

# Product Structure Synchronization for VPM V4 (PS9)

## ***Installation Guide***

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**Version 1.0 – Delivery 7 – R19SP8**

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# **Introduction**

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This document describes the installation procedure for the Product Structure Synchronization BPA.

## **Related Documentation**

- CATIA V5 Program Directories
- CATIA V5 User Guide
- ENOVIA 3dcom V5 Program directories
- ENOVIA 3dcom V5 User Guide
- ENOVIA VPM Program Directories
- ENOVIA VPM User Guide

## **Before Installing**

### **Notes**

If you want to install Product Structure Synchronization, you must install CATIA V5 and ENOVIA VPM V4 **first**.

If you want to use Product Structure Synchronization through ENOVIA 3d com, you must install ENOVIA 3d com.

When installing, make sure that you have administrator privileges.

Close all other applications on the computer before proceeding with the installation.

## ***Prerequisites for Product Structure Synchronization Installation***

### **CATIA**

CATIA V5 installation is the main prerequisite for Product Structure Synchronization installation.

The Product Structure Synchronization BPA is based on CATIA V5's assembly design features, and on ENOVIA VPM

It requires the installation of the following CATIA V5 products:

#### **- CATIA Assembly Design 2 (ASD)**

#### **Information**

The required CATIA V5 version is V5R19SP8.

The required 3DCom V5 version is V5R19SP8.

The required ENOVIA VPM V4 version is the VPM 1.6 PTF 15 and above.

The certified operating systems are

On client side:

Windows XP Professional SP3 32 and 64 bits with the corresponding requirements listed in the CATIA V5R19SP8 Program Directories

Solaris 10 V5.8 with the corresponding requirements listed in the CATIA V5R19SP8

IBM AIX 6.1 with the corresponding requirements listed in the CATIA V5R19SP8 Program Directories

DB2 with level as specified in the ENOVIAvpmV4 V1.6 PTF 15 Program Directories

On server side:

Solaris 10 V5.8 with the corresponding requirements listed in the CATIA V5R19SP8 Program Directories

IBM AIX 6.1 TL02

with the corresponding requirements listed in the CATIA V5R19SP8 Program Directories

DB2 with level as specified in the ENOVIAvpmV4 V1.6 PTF 15 Program Directories

Hardwares on server and client side are identical for DS standard products, as specified in the ENOVIA vpmV4 V1.6 PTF 15 Program Directories and CATIA V5 R19SP8, 3DCom V5R19SP8

# Installing Product Structure Synchronization

## Product Structure Synchronization deliverables package content

The Product Structure Synchronization package includes:

- a CATIA V5 package, PS9\_RxxSPyy\_OS\_CLI\_D8.tar
- a ENOVIA VPM package, PS9\_RxxSPyy\_OS\_SRV\_D8.tar,
- a User Guide detailing the functional aspect of the BPA,
- this installation guide explaining how to install and uninstall the Product Structure Synchronization BPA.

The PS9\_RxxSPyy\_OS\_CLI\_D8.tar contains the executable to be installed on the CATIA V5 client.

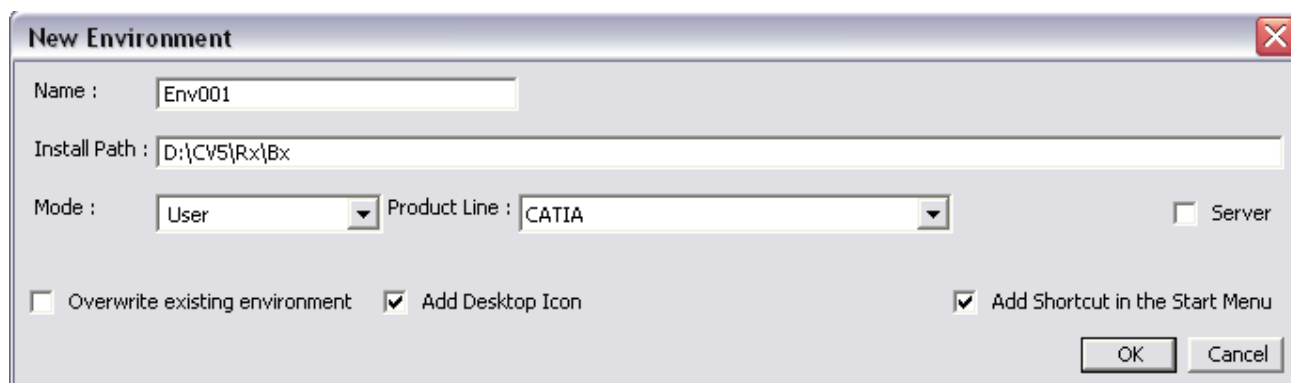
The PS9\_RxxSPyy\_OS\_SRV\_D8.tar contains the executable to be installed on the VPM server.

## Installing of the deliverables

### How to install the CATIA V5 Package

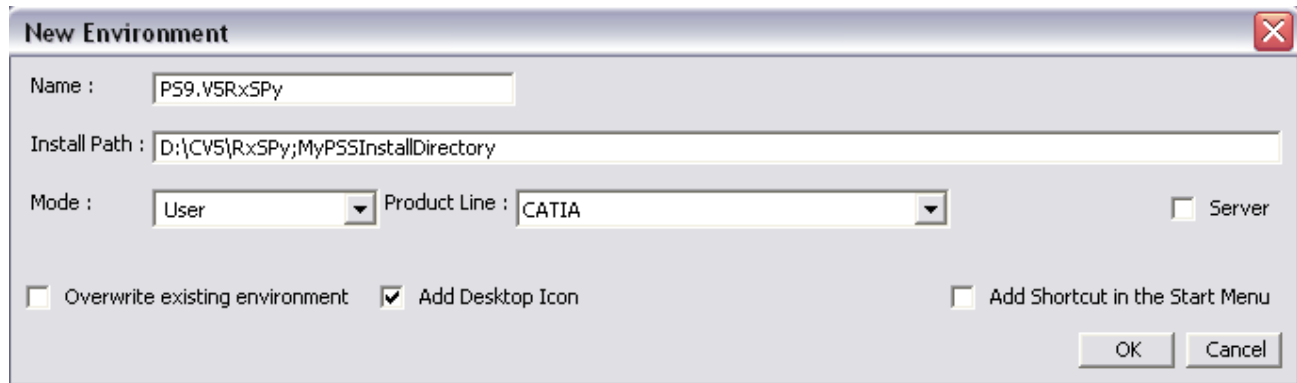
#### On Windows

1. Create a directory MyPSSInstallDirectory in the file system
2. Unzip the PS9\_RxxSPyy\_OS\_CLI\_D8.tar, and put the intel\_a directory in the MyPSSInstallDirectory
3. Select Start + Programs + CATIA + Tools + Environment Editor. The Environment Editor appears.
4. Select Environment+New, the following panel appear:



Reminder: To install the PS9 Product for all users, you must be administrator on the windows host and set the mode to Global.

5. Name as you want your PS9 Environment.
6. Set the mode to Global and add the MyPSSInstallDirectory to the Install Path of the environment.  
The "New Environment" Panel should now look like this:



After creating this environment, launch the specific BPA PS9 catia desktop Icon and open or create a CATProduct :

You should have the Workpackage Management toolbars

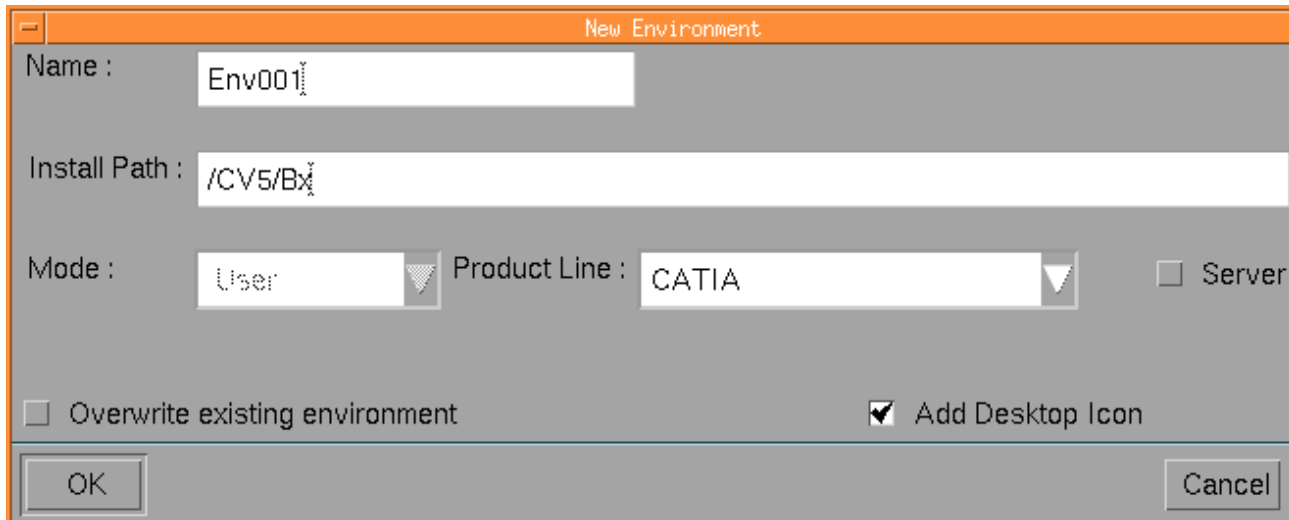


## On Unix

"OS" is:

- aix\_a
- solaris\_a.

1. Create a directory MyPSSInstallDirectory in the file system
2. Unzip the PS9\_RxxSPyy\_OS\_CLI\_D8.tar, and put the OS directory in the MyPSSInstallDirectory
3. Run the catstart command as follows:  
`MyCV5InstallDirectory/OS/code/command/catstart -run CATIAENV`  
(you may have to modify this path according to your CATIA V5 installation path)
4. The Environment Editor appears.
5. Select Environment+New, the following panel appear:

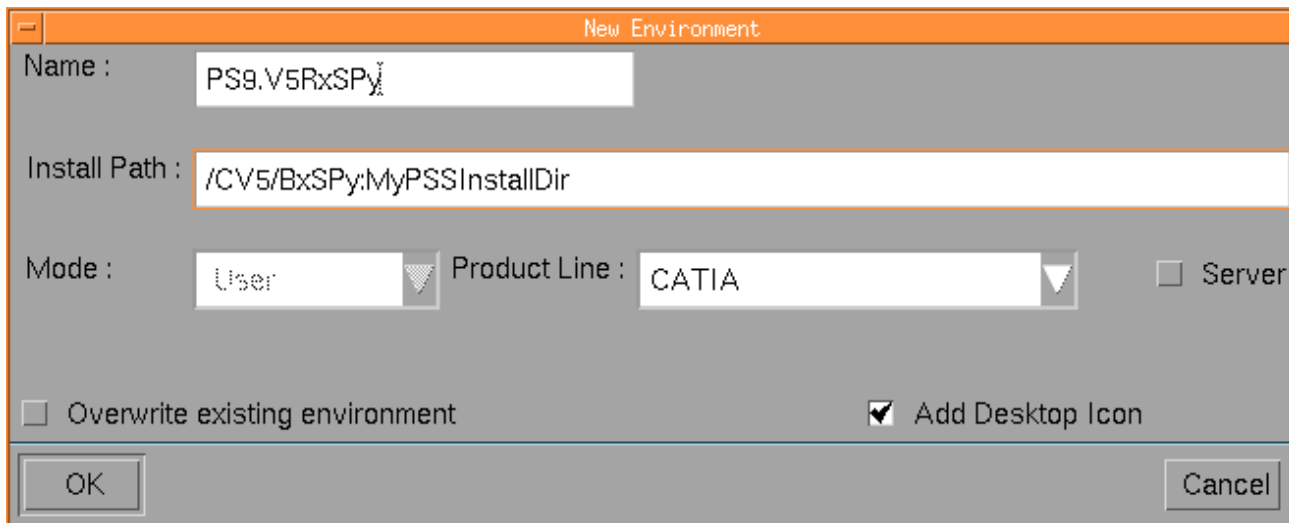


The "New Environment" dialog box is shown with the following fields and options:

- Name :** Env001
- Install Path :** /CV5/Bx
- Mode :** User (dropdown menu)
- Product Line :** CATIA (dropdown menu)
- ☐ Server
- ☐ Overwrite existing environment
- ☒ Add Desktop Icon
- Buttons:** OK, Cancel

Reminder: To install the PS9 Product for all users, you must have a privilege administrator host and set the mode to Global.

6. Name as you want your PS9 Environment.
7. Set the mode to Global and add the MyPSSInstallDirectory to the Install Path of the environment.  
The "New Environment" Panel should now look like this:



The "New Environment" dialog box is shown with the following fields and options:

- Name :** PS9.V5RxSPy
- Install Path :** /CV5/BxSPy:MyPSSInstallDir
- Mode :** User (dropdown menu)
- Product Line :** CATIA (dropdown menu)
- ☐ Server
- ☐ Overwrite existing environment
- ☒ Add Desktop Icon
- Buttons:** OK, Cancel

After creating this environment , launch CATIA V5 using the specific BPA PS9 catia environment and open or create a CATProduct.



You should have the Workpackage Management toolbar

## How to install the VPM Package

- 1- Create a directory (*PS9\_VPM\_Inst\_Dir*)
- 2- Unzip the PS9\_RxxSPyy\_OS\_SRV\_D8.tar, and put the files in the *PSS\_VPM\_Inst\_Dir*



- 3- If no UserExit is customized in your VPM installation, you can use the folder "UserExit\_Sample" which contains the 2 libraries necessary. If you have a customization of the UserExit, you need to rebuild the library libLV0XUSR, by using the files provided in "UserExit\_Customer". In the standard CATDMUsMethod.cpp (or your own versions of these files if your current VPM installation already implements some user exit in CATDMUsMethod), add the following include

```
#include "ISPPS9DMUsMethod.h"
```

And add the following line at the end of the ExecuteCommand method:

```
ISPPS9DMUsMethod::ExecuteCommand (ioLng, ioMsg);
```

and make sure that the following lines, which are provided in the standard file, are deleted so that the return message will not be deleted:

```
delete [] ioMsg;
ioMsg = new char[4];
int tmpler = ier.ler;
memcpy(&ioMsg[0], &tmpler, 4);
```

- 4- Build the user exit library in it specific directory (*User\_Exit\_Dir*):  
Set the VPM environment.

In the makeLV0XUSR.sh file, add:

Add the PS9 include path:

```
optI="$optI -IPSS_VPM_Inst_Dir/include"
```

In the linking section, depending on the OS, add the PS9 library path:

For AIX:

```
SH_LIBPATH="$SH_LIBPATH -LPSS_VPM_Inst_Dir/lib/$OS"
SH_LIB="$SH_LIB -lISPPS9VPM"
```

For SunOS:

```
OBJECTS="$OBJECTS PSS_VPM_Inst_Dir/lib/$OS/libISPPS9VPM.so"
```

Run "./makeLV0XUSR.sh ."

- 5- For VPM to take into account this library, follow the instructions displayed at the end of makeLV0XUSR.sh.

In order to be sure you are using the right library each time you work with VPM, you should add these lines to your YOUR.env file:

OS	Declarations
SunOS	<pre>STEPLIB=PSS_VPM_Inst_Dir/lib/\$OS: User_Exit_Dir :\$STEPLIB export STEPLIB LD_LIBRARY_PATH=PSS_VPM_Inst_Dir/lib/\$OS: User_Exit_Dir :\$LD_LIBRARY_PATH export LD_LIBRARY_PATH</pre>
AIX	<pre>STEPLIB=PSS_VPM_Inst_Dir/lib/\$OS: User_Exit_Dir :\$STEPLIB export STEPLIB LIBPATH=PSS_VPM_Inst_Dir/lib/\$OS: User_Exit_Dir :\$LIBPATH</pre>

```
export LIBPATH
```

As default copy the generated lib in your \$CAT\_CUST/code/steplib/\$OS

- 6- In your VPM customized CustovpmToV5.sh file, replace the V5\_Starter line by:

```
V5dir=$DIRENV
```

```
export V5dir
```

```
V5env=your PSS CATIA V5 environment name (Example: PSS.V5R19SP8).
```

```
export V5env
```

```
V5_Starter=$V5_Starter" -d $V5dir -env $V5env"
```

where DIRENV is the global Environment Storage Directory as set in the Environment Editor.

## ***Uninstalling of the deliverables***

### ***How to uninstall the CATIA V5 Package***

#### **On Windows:**

Start CATIA Tools > Environment Editor V5R20

Open Environment Editor and choose the CATEnv to be deleted

Remove the MyPSSInstallDirectory

#### **On UNIX:**

Use the **delcatenv** command: this command deletes environments

Report to CATIAV5R20 documentation Infrastructure Installation Guide section "To delete an environment using the delcatenv command.

Or in interactive mode :

Run the catstart command as follows:

```
/usr/DassaultSystemes/B17/OS/code/command/catstart -run CATIAENV
```

(you may have to modify this path according to your CATIA V5 installation path)

The Environment Editor appears. Select the BPA env to be deleted.

Remove the MyPSSInstallDirectory.

### ***How to uninstall the VPM Package***

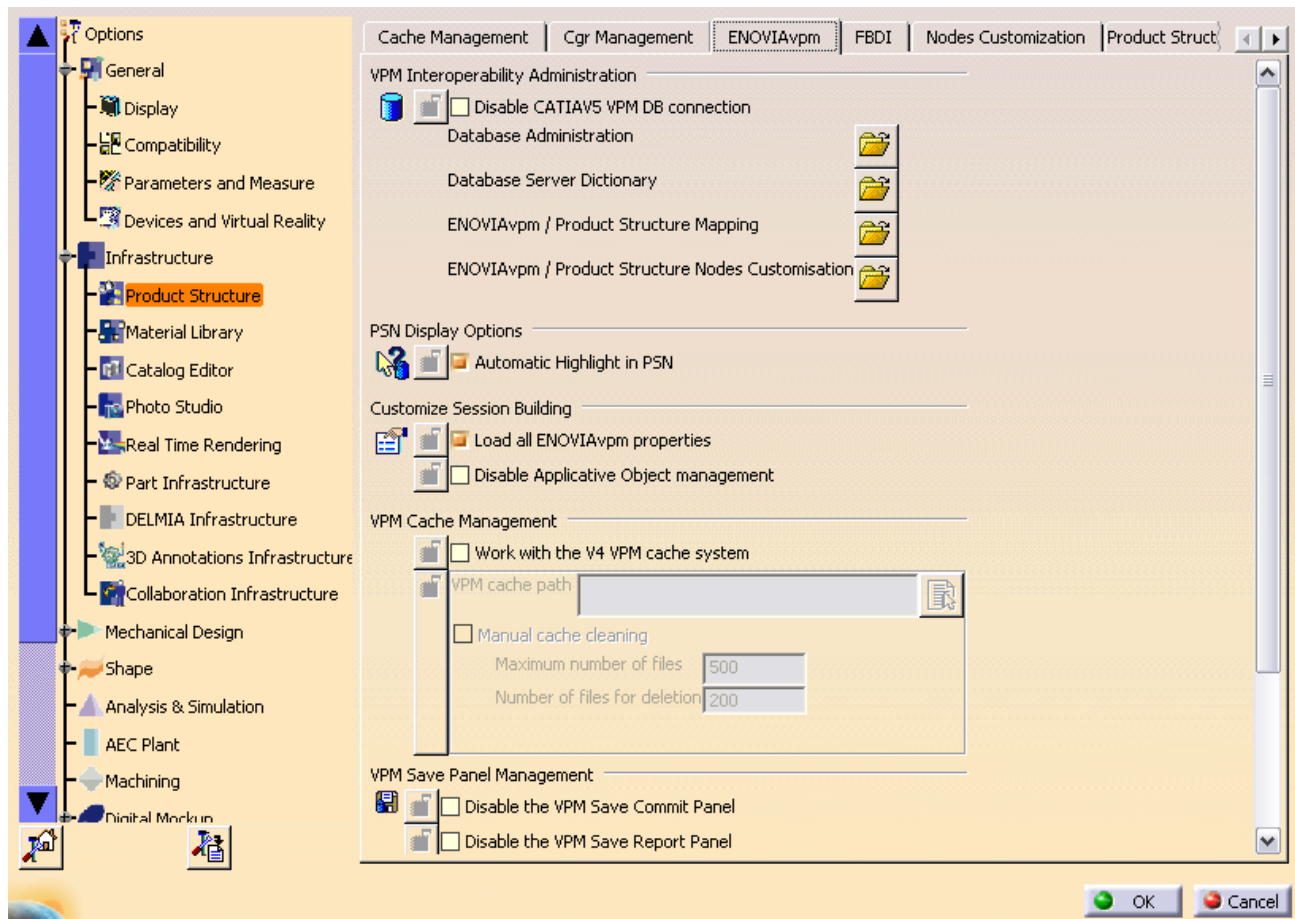
#### **On UNIX VPM Server:**

Delete the specific PS9 libraries libLV0XUSR and libISPPS9VPM.

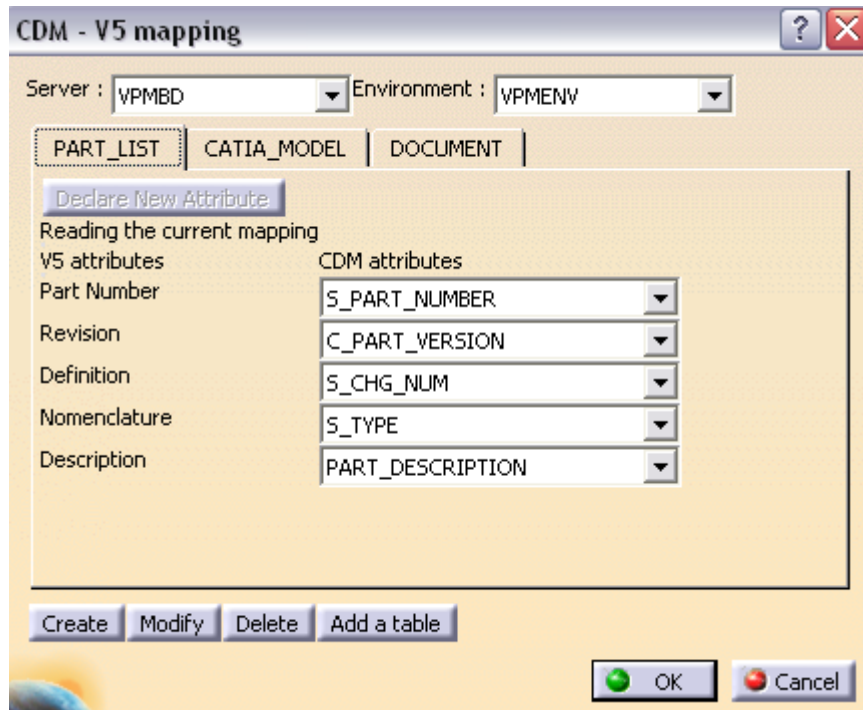
# PS9 Configuration

## Mapping

PS9 synchronization mechanism is based on the CATIA V5 interoperability attributes. Consequently, a mapping between the VPM attributes and the CATIA V5 properties is mandatory. It is done within the CATIA V5 option panel in Tools > Options > Infrastructure > Product Structure > ENOVIAvpm tab.



Once the database access has been declared, the “ENOVIAvpm / Product Structure Mapping” option shows the following panel:



V5 attributes	CDM attributes
Part Number	S_PART_NUMBER
Revision	C_PART_VERSION
Definition	S_CHG_NUM
Nomenclature	S_TYPE
Description	PART_DESCRIPTION

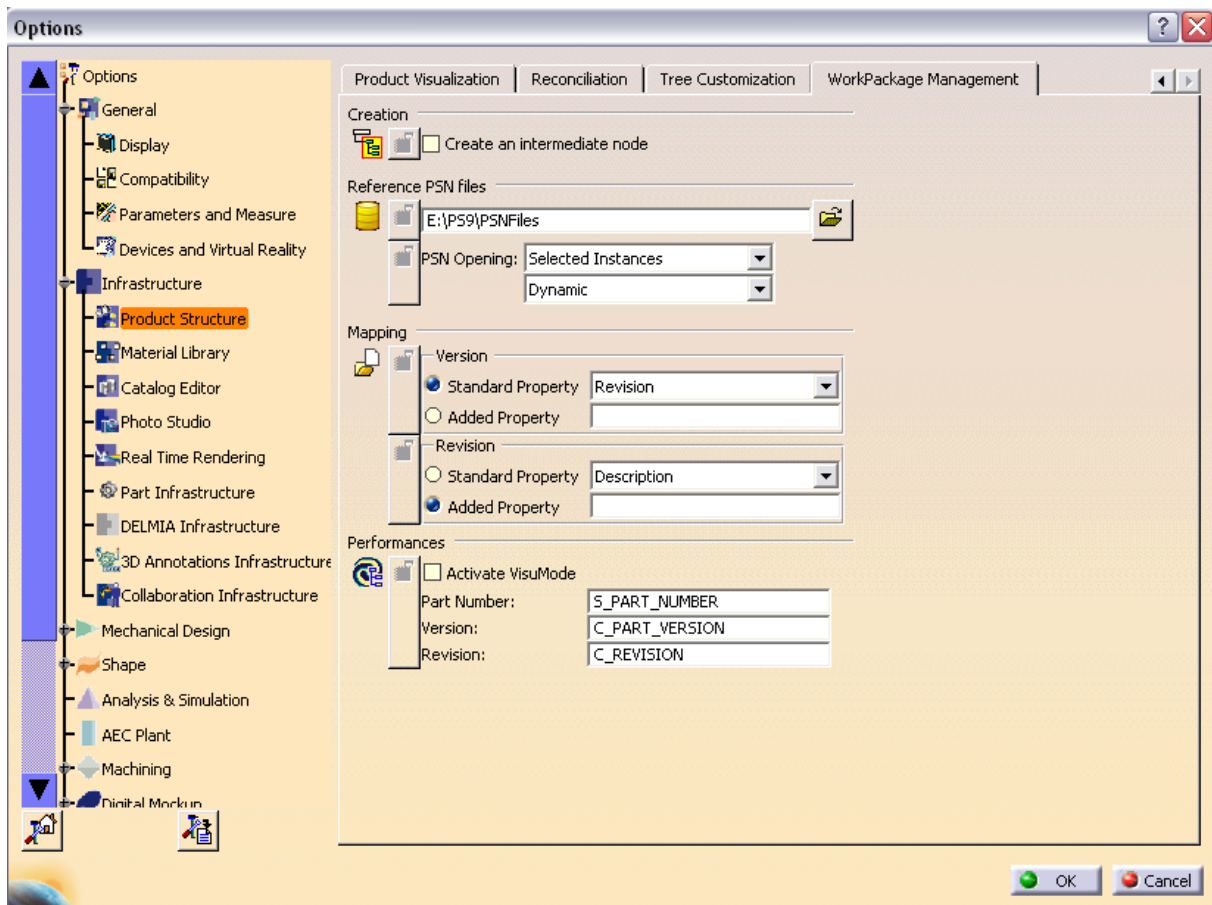
It is necessary to define the mapping for every table of each VPM environment. The mandatory interoperability attributes for PS9 are:

- PART\_LIST
  - Part Number
  - Revision
- CATIA\_MODEL
  - Representation Name
  - Display Name
- DOCUMENT / DOCCAD
  - Representation Name
  - Display Name

*Note: The Part Number interoperability attribute should not be mapped with VPM attribute which are likely to change, as a change would be detected as a new version with a different Part Number.*

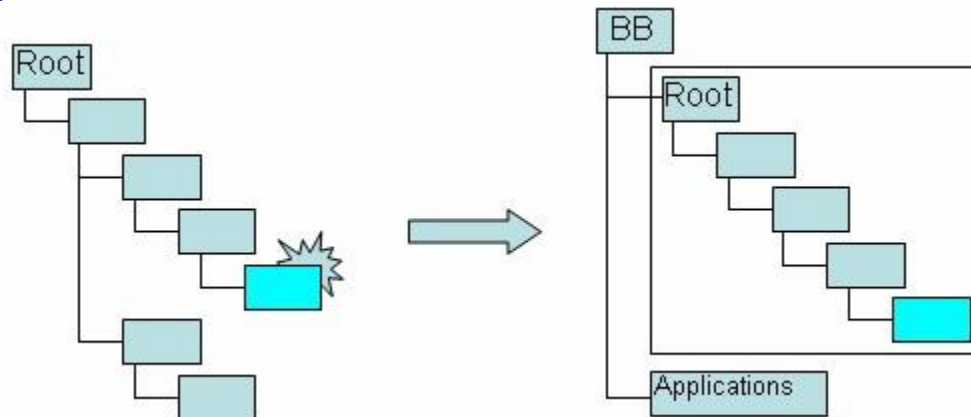
## Settings

PS9 settings are defined in a dedicated option panel.  
A new button can be activated for a customized version-revision mechanism.

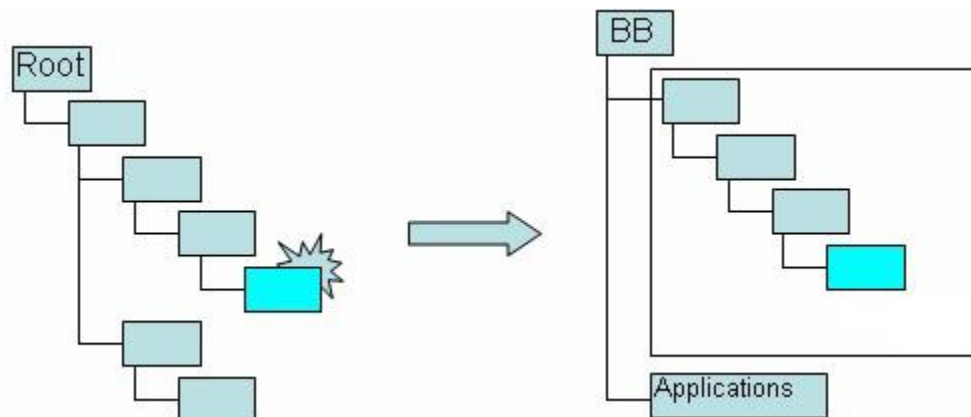


### Create an intermediate node:

If this option is selected, the root part of the PSN product will be copied as a child of the work package starting node.



Else the root part of the PSN product will not be taken into account for the work package creation.



### Reference PSN files:

Each work package is associated to a reference PSN file.

The PS9 options let the user:

- Choose a default repository for these reference PSN files.
- Choose the opening mode for the reference PSN files.

Available values are:

- All Instances.
- Selected Instances.

### Mapping:

These settings let the user specify the mapping between VPM attributes and CATIA V5 properties.

It exist 2 cases:

- For standard version-revision mechanism:

The two concerned VPM attributes are:

- VPM Part version.
- VPM model or document revision.

These attributes can be mapped on a standard CATIA V5 property or on a user defined one.

If no mapping is done for the revision (added property select for revision, with an empty field) then it will be retrieved from the VPM database.

- For customer version-revision mechanism

2 customer's attributes can be used

# API USE

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## API list

### ISPIPS9BlackBox interface

- \* Checks if this product is a BlackBox.
- \* Gets the version of this BlackBox.
- \* Sets the version of this BlackBox.
- \* Gets the type of this BlackBox.
- \* Sets the type of this BlackBox.
- \* Retrieves the note associated to this BlackBox.
- \* Sets the note associated to this BlackBox.
- \* Retrieves the PSN filename associated to this BlackBox.
- \* Sets the PSN filename associated to this BlackBox.
- \* Sets the flatten flag associated to this BlackBox.
- \* Gets the flatten flag associated to this BlackBox.
- \* Retrieves the Root PSN printable id associated to this BlackBox.
- \* Sets the Root PSN printable id associated to this BlackBox.

### ISPIPS9BlackBoxServices interface

- \* Copy/past an entity to a Black Box
- \* Copy Matrix position from an instance to other
- \* Update Positions in PSN from Black Box Positions
- \* Highlight components i PSN product and graph.
- \* Update PSN File.
- \* Check if BlackBox synchronized