



**BPA**

Attention for Administrator

# **PowerFeature (PF9)**

## **Installation guide**

**BPA Delivery 7 for V5R19 (V5.7)**

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# Step 1: CATIA V5 Pre-requisites and Installation

- **This step checks your machine to be able to run CATIA.**  
**The hardware pre-requisites are similar to those for CATIA V5. Please refer to the Program Directories, CATIA and CAA.**
  
- **CATIA V5 and SP**
  - ◆ **Install CATIA and SP on a disc**
  - ◆ **Check that CATIA runs. No licensing problem. You should have a configuration that allows you to use the Mechanical Design Workshops.**

# Step 1: BPA Power Feature Pre-requisites

## BPA Power Features will be used by three different types of users

- ◆ **Design Users : Power Feature instantiation and edition**
- ◆ **NC Manufacturing Users : MAF and Mfg pattern generation, Individual operation creation, Mfg Process Instantiation.**
- ◆ **Design Expert / Administrators : Power Feature definition**

## Pre-requisite per profile

### ◆ **Design**

- KE1 : Knowledge Expert (P1)
- KT1 : Product knowledge Template
- PD1 : Part Design

### ◆ **Manufacturing**

- WS1 : Wireframe and surface
- NCG : NC Manufacturing Review
- One of this product
  - MPA : Prismatic Machining Assistant
  - MMA : Prismatic Machining Preparation Assistant 2
- One of this product :
  - PMG : Prismatic Machining
  - MPM : Prismatic Machining 2
  - AMG : Advanced Machining

### ◆ **Expert / Administrator**

- PKT : Product knowledge Template Definition
- KWE : Knowledge Expert (P2)
- KWA : Knowledge Advisor

# Typical Installation (4 seats)

P1

P2

## Mechanical “Expert” Designer (Shareable)

• In charge to embed knowledge within design and leverage it to reduce errors and provide it to the other engineers to automate design and reduce errors for maximum productivity. He performs Power Feature design corresponding to Power feature Rules. He provide all necessary data to help the Mechanical designer to performs 3D part

• MD1 + KWE + KWA + PKT

• MD2 + KWE + KWA + PKT

## Mechanical Designer

• In charge of the mechanical design he performs 3D part and assembly design and the generation of production drawings. He result is use by Manufacturing Designer

• MD2 + KT1

## Manufacturing “Expert” Designer

• In charge to embed knowledge within manufacturing and leverage it to reduce errors and provide it to the Manufacturing designer engineers to automate design and reduce errors for maximum productivity.

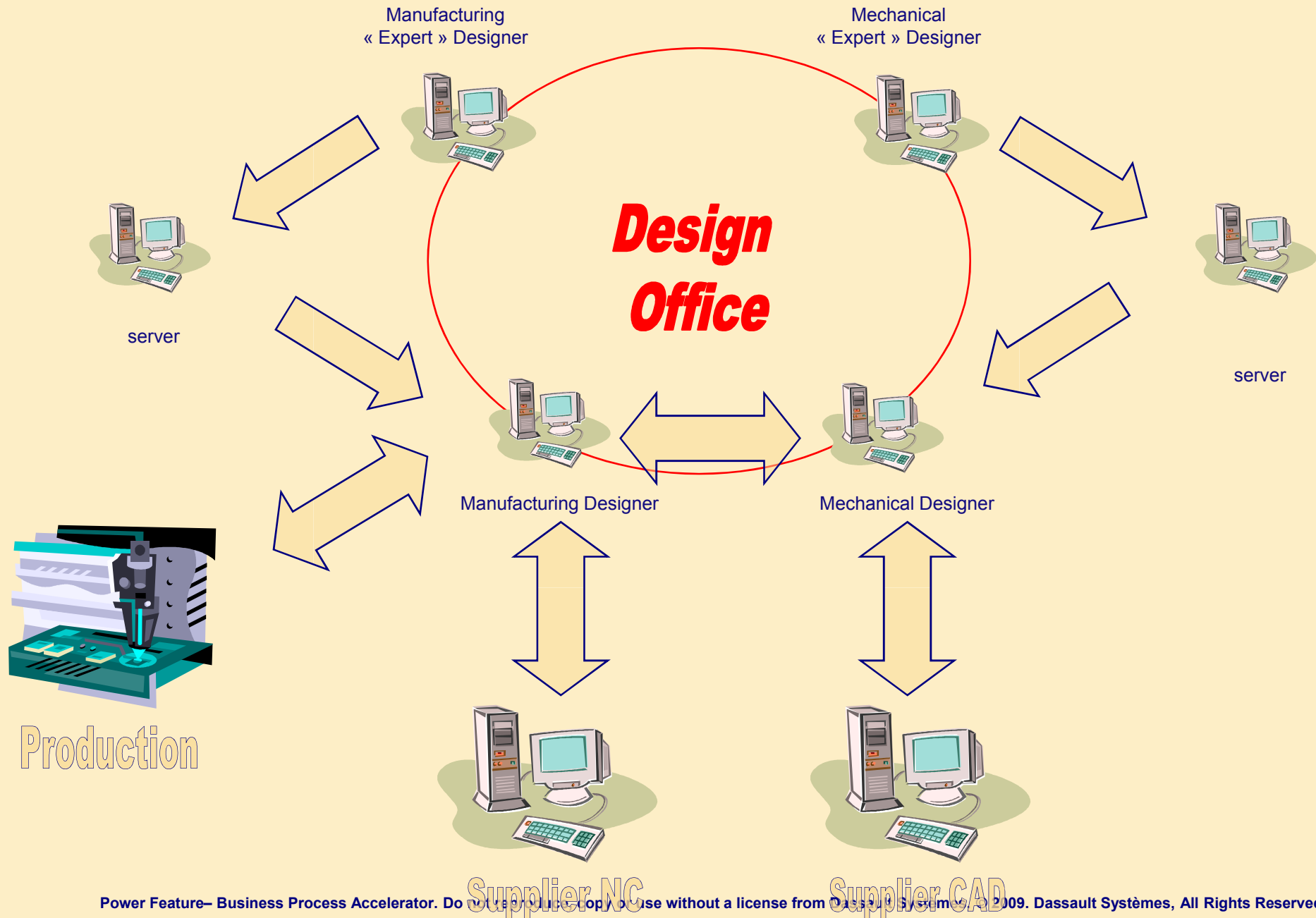
• WS1 + NCG and MPA or MMA + PMG or MPM or AMG

## Manufacturing Designer

• Engineers in charge of provide Manufacturing process and program to the production (internal or suppliers).

• WS1 + NCG and MPA or MMA + PMG or MPM or AMG

# Example of a possible installation for a typical SMB (for each job a dedicated configuration)



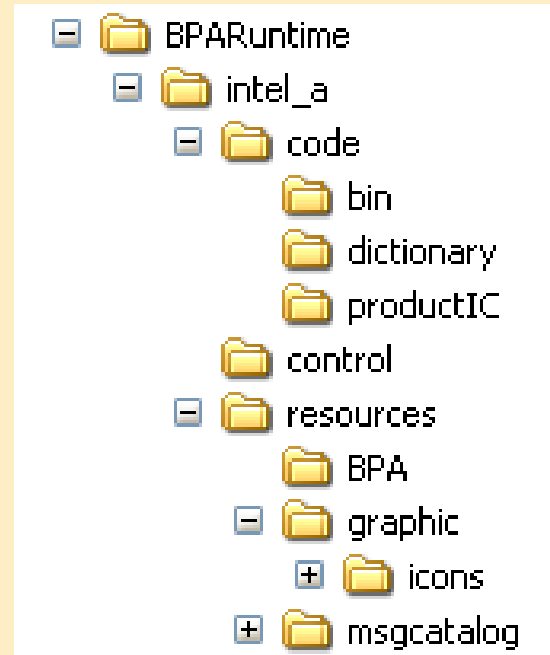
# Power Feature hardware Pre-requisites

- **BPA Power Features is delivered on following 32 bits platform:**
  - ◆ Microsoft Windows XP Professional SP2
  - ◆ AIX 5.3
  - ◆ Solaris 5.10
  - ◆ HP-UX 11i
  
- **BPA Power Features is delivered on following 64 bits platform:**
  - ◆ Microsoft Windows XP Professional SP2



## Step 2: BPA Data

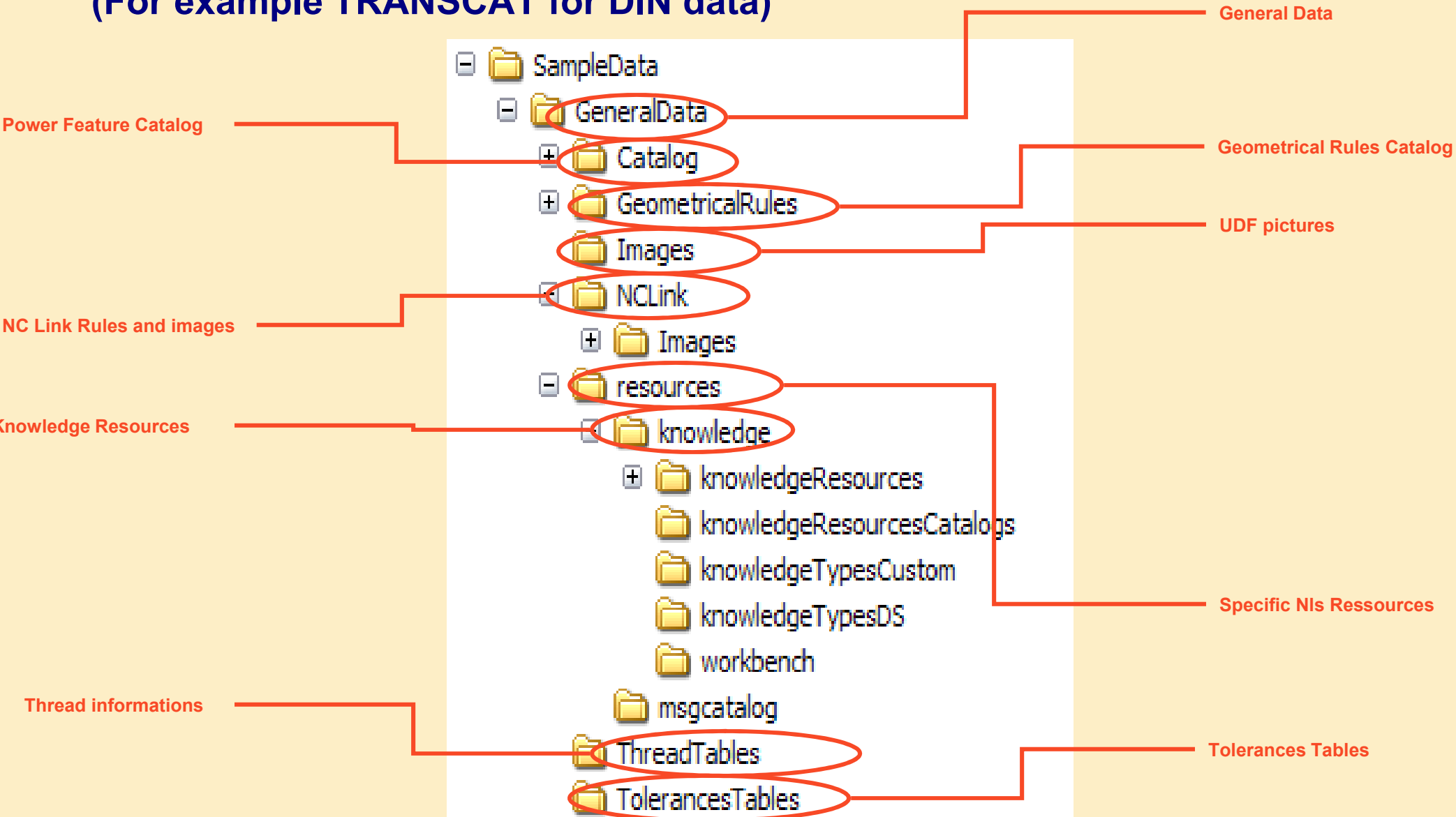
- The BPA Product contains one BPA runtime view per OS:



- Copy and uncompress the file corresponding to your OS where you want.
- You can make it on the same directory

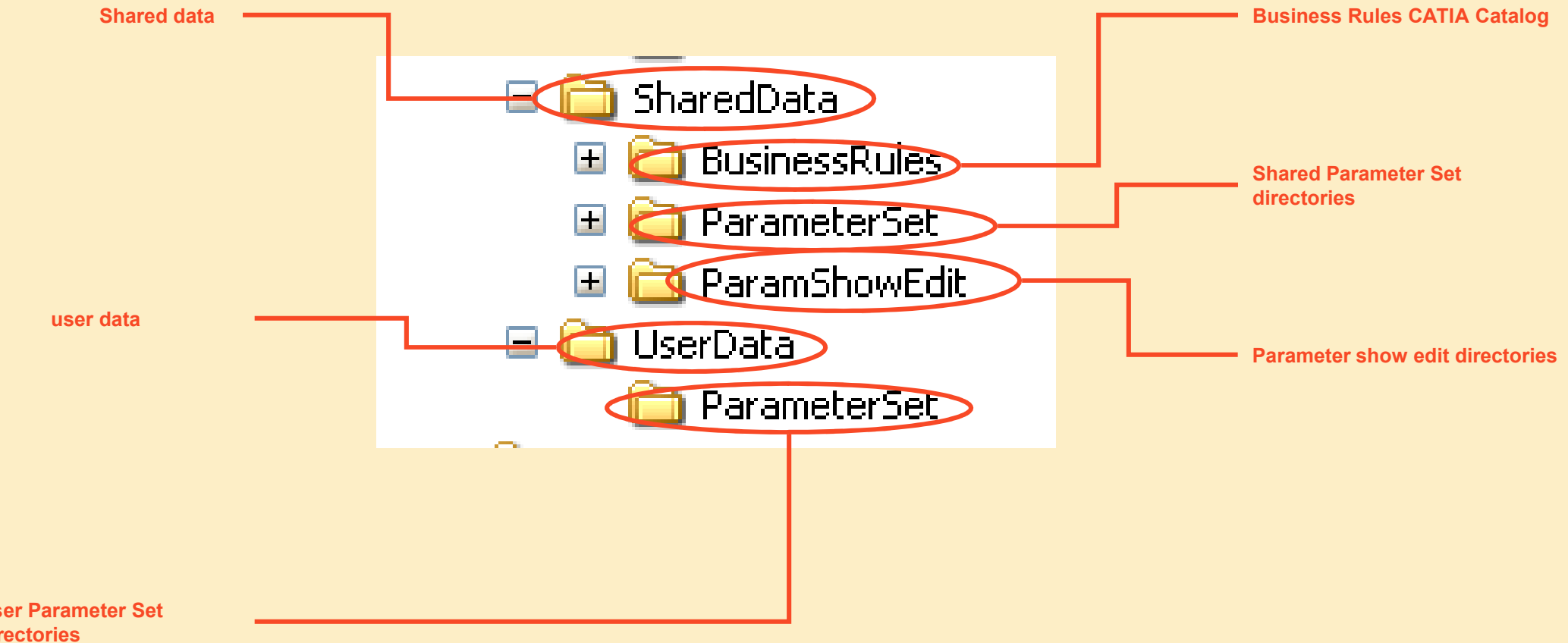
## Step 2: BPA Data from your Expert designer

- You should retrieve the data of your company or provided by a supplier  
(For example TRANSCAT for DIN data)



## Step 2: BPA Data from your Expert designer

- You could retrieve the data of your company or provided by a supplier

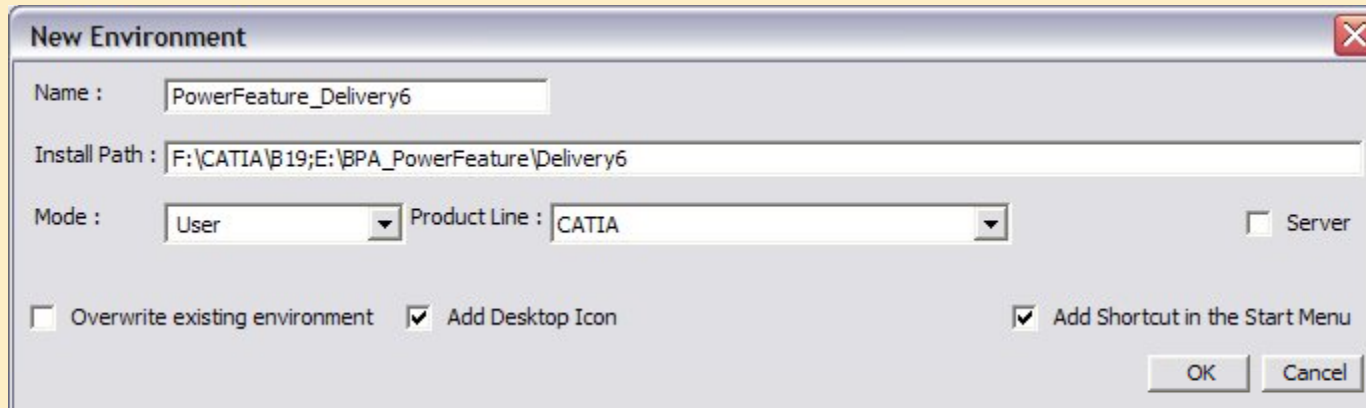


## Step 3: Create a customized environment (1/5)

- On Windows, you need to run the installshield to unzip data
- On UNIX , copy and uncompress the file corresponding to your OS
- In windows Launch Start->Program->CATIA Py -> Tools -> Environment Editor V5Rxx\_Bxx

## Step 3: Create a customized environment (2/5)

- A message is displayed asking if you want to modify the current environment: Answer no.
- Create a new environment : environment-> New



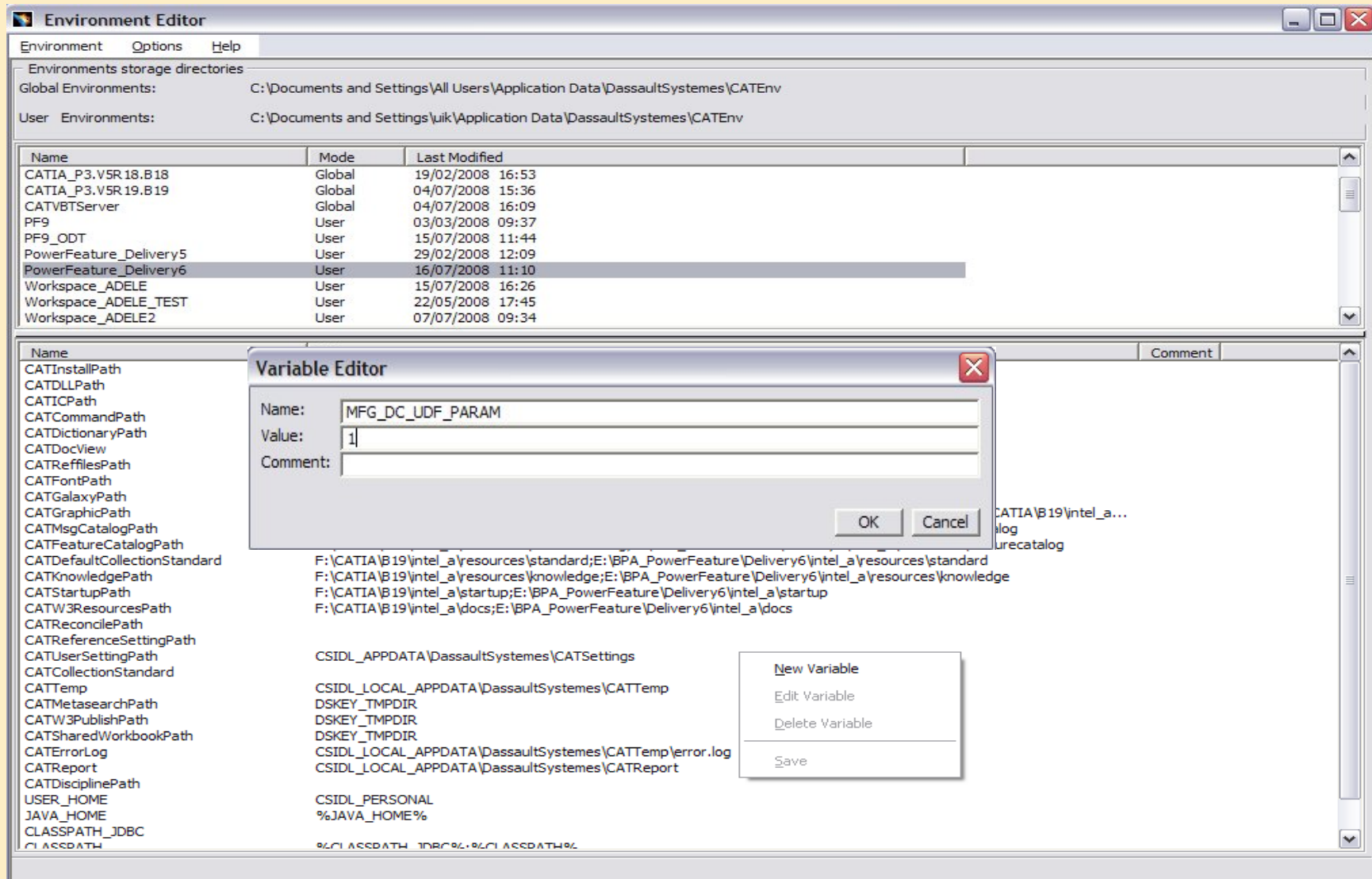
The screenshot shows the 'New Environment' dialog box with the following fields and options:

- Name :** PowerFeature\_Delivery6
- Install Path :** F:\CATIA\B19\E:\BPA\_PowerFeature\Delivery6
- Mode :** User (dropdown menu)
- Product Line :** CATIA (dropdown menu)
- ☐ Server
- ☐ Overwrite existing environment
- ☒ Add Desktop Icon
- ☒ Add Shortcut in the Start Menu
- Buttons:** OK, Cancel

- **Concatenate :**
  - ◆ CATIA runtime view directory = \$CATIA
  - ◆ Power Feature Application runtime view directory = \$BPARtv
  - ◆ Runtime view directory = directory where the OS\_a subdirectory is located

## Step 3: Create a customized environment (3/5)

- **Add variables :** For that in the variable list editor, use key mouse 3 and add variables.



## Step 3: Create a customized environment (4/5)



### Add CATIA variables :

Variable	Value	Usage
CNEXTOUTPUT	Console	
CATIA_PMG_MAPPING_RULES	1	Display mapping button
MFG_DC_UDF_PARAM	1	Enables to copy all the parameters defined on the UDF
TR_PROPAGATE_ALIAS	1	Activate the UDF name propagation on TRs
UDF_LEVEL_4	1	Allow the upgrade of UDF definition to solve highlight problem set
MFG_MAF_CREATION_FROM_TR_USERFEATURE	1	Allows create MAF for UDFs



### Add BPA variables :

Variable	Value	Usage
ISP_PF9_Traces	CONSOLE LOGFILE CONSOLE_LOGFILE	<ul style="list-style-type: none"><li>- Display Debug traces in the console</li><li>- Traces are written in ISP_PF9_Traces.log file</li><li>- CONSOLE and LOGFILE behaviour are concatenate</li></ul>

## Step 3: Create a customized environment (5/5)

### Modify variables :

Variable	Value	Usage
CATMsgCatalogPath	\$CATIA\intel_a\resources\msgcatalog; \$BPA_Rtv\intel_a\resources\msgcatalog; \$BPA_DATA\GeneralData\resources\msgcatalog	For NIs file
CATKnowledgePath	\$BPA_DATA\GeneralData\resources\knowledge	To generate and use CATGScript
CATReferenceSettingPath	...\CATSettings_adm	Only for administrator environment to lock Power feature Settings

### Where :

- ◆ \$CATIA = CATIA Installation path
- ◆ \$BPA\_Rtv= BPA runtime view
- ◆ \$BPA\_DATA = BPA data path



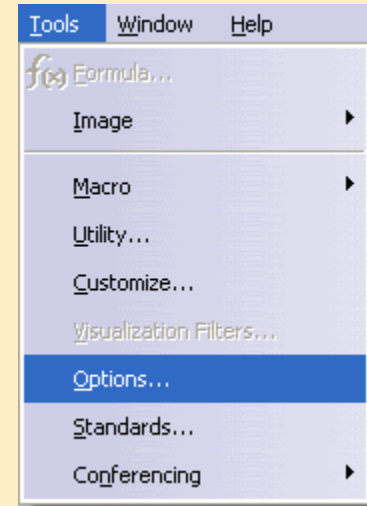
# Step 4: Create Settings (1/7)

- Open CATIA with the dedicated environment with administrator right:



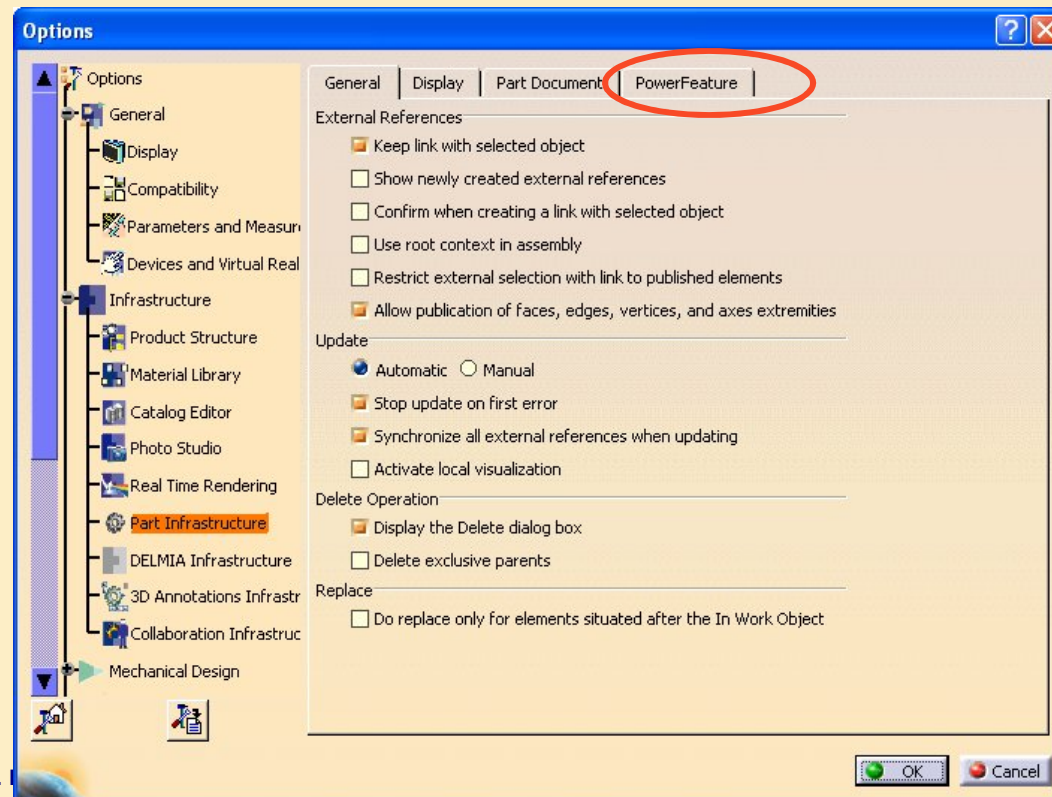
- ◆ ...\\CATSTART.exe -run
  - "CNEXT.exe -admin"
  - -env XXX -direnv "YYY"

- Launch Tools->Options command :



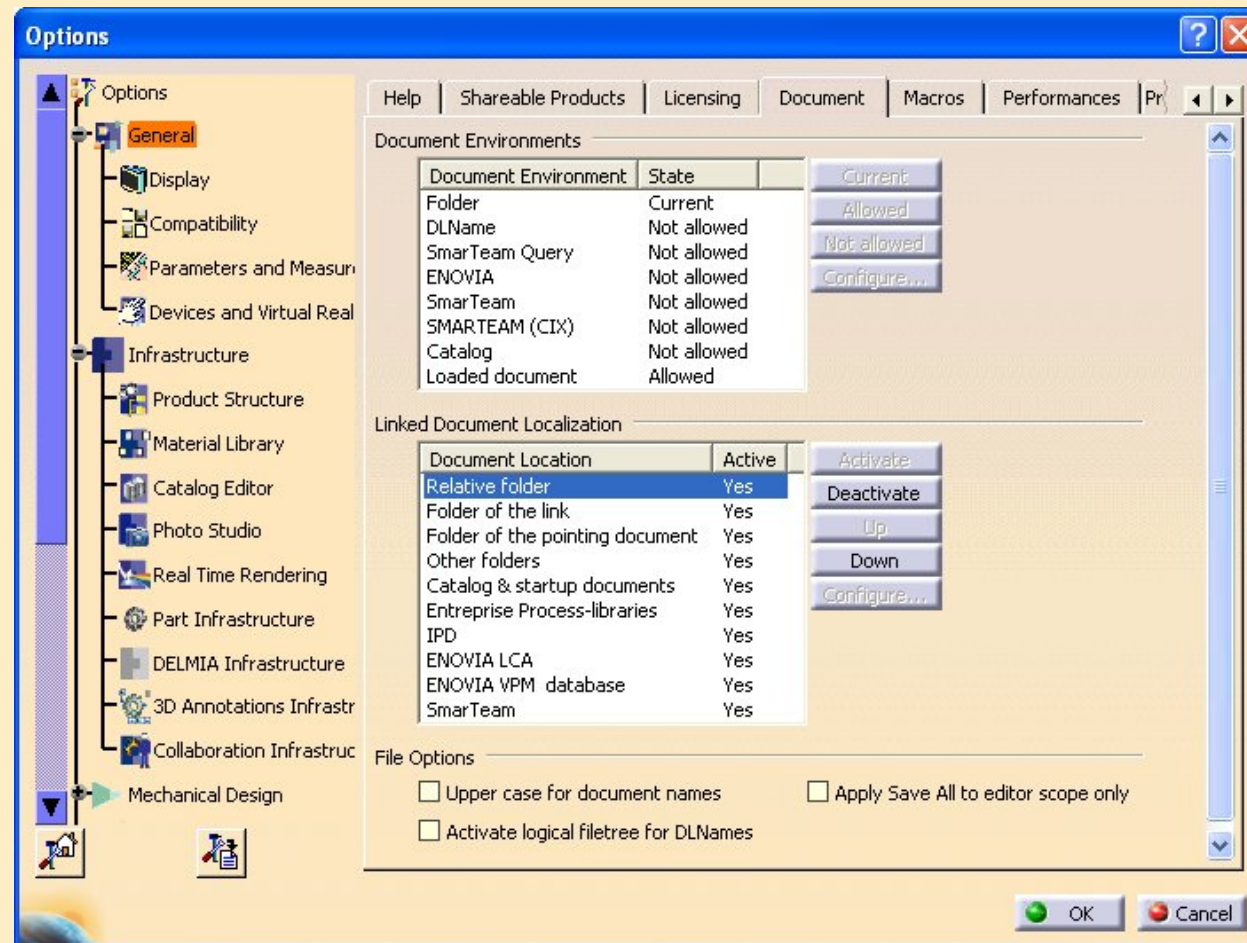
- Open Infrastructure->Part Infrastructure Node

- ◆ You must have Power Feature tabpage



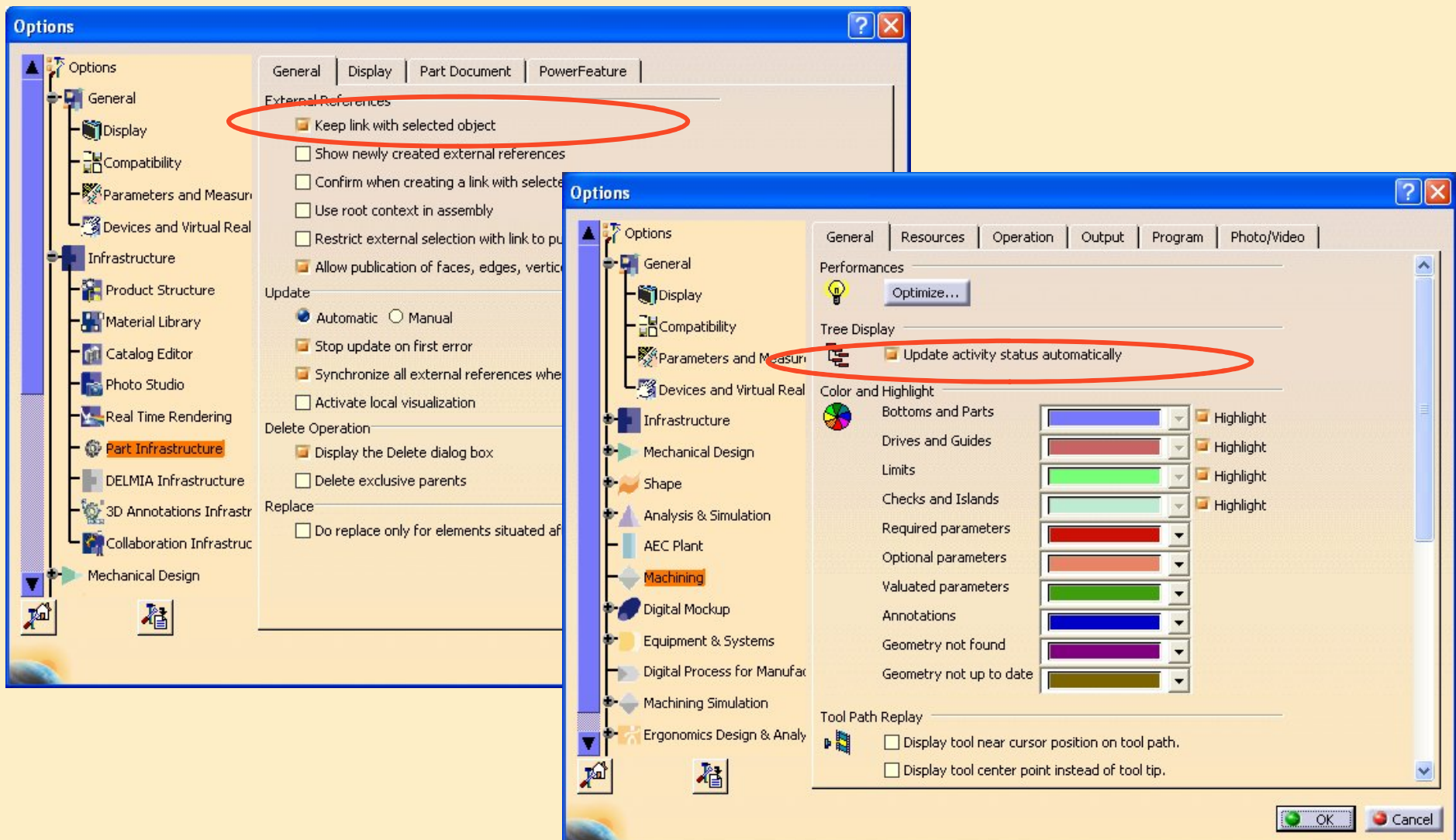
## Step 4: Create General Settings (2/7)

- In General item, in Document tab page, item "Relative Folder" at the beginning of the list, then CATIA will make a query to search the features linked in the catalog as relative!
  - ◆ Make sure to have the item "Relative Folder" as first element in the list, so you can copy or email the whole catalogs with content to a different computer/location and everything should work at the customer side!!!



## Step 4: Create Part Settings (3/7)

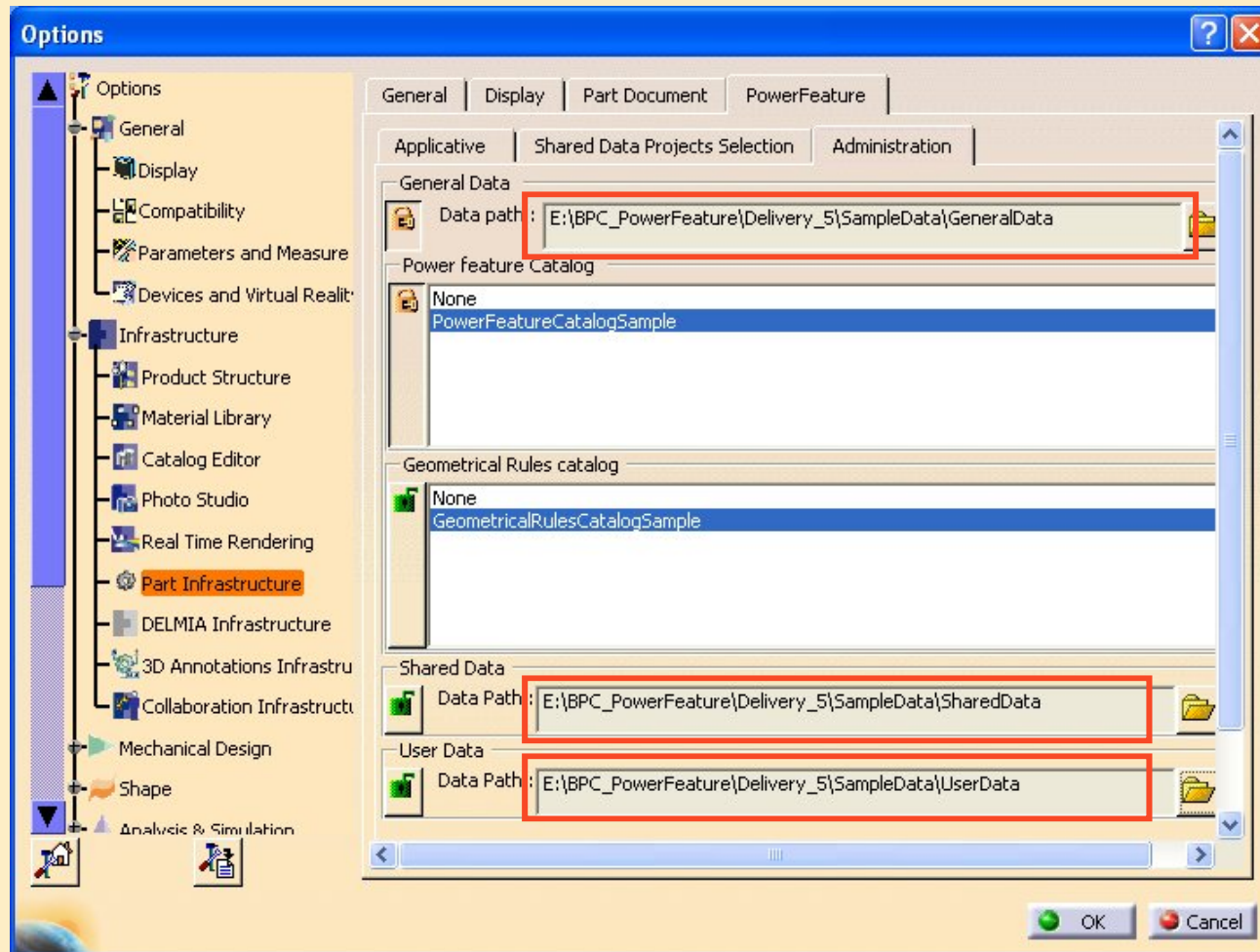
- In Part tab page, select « keep link with selected object » settings





## Step 4: Create Power Feature Settings (4/7)

- In Power Feature tab page, select Admin tab page and set the different path
- Select a catalog too.



Depend of  
your data

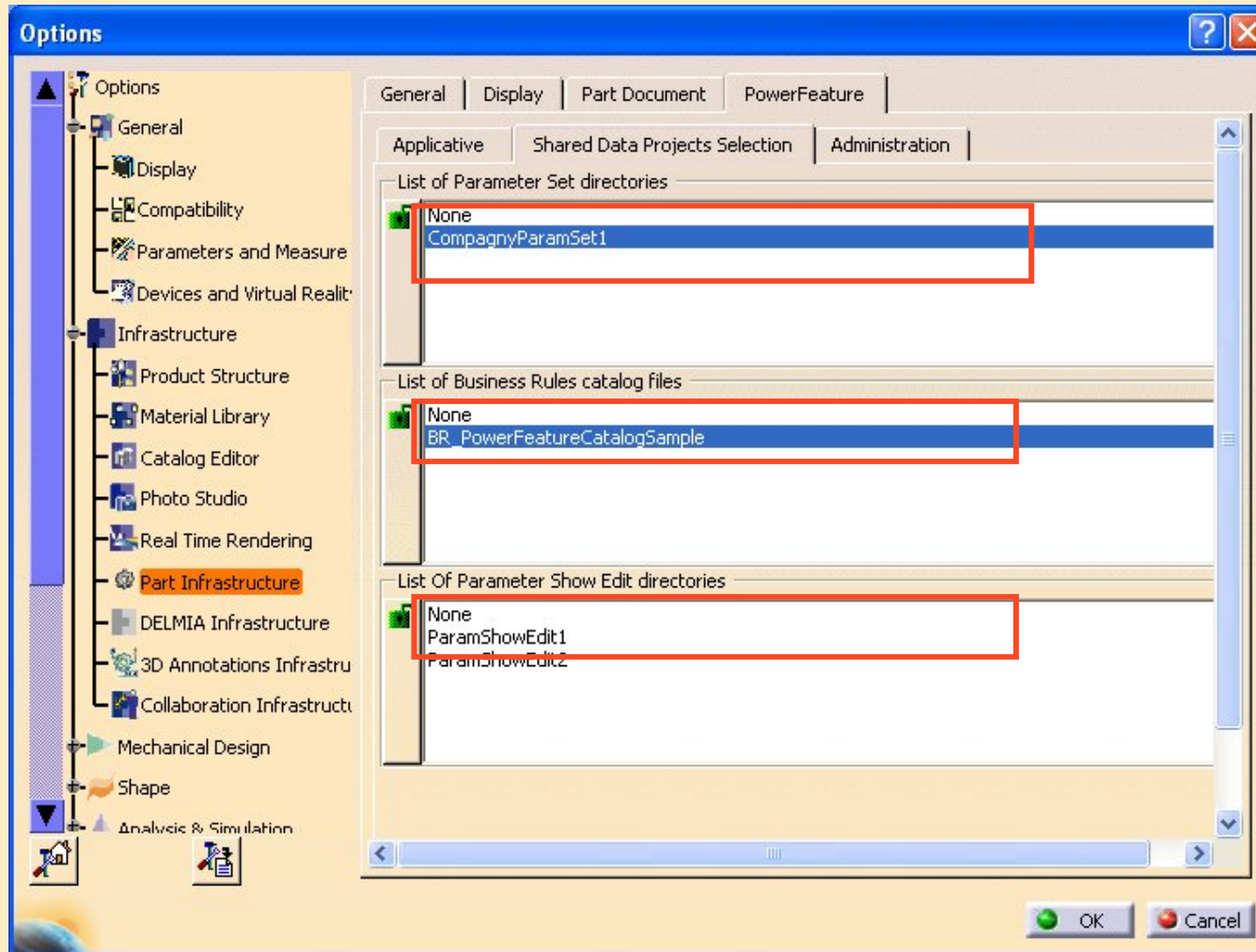
- Lock the data you want the end-user will not be able to modify.

## Step 4: Create Power Feature Settings (5/7)

- Or Use Automatic Setting Pathes for General Datas, Shared datas and User profile datas could be defined with the following variables :
  - ◆ ISP\_Pwf\_General\_Data
  - ◆ ISP\_Pwf\_Shared\_Data
  - ◆ ISP\_Pwf\_UserProfile\_Data
- This variables set automatically the settings path for the BPA. Whatever, the end user **MUST** set active catalogs interactively one time.
- If these variables are set, the end-user CAN NOT change the path. Setting path functions in Tools-Options are not active.
- Each variable contains only one path and could be active or not (variables are independent).

## Step 4: Create Power Feature Settings (6/7)

- In Shared Data Projects Selection, define the customization you want.

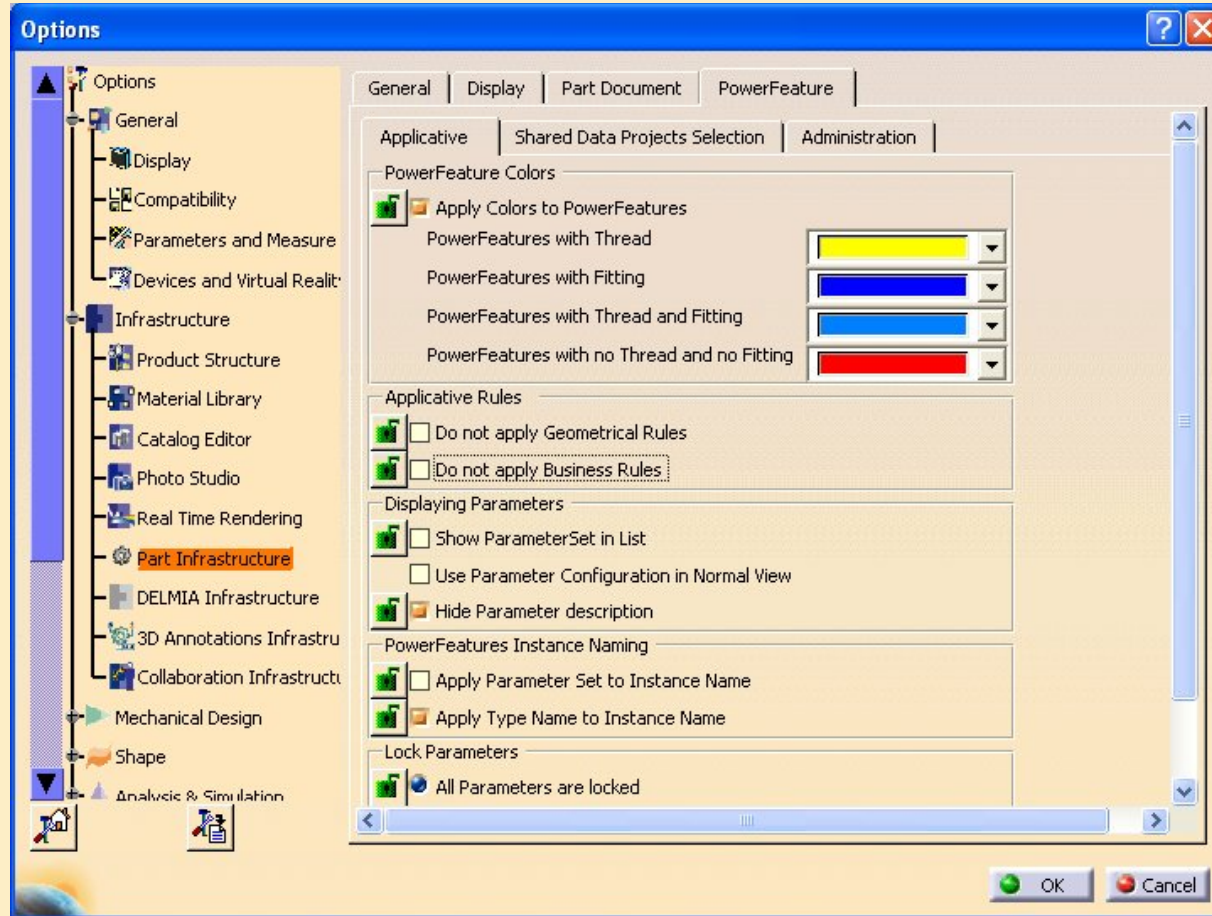


Depend of  
your data

- Click OK to validate the new settings.
- Close CATIA and retrieve created CATSettings to dispatch them on user installation.

## Step 4: Create Power Feature Settings (7/7)

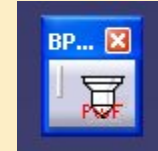
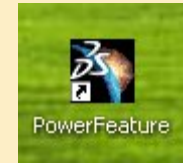
- In applicative tab page, define/lock the customization you want.



- Click OK to validate the new settings.
- Close CATIA and retrieve created CATSettings to dispatch them on user installation.

## Step 5: Check License

- Launch CATIA V5 with BPA environment
- Open Part Design workbench
  - ◆ Toolbar Power feature must be visible and accessible
- If not, refer to license appendix.





# What's new

# What's new in R17

- BPC\_Pwf\_General\_Data variable name has changed to **ISP**\_Pwf\_General\_Data
- BPC\_Pwf\_Shared\_Data variable name has changed to **ISP**\_Pwf\_Shared\_Data
- BPC\_Pwf\_UserProfile\_Data variable name has changed to **ISP**\_Pwf\_UserProfile\_Data

# What's new in R17

- **Tolerance table : file names change**
  - ◆ POWSizeDimensions.txt file must be rename with **ISPPwfSizeDimensions.txt**
  - ◆ POWToleranceValues.txt must be rename with **ISPPwfToleranceValues.txt**
- **Parameter Set : file names change**
  - ◆ Featuretypename Version.xml file must be rename **InternalName\_Version.xml**
- **Parameter Set : xml flag change**
  - ◆ <FeatureType Name = "FeaturetypenameVersion">
  - ◆ must be replace by
  - ◆ <FeatureType Name = "**InternalName\_Version**">
- **Parameter Set : user data directory changes**
  - ◆ Files UserData\InternalName\_Version.xml files must be moved In UserData\**ParameterSet** (need to be created)
- **ParameterShowEdit : file names change**
  - ◆ SharedData\ParamShowEdit\...\Featuretypename\_Version.txt file must be rename \SharedData\ParamShowEdit\...\b>InternalName\_Version.txt
- **ISPPwfDiaAndDepth.CATNIs : bullet changes**
  - ◆ InternalName.Version.ParameterName must be rename by InternalName\_**Version**.ParameterName

# What's new in R18

 Nothing

# What's new in R19

 Nothing

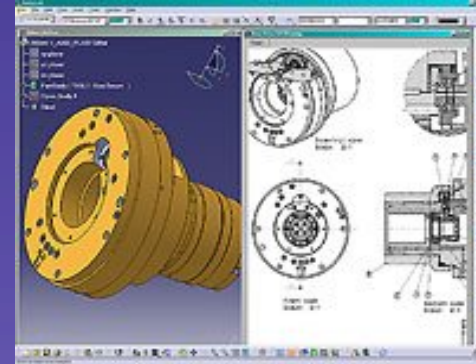
# Configuration Information

# Configuration Information

## MD1

Provides the tools needed to perform 3D part and assembly design and the generation of production drawings. In addition, it includes integrated real-time rendering capabilities and supports data exchange using common industry standards, including the CADAM drawing data format.

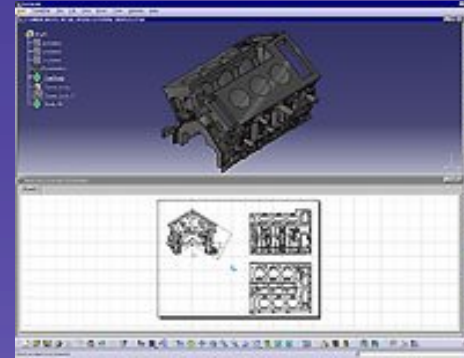
- CATIA - Object Manager 1 (CO1)
- CATIA - V4 Integration 1 (V41)
- CATIA - CADAM Interface 1 (CC1)
- CATIA - IGES Interface 1 (IG1)
- CATIA - Generative Drafting 1 (GD1)
- CATIA - Interactive Drafting 1 (ID1)
- CATIA - Part Design 1 (PD1)
- CATIA - Assembly Design 1 (AS1)
- Real Time Rendering 1 (RT1)
- CATIA - Wireframe & Surface 1 (WS1)



# Configuration Information

## MD2

This configuration provides in one seat all the necessary tools to perform advanced 3D design of parts and assemblies in the context of the full scale digital mock-up, and generation of production drawings. In addition, it includes integrated real-time rendering capabilities. As a CATIA P2 configuration, this solution offers advanced 3D oriented productivity features, such as fly-through navigation and advanced specification graph display and manipulation. Customer benefit from a high productivity solution which is natively interoperable with other CATIA Version 5 sets of solutions and which offers integration tools for compatibility with CATIA Version 4 and data interfaces to most frequently used industry standards, which make it a configuration of choice for existing Version 4 customers. As a CATIA P2 configuration, customers benefit from a seat definition which can be easily and seamlessly upgraded by adding shape design capabilities, thus allowing to design parts of greater complexity with hybrid modeling methodologies.



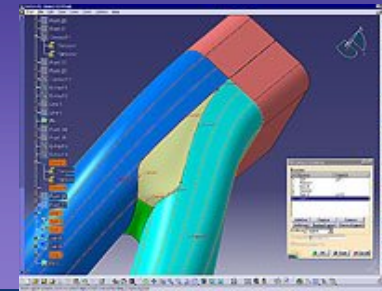
- CATIA - Generative Shape Design 1 (GS1)
- Real Time Rendering 1 (RT1)
- CATIA - Assembly Design 2 (ASD)
- CATIA - Part Design 2 (PDG)
- CATIA - Interactive Drafting 1 (ID1)
- CATIA - Generative Drafting 2 (GDR)
- CATIA - Knowledge Expert 1 (KE1)
- CATIA - IGES Interface 1 (IG1)
- CATIA - CADAM Interface 1 (CC1)
- CATIA - V4 Integration 2 (V4I)
- CATIA - Object Manager 2 (COM)



# Configuration Information

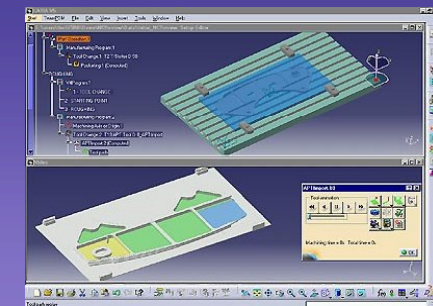
## WS1

Wireframe & Surface 1 (WS1) is used to create wireframe construction elements during the preliminary design phase. It can also enrich existing 3D mechanical part design with wireframe and basic surface features. Its feature-based approach contributes to a productive and intuitive design environment where design methodologies and specifications can be captured and reused.



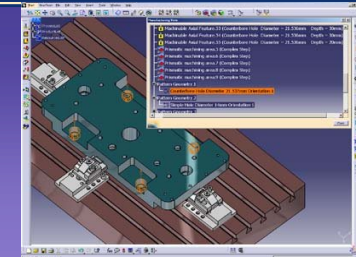
## NCG

CATIA NC Manufacturing Review 2 (NCG) offers basic NC capabilities such as tool path verification, material removal simulation, remaining material analysis, tool path edition and creation of shopfloor documentation. It provides the infrastructure for all V5 NC programming products and allows NC programmers or machine operators to review V5 part operations.



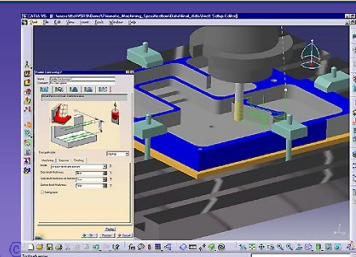
## MPA

Prismatic Machining Preparation Assistant 2 (MPA) automatically builds geometrical machining features for prismatic machining, using advanced feature recognition techniques



## PMG

Prismatic Machining 2 (PMG) easily defines NC programs dedicated to machining 3D parts using advanced 2.5-axis milling and drilling operations. It also provides high-level automation and knowledge reuse capabilities.



# Configuration Information

## PD1

Part Design 1 (PD1) designs parts in a highly productive and intuitive environment



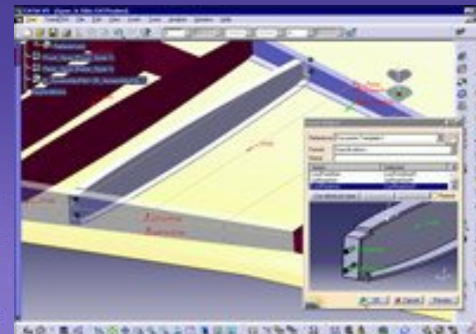
## KE1

Knowledge Expert 1 (KE1) ensures to designers the consistency and quality of their designs with use of corporate standards rules bases.



## KT1

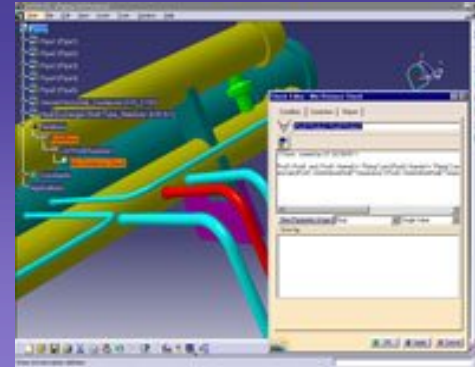
Product Knowledge Template 1 (KT1) allows maximum reuse of secured intelligent feature, part and assembly templates created using CATIA Product Knowledge Template 2. It is a design tool that helps designers to create and manage their implementation sequence. The functional features allow user to work on modeling task. One can get their expected flexibility in design process. It brings also to related part designers an end-to-end solutions from preliminary account specialized applications inputs such as analysis and manufacturing.



# Configuration Information

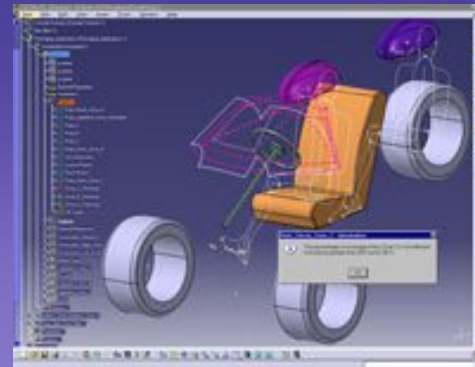
## KWE

Knowledge Expert 2 (KWE) ensures design compliance with established standards by capturing, building up, managing and sharing corporate knowledge in rule bases, and leverage it across the enterprise, through CATIA - Knowledge Expert 1 (KE1).



## KWA

Knowledge Advisor 2 (KWA) allows designers and design engineers to embed knowledge within design and leverage it to reduce errors and automate design for maximum productivity.



## PKT

Product Knowledge Template 2 (PKT) allows users to easily and interactively capture engineering know-how and methodology for highly efficient reuse



# LUM Implementation

# LUM Implementation: Env Setup

- **LUM Server:** The server should have LUM 4.6.8 or above installed.
- **Request a license with following information:**
  - ◆ **Product Name:** This is the BPA trigram.
  - ◆ **License Type:** nodelock or concurrent
  - ◆ **Number of License:** 1 for nodelock , >0 for Concurrent
  - ◆ **LUM targetID:** Provide the target id (run i4target)
    - On Client side for Nodelock
    - On Server side for Concurrent
- **On receiving the license,**
  - ◆ **For Nodelock type of license**
    - Modify/ Create nodelock file by inserting necessary information (VendorID, ProductPassword ) - [See Appendix A](#)
  - ◆ **For Concurrent type of license**
    - Enroll the license on the LUM server - [See Appendix B](#)

# **Appendix A**

## **Creating a Nodelock file**

# Creating a Nodelock file : how to proceed ?

- Because we are not integrated into the **NodelockKeyManagement**
- You should input yourself the parameters of your License into the nodelock file (create it if doesn't exist)

- ◆ This file is located in :

- For windows: C:\Documents and Settings\All Users\Application Data\IBM\LUM\nodelock
- For AIX : /var/ibm/nodelock
- For HP and Solaris : /var/lum/nodelock

- ◆ You should extract from the .lic file the following informations :

- VendorID (looks like an UUID)
- ProductPassword (a crypted key)
- ProductAnnotation (should be unset)
- ProductVersion (should be set to 1)

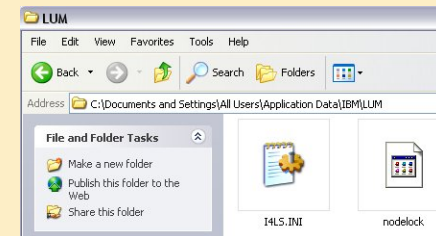
- ◆ And insert them in nodelock file by respecting the order

# comment : put your BPA trigram and its range date

vendorID ProductPassword ProductAnnotation ProductVersion

Example :

```
# PS9 from 15-Jul-08 to 14-Jul-09  
c6c8ef44bcb7.4a.74.95.13.1f.00.00.00 r8ezikjzgsvk9fzf7fe3p2gn3eaa "" "1"
```



# **Appendix B**

## **Enrolling a Concurrent license on the Network license server**



# Network license :Setting up the Network License server (1/3)

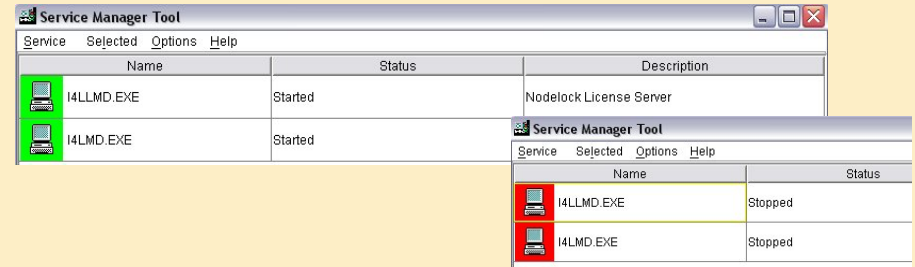
## Start > All Programs> License Use Runtime > Service Manager Tools

a. Stop the service if needed using the Service Manager Tool.

a. Select I4LLMD.exe

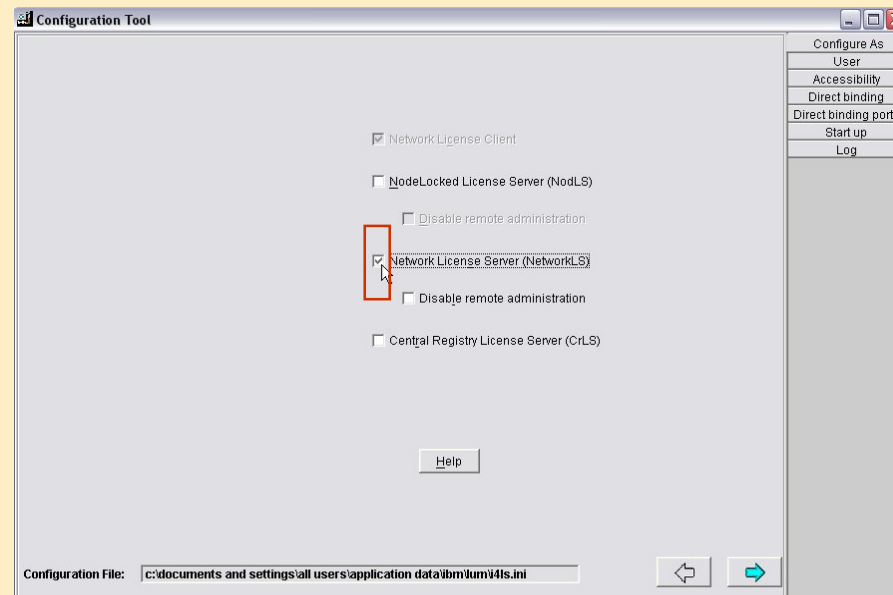
b. Service > Stop

c. Do not close Service Manager Tools



## Start > All Programs> License Use Runtime > Configuration tool

a. Ensure that the option for Nodelocked License Server is selected



# Network license : Setting up the Network License server (2/3)

- c. Switch to the Direct Biding tab.
- d. In the Name field enter the machine name
- e. Check the box for NetworkLS and click on Add button

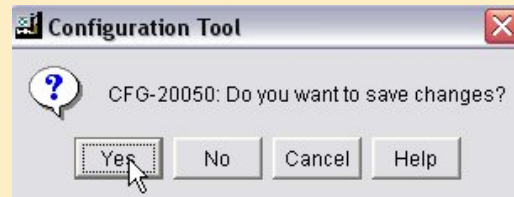
The screenshot shows the 'Configuration Tool' window with the 'Direct binding' tab selected. The 'Servers' list on the left contains 'ip:licwinplp[1515] (NetworkLS)'. The 'Server Configuration Info' section has the following fields:

- Name:** ykk02
- NetworkLS:** ☒ (highlighted with a red box)
- Central Registry LS:** ☐
- NodLS:** ☐
- NetworkLS Port:** 1515
- CrLS Port:** 10999
- NodLS Port:** 12999

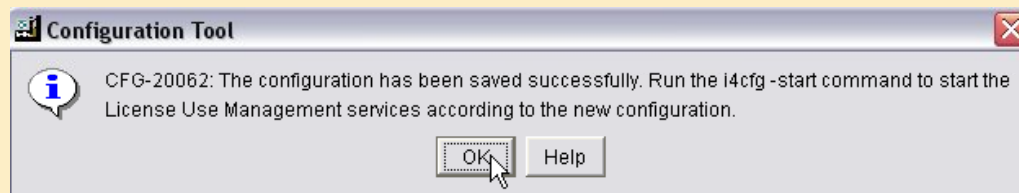
At the bottom of the configuration section, there are two buttons: '<< Add' (highlighted with a red box and a mouse cursor) and 'Remove'. A 'Help' button is located below these. At the very bottom, there is a text field 'Enter here your direct binding servers list' and two navigation arrows (left and right).

# Network license : Setting up the Network License server (3/3)

- f. Close the Configuration Tool window and validate accepting the changes

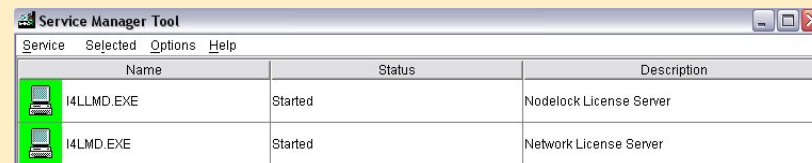


- g. Pass the message to restart the service (if previously it was stopped)



## Start > All Programs> License Use Runtime > Service Manager Tools

- a. Re-launch I4LLMD.exe :
- Select I4LLMD.exe
  - Service > Start



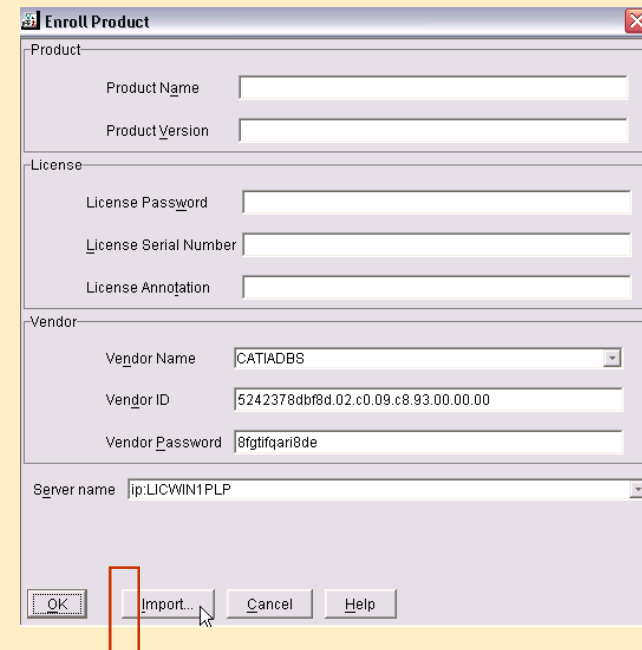
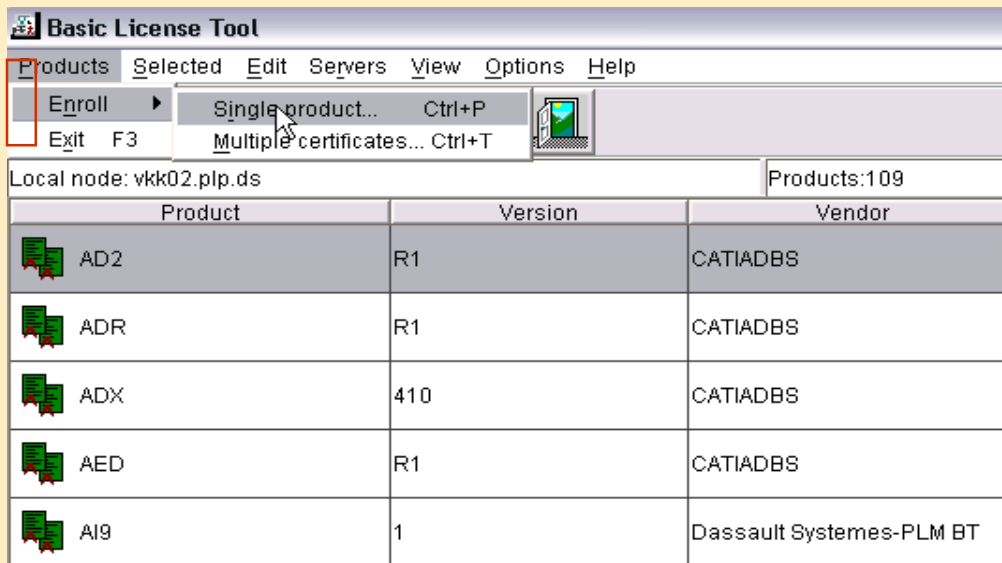
# Network license : Enrolling the Concurrent License (1/2)

## Start > All Programs> License Use Runtime > Basic License Tool

### a. Select Product / Enroll/ ....

- Choose Single or Multiple depending on whether you want to be enrolling a single or multiple licenses at a time.

### b. Click on Import button



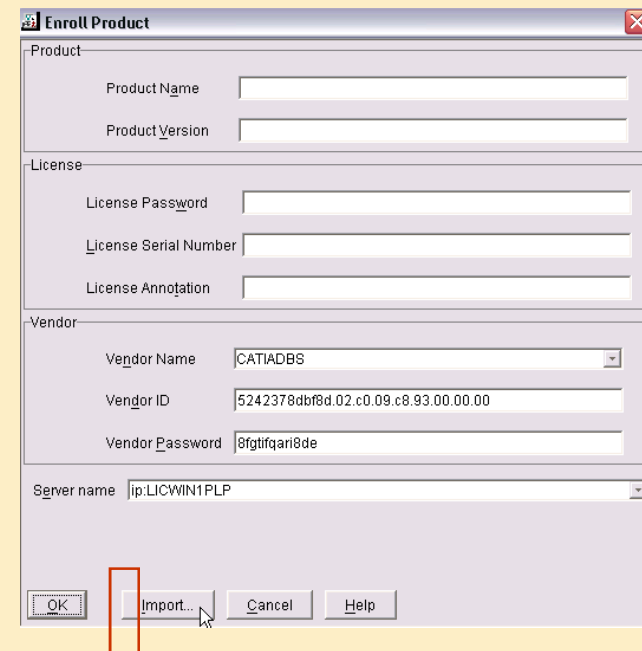
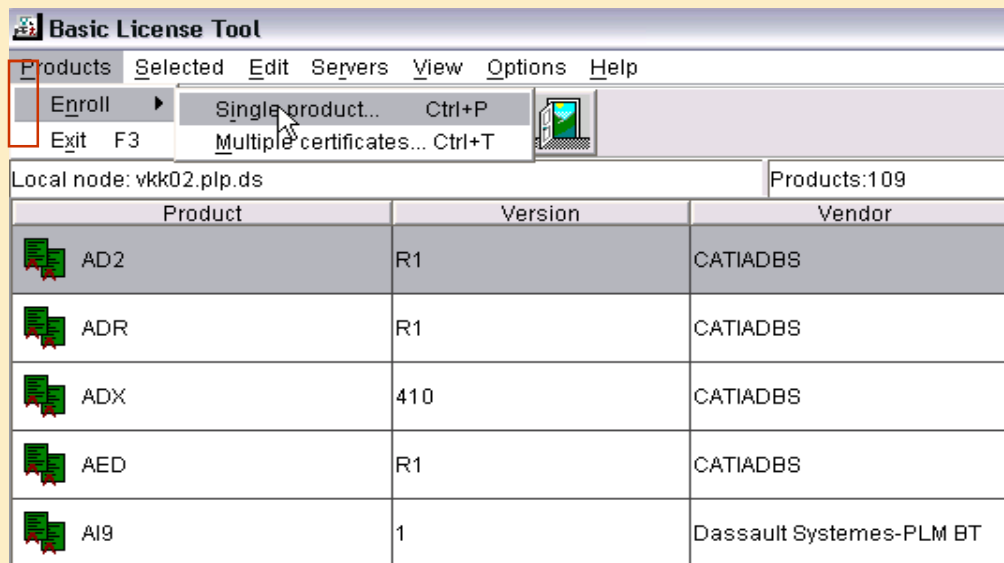
# Network license : Enrolling the Concurrent License (2/2)

## Start > All Programs> License Use Runtime > Basic License Tool

### a. Select Product / Enroll/ ....

- Choose Single or Multiple depending on whether you want to be enrolling a single or multiple licenses at a time.

### b. Click on Import button



# Other information

# Power Feature Pre-requisites : Back-up

- To know the BPA Level you have, you need to open with a text editor the following file:
  - ◆ OS\_a\resources\msgcatalog\ISPPwf\_ErrorCatalog.CATNls
- And find the BPA Version flag:
  - ◆ BPAVersion="7.0";