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CAD Manual 02 - Glossary

This document shows a Glossary describing common words or terms used in the ITER DO environment.

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ITER CAD Manual

Section 2 - Glossary

Abstract

This document shows a Glossary describing common words or terms used in the ITER DO environment.

Major Changes

Version	Date	Location	What
2.0	15-12-2006		First Release
3.0	15-12-2006		Corrected error
4.0	4-11-2007		Additions to glossary
5.0	8-01-2008		Additions to glossary
6.0	12-07-2010	2.2	Addition & clarification of glossary terms

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2 Phonetic Alphabet and Glossary

2.1 NATO Phonetic Alphabet

To avoid confusion the NATO phonetic alphabet should be used.

A - Alpha	**K** - Kilo	**U** - Uniform	**0** - Zero
B - Bravo	**L** - Lima	**V** - Victor	**1** - Wun (One)
C - Charlie	**M** - Mike	**W** - Whiskey	**2** - Two
D - Delta	**N** - November	**X** - X-ray	**3** - Tree (Three)
E - Echo	**O** - Oscar	**Y** - Yankee	**4** - Fower (Four)
F - Foxtrot	**P** - Papa	**Z** - Zulu	**5** - Fife (Five)
G - Golf	**Q** - Quebec		**6** - Six
H - Hotel	**R** - Romeo	**.** - decimal (point)	**7** - Seven
I - India	**S** - Sierra	**.** - (full) stop	**8** - Ait (Eight)
J - Juliet	**T** - Tango		**9** - Niner (Nine)

2.2 Glossary of Terms

The following table provides a definition of some words or terms commonly used by CATIA, ENOVIA, DELMIA or in the CAD engineering environment.
The definition is often specific to the topic.

WORD or TERM	DEFINITION
Absolute Coordinates	Coordinates that specify a location in relation to the current coordinate system origin (0,0,0).
Action	All modifications to the product structure of a part occur in the context of an Action. The action is a formalism that instigates control and historical tracking.
Alternative	Wording used to define another technical solution designed in addition of a previous one. The alternative is used for defining new concept of design, offer new technical answer, propose new technology for a specific technical need, etc ... An alternative can evolve in parallel to the previous or original design.
Assemblies	Assemblies, assembly models, assembly files, assembly geometry, assembly hierarchies and assembly data are terms used interchangeably throughout this documentation. These terms refer to a specific type of data that can be imported when it is created out of the V5 system. Assemblies consist of parts; assemblies make up products.
Assembly Link	The entity in the database that materializes the parent-child relationship between an assembly part and its component part. An assembly can contain as many assembly links as it has components. Data can be associated with an assembly link such as the position of the component part relative to its parent.
Associate	To upload and connect a document file to an ENOVIA part.

WORD or TERM	DEFINITION
Associativity	The interdependent relationships between entities.
Attribute	An entity in ENOVIA to specify a part like PBS, OWNER, IDENTIFIER (ID). Some of the attributes are mapped to or from CATIA properties.
Bill of Material	A list of data containing the properties of the components in the active (selected) component.
Body	CATIA V5 element containing a set of geometrical features
Bounding Box	The reference bounding box is the volume occupied by the set of all models associated with a part. An assembly bounding box is the volume occupied by all of the assembly's components, and a component bounding box is the volume in space occupied by a particular instance of a part or assembly within a product. The bounding box orientation is related to the absolute axis system. The volume filter analysis (performed to retrieve the surrounding parts during an advanced clash analysis) is to be computed with "SpaceMap" or "BoundingBox". The geometrical coordinates of the box that surrounds or includes a part or assembly. Bounding boxes are used and maintained by the zone/volume filter mechanism.
CATIA	CAD software application provided by Dassault Systemes
CGR Format	CGR stands for CATIA Graphic Representation. This format is the common format used for all V5 data.
CATDrawing	CATIA V5 file containing 2D drawing geometry
CATPart	CATIA V5 file containing 3D geometry
CATProduct	CATIA V5 file representing an assembly, containing links to CATParts or CATProducts (subassemblies), assembly constraints to position the components and application data
CCP link	CatiaCopyPaste link between 2 CATParts. The position of the reference geometry in the driven part in relation to the position inside the skeleton is based on the absolute axis systems of the 2 parts. The position of the reference geometry is independent from the position in the assembly. This link is used for component skeletons to easily make and maintain variants of a part, which are independent in position.
Change management	▪ **Minor change** Change of a part or assembly that is not an interface or conceptual change. ▪ **Major change** Interface or conceptual change of a part or assembly.
Child	A status defining the hierarchical relationship between a feature or element and another feature or element.For instance, a pad is the child of a sketch.
Component	A reference integrated in an assembly. A component possesses characteristics related to how it is integrated in an assembly (for example, its relative location in an assembly).

WORD or TERM	DEFINITION
Component Skeleton	A Component SKEleton (CSKE) is a CATPart containing geometry, parameters, bodies that are used to drive the geometry of other parts. To achieve this CCP links are used in CATIA V5. The CSKE is used to easily make and maintain variants of a part, which are independent in position.
Concurrent Engineering	Enables the user to reserve database objects for long periods of time. Other users will be able to read these objects but will not be able to update them. In this way, the user will be able to work without coming into conflict with another user's concurrent modifications.
Configuration	Configuration is a way of handling product diversity such as different versions of the same part within the assembly. Configuration acts like a filter applied to the Product Structure. Configurations are based on conditions called Effectivity which are stored on assembly links and define their validity. Many parts are not intended to be configured and therefore parts are, by default, considered to be not-configurable. In order to configure a part, you must render it configurable by invoking the Set Configurable method. Configuration is only possible on structure exposed parts in the product structure tree.
Configuration Handler	Enables users to concentrate on the configuration tasks concerning their particular Part and to reuse configurations of component Parts that have been created by the owners of those Parts. Configuration Handler act like filter applied on a configured product structure tree.
Constraint	A geometrical or dimensional relationship between several geometric elements of different components. It may be used to define the positioning of components (assembly constraint).
Context	1). The environment of parts surrounding a specific part to be designed. 2).The assembly used as context for a context/import link to define the relative position of the linked parts.
Context/Import link	Link between 2 CATParts using geometry of a reference part (Interface skeleton). This type of link respects the position of the linked parts in relation to the assembly origin (context).
Contextual Menu	A menu that appears when the user clicks the right mouse button. This menu varies as a function of the software context. It contains often used functions.
CV4	CATIA software application Version 4
CV5	CATIA software application Version 5
DELMIA	Product name used by Dassault Systemes for assembly and manufacturing simulation software applications.
Design data	The Design data is the dataset to be modified by the supplier, and becomes the property of the supplier for the duration of the design task.
Digital Mock Up	A ‘digital prototype’ of the product rather than a physical one
Document	A common unit of data (typically a file) used in user tasks and exchanged between users. When saved on disk, a document is given a unique filename by which it can be retrieved.

WORD or TERM	DEFINITION
EBOM	An EBOM (Engineering Bill Of Material) is a set of related Parts, CAD models and documents stored in a database which define a Product. The EBOM objects are assembled in hierarchical structures called Product Structure. Part and Assembly Detailing is used during product detailing stage to construct and manage the EBOM.
Effectivity	A condition which is stored on an assembly link and defines its validity. See also Configuration.
Engineering change	Formal process used for managing changes to be made to product structures and documents
ENOVIA	Brand of Dassault Systemes for PLM Product Lifecycle Management software applications. One of these products is the LCA Life Cycle Application.
Environment	A set of parts surrounding a specific part to be designed (design data). The environment is for information only. The supplier is not allowed to modify it.
Feature	A component of a part. For instance, shafts, fillets and drafts are features.
How to	A set of step-by-step instructions explaining a task.
IDM	ITER Document Management
Inheritance	Inheritance enables you to define effectivities for sub-assemblies from the root part, thus diminishing the number of interactions necessary to complete a given configuration for a product structure.
Instance	An individual occurrence of a part in an assembly. Each instance of a part in the assembly is identical except as regards to certain external characteristics such as the position and specific attributes.
Interface	Common geometry between different parts or assemblies. Example: the stub key axis between the VV and the Blanket.
Interface Skeleton	The ISKE is used as a link between adjoining parts with a common boundary feature. Example: the stub key axis between the VV and the Blanket. In CV5 links of type Context/Import are used to achieve this. This type of link respects the position of the linked parts in relation to the assembly origin (context).
LCA	Software product called LCA Life Cycle Application of the Enovia brand.
LCA Viewer	Viewer integrated under LCA allowing to have access, for consultation and basic operations on distant site for example (analysis, sectioning, navigation, ...), to the ENOVIA database. It is possible to see all documents, assemblies, DMU, ...
Leaf instance	The last component (part) at the end of each branch of the specification tree without using show documents.
Lifecycle management	The description of the distinct phases through which a part or document passes during its life. This includes phases such as requirements definition, concept design, production, operation, maintenance, etc.
Link	A relationship between objects.
Lock/Unlock	Operations made under ENOVIA, to enabling access and writing on data (part & document)

WORD or TERM	DEFINITION
Major Change	Interface or conceptual change of a part or assembly.
Master data	The Master data is the dataset which directly impacts on the suppliers design and still belongs to ITER. It can be part of the environment set or part of the design set. It can be of the type: - Skeleton- Standard Part- Impacting context (neighbouring objects)
Maturity	Expresses the level of confidence that the Project is considering for the related part. Attribute to Promote or Demote the value of an ENOVIA part.
Meta Data	All data in the ENOVIA database that are not a document file i.e. attributes, product structure etc.
Methodology	Work practise procedure
Milestone	Any significant identifier allowing you to manage date or range effectivities in a project implementation schedule instead of explicit numbers or dates.
Minor Change	Change of a part or assembly which is not an interface or conceptual change.
Model	CAD-CAM geometry. This is the CATPart
MultiBody	Several bodies in one CATPart representing several physical parts.
MultiPart	Each CATPart representing one physical part.
Multi-site Concept	The ability to synchronize meta data and/or files between different sites.
Object	An entity of the data base that may be manipulated. Objects include parts, models, actions and documents. An ENOVIA part is an entity with a set of attributes and can be of type assembly controlled by ENOVIA (structure exposed), controlled by CATIA (publication exposed) or detail (single CATPart as 3D & document).
Pad	A feature created by extruding a profile contained in the CATIA sketch.
Parent	A status defining the genealogical relationship between a feature or element and another feature or element. For instance, a pad is the parent of a draft.
Part	1). Parts, part models, part files, part geometry and part data are terms used interchangeably throughout this documentation. These terms refer to a specific type of data that can be imported when it is created out of the V5 system. Parts make up assemblies; assemblies make up Products. Within the Assembly workbench, it is either a part of the Part Design workbench, or a 3D entity whose geometry is contained in a model. Within Part Design, it is a 3D entity obtained by combining different features. 2). An ENOVIA part is a entity with a set of attributes and can be of type assembly controlled by ENOVIA (structure exposed), controlled by CATIA (publication exposed) or detail (single CATPart as document).
PartBody	A component of a CATPart made of a combination of several features.
Pattern	A set of similar features repeated in the same feature or part.

WORD or TERM	DEFINITION
People & Organization	Functionality implemented under ENOVIA/LCA, enabling the management of organization, users and their privileges (rights) to the data.
Plant Breakdown Structure (PBS)	The Plant Break-down Structure (PBS) is a way of separating the main components and systems of ITER with a unique identifier in order to better plan and organise the work of the project (during its conceptual and detailed design phase).
PCR	Product Class Root. ENOVIA entity to structure the products or projects of a company. A PCR is the highest level in this structure. The children are PRCs.
PRC	Product Root Class ENOVIA entity to structure the products or projects of a company. A PRC is a child of a PCR. A PRC is the root part of a product structure.
Pocket	A feature corresponding to an opening through a feature. The shape of the opening corresponds to the extrusion of a profile.
Positioning matrix	The x, y, z coordinates of a part or assembly instance relative to its parent. The mathematical product of all of the positioning matrices at each successive level of a product assembly allows the system to determine the position of a part instance within the product.
Positioning Skeleton	The PSKE is used to position at least the main components of the product structure with assembly constraints. For this purpose a reference part can be used inside the component to be positioned. For example the SECTOR_01 inside the SECTORS assembly in the VV PBS. The PSKE contains only elements like planes and lines to be used for assembly constraints.
Product	A 3D entity which contains several components. A set of parts linked together by parent/child relationships constituting a part that is a commercially deliverable entity to an external client.
Product Lifecycle Management	Definition of a market sector which comprises a number of diverse software applications including CATIA, DELMIA, ENOVIA, Smarteam and others.
Promote	Operation performed under ENOVIA or LCA to increase the data status upon its design advancement.
Properties	Attribute or characteristic of an object that defines the objects state, appearance or value.
Publication exposed/ Workpackage	Also called Work package (WP). Terminology in ENOVIA to describe an assembly with a CV5 CATProduct document saved in the database. The other method is structure exposed (SE).
Published Elements	Publishing geometrical elements is the process of making geometrical features available to different users. This operation is necessary to be able to create links between parts.
Publish/Subscribe	ENOVIA functionality for a request to be automatically notified by electronic mail upon a given event.
Quality Checker	Software application to check whether customized rules like the syntax of filenames are followed.
Query	Simple and Extended search

WORD or TERM	DEFINITION
Reconciliation	ENOVIA VPMNavigator functionality to import file-based data that was exported from ENOVIA. The reconciliation process enables the user to search inside ENOVIA and define reconciliation rules for documents loaded in a CATIA session in order to import the received data into ENOVIA.
Replication	The complete process consisting in the transfer of a complex object from one database to another located on a different site.
Revision	A revision is a specific occurrence of a document in the history of changes. Any change to a drawing, a document or a data element which requires the revision level to be advanced. Note: Any modification of any product data after that data has been released for use will lead to a new revision.
Root Assembly	The origin/top assembly of a product structure graph.
Root Part	The origin/top part of a product structure graph.
Skeleton	See Component Skeleton, Interface Skeleton and Positioning skeleton.
Sketch	A set of geometric elements created in the Sketcher workbench. For instance, a sketch may include a profile, construction lines and points. The sketch is the base geometry for 3D features like pad or pocket.
SpaceMap	This parameter is used to specify if the volume filter analysis (performed to retrieve the surrounding parts during an advanced clash analysis) is to be computed with "SpaceMap" or "BoundingBox". A number of small boxes are computed. All these boxes together include the 3D geometry of a part.
Status	Indicator of the state of advancement of a modification to the product structure during the course of its life cycle.
Structure Exposed	Terminology in ENOVIA to describe an assembly without CV5 CATProduct document. The information normally saved with this document is exposed in the database. This information is linked to sub-assemblies or parts, assembly constraints and application data. The reason for this approach is to enable concurrent engineering and the ability to filter the tree by volume or configuration.The other method to handle CV5 assemblies in ENOVIA is publication exposed.
Subscribe to event	ENOVIA functionality for a request to be automatically notified by electronic mail upon a given event.
Variant	A slightly modified copy (limited discrepancies) of a VPM Part. For example: Diagnostics cassette against standard cassette. To design a variant the component skeleton is the preferred methodology.
Version	A version is a specific occurrence in the life-cycle of a part.
Viewer	3D Local Viewer and 3D Remote Viewer.
Virtual Product Model	The Virtual Product Model provides a comprehensive model of the Product and the associated Processes in order to support concurrent product optimization throughout the product life cycle.

WORD or TERM	DEFINITION
Visibility	This is the Filter applied to data in the database tree structure (PRC) The visibility of data for a user is controlled by the People & Organization (P&O) privileges. GV = General Visibility (visible to all users) LV = Limited Visibility (dependant on data status & P&O user rights)
What Is	Document giving an explanation/description of an item or object. Example "What is the meaning of an LCA Icon"
Wireframe Element	Elements such as points, lines or curves that can be used to represent the outline of a 3D object.
Workbench	A set of tools related to a specific task.
Workbook	To organise your working area, create shortcuts to your preferred working area in ENOVIA this will be done in a Workbook, similar to the desktop on your PC.
Work package	Terminology in ENOVIA to describe an assembly with a CV5 CATProduct document saved in the database. Also called publication exposed assembly. The other method is structure exposed.
Zone	Pre-defined bounding box for a product. A zone has a name which can be referenced by the user.