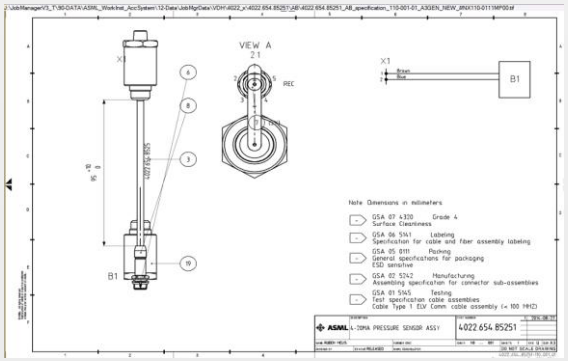
NX090-0340MP13

3*



NX110-0111MP01

4*

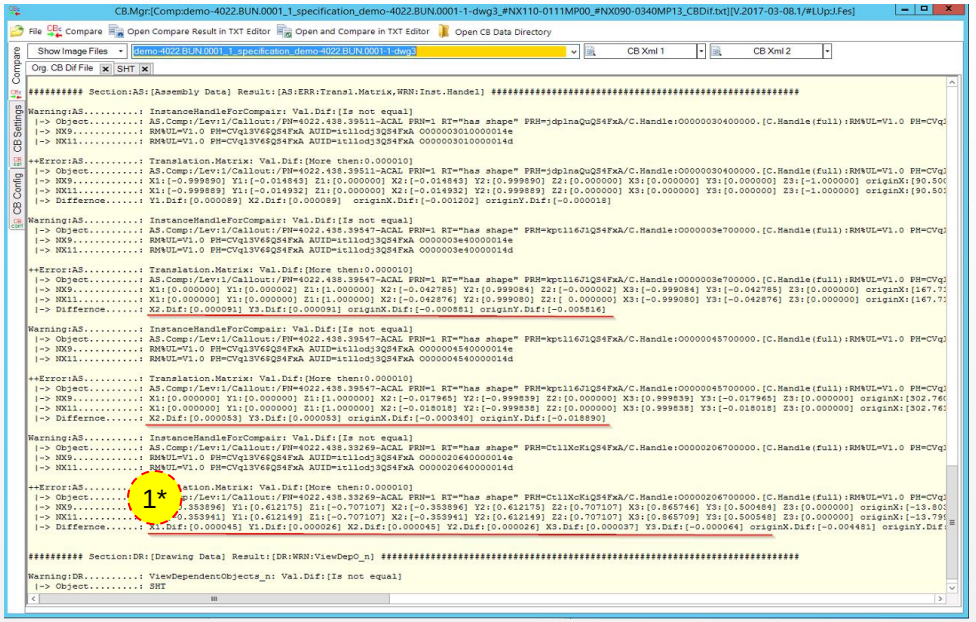


Issue:
Parts are moved in Assembly **(1*)** also Drawing differs **(2*)**

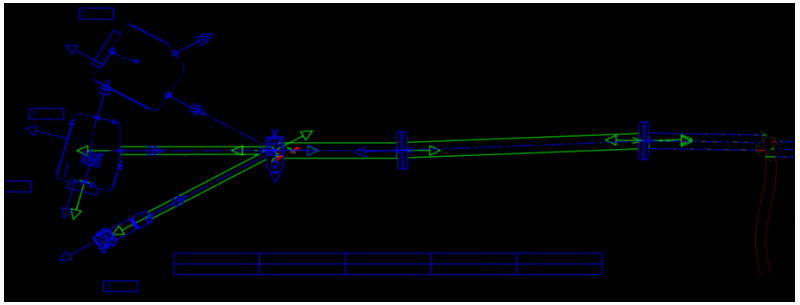
Analyse:
In NX9 **(3*)** the Drawing looks wrong in NX11 Drawing looks OK **(4*)**

24.03.2017 – Issue Assembly Compare

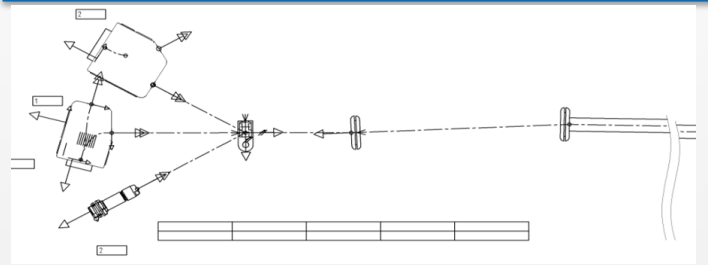
Example: ****.xxx_specification-dwg3



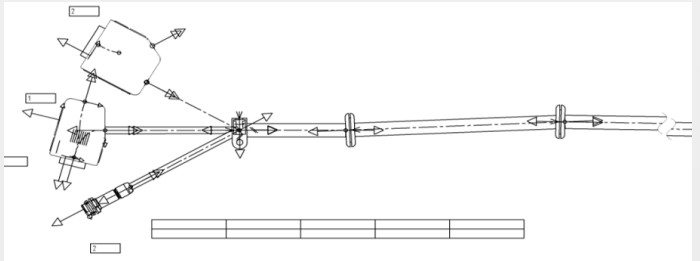
2*



3* NX090-0340MP13



4* NX110-0111MP01

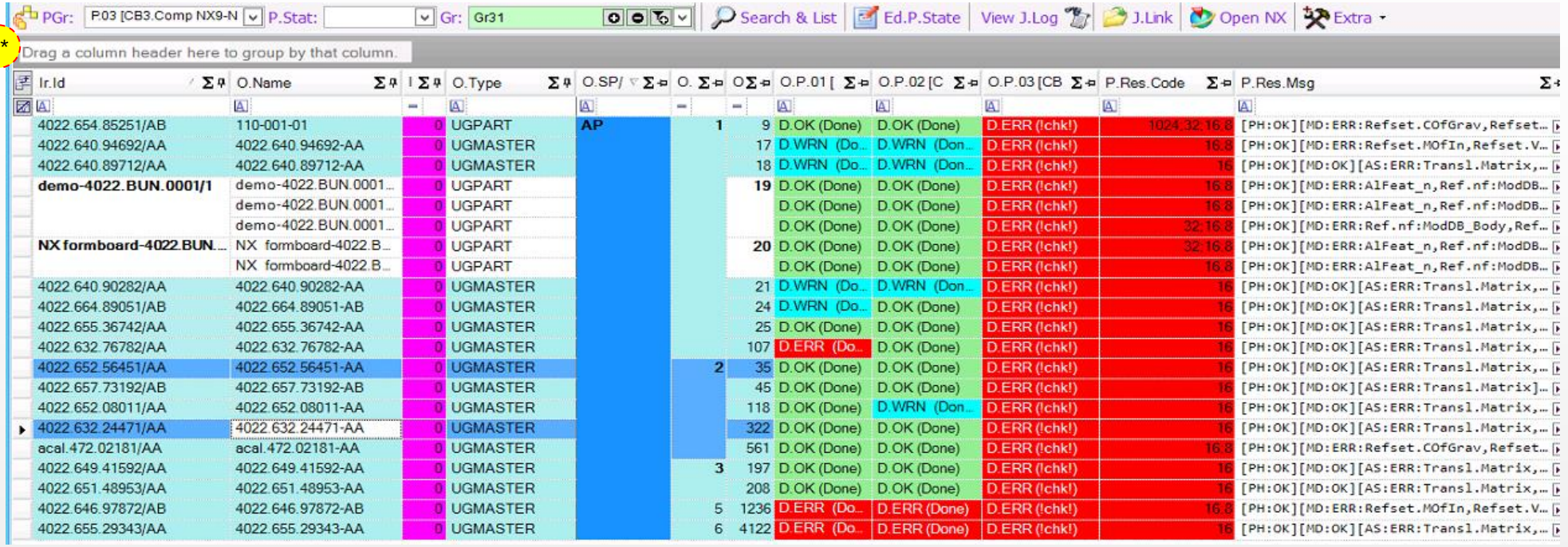


Issue:
Parts are moved in Assembly **(1*)** also Drawing differs **(2*)**

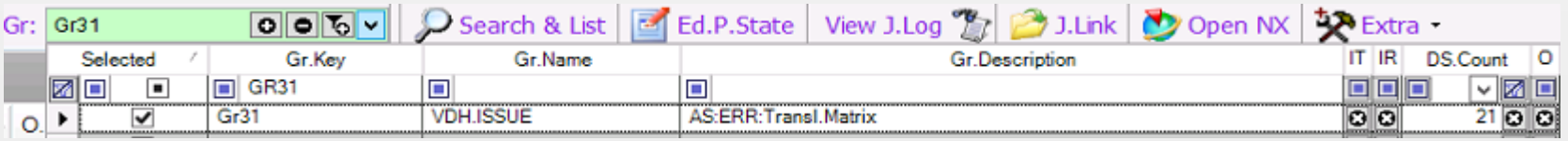
Analyse:
In NX9 **(3*)** the Drawing looks wrong in NX11 Drawing looks OK **(4*)**

24.03.2017 – Issue Assembly Compare

Overview ISSUES found where Assembly Translation matrix moved between NX9 and NX11



Ir.Id	O.Name	I	O.Type	O.SP/	O.	O	O.P.01 [	O.P.02 [C	O.P.03 [CB	P.Res.Code	P.Res.Msg
4022.654.85251/AB	110-001-01	0	UGPART	AP	1	9	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	1024,32,16,8	[PH:OK][MD:ERR:Refset.COfGrav,Refset…
4022.640.94692/AA	4022.640.94692-AA	0	UGMASTER			17	D.WRN (Do…	D.WRN (Don…	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:Refset.MOfIn,Refset.V…
4022.640.89712/AA	4022.640.89712-AA	0	UGMASTER			18	D.WRN (Do…	D.WRN (Don…	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
demo-4022.BUN.0001/1	demo-4022.BUN.0001…	0	UGPART			19	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:AlFeat_n,Ref.nf:ModDB…
	demo-4022.BUN.0001…	0	UGPART				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:AlFeat_n,Ref.nf:ModDB…
	demo-4022.BUN.0001…	0	UGPART				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	32,16,8	[PH:OK][MD:ERR:Ref.nf:ModDB_Body,Ref…
NX formboard-4022.BUN…	NX formboard-4022.B…	0	UGPART			20	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	32,16,8	[PH:OK][MD:ERR:AlFeat_n,Ref.nf:ModDB…
	NX formboard-4022.B…	0	UGPART				D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:AlFeat_n,Ref.nf:ModDB…
4022.640.90282/AA	4022.640.90282-AA	0	UGMASTER			21	D.WRN (Do…	D.WRN (Don…	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.664.89051/AB	4022.664.89051-AB	0	UGMASTER			24	D.WRN (Do…	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.655.36742/AA	4022.655.36742-AA	0	UGMASTER			25	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.632.76782/AA	4022.632.76782-AA	0	UGMASTER			107	D.ERR (Do…	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.652.56451/AA	4022.652.56451-AA	0	UGMASTER		2	35	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.657.73192/AB	4022.657.73192-AB	0	UGMASTER			45	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix]…
4022.652.08011/AA	4022.652.08011-AA	0	UGMASTER			118	D.OK (Done)	D.WRN (Don…	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.632.24471/AA	4022.632.24471-AA	0	UGMASTER			322	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
acal.472.02181/AA	acal.472.02181-AA	0	UGMASTER			561	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:Refset.COfGrav,Refset…
4022.649.41592/AA	4022.649.41592-AA	0	UGMASTER		3	197	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.651.48953/AA	4022.651.48953-AA	0	UGMASTER			208	D.OK (Done)	D.OK (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…
4022.646.97872/AB	4022.646.97872-AB	0	UGMASTER		5	1236	D.ERR (Do…	D.ERR (Done)	D.ERR (!chk!)	16,8	[PH:OK][MD:ERR:Refset.MOfIn,Refset.V…
4022.655.29343/AA	4022.655.29343-AA	0	UGMASTER		6	4122	D.ERR (Do…	D.ERR (Done)	D.ERR (!chk!)	16	[PH:OK][MD:OK][AS:ERR:Transl.Matrix,…



Selected	Gr.Key	Gr.Name	Gr.Description	IT	IR	DS.Count	O
	GR31						
☑	Gr31	VDH.ISSUE	AS:ERR:Transl.Matrix			21	

Analyse:
We found 21 Assembly where component did moved on Level 1
It is needed to check why component moves in NX11

Section of NX-CheckBox Analyse

Check ‘-Single Parts-’ ‘-Assembly Parts-’

- Part header compare
- Parts cannot be open in NX11

Check ‘-Single Parts-’ (SP)

- Model compare
- Drawing compare

Check ‘-Assembly Parts-’ (AP)

- Model compare
- Drawing compare
- Assembly compare

CheckBox Results

- Process- Statistic - Status

CheckBox Process Statistic 20.03.2017

Mount of processed parts

Select: VDH (ASML NX11 Veldhov | P.03 [CB3.Comp | DS | Report_201_ProcStatus_Percent | Start

Drag a column header here to group by that column.

SiteID	S.Or.Rep O	O.UGMaster_Typ	DataSet Typ	Obj.:(sum)	Done:All	Done:All %	Done:OK	Done:OK %	Done:ERR	Done:ERR %
									0	
VDH	1-SO (SiteObj)	1-SP (Single Parts)	UGMASTER	771626	17951	2.33%	17206	95.85%	727	4.05%
			UGPART	304320	8634	2.84%	7777	90.07%	194	2.25%
			UGALTREP	41816	8728	20.87%	8141	93.27%	584	6.69%
		2-AP (Assembly)	UGMASTER	631550	10320	1.63%	7349	71.21%	1600	15.50%
			UGPART	430201	10123	2.35%	7702	76.08%	1628	16.08%
			UGALTREP	13395	2522	18.83%	2217	87.91%	304	12.05%
	2-RO (ReplObj)	1-SP (Single Parts)	UGMASTER	56790	1380	2.43%	1309	94.86%	69	5.00%
			UGPART	34445	1022	2.97%	919	89.92%	23	2.25%
		2-AP (Assembly)	UGMASTER	55237	1029	1.86%	683	66.38%	136	13.22%
			UGPART	46178	999	2.16%	855	85.59%	63	6.31%
			UGALTREP	153	6	3.92%	4	66.67%	2	33.33%
Grand Summaries				Sum = 2385711	Sum = 62714		Sum = 54162		Sum = 5330	

Report_201_ProcStatus_Percent

1 2 3 4

We processed

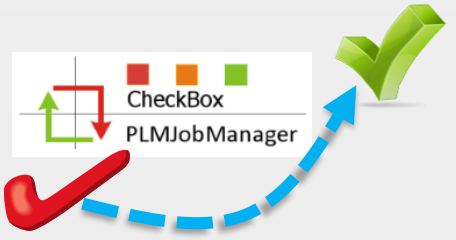
- 62.714 Parts with NX – CheckBox
- 54162 Parts did not showed any differences
- 5330 Parts sowed differences → Please note not all differences are 'Real Errors or issues'

Legende:

```
1. Obj.: Sum      = all existing NX Datasets
2. Done:All       = all Dataset that has been processed
3. Done:OK        = all Dataset without differences between NX9 and NX11
4. Done: ERR      = all Dataset with differences between NX9 and NX11
                    |-> not all of them are Errors
```

Benefits for using CheckBox

- ✓ Getting overview about NX – TC Software Quality
- ✓ Getting overview about your NX - TC Data Quality
- ✓ Helps to setup NX - TC customer settings
- ✓ Helps to find issues before designers working with the new NX – TC Version
- ✓ Helps to keep the value of PLM Data
- ✓ Reduces cost's "after upgrade" because
  Data and software issues can be better identified and solved before upgrade.
- ✓ Reduces Upgrade risks



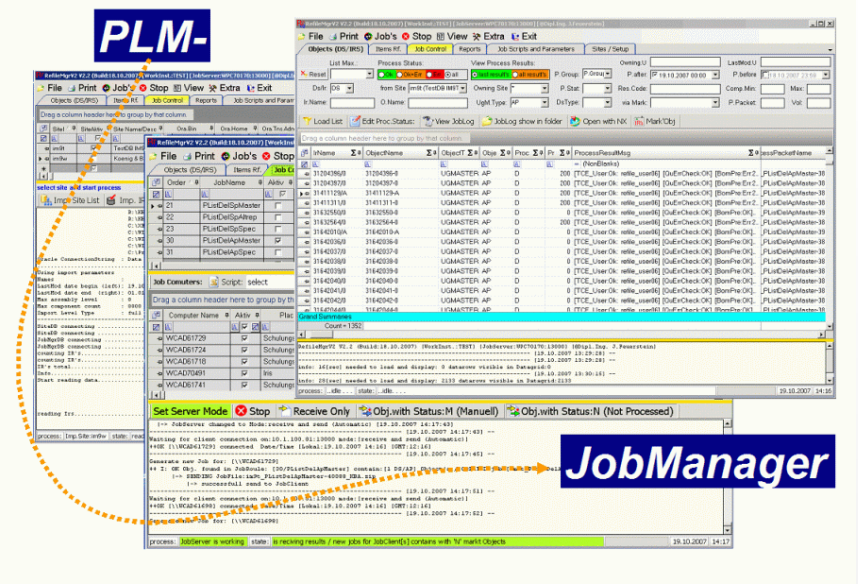
Introduction CheckBox Involved Company's

The CheckBox Software is developed by Mr, Bernd Schieber (SISW Stuttgart).
Software specification, project coordination and PLMJobManager integration was done by Mr. Josef Feuerstein (addPLM)

All Company's did spend 3 Day's of Services to SISW.

At the Meeting (on 28.04.2010) the participants' agreed that it is possible for another company to join this Project. To take part in this Project the new company has also to spend 3 Day's of Services on this project.
Info: The PLMJobManager Software is a separated Software and is not Part of the CheckBox Tool.

Cover sheet



ASML Project

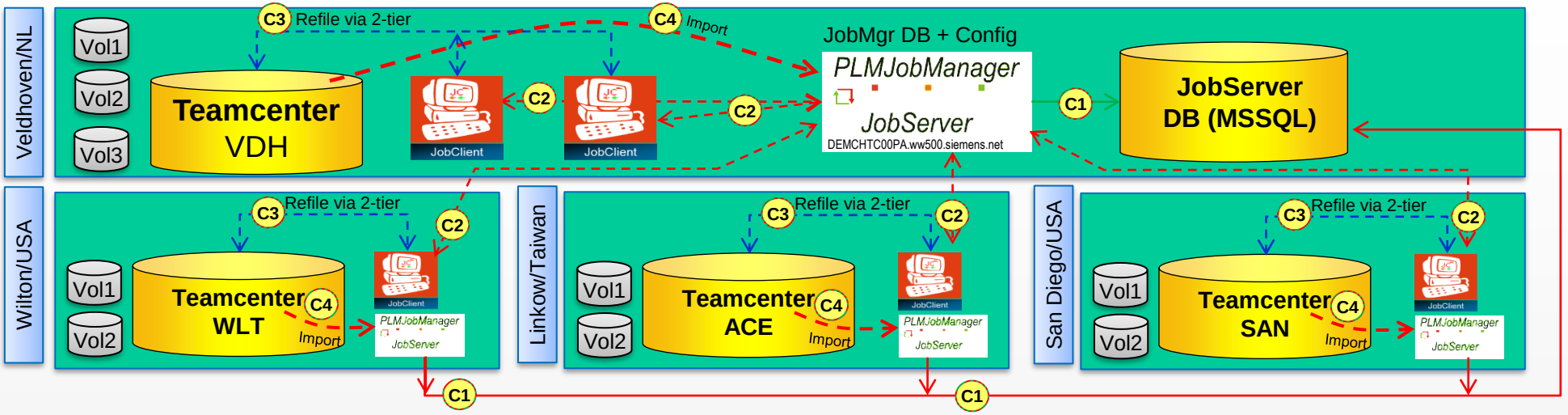
NX11 – Refile at ProdSystem

Creator : Josef Feuerstein // Josef.Feuerstein@addPLM.com
LastUpdate: 21.09.2017

Ext Sildes → Minimice

Refile Replica Parts

System Sketch TC + JobManager (productiv environment)



Nr	Description	Connect via:
C1	communication JobServer MS-SQL	TCP:1433 UDP: 1434
C2	communication JobClinet – JobServer	Port:13000 – 13100 // 14000 - 14100
C3	ugmanager_refile_program.exe (2-tier)	Handel by IT
C4	Import Meta Data from TC Db	Uses TnsNames.ora like (**C3**)

System prerequisite

1. Teamcenter inc. all volumes data
2. The Volumes need to have +1/3 free diskspace
   Example.: fpr 100 GB NX Data we need 33 GB of free disc space
3. Oracle Read Only User reading data from TC. Database.
4. TC Refile User with DBA right
5. TC Refile User mast have read write right's on all Volumes
6. Script to get TC Prompt.
7. JobClients with TC 2Tier client and NX in the correct version
8. Remote Access to NX Refile JobClient's
9. 600 MB of Network disk space for PLMJobmanager Software Installation and configuration
10. ~1 GB Network diskspace for JobProcess Logfiles for each 250.000 Parts to refile

Process Report 20.09.2017 for all Sites

Select: * (all Sites) | P.20 [RfNx11] | DS | Report_201_ProcStatus_Percent_TypeGroupNo | Start

Drag a column header here to group by that column.

SiteID	Obj.:(sum)	P.Stat:X	P.Stat:X %	Done:All	Done:All %	Done:OK	Done:OK %	Done:ERR	Done:ER
≠ BOP	=	=		=		=		=	
ACE	1344881	7755	0.58%	1337126	99.42%	1335666	99.89%	1460	0.11%
SAN	650309	3669	0.56%	646640	99.44%	645797	99.87%	843	0.13%
VDH	2684913	35582	1.33%	2649326	98.67%	2645223	99.85%	4103	0.15%
WLT	1808356	21908	1.21%	1786448	98.79%	1782862	99.80%	3586	0.20%
*									
Grand Summaries									
Count = 4	Sum = 6488459	Sum = 68914		Sum = 6419540		Sum = 6409548		Sum = 9992	

Report_201_ProcStatus_Percent_T... GroupNo

1 2 3 4 5

Final results:
- From all NX Datasets at ASML Databases 6.488.459 Mil Parts(1)
- has been 68.914 Parts(2) eXcludet from refile.
- 6.419.540 Parts (3) where tried to be refiled
- From (3) we refile 6.409.548 Parts (4) successful
- From (3) we have found 9992 (5) parts with refile errors.

Legend:

1 - Obj.:(sum) = sum of all NX Datasets

2 - P.Stat:X = sum of Datasets are eXcludet from refile out of issues

3 - Done:ALL = sum of Datasets that are tried to be refiled

4 - Done:OK = sum of Datasets that are refiled with status OK

5 - Done:ERR = sum of Datasets that are refiled with status Error

Notes:

- eXludes are done for: Parts that cannot be refiled like CAE* (Example: CAEMesh, CAESolution)
- eXludes are done for: Parts having TC Issues like ERR_301_DSIsMissingFile, ERR_302_DSHasMutiCADFiles, ERR_150_IrHasDsWithSameName
- Refile results and analyse are available in: xxx

Siemens PLM Connection
Americas

Powered by PLM World

Thanks!

Any questions?

Find me at @username & user@mail.me

Please remember to complete your session evaluation following this session!

Special thanks to all the people who made and released these awesome resources for free: Presentation template by SlidesCarnival

#PLMConX