

### PLMXML, XSL & IPS

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#### 1 Background

I very rarely delete anything in Teamcenter. This is down to the complexity of the process and the fact its fraught with danger! So, rather than deleting any revisions created by mistake users have to use the 'Obsolete Revised in Error' Workflow which sets it to Obsolete, and creates a PDF with an OBSOLETE watermark.

The problem is SolidWorks and the workflow in Teamcenter report that there is a later revision available to the user. In TC there is a later version available, SW and TC don't know that because its Obsolete it should be ignored.

This document outlines how I modify the Creation Date to an earlier date (this drives the revision order) so that it appears before rev 00. This means that in SW and when using the Issued workflow it won't report that there is a later revision available.



There are other ways to achieve this, but this solution serves us best.

### 2 Transfermode and xsl

A new TransferMode has been created – IE\_Revision\_Export\_Obsolete. It has to be a unique transfermode as there is an xsl stylesheet applied.

Name:	IE_Revision_Export_Obsolete *
Context:	
Description:	
Type of Transfer	
Output Schema Format:	PLMXML 👻
Support Incremental	
Closure Rule	IE_Revision_Export_CR
Filter Rule	▼
Property Set	IE_Revision_Export_PS 👻
Revision Rule	▼

The Closure Rule has Secondary Object as Item. I'm not expecting to find an Item, but I need to fill in this field.

Traversal Ru	Ile Name: IE_Revision_E	xport_CR		*	_		
De	scription:						
Scope of	Traversal: 🖲 Export 🤇	🗇 Import					
Output Schem	a Format: PLMXML 🔻						
Primary Ob	Primary Object	Secondary	Secondary	Relation Ty	Related Pr	Action Type	Condition
CLASS	IE4_InheritRevision	CLASS	Item	RELATIONP2S	*	PROCESS	

The Property Set lists ie4\_STATUS\_MAP which is the status compounded to the revision.

0 PropertySet				
Property Se	t Name: IE_Revision_E	Export_PS		*
Desc Scope of Prop	rription: erty Set:	) Import		
Primary Ob	Primary Object	Relation Ty	Related Property	Property A
CLASS	IE4_InheritRevision	PROPERTY	last_mod_date	DO
CLASS	IE4_InheritRevision	PROPERTY	object_name	DO
CLASS	IE4_InheritRevision	PROPERTY	ie4_STATUS_MAP	DO
CLASS	IE4_InheritRevision	PROPERTY	object_string	DO
CLASS	IE4_InheritRevision	PROPERTY	item_id	DO
CLASS	IE4_InheritRevision	PROPERTY	item_revision_id	DO

The xsl stylesheet IE\_Revision\_Obsolete.xsl:

</th <th>xml version="1.0" <mark>?&gt;</mark></th>	xml version="1.0" <mark>?&gt;</mark>
<x< th=""><th>sl:stylesheet version="1.0"</th></x<>	sl:stylesheet version="1.0"
	xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
	xmlns:plm="http://www.plmxml.org/Schemas/PLM2MLSchema"
	<pre>xmlns:crf="http://ExternalFunction.setFile"</pre>
	<pre>xmlns:msxsl="http://exslt.org/common"</pre>
3	<pre>xmlns:str="http://exslt.org/strings"&gt;</pre>
	<pre><xsl:output indent="no" method="text" omit-xml-declaration="yes"></xsl:output></pre>
3	<pre><xs1:template match="/"></xs1:template></pre>
	This XSL is designed to create an IPS loadfile for Revisions to set the Creation Date to the 5th October 1976
	Header line for IPS loadfile
	<pre><xsl:text>!~ItemID~RevID~CreateDate~Folder~FolderType</xsl:text></pre>
	<xsl:text> </xsl:text>
	Only traverses Revisions whose status is Obsolete
3	<xsl:for-each select="plm:PLMOML/plm:ProductRevision/plm:UserData/plm:UserValue[@title='ie4_STATUS_MAP' and @value='Obsolete']"></xsl:for-each>
3	<rs1:call-template name="Rev Out"></rs1:call-template>
8	
8	
3	<xsl:template name="Rev_Out"></xsl:template>
	Outputs the Item ID
	<xsl:variable name="ID" select="//plm:UserValue[@title='item_id']/@value"></xsl:variable>
	<xsl:value-of select="\$ID"></xsl:value-of>
	<xsl:text>~</xsl:text>
	Outputs the Revision No
	<xsl:variable name="REV" select="//plm:UserValue[@title='item_revision_id']/@value"></xsl:variable>
	<xsl:value-of select="\$REV"></xsl:value-of>
	<xsl:text>~</xsl:text>
	Sets the date
	<pre><xsl:text>05/10/1976 00:00-00solete Create Date~IE4_TeamFolder</xsl:text></pre>
	<xsl:text> </xsl:text>
8	
- </td <td>xsl:stylesheet&gt;</td>	xsl:stylesheet>

This is uploaded to TC using the following syntax from a TC sourced cmd: plmxml\_tm\_edit\_xsl -u=*userid* -p=*password* -g=dba -transfermode=IE\_Revision\_Export\_Obsolete action=attach -xsl\_file=IE\_Revision\_Obsolete.xsl

To test, create a new session of TC and export 2 revisions, where one of them is Obsolete:

PLMXML Expo	ort						-	
Export Directory:	: C:\Users\rb09\Deskto	p					•	••
Export Filename:	2011008643-01-0 - N	EW SW PRO	JECT TEST.xml					
Transfer Mode:	IE_Revision_Export							
Revision Rule:								
Languages:								
							s	elect Language
Perform Expo	ort In Background							
Open PLMX	ML File							
Object List:	Object	Туре	Relation	Owner	Group ID	Date Mo	Checked	Release S
	2011008643-01				dba 🖉	14-Jun-2		Obsolete
	2011008643-00				dba	14-Jun-2		
		0	к	Cancel	Apply			



The resultant xml file is transformed by the xsl to produce a text file which only lists obsolete revisions:

🗎 201	1007571-02-0 - SCRAP xml 🔀	
1	!~ItemID~RevID~CreateDate~Folder~FolderType	
2	2011007571~02~05/10/1976 00:00:00~Obsolete Create Date~IE4_TeamFolde	er
3		

Note: The xsl adds the header line and we have added folder instructions for IPS to be able move it.

Without the xsl applied to the xml, the file would like this:

201	1007571-02-0 - SCRAP xml 🔀 🧮 2011008643-01-0 - NEW SW PROJECT TEST xml 🔀
1	xml version="1.0" encoding="utf-8"?
2	GENERATED BY: PLM XML SDK 7.0.4.411
3	<plmxml <="" th="" xmlns="http://www.plmxml.org/Schemas/PLMXMLSchema"></plmxml>
4	Ianguage="en-us" time="15:55:33" schemaVersion="6" author="Teamcenter V11000.2.2.21_20160906.00 -
	' date="2018-06-14">
5	<pre><header id="id1" transfercontext="IE Revision_Export" traverserootrefs="#id2 #id8"></header></pre>
6	<pre>[]<product accessrefs="#id4" id="id7" name="NEW SW PROJECT TEST" productid="2011008643" subtype="IE4_Item"></product></pre>
7	<pre><description>From SolidWorks</description></pre>
8	<pre>-<applicationref application="Teamcenter" label="iFNAAG021\$oLQB" version="iFNAAG021\$oLQB"></applicationref></pre>
9	<pre>d<productrevision <="" accessrefs="#id4" id="id2" masterref="#id7" name="NEW SW PROJECT TEST" pre="" subtype="IE4_ItemRevision"></productrevision></pre>
	revision="01">
10	<pre><description>From SolidWorks</description></pre>
11	<pre><applicationref application="Teamcenter" label="iFNAAG021\$oLQB" version="1CPAAG091\$oLQB"></applicationref></pre>
12	======================================
13	<uservalue title="last_mod_date" value="2018-06-14T13:08:15Z"></uservalue>
14	<uservalue title="object_name" value="NEW SW PROJECT TEST"></uservalue>
15	<uservalue title="ie4_STATUS_MAP" value="Obsolete"></uservalue>
16	<pre><uservalue title="object_string" value="2011008643-01-0 - NEW SW PROJECT TEST"></uservalue></pre>
17	<uservalue title="item_id" value="2011008643"></uservalue>
18	<uservalue title="item_revision_id" value="01"></uservalue>
19	<pre>p<productrevision <="" accessrefs="#id4" id="id8" masterref="#id7" name="NEW SW PROJECT TEST" pre="" subtype="IE4_ItemRevision"></productrevision></pre>
	revision="00">
20	<pre><description>From SolidWorks</description></pre>
21	<pre><applicationref application="Teamcenter" label="iFNAAG021\$oLQB" version="iJEAAG021\$oLQB"></applicationref></pre>
22	Q <userdata id="id9"></userdata>
23	<uservalue title="last_mod_date" value="2018-06-14T13:04:55Z"></uservalue>
24	<uservalue title="object_name" value="NEW SW PROJECT TEST"></uservalue>
25	<uservalue title="ie4_STATUS_MAP" value=""></uservalue>
26	<uservalue title="object_string" value="2011008643-00-0 - NEW SW PROJECT TEST"></uservalue>
27	<uservalue title="item_id" value="2011008643"></uservalue>
28	<pre>-<uservalue title="item_revision_id" value="00"></uservalue></pre>
29	<pre><accessintent id="id4" intent="reference" ownerrefs="#id5"></accessintent></pre>
30	
31	<pre><applicationref application="Teamcenter" label="AuFAAAAEI\$oLQB" version="AuFAAAAEI\$oLQB"></applicationref></pre>
32	曰 <userdata id="id6"></userdata>
33	<pre>4<uservalue title="dbms" value="1">//UserValue&gt;//UserData&gt;//Site&gt;//PLMXML&gt;</uservalue></pre>

#### 3 Workflow

#### 3.1 PIE-export-to-plmxmfile

Nandlers		
Export and IPS Date	Handler Type:	R
EPM-set-rule-based-protection	Task Action:	Start
PIE-export-to-pImxmlfile		
EPM-invoke-system-action	Action Handler:	PIE-export-to-plmxmlfile
Perform		
Complete	Argument	Value(s)
	-context	IE_Revision_Export_Obsolete
- Suspend	-attach	target
🔁 Resume	-file	D:\TC_Export\IE_Revision_Obsolete\Export.txt
		Create Delete Modify Help 📄 🏢

- 'Context' is the transfermode created earlier
- 'file' is a location on the server
- Result is an Export.txt file that has been formatted by the xsl mentioned earlier

#### 3.2 EPM-invoke-system action

	Nandlers		
	Export and IPS Date	andler Type: 🏹	
	EPM-set-rule-based-protection	ask Action: Start	
	PIE-export-to-plmxmlfile     PIE-invoke-system-action     EPM-invoke-system-action     EPM-notify	ction Handler: EPM-invoke-system-action	
1	Perform	Argument Value(s)	
		-command D:\TC Export\IE Revision Obsolete\Cre	ateDate.bat
	Dispend		
	🔁 Resume		
	- Abort		
	······1 Undo		
		Create Delete Modify He	Ip 🗈

• CreateDate.bat is located on the server

The workflow can be a bit slow to complete as its waiting for the .bat file to complete.

3.3	IPS
	D:\TC_Export\IE_Revision_Obsolete
	^ Name
	Completed
ds	CreateDate.bat
aces	Folder.cfg
📑 Export	4_08_26_14062018.bd 🔯 🔚 CreateDate bat 🖾 🚞 Export_15_00_47_14062018.bd 🖾 🔚 Folder_IPS_15_00_47_14062018.log 🖾
1	echo on
2	
4	t exempl:\IPS\ins data upload.exe
5	em if not exist logs madix logs
6	em if not exist replay <u>mkdir</u> replay
7	
8	et credentials=-u=\DBAUSER\ -p=\DBAPASS\ -g=dba
9	T TC ROOT=\ \ D\$\Apps\Teamcenterll\tcroot
10	Br 10 DARA=\ND \APPS\leamcenteril\cdata
12	d D:\C Export.\E Revision Obsolete
13	
14	ps data upload -m=folder insert %credentials% -o=Folder.log _i=Export.txt -cfg=D:\TC Export\IE Revision Obsolete\Folder.cfg
15	ps_data_upload -m=items %credentials% -o=Date.log -i=Export.txt -cfg=D:\TC_Export\IE_Revision_Obsolete\Folder.cfg
16	
17	en D:\TC_Export\IE_Revision_Obsolete\Export.txt Export_%time:~0,2%%time:~3,2%%time:~6,2%%date:~-10,2%%date:~3,2%%date:~-4,4%.txt
18	en D:\TC Export\IE Revision Obsolete\Folder.log Folder IPS %time:~0,2% %time:~3,2% %time:~6,2% %date:~-10,2%%date:~-4,4%.log
19	en D'IL_EXPOTTIE REVISION OBSOLETE (DATE: LOG DATE IFS %time:~0,2% %time:~0,2% %time:~6,2% %date:~-10,2%%date:~3,2%%date:~-4,4%.log
20	ove folder.ig bildcappeters revision obsolete/completed
22	ve exports.txt D:\TC Export.LE Revision Obsolete\Completed
23	xit 0

The bat file does the following:

- 1. Sets the credentials for IPS (-u= -p= -g=dba)
- 2. Sets the TC cmd source information (TC\_ROOT, TC\_DATA & tc\_profilevars)
- 3. IPS in folder mode to copy the Item to a folder listed in the file:

```
!~ItemID~RevID~CreateDate~Folder~FolderType
2011007571~03~05/10/1976 00:00:00~Obsolete Create Date~IE4_TeamFolder
```

4. IPS in ITEMS mode to set the Create Date listed in the Export:

!~ItemID~RevID~CreateDate~Folder~FolderType
2011007571~03~05/10/1976 00:00:00~Obsolete Create Date~IE4\_TeamFolder

5. Renames the Export.txt, Folder.log & Date.log files to include the time and date and moves them to the Completed folder:

Name	Date modified	Туре
Date_IPS_15_00_47_14062018.log	14/06/2018 15:00	LOG File
Folder_IPS_15_00_47_14062018.log	14/06/2018 15:00	LOG File

#### 3.4 Result

In Teamcenter, the Item has been moved to the Obsolete Create Date folder and its date has been set to an early date so that it is listed 1<sup>st</sup>:

4	🖉 Ob	solete Create Date
	⊳ 📩	2011008552 - SLAVE CONVEYOR STAND:320W
	⊳ 📩	2011007571 - SCRAP
	- × 🕺	2011008643 - NEW SW PROJECT TEST
	$\triangleright$	🎽 2011008643- <mark>01-</mark> 0 - NEW SW PROJECT TEST 🏁
	$\triangleright$	🔆 2011008643- <mark>00-</mark> 0 - NEW SW PROJECT TEST

The user DBA also receives an email notifying them that a revision has been through this workflow.

No doubt this could be re-written to use PLMXML to set the date and move to a folder, but we have IPS and I find it very easy to use.