CATIA V5 Training

Foils

V5 Administration

Version 5 Release 19
September 2008

EDU_CAT_EN_ADM_FI_V5R19

Instructor Notes:

V5 Administration

Objectives of the course

This course tells you how to install, customize and maintain CATIA V5 site.

Targeted audience

Administrators of CATIA V5

Prerequisites

- System Administration
- CATIA Administration

3 Days

Instructor Notes:

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Instructor Notes:

CATIA Installation

- Prerequisites for CATIA V5
- Concept of platforms, configurations and products
- How to perform a local installation
- How to start CATIA V5
- How to check the installation

Instructor Notes:

Prerequisites for CATIA V5

Before you start with CATIA V5 installation, you will learn what are the prerequisites

Instructor Notes:

Where to find prerequisites

- **V5 documentation**

  Consult CATIAhomepage.htm from the CDROM

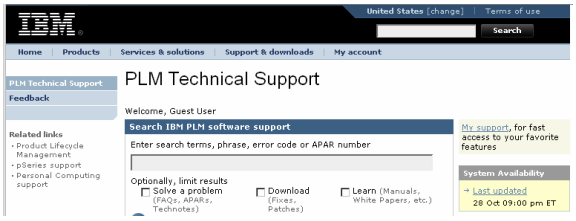
- **Program Directory**

  Consult Default.htm from the CDROM

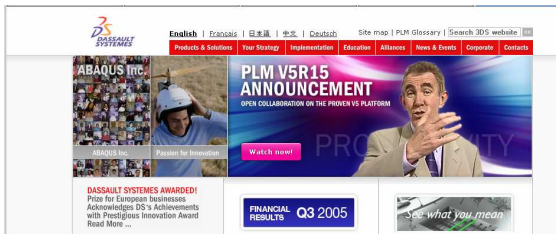
- **Internet**

  Check hardware configurations at URL:

  - ✓ **http://www-306.ibm.com/software/applications/plm/catiav5/sysreq/index.html**



  - ✓ **http://www.catia.com**
    http://www.3ds.com



Instructor Notes:

Hardware Requirements (1/2)

- **System Unit**

- UNIX workstation:

- IBM 32bit or IBM 64bit: Power2 or Power3 or Power4 processor families, supported on AIX Version 5.2

- SUN: any Ultra1, Ultra2, Ultra10, Ultra30, Ultra60, SUN Blade 100, SUN Blade 150, SUN Blade 1000, SUN Blade 1500, SUN Blade 2000 or SUN Blade 2500 or SUN Blade 1500+ (1.5GHz) workstation based on UltraSPARC processor, supported on Solaris 8.

- SGI: Any O2, Indigo2, Octane, Octane2, Fuel, Onyx2, Onyx3000, or Tezro workstations based on R5000, R10000, R12000, R14000 or R16000 processors, supported on IRIX 6.5.

- HP: Any B-Class, C-Class or J-Class workstation supported on HP-UX Version 11.11 (HP-UX 11i), provided that requirements described below are met

- Windows x86-64 64-bit Platforms: Intel Xeon EM64T, AMD Opteron 64-bit based workstations running Windows XP Professional x64 Edition.

- Windows 2000 and Windows XP : Pentium III or Pentium 4-based workstations running Microsoft Windows 2000 Professional Edition or Windows XP Professional Edition.

- A list of hardware configurations, certified at Dassault Systemes is published on the CATIA V5 Web site at URL: http://www.ibm.com/solutions/plm/

- **Disk drive**

Recommended size : minimum 4 GB

Installation of all CATIA Version 5 Products requires :

	Windows	AIX	HP-UX	IRIX	Solaris
CATIA P3	2 GB	2.4 GB	2.7 GB	2.5 GB	2.3 GB
ENOVIA DMU	700 MB	900 MB	1.0 GB	900 MB	800 MB
CATIA Documentation	1.8 GB	1.8 GB	1.8 GB	1.8 GB	1.8 GB

Instructor Notes:

Hardware Requirements (2/2)

- **Memory**
  256 MB of RAM is the minimum recommended for all applications.
  512 MB of RAM is recommended for DMU applications on large assemblies and for the CATIA Digitized Shape Editor 2 (DSE)

- **Network adapter**
  A network adapter is required for licensing purposes
  But a network connection is not required

- **Graphic card**
  An OpenGL-capable graphic adapter is required.

- **A CD-ROM drive on the local machine**
  But possibility to access a shared CD-ROM drive.

- **Multiple Processor Support**
  Benefits on visualization (all OS) with multithreaded algorithms, on Analysis products (Windows via Intel MKL) and Finite Element Analysis products (AIX and IRIX (limited))

Instructor Notes:

Software requirements

- **OS level on UNIX**

  Minimum level required on IBM, SUN, SGI and HP :
  - **AIX 32-bit or 64-bit: AIX 5.2 ML7 or AIX 5.3 ML2**
  - **Solaris 32-bit: Solaris 8 5/03 or Solaris 10**
  - **IRIX 32-bit: SGI 6.5**
  - **HP-UX 32-bit : HP11i #Dec2003, HP11i #Dec 2004**

  Refer to documentation for additional and specific software requirements

- **OS level on Windows**

  Windows level supported :
  - **Windows 32-bit: Windows 2000 Pro (SP4), Windows XP Pro (SP1 min), Windows Server 2003**
  - **Windows 64-bit: Windows XP 64-bit**

  ➢ **Need of Windows with a Microsoft implementation of OpenGL libraries.**

  ➢ **A localized version of the operating system may be required when selected installation differs from Latin 1.**

  ➢ **On Windows 2000 and XP, CATIA V5 installation on a NTFS partition must be preferred.**

Instructor Notes:

Memory allocation

- Maximum memory allocation depends on Operating System

OS	V5 Default available Memory	Max available memory	V5 release
IBM-AIX	1.0 GB (Data)	2.0 GB (Data) 2.25 GB (Data on AIX 5.2)	V5R8SP7 (*) V5R12SP6 (*)
IBM-AIX 64-bit	2.0 GB (Data)	8 TB (Terabyte)	V5R16
HP-UX	2.0 GB (Data)	3.0 GB (Data)	V5R12SP5 (*)
SGI-IRIX	1.25 GB (Data)	1.25 GB (Data)	V5R8SP1
SUN Solaris	3.0 GB (Data)	3.0 GB (Data)	V5R8SP7
Windows 2000	2.0 GB (Data + Code)	2.0 GB (Data + Code)	V5R3SP5
Windows XP	2.0 GB (Data + Code)	3.0 GB (Data + Code)	V5R10SP3 (*) V5R14 (**)
Windows XP 64-bit	4.0 GB (Data + Code)	8 TB (Terabyte)	V5R16

(*) Requires OS specific configurations (see Program Directory)

(**) Make V5 main executable 3.0 GB ready

Instructor Notes:

64-bit architecture

- Theorical adressable memory up to 8 TB
  On 32-bit the theorical adressable memory is less than 4 GB, typically 2 to 3 GB

  With larger addressable memory space, for instance the DMU Navigator can:
  - accommodate more and larger models
  - enable improved accuracy when using DMU Space Analysis or Real Tilme Rendering
  - enhance clash detection by handling all of the components of a product

- Same data persistancy
  - Index of 32 bit
  - Data created on 64-bit achitecture is usable on 32-bit and vice versa

- Supported on AIX 5L
  - AIX 5L is a true 64-bit operating environment supported by IBM's pSeries and IntelliStation POWER hardware platforms
- Supported on Windows XP 64-bit

- Available for:
  - CATIA V5 all file based configurations
  - ENOVIA DMU all configurations

Instructor Notes:

Concept of platforms, configurations and products

You will learn the basic concepts to understand the CATIA V5 installation

Instructor Notes:

Concept of Platforms

- The CATIA V5 product packaging model is based on the concept of platforms, configurations and products.
- Concept of platform
  - CATIA P1 provides core modeling for small and mid size process-centric customers.
  - CATIA P2 provides a unique environment for process-centric customers to create their digital enterprise by modeling their products, processes and resources.
  - Platform P3 solutions provides users a highly advanced, knowledge-based digital product and process development environment

Instructor Notes:

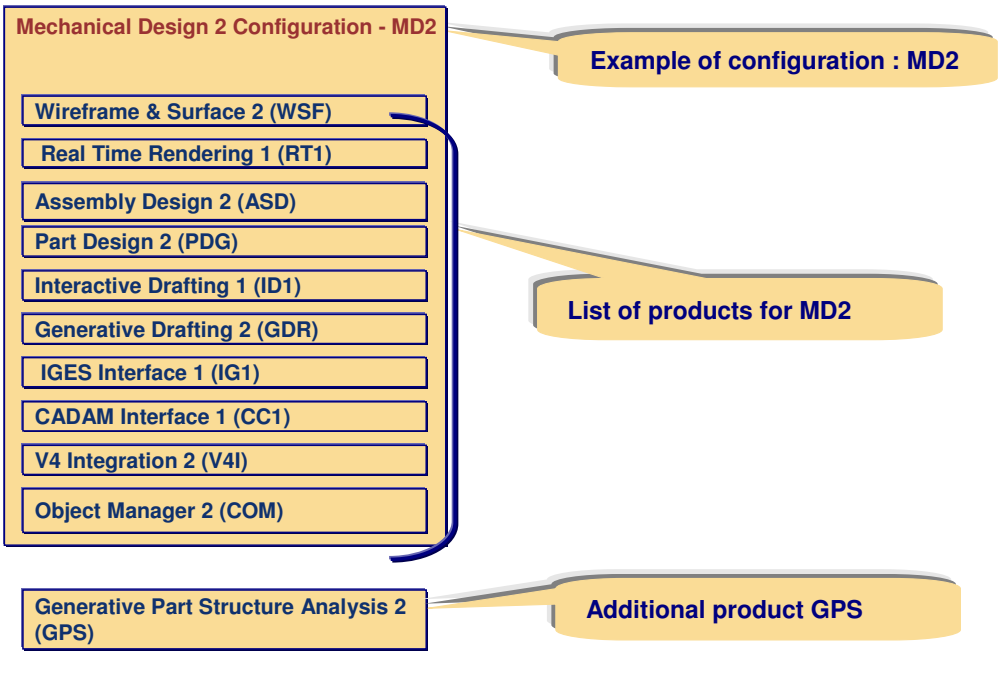
Concept of Configurations and Products (1/3)

- Concept of configuration
  - a convenient and attractive way for you to order and install the adequate combination of products for each type of user
  - Standard configuration contains a pre-defined list of products
- Concept of products
  - Products are the elementary software building blocks

Instructor Notes:

Concept of Configurations and Products (2/3)

- You can mix configurations and products
  Example : configuration MD2 + product GPS



Instructor Notes:

Concept of Configurations and Products (3/3)

Platform	Configuration on Windows	Products on Windows	Configuration on UNIX	Products on UNIX
P1	7	49	7	46
P2	27	135	27	131
P3	34	136	34	132

The difference between the number of product on Windows and UNIX is due to MultiCAD products which exist on Windows only.

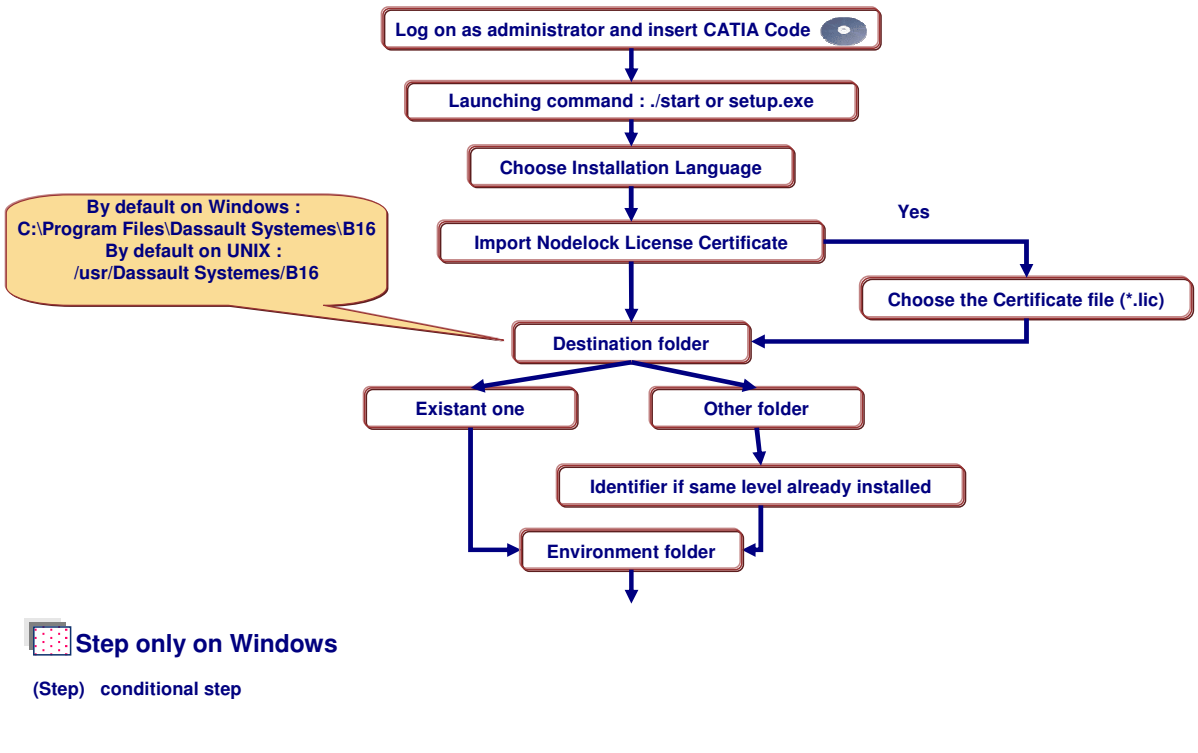
Instructor Notes:

How to perform a local installation

You will learn how to install CATIA V5 on a local disk

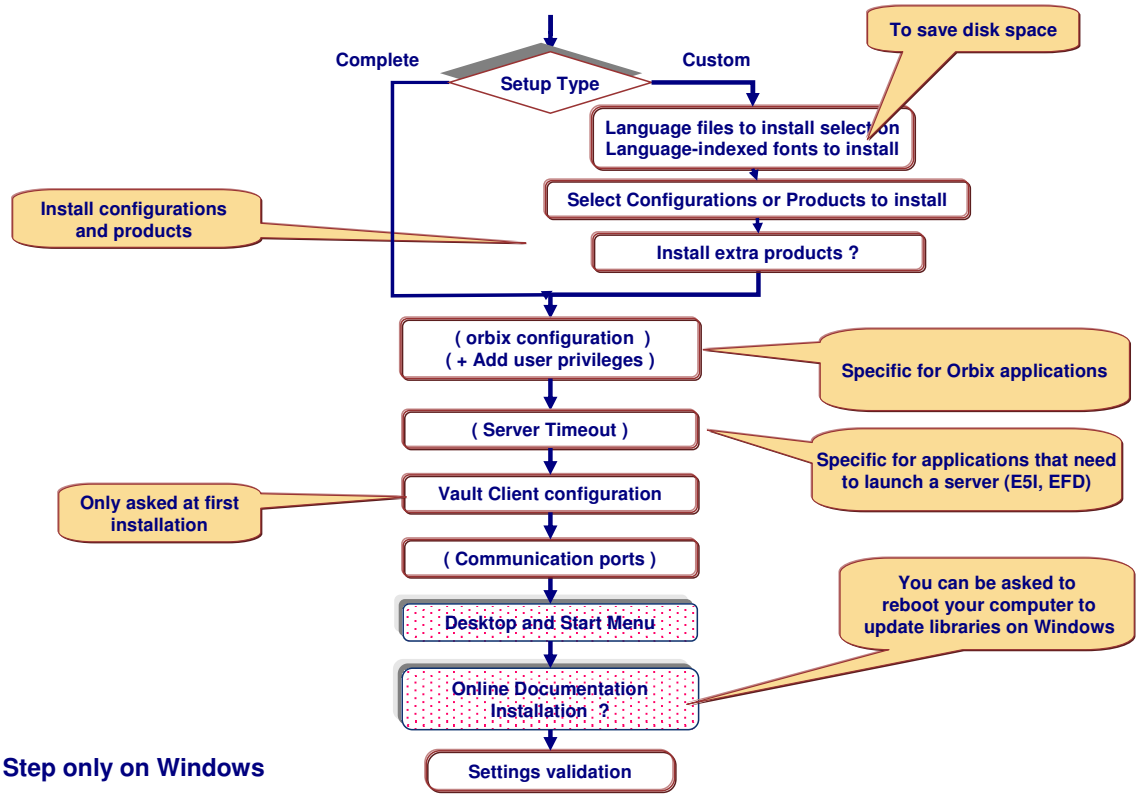
Instructor Notes:

Installing CATIA V5 code (1/3)



Instructor Notes:

Installing CATIA V5 code (2/3)



Instructor Notes:

Installing CATIA V5 code (3/3)

- Differences between UNIX and Windows

On Windows :

- Registry database, system libraries, start menu, OLE link
- Possibility to install CATIA code and CATIA documentation in one step
- After installation, you can be asked to restart the computer to update some system libraries
- An uninstallation program for CATIA

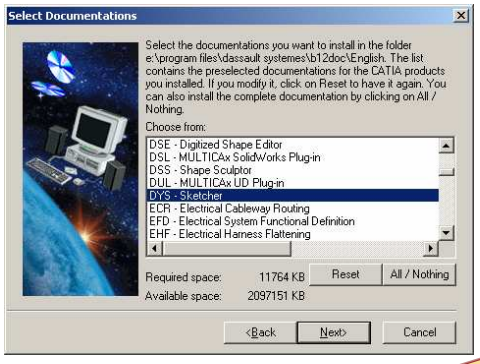
On UNIX :

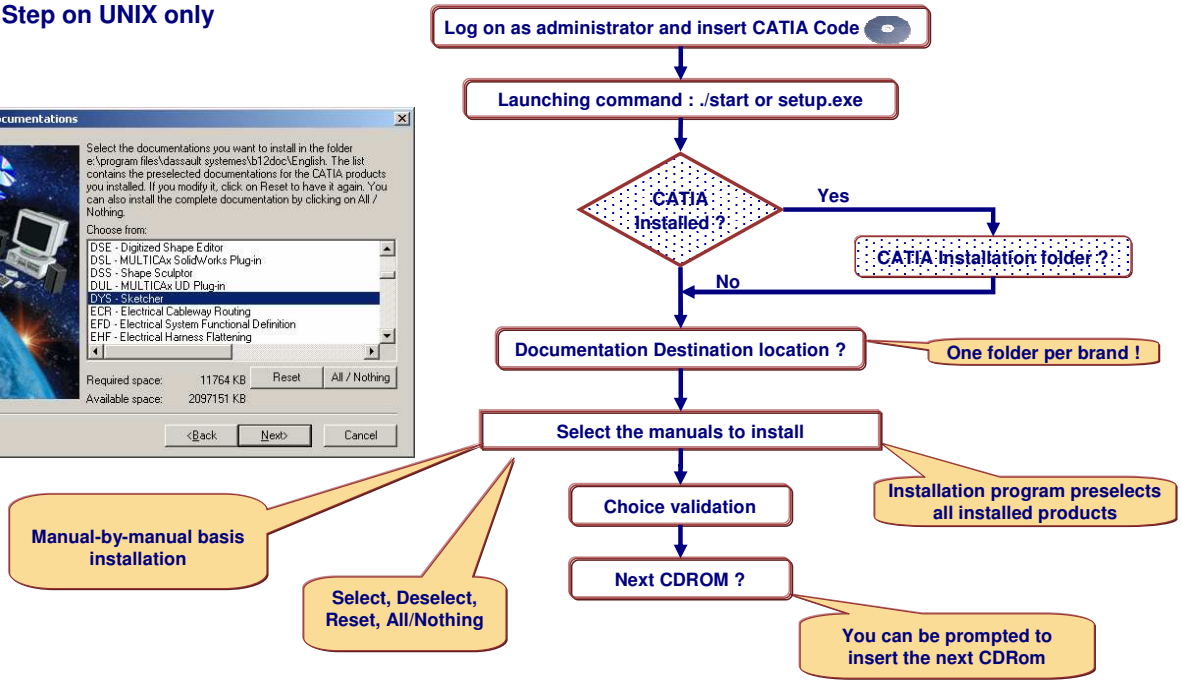
- CDE environment, SGI desktop,

Instructor Notes:

Installing CATIA V5 documentation (1/3)

Step on UNIX only





Instructor Notes:

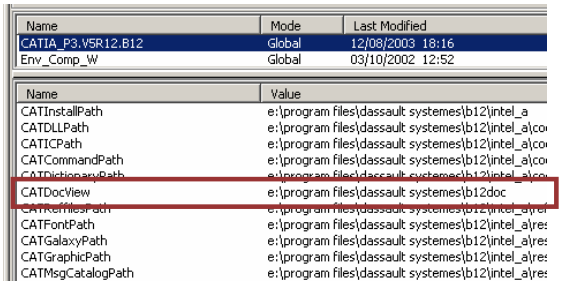
Installing CATIA V5 documentation (2/3)

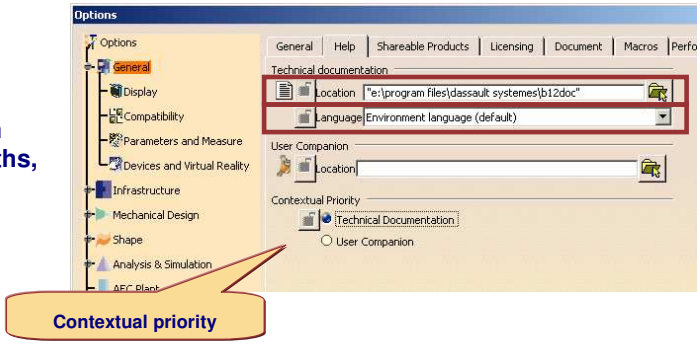
- Documentation is installed manual-by-manual basis
  - The setup program detects installed products and preselects the corresponding manuals in the list
  - If a manual is already installed, the manual is not presented in the list
  - Other manuals may added or remove from the list
  - Associated prerequisite documentation will be installed
  - The BAS (Infrastructure) and the CFY (Common functionalities) documentation sets are prerequisites for all other manual.
    These manuals are always installed, even if you don't select them.

Instructor Notes:

Installing CATIA V5 documentation (3/3)

- Online documentation location is defined by:
- The CATDocView environment variable
  - The CATDocView variable is updated during the documentation installation
  - The CATDocView variable inits the technical documentation setting in the Tools/Options Tab if not set
- The technical documentation setting (in Tools/Options tab)
  - Define the path of the online documentation during the session
    Available paths: Concatenated paths, UNC
    http path (surrounded by quotes)
  - Select the language (need to be installed)





Instructor Notes:

How to start CATIA V5

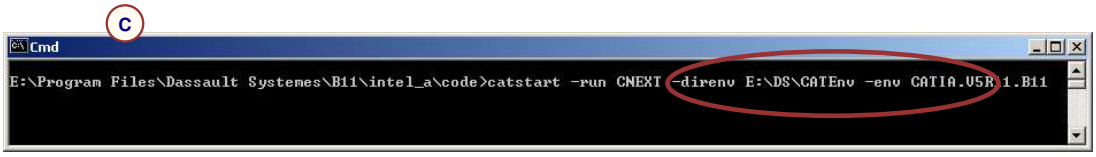
Once installed, you will learn how to start CATIA V5 and how to access its documentation

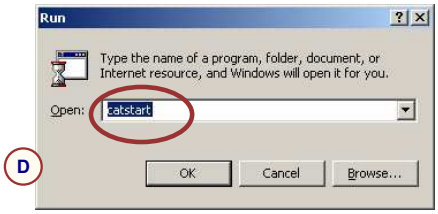
Instructor Notes:

Starting CATIA V5 (1/4)

- A few ways to start CATIA on Windows

A) Start menu
B) Icon desktop
C) DOS command
D) Run command

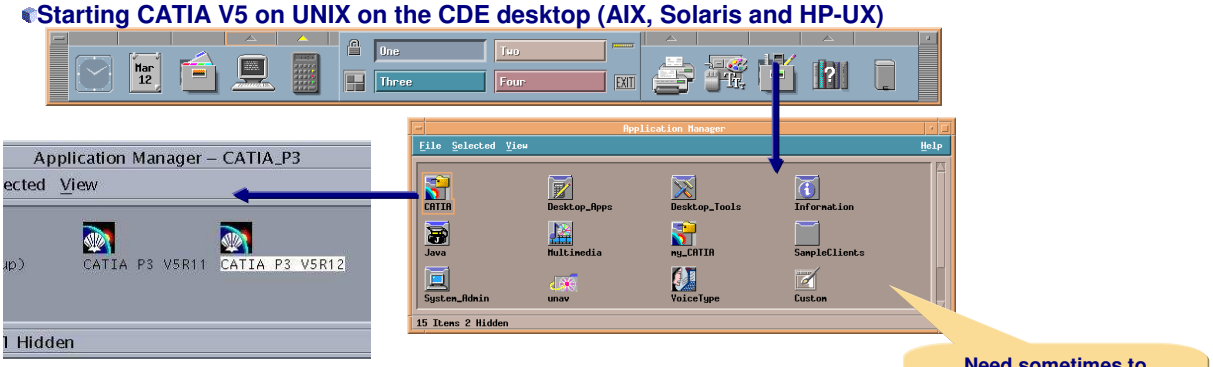




Instructor Notes:

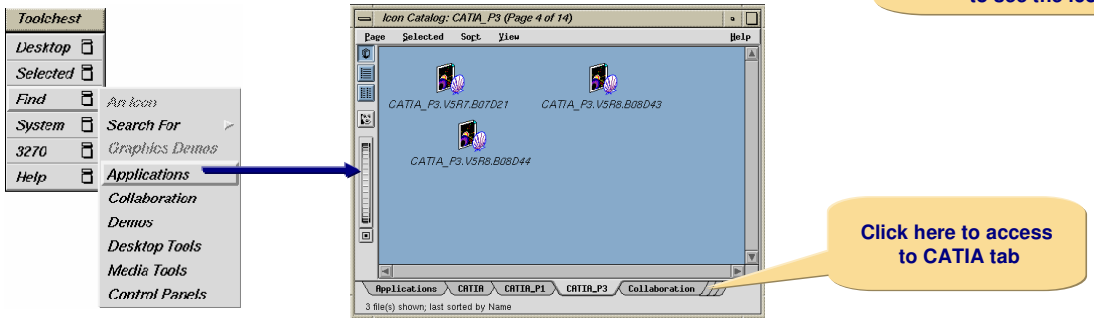
Starting CATIA V5 (2/4)

- Starting CATIA V5 on UNIX on the CDE desktop (AIX, Solaris and HP-UX)



Need sometimes to "Reload Applications" to see the icons

- Starting CATIA V5 on UNIX on the SGI desktop



Click here to access to CATIA tab

Instructor Notes:

Starting CATIA V5 (3/4)

- Starting CATIA V5 with command lines on UNIX and Windows
  - Command : catstart
    In <INSTALL_DIR>/$OSDS/code/command (UNIX)
    <INSTALL_DIR>/$OSDS/code/bin (Windows)
    catstart -run CNEXT -env <ENV_NAME> -direnv <ENV_DIR>
  - catstart works in 2 steps

1. sets the CATIA environment specified by the –env and –direnv arguments
2. Launches the executable given in the –run argument

The 2 steps may be split in the following way:

1. catstart -run cmd -env <ENV_NAME> -direnv <ENV_DIR> on Windows
   catstart -run ksh -env <ENV_NAME> -direnv <ENV_DIR> on UNIX

   At this step , you can check the environment using the set (Windows) or env (UNIX) commands.
2. run the executable, Ex CATIA or any other executable

Instructor Notes:

Starting CATIA V5 (4/4)

- catstart arguments
  -env environment_name
  -direnv environment_directory
  -object object: Name of the object to load when starting the program
  -run program_name, Ex CATIA, DELMIA, ENOVIA, DMU, CATNodelockMgt, CATSoftwareMgt ...
  CNEXT or CATIA is the default
  -s (silent mode)
- CATIA arguments
  to put in the catstart –run "xxxx" or –object "xxxx" arguments

  -e cnext_command [arguments] Starts CATIA and executes the passed in command.

  -batch: Starts CATIA in batch mode.

  -workbench: Launches CATIA and activates the specified workbench (see workbench names in Start menu).

  -macro macro_file: Starts the specified macro.

  -admin: Starts CATIA in administrator mode for the purpose of locking settings.

  -object: Starts CATIA and loads the specified object.

Windows specific options:

/env env_name: Starts CATIA with the given environment.

/regserver: Registers CATIA as an OLE server.

/unregserver: Unregisters CATIA OLE server.

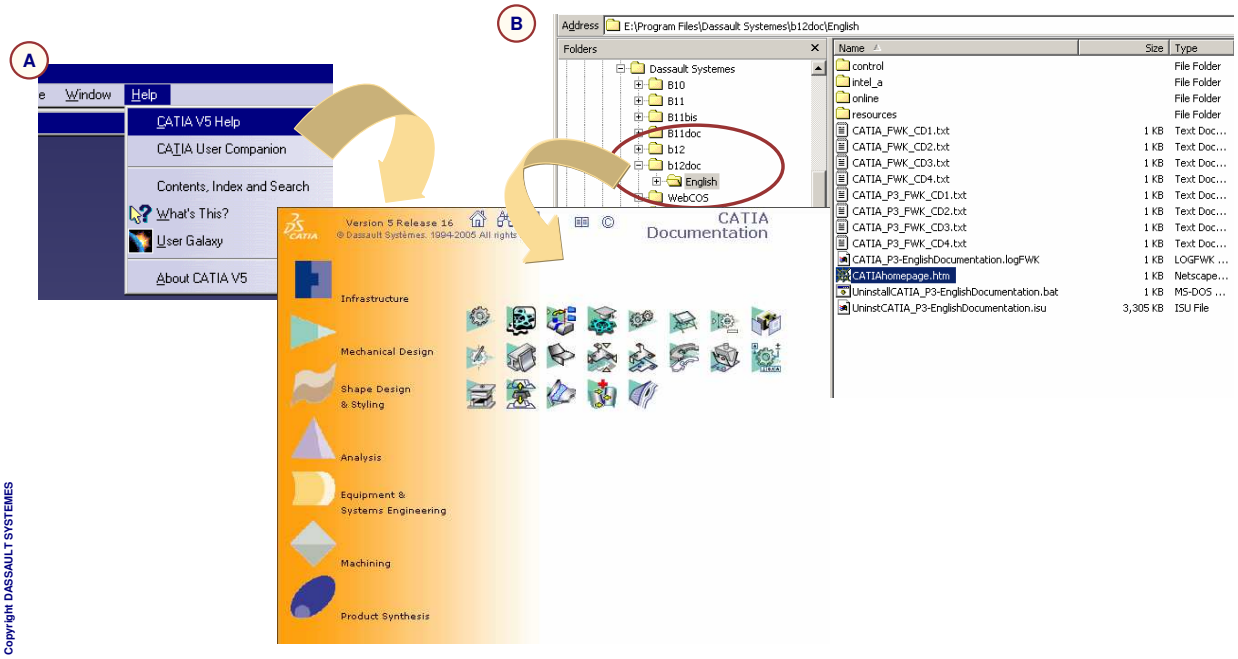
/embedding: Starts CATIA as an invisible OLE server.

Instructor Notes:

Having access to CATIA V5 documentation

A) During the CATIA session : CATIA V5 Help or F1 Key

B) Directly from a browser : access to CATIAhomepage.htm



Instructor Notes:

How to check the installation

Once installed, you will learn how to check the installation validity

Instructor Notes:

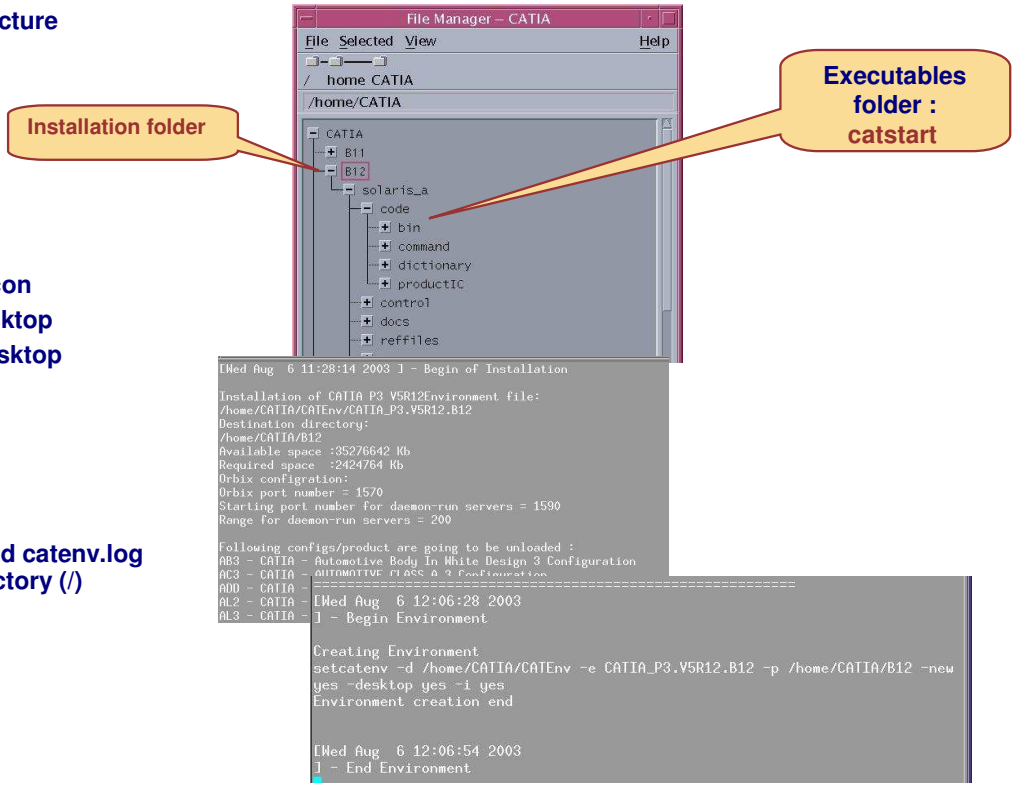
What does CATIA V5 installation do

- On UNIX :
  - Download the code
  - Create the environment
  - Update Services
  - Set up the ENOVIA Vault Client (Optional)
  - Create launching icons in the CDE desktop or SGI desktop
- On Windows :
  - download the code
  - Create the environment
  - Update Libraries
  - Update Services
  - Set up the ENOVIA Vault Client (Optional)
  - Update Registries
  - Create shortcuts on the desktop and in the start program menu (in All Users profile)

Instructor Notes:

Results of CATIA V5 installation : on UNIX (1/2)

- File tree structure



- Launching icon
  - SGI Desktop
  - CDE Desktop

- Log files:

  cxinst.log and catenv.log in root directory (/)

Instructor Notes:

Results of CATIA V5 installation : on UNIX (2/2)

- **Backbone Communication ports :**

  Update the file /etc/services and /etc/inetd.conf

```
fs              7100/tcp                        # Font server
bpcd            13782/tcp       bpcd # ARIA*BackupPlus client daemo
bprd            13720/tcp       bprd # ARIA*BackupPlus request daem
catiav5bb       55555/tcp  #Dassault Systemes Communication ports
catiav5run      55556/tcp  #Dassault Systemes Communication ports
CATDeviceBroker 55557/tcp  #Dassault Systemes Communication ports
snmp-trap       162/udp         # snmp monitor trap port
```

```
#
100150/1        tli     rpc/ticotsord   wait    root    /usr/sbin/ocfserv       ocfserv
dtspc stream tcp nowait root /usr/dt/bin/dtspcd /usr/dt/bin/dtspcd
100068/2-5 dgram rpc/udp wait root /usr/dt/bin/rpc.cmsd rpc.cmsd
catiav5run stream tcp nowait root /home/CATIA/B12/solaris_a/code/bin/CATSysDemon  #CATSysDemon
```

- **Orbix ports:**

  Update the file common.cfg in [install_dir]/$OSDS/startup/orbix/config/

```
# This file is included by the iona.cfg file
Common{
        #the port number for the Orbix daemon:
        IT_DAEMON_PORT = "1570";

        #the starting port number for daemon-run servers:
        IT_DAEMON_SERVER_BASE = "1590";

        # the range of port numbers available for Orbix servers.
        IT_DAEMON_SERVER_RANGE="200";
```

- **ENOVIA Vault Client (Optional):**

  Update the file VaultClient.properties in [install_dir]/$OSDS/docs/java

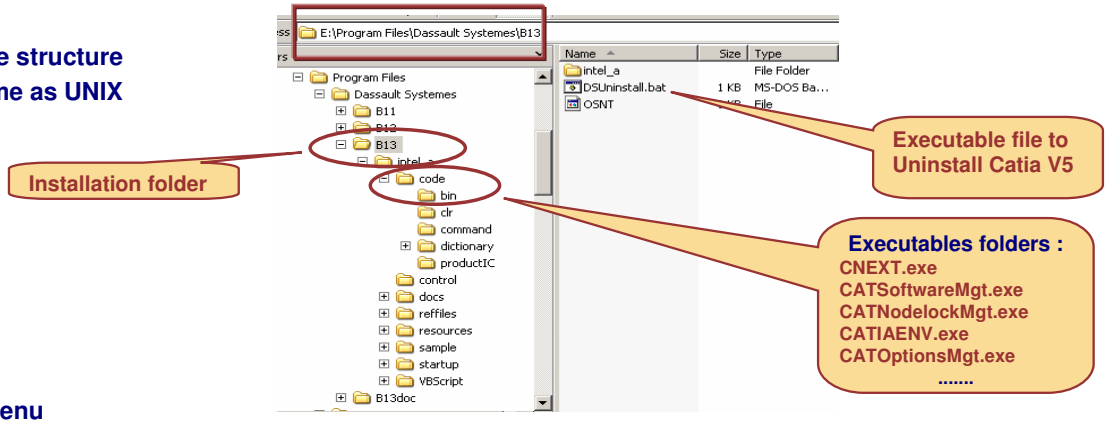
  These informations can be set up later by means of the VaultClientSetup or VaultClientSetupB (batch) programs

```
## Default alias name
VaultClient_DefaultAliasName = ENOVIAVaultServer
## Vault server alias ENOVIAVaultServer
VaultClient_ENOVIAVaultServer_ReadVaultServerName = ENOVIAVaultServer
VaultClient_ENOVIAVaultServer_ReadVaultServerHostName = LAVA1DSY
VaultClient_ENOVIAVaultServer_ReadVaultServerDaemonPort = 1570
VaultClient_ENOVIAVaultServer_WriteVaultServerName = ENOVIAVaultServer
VaultClient_ENOVIAVaultServer_WriteVaultServerHostName = LAVA1DSY
VaultClient_ENOVIAVaultServer_WriteVaultServerDaemonPort = 1570
```


Instructor Notes:

Results of CATIA V5 installation : on Windows (1/4)

- File tree structure same as UNIX

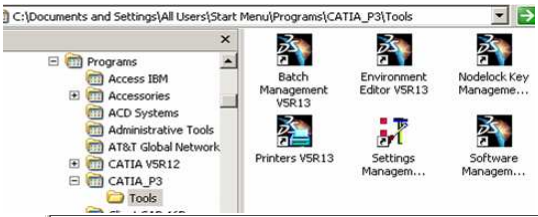


- Start menu

Instructor Notes:

Results of CATIA V5 installation : on Windows (2/4)

- Desktop icons



- Log files : cxinst.log
  catenv.log

  located in %TMP%
  by default C:\Temp

```
-------------------------------------------------------------
 Setup
1-5-2004 17:52:56
-------------------------------------------------------------
CATIA P3 V5R13 Setup
AL2 - CATIA - ALL-IN-ONE MARKETING 2 Configuration
AL3 - CATIA - ALL-IN-ONE MARKETING 3 Configuration
Available Space : 22670000 KB
Required Space : 2124528 KB
Destination Folder: E:\Program Files\Dassault Systemes\B13
Environment Folder for CATIA_P3.V5R13.B13 : e:\ds\catenv
Language dependent User Interface files and fonts:
None
Orbix Configuration:
Port number for Orbix daemon : 1570.
Starting port number for daemon-run: 1590.
Range for daemon-run servers: 200.
Privileges for current user were required and added successfully.
Servers Timeout: 60

ENOVIA Vault Client Setup requested.
AB3 - CATIA - Automotive Body In White Design 3 Configuration
AC3 - CATIA - AU
ADD - CA
AL2 - CA[Thu Jan 08 12:43:49 2004
AL3 - CA] - Begin Environment
AM2 - CA
          CATIA Nodelock Administration
          CATNodelockMgtB
          Green   InternalDS     R1 1063 days left
          Green   AD2      R1 1063 days left
          Blue    GSD      R1 5 days left
          Green   AL2      R1 1063 days left CATIA Nodelock Administration end


          [Thu Jan 08 12:43:50 2004
          ] - End Environment
```


Instructor Notes:

Results of CATIA V5 installation : on Windows (3/4)

- In C:\WINNT\system32 : some DLL are added or updated

- Backbone Communication ports

  Update the file:
  C:\WINNT\SYSTEM32\drivers\etc\services (2000)
  C:\Windows\SYSTEM32\ etc\services (XP)

  Launch the Backbone service

```
catiav5bb       55555/tcp   #Dassault Systemes
catiav5run      55556/tcp   #Dassault Systemes
CATDeviceBroker 55557/tcp
```

- Orbix ports:
  Update the file:

  [install_dir]\$OSDS\startup\orbix\config\common.cfg

```
# This file is included by the iona.cfg file
 Common{
      #the port number for the Orbix daemon:
      IT_DAEMON_PORT = "1570";

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  Update the file VaultClient.properties in [install_dir]/$OSDS/docs/java

  These informations can be set up later by means of the VaultClientSetup program

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## Default alias name
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## Vault server alias ENOVIAVaultServer
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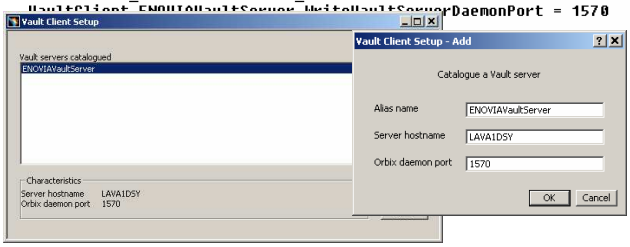


Instructor Notes:

Results of CATIA V5 installation : on Windows (4/4)

- Registry entries

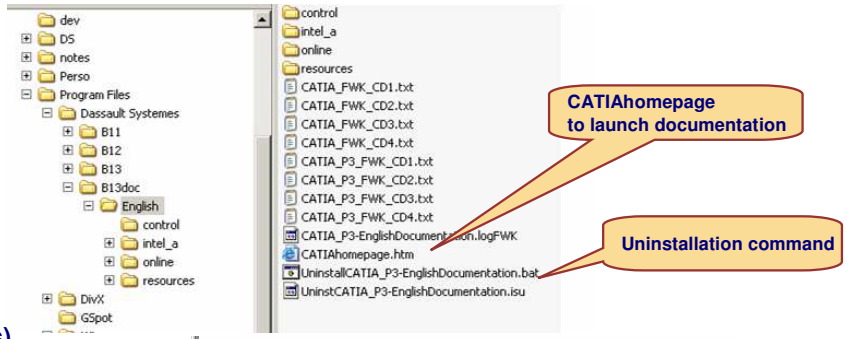
Registry Entry	What it does
HKEY_LOCAL_MACHINE\Software\Dassault Systemes\B18\n	Destination folder and OS (n=0 for the first installation)
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\ CurrentVersion\Uninstall\Dassault Systemes B18_n	Uninstall information for Add/Remove Programs (n=0 for the first installation)
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\ CurrentVersion\App Paths\Cnext.exe	Sets Start>Run so cnext.exe can be launched to start a session
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\ CurrentVersion\Fonts	Fonts
HKEY_CLASSES_ROOT\	Document types and extensions (OLE) For a specific document type (CATPart for instance) that's the last installed product that it is taken into account (CATIA or DMU for instance)

Registry entries may be protected using the regedt32 system tool (For advanced users only).
For the HKEY_CLASSES_ROOT key, 64-bit Windows requires different registry entries for 32-bit and 64-bit applications. Therefore, 32-bit and 64-bit applications have different registry paths for following software related entries.

Instructor Notes:

Results of Catia V5 documentation installation

- Directory structure



- Log file: cxinstdoc.log

  in %TMP% folder (Windows)
  or root directory (UNIX)

- Registry entries (Windows only)

```
CATIA V5R13 English Documentation Setup
1-6-2004 09:08:43

Destination folder: E:\Program Files\Dassault Systemes\B13doc\English
ABF - Automotive Body In White Fastening
ACA - Automotive Class A &  Optimizer
AMG - Advanced Machining
ANR - DMU Engineering Analysis Review
ASL - Aerospace Sheetmetal Design
ASM - Assembly Design
BAS - Infrastructure
BKT - Business Process Knowledge Template
CBD - Circuit Board Design
CCE - Component Catalog Editor
CCI - CATIA-CADAM Interface
```

Registry Entry	What it does
HKEY_LOCAL_MACHINE\Software\Dassault Systemes\Cnext\B18doc	Destination folder, language, Service Pack
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall\Dassault Systemes Doc English CATIA_P3 B18	Uninstall information for Add/Remove Programs

Instructor Notes:

Licensing

- Definitions
- Licensing Mechanism
- Static Licensing
- Dynamic Licensing
- Automatic License checking
- Enrolling Nodelock licenses
- Setting up network licenses
- Concurrent Offline licensing
- Running in Demo Mode
- License Expiry Date Warnings
- Getting the Target-Id
- Environment Management

Instructor Notes:

Definitions

- **Licenses are associated with configurations and products**
- **A configuration is a set of products**
- **A product may be**
  - **included in a configuration**
  - **an Add-On to a custom configuration**
  - **a Shareable product**
  - **An Extra product (Ex: E5I)**
    - proposed to be installed depending the configurations or products you have chosen
    - license free
- **A product can**
  - **require another product**
  - **authorize another product**

Instructor Notes:

Licensing Mechanism (1/2)

- Identical Licensing mechanisms on Windows and UNIX, based on LUM (License Use Management)

- Principles:
  - Using a configuration requires a license for it.
  - Using a product requires a license for it.
  - Products dependence:

    2 cases: A product (A) is authorized by an other product (B)
    → Need 1 license (Product B)
    A product (A) require an other product (B)
    → Need 2 licenses (Products A and B)

  - Licenses for configurations are acquired and release for the total session
  - The products within a configuration cannot be shared.

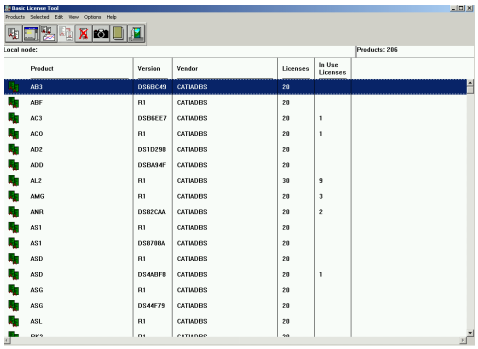
- 2 modes
  - Static licensing
  - Dynamic licensing

Instructor Notes:

Licensing Mechanism (2/2)

A license can be:

- **Nodelock License**
  - **Local display is mandatory**
  - **One license for one display**
  - **No limit of V5 processes for a given license**
- **Concurrent License (Server)**
  - **Served by a server or by a cluster**
  - **One license for one machine/display/user**
  - **No limit of V5 processes for a given license**
- **Concurrent Offline License (Server)**
  - **Concurrent license usable as a nodelock license during a defined period of time**



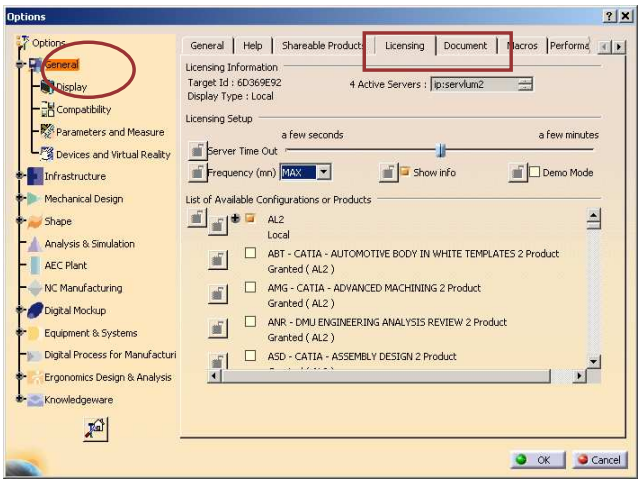
Instructor Notes:

Static Licensing (1/2)

- Select Licensing tab in Tools/Options

- From a CATIA session
  in Tools/Options: Tab Licensing.
- Outside CATIA:
  In the Settings Management Tool (CATOptionsMgt)

The same panel is displayed

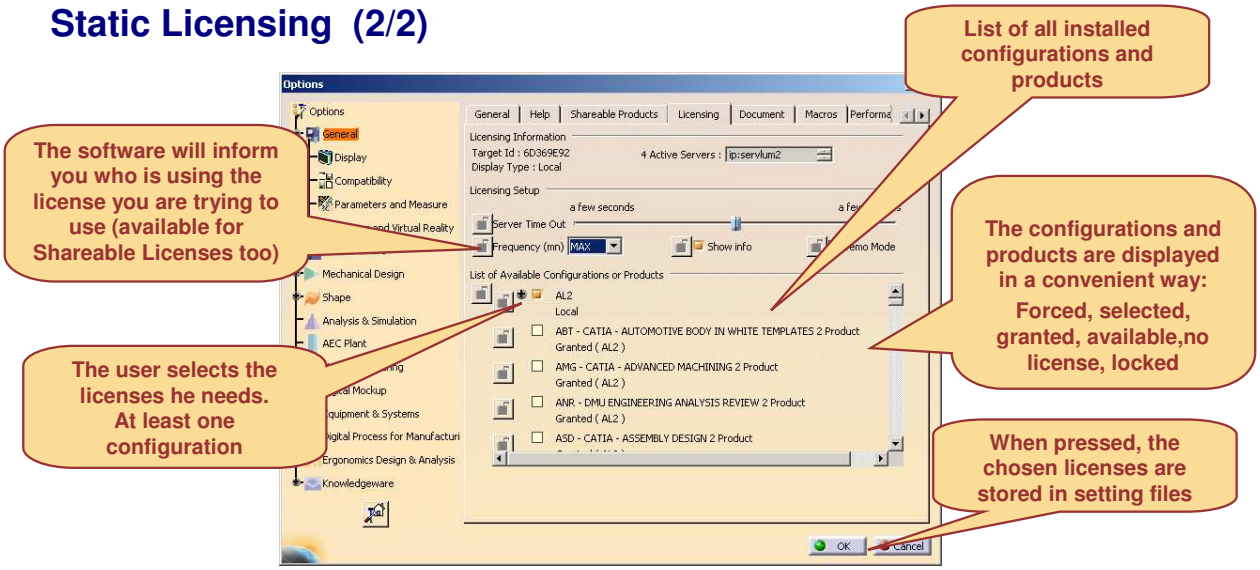


- Mode :
  - Server
    - ✓ Any license
    - ✓ Server
  - Nodelock

- Different types of status
  - Local
  - Granted
  - Not granted
  - No license
  - Server

Instructor Notes:

Static Licensing (2/2)



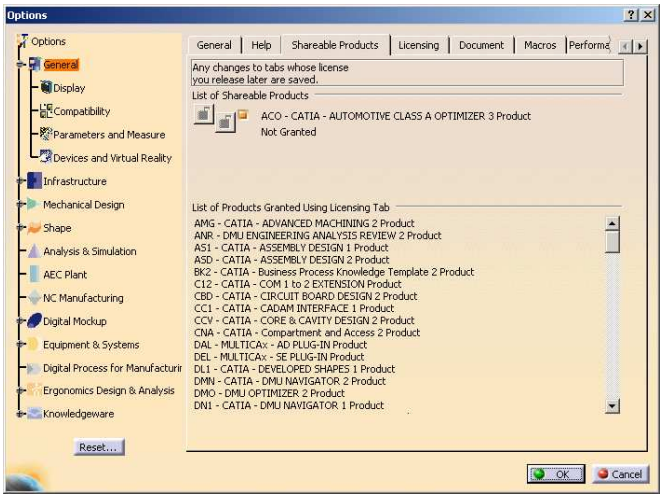
- If there are no settings, the nodelock licenses are automatically taken.
- If there is no nodelock license, the Tools/Options Licensing tab appears automatically when CATIA starts.
- All the selected licenses are reserved at the beginning of the next session.
- To release a license, the user must uncheck it in Tools/Options and close CATIA as well. Outside CATIA, he can use CATOptionsMgt.

Instructor Notes:

Dynamic Licensing (1/2)

Available for all Shareable Products

- The user still needs to take the configurations statically
- All the standalone CATIA products can be taken dynamically
- The Shareable Products tab in Tools/Options enables the user to take or release a license
- The functionalities and workbenches associated are dynamically updated when taking or releasing a license
- The information is not persistent. So the licenses must be taken at each session if needed.



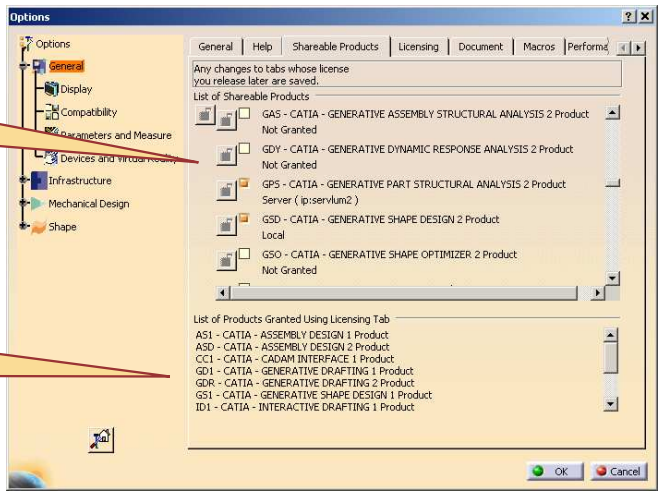
Instructor Notes:

Dynamic Licensing (2/2)

The tab Shareable Products is divided into 2 parts

Installed shareable products except for the licenses already taken statically

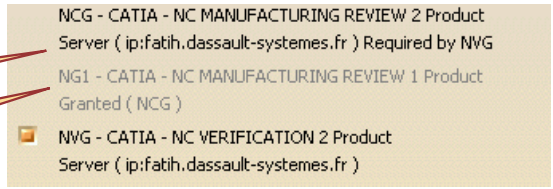
Licenses taken statically and their prerequisites (automatically taken)



- **If the license is available, the name of the server appears under the license**

NCG required by NVG

NG1 authorized by NVG

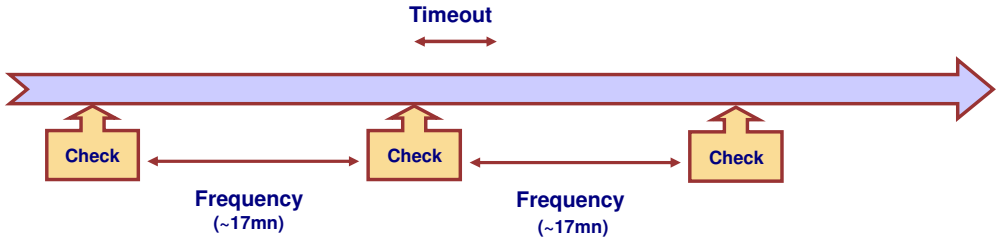


Instructor Notes:

Automatic License checking (1/3)

- Same mechanism for static and dynamic licensing
- "Heartbeat" mechanism

Frequently, the V5 session checks each concurrent license on the license server :



Timeout: Time to wait for a response from a license server, if a license is available or not (from a few seconds to a few minutes).

Frequency: Heartbeat duration, time between 2 checks of a license

Time after which the server considers the V5 session dead (without check) and release the license .

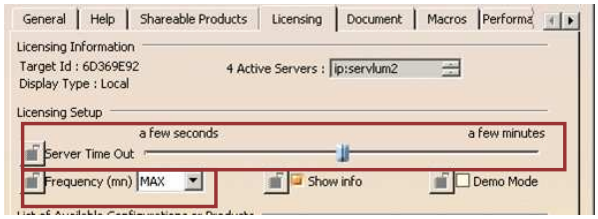
Originally 17 min. (MAX value)

The value is communicated to the server at the first request

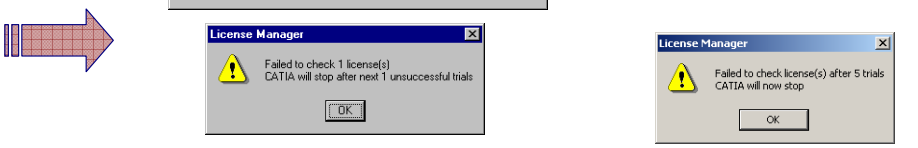
Instructor Notes:

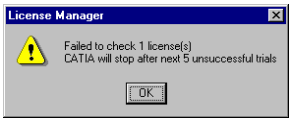
Automatic License checking (2/3)

- The Timeout and the frequency are adjustable



- If the server does not answer
  CATIA enters in "countdown" mode and tries to connect again, 5 times, every minute, and displays messages





  - During this period of time, the user can save his work.
  - A popup message clearly indicates users that saving open documents is strongly recommended

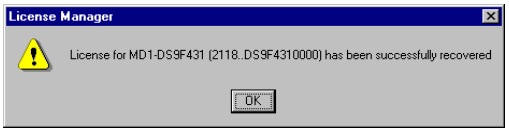
Instructor Notes:

Automatic License checking (3/3)

- If the server does not answer at the end of the 5 tryouts

  A new license request is attempted

  - if the request succeeds the count down is stopped and the CATIA session can continue



  - If the request fails, the session goes in a special mode in which only saving and exit commands are available.
  - From this mode, there is no way to return in normal mode
  - Batches and macro are not concerned by this mode, automatic exit is done

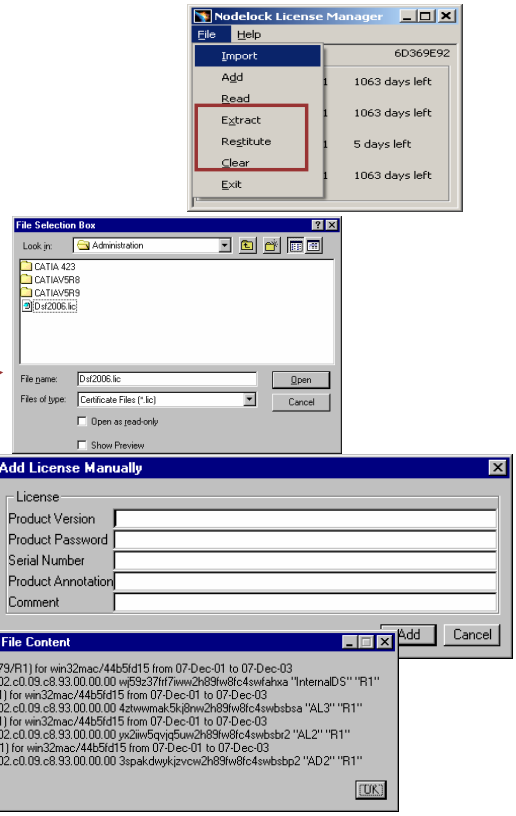
Instructor Notes:

Enrolling Nodelock licenses (1/2)

- Interactive Mode
  - Display the Enroll Product (Nodelock) dialog box

    CATNodelockMgt

    on Windows: CATNodelockMgt.exe or Shortcut or double-clicking
    on UNIX: catstart –run "CATNodelockMgt"
    (Log on as administrator or root)
  - Import a License file (*.lic)
  - Add License Manually
  - Read the nodelock key file
  - Clear obsolete licences
  - Extract / Restitute offline licenses



Instructor Notes:

Enrolling Nodelock licenses (2/2)

- Batch mode :

  CATNodelockMgtB

  on Windows: CATNodelockMgtB.exe or Shortcut

  on UNIX: catstart –run "CATNodelockMgtB" –direnv EnvDir –env EnvName
  (Log on as administrator or root)

  - ✓ -id : target ID of your machine
  - ✓ -c yes/no : check mode
  - ✓ -v yes/no : verbose mode
  - ✓ -h : help
  - ✓ -l E:\certificate.lic : nodelock license key file importation

```
E:\Program Files\Dassault Systemes\B13\intel_a\code\bin>CATNodelockMgtB.exe
Green    InternalDS      R1 1063 days left
Green    AD2      R1 1063 days left
Blue     GSD      R1 5 days left
Green    AL2      R1 1063 days left

E:\Program Files\Dassault Systemes\B13\intel_a\code\bin>
```

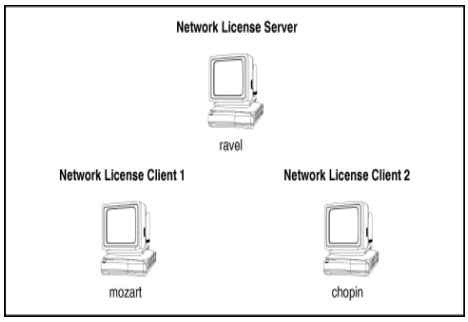
- The nodelock file created by default in :
  - C:\ifor\Ls\CONF\nodelock (Windows 2000/XP)
    and if not exists in C:\Documents and Settings\All Users\ Application Data\IBM\LUM (2000/XP)
  - /var/ifor/nodelock linked to /usr/opt/ifor/ls/conf (AIX)
  - /opt/lum/ls/conf/nodelock (HP-UX, IRIX, Solaris)

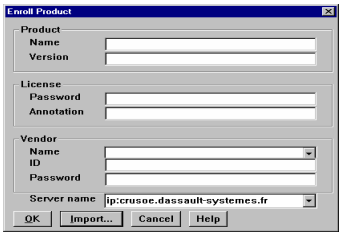
Instructor Notes:

Setting up network licenses (1/2)

On the License Server

- LUM 4.6.8 minimum
  - Install and Configure LUM
  - i4cfg (GUI) On windows, AIX and SUN
  - i4cfg –script On all platforms (except Windows)
  - Select Direct Binding Mode
    (Strongly recommended)
  - Add the LUM Server Name
- Start the LUM server
  - l4cfg –start
- Enroll the products and licenses
  - i4blt Basic License Tool
  - Interactive or batch tool





Instructor Notes:

Setting up network licenses (2/2)

On the Client

- Install the License Use Management Runtime on the first client
- Configure LUM on this first client
  - i4cfg (GUI) On windows, AIX and SUN
  - i4cfg –script On others platforms

  Select Direct Binding Mode (Strongly recommended)
  Add the LUM Server Name

- Copy the configuration file i4ls.ini to the other clients (UNIX or Windows)
  - C:\ifor\Ls\CONF (Windows 2000/XP)
    and if not exists in C:\Documents and Settings\All Users\ Application Data\IBM\LUM (2000/XP)
  - /var/ifor/nodelock linked to /usr/opt/ifor/ls/conf (AIX)
  - /opt/lum/ls/conf/nodelock (HP-UX, IRIX, Solaris)

Instructor Notes:

Concurrent Offline licensing (1/3)

- Goal
  - Use concurrent licenses on a Windows laptop, disconnected from the license server, during a defined period of time
- Principle
  - Extract a license from the license server (a concurrent offline license)
  - Work with the laptop, disconnected or not: (The extracted license is considered as a nodelock license)
  - Restitute the license to the license server (Before the end of the defined period of time)

Or

  - At the end of the defined period of time, the license becomes:
    - ✓ unavailable on the laptop
    - ✓ available on the server again
- Characteristics
  - Supported with CATIA, ENOVIA DMU, DELMIA and RADE
  - Offline license duration 30 days max (may be reduced)
  - Not supported with LUM HAL (High Avaibility Licensing)
  - On the laptop Windows 2000 SP2 or XP only

Instructor Notes:

Concurrent Offline licensing (2/3)

How defining the concurrent offline licensing

- On the License Server
  - Log as root or as administrator
  - Stop the server (i4cfg –stop)
  - Migrate the licenses you want to use as offline licenses

    → i4_offline_mig (from the LUM CDROM)

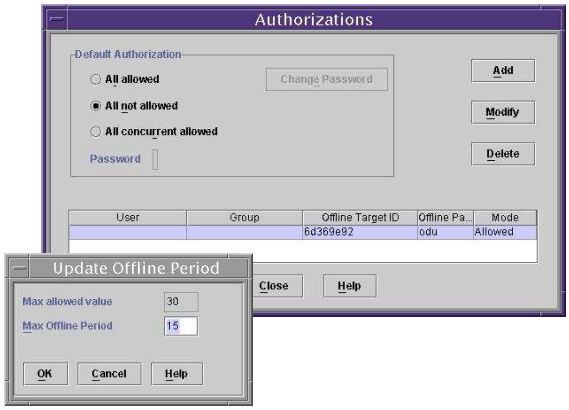
    ✓ The migrated concurrent licenses can be used as offline or ordinary concurrent licenses
    ✓ You need to migrate all new enrolled licenses

  - Define the authorization rules by product

    → i4blt

    ✓ Authorize to extract users, machines (targetid), passwords
    ✓ Define the number of days a license can be reserved

  - Start the server (i4cfg –start)

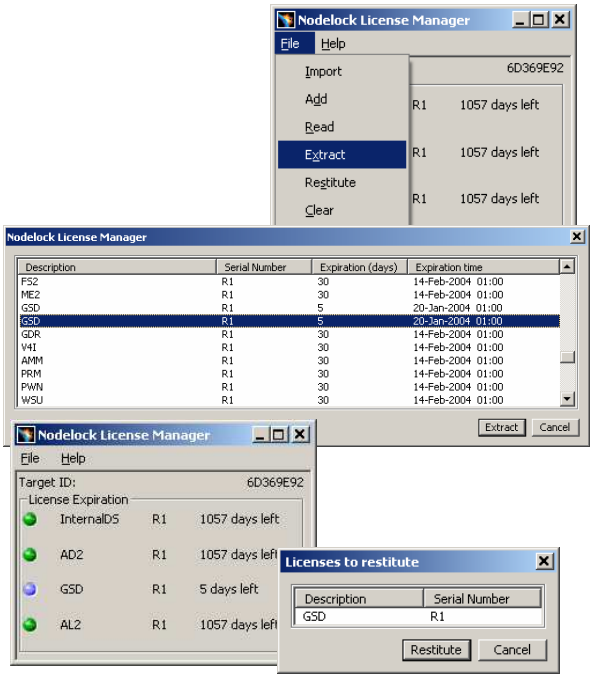


Instructor Notes:

Concurrent Offline licensing (3/3)

How defining the concurrent offline licensing

- On the laptop
  - Use the Nodelock key management tool:
    - ⇨ To extract the license:
    - ⇨ To restitute the license:

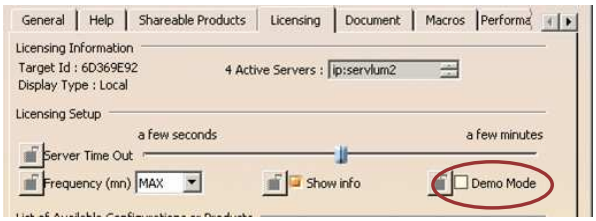


Instructor Notes:

Running in Demo Mode

- Demo Mode lets you use all the features of the configurations and/or products installed with some restrictions.

- Customers can explore add-on products for which they do not yet have a license.



- Restrictions:
  - ✓ File Save and Save as
  - ✓ File Read (except for prepared Version 5 demo documents)
  - ✓ Embedding Version 5 documents in OLE documents
  - ✓ Opening Version 5 documents using OLE technology
  - ✓ Cutting, copying and pasting Version 5 documents with the NT clipboard
  - ✓ Recording and replaying macros.

  - ✓ You need at least one configuration license or special demonstration license

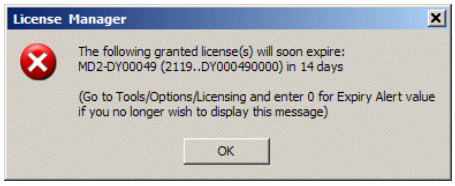
Instructor Notes:

License Expiry Date Warnings

- **Setting the License Expiry Alert**

The Alert control:

is set by default to 30 days, and is enable by default. This means that if a grante license is going to expire within 30 days, a warning popup will be displayed like this:



The popup is displayed as soon as a license is granted.

- **the maximum value you can set is 90 days**
- **if you do not want to be warned by a popup when acquiring a license, set the value to 0 to disable the alert**
- **the tooltip message displayed when pointing at the control indicates the value is between 0 and 90 days**
- **like any other setting attribute, it can be locked.**

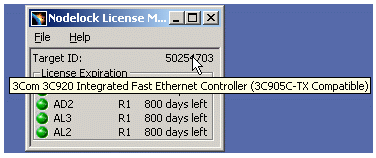
- **The alert is available only for nodelock (and consequently offline) licenses.**

Instructor Notes:

Getting the Target-Id

How to get the Target-Id :

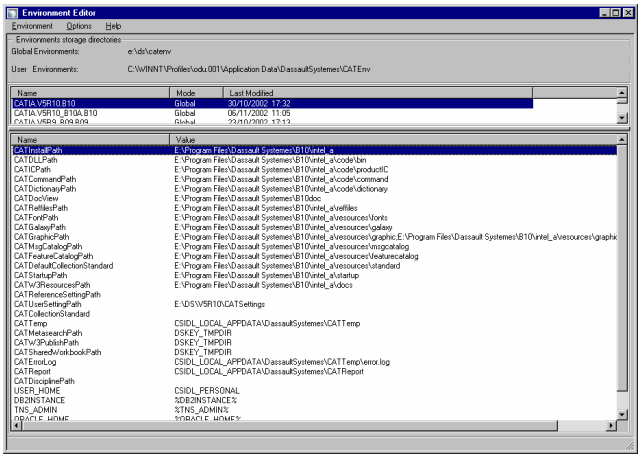
- **On Windows**
  - **During installation (Panel : CATIA license)**
  - **Execute : Start>Programs>Catia>Tools>Nodelock Key Management**
  - **Via licensing panel : Catia >Tools>Options>licensing**
  - **Use the executables: i4tgtid.exe or i4target.exe (in Catia V5 CDROM)**
    Use i4target to select the network device if necessary (i4tgid doesn't work).
    First "–z" lo list the devices, and "–d xxx" to select.
    Then you can use i4tgid or i4target.
  - **Execute : CATNodelockMgtB –id batch process**
  - **The network adapter used to generate the targetId can be identified by a tooltip in the CATNodelockMgt**



- **On Unix:**
  - **During installation (Panel : CATIA license or Import License dialog box)**
  - **Execute : CATNodelockMgtB -id batch process**
  - **The target Id could obtained by**
    - ✓ **uname -m on AIX**
    - ✓ **i4target on HP-UX**
    - ✓ **sysinfo on IRIX**
    - ✓ **hostid on Solaris**
  - **Execute the command : i4target -o (Display of target ID on 8 digits)**

Instructor Notes:

Environment Management



In this lesson, you will learn :

- 3.1 What is an environment
- 3.2 Customizing your environment
- 3.3 Creating an environment

Instructor Notes:

Environment Management

- What is an environment
- Customizing an environment
- Managing environments

Instructor Notes:

What is an environment

You will get familiar with the CATIA V5 environment

Instructor Notes:

CATIA V5 environment (1/3)

- Definitions
  - An environment is a set of runtime environment variables.
  - Each variable could be a path, a concatenation path searched by the software when you start a session, or any value.

    Note: Separator character is different between UNIX and Windows
    UNIX: ":" (colon) and Windows: ";" (semi-colon)
  - These variables are created in a text file and managed by the environment editor.
  - An environment is required to run CATIA.
    Without customization, the default environment CATIA.V5R18.B18 is used.

Instructor Notes:

CATIA V5 environment (2/3)

- Two types of environment

  Global environment :
  - Visible to and can be used by all users on the computer on which it has been set up.
  - Created, edited and deleted by Windows administrator and root user on UNIX
  - The default environment CATIA.V5R18.B18 is a global environment created during CATIA V5 installation.
  - This environment could be shared on a server : server environment. In that case, more environment variables are available

- User environment :
  - Visible to and can be used only by the user who created it

Instructor Notes:

CATIA V5 environment (3/3)

- An environment is represented on Windows by :
  - An environment text file
    Ex: C:\CATEnv\CATIA.V5R18.B18.txt
  - Shortcuts (in the start menu and the desktop)
    Launch CATIA on a specific environment.
- An environment is represented on UNIX by :
  - An environment text file
    Ex: $HOME/CATEnv/CATIA.V5R18.B18.txt
  - A script file $HOME/CATEnv/CATIA.V5R18.B18.sh
    This script still exists for interoperability V4/V5 (to open a CATPart with CATIA V4)
  - A representation on SGI desktop, stored in $HOME/CATEnv/CATSGI
  - A representation on CDE desktop (AIX, solaris and HP-UX), stored in $HOME/CATEnv/CATCDE

Instructor Notes:

Variables managed by environment (1/2)

Examples of runtime environment variables

CATInstallPath : CATIA installation path

CATDocView : Online documentation search path

CATUserSettingPath : Permanent user settings search path

CATReferenceSettingPath: Reference settings search path; also used to store settings locked by the administrator

CATTemp : Temporary user settings search path

CATErrorLog : Error log file

CATDefaultCollectionStandard: Default standard search path

CATCollectionStandard : Standard search path; used to store additional standard (in admin mode)

AVAILABLE_CACHE_DIR_PATH: Text file containing the paths of the released caches

Instructor Notes:

Variables managed by environment (2/2)

Particularities on Windows:

- **CSIDL Values in Environment Variable Paths (Windows)**
  - **Number of folders that are used frequently by applications may not have the same name or location on any given system.**
    For example, the system folder may be "C:\Windows" on one operating system and "C:\Winnt" on another.
  - **CSIDL values provide a unique system-independent way to identify these special folders.**
  - **The concerned variables are:**
    - **CATUserSettingPath**
    - **CATTemp**
    - **CATReport**
    - **CATErrorLog**
- **DSKEY_TMPDIR Key (Windows)**
  - **DSKEY_TMP points to the first following variable if valid:**
    TMP variable, TEMP variable, Windows folder (WNT/2000/XP)

Instructor Notes:

Default environment (1/2)

- Environment directory

  If you haven't specify an environment directory during CATIA V5 installation, global environments will be stored in:

  - For Windows 2000 and Windows XP :

    C:\Documents and Settings\All Users\ApplicationData\DassaultSystemes\CATEnv

  - For UNIX :

    /CATEnv

- Default environment

  - Default environment CATIA.V5R18.B18 is created during CATIA V5 installation

Instructor Notes:

Default environment (2/2)

- Environment directory and default environment are defined in two text files
  - EnvDir.txt : define the environment directory
  - EnvName.txt : define the default environment

  Located in CATIA V5 code : <CATIA_INSTAL_DIR>/$OSDS
- If the environment directory has been changed during installation, the value stored in EnvDir.txt is changed
- The default environment is used when launching CATIA V5 without option
- To launch CATIA V5 with a specific environment :
  - Windows and UNIX :

    catstart –run CNEXT -direnv <ENV_DIR> –env <ENV_NAME>

    (-run CNEXT is the default)

Instructor Notes:

Server environment

Server environment

- A server environment is always a global type environment, without a desktop representation
- The CATUserSettingPath value differs between a server environment and a local environment (environment created without the server option).
  - On Windows : CATUserSettingPath= …
    CSIDL_COMMON_APPDATA\DassaultSystemes\DSKEY_USERID\CATSettings (server)
    CSIDL_APPDATA\DassaultSystemes\CATSettings (local)
  - On UNIX :
    CATUserSettingPath=$HOME/CATsettings/Server (server)
    CATUserSettingPath=$HOME/CATsettings (local)
- On Windows, there is also a difference for some other variables:
  - CATUserStandardPath
  - CATTemp
  - CATErrorLog
  - CATReport
  - USER_HOME
- Some environment variables are server specific: TNS_ADMIN, DB2INSTANCE, …

Instructor Notes:

Customizing an environment (1/2)

- Customizing an environment

  You can:
  - Create new environments
  - Create a new environment from an existing envrironment
  - Delete environments
  - Edit existing environments and modify variables value :
    Ex: CATDocView, CATUserSettingPath, CATReferenceSettingPath
  - Add new variables and comments.
    Ex: AVAILABLE_CACHE_DIR_PATH

  But you cannot:
  - Rename official variables

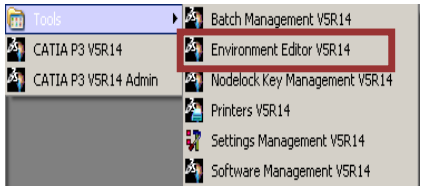
  Interactive mode:
  - Environment Editor (GUI-based tool) : CATIAENV

  Batch mode
  - Environment commands: setcatenv, delcatenv, lscatenv, readcatenv, chcatenv

Instructor Notes:

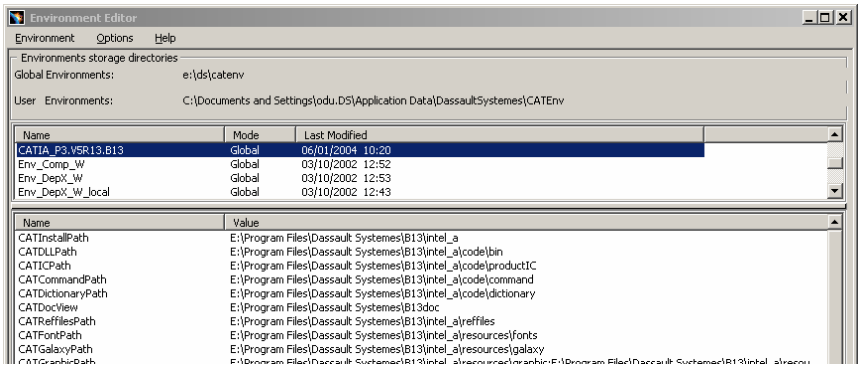
Customizing an environment (2/2)

- **Management with the environment editor**
  - **With Windows menu**



  - **With command lines**

catstart –run "CATIAENV –globaldir <ENV_DIR>" (Windows and UNIX)
CATIAENV –globaldir <ENV_DIR> (Windows)



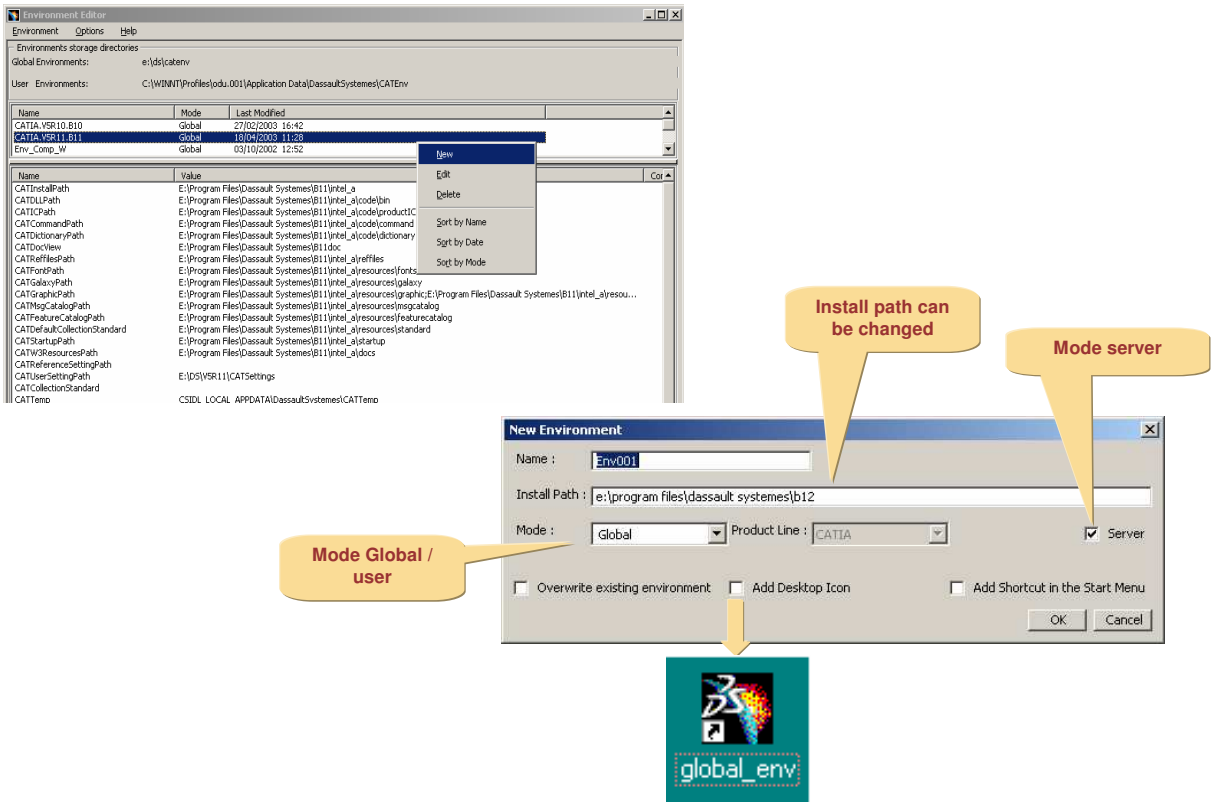
Instructor Notes:

Managing environments

You will learn how to manage CATIA V5 environement

Instructor Notes:

Managing environments with the environment editor



Instructor Notes:

Managing environments with command lines

- **Creating a new environment using the setcatenv command :**
  setcatenv -e <NEW_ENV> **-d** <DIR_ENV> **-p** <INSTAL_DIR> **-a global –desktop yes**

  → **-desktop yes** (necessary for IRIX only)
- **Restoring default environment using the setcatenv command :**

  setcatenv -e CATIA.V5R18.B18 **-d** <DIR_ENV> **-p** <INSTALL_DIR> **-a global -desktop yes**

  setcatenv -e CATIA.V5R18.B18 **-d** <DIR_ENV> **-p** <INSTALL_DIR> **-a global -server**
- **Deleting an environment using the delcatenv command :**

  delcatenv -e <NEW_ENV> **-d** <DIR_ENV> **-a global –desktop yes**
- **Other commands :**
  - **lscatenv : to list the names of all environments on your computer**
  - **readcatenv : to read the environment variables in a specified environment**
  - **chcatenv : to modify one or more variables in an environment command**

Note: On UNIX (mandatory) and Windows the command has the following form:
catstart –run "setcatenv –e …."

Instructor Notes:

Settings Management

- Settings Definition
- Specifying Settings
- Settings Location
- Locking Settings
- Default Settings
- Sharing Settings
- Importing/Exporting settings from/to XML format
- Administrating settings with scripting
- Workbench
- Printer
- Specific Settings

Instructor Notes:

Settings Definition (1/3)

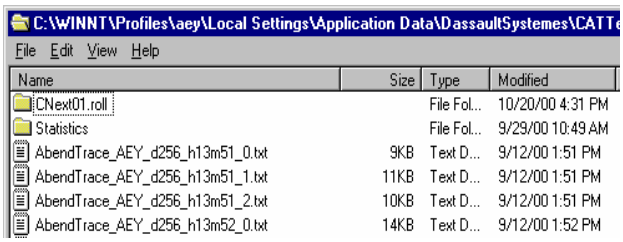
- CATIA V5 produces different types of data
  - Application data contained in the documents you create (CATPart, CATProduct, CATDrawing, CATProcess …)
  - Settings files which are non-editable
  - Temporary data
- Settings are parameters to modify the behavior of CATIA application, to customize the workbenches …

For example, application window customization, background colors, part and print settings, etc.

Instructor Notes:

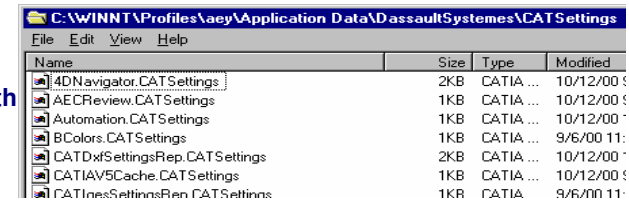
Settings Definition (2/3)

- **Temporary data**
  - Temporary nature:
    Ex SessionInfoFile, Screen Capture,
    Roll file information
  - Location referenced by CATTemp variable



- **Permanent settings**
  - Customization mainly performed by
    Tools->Options command

Ex: Application window customization,
background colors, print settings …



  - Location referenced by CATUserSettingPath variable
  - Files identified by the suffix *.CATSettings

Instructor Notes:

Settings Definition (3/3)

- About Permanent Settings :
  - Settings can be locked by an administrator
  - Default Settings can be set by an administrator
  - Various levels of settings can be defined by concatenation
  - Settings can be shared on a server
  - Settings can be shared between UNIX and Windows

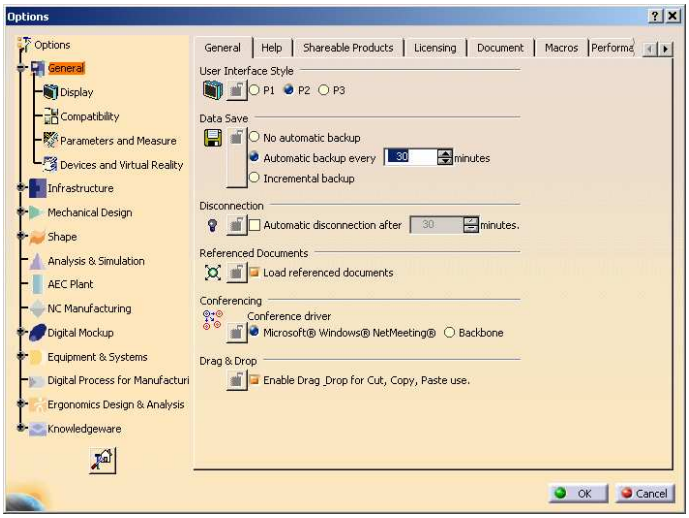
Instructor Notes:

Specifying Settings

- You specify Settings by using:
  - Tools -> Options command

    or
  - Settings Management Tool

    CATOptionsMgt



Instructor Notes:

Settings Location

- **Windows**
  - **Permanent Settings (CATSettings): CSIDL_APPDATA**

    Ex: CATUserSettingPath = CSIDL_APPDATA \DassaultSystemes\CATSettings

    Windows 2000/XP: C:\Documents and Settings*user*\Application Data\Dass…
  - **Temporary Data (CATTemp,…) CSIDL_LOCAL_APPDATA**

    Ex: CATTemp = CSIDL_LOCAL_APPDATA \DassaultSystemes\CATTemp

    Windows 2000/XP: C:\Documents and Settings*user*\Local Settings\Application Data\Dass…
- **UNIX**
  - **Permanent settings (CATSettings): $HOME/CATSetting**
  - **Temporary data (CATTemp): $HOME/CATTemp**

Instructor Notes:

Locking Settings (1/3)

What is Settings Lock ?


means "locked" (in user and administrator mode):
The setting cannot be changed

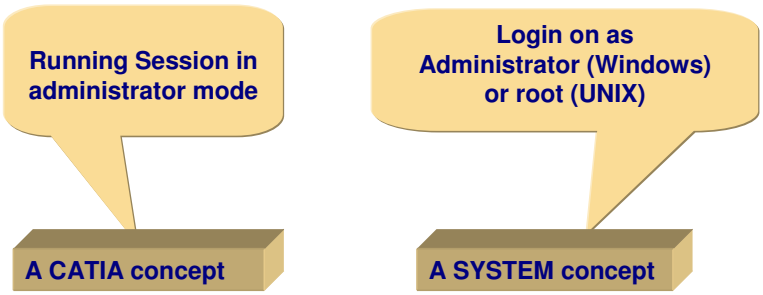

means "locked at administrator level" (in administrator mode)


means "no lock" (in administrator mode).


means "no lock" (in user mode).

Concept of Administrator

- On Windows
- On Unix



Functional concept ↔ **File access concept**

Instructor Notes:

Locking Settings (2/3)

- **Mecanism**

  Locking settings

  - **An administrator can lock settings so the users, using the same environment, inherit those settings and cannot change them**
  - **Locked Settings are put in the directory referenced by the CATReferenceSettingPath variable**
  - **If CATReferenceSettingPath variable references a concatenation of directories,**

    the first setting lock found is taken in account

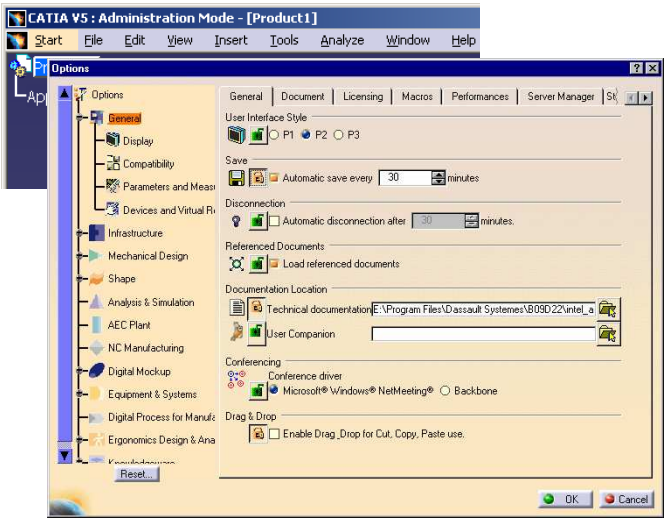
Instructor Notes:

Locking Settings (3/3)

- How to lock settings
  - Log on as administrator (Windows) or root (UNIX) if Global Environment
  - Create and protect a directory which will contain locked settings
  - Modify the CATReferenceSettingPath variable in the environment
  - Run a CATIA session in administrator mode (- admin)

Or

  - Run the Settings Management Tool in administrator mode (- admin) (CATOptionsMgt –admin)
  - Settings are saved in the last path pointed by the CATReferenceSettingPath variable



Instructor Notes:

Default Settings (1/2)

- Mecanism

  Default settings

  - With the same mechanism of lock, an administrator can set default settings, although not locked.
  - Those settings are proposed to the users as a starting point
  - Initial default settings are hard coded
  - If CATReferenceSettingPath and CATUserSettingPath variables reference a concatenation of directories,

    the Last default setting found is taken in account

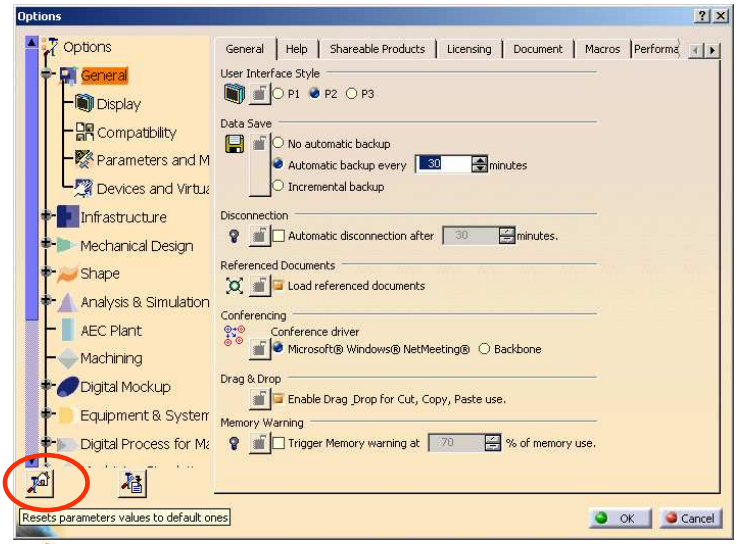
Instructor Notes:

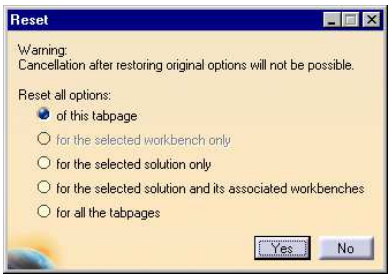
Default Settings (2/2)

- How do I reset Settings ?
  - Display the Options dialog box
    - ✓ Select : Tools>Options
    - ✓ Or execute : CATOptionsMgt

Or

  - Delete CATSettings directory





Instructor Notes:

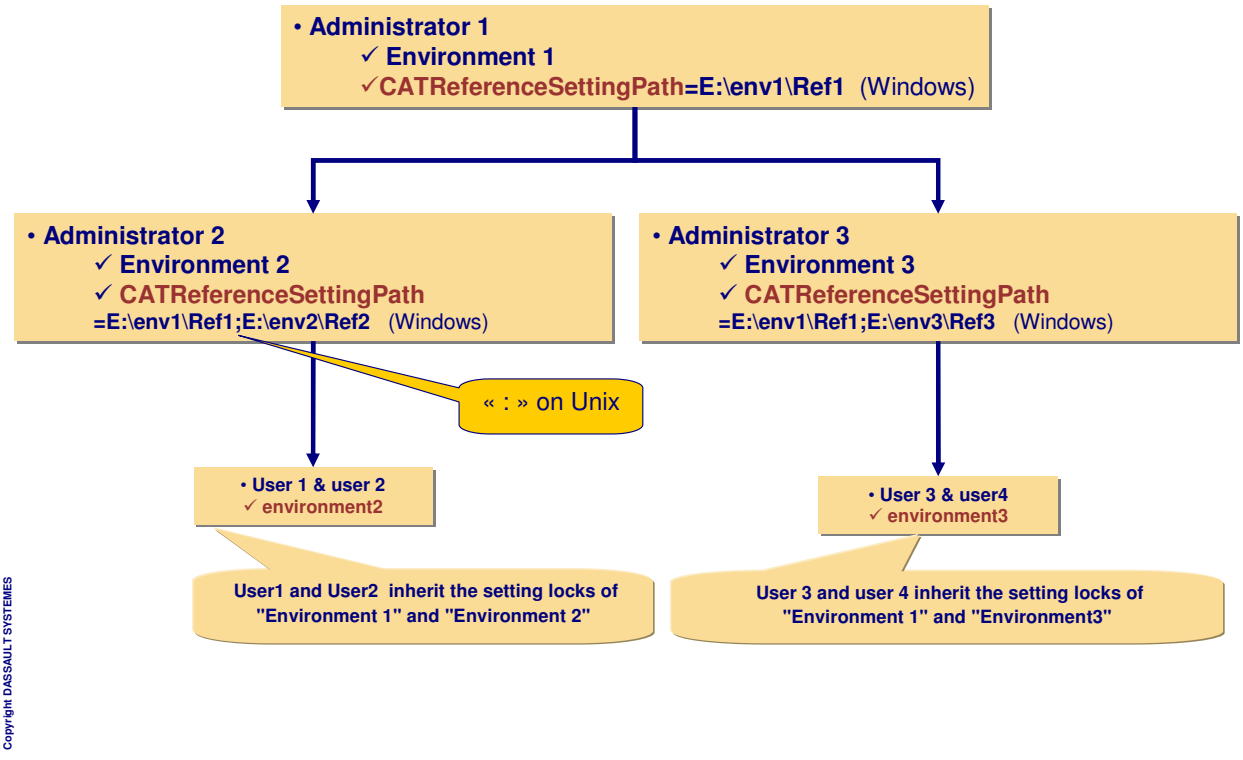
Sharing Settings (1/3)

Basics:

- **The valuation of the Settings is based on a concatenation mechanism, on which is build the hierarchical administration of the users environments.**
- **The directories where the setting files are searched, are defined by 2 variables defined in the V5 environment.**
  - ***CATReferenceSettingPath to declare the administrator directories in hierarchical order***
  - ***CATUserSettingPath to declare the user directory***
- **During the reading of a given setting, all CATSetting files found in the CATReferenceSettingPath and in the CATUserSettingPath will be read in this order of priority**

Instructor Notes:

Sharing Settings (2/3)



Instructor Notes:

Sharing Settings (3/3)

- How CATIA reads the settings

Initial Code Setting	Ref 1	Ref 2	Reset Value	User 1 Setting	Result in user 1 session
A=a	A=	A=	A=a	A=	A=a
A=a	A=b	A=	A=b	A=	A=b
A=a	A=b	A=c	A=c	A=	A=c
A=a	A=b	A=c	A=c	A=d	A=d
A=a	A=e	A=c	A=c	A=d	A=d
A=a	A=e	A=f (L)	A=f	A=d	A=f
A=a	A=e (L)	A=f (L)	A=e	A=d	A=e
A=a	A=g	A=h	A=h	A=d	A=d
A=a	A=g	A=h	A=h	A= (Reset)	A=h

(L) Means that the parameter is locked by the administrator

Instructor Notes:

Importing/Exporting settings from/to XML format

- Settings files may be imported or exported from/to XML format using the following commands:

CATBatGenXMLSet to export

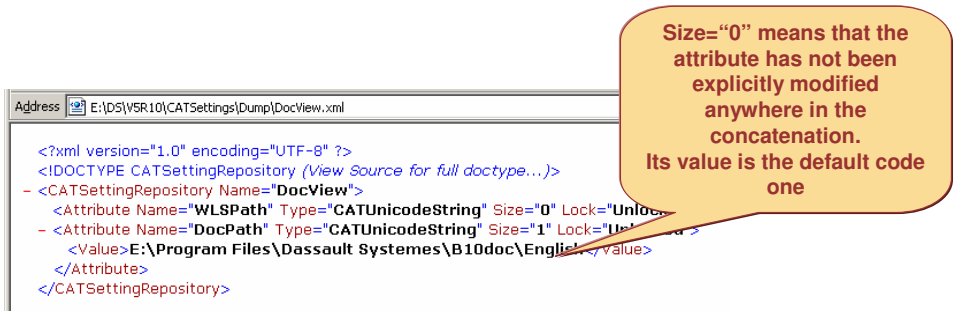
Ex: catstart –run "CATBatGenXMLSet /tmp WarmStart [-admin]"

CATBatImpXMLSet to import

Ex: catstart –run "CATBatImpXMLSet /tmp/WarmStart.xml [- admin]"

Be careful with the import command, because no validity check is done on values when importing the xml file

Certain attributes of CATSettings are not exportable:
Ex: FrameConfig.CATSettings, FrameGeneral.CATSettings,
DLNames.CATSettings (Use CATSysDLExport)



Instructor Notes:

Administrating settings with scripting

You will learn how to manage CATIA V5 settings using scripts

Instructor Notes:

General Settings Requirements (1/3)

What are the requirements for settings administration

- Settings are generally established and managed by different persons
  - The first one is performed by responsible of the work methodology
  - The second by CATIA V5 administrators that deploy the solutions globally

  → Transition between those two tasks can be easily automated
- Settings must be changed in batch mode in some situations before launching the application (Batches, on the fly customization, ...)
- Settings must be exchanged between different sites.
- Provide a batch way of work for administrators.
- Allow for a "by delta" administration.
- Easily detect differences between environments.
- Check that no invalid values can be set.

Instructor Notes:

General Settings Requirements (2/3)

For settings persistency and maintainability the requirements are to :

- **Ensure existing settings stability between Service Packs and releases**
- **Retrieve all the new settings that appear**

  Even if new settings are basically documented, provide an easy way to have the list of the new settings of a new release.
- **Retrieve all default values (initial code values)**

Instructor Notes:

General Settings Requirements (3/3)

To answer to all these requirements:

- **CAA Exposition of all the settings.**

  Thus all the settings can be handled:
  - **by VB macros**
  - **by programs.**

- **A way to administrate the settings in batch mode as you can do interactively with Tools / Options:**
  - **Same scope of settings**
  - **Same level of control**
  - **Same semantic**
  - **Same capabilities of administration (Default, Lock, ..)**

- **VB Macro recording**

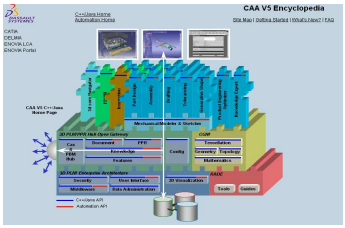
- **Dump mechanism**

These functionalities are under development since R16 and already accessible in R18

Instructor Notes:

CAA exposition (1/3)

- All the available settings will be exposed through CAA interfaces.



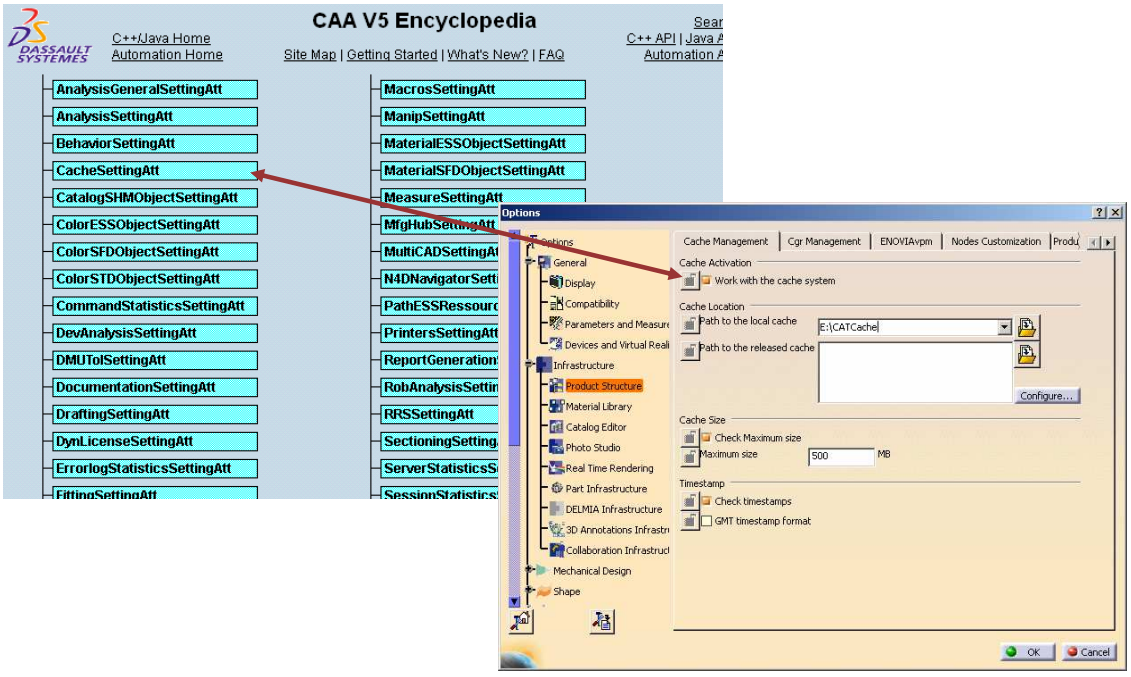
Consequently:

- The CAA rules will ensure the stability of these settings during the evolution of the product.
  - The semantic of each parameter will be guarantee with its upward compatibility.
  - No evolution between Service Packs of a Release.
- The settings will be accessible through VB macro
- The settings will be accessible directly by programs for batch development.

Instructor Notes:

CAA exposition (2/3)

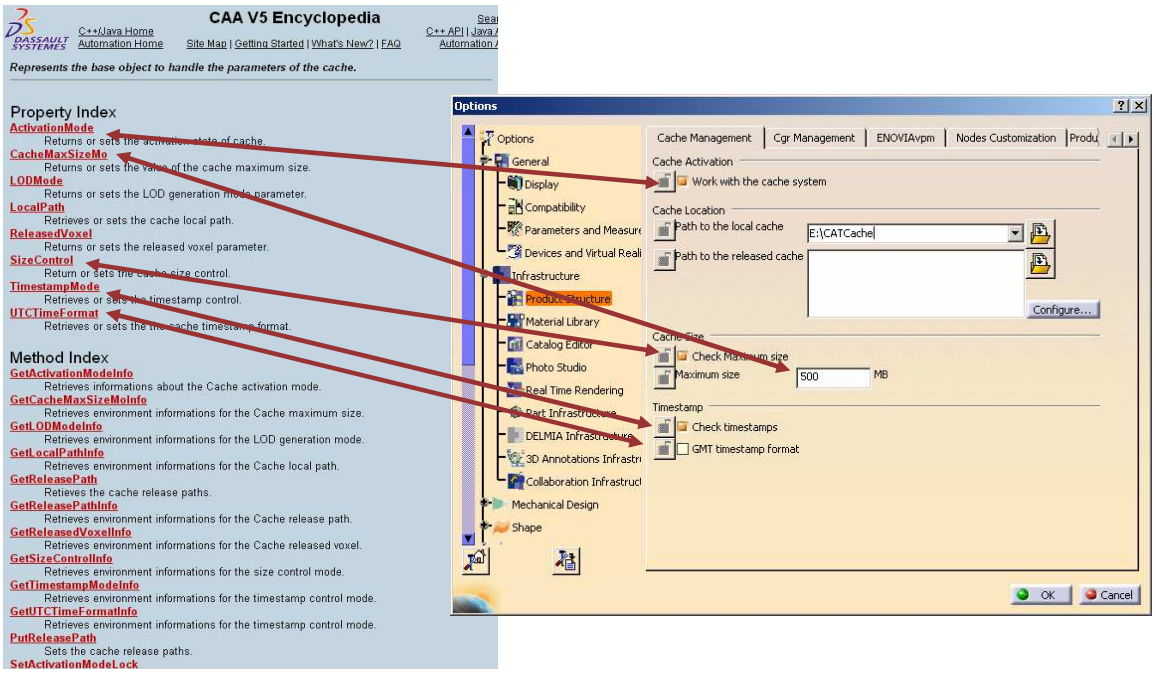
- A setting controller (at least) per Tools / Options tab



Instructor Notes:

CAA exposition (3/3)

- Each setting has a property with its associated methods



Instructor Notes:

VB Scripts (1/2)

Settings can be managed with VB scripts

- The VB scripts can be :
  - exchanged
  - stored

  in order to import/regenerate a given set of settings which define the methodology of one client site to another or between OEMs.

- Each parameter can be accessed independently, this allows
  - Settings handle on a parameter basis
  - Delta administration
  - Incremental process : each one adding only one or few parameters to the preceding step.

- Same functionalities offered by Tools Options:
  - Retrieve and modify the value of each setting attribute.
  - Retrieve the properties of each setting attribute i.e. :
    - locking state.
    - CATPath (from where its value is inherited)
    - Modification state (is this attribute an explicitly modified one)
  - Lock or unlock a given attribute.

Instructor Notes:

VB Scripts (2/2)

- Example:
  - To activate and modify the size of the cache, the script can look like the following sequence:

```
Sub CATMain()
Set settingControllers1 = CATIA.SettingControllers
Set cacheSettingAtt1 =
settingControllers1.Item("CATSysCacheSettingCtrl")
cacheSettingAtt1.ActivationMode  = TRUE
cacheSettingAtt1.CacheMaxSize = 1024
End Sub
```

This macro will only update the 2 parameters cache activation and cache size, with no interference on other parameters that can be stored with them in the CATSettings file.

It can be also send to any suppliers. It can be rerun to restore the configuration.

  - The macro has to be run on the right environment, in order to update the settings on the right level

```
../catstart -run "CNEXT -batch -macro my_macro.catvbs"  -direnv
direnv_name -env env_name
```


Instructor Notes:

Settings Dump command (1/3)

- A DUMP command is available in order to :
  - View the values of all the available settings and their state
  - Retrieve a given setting.
  - Compare the settings between different code levels.
  - Compare different configurations by comparing the macros.

- It will generate a macro describing the state of a given setting :
  - ✓ value of the parameter
  - ✓ locking state
  - ✓ level of administration.

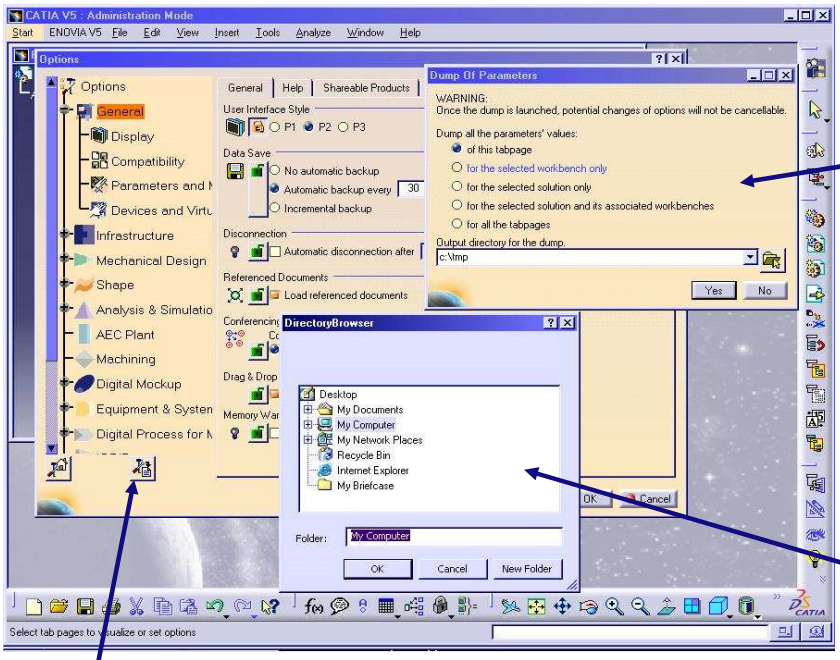
- This command is available from Tools Options and offers:
  - the possibilty of dumping a given Tab page, all the Tab page of a given solution, or all Tab pages.
  - A file will be generated for each dumped Tab with a name following the format in english:

    Solution_Name-Workbench_Name-TabPage_Name.catvbs

    Thus the dump can be easily related to the Tab page and the well know view of the setting configuration.

Instructor Notes:

Settings Dump Command (2/3)



Panel for choosing which Tap pages will be dumped

Directory selection box for choosing where the Dump files will be created

Dump command button

Instructor Notes:

Settings Dump Command (3/3)

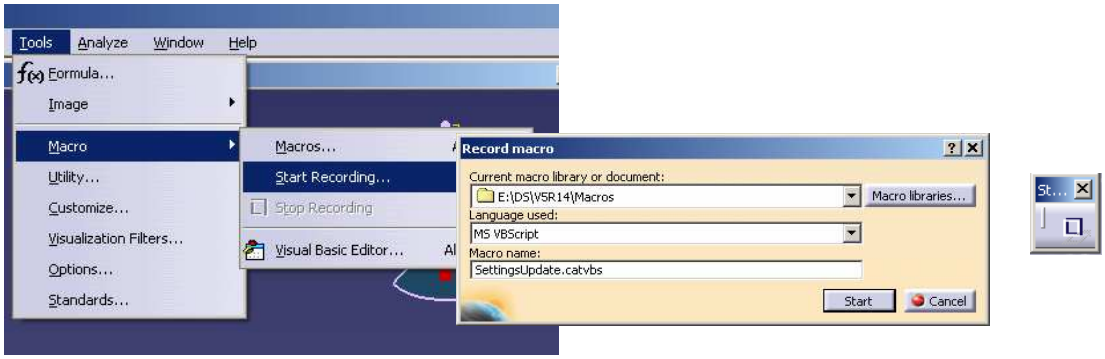
- Example of dump macro file: the Cache management tab page
  - Infrastructure-Product_Structure-Cache_Management.catvbs

```
Language="VBSCRIPT"
Sub CATMain()
Set settingControllers1 = CATIA.SettingControllers
Set cacheSettingAtt1 =
settingControllers1.Item("CATSysCacheSettingCtrl")
Dim boolean1
boolean1 = cacheSettingAtt1.ActivationMode
'-------------------------------------------------
' Returned value : (Boolean) True
'-------------------------------------------------
Dim bSTR1
bSTR1 = ""
Dim bSTR2
bSTR2 = ""
Dim boolean2
boolean2 = cacheSettingAtt1.GetActivationModeInfo(bSTR1, bSTR2)
'-------------------------------------------------
' Parameter 1 : (String) "Set at Admin Level 0"
' Parameter 2 : (String) "Locked at Admin Level 0""
' Returned value : (Boolean) False
'-------------------------------------------------
```


Instructor Notes:

Recording Macro

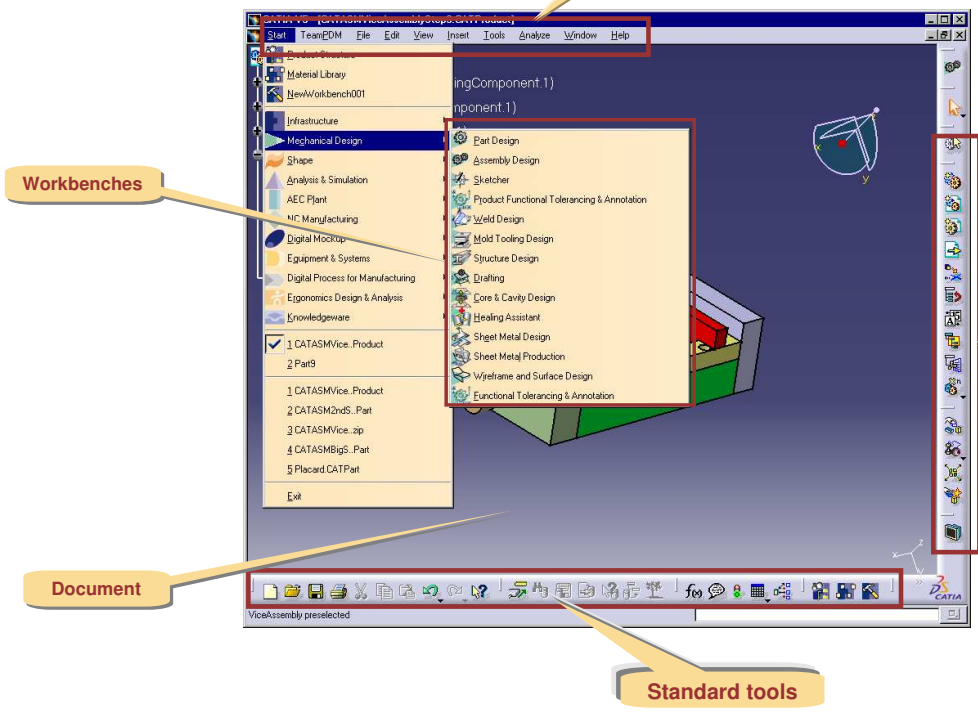
- The Tools Options command will be integrated in the macro recording process.
  - Thus, it will be possible to create easily macros during the configuration phase.
  - The person in charge of the work methodology, can also record macros which the CATIA V5 administrators will run in the official environment.
  - These macros can be stored and easily updated to follow the evolution of the methodology.



Instructor Notes:

Workbench (1/3)

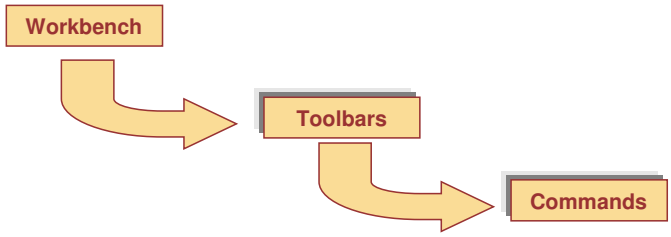
- Definitions



Instructor Notes:

Workbench (2/3)

- Definitions
  - A workbench is a set of tools for completing specific task
  - Each type of document can be editing with document-specific set of tools
  - Opening a specific type of document activates the workbench and the associated workbench toolbar containing all the tools you need to edit the document
  - The same applies to the contents of the menu bar and the commands on pulldown menus



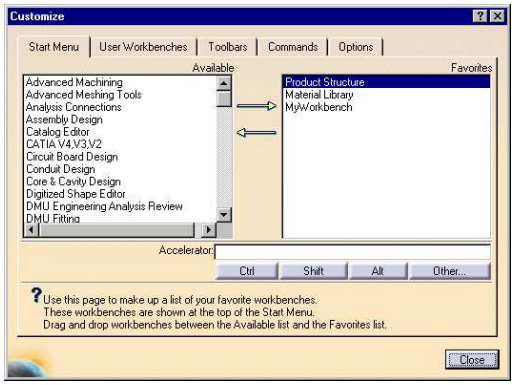
Instructor Notes:

Workbench (3/3)

- How to customize Workbenches and Toolbars :

Tools→Customize…

- Start Menu: customizes the Start menu and workbench access icons
- User Workbenches: lets you create your own workbenches
- Toolbars: lists the currently visible toolbars
- Commands: lists the commands you can drag and drop onto a toolbar
- Options: contains general customization options



Ex: Lock position of toolbars (may be locked by an administrator)

User interface language (may be locked by an administrator)

Customization is stored in CATSettings files: FrameGeneral.CATSettings, FrameConfig.CATSettings,

DialogPosition.CATSettings, …

Instructor Notes:

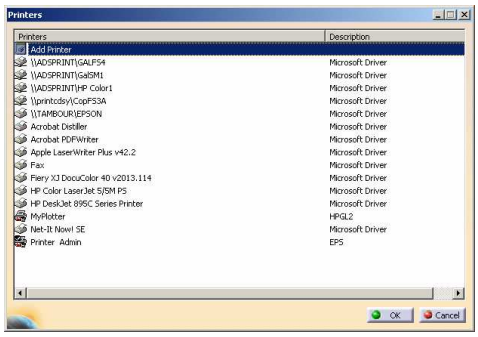
Printers (1/3)

- Printer management

To add, remove, configure, set as default, test printers:

- 3D PLM Printer
- Windows printer

→ File / Printer Setup…
→ Printers V5R18 interactive batch



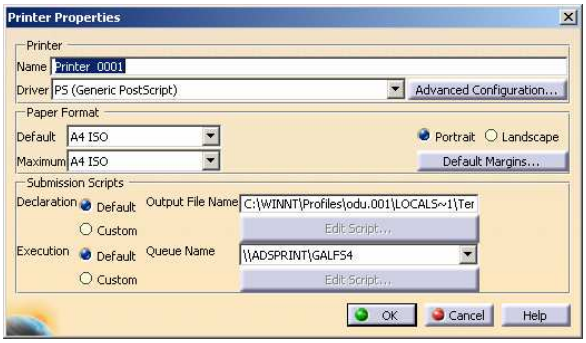
For each 3D PLM printer:

A printer XML configuration file is created

PLOTnnnn.xml

by default in the ${CATUserSettingPath}/Printers Folder
The file contains the printer and driver properties.

The .dtd file containing the description of the xml file is located in ./resources/PrinterDTD/printer.dtd.

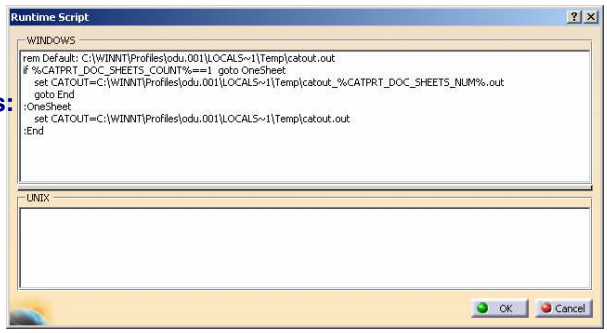


Instructor Notes:

Printers (2/3)

- Submission scripts
  - Declaration: To define the output file name
  - Execution: To define the queue name
- Custom scripts may be written:
  - One for Windows and one for UNIX
  - Batch or shell languages
- Following environment variables may be users:

CATPRT_PRINTER_NAME: *Printer name*
CATPRT_DOC_NAME: *Document name*
CATPRT_DOC_PATH: *Document path*
CATPRT_PAPER_WIDTH: *Paper width*
CATPRT_PAPER_HEIGHT: *Paper height*
CATPRT_PAPER_NAME: *e.g. A4*
CATPRT_PAPER_UNIT: *e.g. mm*
CATPRT_DOC_SHEETS_COUNT: *Nb of copies*
CATPRT_DOC_SHEETS_NUM: *Print number*



Instructor Notes:

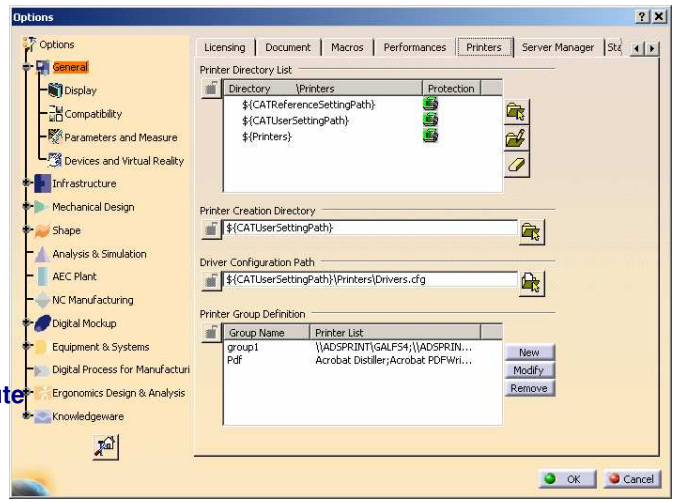
Printers (3/3)

Printer management

Printer inheritance

A user inherit all defined printers in directories From the list defined in Tools / Options Printers

- **The list can locked at the admin level**
- **Each path can be protected or not (Printer properties cannot be modified)**
- **User-defined variables supported**



Printer creation path

- **By default is the ${CATUserSettingPath}**
- **This variable can be changed by an absolute path or by ${CATReferenceSettingPath}**

Driver Configuration Path

- **For external drivers defined with CAA V5 APIs**

Printer Group

- **To select easily a printer using group filter**

(the informations are stored in the Printers.CATsettings file)

Instructor Notes:

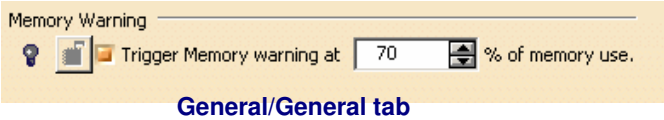
Specific Settings

You will learn how to set up CATIA V5 to get memory warning s and to create statistics on the CATIA V5 sessions

Instructor Notes:

Memory Warning

- Memory warning

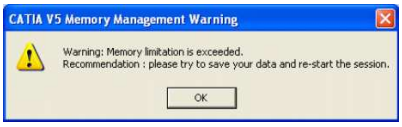


General/General tab

A warning popup when:

- The process memory use exceeds a certain percentage of the address space usage
- The remaining free memory fragmentation reach a certain threshold.

This popup warns you that because the amount of remaining memory is becoming low, you should save your data and exit the session.



The memory taken in account is the limit given in this document provided that the configuration has been correctly implemented.

Limitations:

- Small performance consumption
- Do not cover all the scenarios, for instance if the memory consumption increase too quickly
- On UNIX fragmentation control is useless
- On UNIX the warning popup once even if memory is released and threshold passed again.

When the memory warning mechanism is activated, additional information is added to the:

- Session_Information_File
- Abend traces

Instructor Notes:

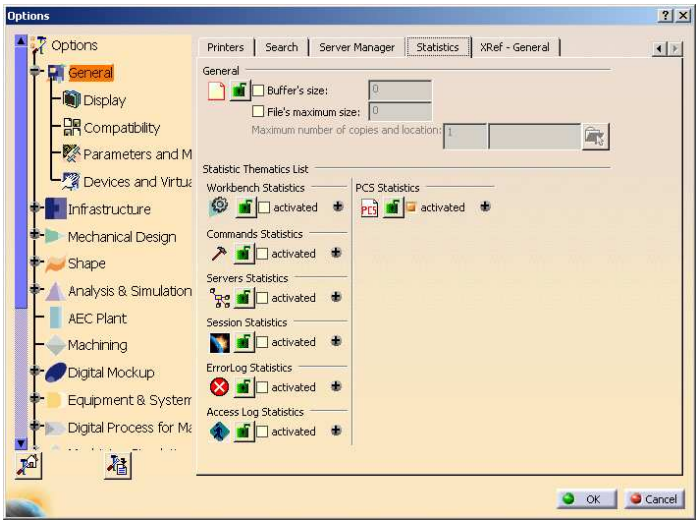
Statistics (1/3)

- **Statistics :**

You can log statistics for the following types of activities:

- **Time spent in workbenches**
- **Time spent using specific commands in those workbenches**
- **Session statistics.**
- **Errors statistics**
- **PCS statistics**

PCS stands for:
Performance Capacity Scalability

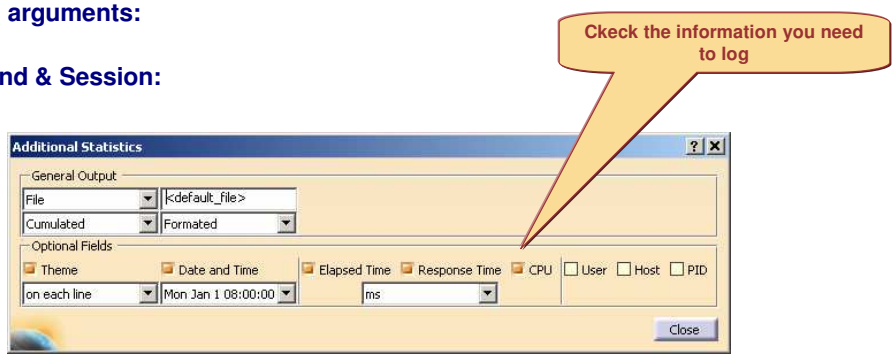


Instructor Notes:

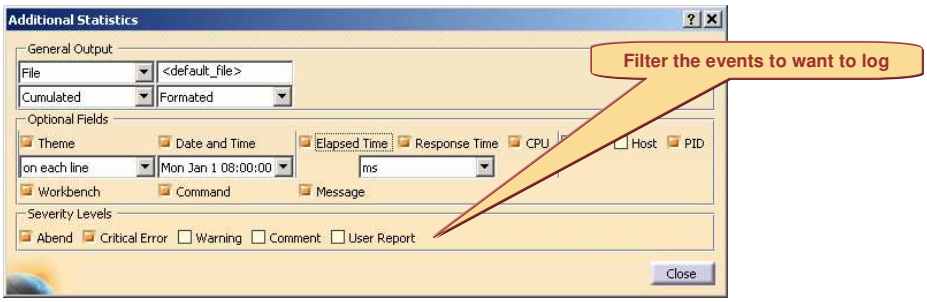
Statistics (2/3)

Each theme has its own arguments:

- **Workbench, Commnand & Session:**



- **Error :**

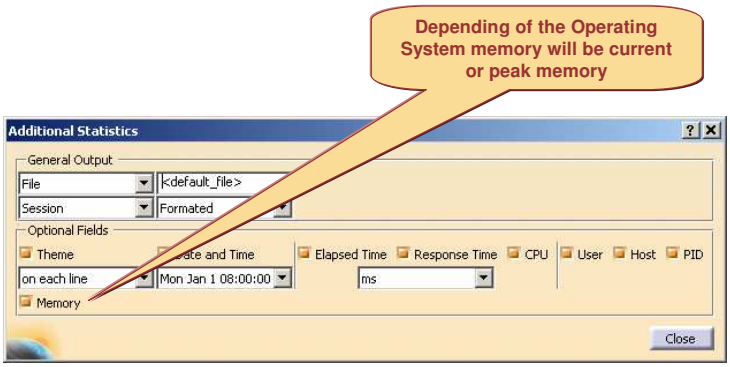


Instructor Notes:

Statistics (3/3)

Each theme has its own arguments:

- **PCS**



The traces are activated using the PCS Statistics Toolbar

Activation level: the higher activation level is, the more detailed events are logged

Cumulation level: Measurements are cumulated for events under this level

Instructor Notes:

Standards

- Standard Definition
- Standards Administration
- Drafting Standards
- Customizing Standards
- Upgrading Standard Files from Previous Releases

Instructor Notes:

Standard Definition

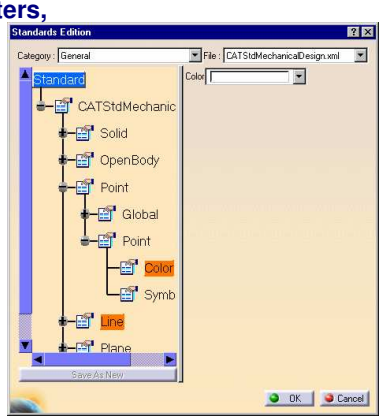
- A standard customizes globally, for a document (Ex: CATDrawing), the appearance and behavior of the elements

  Ex: Dimensions, annotations and dress-up elements

- A standard file is an xml file containing a set of parameters with their value

- The values of the parameters in the file are taken into account when the document is created (File -> New)

- The values are stored in the document
- Standard Types:
  - General parameters:(default graphic attributes, layers and filters, line thickness)
  - Drafting parameters (ISO, ANSI, JIS, …)
  - DXF / DWG interface parameters
  - Generative parameters (replace the DXF mapping options in the previous releases till R13)



- Standard files can be edited with an interactive editor

  Tools→Standards

Instructor Notes:

Standards Administration

- The location of the standard files is defined by two environment variables

  `CATDefaultCollectionStandard:` List of directories where the predefined standards delivered by Dassault Systemes are to be found.
  By default: [installation path]\$OS\resources\standard

  `CATCollectionStandard:` List of directories where the standards customized by a project or a user should be added

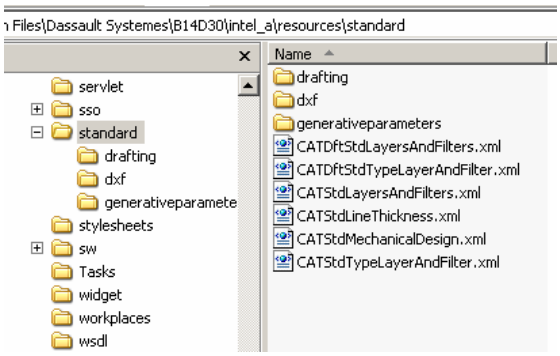
- If the same standard is found in 2 directories referenced by the 2 variables this is the one of CATCollectionStandard which is used

- Drafting standards are located in the *drafting* subdirectory

  (whether they are predefined or customized)

- Generative view styles are located in the *Generativeparameters* subdirectory

- DXF mapping in the *dxf* subdirectory



Instructor Notes:

Drafting Standards

- 4 standard files, one for each of the international standards, are available when creating a new CATDrawing file (ISO,ANSI,JIS,ASME)
- Since V5R11, styles, line types/fonts, default graphical properties of sketched geometry are defined in standard files.
- Drafting standards can be modified or added
- Standard is copied in the CATDrawing document

  ⇨ Enables the exchange of drawing documents without the need to send the standard file

- Standard can be switched by using File/Page Setup command
- Document may be updated when a standard has been modified

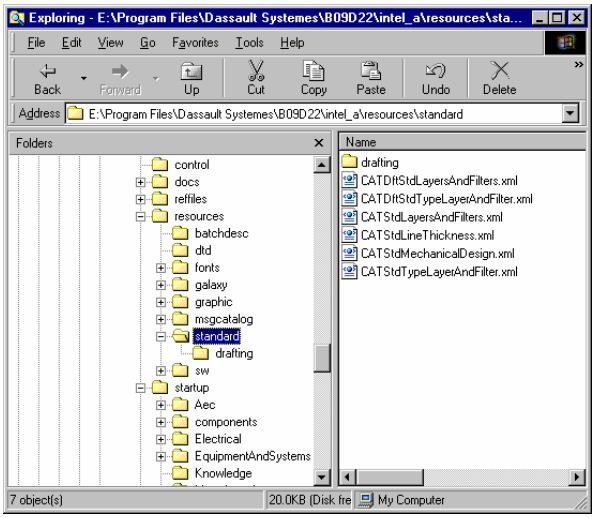
  ⇨ No automatic update

Instructor Notes:

Customizing Standards

- How to customize standards
  - Set up the CATReferenceSettingPath variable in order to Launch a CATIA session in administrator mode (- admin)
  - Set up the CATCollectionStandard variable
  - Set up the access rights in order to protect the new standard file
  - Launch a CATIA session in administrator mode (- admin)
  - Modify standard using the Standard Editor

    Tools→Standards… command



Instructor Notes:

Upgrading Standard Files from Previous Releases

- Since V5R9, the format of the drafting standard files has changed …
  - → V5R8:
    the standard file defining standard XXX was a file named
    XXX.CATDrwStandard
    located in install_root/reffiles/Drafting
  - Manual update from
  - Automatic Upgrade with the batch CATAnnStandardTools

```
CATAnnStandardTools MIGRATE_ALL [dir]
```

or `CATAnnStandardTools MIGRATE XXX [dir]`

… to migrate XXX.CATDrwStandard files to XML files

Instructor Notes:

Software Management

- How to install a Service Pack
- Cohabitation of CATIA V5 release levels
- Installation in batch mode
- Code Distribution
- Uninstalling CATIA V5
- Software management tool
- Local Documentation installation copying CDs

Instructor Notes:

How to install a Service Pack

You will learn how to install a service pack on top of an existing CATIA V5 installation

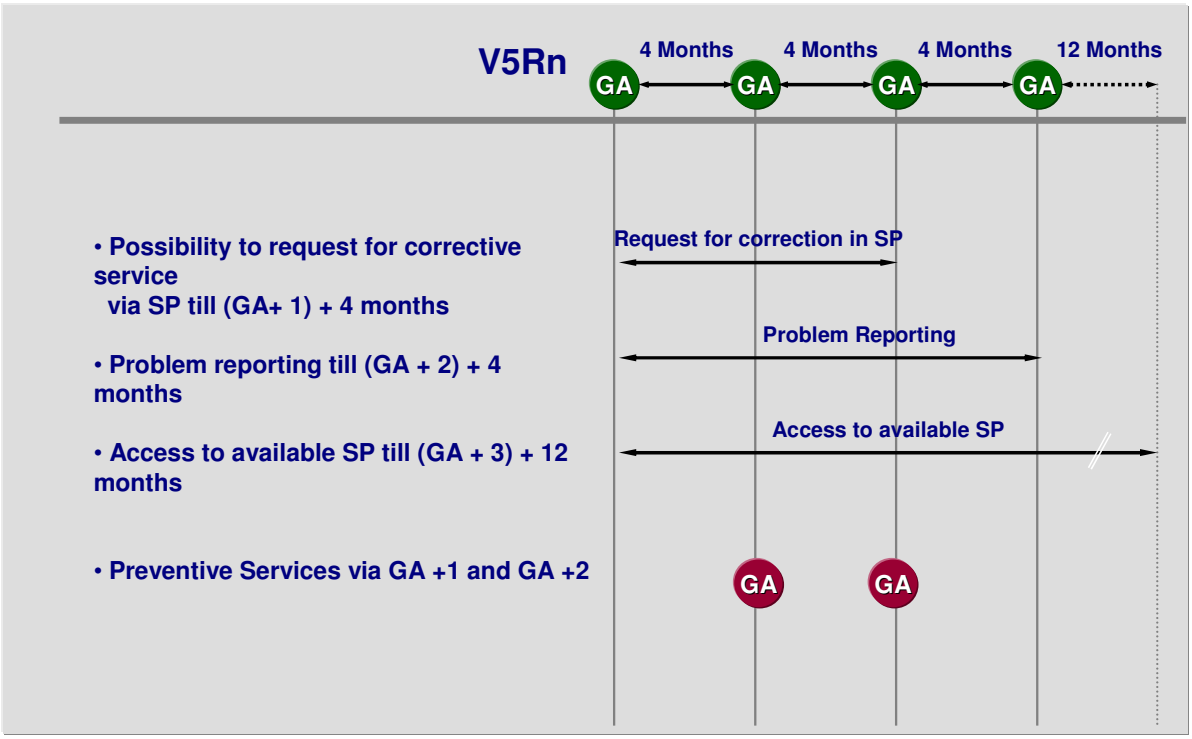
Instructor Notes:

What is a service pack

- A Service Pack includes corrections for blocking problems in production open on this release
- Each Service Pack supersedes the previous one and may be installed on top of the released level or on top of a previous Service Pack.
- Service Packs are available at the same time for all platforms (OS)currently supported target for Availability : about 4 Weeks
- Update of online documentation is provided through odd Service Packs (SP2, SP4 …)
  Online documentation must be completely re-installed in that case
  (No delta delivery)

Instructor Notes:

Maintenance Model



Instructor Notes:

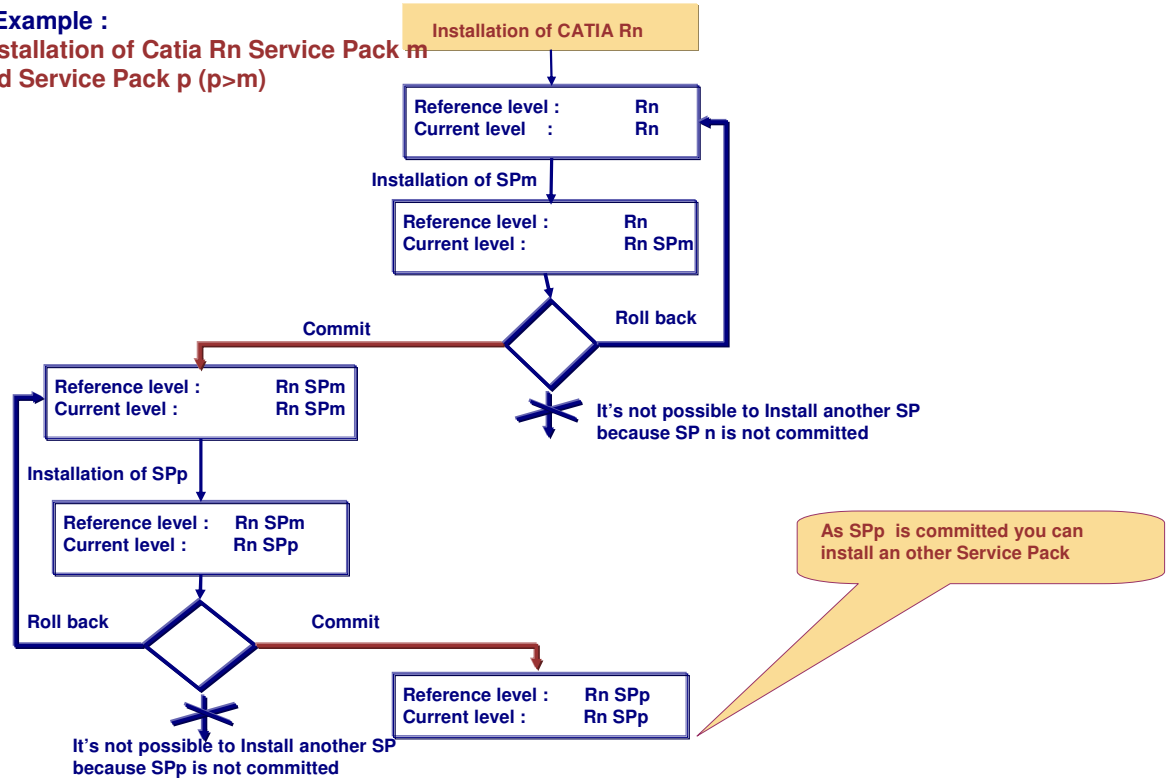
Committing or rolling back a Service Pack (1/3)

- Reference level / Current level
- What you can do after installing a Service Pack ?
  - No action
  - Commit the SP
  - Rollback the SP
- What is committing a Service Pack ?
  - It means applying the service pack to your CATIA installation
    - it becomes the new reference level
    - this deletes the previous reference level, thereby saving disk space.
  - You can choose to commit a SP automatically during SP installation
    => But you can not roll back to the previous level
- What is rolling back a Service Pack ?
  - it means uninstall it, and restore the previous committed level

Instructor Notes:

Committing or rolling back a Service Pack (2/3)

Example :
Installation of Catia Rn Service Pack m and Service Pack p (p>m)

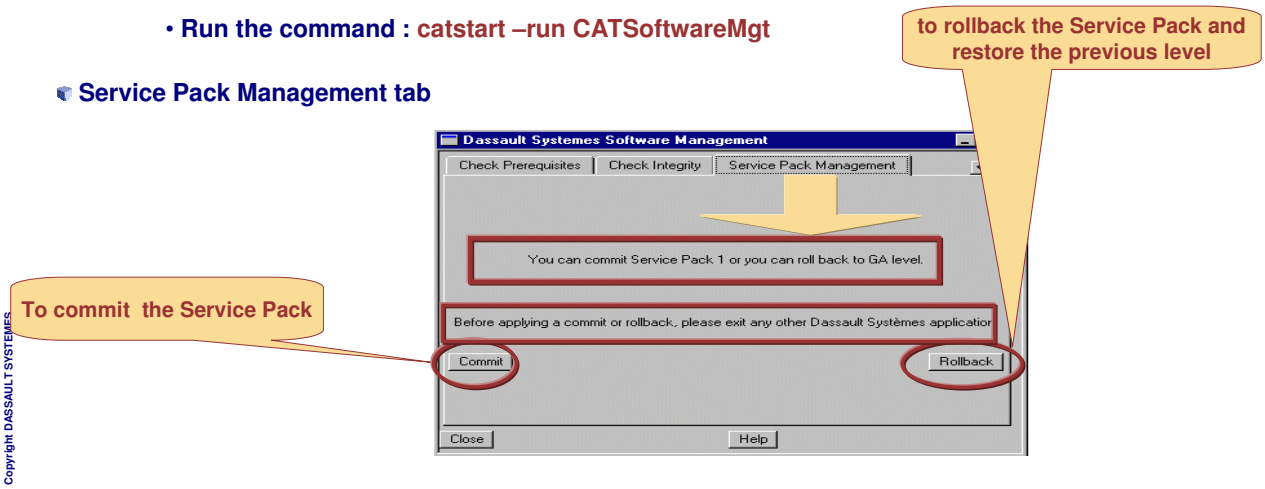


Instructor Notes:

Committing or rolling back a Service Pack (3/3)

- On Windows
  - Select :

  - Or run : CATSoftwareMgt
- On Unix :
  - Run the command : catstart –run CATSoftwareMgt
- Service Pack Management tab



Instructor Notes:

Installing a service pack code (1/2)

- Size of Service Pack
  - The size depends on the version of the SP.
    Example : V5R12 SP3 for the complete P3 code

V5R12 SP3	Initial space on disk	Additional size without commit	Additional size with commit automatically
On Windows	2 Go	~ 790 Mo	~ 110 Mo
On Solaris	2.4 Go	~ 1.1 Go	~ 82 Mo

- Installation in interactive mode
  - Windows : [CDROM]\intel\startSPK.exe
  - UNIX : /cdrom/start

Instructor Notes:

Installing a service pack code (2/2)

- Installation with command lines

  - Windows : StartSPKB [-h] [-b /-bC] [-u Unload_Dir] [-v] [-killprocess]
    (from [CDROM]\INTEL\ )
  - UNIX : start [-h] [-b /-bC] [-u Unload_Dir] [-s] [-v] [-killprocess]

  -u: to designate the installation

  On Windows: used if several installations, on only one installation registries are read.

  -b: installs the SPK in batch mode

  -bC: installs the SPK in batch mode and commits the SPK automatically

  -v: verbose mode

  -killprocess: detects and kill running processes from the corresponding installation unload directory.
  Afterwards Orbix and backbone (CATSysDaemon) processes are re-launched.

  -s: silent mode (Unix only)

  -h: help

- Distributing a service Pack from an archive file (See 6.4.7)

Instructor Notes:

Cohabitation of CATIA V5 release levels (1/2)

- Rules of cohabitation on the same computer
  - You can install different CATIA releases in different folders
    - But pay attention to the settings : both releases point by default to the same settings environment.
  - You can install the same release in different folders on the same computer :
    - On UNIX for any release
    - On Windows, since V5R9
- Why installing different releases on the same computer ?
  - To test a new release : V5R16 for production, V5R18 for test
  - For instance, a subcontractor working with different firms using different releases.
- Why installing same release in different folders on the same computer ?
  - To have the same release with different SPK : CATIA V5R18 and CATIA V5R18 SP2
  - To have on the same station the same release for 2 different product lines : CATIA V5R18 and LCA V5R18

Instructor Notes:

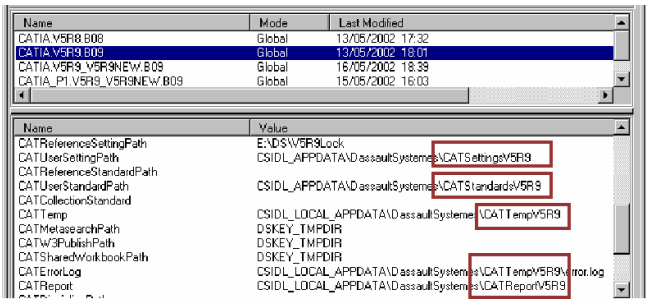
Cohabitation of CATIA V5 release levels (2/2)

- How to manage 2 different CATIA releases on the same computer ?

- Problem : Both releases point by default to the same settings environment
  - Downward compatibility of settings is not guaranteed, incompatible settings become *.CATSettings.OUT
  - Only upward compatibility is guaranteed

- Solution : To avoid mixing settings from various releases, customize the values of the environment variables specifically for each releases :

  - CATUserSettingPath
  - CATUserStandardPath
  - CATTemp
  - CATErrorLog
  - CATReport



For instance, rename default path by paths referencing CATIA level
(CATSettings replaced by CATSettingsV5R9 for instance)

Instructor Notes:

Installation in batch mode (1/2)

- start (UNIX) and StartB (Windows)

  -u "unload_dir": specifies the unload directory.

  -ident IDENT: creates an identifier used for differentiating multiple versions of the same release installed in different locations on the same computer (Windows only)

  -newdir: creates the unload directory if it doesn't exist

  -D: specifies the CATEnv environment directory.

  -lic "pathname.lic": specifies the path and name of the nodelock license certificate to import

  -env new|replace: create a new one or replace the environment file if already exists (Unix only)

  -exe: runs a Version 5 session at the end of the installation

  -s: silent mode (Unix only)

  -orbixport `port1`: specifies the Orbix daemon port number

  -orbixbase `port2`: specifies the starting port number for daemon-run servers

  -orbixrange: specifies the range for daemon-run servers

  -orbixboot: boot Orbix daemon at restart (Unix only)

  -backbonePorts port3 port4: specifies the ports reserved for the communication backbone

  -VRPort port5: specifies the port reserved for peripheral devices (spaceball, spacemouse, ...)

  -AddUserPrivilegesForOrbix: adds required privileges for Orbix for current user if they are missing

Instructor Notes:

Installation in batch mode (2/2)

-noSetupPorts: specifies you do not want to set up any communication ports
-DirVPM1: specifies VPM1 path for administrator home directory (Unix only)
-v: verbose mode
-h: displays help.
-list: lists the configurations, products and extra-products on the CD-ROM
-all: unloads all the configurations and the products on the CD-ROM
-l "list_to_unload": specifies the list of configurations and/or products to unload
-allextra_prd: unloads all the extra products
-lextra_prd "list_to_unload": specifies a list of extra products to unload.
-noLang "fr ge it jp ch"/-noLang all : specifies languages you do not want to install
-noFonts : specifies user doesn't want to install language-indexed fonts
-noreboot: the system will not be restarted if needed (Windows only)
-DLL: updates the system DLLs if needed (Windows NT only);
-UpdateServices: if used without arguments, it updates the file …/etc/services with default values
-noDesktopIcon: does not create a startup icon on the desktop (Windows only)
-noStartMenuIcon: does not create a startup icon in the Start menu (Windows only)
-noStartMenuTools: does not create an entry in the Start menu for the administration tools (Windows only)

Ex : CATIA V5 installation of XXX configuration and YYY product:

- On UNIX : start -u <INSTALL_DIR> -newdir -D <ENV_DIR> -s -l "XXX.slt YYY.prd"
- On Windows : D:\intel\StartB.exe –u <INSTALL_DIR> -newdir [-ident <IDENT>] -D <ENV_DIR> -l "XXX.slt YYY.prd" –noreboot

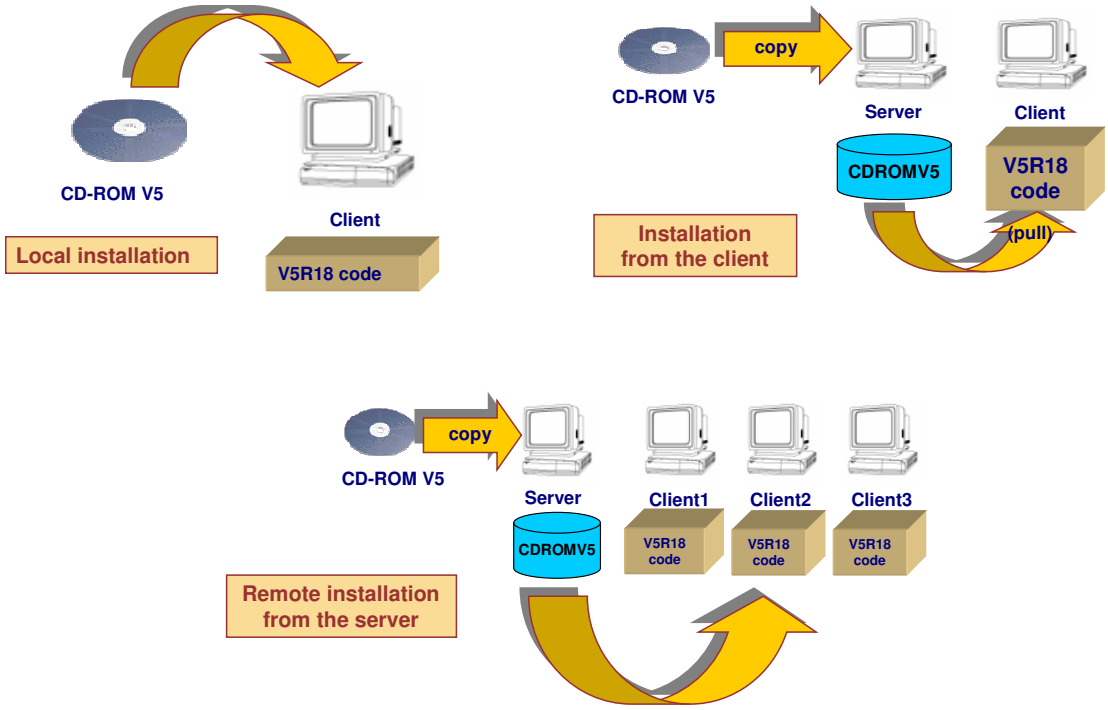
Instructor Notes:

Code distribution

You will learn the several methods to install the CATIA V5 code

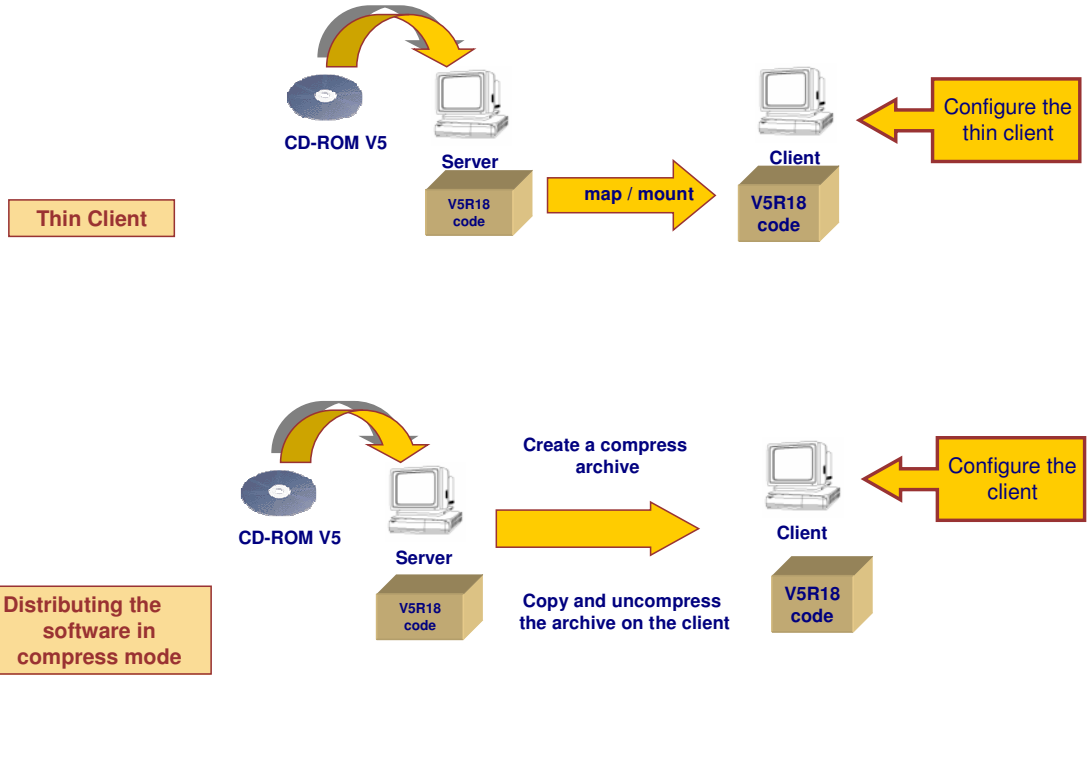
Instructor Notes:

Several ways to install CATIA (1/2)



Instructor Notes:

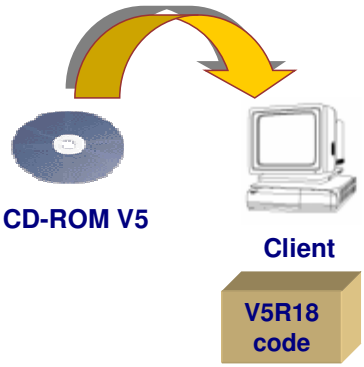
Several ways to install CATIA (2/2)



Instructor Notes:

Local installation with CD-ROM

- After introducing the CD-ROM, you can make 2 kinds of installation from the client :
  - In interactive mode: start (UNIX) or setup.exe (Windows)
    (Already seen in chapter 1)
  - In batch mode : start [-arg] (UNIX) or StartB [-arg] (Windows)



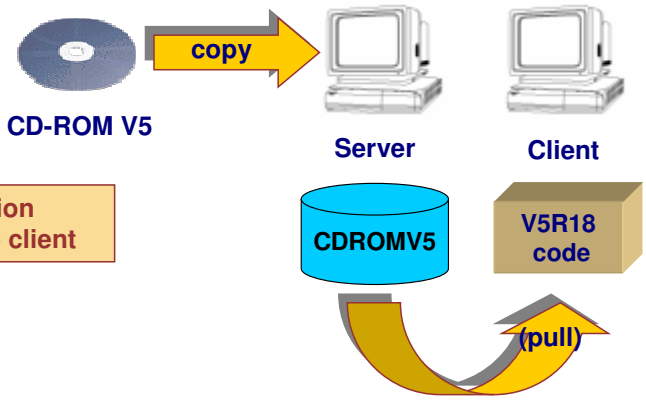
Instructor Notes:

Local installation with the code on a server

- On the server : Copy CATIA V5 CD-ROM code in a shared directory
- On the client : Map the shared directory (Windows) or make a NFS mount (UNIX). After, the installation is similar as an installation with CD-ROM.

From the client, you can launch installation :

- In interactive mode: start (UNIX) or setup (Windows)
- In batch mode : start [-arg] (UNIX) or StartB [-arg] (Windows)



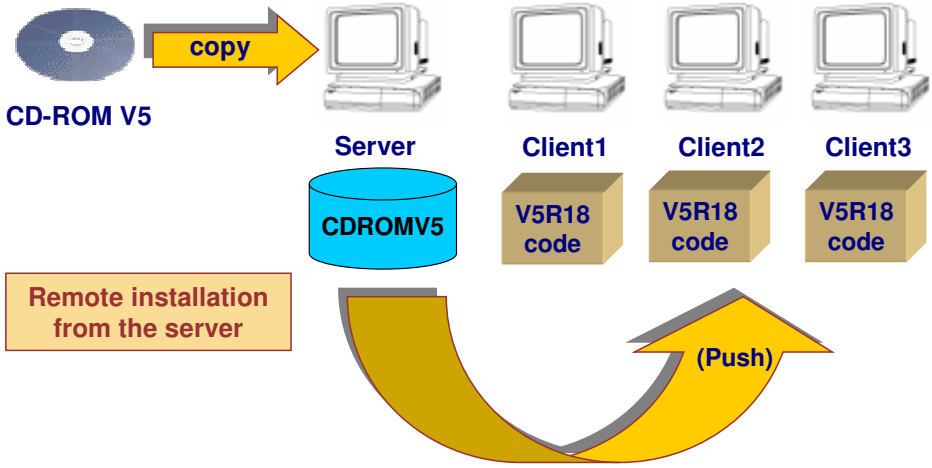
Instructor Notes:

Remote installation from a server (1/2)

- Batch mode for CATIA V5 installation enables remote installation
  - For CATIA V5 installation : start (UNIX) and StartB (Windows)
  - For Service Pack installation : start (UNIX) and StartSPKB (Windows)
- Prerequisites:
  - UNIX :
    - connected as root on the client and the server with permission to execute remote command
  - Windows :
    - connected with a network user with administrator's right on the client and the server

Instructor Notes:

Remote installation from a server (2/2)



- Scenario
  - Copy of the CDROM in a shared directory on the server
  - Creation of a batch file that would be copied on the client
    The script makes the connection to the server and launches the installation
  - Check space left and system prerequisites on the client
  - Launch the batch file with a remote command from the server

Instructor Notes:

Remote installation from a server on Windows

- Configuration of the server
  - Copy the content of CATIA V5 CD-ROM code in the shared folder E:\CDROMV5
  - Create a batch file install.bat
    - Example 1 : installation of CATIA in E:\DS\CATIA_V5R18 with MD2 configuration and with the environment folder E:\DS\CATEnv
      \\<server>\CDROMV5\INTEL\StartB -u E:\DS\CATIA_V5R18 -D E:\DS\CATEnv-newdir -l "MD2.slt" –noreboot
    - Example 2 : installation of a Service Pack without committing in E:\DS\CATIA_V5R17
      \\<server>\CDROMV5\INTEL\StartSPKB -b -killprocess -u E:\DS\CATIA_V5R17
- Distribution from the server
  - Copy the script install.bat on the client (for instance in E:\tmp)
  - Launch the batch with rcmd command in a DOS shell
    - For instance : rcmd \\<client> E:\tmp\install.bat
    - Look at the result on the client in the file : %TMP%\cxinst.log
      %TMP%\catenv.log

  (rcmd is part of the Windows Resource Kit)

Instructor Notes:

Remote installation from a server on UNIX

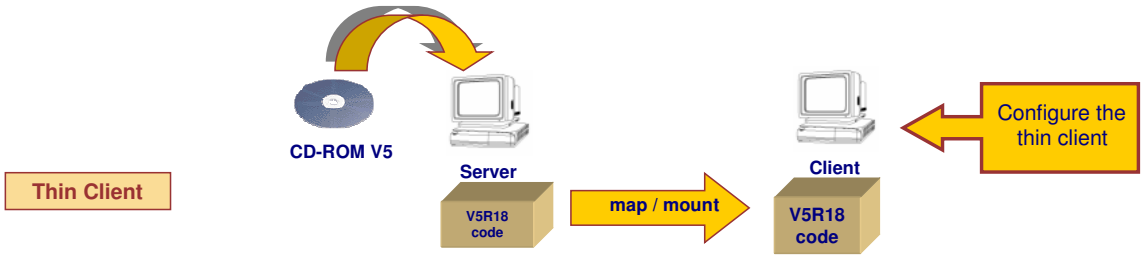
- Configuration of the server
  - Create a directory /CDROMV5 and export it with NFS
  - Copy the contents of the 2 CD-ROM of CATIA V5 in /CDROMV5
  - Create a script file install.sh
    - Example 1 : installation of CATIA in /DS/CATIA_V5R18 with MD2 configuration and with the environment directory /DS/CATEnv
      mkdir /CDROMV5 ; mount <server>:/CDROMV5 /CDROMV5
      /CDROMV5/start -u /DS/CATIA_V5R17 –newdir –D /DS/CATEnv -l "MD2.slt"
    - Example 2 : installation of a Service Pack without committing :
      mkdir /CDROMV5 ; mount <server>:/CDROMV5 /CDROMV5
      /CDROMV5/start –b -killprocess -u /DS/CATIA_V5R18 –s
- Distribution from the server
  - Copy the script on the client, for example in /tmp : rcp –p install.sh <client>:\tmp
  - Launch the batch with remote command : rsh <client> /tmp/install.sh
  - Look at the results on the client in the file /cxinst.log and /catenv.log

Instructor Notes:

Accessing the software from a thin client (1/4)

This architecture enables user access to the software over the network

- **On the server**
  - **The code corresponding to each OS client must be install on the server**
  - **Install CATIA V5 on each type of client and copy the [install_dir]/$OSDS to the [install_dir] directory on the server**
  - **Make the CATIA V5 code accessible from the clients (Shared or export)**
  - **Create a server environment if wanted**



Instructor Notes:

Accessing the software from a thin client (2/4)

- On the client (UNIX)
  - Access to server file system (Mount)
    /usr/DassaultSystemes/B18 for instance
  - Create a local environment
    (not needed if server environment)
    - Set the PATH variable
      (Add code/bin et code/command full paths)
    - Set the LIBPATH (AIX) or SHLIB_PATH (HP-UX) or LD_LIBRARY_PATH (IRIX, SUN) variable
      (Add code/bin full path)
    - Create the global environment (must be root)
      setcatenv -e CATIA.V5R18.B18 -p /usr/DassaultSystemes/B18 -d /CATEnv -desktop yes -new yes -a global
    - To register document types to the client desktop (for CDE and Magic Desktop)
      catstart -run "setcatenv -e CATIA.V5R18.B18 -d /CATEnv –regserver"
  - Set the backbone (if needed)
    - setV5Ports [-backbonePorts p1 p2] [-VRPort p3]
      -backbonePorts p1 p2: Specifies communication ports for backbone. Default values are 55555 and 55556
      -VRPort p3: Specifies communication port for peripheral device broker - default value is 55557

Instructor Notes:

Accessing the software from a thin client (3/4)

- On the client (Windows)
  (log as administrator onto the client)
  - Access to server file system (Map network drive)
  - Check DLL
    - CATSoftwareMgtB –P to check prerequisites
    - StartB –DLL from distribution to install the DLLs (from CDROM)
  - Create Tools shortcuts
    - setcatenv -p "F:\Program Files\Dassault Systemes\B18" –tools
  - Create a local Environment (if no server environment)
    - setcatenv -p "F:\Program Files\Dassault Systemes\B18" -e CATIA.V5R18.B18 -d MyEnvDirectory -a global
    - If server environment just create a shortcut to launch CATIA V5
  - Update Registries (OLE records)

    cnext /regserver –env CATIA.V5R18.B18 –direnv MyEnvDirectory

    (CATInstallPath variable is searched)

Instructor Notes:

Accessing the software from a thin client (4/4)

- On the client (Windows) continued
  - Update Fonts (if needed)
    - VE0IFONT –env CATIA.V5R16.B16 –direnv MyEnvDirectory

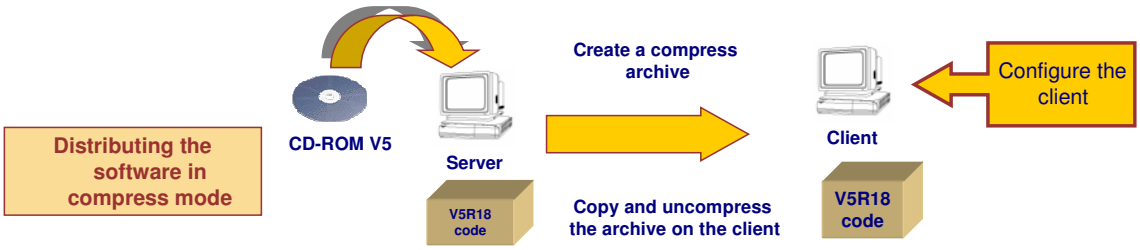
      (CATFontPath variable is searched)
  - Install VBA (if needed) (from distribution)
    - Windows Installer Service must be installed on Windows 2000
      [pathcdrom]\VBA\msi\instmsiw.exe /Q
    - Then, VBA 6.0 can be installed
      msiexec /q /i [pathcdrom]\VBA\VBA6.msi
  - Set the backbone ports (if needed)
    - setV5Ports [-backbonePorts p1 p2] [-VRPort p3]
      -backbonePorts p1 p2: Specifies communication ports for backbone.
      Default values are 55555 and 55556
      -VRPort p3: Specifies communication port for peripheral device broker - default value is 55557
    - BBDemonService [-create [-backbonePorts port1 port2]] [-delete] [-start] [-stop]
      BBDemonService –create (for default ports)
      -delete, start and stop for the service daemon

      (on Windows, you need to stop and start the service)

Instructor Notes:

Distributing software in compress mode

- On the server
  - The OS of the server must be the same as the client
  - Install CATIA V5 and create an compress archive (Winzip or other compression software) with the [install_dir] directory on the server
  - Copy the compressed package on the client and extract it
  - Create a server environment if wanted

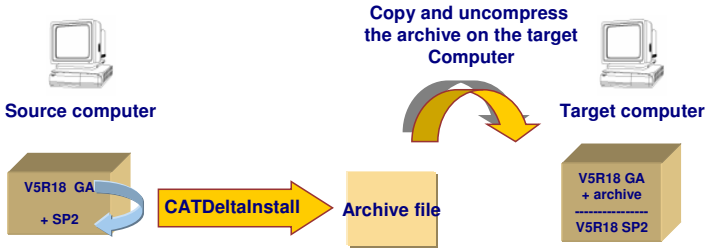


- On the client
  - Same installation as the thin client (See 6.4.5 Accessing the software from a thin client)

Instructor Notes:

Distributing a service pack from an archive file (1/2)

- Alternative to CDROM or StartSPK installation
  - More rapid because less data
  - Enables automation of SP installation
- Principle
  - CATDeltaInstall build an archive file containing the differences between 2 levels of a same release (SPn and SPm with n>m or GA)
  - This archive file is uncompressed on the target computer



- Conditions
  - Same release
  - Same software configuration (configurations/products)
  - Reference level can be GA or SP
  - Service Pack must be committed

Instructor Notes:

Distributing a service pack from an archive file (2/2)

- Details

On the source computer

- Install V5Rn GA release
- Install all wanted Service Packs and commit them
- Build the archive file by means of CATDeltaInstall

CATDeltaInstall -s PreviousServicePackNumber [-d InstallationDirectory]
[-l|-a ArchiveFile] [-t TemporaryWorkDirForUnixOnly] [-h]

-s : previous level (0=GA, 1=SP1, 2=SP2 ...) This level must have been installed
-d : Installation directory (not required on UNIX, may be optional on Windows)
- l : Only lists the files which are different between the 2 levels. May be used to build a different type of archive (Ex: Winzip)
-a : Builds the archive (tar file on UNIX and cab file on Windows)
on Windows Cabarc.exe must be accessible
tar file is not compressed, may be done afterwards
-t : UNIX: Temporary directory where is stored the archive file, /tmp by default

On the target computer

- Just copy the archive file and uncompress it in the installation directory

Ex: cabarc -p -o X E:\users\MyUser\MyArchiveFile "C:\Program Files\Dassault Systemes\B0n\"
tar -xvf /u/users/MyUser/MyArchiveFile (in the installation directory)

Instructor Notes:

Uninstalling CATIA V5

You will learn how to uninstall CATIA V5 and its documentation

Instructor Notes:

Uninstalling CATIA V5 in interactive mode

Windows only

- Log on as Windows administrator
- Remove all user environments with the:
  - Environment Editor
  - Or delcatenv command

  This is essential for removing all traces of environments in the desktop
- Kill all V5 processes:
  - catstart –run KillV5Process
    Including Orbix, and stops backbone service
- Remove the software
  - with Add/Remove Programs

- V5 online documentation can be removed also with Add/Remove Programs

Instructor Notes:

Uninstalling CATIA V5 in batch mode

- On Windows:
  - Run the command : <INSTALL_DIR>\DSUninstall.bat
    For example : C:\Program files\Dassault Systemes\B17\DSUninstall.bat
  - What is removed (same as Add/Remove programs)
    - The installation folder
    - All desktop items:
    - The last environment created
    - All registry entries
  - What is not removed ?
    - The fonts installed with the software
    - Any system libraries installed to update your system
    - Microsoft Visual Basic for Applications (VBA)
    - Certain registry keys (for external partners software)
  - The procedure stops all V5 processes using the version you are uninstalling
- On UNIX:
  - Delete the environments
    ./catstart -run "delcatenv –d /CATEnv -e CATIA.V5R18.B18 -unregserver"
    ./catstart -run "delcatenv –d /CATEnv -e CATIA.V5R18.B18 -a global -desktop yes"
  - Kill the V5 processes
    ./catstart –run KillV5Process
  - Delete the installation directory
    rm -rf /usr/DassaultSystemes/B17

Instructor Notes:

Uninstalling online documentation in batch mode

- On Windows:
  - Use the following command from the [DocInstall_Dir]/English directory :
    Uninstall*ProductLine*-LanguageDocumentation.bat

    Ex : CATIA_P3-EnglishDocumentation
    "C:\Program Files\Dassault Systemes\B18doc\English\UninstallCATIA_P3-EnglishDocumentation.bat"
- On UNIX:
  - Use the following command from the [DocInstall_Dir]/English directory:
    UninstallDoc [-a | -doc Name-Language] [-s] [-h]

    - -a : uninstall all the documentation in the installation directory
    - -doc Name-Language : uninstall only the specified documentation
    - -s : silent mode
    - -h : print help.

    Ex: /usr/DassaultSystemes/B18doc/English/UninstallDoc -doc CATIA_P3-English -s

Instructor Notes:

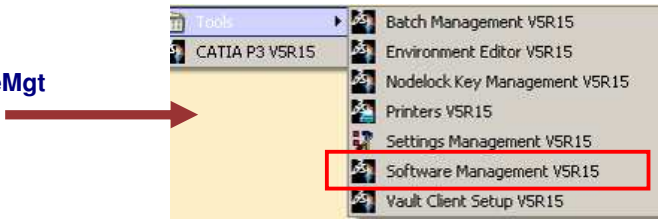
Software management tool

You will learn the tools to manage CATIA V5

Instructor Notes:

Software management tool interactive mode (1/5)

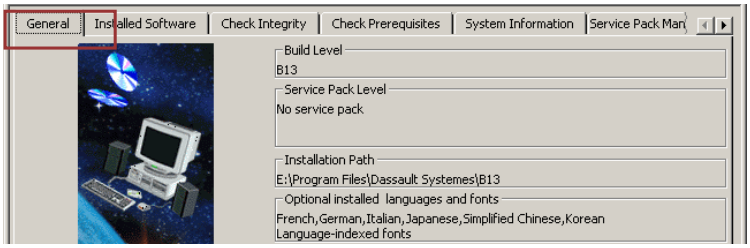
- Launching of the Software management tool : CATSoftwareMgt
- On Windows
  - Start menu
  - Command line : CATSoftwareMgt
- On UNIX
  - Command line only : catstart
  - –run CATSoftwareMgt



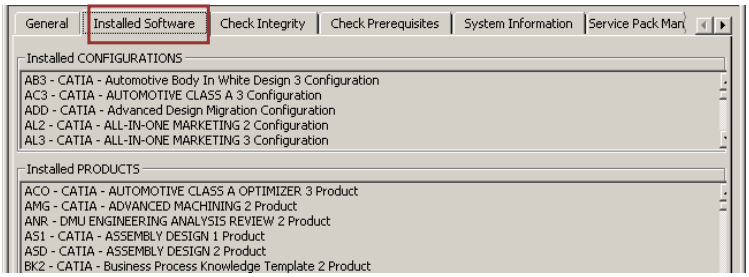
Instructor Notes:

Software management tool interactive mode (2/5)

- General Tab : Specifies the following informations
  - Build level : specifies the software build level (B18 = Catia V5R18)
  - Service Pack Level : identifies which SPK has been installed
  - Installation Path : specifies the installation folder for the specified build level



- Install Software Tab : The installed configurations and/or products are listed



Instructor Notes:

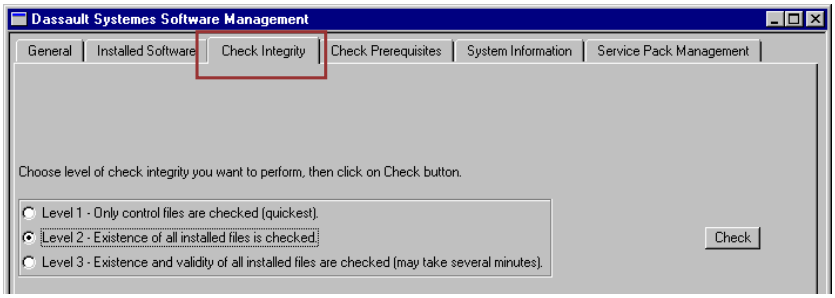
Software management tool interactive mode (3/5)

- **Check Integrity Tab : This checks the overall integrity of your CATIA software**

  There are three integrity check levels :

  - ✓ **Level 1 : only control files are checked (quickest)**
  - ✓ **Level 2 : checks existence of all installed files**
  - ✓ **Level 3 : checks existence and validity of all installed files**

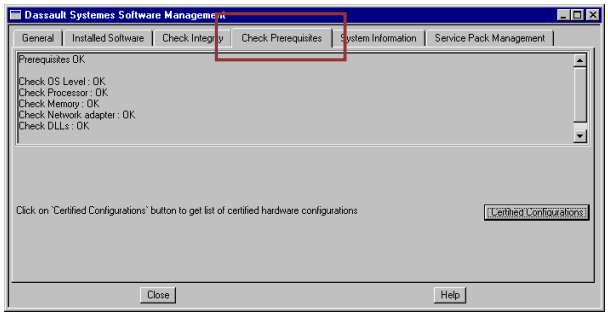
- **Integrity is OK : confirms there is no integrity problem**
- **Integrity is KO : CATIA installation has been corrupted**
  - ✓ **the configurations has a different level of Service Pack**
  - ✓ **or some files are removed**



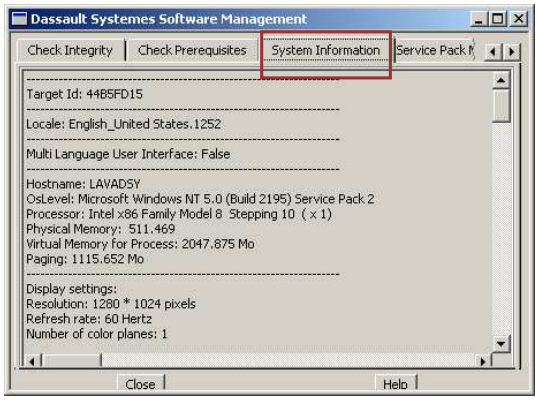
Instructor Notes:

Software management tool interactive mode (4/5)

- Check Prerequisites Tab
  - This simply checks if you still have the prerequisite software required for CATIA



- System information Tab (only on Windows)
  - This panel gives the information about the system properties
  - Example : target Id, hostname, Level Windows, system variables

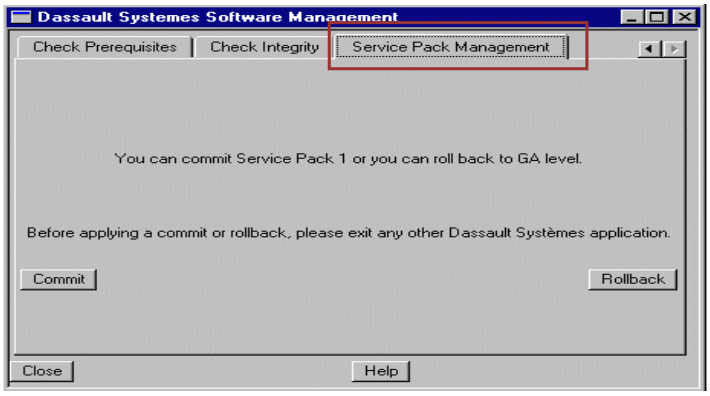


Instructor Notes:

Software management tool interactive mode (5/5)

Service Pack Management Tab

- The tab informs you if some service pack are installed
- You can commit or rollback the last not committed level



Instructor Notes:

Software management tool batch mode

- Batch mode running command
  - Windows : CATSoftwareMgtB [-arg]
  - UNIX : catstart –run "CATSoftwareMgtB [-arg]"

✓ -L : lists installed configurations and/or products

✓ -I : checks integrity

✓ -I or -I1 : Checks integrity - Level 1 (only control files are checked) : quickest

✓ -I2 : Checks integrity - Level 2 (checks existence of all installed files)

✓ -I3 : Checks integrity - Level 3 (checks existence and validity of all installed files) : may take several minutes.

✓ -o logfile : sets name of output logfile

✓ -P : checks prerequisites

✓ -D : gives system information

✓ -h : provides help on arguments

✓ -C : performs service pack commit; you must be administrator to use this option

✓ -R : performs service pack roll back; you must be administrator to use this option

✓ -killprocess : detects and kill running process in the installation folder
For rollback mode only, afterwards Orbix and backbone (CATSysDaemon) processes are re-launched.

Instructor Notes:

Local Documentation installation copying CDs

- This installation method takes less time than the standard method but is dedicated for complete installation only.
  - Copy all the CDs except the last one (PDFs) into a folder, for instance C:\B18doc
  - Delete the Index files:
    - C:\B18doc\online\CATIA_INDEXFile.DSidx
    - C:\B18doc\online\CATIA_INDEXFile.SOLidx
  - Copy:
    - C:\B18doc\onlineCATIA_INDEXFile.DSall to C:\B18doc\online\CATIA_INDEXFile.DSidx
    - C:\B18doc\online\CATIA_INDEXFile.SOLall to C:\B18doc\online\CATIA_INDEXFile.SOLidx

Instructor Notes:

Tools

- General concepts
- Batch Monitor
- V5 Management tools
- CATDUAV5 (CLEANER V5)
- Downward Compatibility
- Data Life Cycle
- CATAsmUpgrade
- Data exchanges
- CATDMUUtility
- CATDMUBuilder
- Other DMU Batch Utilities
- PRINT Batch Utility
- Migration V4/V5
- Migration to a DLName mechanism strategy
- Other tools

Instructor Notes:

General concepts (1/3)

- Utilities can be launch in batch mode
  Batch mode means that you can launch the utility without launching CATIA V5.
- An utility can be used in interactive mode (Graphic mode) or in command lines (non-graphic mode)
- Do not confuse : launching in batch mode with launching an utility in command lines
- Different types of utility
  - Executable
  - Library
  - Macro : CATScript, VBScript or VBA (Windows only)

Instructor Notes:

General concepts (2/3)

- Different types of utilities

	UNIX and Windows	Also on Windows
Executable	catstart –run Utility (Utility.exe on Windows) Ex : catstart –run CATDUAV5	Utility.exe
Library	catstart –run “CNEXT –batch –e Utility” Ex :catstart –run “CNEXT -batch –e CATV4ToV5Migration”	CNEXT –batch –e Utility
Macro	catstart –run “CNEXT –batch –macro <path>\MyMacro.CATScript”	CNEXT –batch –macro <path>\MyMacro.CATScript

Instructor Notes:

General concepts (3/3)

- Macro can be written in CATScript, VBScript or VBA
- Different ways to launch a macro

  1) With command lines

     catstart -run “CNEXT -batch -macro <PATH>/MyMacro.CATScript”

     With ‘-batch’ option CATIA V5 is not launched

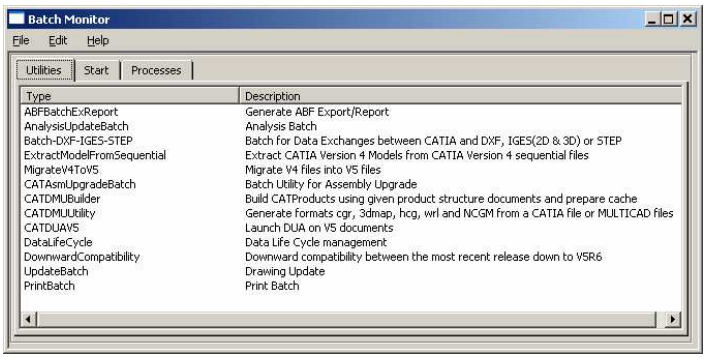
  2) With CATIA V5 in the menu : Tools → Macro → Macros
     then select the CATScript name and press Run

  3) Click on the CATScript icon (On Windows only)
     This way of launching use OLE link

Instructor Notes:

Batch Monitor (1/6)

- New common interface to run batch tools:
  - Set parameters for each batch tool
  - Save parameters into xml files
  - Run the batch tool
  - Monitor batch execution
  - Remote mode for some batches (New R12)
- Several batches are concerned by this interface:



- V4 equivalent tool: CATUTIL

Instructor Notes:

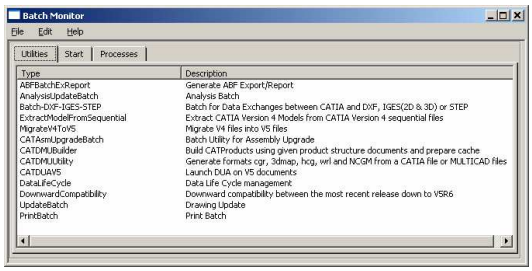
Batch Monitor (2/6)

- 4 ways to launch the batch monitor

1) Accessing to the batch monitor

catstart -run CATUTIL

(or CATUTIL on Windows)



2) Accessing to the desired batch interface

catstart -run "CATUTIL –Name *batch_name* "

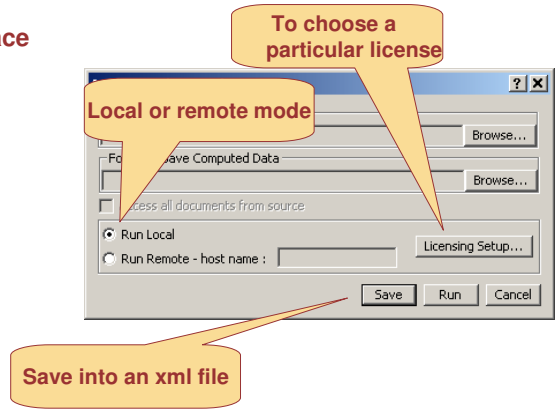
(or CATUTIL –Name *batch_name* on Windows)

3) Running the batch tool without graphical interface

catstart -run "CATUTIL –Name *batch_name* *file_name.xml* "

(CATUTIL –Name *batch_name* *file_name.xml* on Windows)

For instance:
CATUTIL –Name CATDUAV5
E:\DS\Output\CATDUAV5param.xml



4) Accessing to the batch monitor from CATIA V5

Tools > Utility…

Instructor Notes:

Batch Monitor (3/6)

- List of supported Batches

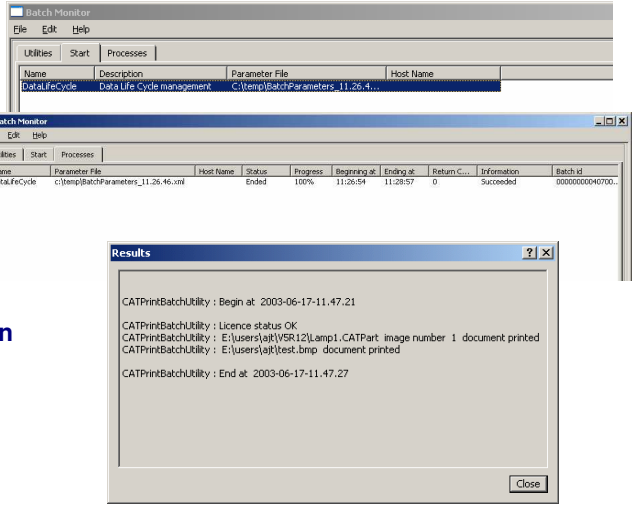
Batch Name	Description	Remote mode	DLName
ABFBatchExReport	Generate Automotive BiW Fasteners export report		Yes
AnalysisUpdateBatch	Update and compute a CATAnalysis document	Yes	Yes
Batch-DXF-IGES-STEP	Exchange data between Version 5 and DXF, IGES/STEP	Yes	Yes
CATAsmUpgrade	Lets you reduce the amount of memory in specific assembly		Yes
CATDMUBuilder	Build CATProducts using given product structures and feed the cache with these product structures		Yes
CATDMUUtility	Generate cgr, 3dmap, hcg, wrl and NCGM formats from a CATIA file or from a MULTICAD file		Yes
CATDUAV5	Use the CATIA Version Data Upward Assistant allowing you to have a support for CATIA level changes, to make a diagnostic, and eventually a healing of CATIA Version 5 data		Yes
DataLifeCycle	CATDUAV5, Downward Compatibility and Extract Model From Sequential		Yes
DownwardCompatibility	Reuse Version 5 data from one release to another		Yes
ExtractModelFromSequential	Extract CATIA Version 4 models from CATIA Version 4 sequential files		Yes
MigrateV4ToV5	convert CATIA Version 4 models into CATIA Version 5 models		Yes
PrintBatch	print your documents without running Version 5	Yes	Yes
UpdateBatch	update a list of CATDrawing documents		Yes

Instructor Notes:

Batch Monitor (4/6)

- **XML parameter file**
  - Contains all the necessary information to run the batch
  - If exists: Just associate (file menu) it to the batch and start the batch.
  - If does not exist: Create it through the desired batch interface. Then, save the parameters into a xml file to reuse it later through the batch monitor or a command line.
  - The xml file corresponding to the batch execution is stored in TEMP
- **Start tab**
  - To launch the utilities with the associated xml file
- **Process tab**
  - To give information on the batch execution Ident, status, start and end time, return code, information, feedback of execution
  - Report of the execution (by double-clicking on the job)

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE root (View Source for full doctype...)>
- <root batch_name="CATDUAV5Desc" user="" password="" env="">
  - <inputParameters>
      <simple_arg id="action" value="0" />
      <simple_arg id="replace" value="1" />
      <file id="FileToProcess" destination="" filePath="CATDLN:/Data1\Table.CATProduc
    </inputParameters>
  - <outputParameters>
      <folder id="out_dir" destination="E:\DS\Output" folderPath="E:\DS\Output" type="b
    </outputParameters>
  - <PCList>
      <PC name="ED2.slt" />
    </PCList>
  </root>
```



Instructor Notes:

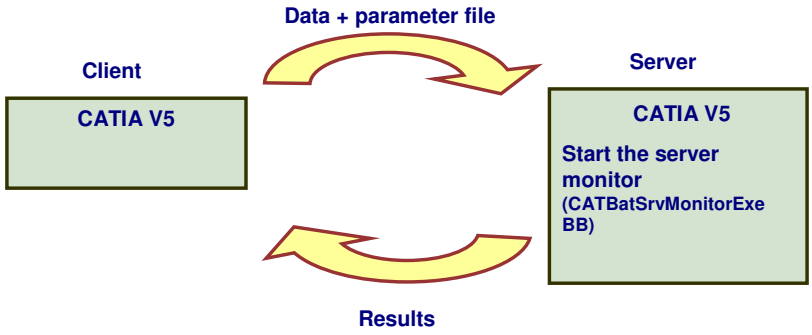
Batch Monitor (5/6)

- Running batches in Remote Mode

  Ability to run some batches on a remote machine
  Client and Server may be Windows or UNIX machines

  2 possible implementations:
  - Using the communication backbone (included in the V5 software)
  - Using the IBM MQSeries (Version 5.3) software

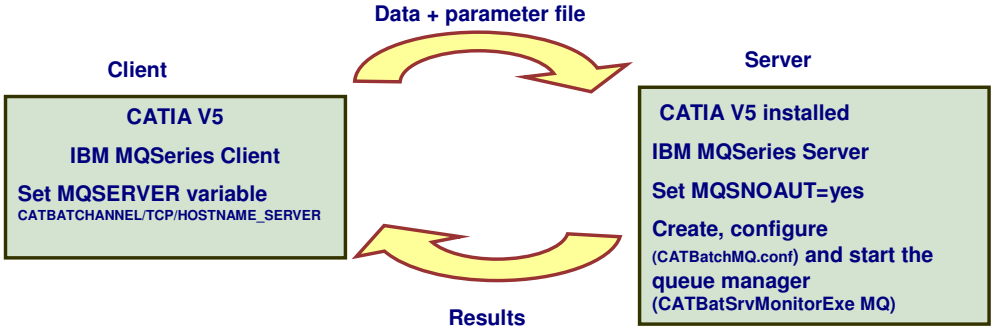
  - Backbone



Instructor Notes:

Batch Monitor (6/6)

- Running batches in Remote Mode (continued)
  - IBM MQSeries



- How launching the batch from the client on the remote machine
  - Interactively through the batch monitor
  - By a command line
    (available for Backbone and IBM MQSeries modes)

    CATBatCliMonitorExe parameter.xml MQ (or BB) ServerMachineName

Instructor Notes:

V5 Management tools

- **These tools are installed with CATIA V5**

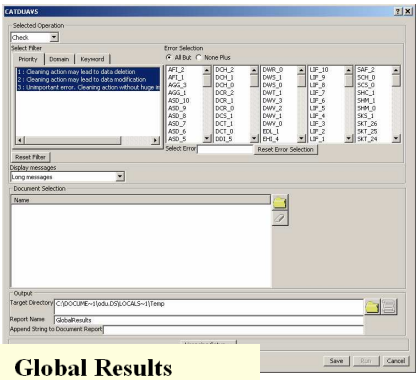
	Interactive mode	Non-Interactive (No graphical interface)
Environment Editor	**CATIAENV**	**setcatenv,delcatenv, chcatenv,readcatenv, lscatenv**
Software Management	**CATSoftwareMgt**	**CATSoftwareMgtB**
Nodelock Management	**CATNodelockMgt**	**CATNodelockMgtB**
Settings Management	**CATOptionsMgt**	**VB script**
Batch Management	**CATUTIL**	**CATUTIL –Name batch_name xxx.xml**
Printers	**CATPrinterManager**	**CATUTIL –Name PrintBatch xxx.xml**

catstart –run *Tool*
(Tool.exe on Windows)

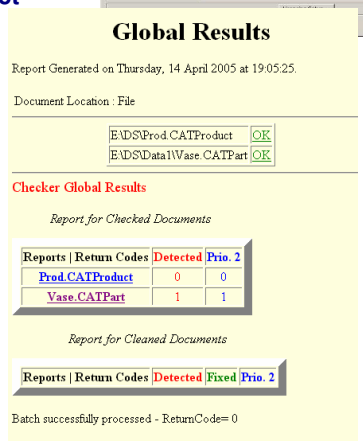
Instructor Notes:

CATDUAV5 (CLEANER V5) (1/2)

CATDUAV5 : Data Upward Assistant



- **Use : Support for CATIA level changes, make a diagnostic, and eventually a healing of CATIA Version 5 data**
- **When :**
  - **before recovering external data**
  - **before going into a new CATIA release**
  - **broken links when opening CATProduct incidents**
  - **when updating a component (for instance, Sketch update) the Edit-Links panel appears**
  - **some documents are found but they have no references.**
  - **performance problems when opening a CATProduct (because some elements have lost their links).**
- **Reports: html report and several Document_name.cleaner_traces.txt (or checker)**
- **Interactive mode only : CATDUAV5 (Non-interactive without graphical interface through the batch monitor)**
- **Batch monitor interface: yes**
- **V4 equivalent tool : CATCLN**



Global Results

Report Generated on Thursday, 14 April 2005 at 19:05:25.

Document Location : File

E:\DS\Prod.CATProduct	OK
E:\DS\Data1\Vase.CATPart	OK

Checker Global Results

Report for Checked Documents

Reports | Return Codes	Detected	Prio. 2
Prod.CATProduct	0	0
Vase.CATPart	1	1

Report for Cleaned Documents

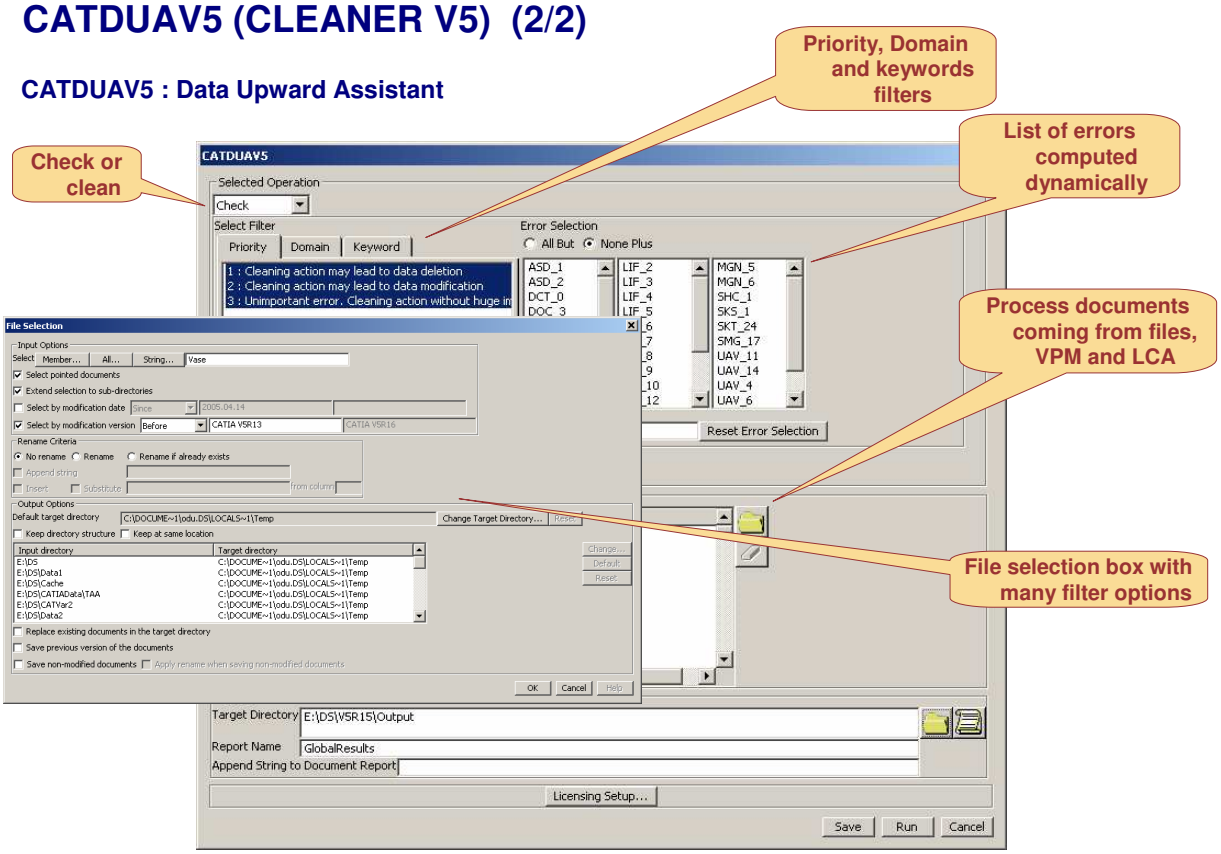
Reports | Return Codes	Detected	Fixed	Prio. 2

Batch successfully processed - ReturnCode= 0

Instructor Notes:

CATDUAV5 (CLEANER V5) (2/2)

CATDUAV5 : Data Upward Assistant



Instructor Notes:

Downward Compatibility

Downward Compatibility

- **Use : this tool provides downward compatibility between the most recent release down to V5R6**
  Downward compatibility is relevant for CATPart documents only

  Bear in mind the limitations:
  Part bodies are copied and pasted as result with link
  Geometrical Set: Only external view in Generative Drafting is copied and pasted as result with link.

- **Interactive mode : catstart –run ”CNEXT -batch -e CATUIDownwardCompatibility”**

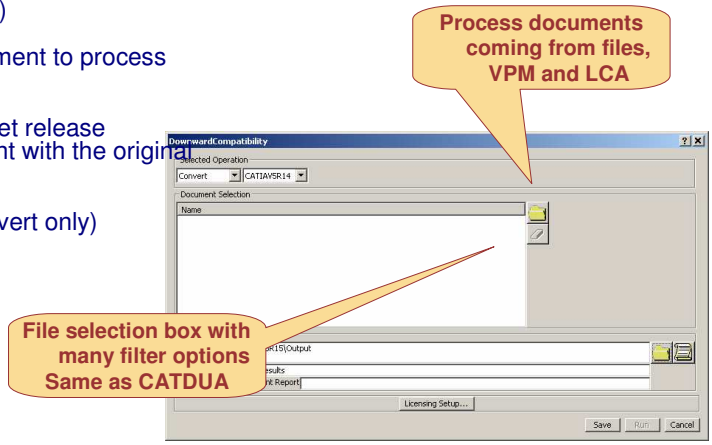
- **Command line : CATDownwardCompatibility <-arg>**
  - Arguments : (DLName supported)

  id : Input directory
  if : Input File containing a list of document to process
  il : Input list of document to process
  action :
  - **Convert:** to be read with the target release
  - **Synchro:** the converted document with the original document
  - **Info:** Minimal version to open

  version: targeted CATIA version (convert only)
  report : report file name

- **Batch monitor interface: yes**

- **V4 equivalent tool : CATBACK**

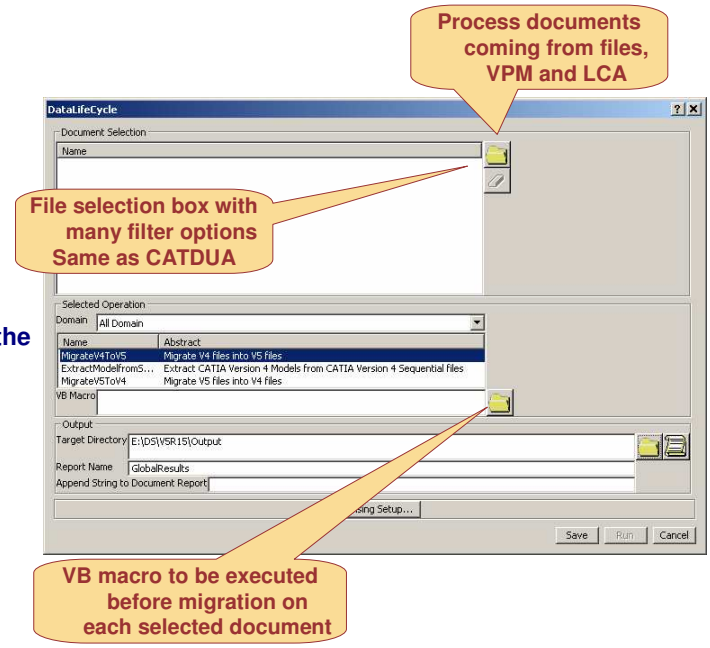


Instructor Notes:

Data Life Cycle (1/2)

- **Use : The main purpose of this batch is to provide a user interface and capabilities common to all batches dealing with the data life cycle:**
  - Extract Model From Sequential
  - MigrateV4ToV5
  - MigrateV5ToV4
- **Access to Documents from:**
  - File
  - ENOVIA**VPM**
  - ENOVIA LCA

  (File only with MigrateV4ToV5)
- **Main characteristics:**
  - **Powerful file selection box**
  - **Can launch several batches from the list on the same list of documents**
  - **Can launch a VB macro on each document before treatment**
  - **Global report**
- **Batch monitor interface: yes**

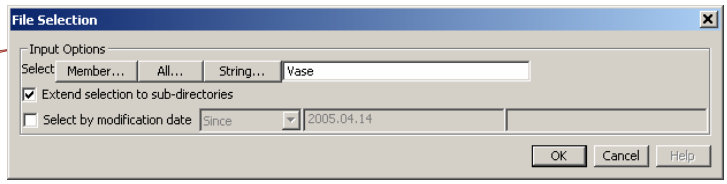


Instructor Notes:

Data Life Cycle (2/2)

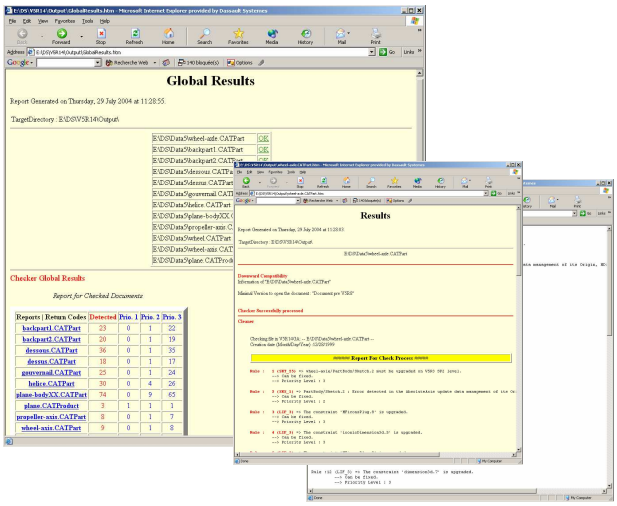
- **File selection box**

Multi-criteria selection



- **Report:**

Global report with hyperlinks to more information on each processed document



Instructor Notes:

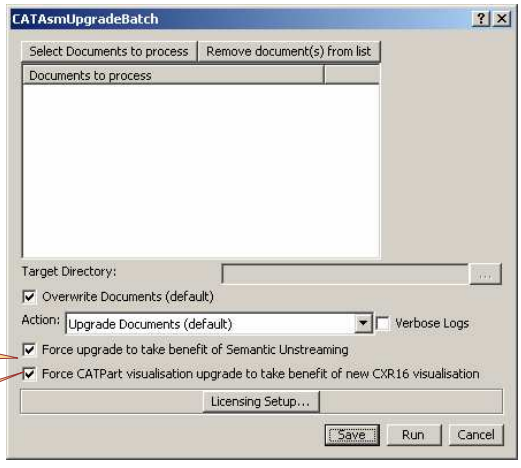
CATAsmUpgrade

- **Use :** Migrate CATIA Products and Parts prior to R13 in order to profit by the last enhancements to reduce the amount of memory needed for large assemblies in specific scenario.

  Those enhancements are based on scenarios using:
  - Visualization mode for the main functionalities
  - Switch to Brep mode for constraint creation and drawing update

  The batch upgrade the products and the parts.

  if the force option is selected modify the parts and generate new cgr for the Brep mode



- **Commande line:**
  catstart -run "CATAsmUpgrade [-c|--check] [-f|--force] [-h|--help] [-n|--no-copy] [-o|--output-dir TargetDirectory] -p|--path ConcatenationPath] [-s|--stats] [-v|--verbose] DocumentList"

- **Result File:**
  In C:\tmp (W) or /tmp (U)

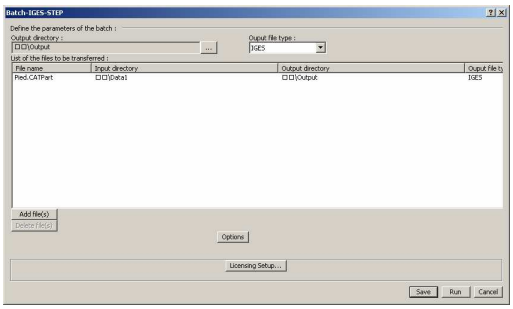
- **Batch monitor interface**: yes

Instructor Notes:

Data exchanges (1/2)

- CATIA V5 Interoperate with data in all of the mostly used data format standards in the CAD/CAM/CAE

STEP AP203 / AP214	Import/Export
IGES	Import/Export
DXF / DWG	Import/Export
CGM	Import/Export
STL	Export
VRML	Export
STRIM /STYLER	Import



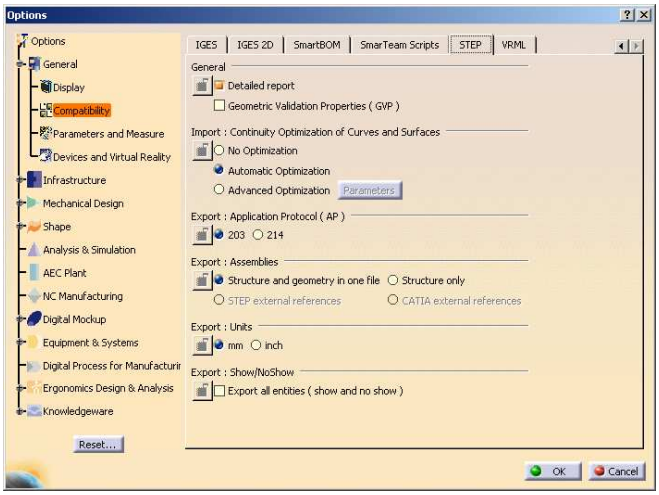
- Two modes of conversion :
  - interactive mode (file open / save)
    - CATPart saved in : STL, IGES, STEP, CGR, WRML
    - CATDrawing saved in : DXF, DWG
    - CATProduct saved in : CGR, STEP, WRML, IGES
  - Batch mode using CATScript
    Launching command : catstart –run “CNEXT -batch -macro MyMacro.CATScript”
    Some examples of CATScript are given in CATIA V5 Documentation
  - Batch mode using the Batch Monitor for :
    - STEP Import/Export
    - IGES Import/Export

Instructor Notes:

Data exchanges (2/2)

- Parameters are managed with settings : in the tools / Options / Compatibility

- Specific tab for :
  - STEP
  - IGES
  - DXF
  - VRML



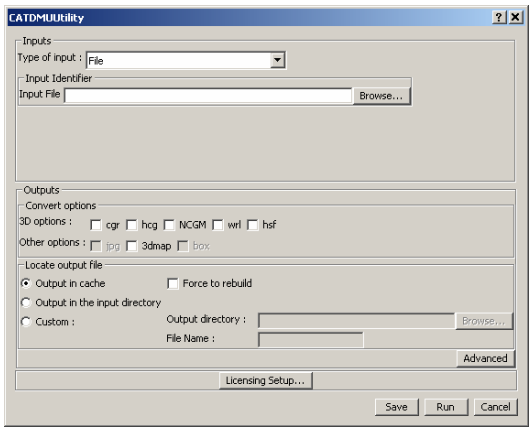
For example : the choice of the STEP version (AP203 / AP214) is defined with CATIA settings

- V4 equivalent tools : CATSTP, CATIGE, CATDXF

Instructor Notes:

CATDMUUtility (1/2)

- **Use:**
  - CATDMUUtility enabes the generation of cgr, 3dmap, hcg, hsf, wrl and NCGM formats from a CATIA file or MULTICAD files
  - CATDMUUtility can process files through a path or a list under the UNIX operating system through the ENOVIAVPM
  - More dedicated to convert simple CATIA or Multicad files



- **Type:** Batch or interactive mode with the batch monitor
- **Settings:** Yes
- **Arguments:**

Input options:	f, l, db
Output options:	cgr, hcg, NCGM, 3dmap, wrl, product, part, drw, jpg (options)
Compute options:	vox (3dmap), sag (cgr), sagon (cache update), keepsag, nolod (No Level Of Detail for cgr), unit, cache (mandatory with l option), user, pwd, server,mp (multi-process), filter
DLName support:	yes, syntax: CATDLN://*DLName*/*file_name (CATIA files only)*

Ex : CATDMUUtility -l inputliste -cgr -cache
CATDMUUtility –f CATDLN://TEST/model.model –cgr CATDLN://CACHE/model.cgr (W)
or CATUTIL –Name CATDMUUtility Param.xml

Instructor Notes:

CATDMUUtility (2/2)

File Extensions		CONVERSION TO							
		cgr	3dmap	hcg	hsf	VRML	CAT Product	CAT Part	CAT Drawing
MULTICAD	Part or Assembly Name								
.mf	IDEAS Parts & Assembly	yes	yes	yes	-	yes	yes	-	-
.mf1		yes	yes	yes	-	yes	yes	-	-
.prt	ProE Parts	yes	-	yes	-	-	-	yes	yes
.asm	ProE Assembly	-	-	-	-	-	yes	-	-
.prt	UG Parts	yes	-	yes	-	-	-	yes	-
.prt	UG Assembly	-	-	-	-	-	yes	-	yes
.sldprt	SolidWorks Parts	yes	-	-	-	-	-	yes	-
.SLDPRT		yes	-	-	-	-	-	yes	-
.sat	ACIS Parts	yes	-	-	-	-	-	yes	-
.par	SolidEdge Parts	yes	-	-	-	-	-	yes	-
.dxf	3D DXF Parts	yes	-	-	-	-	-	yes	-
.x_t (ASCII)	Parasolid Parts	yes		-	-			yes	-
.x_b (Binary)		yes	-	-	-	-	-	yes	-
.xpr	ProE Parts	-	-	-	-	-	yes	yes	-
.xas	ProE Assembly	-	-	-	-	-	yes	-	-
.vda	VDA-FS	yes		-	-	-	-	yes	-
.ipt	Inventor Parts	yes	-	-	-	-	-	yes	-
.drw	ProE Drawings				-				yes
.igs	IGES files	yes	-	-	-	-	-	-	-
CATIA									
.model		yes	yes	yes	-	yes	-	-	-
.CDMA.model		yes	-	-	-	-	-	-	-
.cgr		-	yes	yes	-	yes	-	-	-
.CATPart		yes	yes	yes	-	yes	-	-	-
.CATProduct		yes	-	-	yes	-	yes	-	-
CATPSLayout		-	-	-	-	-	yes	-	-

Windows only

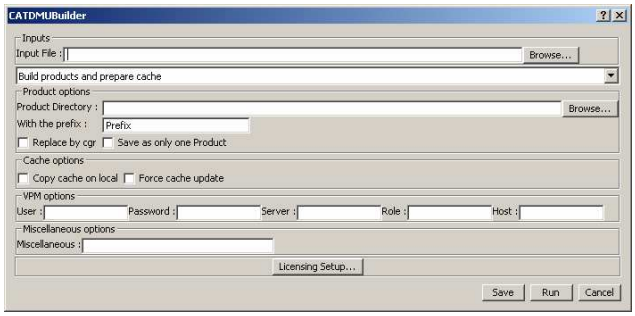
Instructor Notes:

CATDMUBuilder

CATDMUBuilder Utility

- **Use:** Feed the cache with tessellated data corresponding to given product structures
  - Creates CATProducts corresponding to these product structures
  - Access to PDM database e.g. ENOVIAVPM, ENOVIA V5 VPM
  - Save DMU loading time

  These product structures may be:
  - products (*.CATProduct)
  - Dynamic PSN (*.psn -> saved from VPM)
  - identifiers of a VPM node (*.CATVpm)
  - Multi-CAD assembly
  - Navigator 4D file
  - Clash files (*.xml)



- **Type:** Executable
  CATDMUBuilder –Arg
  CATUTIL –Name CATDMUBuilder Param.xml

- **Interactive mode:** yes, if no argument
  (parameters xml file)

- **Batch monitor interface:** yes

Instructor Notes:

Other DMU Batch Utilities

CATDMUUtility2D: enables the generation of cgr files from CATDrawing, DXF, DWG, CDD, and .model documents.Input 2d data can be file based or data based (ENOVIAVPM or ENOVIA V5 VPM).

CATDMUCacheSettings: sets the configuration needed to work with the cache.

CATDMUCacheLocator: locates the cache data corresponding to a list of documents.

CATDMUCacheManager: lists the content of one cache directory in order to perform several tasks in batch mode, e.g. purge, update and purge least-recently-accessed files.

CATDMUDistributor: copies DMU data (CATProduct, related cache data, etc.) given in a list from its current location to a distant location (New)

CATDMUV4CacheForV5: allows the reading of the V4 Cache from a V5 session in order to avoid unnecessary duplication of cache data.

CATDMUV4CacheForV5 to export a V4 Cache Content file into a text file

CATSys4DcacheMigr , using the previously generated text file as input, to create symbolic links from the V5 cache to the tessellated documents in the V4 cache directory.

CATSysDLExport to update DLNames for the V5 Cache

CATDMUSaveAsFrozen: enables you to prepare / generate DMU-related documents (products, geometries, cache data)

ITFCHECK: performs clash analysis in batch mode

Instructor Notes:

PRINT Batch Utility (1/3)

PrintBatch Utility

- **Use:** Print documents without running Version 5

  These documents may be:
  - Version 5 files (such as .CATProducts, .CATParts files, etc…)
  - Raster files (bmp, tiff, etc…)
  - Vector files (CGM, HPGL, HPGL2)
  - Version 4 models

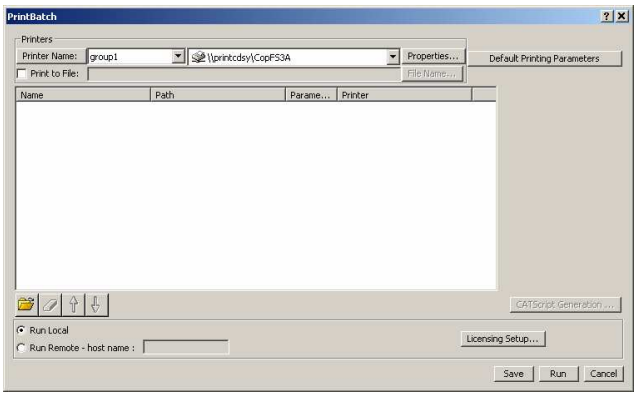
- **Type: Executable**

  CATUTIL –Name PrintBatch -Param.xml

- **Interactive mode: yes, if no argument (parameters xml file)**

- **Batch monitor interface: yes**

- **V4 equivalent tool: CATPLOT**



Instructor Notes:

PRINT Batch Utility (2/3)

- **PrintBatch xml file description**

Contains all the printing parameters:

- **Printer**
- **Printing parameters**
- **Files to print**
- **Printer and driver configurations**

The file may be edited manually before Executing.

Since R13, the xml file contains all the necessary information to print the files. The printer and driver properties contained in PLOTnnnn.xml are put in the xml BatchParameter file.


```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE root (View Source for full doctype...)>
- <root batch_name="PrintBatchDescriptor" user="" password="" env="">
  - <inputParameters>
    - <![CDATA[
        <PRINT_BATCH>
        <PRINT_CLIENT>LAVA1DSY</PRINT_CLIENT>
        <PRINT_DEFAULT>
        <PRINT_NB_COPY>1</PRINT_NB_COPY>
        <PRINT_OUTPUT_PRINTER>\\printcdsy\CopFS3A</PRINT_OUTPUT_PRINTER>
        <PRINT_OUTPUT_PRINTER_PARAMETERS>
        <printer name="\\printcdsy\CopFS3A" export="EPS">
        <defaultFormat name="A4 ISO" orientation="landscape"/>
        <maxFormat name="A4 ISO"/>
        <defaultMargins left="5" right="6" top="5" bottom="6"/>
        <execUnix/>
        <execWindows/>
        <rtimeUnix/>
        <rtimeWindows/>
        </printer>
        </PRINT_OUTPUT_PRINTER_PARAMETERS>
        <PRINT_OUTPUT_FILE>

        </PRINT_OUTPUT_FILE>
        <PRINT_FORM_WIDTH>210</PRINT_FORM_WIDTH>
        <PRINT_FORM_HEIGHT>297</PRINT_FORM_HEIGHT>
        <PRINT_FORM_ORIENTATION>1</PRINT_FORM_ORIENTATION>
        <PRINT_POSITION_X>0</PRINT_POSITION_X>
        <PRINT_POSITION_Y>0</PRINT_POSITION_Y>
        <PRINT_SCALE>1</PRINT_SCALE>
        <PRINT_MARGIN_LEFT>10</PRINT_MARGIN_LEFT>
        <PRINT_MARGIN_RIGHT>10</PRINT_MARGIN_RIGHT>
        <PRINT_MARGIN_TOP>10</PRINT_MARGIN_TOP>
        <PRINT_MARGIN_BOTTOM>10</PRINT_MARGIN_BOTTOM>
        <PRINT_ROTATION>0</PRINT_ROTATION>
        <PRINT_MAP_TO_PAPER>0</PRINT_MAP_TO_PAPER>
        <PRINT_WHITE_PIXEL>1</PRINT_WHITE_PIXEL>
        <PRINT_BANNER>Printed by odu on 1/23/2004 10:43:14 AM</PRINT_BANNER>
        <PRINT_BANNER_POSITION>0</PRINT_BANNER_POSITION>
        <PRINT_LOGO_VISIBILITY>0</PRINT_LOGO_VISIBILITY>
        <PRINT_LOGO_FILE>

        </PRINT_LOGO_FILE>
        <PRINT_COLOR_MODE>0</PRINT_COLOR_MODE>
        <PRINT_QUALITY>0</PRINT_QUALITY>
        <PRINT_GAMMA>1</PRINT_GAMMA>
        <PRINT_LINEWITH_SPECIFICATION>0</PRINT_LINEWITH_SPECIFICATION>
        <PRINT_LINETYPE_SPECIFICATION>0</PRINT_LINETYPE_SPECIFICATION>
        <PRINT_LINECAP>0</PRINT_LINECAP>
        <PRINT_BACKGROUND_COLOR_RED>1</PRINT_BACKGROUND_COLOR_RED>
        <PRINT_BACKGROUND_COLOR_GREEN>1</PRINT_BACKGROUND_COLOR_GREEN>
```

Instructor Notes:

PRINT Batch Utility (3/3)

- Remote Mode

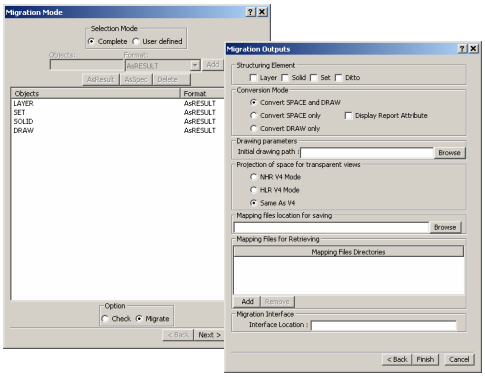
- The printer is chosen among the printers defined on the client machine
- You can choose an other printer, not defined on the client, by modifying manually the xml parameter file
- When using :
  - a Windows printer: the remote machine must be a Windows machine
  - A 3DPLM printer: the remote machine may be either a Windows or a UNIX machine

Instructor Notes:

Migration V4/V5 (1/4)

V4 to V5 migration tool : **CATV4ToV5**

- **Use:** Migrate one or several V4 document into V5 documents in one action.
  It means: V4 .model, .session and .asm
  More pertinent than the interactive Copy/Paste "As Spec"
- **Type:** Executable CATV4ToV5
  CATV4ToV5 –Arg
- **Settings:** "Conversion mode", "Format", "Characters Equivalence Table Path".
- **Arguments:**
  il: list of input file
  if: file containing a list of input file
  od: output directory
  report: report file
- **Batch monitor interface:** yes
- **Interactive mode:** CATV4ToV5Migration
  catstart –run "CNEXT –batch –e CATV4ToV5Migration"

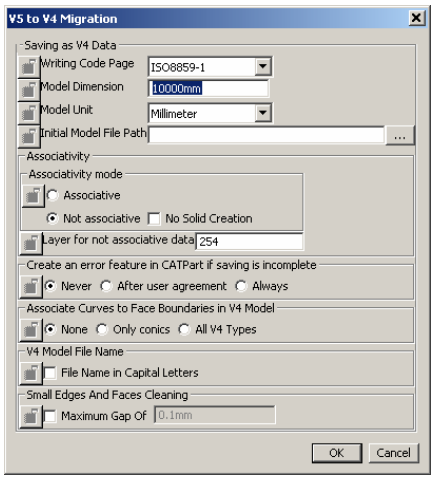


Instructor Notes:

Migration V4/V5 (2/4)

V5 to V4 migration tool : **CATV5ToV4**

- **Use:** Convert document into V5 documents in one action.
- **Type:** Executable
- **Settings:** Interoperability settings like Model Dimension, Model Unit or Initial Model
- **Arguments:**
  - if: name of the CATPart file
  - of: output directory or name of the model
  - mod: saving mode (associative or not)
  - report: report file
- **Interactive mode:** No



Instructor Notes:

Migration V4/V5 (3/4)

Extract V4 Model from Sequential file:

CATExtractModelFromSequential

- **Use:** extract CATIA Version 4 Models from CATIA Version 4 sequential files (.dlv3 or .exp).
- **Type:** Executable or library (ExtractModelFromSequential)
- **Arguments:**
  - id: Intput Sequential Directory (or DLNAME)
  - if: Input File containing a list of Sequential Files to process
  - il: Input list of sequential Files to process
  - od: Output Model Directory (or DLNAME)
  - report: Report File name
- **Interactive mode:** Yes
- **Batch monitor interface:** yes
- **V4 equivalent tool:** CATIMP

Instructor Notes:

Migration V4/V5 (4/4)

Conversion of V4 Libraries in V5 Catalogs: **ConvertLibrary**

- **Use:** **Convert a CATIA Version 4 library into a CATIA Version 5 catalog**
  No link is kept between the V4 library and the new V5 catalog
- **Type:** **Macro (ConvertLibrary.CATScript)**
- **Settings:**
  LibraryDirectory : absolute UNIX directory of the V4 library
  Ex: "http://machine_name/../../library"
  CatalogDirectory : absolute directory of the catalog
  ProjectDirectory : absolute UNIX directory of the V4 project
  Ex: "http://machine_name/../../prj"
  Tablepath : conversion tables for forbidden characters
- **Arguments:**
  Report
  Modes: Simulation, Migration and Rattrap
  …

Instructor Notes:

Migration to a DLName mechanism strategy

Migrating documents to use DLName : CATDLNameMigr

- **Use:** Modify the links in a document from physical paths to DLNames
- **Type:** non-interactive tool
  catstart –run "CATDLNameMigr –Arg"
- **Settings:** DLNames are configured in CATSettings files
- **Arguments:**
  CATDLNameMigr [-r] filename(s) [-p] dir -d directory [-h]

  -r : repair mode and modifies the specified file
  -p directory: does NOT modify the original file, but copies and it to the directory specified and modifies the file in this directory only.
  -d directory: name of directory containing pointing documents

  In check mode (without -r option) a report of missing DLName is created in %TEMP% (CATDLNameMigr_missing-DLNames_report.txt) which can be imported.

Instructor Notes:

Other tools

CATDMUBuilder

- **Use:** Feeds the cache with tessellated data (cgr) corresponding to given product structure. Product structures can be products (*.CATProduct), PSN (*.psn), VPMnode (*.CATVpm), MultiCAD assembly, Navigator 4D files, clash file (xml)
- **Bach monitor interface: yes**

UpdateBatch

- **Use:** Updates a large number of CATDrawings without the need to visualize them while doing so or when drawings require a large CPU resource.
- **Bach monitor interface: yes**

Instructor Notes:

Data Managment

- CATIA V5 Data
- Document Environment
- DLNames
- Links Management
- Document Management

Instructor Notes:

CATIA V5 Data

You will learn what are CATIA V5 documents and what are the links managed in CATIA V5

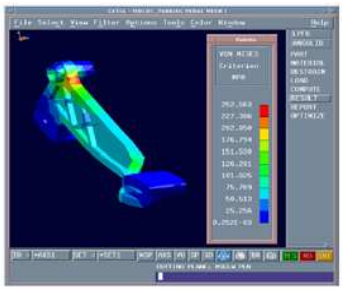
Instructor Notes:

From V4 to V5 concept

Change in methodology

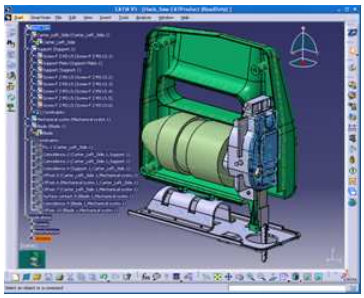
CATIA V4

- Engineers are working in single .model files, which contain all the information (3D, 2D etc.)
- There are no structural components to realize real assemblies within CATIA V4 – for this, a PDM-system is required



CATIA V5

- Working in context of assemblies
- Assemblies are build up in CATIA V5, not in an external PDM-System
- Those Assemblies (CATProducts) define the common context for all its components



Instructor Notes:

CATIA V5 Documents (1/2)

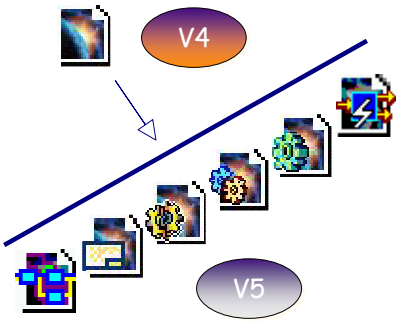
- CATIA V4 is based on non typed documents,
- CATIA V5 is based on application-type documents :
- CATIA V5 Uses several documents types to save the information generated by the different applications:
  - V4 data can be read in CATIA V5 or converted in V5 data

	CATIA V4	CATIA V5
Solid	.model 3D	.CATPart Body
Surface	.model 3D	.CATPart Open Body
Wireframe	.model 3D or 2D	.CATPart Open Body
FEM	.model 3D	.CATAnalysis
2.5 NC	.model 3D	.CATProcess
Drawing	.model DR	.CATDrawing
Part Positioning	.model Ditto	.CATProduct
	.session	
	.asm	
Positioning Constraint	.asm	.CATProduct
Kinematics	.model Set	.CATProduct Application
Library	.library	.catalog
PRJ File	.prj	Included in .CATDrawing or XML file

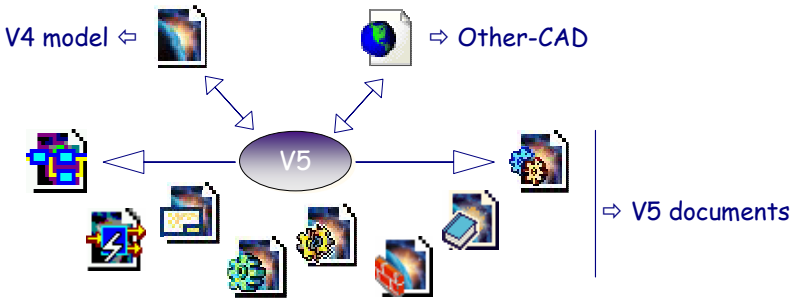
Instructor Notes:

CATIA V5 Documents (2/2)

- CATIA V5 has been developed :
  - To provide an openness by providing different CAx Document types
    - V4 is based on non typed documents :
      .model for all geometric and applicative data
    - V5 is based on applicative-typed documents :
      Geometry ⇨ .CATPart
      Applications ⇨ .CATProduct
      Analysis ⇨ .CATAnalysis
      Drawing ⇨ .CATDrawing
      Process (PPR) ⇨ .CATProcess
      Systems ⇨ .CATSystem



  - To ensure coherency between activities through a relational system integration

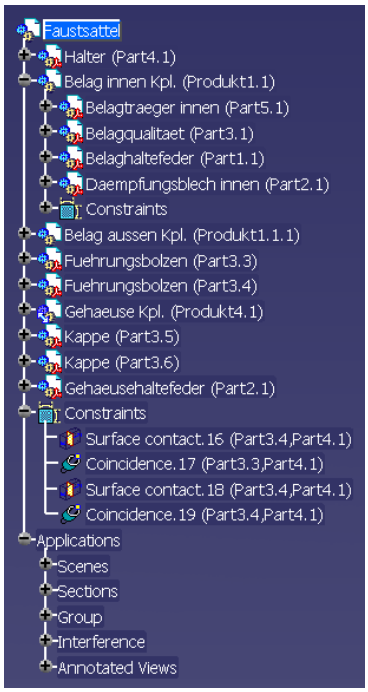


Instructor Notes:

Relational information (1/5)

- V5 Data uses structured information:
  - Part-References
  - Part-Instances
  - Product Structure
  - Documents
  - Assembly features
  - Constraints
  - Publications
  - Application Data
  - Context Information
  - Knowlege rules
  - ...
- CATIA supports and manages relational information established between
  - Documents
  - Instances
  - Geometry

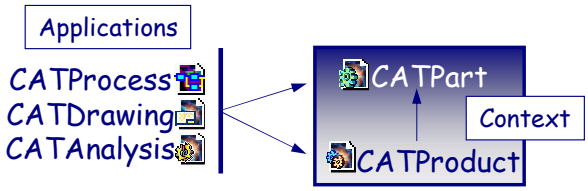
Link concept



Instructor Notes:

Relational information (2/5)

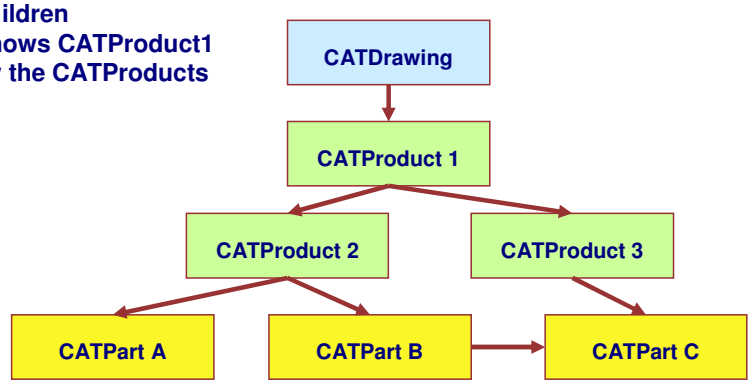
- 4 several types of relationship are exposed in CATIA V5 :
  - Instance to Instance link
    - Established inside a product structure
      - Product to Part
    - Involving related information such as :
      - Instance Positioning
      - Working attributes (Active or not, Show/No-show …)
      - Applicative linkages (Fitting, Kinematics, Clashes, Constraints …)
  - Instance to Reference link
    - Between a product structure component and its related document
      - Product instance → CATProduct
      - Part instance →CATPart
      - Part instance →Shape (V4 model, other CAD data, …)
  - Reference to Reference link (Technological links)
    - Between geometries/parameters of different CATParts
      - "Copy/Past with link"
  - Document to Document link
    - Between documents :



Instructor Notes:

Relational information (3/5)

- Father / Children links:
  - Only the father knows his children
    Ex: The CATDrawing only knows CATProduct1
    The CATPart doesn't know the CATProducts where it is instantiated



- Context :
  The documents under a CATProduct are defined as a context in which all information is necessary to design or to generate other information (Manufacturing, Analysis, DMU review)

Instructor Notes:

Relational information (4/5)

- For persistency reasons the documents are stored as files in a file system
- These CATIA V5 documents files hold the information about the links to others files
  ➔ As long as these files are kept where they where created there is no real problem
- But as soon as these V5 documents managed individually by several designers or are to be sent to a supplier for change (versioning, etc.) the link information most unlikely will be changed – the model link information may be out of synchronization.
  ➔ The consistency of the data is lost !

- Consequence:

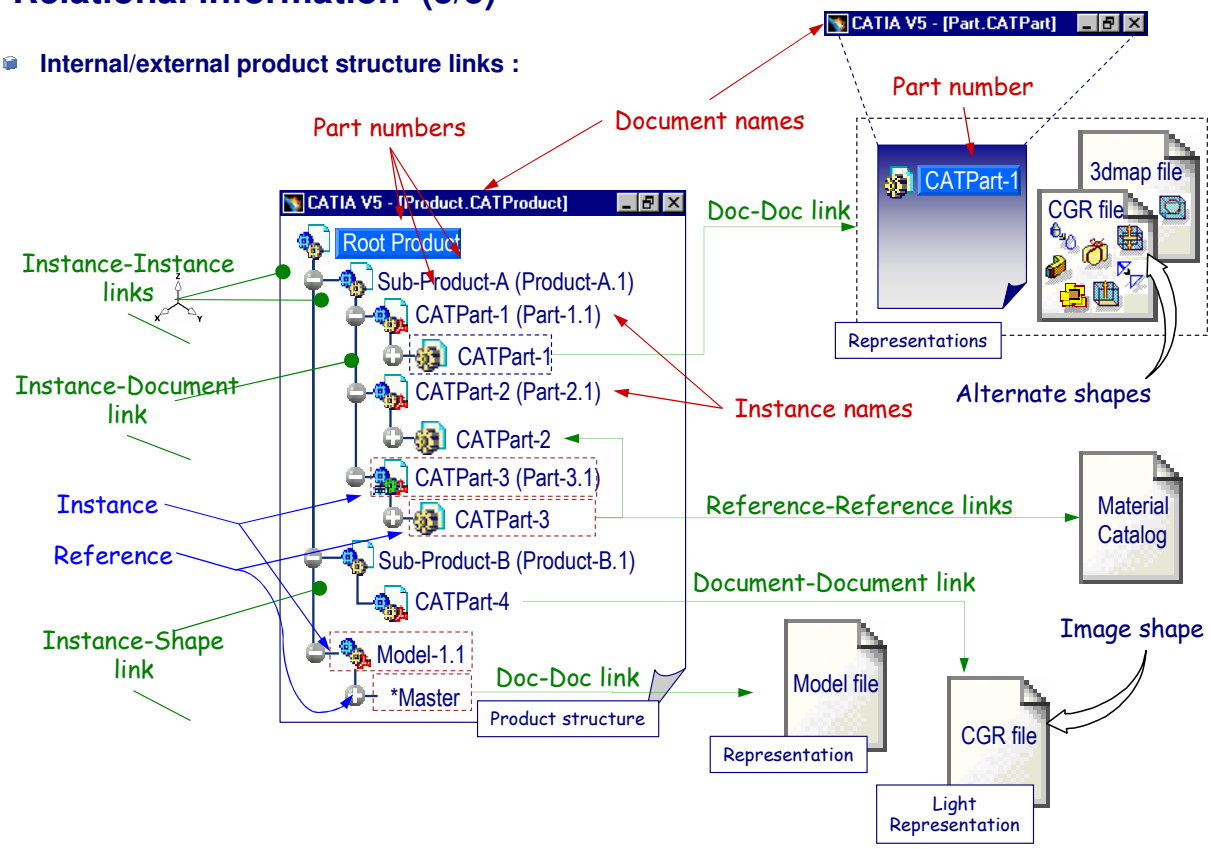
  ➔ In file based management, all links in the V5 documents files need to be managed in context !

  ➔ When the data structure becomes complex, a VPDM system (Virtual Product Data Management) able to manage these links

Instructor Notes:

Relational information (5/5)

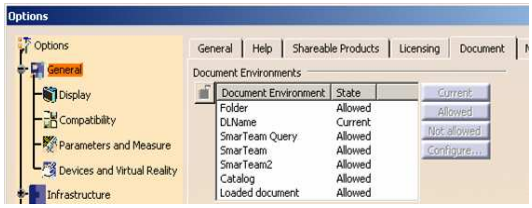
- Internal/external product structure links :

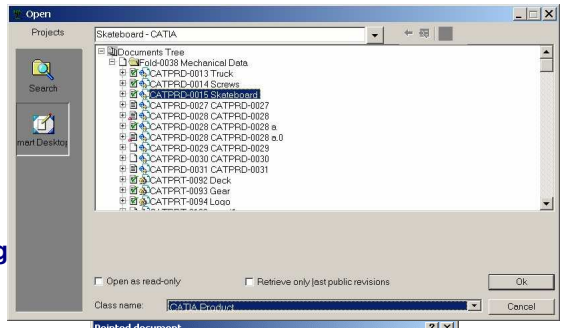


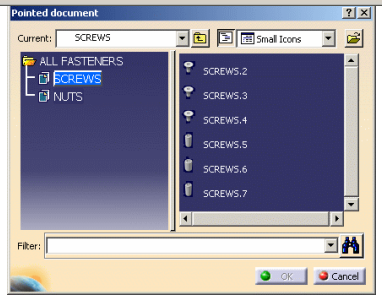
Instructor Notes:

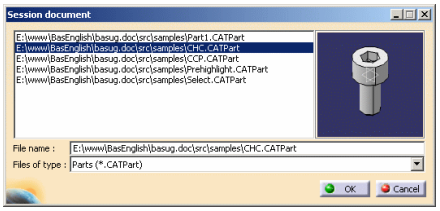
Document Environment (1/3)

- Document environments setting
  - This option in Tool Options / General / Document lets define the way of accessing data
  - The available environments are:
    - Folder : (default)
      This is the native file selection box
    - DLName : folder defined with logical name
    - SmartTeam : Normal, using query or extended integration (new web client)
    - Catalog :
      To retrieve document from a catalog, using the catalog browser
    - Loaded document :
      To retrieve documents already loaded in the current session







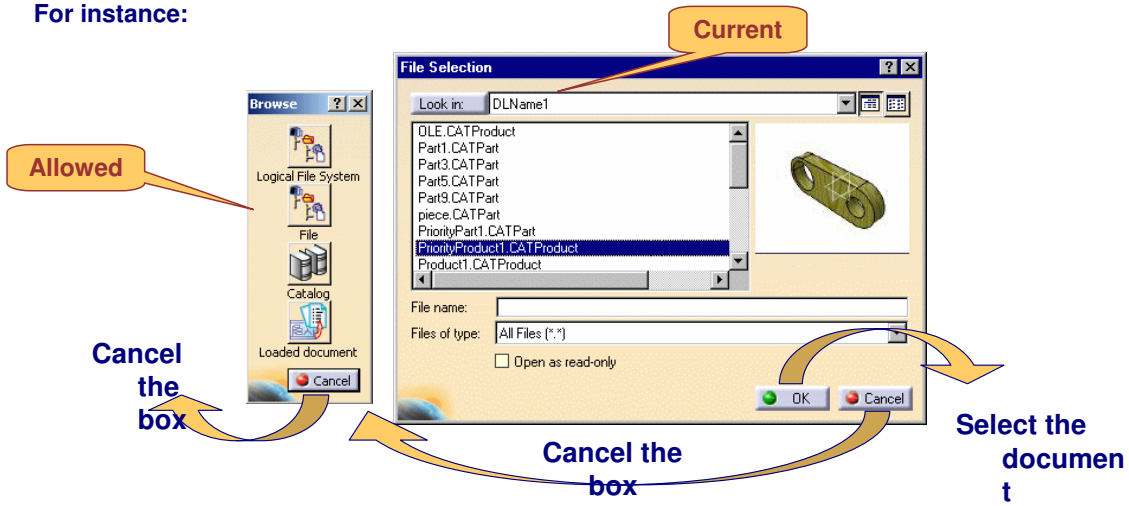


Instructor Notes:

Document Environment (2/3)

- Document environments setting
  - The environment may be in different states
    - Current : defines the dialog boxes default methodology (e.g. File/Open, File/Save, Edit/Links ….)
    - Allowed :
    - Not allowed:

For instance:



Instructor Notes:

Document Environment (3/3)

- All the methods are not all implemented in all file selection boxes

  (see the table below)

- "Catalog" and "Loaded document" methods cannot be chosen as current

Commands / Environments	File->Open	Edit->Links	Replace Component	Instantiate From Document	Catalog Browser
Folder					
DLNames					
SmarTeam					
Catalog					
Loaded document					

Instructor Notes:

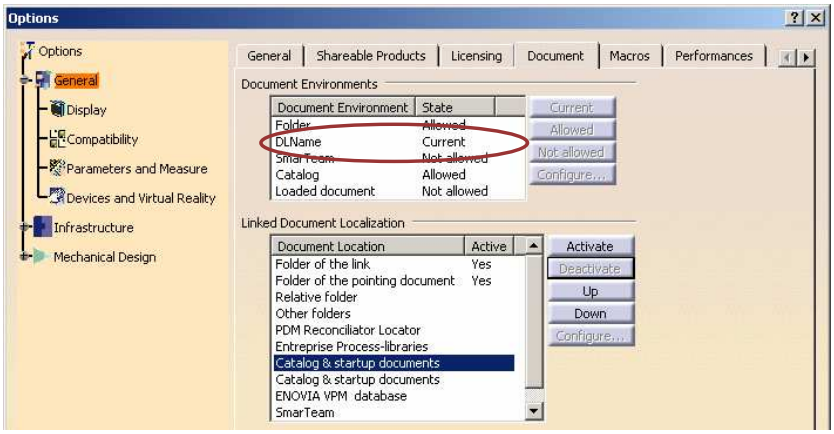
DLNames

You will learn how to manage DLNames in CATIA V5

Instructor Notes:

DLNames mechanism (1/2)

- Allow end users to access data from specific directories referenced by logical names
- Allow implementation of a tightly data storage strategy



Benefits :

- Provides a way to designate a directory in the same way under UNIX and Windows
- Provides an independent way between physical localization and the naming convention
- Provides a way to restrict the part of the tree that the users can browse

Instructor Notes:

DLNames mechanism (2/2)

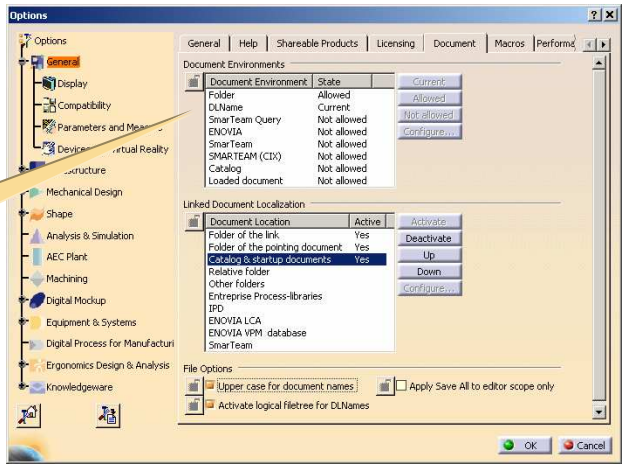
- DLNames point to UNIX and Windows paths
- Path can be defined with user-defined variables (Ex: ${Variable})
- Path can be defined with an URL
  (Ex: http://server/project/)
- You can import/export text files containing the DLNames

  This process can be automated by using the CATSysDLExport Batch tool
- DLNames list and DLNames may be locked
- DLNames settings are stored in DLNames.CATSettings file
- You can concatenate DLNames definition lists from various environments

Instructor Notes:

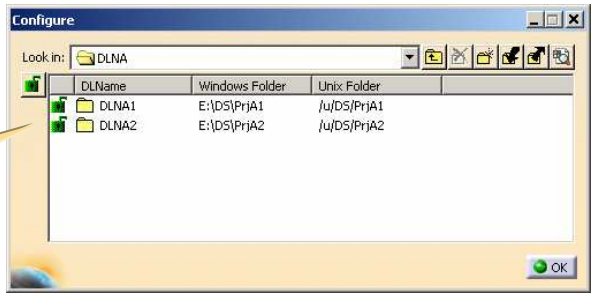
Configuring DLNames

- **Enabling and selecting DLNames use**



DLName must be allowed and Current

- **Configuring DLNames**

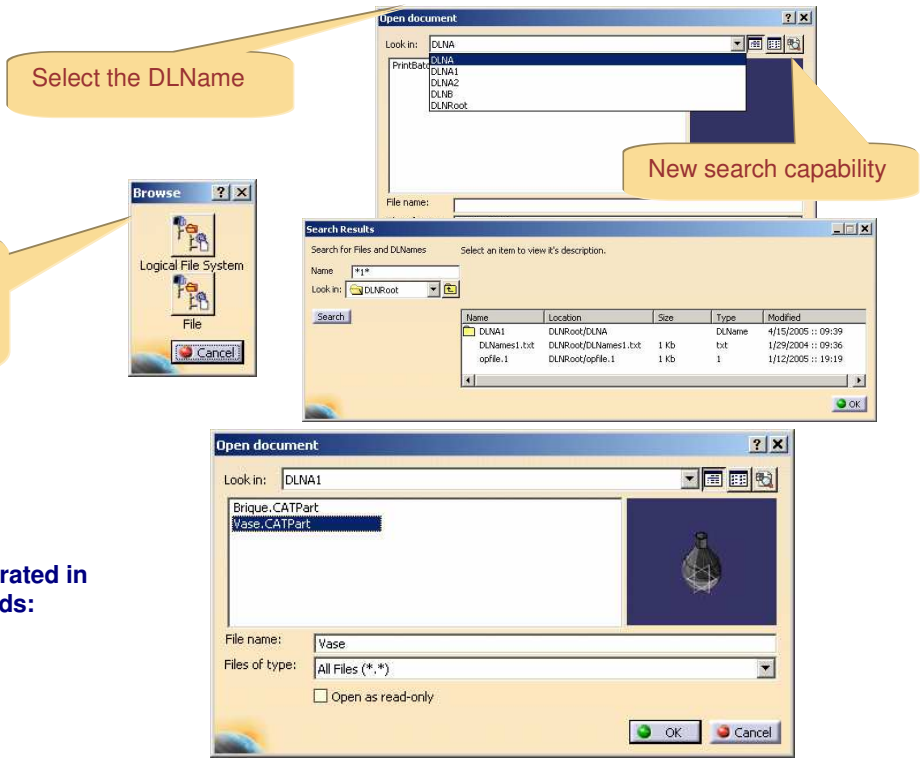


UNIX and Windows path are defined in administrator mode

Instructor Notes:

Using DLNames

- What the end users see



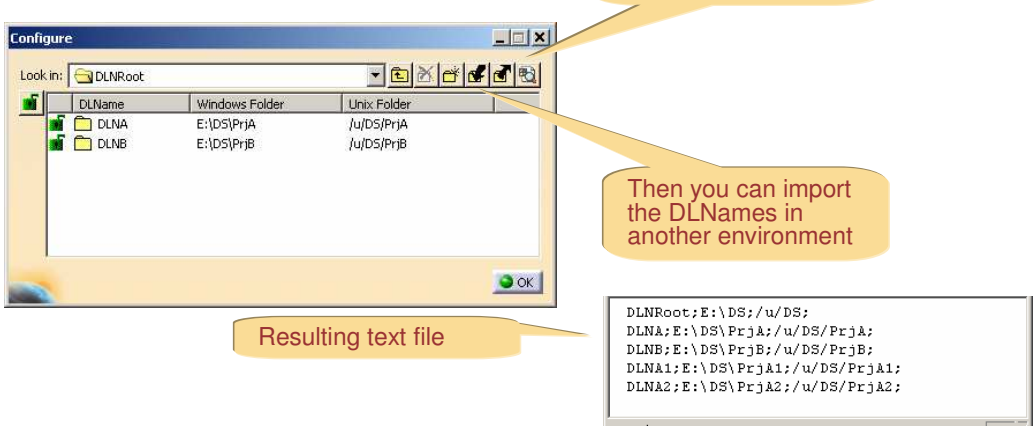
- DLNames are also integrated in the following commands:
  - File->Save All
  - File->Save All As
  - File->Desk
  - File->Send To
  - Edit->Links
  - Catalogs, etc.

Instructor Notes:

Importing DLNames

- Importing DLNames

- Interactive mode



Format: Logical name;Windows path;Unix path;

- Batch mode

use the CATSysDLNames utility

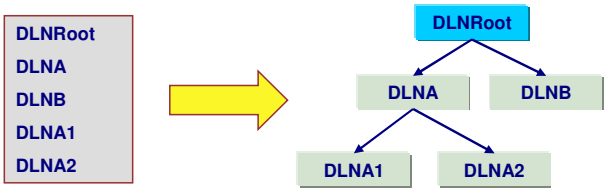
to import, to lock a DLName file or a particular DLName

Instructor Notes:

Structured DLNames (1/4)

- Goal: Organize DLNames on "Logical tree" in order to make the logical file access easier

  → From a flat list to a structured tree



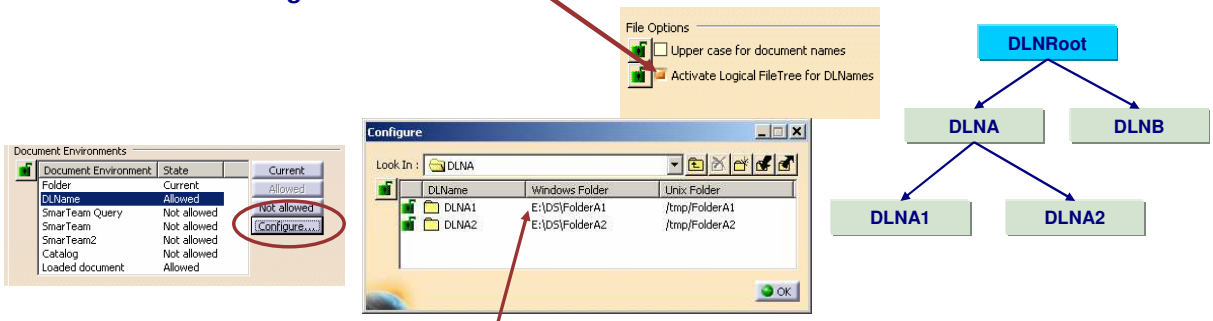
- Rules
  - Each DLName has a "father":
    - an DLName already defined
    - the "Root DLName"
  - Unique Name inside the whole Logical Tree
  - Administrator mode : The administrator can create DLNames with no rules to apply between logical structure and physical one
  - User mode : The user can create a sub-DLName in the Logical Tree
    - The name of its physical sub-folder will be the one of the sub-DLName
    - The location of its physical folder will be a sub-folder of the parent DLName's physical folder

Instructor Notes:

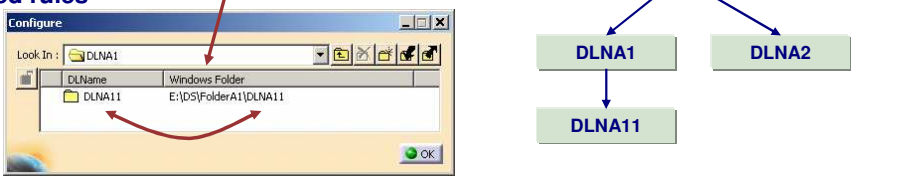
Structured DLNames (2/4)

How to define the logical tree: Interactive mode

- Check the "Activate Logical File Tree for DLNames" option
- Administrator mode
  - Use the configure command



- User mode
  - Same procedure as administrator mode
  - Restricted rules

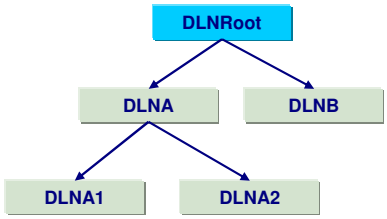


Instructor Notes:

Structured DLNames (3/4)

How to define the logical tree: Import/Export

- **Administrator mode**
  - **Add the father in the import text file**

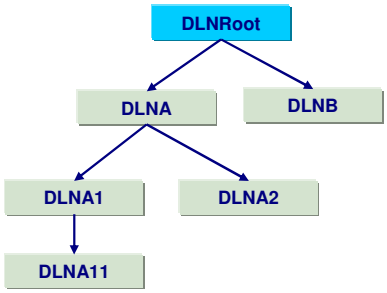



```
DLNRoot;E:\DS;/u/DS;
DLNA;E:\DS\PrjA;/u/DS/PrjA;DLNRoot;
DLNB;E:\DS\PrjB;/u/DS/PrjB;DLNRoot;
DLNA1;E:\DS\PrjA1;/u/DS/PrjA1;DLNA;
DLNA2;E:\DS\PrjA2;/u/DS/PrjA2;DLNA;
```

Format: Logical name;Windows path;Unix path;Father logical name;
No father logical name field for Root DLName definition line

  - **Import the text file**

- **User mode**
  - **Same procedure as administrator mode (Import file)**
  - **Restricted rules**



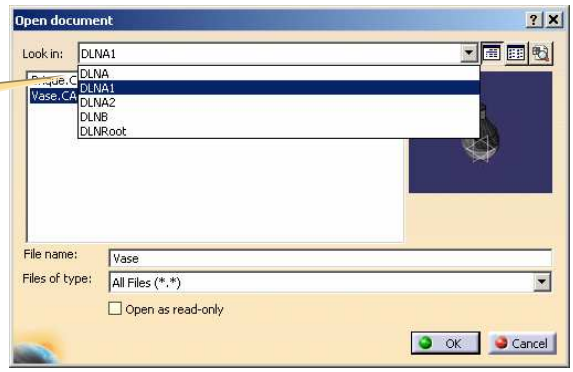

```
DLNA11;E:\DS\PrjA1\DLNA11;/u/DS/PrjA1/DLNA11;DLNA1;
```


Instructor Notes:

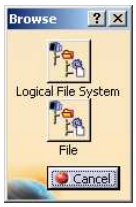
Structured DLNames (4/4)

- What the end users see

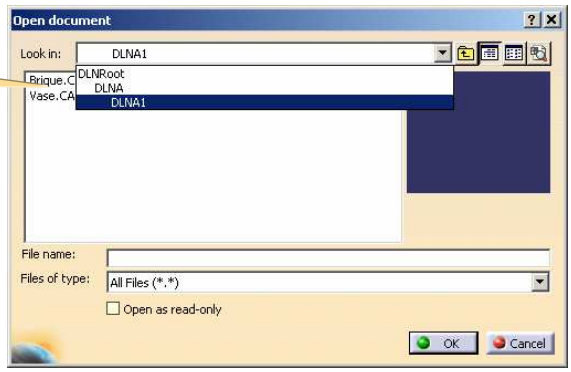
Select the DLName



Logical File system or File mode may be interactively switched (if it is allowed)



Part of the logical tree



Instructor Notes:

Links Management

You will learn how to use the tools to manage the links in CATIA V5 documents

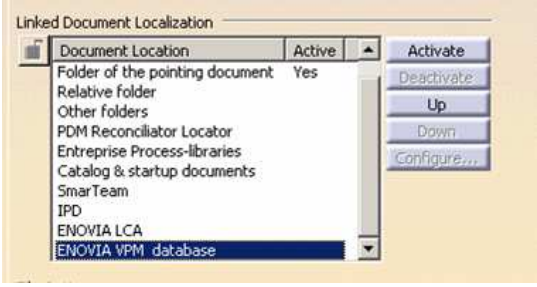
Instructor Notes:

Search Order Strategy (1/5)

How CATIA finds the documents linked to the root document ?

- **The Search Order enables to define the strategy chosen to resolve the localization of the linked documents.**

- **Various locators are already proposed**
  - **Folder of the pointing document**
  - **Folder of the links**
  - **Relative folder**
  - **Other folders**
  - **…**



- **These locators may be:**
  - **activated or not**
  - **combined**
  - **ordered**

- **Each activated locator is used to find the document, in the defined order, till it is found**

The minimum number of locators should be activated due to performance reason and to make sense

Instructor Notes:

Search Order Strategy (2/5)

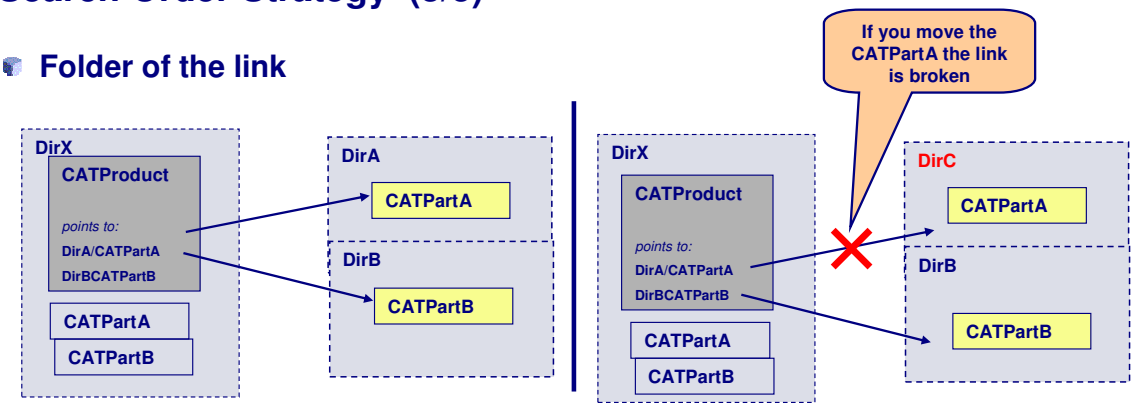
- File based Locators
  - Folder of the link: provides the absolute path which was saved in the link, i.e. the path used when you saved your document
  - Folder of the pointing document: provides the current folder of your document
  - Relative folder: provides a sub-folder with the same starting path
  - Other folders: provides a user-defined list of folders (former "Search Order")
  - Enterprise Process-Libraries: Provides the path of the process libraries (*.act)
  - Catalog & Startup documents: changes document links pointing to startup folder when migrating from one release to another one

- Database Locators
  - SmarTeam Database : (appropriate license is required) for documents stored in SmarTeam
  - IPD: (appropriate license is required) for documents stored in DELMIA database
  - ENOVIA LCA: (appropriate license is required) for documents stored in ENOVIA Version 5
  - ENOVIA VPM database: (appropriate license is required) for documents stored in ENOVIA VPM.
  - PDM Reconciliator Locator: reroutes links from a PDM system to another one (ENOVIA VPM → ENOVIA V5)

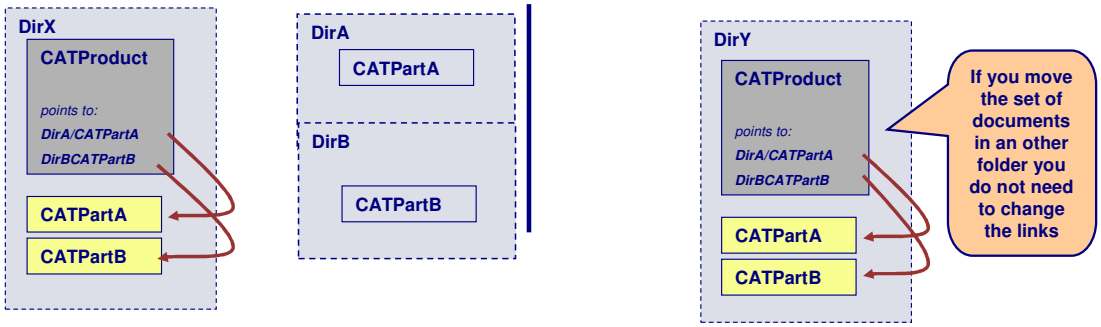
Instructor Notes:

Search Order Strategy (3/5)

- Folder of the link



- Folder of the pointing document



Instructor Notes:

Search Order Strategy (4/5)

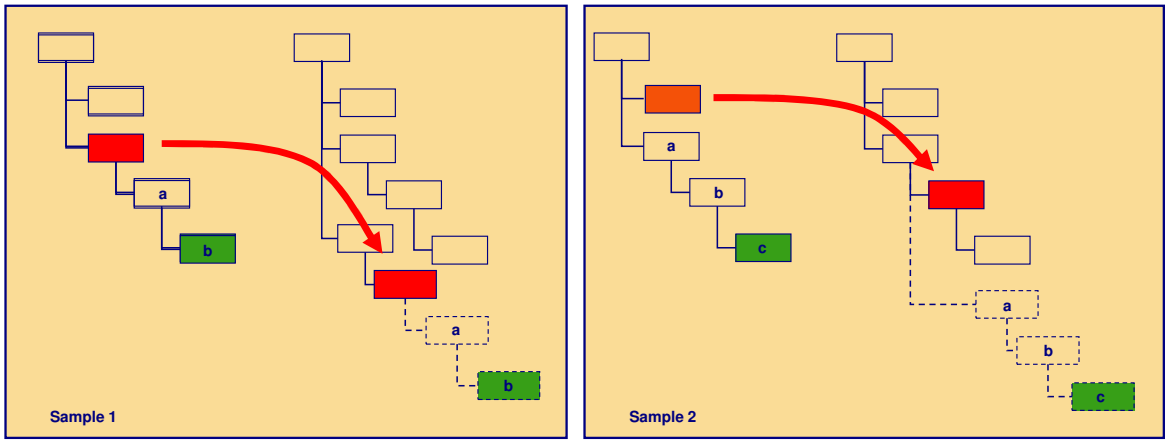
- Relative folder
- This locator uses 3 pathes to find the new location of the pointed document:
  - The initial path of the pointing document
  - The initial path of the pointed document
  - The current path of the pointing document

→ To determine a relative path

\+

→ To determine the current path of the pointed document

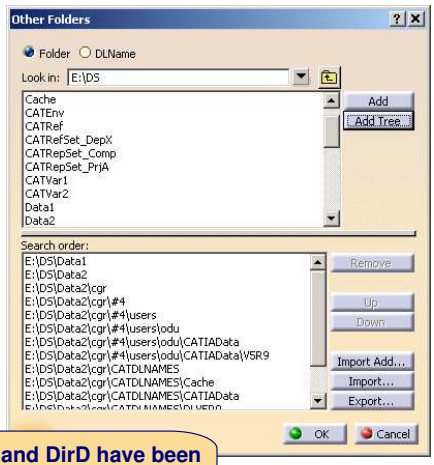
(By now, use "Folder of the link" locator jointly with "Relative folder")

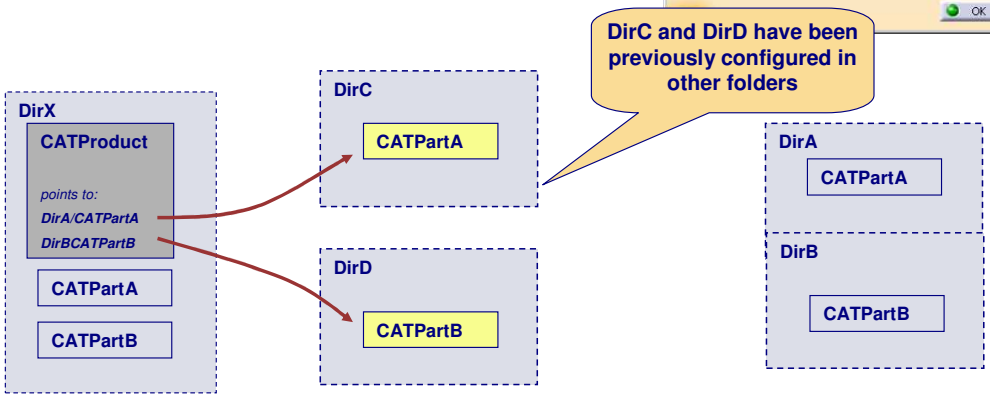


Instructor Notes:

Search Order Strategy (5/5)

- Other folders
  - You create a list of folders or DLNames with the configure command
  - The folders or DLNames are scanned, in the order given by the list, till the pointed document is found



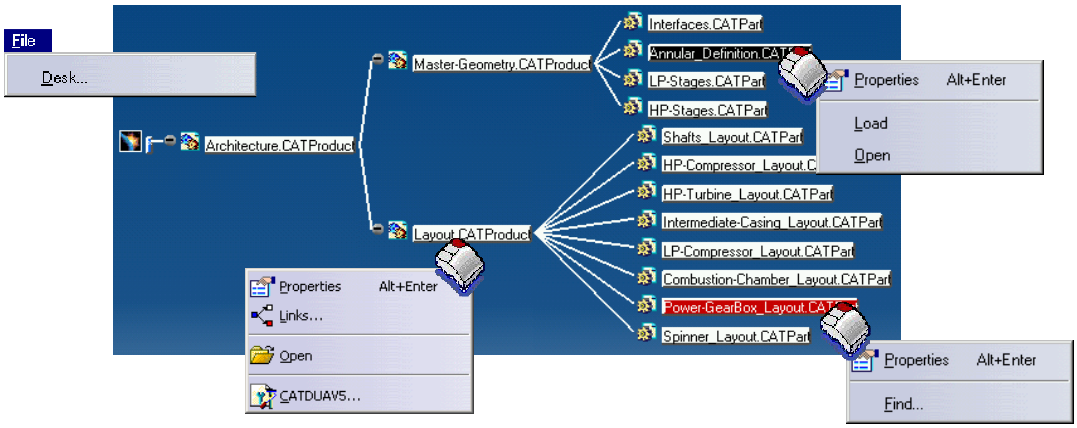


Instructor Notes:

File Desk Tool (1/2)

The "File/Desk" tool enables :

- **To see the relationships between the opened document and all other related documents (Context and Instance).**
- **To view V5 data and V4 models as well as related documents (.cgr, office document, etc…)**



The colors used to identify the various document types :

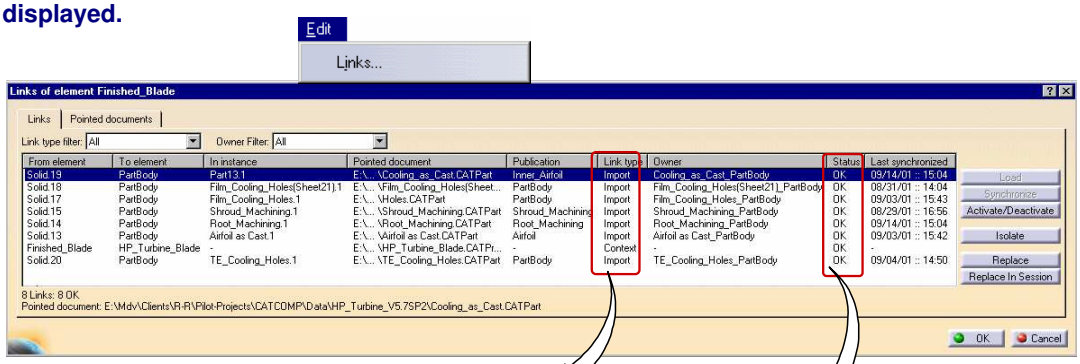
- **White for loaded documents**
- **Black for documents that are not loaded in the current session**
- **Red for documents that have not been found.**

Instructor Notes:

File Desk Tool (2/2)

The Edit / Links tool:

- This tool enables to display document links.
- Only external links (direct links) pointed by the active document can be displayed.



Link Type :

- Document link ï
- Drawing link ï
- Context link (“Copy/Past as Result”) ï
- Part to Part link (“Copy/Cut/Past”) ï

- Instance
- View-Link
- Import
- CCP (*)
- ...

CCP is the mechanism name ; no link obtained with Cut/Past mechanism

Status :

- OK
- Not synchronized
- Document not found
- Document not loaded
- Deactivated
- Isolated

Instructor Notes:

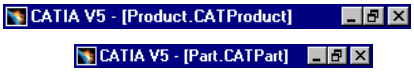
Document Management

You will learn how to manage the CATIA V5 documents (creation, save ...)

Instructor Notes:

Document UUID

- Each CATIA version 5 document gets a specific number during its creation ensuring its uniqueness among all files generated in the world :
  the Unique Universal Identifier (UUID)
  - The UUID is built with :
    - The file creation date and time
    - The machine number
  - This number is not visible



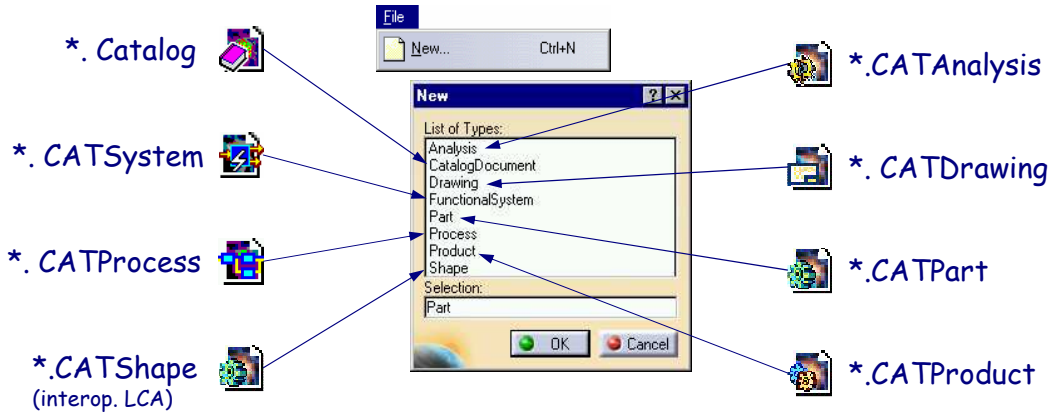
- CATProduct documents recognize their related documents (CATPart, models, …) through the UUID

Instructor Notes:

New document (1/3)

"File/New" command

- **Allows to create a new V5 document.**
- **To ensure a strict management of inter-documents links, the document is given unique through the combination of :**
  - **The File Name provided by the user**
  - **A Unique Universal Identifier (UUID) provided by the system (*).**



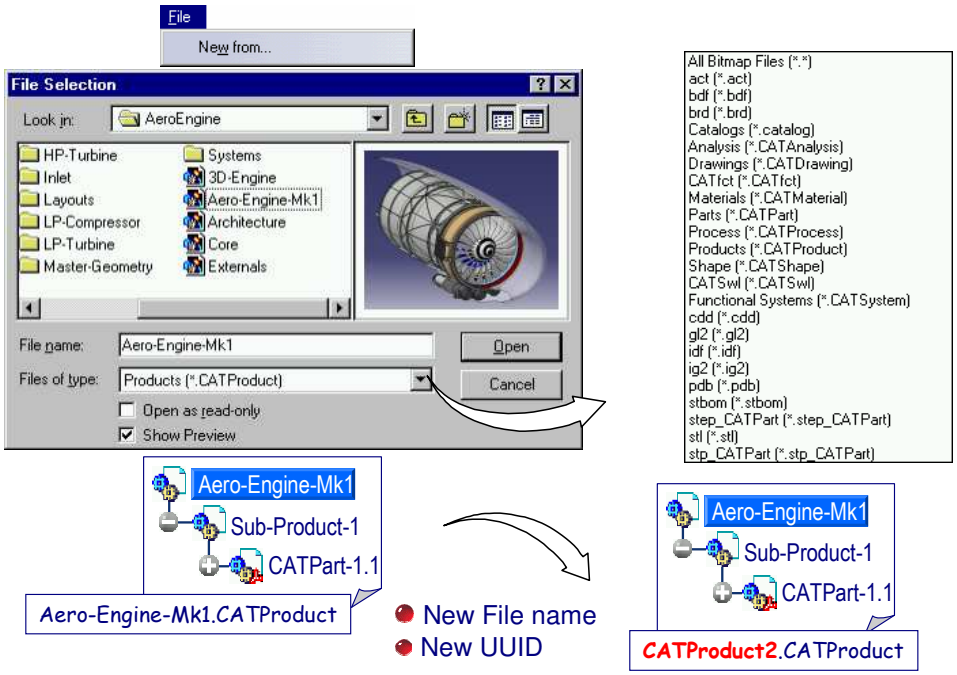
To **keep the UUID** : Open, Save and Save-as.
To create a **new UUID** : New, New-from or Save-as-new-document (not supported in re-synchronisation methodology used for designing in context or by applications).

Instructor Notes:

New document (2/3)

"File/New from" command

- **allows to create a document from an existing one.**

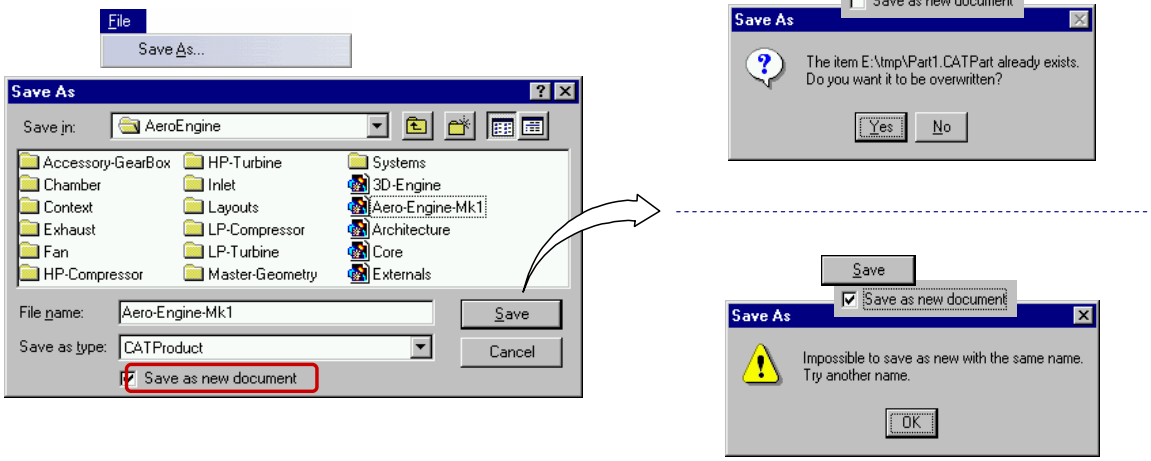


Instructor Notes:

New document (3/3)

"Save as new document" command

- Change the file UUID (Unique Universal IDentifier).

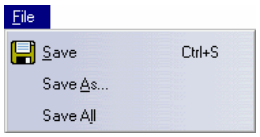


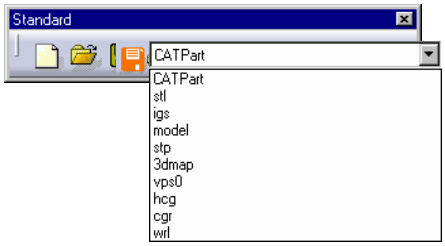
- The new document cannot be saved with the same name of its reference document in the same directory
- A new UUID is given to the new file

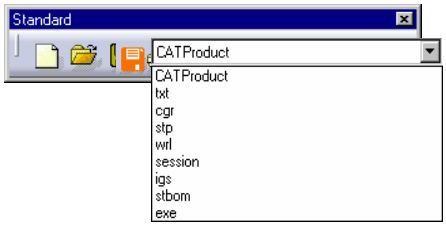
Instructor Notes:

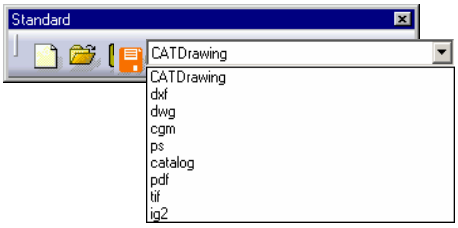
Save documents (1/2)

- "Save" will save the active component's and child documents of the active document
- "Save As…" is similar to Save, but allows to specify the name and folder for the active document
- "Save All" will save the open documents that have been modified since last save









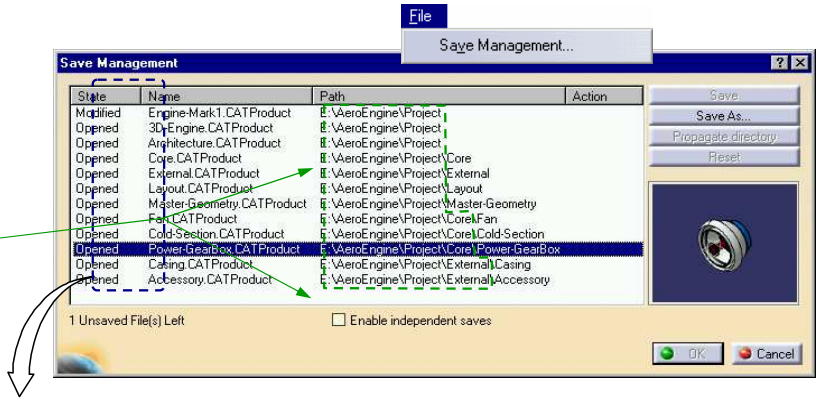
Instructor Notes:

Save documents (2/2)

"Save Management…" command

- **lets save all opened documents and its children under :**
  - **a new name**
  - **a new location.**

The directories architecture is rebuilt



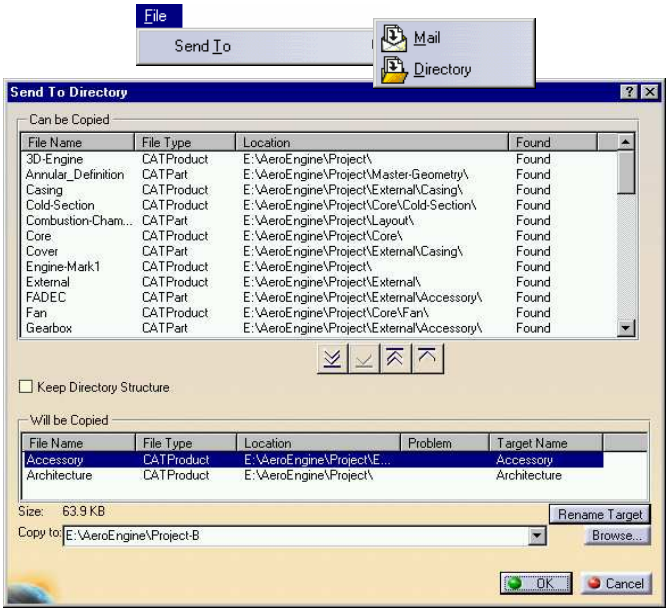
New : identifies a newly created document. You have to select a file name in order to save it
Opened : identifies a non-modified document open in your session
Modified : identifies a document which has been modified in your session
Read Only : identifies a modified and read-only document. You have to specify a new name for this document if you want to save it
Opened Read Only : identifies a non-modified, read-only document open in your session
Save : identifies a document that will be saved
Save Auto : identifies a dependent document that will be saved.
Modified by synchronization : identifies a document synchronized through its external links

Instructor Notes:

Send To (1/2)

"Send To" command :

- **enables to copy the whole product and all impacted documents (V5, V4, Microsoft, etc…) to another directory or other media, while keeping the links coherency**



All documents have to be saved before this operation : Timestamps must be identical between files stored on the disk and the same files loaded in memory.

Warning : NEVER use the Windows copy capability to duplicate V5 documents having external links

Instructor Notes:

Send To (2/2)

"Send To" batch

- "SendTo" batch is based on the SendToServices VB API
- More powerful than the SendTo interactive command
- Needs the PX1 license (PPR xPDM Product)

VB Macro Sample

```
Sub CATMain ()
Dim Send as CATIA.SendToService
Dim DepList()
ReDim DepList(100)
Dim SendPath as CATBSTR
Dim TargetDir as CATBSTR


SendPath="E:\DS\Data1\Table.CATProduct"
TargetDir =  "C:\tmp\SendToTest"


Set Send = CATIA.CreateSendTo ()
Send.SetInitialFile SendPath
Send.GetListOfDependantFile DepList
for i = 0 to Ubound(DepList)
   Res = Res + CStr(DepList(i)) + chr(10)
next
MsgBox Res, 0, "Files to copy before AddFiles"

MsgBox "Number of files to copy: " + CStr(UBound(DepList)+1),  0, "INFO"

Send.SetDirectoryFile TargetDir
Send.Run
MsgBox "Task completed", 0, "INFO"
End Sub
```

Method Index

AddFile
Adds a file to the list of the files 'to be copied'.

GetLastSendToMethodError
Retrieves the diagnosis related to the last call to SendToService interface.

GetListOfDependantFile
Retrieves the complete list of the files recursively pointed by the file given in argument to SetInitialFile method.

KeepDirectory
Controls the directory tree structure in the target directory.

RemoveFile
Removes a file from the list of the files that will be copied.

Run
Executes the copy action, according to previously set files and options.

SetDirectoryFile
Positions the destination directory.

SetDirectoryOneFile
Allows positioning the destination directory for one given file to be copied.

SetInitialFile
Sets the initial file to be copied.

SetRenameFile
Renames one file to be copied.

Methods documentation

Instructor Notes:

Interoperability

- Forbidden Characters and V5 File Naming Conventions
- UNIX / Windows Interoperability
- V4 to V5 Interoperability
- V5 to V4 Interoperability

Instructor Notes:

Forbidden Characters and V5 File Naming Conventions

- On Windows and Unix
  - Only ISO-646 subset characters are allowed when creating V5 files:
    - Characters A to Z (upper and and lower case)
    - numbers 0 to 9
    - Certain special characters : , ; . % $ ^ @ - _ = # () {} [] ‘ ` +
  - Some special characters of ISO-646 are not supported
    - National accented characters are not supported
    - / (Slash)
- On Windows
  - Some special characters of ISO-646 are not supported
    - Those 9 characters are : < > * : `` ? | \
- Interoperability
  - On UNIX a filter is activated to prevent you from using special character forbidden on Windows.

Instructor Notes:

UNIX / Windows Interoperability (1/3)

- Data sharing between Windows and UNIX
  - A communication protocol such as ftp, http or NFS is required
  - Different possibilities exist to :
    - Transfer data using FTP protocol from UNIX to Windows
    - Read data using NFS protocol
  - The following products have been tested using different scenarios
    - HummingBird Maestro Version 6.1
    - Intergraph DiskAccess Microsoft 2.0.

Instructor Notes:

UNIX / Windows Interoperability (2/3)

- Data sharing scenarios

  All these scenarios are based on exchanges from UNIX to NT for filenames containing National or Special characters and NT forbidden characters

  - Transfering data from UNIX to NT by FTP protocol

    - By ftp command
      Transferring V4 data must be done only from NT (NT login), using mget and mput sub-commands

    - By Hummingbird ftp on NT (Graphic Interface)
      Useful for a small numbers of transfers
      Mode “NO filename verification”

    - By TAR UNIX / FTP / WINZIP NT
      You must use the code page with TAR and WINZIP

Instructor Notes:

UNIX / Windows Interoperability (3/3)

- Reading UNIX data from NT
  - Using HUMMINGBIRD NFS
  - Using DiskAccess Microsoft

    If there is no national accented or special characters, no meta-characters *?
    ± character (0xb1) can be read by DiskAccess
- General Recommendations using these products:
  - Activate the lock mechanism
  - Keep the same case in file names
  - Evaluate the product within the context and environment of your company before deploying it

Instructor Notes:

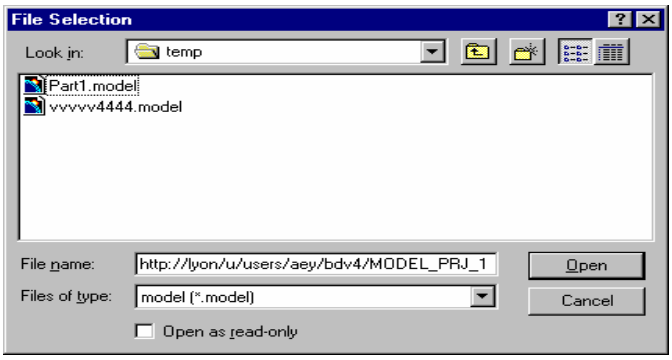
V4 to V5 Interoperability

In this skillet you will learn how to manage V4 data in CATIA V5

Instructor Notes:

Opening V4 Models in CATIA V5

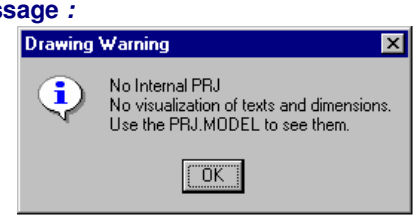
- To open V4 Models created with forbidden characters, two solutions:
  - Rename V4 filenames to eliminate forbidden characters
  - Use of a http server to open V4 data without renaming filenames
- Using a UNIX http server
  - The only way to open V4 models containing forbidden characters:
    - File/Open from V5 on Windows
    - Allows to open all V4 data
    - But laborious way to input the path : http://server/…/CATIAV4.model
    - Directory listing is not available
      (by-pass with DLName)



Instructor Notes:

Opening V4 models linked to a PRJ (1/3)

- Project files (PRJ) don't exist anymore with CATIA V5
- However V4 models or libraries can be still linked to a PRJ.
- CATIA V5 enables you to open CATIA V4 models : 3D models or drawings
  - Sometimes V4 models, especially drawings, are linked to a PRJ (project files) which contains patterns, texts.
  - When you try to open with CATIA V5 a V4 model that is no more linked to a PRJ you will have a warning message *:*

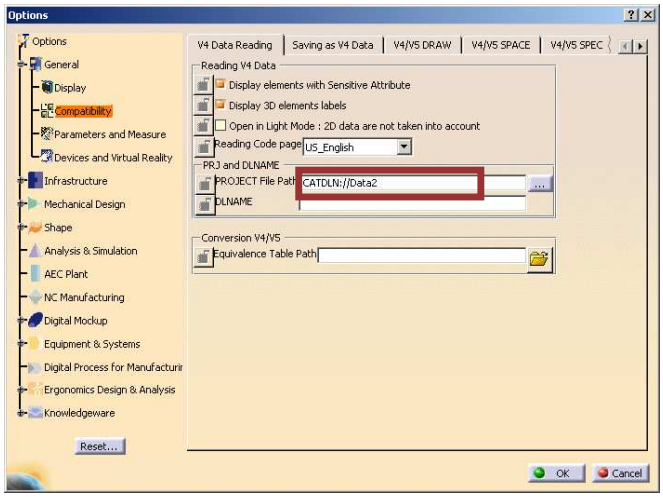


  - At the opening, the model will loose its patterns and texts.

Instructor Notes:

Opening V4 models linked to a PRJ (2/3)

- **To open V4 data linked to a PRJ with CATIA V5 :**
  - **PRJ must be accessible**
  - **PROJECT Files Path must be given in the settings of V4/V5 Infrastructure tab (in Options → General → Compatibility → V4/V5 Data Reading)**
  - **Same V4 declaratives:**
    - *PROJECT File Path* **:** *CATIA.PRJTABLE*



Instructor Notes:

Opening V4 models linked to a PRJ (3/3)

- Having access to the PRJ on UNIX
  - Give only the UNIX PRJ path
- Having access to the PRJ on Windows:

  Project File directory cannot be copied natively on NT:
  The table file name generally contain Windows NT forbidden characters.

  - First solution : PRJ access using a http server
    - install a UNIX http server to share PROJECT files
    - On the Windows station, set up the PROJECT File path :
      http://<server>/…/prj/
  - Second solution : Migration of the PRJ on the Windows station
    (Seen in the next item)

Instructor Notes:

Migration of PRJ on Windows

- On UNIX station, make a copy of the PRJ directory
- Rename all the project files containing Windows forbidden characters

Character to be replace	New character
" character	string "_Inch"
* character	character "x"
± character (0xb1)	character "_"
Other forbidden NT (/ \ < > : ? |) characters	character "_"
Non standard ISO characters	character "_"

Ex: .TEXTCOT±:±STANDARDS.project. to .TEXTCOT_ _ _STANDARDS.project

- Transfer the new PROJECT files on Windows
- Set the PROJECT File Path with the name of the PRJ folder on Windows

Instructor Notes:

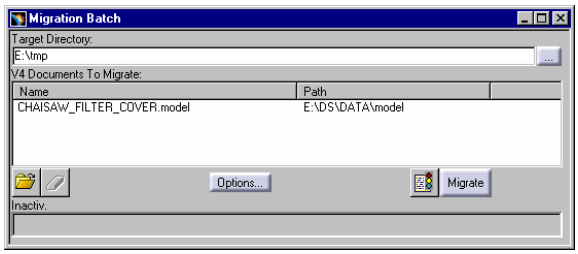
Batch tools (1/4)

CATV4ToV5Migration

- The migration tool enables to migrate CATIA V4 data :
  - CATIA models (.model)
  - CATIA sessions (.session)
  - CATIA assembly (.asm)

  to CATIA V5 data : CATPart, CATDrawing or CATProduct

- Compared to the Copy / Paste AS SPEC process, the batch process generates more pertinent V5 data.
- Interactive mode : CNEXT -batch -e CATV4ToV5Migration



- Real Batch mode: CATV4ToV5 or CATUTIL

Instructor Notes:

Batch Tools (2/4)

CATExtractModelFromSequential batch command tool

- **Enables to extract models from V4 sequential files**
- **These sequential file have been generated with the CATEXP utility of CATIA V4 and must be a '.exp' or '.dlv3' files**
- **Interactive mode or in batch mode (since V5R8)**
- **Batch Monitor integrated**

Example : How to extract models in batch mode in a DOS window

To extract models from the file file.exp in E:\tmp you can type :

```
CATExtractModelFromSequential -id E:\tmp -il file.exp -od e:\tmp -report
E:\tmp\report.txt
```


Instructor Notes:

Batch Tools (3/4)

ConvertLibrary.CATScript Migration of V4 library to V5 catalog

- An http server is required on the UNIX station where the library is stored when using the batch on Windows.
- Example of ConvertLibrary.CATScript in the CATIA V5R17 documentation
  Customization of the CATScript :
  - Settings you want to use
  - LibraryDirectory : absolute UNIX directory of the V4 library
    = "http://machine_name/../../library")
  - CatalogDirectory : absolute directory of the catalog
  - projectDirectory : absolute UNIX directory of the V4 project
    = "http://machine_name/../../prj")
  - Tablepath : conversion tables for forbidden characters
- Launching of the CATScript in Tools → Macro → Macros command

Instructor Notes:

Batch tools (4/4)

CATV4ToV5NTCompatibilityName batch tool

- **Use : Rename V4 documents and their dependencies to be readable on NT file system.**
  - **The principle is to change forbidden characters accordingly to the conversion table.**
  - **Batch execution on UNIX system recommended due to the forbidden characters**
- **Interactive mode : no**
- **Command line : CATV4ToV5NTCompatibilityName -Arg**

Arguments :

id:	**Input directory or DLNAME**
if:	**Input File containing a list of V4 documents to process with appropriate file extension (ie .session, .model, .exp, .dlv3).**
il:	**Input list of V4 documents to process**
od:	**Output Directory (or DLNAME)**
depth:	**level of Multi Model Link structure taken in account**
report:	**report file name**

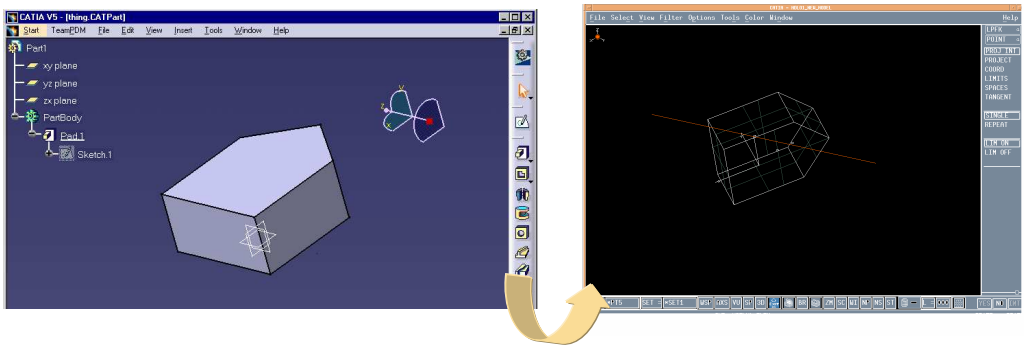
Instructor Notes:

V5 to V4 Interoperability

In this skillet you will learn how to manage V5 data in CATIA V4

Instructor Notes:

Opening V5 data in CATIA V4 on UNIX (1/3)



- It is possible to open a V5 CATPart with CATIA V4 on a UNIX workstation
- Software prerequisites
  - CATIA 4.2.3 R1 or later
  - CATIA V5R6 or later with:
    - V4 Integration Product (V4I)
    - Mechanical Design 2 (MD2) for example
    - the appropriate licenses

Instructor Notes:

Opening V5 data in CATIA V4 on UNIX (2/3)

- **Declaratives**

  You must use the following declaratives :

  CATIA.ENVTV5:STRING;
  CATIA.ENVTV5='$HOME/CATEnv/CATIA.V5R17.B17.sh';
  CATIA.MACHV5:STRING;
  CATIA.MACHV5='my_server_machine';

  Where **$HOME/CATEnv/ contains the downloaded environment shell**
  and **my_server_machine is the hostname station**
  if empty it is assumed that V4 and V5 are installed on the same machine

- **Where do you put the declaratives ?**

  - **For a V4 user : in the declarative file $HOME/USRENV.dcls**
  - **For all V4 users : in the declarative file of the CATIA V4 administrator $CAT_CUST/dec/CATIA.dcls**

Instructor Notes:

Opening V5 data in CATIA V4 on UNIX (3/3)

- UNIX prerequisites
  - The file system containing the CATPart must be shared by the V4 and V5 machines
  - The path to access to the CATPart must be the same from the two machines
  - The user $HOME is the same on the two machines and it is shared
  - Opening a V5 data with CATIA V4 use V5 code with remote command.
    So, the user that launches CATIA V4 must have a remote execution right
    - Modify text files $HOME/.rhosts or /etc/hosts.equiv by adding station hostname or +

- Opening the V5 part with CATIA V4
  - Browse V5 documents as passive models using FILE/OPEN
  - Read a V5 CATPart document and copy exact solids and surface entities into CATIA Version 4 using MODELS/COPY

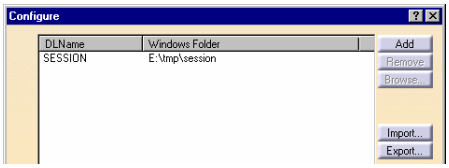
Instructor Notes:

Transfer a V5 CATProduct to a V4 session (1/2)

How to save a V5 CATProduct to a V4 session on WINDOWS and how to transfer it on UNIX (No particularity on UNIX)

- **You must work with DLNAME (mandatory on WINDOWS)**
  - **In Tools → Options → General → Documents**
    Put DLNAME as Current

  - **Define a DLNAME with a UNIX and Windows PATH**
    You can import a text file with :
    SESSION;E:\tmp\session;



Instructor Notes:

Transfer a V5 CATProduct to a V4 session (2/2)

- Save the CATProduct as a session with the “save as” menu
  - The CATProduct and associated CATPart and models will be saved as a session and models in the DLNAME “SESSION”
- Transfer the data on UNIX
  - All the files created (session and models) must be transferred (FTP binary mode for example)
- Open the session on UNIX
  - You must update declarative files with :
    CATIA.SESSION = “”/data/session”,”SESSION”
    CATIA.MODEL = “”/data/session”,”SESSION”

- Limitations
  - Path of the session or of the CATProduct's components must not exceed 44 characters
  - Name of the session must not exceed 80 characters
  - Name of the CATProduct's components must not exceed 64 characters

Instructor Notes:

Batch tool : CATV5ToV4

CATV5ToV4

- **Function : Migration of CATPart in V4 models**
  - **Standard Save As Model**
  - **Associative Save As Model (to be used by VPM / ENOVIA):**
    The part's path is kept in memory and you can re-synchronize the model after modifying the part.
- **V5 Settings are taken into account**
  Interoperability settings like Model Dimension, Model Unit or Initial Model
- **Only in command line**
- **Syntax :**

  CATV5ToV4 –if inputPart –of outputmodel [–mod savingmode] [–report]

Instructor Notes: