

Documentation: TC Data Quality Check

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Content

Overview TC - DataCheck

MSC: Identify Data to Sync

MSC: Multi-Site Consistent Check

MSC:Check Rules

MSC: Completeness Analyse

MSC: Integr. in PLMJobManager

DQC: TC data quality check for NX related data

Glossar Keys: **MSC**: Tc - Multisite Check // **DQC**: Tc - Data Quality Check

Methods for Analyse MultiSite Data Migration and Consistent Check

PLMJobManager provides 3 Methods for Multisite-Data checks and MultiSite Migrations

1 List Objects that need to be transfer or updated from 'Source Site' to 'Target Site'

f.Site: S1 (Site to Migrate) Own.Site: * (all Sites) ☐ S+R ☒ SO ☐ RO ☒

This Method can be used to get a list of all Objects that need to be transfer or Updated from 'Source Site' into 'Target Site'

2 MultiSite Consistent Check (MCC)

This Method can be used to check the Data Consistent between TC Sites.
It analyses the existing Multisite - Data via Check Rules.

3 MultiSite Completeness Analyse (MCA)

This analyse checks if transferred Objects from 'Source Site' to 'Target Site' is complete transferred.

It is used to **review** the current 'TC-MultiSite Data-Quality' between Sites

It is used to **check the result** of DataShare process during MultiSite migration phase.

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MultiSite Consistent Check

List of Check Rules

| Status | Check | Naming in JobMgr |
|--------|--|---|
| 1.0 | ItemID/ItemPuid Owings Site consistency | ItemId/ItemPuid incon. |
| 1.2 | Item Type inconsistency | Item Type incon. |
| 2.0 | Owning Site has Export Record inconsistency | Owning Site has Export Record incon. |
| 2.1 | if no item exists with same ItemID and same ItemPUID on every site | ItemID/ItemPUID not consist on all Sites |
| 3.0 | if all Items with same ItemID and same ItemPUID exists on each exportedTo Site | exportedTo and Ownings Sites are inconsistent |
| 4.0 | if all itemRevIDs from Owning Site Item exists on each exported site with the same puid and the same itemRevID | itemRevIDs not consist on all Sites |
| 4.1 | ItemRev Release Status consistent | ItemRev Release Status are inconsistent |

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Multi-Site Consistent Check: Check Rules

Check (1) Item Owings Site consistent

- Checks if the processed Item has one owning site object
- And if there are no other items with the same ItemID and an other Item-PUID
- And if there are no other items with an other ItemID and the same Item-PUID

Example for [TRUE]: → goto Check (2)

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | P01 | VDH | VDH | SAN;WLT |
| 01 | P01 | SAN | VDH | |
| 01 | P01 | WLT | VDH | |

SiteObject Item
does not exist

Example for [FALSE]: → Mark Item as OutOfSync + local created in ACE

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------------|---------|---------|-----------------|
| 01 | P01 | VDH | VDH | SAN;WLT |
| 01 | P01 | SAN | VDH | |
| 01 | P01 | WLT | VDH | |
| 01 | P02 | ACE | ACE | |

Item with same ItemID
and other PUID exists

Example for [FALSE]: → Mark Item as OutOfSync because Object is missing in Owning Site

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | P01 | SAN | VDH | |
| 01 | P01 | WLT | VDH | |
| 01 | Ü01 | ACE | VDH | |

Example for [FALSE]: → Mark Item as OutOfSync because Object is renamed (diff ItemID) in Owning Site

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|-----------|------|---------|---------|-----------------|
| 02 | P01 | VDH | VDH | SAN;WLT;ACE |
| 01 | P01 | SAN | VDH | |
| 01 | P01 | WLT | VDH | |
| 01 | P01 | ACE | VDH | |

Multi-Site Consistent Check: Check Rules

Check (1.2) ItemType consists

→ Checks if all Items on each site have the same ItemType

Example for [TRUE]: → goto Check (2)

| ItemId | PuID | fSiteID | oSiteID | ItemType |
|--------|------|---------|---------|----------|
| 01 | 01 | VDH | VDH | Item |
| 01 | 01 | SAN | VDH | Item |
| 01 | 01 | WLT | VDH | Item |

Example for [FALSE]: → Mark Item as OutOfSync 1.2

| ItemId | PuID | fSiteID | oSiteID | ItemType |
|--------|------|---------|---------|----------|
| 01 | 01 | VDH | VDH | Item |
| 01 | 01 | SAN | VDH | Item |
| 01 | 01 | WLT | VDH | CATIA |

Item Types are different

Multi-Site Consistent Check: Check Rules

Check (2) if Owning Site has Export Record

Example for [YES]: → goto Check (3)

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | 01 | VDH | VDH | SAN:WLT |
| 01 | 01 | SAN | VDH | |
| 01 | 01 | WLT | VDH | |

Example for [NO]: → goto Check (2.1)

| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | 01 | VDH | VDH | |
| 01 | 01 | SAN | VDH | |
| 01 | 01 | WLT | VDH | |
| 01 | 01 | ACE | VDH | |



SiteObject has no
ExportRecord

Multi-Site Consistent Check: Check Rules

check (2.1) if no item exists with same ItemID and same ItemPUIID on every site
→ this check only appears when check(2) was [NO]

Example for [TRUE]: → Mark Item as candidate

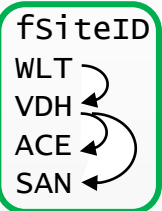
| ItemId | PuiD | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | 01 | VDH | VDH | |

Multi-Site Consistent Check: Check Rules

Check (3) if all Items with same ItemID and same ItemPUID exists on each exportedTo Site

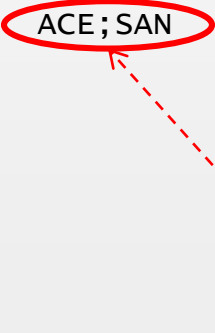
Example for [TRUE]: → goto Check (4)

| ItemId | Puid | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|----------------------|
| 01 | 01 | WLT | WLT | VHD |
| 01 | 01 | VDH | WLT | ACE;SAN → is HubSite |
| 01 | 01 | ACE | VDH | |
| 01 | 01 | SAN | VDH | |



Example for [FALSE]: → Mark Item as OutOfSync

| ItemId | Puid | fSiteID | oSiteId | exportToSiteIds |
|--------|------|---------|---------|-----------------|
| 01 | 01 | WLT | WLT | VHD |
| 01 | 01 | VDH | WLT | ACE;SAN |
| 01 | 01 | SAN | VDH | |



Item from Site ACE
is missing

Multi-Site Consistent Check: Check Rules

Check (4) if all itemRevs from Owning Site Item exists on each exported site with the same PUID and the same itemRevID

Example for [TRUE]: → goto Check 4.1

| ItemRevId | ItemRevPuid | fSiteID | oSiteId | exportToSiteIds |
|-----------|-------------|---------|---------|-----------------|
| 01/01 | 012 | VDH | VDH | WLT |
| 01/02 | 023 | VDH | VDH | WLT |
| 01/01 | 012 | WLT | VDH | |
| 01/02 | 023 | WLT | VDH | |

Example for [FALSE]: → Mark Item as OutOfSync

| ItemRevId | ItemRevPuid | fSiteID | oSiteId | exportToSiteIds |
|-----------|-------------|---------|---------|-----------------|
| 01/01 | 012 | WLT | WLT | VDH |
| 01/02 | 023 | WLT | WLT | VDH |
| 01/01 | 012 | VDH | WLT | SAN |
| 01/02 | 023 | VDH | WLT | SAN |
| 01/01 | 012 | SAN | VDH | |

ItemRev 01/02 is
missing in SAN

Multi-Site Consistent Check: Check Rules

Check (4.1) if all itemRevs from each site have the same Release Status

Example for [TRUE]: → Mark Item as candidate

| ItemRevId | ItemRevPuiD | fSiteID | oSiteId | release state |
|-----------|-------------|---------|---------|---------------|
| 01/01 | 012 | VDH | VDH | released |
| 01/02 | 023 | VDH | VDH | |
| 01/01 | 012 | WLT | VDH | released |
| 01/02 | 023 | WLT | VDH | |

Example for [FALSE]: → Mark Item as OutOfSync

| ItemRevId | ItemRevPuiD | fSiteID | oSiteId | release state |
|-----------|-------------|---------|---------|---------------|
| 01/01 | 012 | WLT | WLT | released |
| 01/02 | 023 | WLT | WLT | |
| 01/01 | 012 | VDH | WLT | released2 |
| 01/02 | 023 | VDH | WLT | |

Release State is
different

Consistent Check: Check Rules

Results:

MSC.00.OK : Objects are in sync
MSC.10.ERR : More then one OwningSite Object exist (Duplicated Items)
MSC.11.ERR : No OwningSite Object exist
MSC.12.ERR : Item with same ItemId and different puid or Item with same puid and different ItemId exist
MSC.13.ERR : Items have different Item types
MSC.14.ERR : OwningSite-Item has no export record, but Items with same ItemId exist
MSC.15.ERR : There is not only exactly one item for each export record
MSC.16.ERR : The release statuses of items are different
MSC.21.ERR : IRS on remote site are different then on OwningSite
MSC.22.ERR : Release status of item revisions are differnet
MSC.31.ERR : Datasets on remote site are different then on OwningSite
MSC.32.ERR : Release status of datasets are different

Attention: Site Groups have to be defined in Sites/Data Import -> Admin -> 2 - Edit 'MultiSite-Groups' settings

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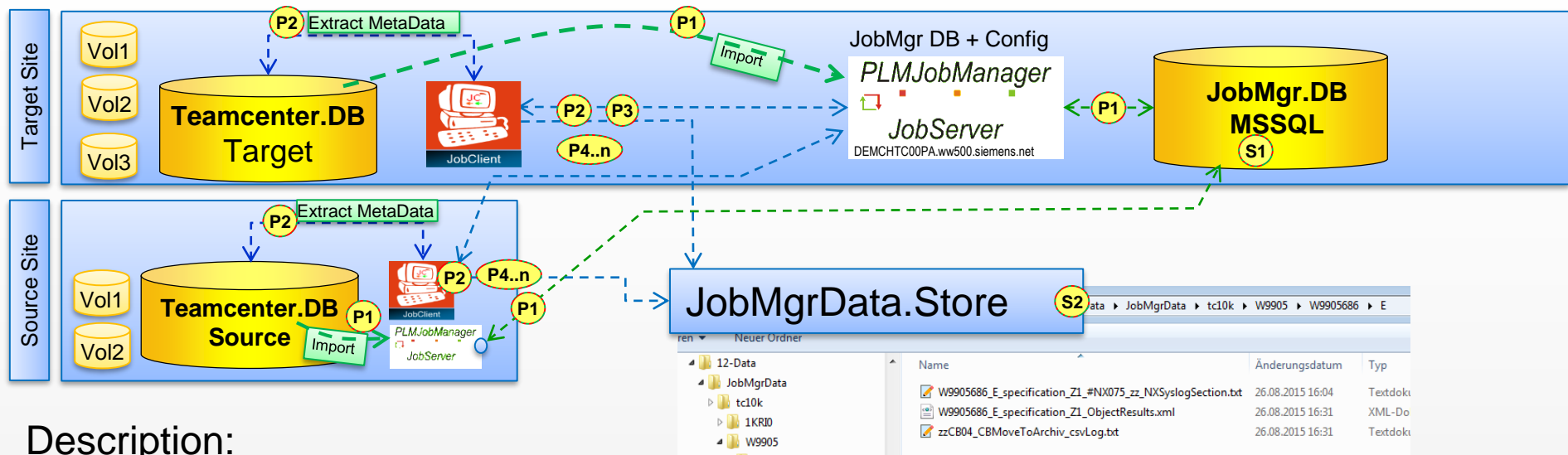
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Completeness Analyse Base Concept and System Sketch



Description:

TC MetaData import to JobMgr.DB

- Import Data (**P1**) into JobMgr.DB (**S1**) During Import a Base Analyses will be done.

Process Completeness Analyse:

- Extract Data (**P2**) from TC.DB and save them into **TCMetaData.xml** files (**S2**)
Action will be done "based on ItemId's" via JobClients located on the Sites
- Analyse Data (**P3**) based on JobMgr.DB Data and **TCMetaData.xml** files (**S2**)
Results will be evaluated by the defined 'Check-Rules' and send to JobManager
- Depending on Issues Run CleanUp Actions (P4...Pn)
and Run Steps **P1 → P2 → P3** again

Legend:
P1..3 Process Step
S1..2 Store

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PLMJobManager Integrations

New Functions

- Integrate Multi Site Check in JobManager GUI (1)
→ is working against a Process Group MC (2)
- Integrate Multi Site Check in TaskMgr to Check automatically after update Data in JM.DB
- Define JobRules to Run Repair processes to solve MC issues
- Get easy and fast way to Update JM.DB Data on Remote Sites
- Easy way to run a free custom SQL Script in JM.DB

The screenshot displays the PLMJobManager GUI. At the top, there are filters for 'P.Gr: P.Mc[TC.MC]', 'P.Stat:', and 'Gr:'. Below these is a table with columns for 'Ir.Id', 'O.Name', 'O.Type', 'O.LastModDate', 'O.LastM', 'O.SP/AP', 'O.P.Mc[TC.MC]', 'O.AP', 'O.P.01 [Generic]', and 'O.P.01 [Generic]'. The table contains several rows of data, including 'UGMASTER' and 'UGPART' entries. A red arrow points from a yellow circle labeled '2' in the 'P.Gr' filter to a context menu. The context menu is titled '02 - ProcessGroup settings extendet. Mc+Rf' and contains a sub-menu 'ProcessGroupMc' with the following details:

- Process Group: Name: TC.MC (active)
- Process Group: Description: TC-MultiSite Q-Check and Migration
- Process Group: Activ: True
- Process Group: Settings Group: TC.MC

Another red arrow points from a yellow circle labeled '1' in the table to a button labeled 'Run ,MultiSite chk'.

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TC Data Quality Check Details

Categorization of the issues (1 of 3)

Data Quality Settings Manager (v.0.1.1.0)

Save Load Exit

TC Data Quality Settings File: TCDDataQualitySettings.xml

01 Data inconsistencies

1.1 Check release status list for rev True

1.2 Check more that one released revision True

1.2.2 status for released revisions Released

1.3 Check chronological creation date of revisions True

1.4.1 Check chronological creation date of revisions True

1.4.2 status for canceled revisions

1.5.1 Check for specific owners True

1.5.2 specific owners String[]-Array

1.6.1 Check for specific name rules for item True

1.6.2 Specific naming rules for item [defined patterns:0][matching type:all]

1.6.3 Check for specific name rules for revisions True

1.6.4 Specific naming rules for revisions [defined patterns:0][matching type:all]

1.6.5 Check for specific name rules for datasets True

1.6.6 Specific naming rules for revisions [defined patterns:0][matching type:all]

02 DataSet inconsistencies

2.1.1 Check for to many dataset versions True

2.1.2 Keep limit for dataset versions 3

2.2 Check for missing named references in dataset True

2.4 Check inconsistent cardinality for dataset True

2.5 Check for datasets with multi named references True

04 Database cleanup

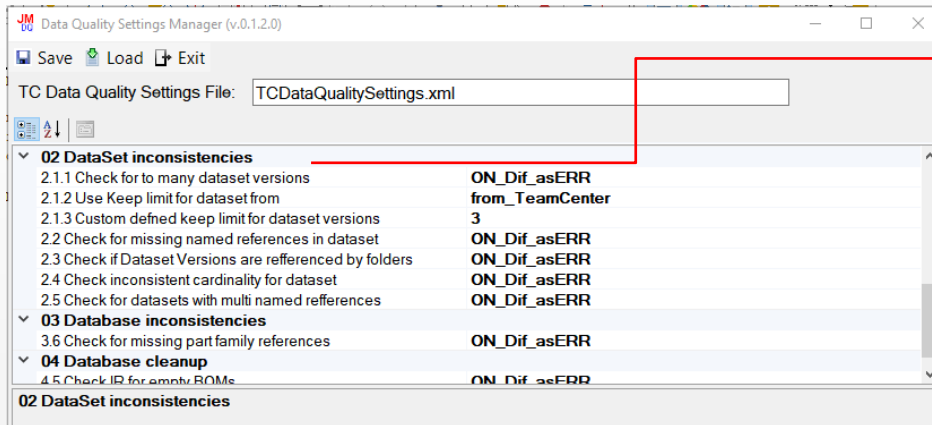
4.1 Check IR for empty BOMs True

4.1 Check IR for empty BOMs
checks if an item revision has an empty bom
this check is enabled by default

| Pos | Description: | Note | ResultCode |
|-----|---|--|---------------------------------------|
| 1 | Data inconsistencies | | |
| 1.1 | Chk. Release Status: Incorrect Status List (inside one revision) | direct TC.DB access compare status of IR, datasets, BOMview etc. Defining filter what objects have to be compared Check 1: check if release status of IR and datasets are the same Check 2: check if last release status of ir and second last release status of ir are compatible | Check 1: 111 Check 2: 112 |
| 1.2 | More than 1 Revision with status "Released" for 1 Item | JobMgr.DB | 120 |
| 1.3 | Wrong Release Date on Revision and Status | direct TC.DB access Defining filter what objects have to be compared Rules. ..: Check ,Date Order' by IR.ID ,Alpha Order' Objects.: Inc. Filter by Type of objects Example.: A1 Date.Cr < A2 Date.Cr A1 Date.Rel < A2 Date.Rel A2 Date.Cr < A3 Date.Cr A2 Date.Rel < A3 Date.Rel | Release Date 131 Creation date 132 |
| 1.4 | Inconsistent Owning Site under an Item | Already existing based on JobMgr.DB/MCC Leave it as it is | |
| 1.5 | Owning Users: Complete the admin user cleanup | Mark everything which is owned by specified users | 150 |
| 1.6 | CADItemRevisions renamed by migration team | Check for Item/ItemRevision/Dataset naming convention | I:161 IR:162 DS.:163 |
| 1.7 | Comp Release.Obj Date and Release Date on I/IR/DS New:30.04.2018 S.Gueth | WRN_202 RelDateIrToStatusObjDif appears when last release date of IR and release date of work Space object (IR) are different | 202 |
| 1.8 | Comp Release.Obj Date and Release Date on I/IR/DS New:30.04.2018 S.Gueth | ERR_203 RelDateIrIsMissing appears when last release date of IR (work space object) exists and release Date of status object IR Is empty | 203 |
| 1.9 | Comp Release.Obj Date and Release Date on I/IR/DS New:30.04.2018 S.Gueth | ERR_204 RelDateWSOIsMissing appears when last release date of IR (work space object) is empty and release date of status object IR exists | 204 |

TC Data Quality Check Details

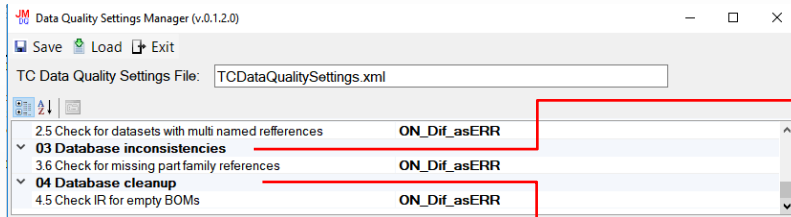
Categorization of the issues (2of3)



| Pos | Description: | Note | ResultCode |
|-----|---|--|------------|
| 2 | Dataset inconsistencies | | |
| 2.1 | Too many dataset versions | PURGE datasets along refile | 210 |
| 2.2 | Missing Dataset Reference | ERR_301_DSIsMissingFile Integrate with results | 220 |
| 2.3 | Dataset Versions referenced #New: 08.12.2017 | Dataset Versions are referenced by Folders or others | 230 |
| 2.4 | Inconsistent Cardinality | WRN_140_DSHasMultiIrRefs Integrate with results | 240 |
| 2.5 | Inconsistent Dataset References | ERR_302_DSHasMuticADFiles Integrate with results | 250 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

TC Data Quality Check Details

Categorization of the issues (3of3)



| Pos | Description: | Note | ResultCode |
|----------|---|---|------------|
| 3 | Database inconsistencies (relations, missing objects, ...) | | |
| 3.6 | Missing Part Family Member References | Data about PFM/PFT will be collected during refile for further analysis | 361 .. 366 |
| | WRN_361_PFMemberFolderRef | appear if Partfamily Member Item is not below 'PFMaster-Item-folder' | 361 |
| | WRN_362_PFMasterFolderRef | appear if Partfamily Master has no Partfamily 'PFMaster-Item-folder' | 362 |
| | WRN_363_PFMasterNoPFMember | appear if Partfamily Master is missing Partfamily Members | 363 |
| | WRN_364_PFMasterMemberFolderRef | appear if Partfamily Master and Members is missing 'PFMaster-Item-folder' | 364 |
| | WRN_365_PFMasterMissing | appear if Partfamily Members is missing Partfamily Master | 365 |
| | WRN_366_PFMasterMemberHasWRN | appear if Partfamily Members of PartFamiliy Master has warings | 366 |
| 4 | Database CleanUp | | |
| 4.2. | POM Stub Objects | Identify BOM's / IR's containing POM Stub Objects | |
| 4.5. | Empty BOMs | list can be delivered right away | 450 |
| 4.7 | AppUID | List Missing APPUIDS via SQL and re-create in front of refile | |
| 4.11 | Purge Datasets/ Revisions | see 2.1 will be done during refile | |
| 5 | Multisite Cleanup | | |
| 5.2 | Owning Site correction | obsolete | |
| 5.3 | Missing Revision | obsolete | |
| 5.4 | Multiple Revisions with same ID | obsolete | |

TC Data Quality Check Details

Base Settings of all Checks:

Each Check have the base setting:

- CheckOff
- CheckOn_IF_CheckCond_Hits_Then_ReportAsERR
- CheckOn_IF_CheckCond_Hits_Then_ReportAsWRN

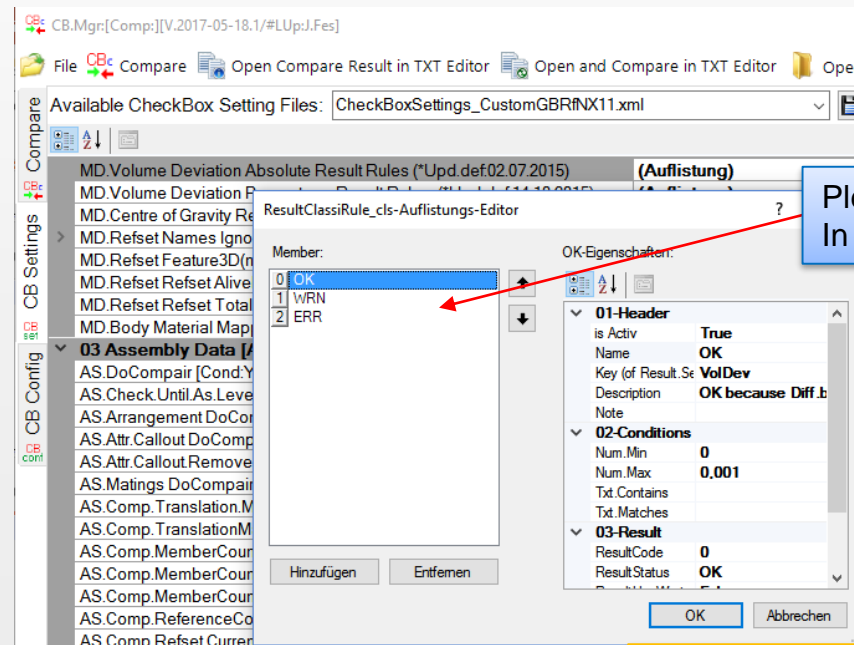
Check is disabled

If Condition hits then Report it as Error

If Condition hits then Report it as WRN

- Results is **to** set only to the Objects that have the ISSUE
- If rule is only valid on specific types (Item/Ir/Ds) then we need to include also TC.type in Check Rule definitions

12.06.2017 S.Gueth Software enhanced



Please see also setting
In CheckBox

#New: 05.06.2017 / J.Fes
#LUp: 12.06.2017 / S.Gueth

TC Data Quality Check Details

Categorization of the issues (1 of 2)

| TC Data Quality Settings File: | TCDDataQualitySettings.xml |
|--|---|
| 01 Data inconsistencies | |
| 1.1 Check release status list for rev | True |
| 1.2.1 Check more that one released revision | True |
| 1.2.2 status for released revisions | Released |
| 1.3 Check chronological creation date of revisions | True |
| 1.4.1 Check chronological creation date of revisions | True |
| 1.4.2 status for canceled revisions | True |
| 1.5.1 Check for specific owners | True |
| 1.5.2 specific owners | String[]-Array |
| 1.6.1 Check for specific name rules for item | True |
| 1.6.2 Specific naming rules for item | [defined patterns:0][matching type:all] |
| 1.6.3 Check for specific name rules for revisions | True |
| 1.6.4 Specific naming rules for revisions | [defined patterns:0][matching type:all] |
| 1.6.5 Check for specific name rules for datasets | True |
| 1.6.6 Specific naming rules for revisions | [defined patterns:0][matching type:all] |
| 02 DataSet inconsistencies | |
| 2.1.1 Check for to many dataset versions | True |
| 2.1.2 Keep limit for dataset versions | 3 |
| 2.2 Check for missing named references in dataset | True |
| 2.4 Check inconsistent cardinality for dataset | True |
| 2.5 Check for datasets with multi named references | True |
| 04 Database cleanup | |
| 4.1 Check IR for empty BOMs | True |
| 4.1 Check IR for empty BOMs | |
| checks if an item revision has an empty bom | |
| this check is enabled by default | |

| Pos | Description: | Note | ResultCode |
|-----|--|--|---------------------------------------|
| 1 | Data inconsistencies | | |
| 1.1 | Chk. Release Status: Incorrect Status List (inside one revision) | direct TC.DB access compare status of IR, datasets, BOMview etc. Defining filter what objects have to be compared | 110 |
| 1.2 | More than 1 Revision with status "Released" for 1 Item | JobMgr.DB | 120 |
| 1.3 | Wrong Release Date on Revision and Status | direct TC.DB access Defining filter what objects have to be compared Rules. .: Check ,Date Order' by IR.ID ,Alpha Order' Objects.: Inc. Filter by Type of objects Example.: A1 Date.Cr < A2 Date.Cr A1 Date.Rel < A2 Date.Rel A2 Date.Cr < A3 Date.Cr A2 Date.Rel < A3 Date.Rel 13.06.2017 S.Gueth: Rcodes Updated / Sort Issue solved | Release Date 131 Creation date 132 |
| 1.4 | Inconsistent Owning Site under an Item | Already existing based on JobMgr.DB/MCC Leave it as it is 02.06.2017 Chris: Talks with Mr. Gruber 07.06.2017 Chris: will take with Mrs. Handsel then decide if check is needed | |
| 1.5 | Owning Users: Complete the admin user cleanup | Mark everything which is owned by specified users 02.06.2017 Result Need to set to 150 | 150 |
| 1.6 | CADItemRevisions renamed by migration team | Check for Item/ItemRevision/Dataset naming convention | I:161 IR:162 DS.:163 |

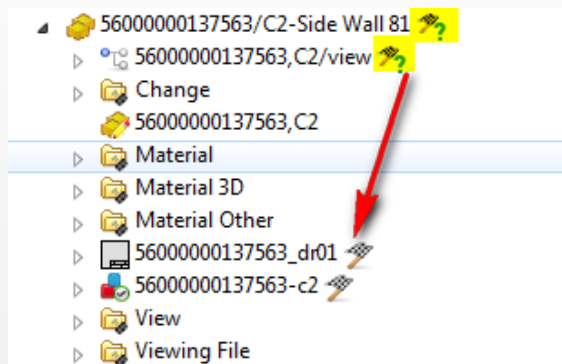
#New: 29.05.2017 / J.Fes
#LUp: 05.06.2017 / J.Fes+Krzy.Du

Check 1.1 Release Status: Incorrect Status List (inside one revision)

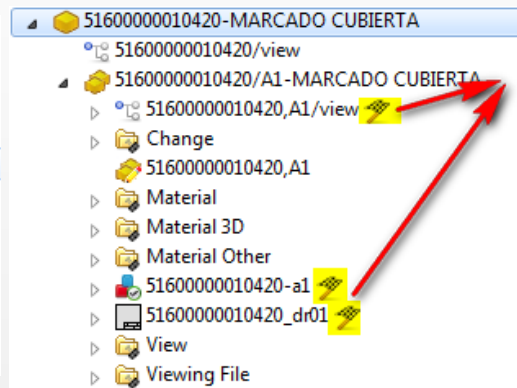
Data inconsistencies (1of3)

- ✓ Incorrect status within Item Revision

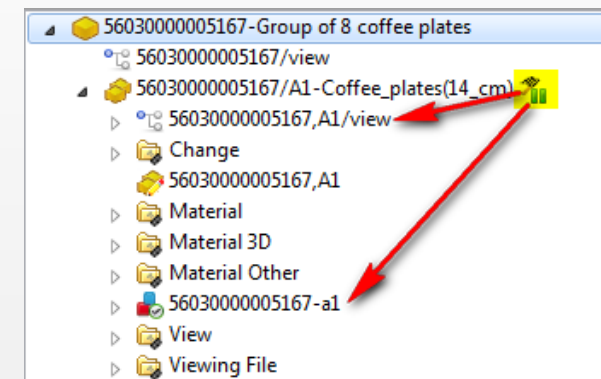
Mixed statuses



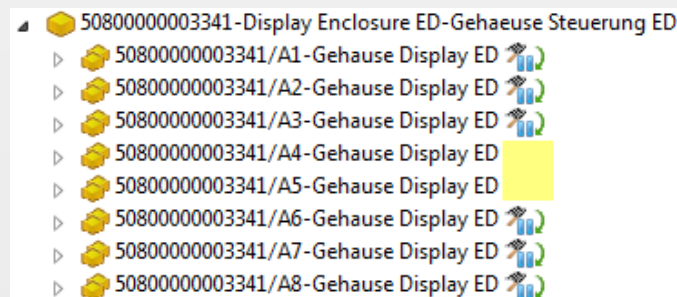
Missing status on IR



Missing status on BVR and dataset



- ✓ Missing status on Item Revision(s)



Notes:

- witch data are used for this Check are direct form TC.DB or from JobMgr Data?
- This Check need to check status for defined object types

Check 1.1 Release Status: Incorrect Status List (inside one revision)

| 5840C000034199-slotted_capstan_s_DIN_404 | | | | | | | |
|--|------------------|------------|-------------|--------------|-----------------|-------------|----------------------|
| Object | Type | Relation | Owner | Group ID | Last Modifie... | Checked-Out | Status |
| Family Members | Folder | References | BSH Catalog | catalog.bsh_ | 10-Aug-2005 16: | | |
| 5840C000034199/A1-slotted_capst | Catalog Revision | Revisions | BSH Catalog | catalog.bsh_ | 21-Dec-2005 11: | | Archived |
| 5840C000034199/B1-slotted_capst | Catalog Revision | Revisions | BSH Catalog | catalog.bsh_ | 19-Apr-2011 09: | | [Released, Archived] |
| 5840C000034199/C1-slotted_capst | Catalog Revision | Revisions | BSH Catalog | catalog.bsh_ | 30-Sep-2013 11: | | Released |

Properties

Catalog Revision

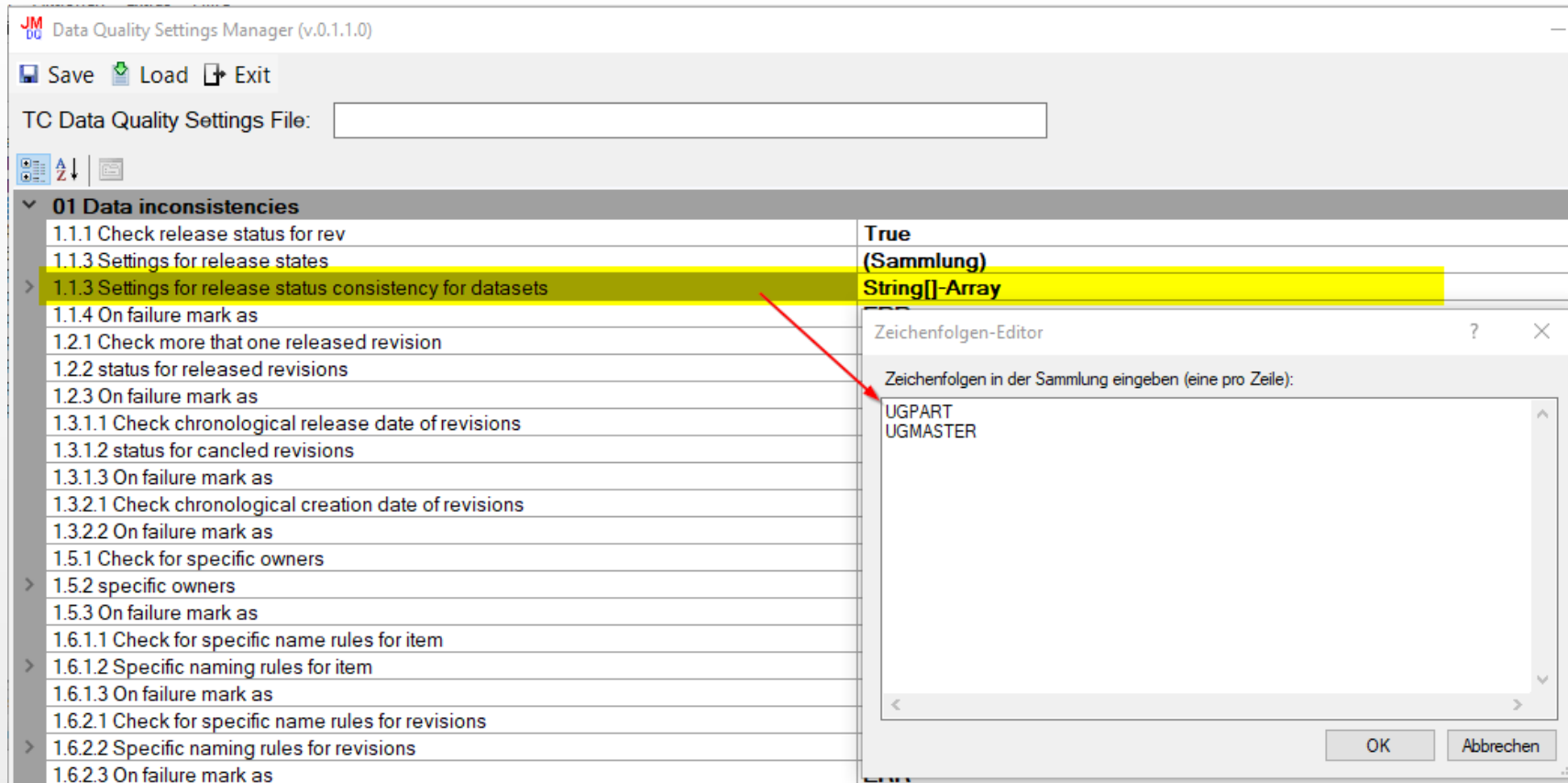
Status: Released
Archived

| Object | Type | Relation | Owner | Group ID | Last Modifie... | Checked-Out | Status |
|---------------------------|------------------|----------------|-------------|--------------|------------------|-------------|----------------------|
| 5840C000034199/B1-slotted | Catalog Revision | Revisions | BSH Catalog | catalog.bsh_ | 19-Apr-2011 09: | | [Released, Archived] |
| 5840C000034199,B1 | Catalog Master | Item Masters | BSH Catalog | catalog.bsh_ | 09-Jan-2006 10:4 | | |
| 5840c000034199-b1 | DirectModel | Rendering | BSH Catalog | catalog.bsh_ | 18-Nov-2007 08: | | |
| 5840c000034199-b1 | UGMASTER | Specifications | BSH Catalog | catalog.bsh_ | 19-Apr-2011 09: | | [Released, Archived] |

Check 1.1 Release Status: Incorrect Status List (inside one revision)

you can define a list of dataset types for check 1.1 where the release status will be compared to the release state of the item revision (the * means any dataset type):

Result code on failure is: 111



#New: 27.06.2017 / S.Gueth
#Lup:

Check 1.1 Release Status: Incorrect Status List (inside one revision)

Data inconsistencies (1of3)

Notes:

Example:

| Item | IR | DATA in IR | Last.RelSt | 2ntLast.RelSt |
|------|----------|-----------------------------|------------|---------------|
| 4711 | 4711/a → | Dataset1 Dataset1 BOM | Frozen | |
| | 4711/b → | Dataset1 Dataset1 BOM | Tool Order | Quotation |
| | 4711/c → | Dataset1 Dataset1 BOM | Released | Tool Order |

| Last.Rel. Status | Allowed Status defs. for 2ntLast.Rel.Status |
|---------------------|---|
| Released | any status except of status: 'Invalid,Archived' |
| Tool Order | status 'Frozen', 'Quotation' and 'Cancelled' possible |
| Quotation | status Frozen and Cancelled possible |
| Frozen | status Frozen and Cancelled possible |
| Cancelled | status Frozen, Tool Order, Quotation possible |
| Invalid | Rel.Status.Last 'Invalid' has to be set on Item all IR's and on Obj below IR's |
| Archived | Status 'Released' |

Check 1.1 Release Status: Incorrect Status List (inside one revision)

Example Rel.Status 'Invalid'

| Object | Type | Relation | Status |
|---------------------------------|------|----------------|-----------------------------------|
| 50400001002728 CADItem | | | Invalid |
| 50400001002728 CADItem Revision | | Revisions | [Frozen, none, Invalid] |
| 50400001002728 UGPART | | Specifications | [Frozen, none, Invalid] |
| 50400001002728 UGMASTER | | Specifications | [Frozen, none, Invalid] |
| 50400001002728 CADItem Revision | | Revisions | [Frozen, Released, none, Invalid] |
| 50400001002728 UGPART | | Specifications | [Frozen, Released, none, Invalid] |
| 50400001002728 UGMASTER | | Specifications | [Frozen, Released, none, Invalid] |

Search Results

Rule

All Objects must have the Last.Rel.Status 'Invalid'

22.09.2017 Setup Check 1.1.3 Settings for release states

Data Quality Settings Manager (v.0.1.1.0)

TC Data Quality Settings File: TCDDataQualitySettings.xml

01 Data inconsistencies

- 1.1.1 Check release status for rev: True
- 1.1.3 Settings for release states: (Collection)**
- 1.1.3 Settings for release status consistency for datasets: String[] Array
- 1.1.4 On failure mark as: ERR
- 1.2.1 Check more that one released revision
- 1.2.2 status for released revisions
- 1.2.3 On failure mark as
- 1.3.1.1 Check chronological release date of revisions
- 1.3.1.2 status for canceled revisions
- 1.3.1.3 On failure mark as
- 1.3.2.1 Check chronological creation date of revisions
- 1.3.2.2 On failure mark as
- 1.5.1 Check for specific owners
- 1.5.2 specific owners
- 1.5.3 On failure mark as
- 1.6.1.1 Check for specific name rules for item
- 1.6.1.2 Specific naming rules for item
- 1.6.1.3 On failure mark as
- 1.6.2.1 Check for specific name rules for revisions
- 1.6.2.2 Specific naming rules for revisions
- 1.6.2.3 On failure mark as
- 1.6.3.1 Check for specific name rules for datasets
- 1.6.3.2 Specific naming rules for datasets
- 1.6.3.3 On failure mark as

02 DataSet inconsistencies

- 2.1.1 Check for too many dataset versions
- 2.1.2 Keep limit for dataset versions

RelStateCheckSettings_cls Collection Editor

Members:

- 0 release state: Released
- 1 release state: Tool Order
- 2 release state: Quotation
- 3 release state: Frozen
- 4 release state: Cancelled
- 5 release state: Archiving

release state: Tool Order properties:

Release Status Check Settings

- 1. last release status: Tool Order
- 2. allowed 2 last release states: String[] Array
 - [0] Frozen
 - [1] Quotation
 - [2] Cancelled
- 3. NOT allowed 2 last release states: String[] Array

RelStateCheckSettings_cls Collection Editor

Members:

- 0 release state: Released
- 1 release state: Tool Order
- 2 release state: Quotation
- 3 release state: Frozen
- 4 release state: Cancelled
- 5 release state: Archiving

release state: Released properties:

Release Status Check Settings

- 1. last release status: Released
- 2. allowed 2 last release states: String[] Array
 - [0] -
- 3. NOT allowed 2 last release states: String[] Array
 - [0] Invalid

Defines allow status before this status

Defines NOT allowed status before this status

Check 1.1 Release Status: Incorrect Status List (inside one revision)

Einbinden von Obj_ReleaseStateListAll.sql

```

MigIdeas2NX_35_APBomCompair_cls.vb  MigIdeas2NX_01_2_...AExample_docu.txt  TCDDataQuality_2016...yChecksVer1_cls.vb  TCDDataQuality_2016...tyCheckVer1_cls.vb
VB JobManager.CmdTools  SharedQualityChecksVer1_cls  Check110RelStateListOfRev

18      ''' <summary>
19      ''' function that checks if there are different rel status under one revision
20      ''' <para/>#Doc: ?? Check 1.1 Release Status: Incorrect Status List (inside one revision)
21      ''' </summary>
22      ''' <remarks>
23      ''' #New: 3.1266;26.09.2016;S.Gueth
24      ''' </remarks>
25      1 Verweis
26      Public Shared Function Check110RelStateListOfRev(ByRef DQItem_obj As DataQualityItem_cls) As ToolsGl
27      ' set result group, result key and description of check
28      Dim resGroup As String = SectionGroupEnumV1.C1_RelStat.ToString
29      Dim resSecKey As String = SectionKeysEnumV1.StatLi.ToString
30      Dim checkDescription As String = "release states between itemRev and dataset are different"

```

#New: 25.05.2017 / J.Fes
#Lup:

Check 1.3 Wrong Release Date on Revision and Status

Details from BSH Documentation BSH_TeamcenterTopicsforCleanup_TCDATAQualityCheck.docx

1.3. Wrong Release Date on Revision and Status

Sequence of ItemRevisions and their assigned datasets not correct – “Date Released” and “Date Created” have to be in chronological order, except of ItemRevision with Status “**Cancelled**”! Status “Cancelled” can be set on any ItemRev at any time.

Note: **Modification dates** should not be considered as the ItemRevisions could be modified by admin-users after release. (e.g. setting “last status” flag).

A1 dates < A2 dates < A3 dates ... < B1 dates ... < Z99 dates

- Check of Archived Statuses
 - The “Date Released” of the statuses “Archived” has to be older than the “Date Released” of the last status “Released”
 - Date Released of status “Archived” ReleaseStatusImpl < Date Released of Status “Released” ReleaseStatusImpl

Analysis: can be done via JobManager – consistency check (already available)

Effect: If the release status data is not correct, the opening of an assembly or an Item could be show the wrong result. Depending on the load options, the revision with the highest date will be loaded. → **Critical OP – no discussion → high critical (damage in case of tool order with wrong content)**

#New: 29.05.2017 / J.Fes
#Lup:

Check 1.3 Wrong Release Date on Revision and Status

Important:

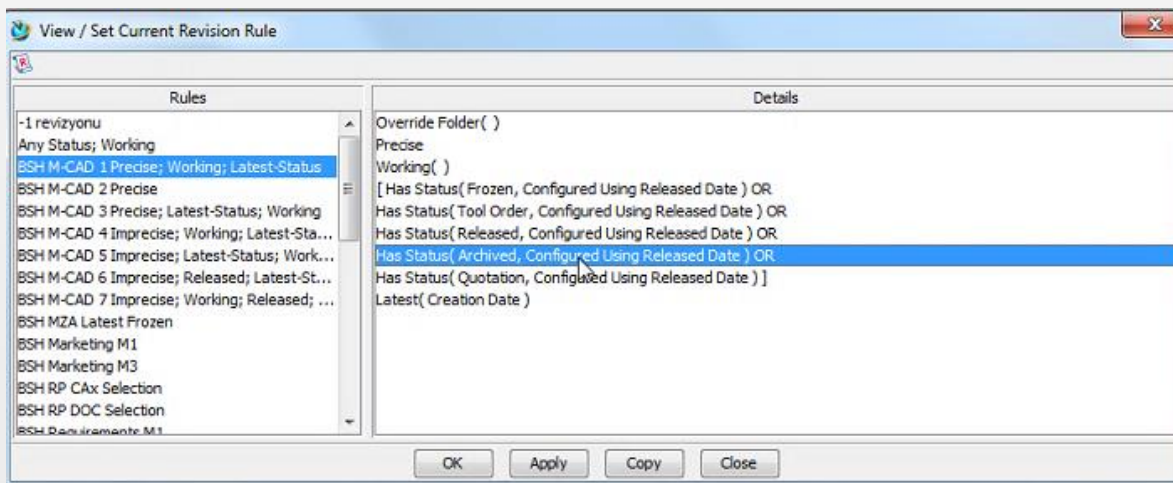
It is needed to check the “Creation date” and “Release Date”

| | | | |
|-----|---|---|-----|
| 1.3 | Wrong Release Date on Revision and Status | <p>direct TC.DB access</p> <p>Defining filter what objects have to compared</p> <p>Rules. .: Check ,Date Order' by IR.ID ,Alpha Order'</p> <p>Objects.: Inc. Filter by Type of objects</p> <p>Example.:</p> <p>A1 Date.Cr < A2 Date.Cr</p> <p>A1 Date.Rel < A2 Date.Rel</p> <p>A2 Date.Cr < A3 Date.Cr</p> <p>A2 Date.Rel < A3 Date.Rel</p> | 130 |
|-----|---|---|-----|

Note:

Object Types should be configurable

It Shold be configurable if Creation Date and Replease



#New: 29.05.2017 / J.Fes
#Lup:

Check 1.3 Wrong Release Date on Revision and Status

Issue Sort Order

Before: Item Revision where sorted by alphabetic rules:

```
55000000013295/A1
55000000013295/A10
55000000013295/A11
55000000013295/A2
55000000013295/A3
55000000013295/A4
55000000013295/A5
55000000013295/A6
55000000013295/A7
55000000013295/A8
55000000013295/A9
```

Now: Item Revision are sorted in a natural way

```
55000000013295/A1
55000000013295/A2
55000000013295/A3
55000000013295/A4
55000000013295/A5
55000000013295/A6
55000000013295/A7
55000000013295/A8
55000000013295/A9
55000000013295/A10
55000000013295/A11
```

#New: 14.06.2017 / S.Gueth
#LUp:

12.01.2018 -> Telco with Krzysztof

ER: Move error to an Item level

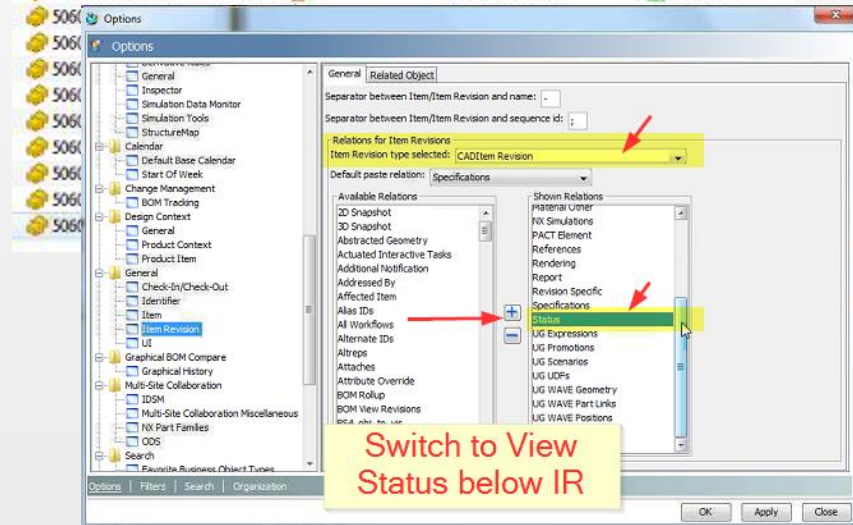
What about check of Date Released of an last status attached to ItemRevisions?
Is really status 'Archiving' excluded ? See 50600000002256

| Object | Date Released | Status |
|------------------------------------|-------------------|-----------|
| 50600000002256/A1-BRKT., GAS SHELF | 15-Oct-2002 10:05 | Quotation |
| 50600000002256/A2-BRKT., GAS SHELF | 30-Oct-2002 18:56 | Frozen |
| 50600000002256/A3-BRKT., GAS SHELF | 30-Oct-2002 09:05 | Quotation |
| 50600000002256/A4-GAS SHELF | 23-Jan-2003 00:06 | Archived |
| 50600000002256/B1-GAS SHELF | 14-Feb-2003 20:43 | Archived |
| 50600000002256/C1-GAS SHELF | 19-Feb-2003 20:05 | Archived |
| 50600000002256/D1-GAS SHELF | 26-Mar-2003 19:20 | Archived |
| 50600000002256/E1-GAS SHELF | 26-Mar-2003 19:41 | Frozen |
| 50600000002256/E2-GAS SHELF | 26-Mar-2003 20:09 | Frozen |
| 50600000002256/E3-GAS SHELF | 31-Mar-2003 14:43 | Archived |
| 50600000002256/F1-GAS SHELF | 09-Jun-2003 17:04 | Archived |

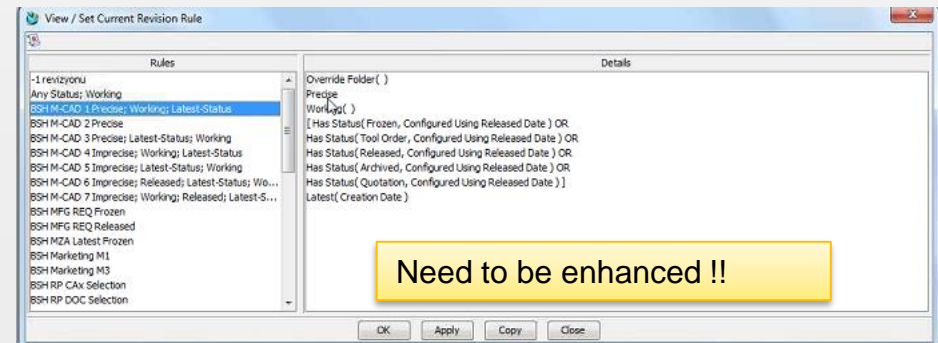
TC - Revision Rules is taken date of last status

| Object | Date Released | Status | Type | Date Created | Relation |
|------------------------------------|-------------------|-----------|------------------|-------------------|-----------|
| 50600000002256/A1-BRKT., GAS SHELF | 15-Oct-2002 10:05 | Quotation | CADItem Revision | 15-Oct-2002 10:05 | Revisions |
| | | | ReleaseStatus | | Status |

Object of type
ReleaseStatus



Switch to View
Status below IR

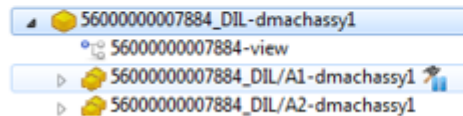


Need to be enhanced !!

Check 1.6 CADItemRevisions renamed by migration team

1.6. CADItemRevisions renamed by migration team

Reason: Item with different owning sites in the different CAX-systems. The Business colleagues have to decide which site is the correct owning site.



Analysis: can be done via JobManager – consistency check (already available) – this list can be provided right away

Effect: During the NextGen migration, duplicated item ids are renamed to unique ids to allow the import in the central system. The decision was done with the business coordinator. Now in some cases the user wants to have both versions of the Item. In this case one of them must be renamed to a complete new number. But this does not really affect the consistency → **Low**

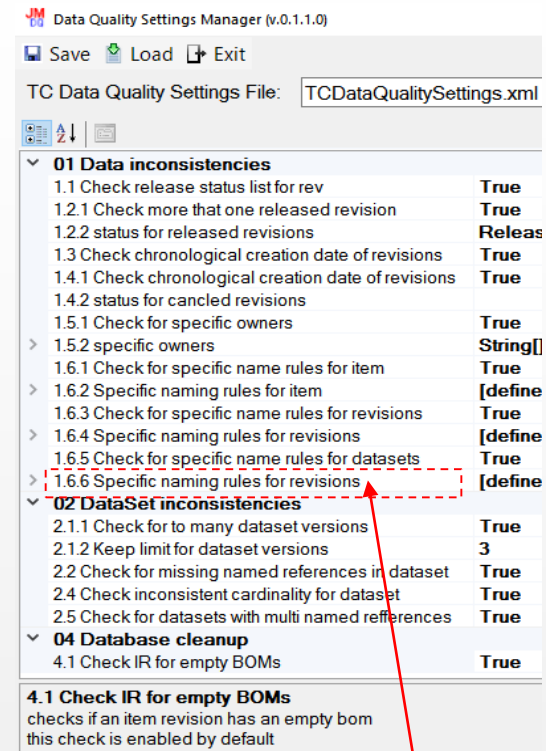
OP. → **Low**

Name schema / Name Convention Rules

| Type | Name | |
|--------|----------------------------|-------------|
| ItemId | must match name base rules | |
| RevId | must match name base rules | |
| DS | #ItemId#-#RevId# | // master |
| DS | #ItemId#_dr01 | // spec. 1 |
| DS | #ItemId#_dr02 | // spec. 2 |
| DS | #ItemId#_ar01 | // altrep 1 |
| DS | #ItemId#_ar02 | // altrep 2 |

Example:

4711
A
4711-A Master
4711_dr01
4711_dr02
B
9999-B Master
4711_dr01
4711_dr02
4711__dil_dr03



Replace
for
revisions
with for
datasets

#New: 05.06.2017 / J.Fes
#Lup: 19.06.2017 / S.Gueth

Check 1.6 CADItemRevisions renamed by migration team

New settings for naming rules for datasets. You can define naming rules for specific dataset types. And you can also use gitter variables in the naming rules for item itemRevs and datasets.

Valid gitter variables are:

```
#ItemId#
#Rev#
#Irid#
#Irr_Puid#
#ObjectId#
#ObjectName#
#ObjectType#
#ObjectOwningSitelId#
#ObjectFromSitelId#
#ObjectClnName#
#ObjectFs_Vol#
#ObjectFs_NE#
#ObjectFs_DPNE#
#ObjectGroup#
#ObjectOwner#
#ObjectPuid#
#IrrNameCLI#
#ItemIdCLI#
#ObjectCreateDate#
#ObjectFs_DPNE#
#ObjectLastModDate#
#ObjectLastModUser#
#ObjectUgMaster_Type#
#ProcStateCol01#
#ProcStateCol02#
#ProcStateCol03#
#ProcStateCol04#
#ProcStateCol05#
#ProcStateCol06#
#ProcStateCol07#
#ProcStateCol08#
#ProcStateCol09#
#ProcStateCol10#
#ProcStateCol11#
#ProcStateCol12#
#ProcStateCol13#
#ProcStateCol14#
#ProcStateCol15#
#ProcStateCol16#
#ProcStateCol17#
#ProcStateCol18#
#ProcStateCol19#
#ProcStateCol20#
#ProcStateColRf#
```

TC Data Quality Settings File: TCDDataQualitySettings-BSH.xml

01 Data inconsistencies

- 1.1.1 Check release status for rev
- 1.1.2 Settings for release states
- 1.1.3 On failure mark as
- 1.2.1 Check more that one released revision
- 1.2.2 status for released revisions
- 1.2.3 On failure mark as
- 1.3.1.1 Check chronological release date of revisions
- 1.3.1.2 status for canceled revisions
- 1.3.1.3 On failure mark as
- 1.3.2.1 Check chronological creation date of revisions
- 1.3.2.2 On failure mark as
- 1.5.1 Check for specific owners
- 1.5.2 specific owners
- 1.5.3 On failure mark as
- 1.6.1.1 Check for specific name rules for item
- 1.6.1.2 Specific naming rules for item
- 1.6.1.3 On failure mark as
- 1.6.2.1 Check for specific name rules for revisions
- 1.6.2.2 Specific naming rules for revisions
- 1.6.2.3 On failure mark as
- 1.6.3.1 Check for specific name rules for datasets
- 1.6.3.2 Specific naming rules for datasets**
- 1.6.3.3 On failure mark as

02 DataSet inconsistencies

- 2.1.1 Check for to many dataset versions
- 2.1.2 Keep limit for dataset versions
- 2.1.3 On failure mark as

RegExpressionsDS_cls-Sammlungs-Editor

Member: [UGType:UGMASTER][patterns:1]

[UGType:UGMASTER][patterns:1][matching type:all]-Eigenschaften:

Multiple Reg Expressions

| | |
|--------------------------------|----------------|
| 1. all patterns have to match | True |
| 2. regular expression patterns | String[]-Array |
| [0] | #ItemId#-#Rev# |
| 3. UG dataset type | UGMASTER |

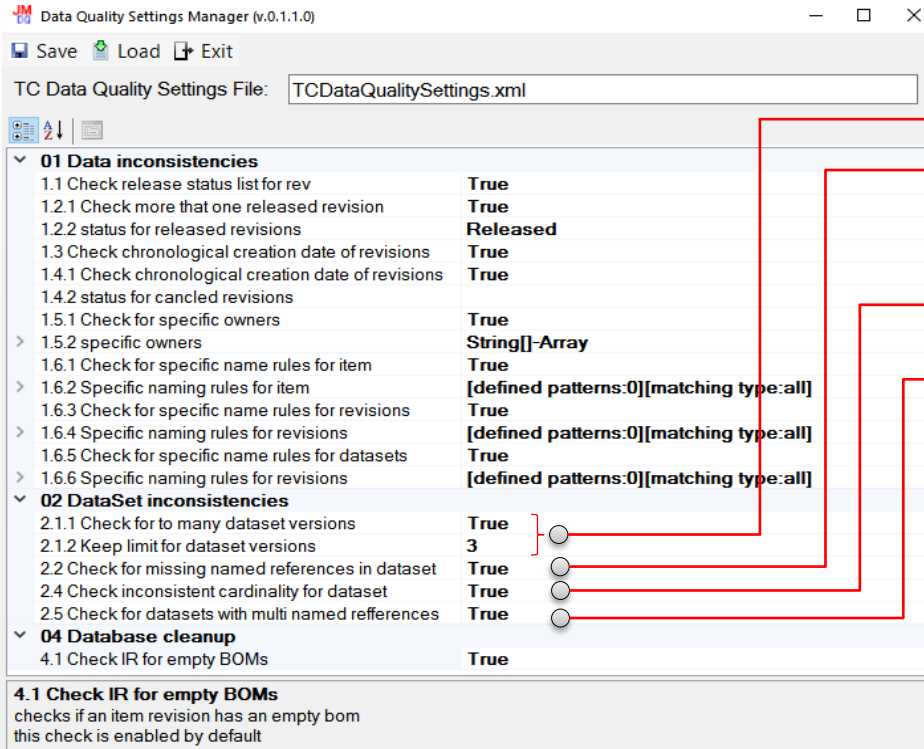
Hinzufügen Entfemen

OK Abbrechen

#New: 05.06.2017 / J.Fes
#Lup: 19.06.2017 / S.Gueth

TC Data Quality Check Details

Categorization of the issues (1of2)

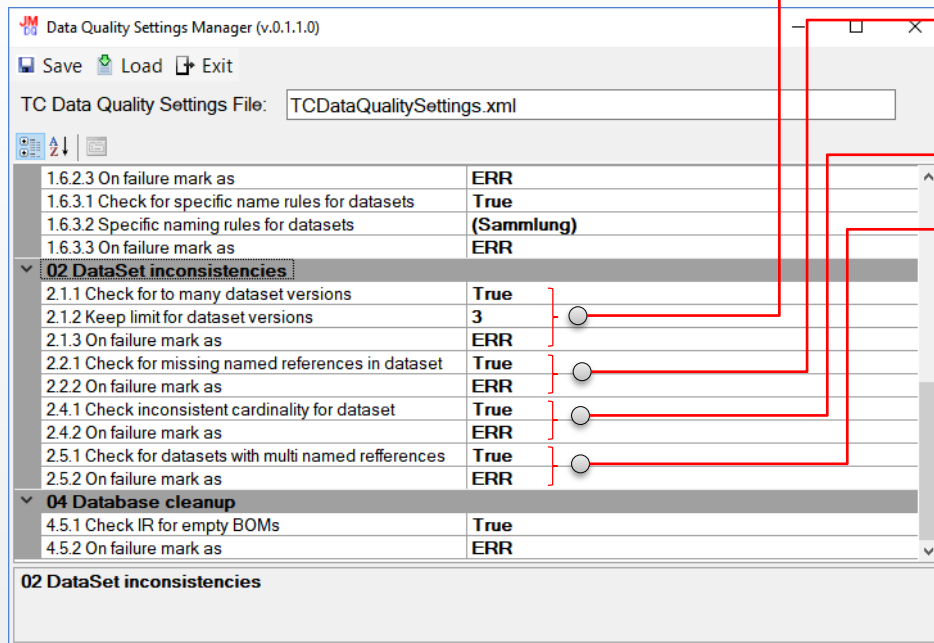


| Pos | Description: | Note | ResultCode |
|-----|---|--|------------|
| 2 | Dataset inconsistencies | | |
| 2.1 | Too many dataset versions | PURGE datasets along refile 05.06.2017 : Enhance : ISSUE 05.10.2017 | 211 212 |
| 2.2 | Missing Dataset Reference | ERR_301_DSIsMissingFile Integrate with results 05.06.2017 : OK? 05.10.2017: YES OK | 220 |
| 2.3 | Dataset Revisions are referenced by Folders or others | 05.06.2017 : see slide | |
| 2.4 | Inconsistent Cardinality | WRN_140_DSHasMultiIrRefs Integrate with results 05.06.2017 : OK | 240 |
| 2.5 | Inconsistent Dataset References | ERR_302_DSHasMuticADFiles Integrate with results 05.06.2017 : OK | 250 |

#New: 05.06.2017 / J.Fes
#Lup:

TC Data Quality Check Details

Categorization of the issues (1of2)



| Pos | Description: | Note | ResultCode |
|-----|---|--|------------|
| 2 | Dataset inconsistencies | | |
| 2.1 | Too many dataset versions | PURGE datasets along refile 05.06.2017 : Enhance : | 211 212 |
| 2.2 | Missing Dataset Reference | ERR_301_DSIsMissingFile Integrate with results 05.06.2017 : OK? 05.10.2017: YES OK | 220 |
| 2.3 | Dataset Revisions are referenced by Folders or others | 05.10.2017 : see slide | |
| 2.4 | Inconsistent Cardinality | WRN_140_DSHasMultiIrRefs Integrate with results 05.06.2017 : OK | 240 |
| 2.5 | Inconsistent Dataset References | ERR_302_DSHasMuticADFiles Integrate with results 05.10.2017 : OK | 250 |

05.10.2017:

2.1 Is to be checked see Issue tracker

<https://tracksys.startp.de/Issues/IssueDetail.aspx?id=2744>

2.3 Not yet Implemented

#ToDo: Implement SQL to find References of Datasets to Folders or other types.

#New: 05.06.2017 / J.Fes

#Lup: 05.10.2017 / J.Fes

Overview TC - DataCheck

MSC: Identify Data to Sync

MSC: Multi-Site Consistent Check

MSC:Check Rules

MSC: Completeness Analyse

MSC: Integr. in PLMJobManager

DQC: TC data quality check for NX related data

Glossar Keys: **MSC**: Tc - Multisite Check // **DQC**: Tc - Data Quality Check

Check 2.1 Too many dataset versions

2.1. Too many dataset versions

Too many dataset versions, because of wrong version limit.

Export took too much time and sometimes exports or load failed

Analysis: addPLM has a tool for purging internal revisions except of last and second last internal version and if one or two of three internal versions are missing, the tool will create the missing versions
=> not only analyzing but also **cleanup**

Effect: If there are more than the allowed dataset versions, it will not have a negative effect for the normal work. It waste space on the volume and it creates bigger export files during the transfer ownership. → **Low**

OP - maybe purge dataset (going to defined keep limit) should be activated again !! as former in CAX
→ **LOW**

@Sascha:
please check current
implementation

| | |
|---|------|
| 02 DataSet inconsistencies | True |
| 2.1.1 Check for too many dataset versions | True |
| 2.1.2 Keep limit for dataset versions | 3 |

| O.Ds.Ver | Σ | O.Ds.Ver(n) | Σ | O.Ds.VerKeepLim | Σ |
|----------|---|-------------|---|-----------------|---|
| = | 5 | = | | = | |
| 5 | | 3 | | 3 | |
| 5 | | 3 | | 3 | |
| 5 | | 1 | | 3 | |
| 5 | | 3 | | 3 | |

Check Rules:

- Check if defined Keep Limit ≤ Ds.VerKeepLim ERR:211
- Check if O.Ds.Ver(n) ≤ O.Ds.VerKeepLim ERR:212

#New: 05.06.2017 / J.Fes
#Lup:

Check 2.2 Missing Dataset Reference

2.2. Missing Dataset Reference

Dataset reference Imanfile does not exist but Named Reference count for dataset is available. The ImanFile from CAX system is missing or partially available in PLM system.

Analysis: can be done via JobManager – consistency check – this list can be provided right away

Effect: In this case the dataset could not be opened. If all dataset versions are missing, the whole work is lost. This must be analyzed and corrected until the old CAD sites are available, because some of this missing references could be found there → **Critical**

OP - Critical --- missing files (volume) or relations (DB) → Critical

@Sascha:
Results is to set only to the Objects that have the ISSUE

@Sascha:
please check current
implementation

Issue Example:

| Ir.Id | Σ # | O.Name | Σ # | Ir.Rank | Σ # | O.Type | Σ # | O.LastModDate | Σ # | O.Last / Σ # | O.SP/A | Σ # | O.A | Σ # | O.A | Σ # | O.P.10 [TCDataQuality] | Σ # | P.Res.Code | Σ # |
|-------------------|-----|-------------------|-----|---------|-----|----------|-----|------------------|-----|--------------|--------|-----|-----|-----|-----|-----|------------------------|-----|------------|-----|
| 51001002090553/A1 | | 51001002090553-a1 | | -2 | | UGMASTER | | 2009-01-27 08:34 | | infodba | SP | | 0 | | 0 | | D.ERR (End.Error.Chkt) | | 220 | |
| 51001002090553/A2 | | 51001002090553-a2 | | -1 | | UGMASTER | | 2009-01-27 08:34 | | | SP | | 0 | | 0 | | D.ERR (End.Error.Chkt) | | 220 | |
| 51001002090553/A3 | | 51001002090553-a3 | | 0 | | UGMASTER | | 2008-09-08 08:00 | | michaelisa | SP | | 0 | | 0 | | D.ERR (End.Error.Chkt) | | 220 | |

#New: 05.06.2017 / J.Fes
#Lup:

Check 2.3 Dataset Revisions are referenced by Folders or others

2.3. Dataset Revisions are referenced by Folders or others

Discrete dataset revisions are referenced by folders or others. There are seldom cases where not the central dataset (without version number display) is referenced by a folder or something similar but a discrete version. Updating the dataset then leads to errors because the old version can't be removed, e.g. Dataset highest version is 12 and version 5 is still referenced. The cleanup to keep the version limit to 3 will fail.

Analysis: can be done via JobManager –list can be provided

Effect: If a dataset revision is referenced in the system it could not be deleted during the normal purge. This affect then the case 2.1 and all its problems. A dataset version should never be references and therefore this should be also cleaned up → **Medium**

OP - should be done. → **Medium**

@Sascha:
Results is to set only to the Objects that have the ISSUE

Issue Example:

| Ir.Id | Σ # | O.Name | Σ # | Ir.Rank | Σ # | O.Type | Σ # | O.LastModDate | Σ # | O.Last / Σ # | O.SP/A | Σ # | O.A | Σ # | O.P.10 [TCDataQuality] | Σ # | P.Res.Code | Σ # |
|-------------------|-----|-------------------|-----|---------|-----|----------|-----|------------------|-----|--------------|--------|-----|-----|-----|------------------------|-----|------------|-----|
| 51001002090553/A1 | | 51001002090553-a1 | | -2 | | UGMASTER | | 2009-01-27 08:34 | | infodba | SP | | 0 | | D.ERR (End_Error:Chkt) | | 220 | |
| 51001002090553/A2 | | 51001002090553-a2 | | -1 | | UGMASTER | | 2009-01-27 08:34 | | | SP | | 0 | | D.ERR (End_Error:Chkt) | | 220 | |
| 51001002090553/A3 | | 51001002090553-a3 | | 0 | | UGMASTER | | 2008-09-08 08:00 | | michaelisa | SP | | 0 | | D.ERR (End_Error:Chkt) | | 220 | |

#New: 05.06.2017 / J.Fes
#Lup:

Check 2.3 Dataset Revisions are referenced by Folders or others

Versions

2.3. Dataset Revisions are referenced by Folders or others

Discrete dataset revisions are referenced by folders or others. There are seldom cases where not the central dataset (without version number display) is referenced by a folder or something similar but a discrete version. Updating the dataset then leads to errors because the old version can't be removed, e.g. Dataset highest version is 12 and version 5 is still referenced. The cleanup to keep the version limit to 3 will fail.

Analysis: can be done via JobManager -list can be provided

Effect: If a dataset revision is referenced in the system it could not be deleted during the normal purge. This affects then the case 2.1 and all its problems. A dataset version should never be referenced and therefore this should be also cleaned up → **Medium**

OP - should be done. → **Medium**

55310000002481/A1-Signal Cable

| Object | Type | Relation |
|---------------------|------------------|----------------|
| 55310000002481,A1 | CADItem Revision | Item Masters |
| 55310000002481-a1 | DirectModel | Rendering |
| 55310000002481-a1 | UGMASTER | Specifications |
| 55310000002481_dr01 | UGPART | References |

Dataset has wrong relation so NX cannot open this part

_Refiling: 55310000002481/A1, Type: master.Done.

**** Refiling Complete ****

Successfully processed: 1 (0 non-masters)
Failed to process: 0 (0 non-masters)
Unable to process: 0 (0 non-masters)

Definition:

- Check if Dataset have right 'relation type' between DS and Revision
In JobMgr we need a mapping with
DS Type – and DataSet Ir Repletion type
- Check If DS has only 1 Relation to revision
any other relation is found for datasets versions

2 Results:

- Right relation to IR
- DS.Version has no other relation then 'revision-anchor' relation

For Implementation:

- Need SQL to find any references

```

Obj_Attr.SQL  3.. I_IR.SQL  4.. I_All.SQL  5.. IR_DataSetsAll.SQL  6.. IR_DataSets.S
0 ..... 10 ..... 20 ..... 30 ..... 40 ..... 50
1 /* IR DS #L.Up J.Fes 26.10.16 */
2 SELECT
3   pd.puid                               As DataSetPuid,
4   s.psite_id                             As OwningSite_TC_pSite_ID,
5   ptype.ptype_name                       As DataSetIrRelationType,
6   pdt.pdatasettype_name                   As DataSetType,
7   wso.pobject_name                       As DataSetName,

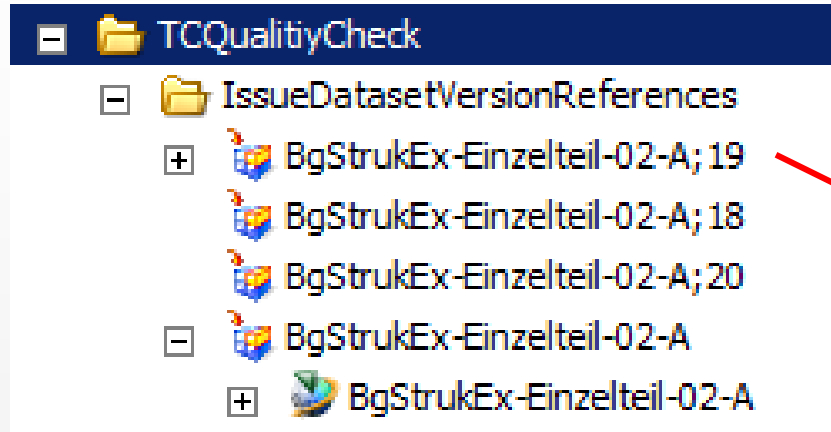
```

#New: 05.06.2017 / J.Fes
#Lup:

Check 2.3 Dataset Revisions are referenced by Folders or others

Example: Issue

Data structure



Where Referenced

IssueDatasetVersionReferences BgStrukEx-Einzelteil-02-A; 19

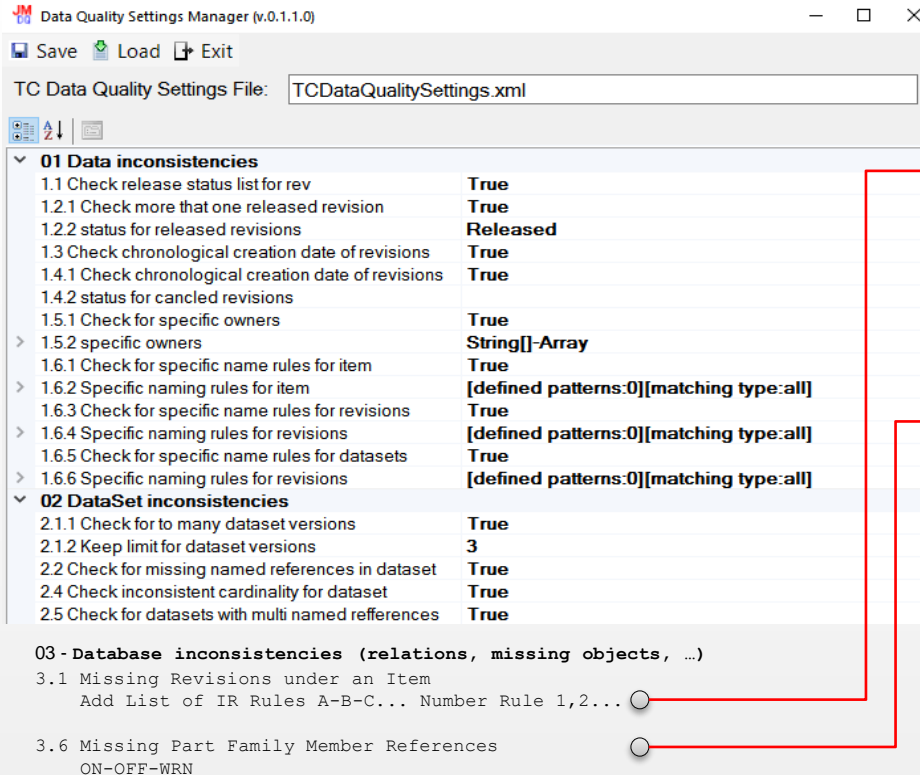
!! Dataset Version !!!

#New: 05.06.2017 / J.Fes

#Lup: 31.05.2018 / J.Fes

TC Data Quality Check Details

Categorization of the issues (2of2)



| Pos | Description: | Note | ResultCode |
|-----|--|--|------------|
| 3 | Database inconsistencies (relations, missing objects, ...) | | |
| 3.2 | Missing Revisions under an Item | See point 1.3 07.06.2017 maybe integrate it into Point 1.3 | |
| 3.4 | Inconsistent Ids | See point 1.6 07.06.2017 is allready integr. In 1.6 | |
| 3.5 | Wrong Item Revision Ids | See point 1.6 07.06.2017 is already integr. In 1.6 | |
| 3.6 | Missing Part Family Member References | Data about Partfamily Master - and Member Issues will be collected during importing/updateing data from TC to JobMgr | 360 |
| | WRN_361_PFMemberFolderRef | appear if Partfamily Member Item is not below 'PFMaster-Item-folder' | 361 |
| | WRN_362_PFMasterFolderRef | appear if Partfamily Master has no Partfamily 'PFMaster-Item-folder' | 362 |
| | WRN_363_PFMasterNoPFMember | appear if Partfamily Master is missing Partfamily Members | 363 |
| | WRN_364_PFMasterMemberFolderRef | appear if Partfamily Master and Members is missing 'PFMaster-Item-folder' | 364 |
| | WRN_365_PFMasterMissing | appear if Partfamily Members is missing Partfamily Master | 365 |
| | WRN_366_PFMasterMemberHasWRN | appear if Partfamily Members of PartFamily Master has warings | 366 |

#New: 05.06.2017 / J.Fes
#LUp: 31.05.2018 / J.Fes

Check 3.2 Missing Revisions under an Item

3.2. Missing Revisions under an Item

Hadsel: Not critical

The name of an item revision is a combination of former called revision and sequence.

The abbreviation for revision is a single character and for sequence it is a number.

The "Revision" of the ItemRevisions of one Item must be in alphabetical order without any gaps:

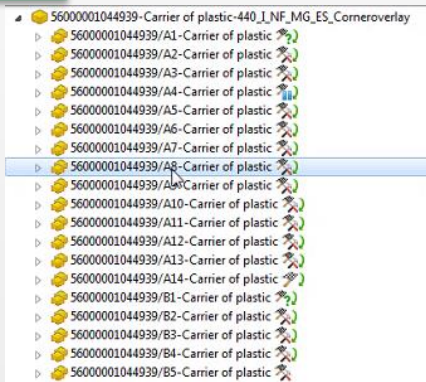
A-B-C-D-E-F-G-H-I-J-K-L-M-N-O-P-Q-R-S-T-U-V-W-X-Y-Z-AA-AB-....-AAA

Analysis: can be done via JobManager

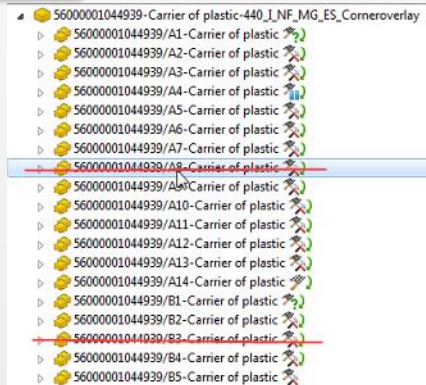
Effect: If a revision number is missing under an Item, it has no real effect on the system. Only in the case that a whole revision is missing, but in this case the revision id jumps from A1 to C1 and so the B is missing. There is no real reason to correct this. It is only a display topic. → Low
OP -> Low

Examples:

OK

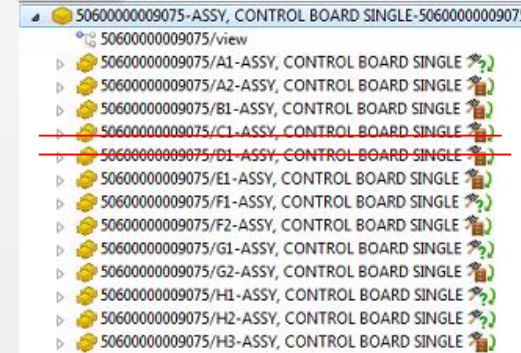


WRN



In case Next Number is missing:
Result.Msg = A8,B3

WRN



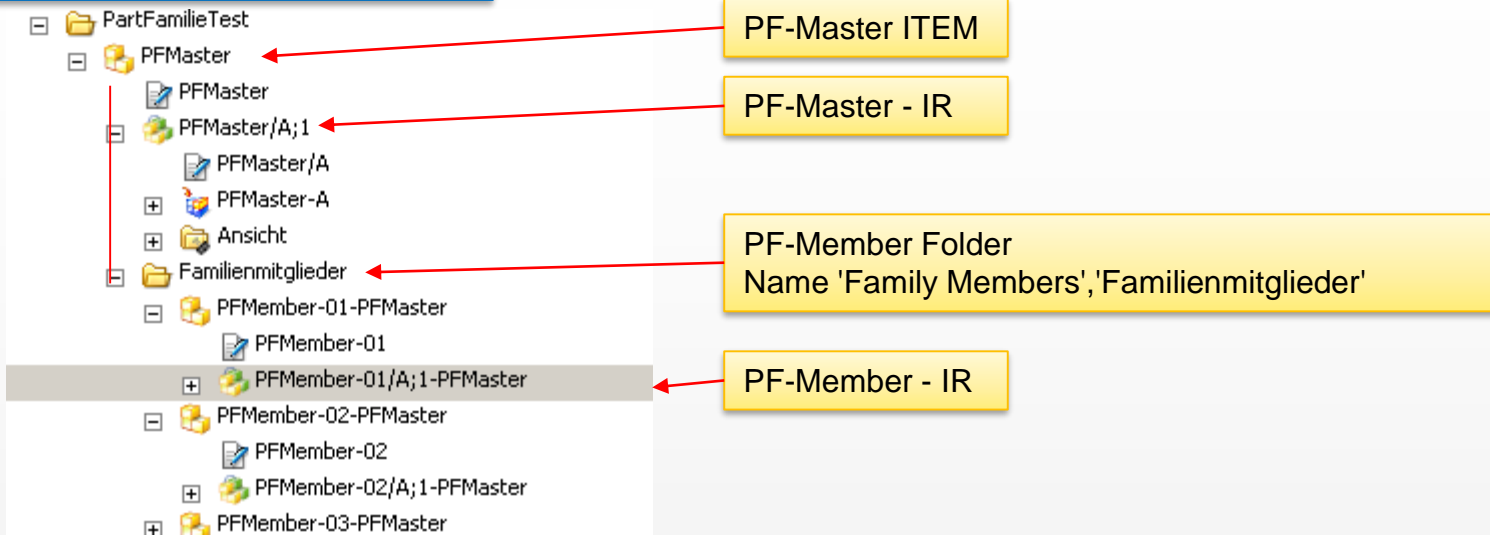
In case IR is missing at all:
Result.Msg = Cx,Dx

#New: 07.06.2017 / J.Fes
#Lup:

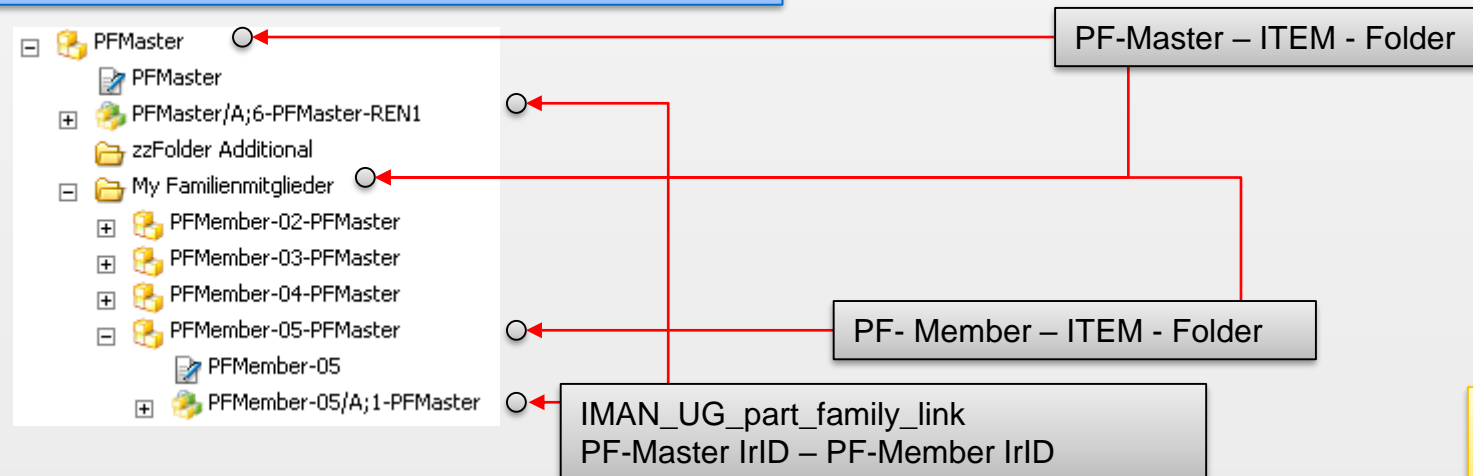
Results is to assign to ITEM
as WRN with the list of missing
RevId's

Check 3.6 Missing Part Family Member References

Data Model



Details Relations between PF – Master - Members



#New: 14.05.2018 / J.Fes
#Lup:

Check 3.6 Missing Part Family Member References

see 3.6 in data quality settings

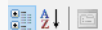
results for this check are on item revisions

error code 361: part family member (pfm) not refferenced to pfm folder of template

error code 362: part family master has no part famliy members

error code 363: part family master has no part family folder

TC Data Quality Settings File:



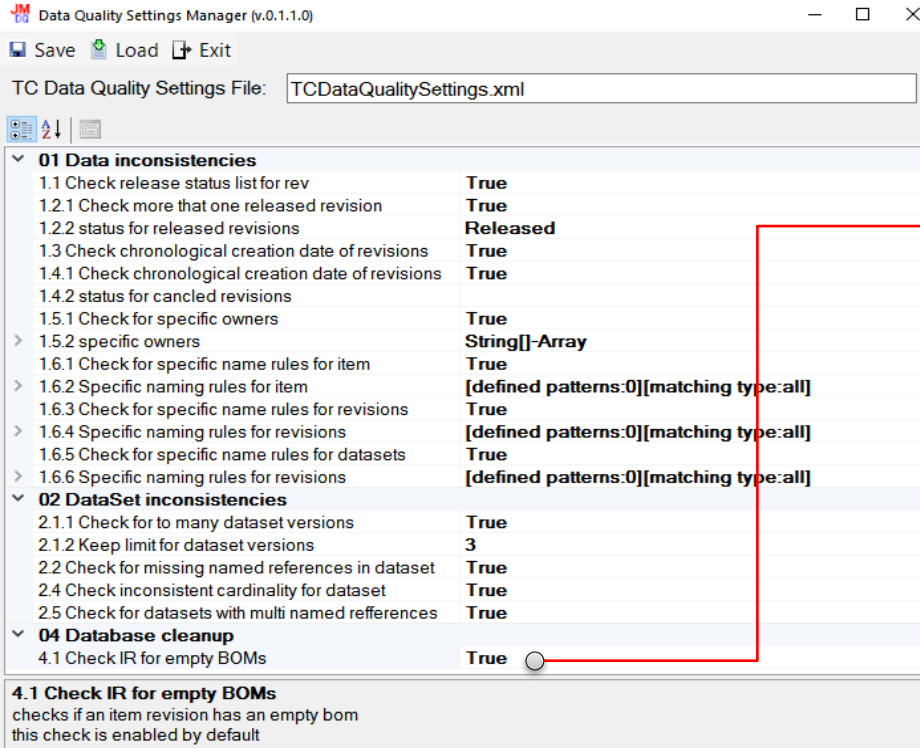
| 01 Data inconsistencies | |
|--|---|
| 1.1.1 Check release status for rev | ON_Dif_asERR |
| 1.1.2 Settings for release status consistency for dataset types | String[]-Array |
| 1.1.3 Settings for release states | (Sammlung) |
| 1.2.1 Check more than one released rev | ON_Dif_asERR |
| 1.2.2 status for released revisions | Released |
| 1.3.1.1 Check chronological order for 'ItemRev - Rel.Status - Rel.Date' bse/behavior | ON_Dif_asERR |
| 1.3.1.2 Check chronological order for 'ItemRev - Rel.Status - Rel.Date' set eXclude | String[]-Array |
| 1.3.2 Check chronological order for 'Creation Date of IR's' | ON_Dif_asERR |
| 1.5.1 Check for specific owners | ON_Dif_asERR |
| 1.5.2 specific owners | String[]-Array |
| 1.6.1.1 Check for specific name rules for item | ON_Dif_asERR |
| 1.6.1.2 Specific naming rules for item | [defined patterns:0][matching type:all] |
| 1.6.2.1 Check for specific name rules for revisions | ON_Dif_asERR |
| 1.6.2.2 Specific naming rules for revisions | [defined patterns:0][matching type:all] |
| 1.6.3.1 Check for specific name rules for datasets | ON_Dif_asERR |
| 1.6.3.2 Specific naming rules for datasets | (Sammlung) |
| 02 DataSet inconsistencies | |
| 2.1.1 Check for to many dataset versions | ON_Dif_asERR |
| 2.1.2 Keep limit for dataset versions | 3 |
| 2.2 Check for missing named references in dataset | ON_Dif_asERR |
| 2.4 Check inconsistent cardinality for dataset | ON_Dif_asERR |
| 2.5 Check for datasets with multi named references | ON_Dif_asERR |
| 03 Database inconsistencies | |
| 3.6 Check for missing part family references | ON_Dif_asERR |
| 04 Database cleanup | |
| 4.5 Check IR for empty BOMs | ON_Dif_asERR |

03 Database inconsistencies

#New: 03.11.2017 / J.Fes
#Lup: 08.11.2017 / S.Gueth

TC Data Quality Check Details

Categorization of the issues (2of2)



| Pos | Description: | Note | ResultCode |
|------|---------------------------------|---|-------------------------|
| 4 | Database Cleanup | | |
| 4.2. | POM Stub Objects | Identify BOM's / IR's containing POM Stub Objects 07.06.17 see details on Slide Check 4.2 POM Stub Objects | |
| 4.5. | Empty BOMs | list can be delivered right away 07.06.17 see change R.Code | 410 Change to 450 |
| 4.7 | AppUID | List Missing APPUIDS via SQL and re-create in front of refile 07.06.17 No integration needed because Object are created via refile | |
| 4.11 | Purge Datasets/ Revisions | see 2.1 will be done during refile 07.06.17 Action is Done with last Refile | |
| 5 | Multisite Cleanup | | |
| 5.2 | Owning Site correction | obsolete | |
| 5.3 | Missing Revision | obsolete | |
| 5.4 | Multiple Revisions with same ID | obsolete | |

Check 4.2 POM Stub Objects

4.2. POM Stub Objects

Removal of not used POM Stub objects. This comes from the migration
Some objects point to stub which were never imported to the system. The stubs and the relations must be deleted, or the objects created instead of stub

Chris : 16.03.2016 : Example of STUB in BOMViewRevision due to missing ItemRevision

| BOM Line | Find No. | Rule configured by | Item Rev Status | Item Description |
|--|----------|------------------------|-------------------------|----------------------------|
| 56500000065315/F10-Assembly gear brewing-unit V3 (View) | | | Tool Order | |
| 5090000001005113/C3-Gear-case middle II | 150 | Precise | Tool Order | Getriebegehäuse mitteteil. |
| 56500000067759/E4-Gear case top | 160 | Precise | Released | KVA |
| 56500000067757/F5-Gear case bottom | 270 | Precise | Released | Getriebegehäuse unterteil |
| 50900000001822/E1-Worm-wheel | 280 | Precise | Tool Order, Released | Wormwheel |
| 50900000001829/A1-Steel ball dia4mm | 290 | Precise | Tool Order, Released | 50900000001829 |
| 50900000001829/A1-Steel ball dia4mm | 300 | Precise | Tool Order, Released | 50900000001829 |
| 50900000001827/C1-Sleeve | 310 | Precise | Released | 50900000001827 |
| 50900000001821/C1-Assembly Motor Brewing-Unit (View) | 320 | Precise | Released | |
| <<REMOTE OBJECT>> | 330 | No configured Revision | | |
| 56500000041560/C1-Assembly switches BU state TE7 ZF (View) | 340 | Precise | Quotation, Tool Orde... | |
| <<REMOTE OBJECT>> | 360 | No configured Revision | | |
| 56500001163794/A3-Asm Switches BU State 60 (View) | 370 | Precise | Tool Order | 56500001163794 |
| <<REMOTE OBJECT>> | 380 | No configured Revision | | |
| <<REMOTE OBJECT>> | 390 | No configured Revision | | |

Such an assembly cannot be opened

Example:
POM Stub's

Result.Msg In this case
BOMStubs:ERR 4n

ToDo:
- Review Methodes
- mybe analyse during JS.Import

Results:

add to IR the numbers (n) of BOM Stubs in BOM

```

PSPad - [V:\JobManager\ProgEntw\Ver03\JobManager\3\01-BinServer\Resources\TcSQL\BOMc_ImPrecise_TCUA.SQL]
File Projects Edit Search View Format Tools HTML Settings Window Help(x)

1.. BOMc_ImPrecise_TCUA.SQL
0 10 20 30 40 50 60 70 80
1 /* TCUA BOMc ImPrecise: BOMLi Rev.Rule:latest.or L.Up 20.01.15 */
2 SELECT ItemID ,
3 IrID ,
4 IrPuid ,
5 count(*) AS BOML
6 from
7 (
8 SELECT
9 iBOML.pitem_id AS ItemID,
10 irBOML.pitem_revision_id AS IrID,
11 irBOML.puid AS IrPuid,
12 rank() over (partition BY iBOML.puid ORDER BY paoIrBOML.pcreation_date DESC) AS rnk
13 FROM
14 infodba.PITEM iBOM
15 INNER JOIN infodba.PITEMREVISION irBOM ON (iBOM.puid = irBOM.ritems_tagu)
16 INNER JOIN infodba.PSTRUCTURE_REVISIONS ps ON (irBOM.puid = ps.puid)
17
18 INNER JOIN infodba.PPSBOMVIEWREVISION bvr ON (ps.pvalu_0 = bvr.puid)
19 INNER JOIN infodba.PPSOCCURRENCE bo ON (bvr.puid = bo.rparent_bvru)
20 INNER JOIN infodba.PITEM iBOML ON (bo.rchild_itemu = iBOML.puid)
21 INNER JOIN infodba.PITEMREVISION irBOML ON (iBOML.puid = irBOML.ritems_tagu)
22
23 LEFT JOIN infodba.PPSBOMVIEW bv ON (bvr.rbom_viewu = bv.puid)
24 LEFT JOIN infodba.PPSVIEWTYPE bvt ON (bvt.puid = bv.rview_typeu)
25
26 LEFT JOIN infodba.PWORKSPACEOBJECT irBOMlpwo ON (irBOML.puid = irBOMlpwo.puid)
27 LEFT JOIN infodba.PPOM_APPLICATION_OBJECT paoIrBOML ON (irBOML.puid = paoIrBOML.puid)
28
29 WHERE
30 irBOM.puid = :para_ir_puid
31 AND irBOMlpwo.pactive_seq = 1
32 AND upper(bvt.pname) in ('VIEW', 'CATIA_MULTI_MODEL', 'CATIA')
33 ) t
34 where rnk = 1
35 GROUP BY ItemID, IrID, IrPuid

```

Values are null in case of
BOM Stubs

#New: 07.06.2017 / J.Fes
#Lup: