ENOVIA Solutions V5.10 — Promotes Support of Industry Best Practices and Customer Business Processes

Overview

V5.10 delivers enhanced ENOVIA Portal Solutions, Life Cycle Applications (LCA) Solutions, Product Process Resources (PPR) Hub Solutions, and Enterprise Architecture.

ENOVIA V5.10

Extends 3D collaboration and product-development-sharing capability across the extended enterprise with:

- New Web-component-based evolution of ENOVIA Portal 3D collaborative tools allowing easier integration of 3D information inside corporate Web sites
- New multiprocessor capabilities that yield performance improvements when conducting large assembly digital mock-up (DMU) reviews
- Improved capabilities to allow product design exchanges between OEMs and their suppliers

Provides new opportunities to implement business best practices through:

- Improved program and product planning with enhancements to ENOVIA variant management
- New user homepage that provides convenient hyperlinks to work tasks and engineering change orders
- Enhanced intellectual property creation and versioning control

Enhances the capabilities of Dassault Systemes’ unique PPR Hub through:

- New interoperability functions between ENOVIA V5 and DELMIA extending early manufacturing availability
- Improved “briefcase” exchange between ENOVIA and SMARTEAM providing automatic locking of ENOVIA objects and Action-controlled importing
- Enhanced CATIA V4/CATIA V5 transition support within the ENOVIA environment

Improves the reuse and sharing of knowledge throughout the enterprise by:

- Complete integration of Portal DMU applications with ENOVIAVPM through the addition of kinematics simulation objects
- Improved Portal DMU product visualization capabilities allowing greater levels of product introspection and analysis
- ENOVIAVPM/CATIA V5 interoperability enhancements allowing the capture of CATIA knowledge objects in ENOVIAVPM

Provides added capabilities to ENOVIA architecture and Component Application Architecture (CAA) through:

- Enhanced enterprise security features and improved system scalability
- New ENOVIA Gateway product to support industry-standard data exchange protocols
- Performance improvements in LCA based on scalability and usability studies

Planned Availability Date

November 29, 2002
ENOVIA Portal 3D com Navigator has been split into two new products, the ENOVIA PPR Navigator, and the ENOVIA 3D com Web Viewer to allow increased deployment flexibility. All functionality of the former 3D com Navigator product is made available through the combined use of the PPR Navigator and the 3D com Web Viewer. Specific functionality in each product includes:

- **ENOVIA PPR Navigator** — Allows users to search, access, and navigate PPR data. It also provides the WebTop environment and session management tools to ENOVIA 3D com users.
- **ENOVIA 3D com Web Viewer** — Provides dynamic Web-based visualization, analysis, and annotations of 2D and 3D documents. It is available either inside a WebTop or as a light viewer component running in Microsoft® Internet Explorer.

With the capability of the 3D com Web Viewer to run not only inside the Portal 3D com WebTop, but also as a Web-component inside Microsoft Internet Explorer, customers can improve their corporate Web sites with ENOVIA Portal 3D solutions. This allows vast product development communication and collaboration improvements via the Web. In this first version of the Web-componentization of 3D com, users can visualize and print 3D and 2D documents over the Web.

In parallel, all V4 server prerequisites are removed for the ENOVIA 3D com viewing capabilities inside a WebTop. Information access capabilities on the V5 server include the ability to follow hyperlinks on V4 models. This makes all the V4 server-based functions available with the V5 server. V5.10 also brings significant performance enhancements on the V5 server, decreasing CPU time and improving memory consumption on the client side.

Enhancements to ENOVIA DMU include:

- New vibration volume representation for accurate space reservation and detection collision for vibrating parts
- Additional tools for complete product comparison analysis:
  - Sectioning available in 3D compare to better understand and measure differences between products or part versions
  - New advanced capabilities taking realism of DMU display even further
  - Enhanced real-time DMU display with object-to-object shadows capabilities
  - Enhanced photo realism for documentation and marketing materials with lens flare and depth of field capabilities
- New tools for marketing materials generation — Generate sequence based on tracks from an exploded view for a better understanding of initial dismounting specifications and generation of high-quality marketing videos
- Administration of greater usability and productivity for optimized design review data preparation:
  - Multiprocess tessellation in CATDMU Utility

- Data flow enhancements: feed cache from Product Structure Navigator (PSN), SaveAsFrozen available in batch
- Enhanced performance:
  - Multiprocess loading taking full advantage of multiprocessor’s machine to reduce loading time
  - Upgrade CATIA Graphic Representation (CGR) version to take advantage of semantics enhancements and V5 CGR size reduction from previous releases
- Continuous clash management process enhancements:
  - Compute all information relative to interference results in one step.
  - Provide extended support for DMU application data in ENOVIAVPM with the integration of kinematics information — Expose publication for kinematics data allowing ENOVIAVPM users to store, retrieve, and manage kinematics information from their Virtual Product Development Management (VPDM) system.
  - Provide serviceability validation in early stages of product design — Based on the capability in Human Builder 2 to attach multiple constraints to a manikin and automatically update the manikin’s position relative to the constraints. DMU Fitting Simulator 2 now has the capability to drive a manikin with a shuttle, thereby providing a powerful serviceability validation tool during product disassembly studies.

ENOVIAVPM enhancements provide the ideal mechanism for handling CATIA V4 to CATIA V5 transitions. In V5.10, new supply-chain management functions in ENOVIAVPM enhance collaboration across an extended design chain and include support for new CATIA Work Package Exchange products that enable data to be unloaded from the database, updated by users of file-based CATIA V5 and then restored to ENOVIAVPM.

**Using ENOVIAVPM V1.5 with ENOVIA or CATIA V5.10 Products**

ENOVIAVPM V1.5 customers planning on interoperating with the V5.10 family of ENOVIA and/or CATIA products will be required to install an ENOVIAVPM Program Temporary Fix (PTF) to obtain the required interoperability level.

**Note:** There is the possibility that a V5.10 Service Pack will also be required.

The required PTF could vary depending on whether the base level of the V5.10 product is being used, or a subsequent service pack level. Check the V5.10 documentation for interoperability information or contact IBM Customer Support for specific details on PTF and Service Pack levels and how to obtain them. Also, visit the Project Lifecycle Management (PLM) Technical Support Web site:

http://techsupport.services.ibm.com/engineering/support

Select Fixes, tools on the left side.

For additional information on ENOVIAVPM, access the PLM Web site:

Supply-chain support is enhanced with repackaging of

- Integration of product level knowledge objects and
  knowledgeware relationships
- Integration of electrical “bundles”
- Integration of analysis results and links
- Support replace component in CATIA V5
- Performance improvements, in particular when
  loading geometry data into CATIA V5 for
  visualization only and for deep, multilevel assemblies

Performance enhancements for increased scalability

ENOVIA LCA is repackaged into two new sub-domains,
providing a clear migration path for existing ENOVIAPM
and ENOVIAVPM users to the new line of V5 products.
Two new products are also introduced in addition to
enhancements for most LCA products.

The two new sub-domains are the Virtual Product
Modeling (VPM) domain and the Intellectual Property (IP)
Life Cycle and Management domain.

- Virtual Product Modeling domain addresses enterprise
  needs for detailed definitions of intellectual property.
- IP Life Cycle and Management domain addresses the
  management of intellectual property throughout
  product life cycle activities.

PPR Hub Gateway provides general open
infrastructure components for import and export data.

PPR Hub STEP Part 21 Connector is an adapter to read
and write STEP AP203, AP204, and CDM/ENOVIAVPM
data.

Supply-chain support is enhanced with repackaging of
the Inter/Intra Enterprise Data Exchange into three
products to better address customers’ specific
exchange scenarios. An open infrastructure for import
and export is introduced as well as the adapter for
STEP. Supply Chain Exchange remains in the LCA
Domain, while the other new products will be
introduced in the PPR Domain.

Product planning process is enhanced with the ability
to set up configuration control in the conceptual design
phase.

The engineer’s productivity is improved by supplying
capabilities to generate assembly structure reference
and merge multiple penetrations

A user homepage is provided for easier access, in the
form of hyperlinks, to objects and/or projects that are
relevant for the logged in user.

Part editor support of the creation of configured
assembly reference structures:
- Automatic Action-controlled part reference creation
  and versioning
- Ability to view only the latest version of a part when
  displaying a product
- Option to show/no-show standard parts in the
  product structure

- Effectivity can be applied to objects created during the
  product planning phase. Product classes, product
  variants, and rules:
  - Compliance check of product planning rules during
    product detailing
  - Sort and search functions in the authorization and
    type definition tables
- Automatic and optional redirection of clash results to
  a new model after modification:
  - Batch capability to share clash comment and status
    between duplicate clashes
  - Notification of the end of a clash calculation
- Two new conditions for additional Action/ECO release
  validations. Effectivity distribution matrix shows the
  complete effectivity expression for each modification
  of the Engineering Change Order (ECO).

Workflow adds the ability to define entry and exit
conditions:
- Define error recovery activities
- Include life cycle commands in a workflow
- Expand/collapse subsections of a workflow graph
- Provides dynamic, role-based activity assignments
  for more flexible workflow templates; capability to
  generate VPM V4 actions from an IP Life Cycle and
  Management workflow activity
- Provides ENOVIA catalogs that can be
  automatically accessed if specified in CATIA PRM
  settings

The PPR Hub has been repackaged and enhanced:
- New packaging effectively combines all previous
  Dassault Systemes product hubs, the CATIA Hub,
  ProductManager (PM) Hub, and SMARTEAM Hub.
- The MultiCAx and MultiPDM products, formerly
  grouped under the Portal Foundation, are now part
  of the PPR Hub Solutions Foundation.
- Within the PPR Hub product, the CATIA Hub has
  been enhanced with functions useful for
  transitioning from primary use of CATIA V4 to
  CATIA V5. Interoperability with CATIA V5 is
  enhanced with a richer exchange of catalog parts,
  support of the CATIA replace component operation,
  and capability to expose constraints on imbedded
  products.
- New communication capabilities exist for OEM and
  suppliers to work on CATIA with the new Work
  Package Exchange products.
- Select product information can be exchanged with
  DELMIA applications where, combined with process
  and resource information, it allows the definition of
  manufacturing and service processes and complete
  PPR simulation.
- Support for generic data exchange functions,
  previously packaged with the Inter/Intra Enterprise
  Data Exchange product, is now presented as a new
  “Gateway” product with additional functions.
- SMARTEAM briefcasing is enhanced to import
  configured, multilevel assemblies.
- MultiCAx V5.10 products are enhanced with the
  following capabilities:
  - Availability of MultiCAx STEP geometry plug-in
    to insert a STEP file in a CATProduct
ENOVIA "Enterprise Architecture" provides security and users migrating from CATIA V4 to CATIA V5. ENOVIA VPM should always be used for CATIA V4 users non-CATIA users. Life Cycle and Management domain and the VPM V5 ENOVIA LCA, comprised of the Intellectual Property (IP) publishing, procurement, maintenance, and services. manufacturing, quality control, shop floor, technical included are marketing, engineering, configuration, within the extended enterprise. Among the areas use product and process data as part of their activities Targeted users are all those who create, administrate, or use product and process data as part of their activities within the extended enterprise. Among the areas included are marketing, engineering, configuration, manufacturing, quality control, shop floor, technical publishing, procurement, maintenance, and services. ENOVIA LCA, comprised of the Intellectual Property (IP) Life Cycle and Management domain and the VPM V5 domain, is ideal for users using CATIA V5 or for non-CATIA users. ENOVIAVPM should always be used for CATIA V4 users and users migrating from CATIA V4 to CATIA V5.

New and Withdrawn Products in V5.10

Refers to the following Software Announcements for new and withdrawn products:

- Software Announcement 202-296, dated October 29, 2002 (ENOVIA LCA)
- Software Announcement 202-297, dated October 29, 2002 (ENOVIA Portal Products)
- Software Announcement 202-301, dated October 29, 2002 (SMARTEAM Products)

Accessibility by People with Disabilities

These products and features have been granted a deviation exception for 2002.

Product Positioning

ENOVIA Solutions are positioned for all industry segments that need to achieve the development of innovative and competitive products at reduced costs and time to market. ENOVIA Solutions provide open and collaborative environments to graphically define, manage, and share product and process information throughout the entire product life cycle, across the extended enterprise, and in a multiCAD environment. ENOVIA Solutions address the entire digital enterprise requirements. It provides each user with a 3D-graphical product window and gives access to the appropriate information required for each activity and role.

Targeted users are all those who create, administrate, or use product and process data as part of their activities within the extended enterprise. Among the areas included are marketing, engineering, configuration, manufacturing, quality control, shop floor, technical publishing, procurement, maintenance, and services.

ENOVIA LCA, comprised of the Intellectual Property (IP) Life Cycle and Management domain and the VPM V5 domain, is ideal for users using CATIA V5 or for non-CATIA users. ENOVIAVPM should always be used for CATIA V4 users and users migrating from CATIA V4 to CATIA V5.

ENOVIA Portal products can be used by all customers requiring rich 3D visualization, analysis, and simulation functions.

Unique Differentiators

- By integrating disparate applications, the ENOVIA Solutions provide an integrated environment based on 3D modeling for performing DMU studies.
- For ENOVIAVPM and VPM V5:
  - Allow configuration definition during the conceptual design stage, supporting management of multiple design alternatives.
  - Provide a dynamic, flexible, and lightweight work-in-progress tracking mechanism for traceability and change control during product and process design.
- For ENOVIA IP Life Cycle and Management V5 (V5 and ENOVIAVPM V5) — Support engineering change request and change order business processes.
- For ENOVIAVPM V5 and ENOVIAVPM — Provide simultaneous project and configuration control using project milestones.
- For ENOVIAPM — Maintains the “as-built” configuration for each instance of the product. This defines the specific configuration of the product as it is manufactured.
- For ENOVIAVPM and ENOVIAPM — Support “brokered replication,” an efficient mechanism for controlling the distribution of product information throughout the extended enterprise. ENOVIA LCA also provides multi-site capabilities.
- For ENOVIAVPM, ENOVIAPM, and ENOVIAVPM V5 — Allow complex product configurations to be defined generically, with specific configurations derived according to product and business rules.
- For ENOVIA Portal Solutions — Provide real-time, 3D product data to widely separated populations for visualization, analysis and simulation.
- ENOVIA Solutions — Supported by the breadth and depth of IBM consulting, services, and related e-business solutions.

Reference Information

For additional information, refer to the following announcements:

- Software Announcement 202-297, dated October 29, 2002 (ENOVIA Portal Solutions V5.10)
- Software Announcement 202-296, dated October 29, 2002 (ENOVIA LCA V5.10)
- Software Announcement 202-298, dated October 29, 2002 (ENOVIA CAA RADE V5.10)
- Software Announcement 202-301, dated October 29, 2002 (SMARTEAM V5.10)

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