ENOVIA Portal Solutions Version 5 Release 5 — Web-Centric Solutions Based on Best-of-Breed Technologies

Overview

In the new digital economy, product development information is a key asset for manufacturing companies seeking competitive advantage through faster introduction of higher quality products.

ENOVIA Portal Solutions is a comprehensive set of scalable Windows™ and Web-based products that enhance collaborative innovation during the product life cycle by propagating and sharing of 3D product data and critical product development information throughout the extended enterprise. ENOVIA Portal products provide access for all participants in the product development process to ENOVIA data and to other enterprise information systems, including CAD, PDM and other Web-based data.

The ENOVIA Portal products facilitate the use, manipulation, and analysis of graphical data enabling fact-based decision support across the extended enterprise. Visualization, analysis, and simulation tools are available to address the requirements of the new user (intuitive visualization and navigation) to those of the experienced user (full analysis and simulation of the 3D product design).

The ENOVIA Portal Solutions consists of:

- ENOVIA 3d com Navigator
- ENOVIA Digital Mock-Up (DMU)

The ENOVIA 3d com Navigator serves as the enterprise window to all product-development-related information (from office documents to digital mockup data). ENOVIA 3d com Navigator supports distribution and sharing of this information throughout all enterprise processes. ENOVIA 3d com Navigator adds Web accessibility to the knowledge-rich digital information created during the product development process. It provides:

- Support for processes involving product structures, 2D and 3D viewing of multi-CAD data, and publishing of Web data.
- An easy-to-use, Web-browser-based interface — ENOVIA 3d com Navigator can scale throughout the supply chain to allow multiple companies to participate in the development process.
- Universal/unified search/query functions — simplify the information search of an enterprise’s multiple systems.

The ENOVIA DMU products provide advanced visualization, analysis, and simulation functions for CATIA and non-CATIA data.

ENOVIA Portal Solutions Version 5 Release 5 extends multi-CAD capabilities in ENOVIA DMU further with the addition of three new multi-CAD plug-ins to provide access to SolidWorks, Solid Edge, ACIS Modeller, and DXF 3D data.

Key Prerequisites

Runs on selected system levels of:

- Microsoft™ Windows 95 and Windows 98*
- Microsoft Windows NT
- Microsoft Windows 2000
- AIX®
- Hewlett Packard HP-UX
- SGI IRIX
- Sun Solaris

* Applies only to ENOVIA DMU P1 clients and requires Windows NT™, Windows 2000, or UNIX® license server.

At a Glance

Benefit from a 3D, product-based, e-business implementation across the extended enterprise with ENOVIA Portal Solutions:

- Fact-based decision support
- Collaborative innovation
- Unambiguous teamwork

Version 5 Release 5 features the following highlights:

- 3D product information that supports decision making throughout the enterprise and supply chain
- Easy-to-learn and use browser-based user interface for beginning and occasional users
- Robust search capabilities that span multiple enterprise information sources
- Capabilities for managing product data from multiple CAD and PDM systems
- Analysis, simulation, project management, and other tools for enterprise decision support
- Ability to seamlessly imbed the ENOVIA solutions within a corporate information portal
- Three new DMU products

Planned Availability Date

February 16, 2001
Description

Web-Centric Solutions Based on Standards and Best-of-Breed Web Technologies

ENOVIA 3d com Version 5 Release 5 Products

ENOVIA 3d com solutions provide Portal services to all organizations that need access to digital enterprise data and processes and are implementing intranet/Internet strategies. They extend product information pipelines to engineering and non-engineering populations across their extended enterprises.

Intuitive high-speed and low-cost Webware allow organizations to explore enterprise product and process information, whether it be managed in ENOVIA products or in other enterprise systems. ENOVIA 3d com Navigator provides a base, “Webtop” interface to access data from any source and to visualize and manipulate and analyze 3D graphics. Optionally, additional 3D analysis capabilities can be added, and there is also a solution to enable Web publishing.

ENOVIA 3d com Navigator provides a rich, customizable user interface with advanced Web features such as route maps, favorites, multi-source search/browse, and a customizable home page. The base configuration includes product-related 2D and 3D functions such as dynamic remote access, manipulation, viewing, and annotations to product data and uses a robust, standards-based infrastructure. Additional advanced analysis functions are available using the optional ENOVIA 3d com Space Analysis product, while ENOVIA 3d com Publish enables users to create HTML pages that can be stored on an HTML server and viewed from a standard Web browser.

In Release 5, many of the analysis functions previously available only in ENOVIA 3d com Space Analysis have been added to ENOVIA 3d com Navigator, increasing the scope of the base product.

ENOVIA MultiPDM plug-ins give access to CDM, ENOVIA VPM, and ENOVIA PDM product structures and associated documents. The ENOVIA PDM plug-in also supports CDP users. An optional Optegra plug-in is also available.

ENOVIA 3d com Navigator allows the management of project work items, defining, assigning, and tracking ENOVIA VPM Actions or viewing Microsoft Project data. ENOVIA Portal Version 5 Release 5 MultiPDM plug-in capabilities can be extended using the ENOVIA MultiPDM Legacy plug-in service offering, providing the APIs needed to use ENOVIA 3d com Navigator as an entry point into legacy data.

ENOVIA 3d com Navigator operates on native CAD data, ensuring that users will visualize the most recent versions of the product definition. ENOVIA Portal Version 5 Release 5 can read data coming from CATIA, DELMIA, Pro/E, IDEAS, and Unigraphics.

ENOVIA 3d com Navigator support for digital mock-up review includes built-in 3D and 3D “local” and “remote” viewers, specially adapted to narrow or wide band networks. In addition, ENOVIA 3d com Navigator can load geometry and product structures into a viewer such as ENOVIA DMU Navigator, 4D Navigator or CATIA, while other data can be loaded into a related viewer such as Microsoft Office.

ENOVIA 3d com Navigator Version 5 Release 5 can be used on platforms supported by Web browsers from Lotus®, Netscape, or Microsoft. It is available either via an enterprise server, or as a stand-alone viewer. ENOVIA 3d com Navigator replaces and includes functions provided by ENOVIA CATweb.

ENOVIA Portal DMU Solutions

ENOVIA Portal DMU Solutions are scalable solutions for:

• Digital mock-up visualization
• Navigation
• Review
• Simulation

The maturing concept of digital product development has seen the emergence of several types of users in the industry, each with a different level of functional requirement. One of the major challenges is to allow occasional users, sometimes with limited training, to access data generated by the corporate CAx system. For this reason, the system needs to be very intuitive and easy to use while, on the other hand, satisfy fully-trained expert users who look for shortcuts and faster ways of completing a given task.

For this reason, ENOVIA — DMU delivers several platforms of solutions to address all user profiles in the enterprise.

ENOVIA — DMU Platform 1 (P1) is intended for digital product visualization, navigation, and review for the manufacturing, plant design, and shipbuilding industries. Built to be strictly compliant with Windows NT user interface standards, P1 offers a comfortable geometrical and technological viewing environment for users already familiar with native Windows applications. It is an excellent vehicle for new users who wish to grow towards larger scale digital product development.

ENOVIA — DMU Platform 2 (P2) provides expanded digital product synthesis functions capable of operating on projects with higher mock-up complexity involving multiple data representations and full Form, Fit, Function behavior simulation. P2 contains productivity extensions over the conventional Windows NT-compliant systems by exploiting advanced 3D graphic user interface concepts. It delivers a high-productivity power environment adapted to full-scale digital product definition. It provides a leading-edge tool used to optimize the DMU image size through alternate representations computing and management.

The two platforms allow the flexibility in matching the right solution to the user’s specific needs and specialization to deliver the optimum level of function required.

ENOVIA DMU Navigator Solutions provide collaborative and immersive visualization, navigation, review, and simulation of all sizes of digital mock-ups for anyone involved in engineering and process decisions. It uses a Windows-compatible interface for easy learning by even occasional users. ENOVIA DMU Navigator Solutions offer full-function design review capabilities which can be extended to technological, spatial, and motion synthesis. Designed for multi-CAD compatibility, the ENOVIA DMU Navigator Solution enables full use of digital mock-up processes throughout the complete product development life cycle.
ENOVI DMU Navigator Solutions is compatible with and uses the same technologies as those implemented in CATIA Version 5. It offers a range of products addressing requirements from design review to design quality verification and simulation functions. These include digital plant and ship review, digital fitting simulation, digital dimensioning, and tolerancing and digital kinematics simulation. Its support for multiple CAD systems and multiple industry sectors makes it particularly applicable for use in a digital enterprise strategy.

While ENOVIA DMU Navigator provides native access CATIA Version 4 and CATIA Version 5 models, optional links are also available to support DELMIA part, device and work-cell data, PTC Pro/E part and assembly data, IDEAS Master series part data, and Unigraphics part descriptions. New MultiCAX plug-ins in Release 5 increase ENOVIA — DMU’s acceptance of multiple CAD data sources, adding support for SolidWorks, Solid Edge and ACIS products, and modelers. A single ENOVIA DMU Navigator mock-up session can mix data coming from any of these sources and allows use of ENOVIA DMU Navigator’s advanced space analysis and fitting simulation optional products.

With these solutions, many ENOVIA DMU products have received significant enhancements that increase the range of data, analysis, and simulation.

ENOVI DMU Navigator Version 5 Release 5 supports the following UNIX-based platforms:

- IBM
- HP
- SUN
- SGI
- Windows NT
- Windows 95
- Windows 98

**Year 2000**

These products do not have date dependencies and are Year 2000 Ready.

**Euro Currency**

These programs are not impacted by euro currency.

**Product Positioning**

Leveraging both Web and 3D technologies, ENOVIA Portal products are the ideal solution for users within a company needing a single point of access to all extended enterprise information. This facilitates decision making, collaboration, and access to product life cycle data and extended DMU facilities for the multi-CAD environment.

ENOVI Portal products can:

- Be used within major manufacturing industries:
  - Automotive
  - Aerospace
  - Fabrication and assembly
  - Consumer goods
  - AEC/Plant
  - Shipbuilding
- Be utilized for most activities within product development:
  - Design
  - Analysis
  - Detailed design
  - Tooling
  - Process definition
  - Manufacturing assembly
  - Quality control
  - Support
  - Design review
  - Maintenance
- Be used by a wide community of users having different roles:
  - Engineers
  - Managers
  - Casual users
  - Purchase agents
- Be deployed across an entire company at one site, or multiple sites.
- Be deployed at the extended enterprise level including the main contractor, its partners, suppliers, subcontractors, and customers.
- Add high levels of DMU functionality to lightweight Web solutions.
- Integrate with CATIA Version 4 and 5 to provide a total end-to-end from solution from data management to all engineering activities.

**CATIA and DELMIA Customers**

CATIA products (whether they be for product or process design) are totally integrated into the ENOVIA Portal implementation. DELMIA products for manufacturing optimization and simulation are supported.

**Other CAD Customers**

ENOVI Portal is a multi-CAX solution with optional plug-in support for Pro/E, IDEAS, Unigraphics and (on NT platforms only) SolidWorks, Solid Edge, and ACIS/ DXF3 data.

**ENOVI Portal Customer Growth**

ENOVI Portal is completely scalable, both in system requirements and in functions. A user can start with a simple Web-based solution and add rich DMU functions when needed.
Hardware and Software Support Services

SmoothStart/Installation Services

SmoothStart™ and Installation services are not provided.

Reference Information


Trademarks

SmoothStart is a trademark of International Business Machines Corporation in the United States or other countries or both.
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Other company, product, and service names may be trademarks or service marks of others.
ENOVIA Portal Solutions Version 5
Release 5

ENOVIA Portal Version 5 Release 5 Installability Details

The ENOVIA Portal Version 5 products are delivered on CD-ROM, including documentation. Version 5 is designed so that you can install the system, customize it, and get started with few manual interventions and a minimum of skills within one hour.

Preventive service is delivered through the next release of ENOVIA Portal Solutions Version 5. The new release includes corrections to problems, depending on the time of their submission and their severity.

Service Packs
Corrective Service for ENOVIA Portal Solutions Version 5 is delivered through “Service Packs” on a regular basis. A Service Pack includes corrections for all components at the time it is built. 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 currently supported. No individual correction will be delivered between two Service Packs.

Service Packs are available on CD-ROM via the IBM Support Centers for the duration of the service of each release. Once a release has been discontinued from service, only the last Service Pack will remain available for ordering through IBM Support Centers.

Customers may report problems for a given release of ENOVIA Portal Solutions Version 5 for a limited time only. This reporting period ends four months after the general availability of the second subsequent release of ENOVIA Portal Solutions Version 5.

Customers may request a correction via a Service Pack for blocking problems. These requests for a given release of ENOVIA Portal Solutions Version 5 may be made up to four months after the next release of ENOVIA Portal Solutions Version 5 becomes available.

Maintenance support will be available until discontinued by IBM upon six months’ written notice.
## ENOVIA Portal Solutions Products/FIG Matrix

ENOVIA Portal Solutions Version 5 Release 5, Products and Feature Numbers:

<table>
<thead>
<tr>
<th>Products Type-Model</th>
<th>Name</th>
<th>P1</th>
<th>P2</th>
<th>3d com DM1</th>
<th>PS1</th>
<th>DM2</th>
<th>DPS</th>
<th>N3V</th>
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<tbody>
<tr>
<td><strong>ENOVIA 3d com Products</strong>&lt;sup&gt;*&lt;/sup&gt;</td>
<td>3d com Navigator</td>
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<td>3d com Publish</td>
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<td><strong>ENOVIA DMU Products</strong></td>
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<td>PR1 DMU Digital Plant</td>
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<td>DII DMU Kinematics Simulator 2</td>
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<td><strong>ENOVIA Plug-In Products</strong></td>
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<td>5691-DUL MultiCAx — U Plug-In</td>
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<td>MultiCAx-SolidWorks Plug-In</td>
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<td>MultiCAx-SE Plug-In</td>
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<td>MultiCAx-AD Plug-In</td>
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<td>MultiPDM — OP Plug-In</td>
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<td>MultiPDM — PM Plug-In</td>
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<td>MultiPDM — CDM/VPM Plug-In</td>
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<sup>*</sup> = New in Release 4  
I = Included in the indicated configurations  
A = Available as an add-on to indicated configurations  
S = Available as a shareable product across indicated configurations  
O = Available as an optional product with an indicated configuration  
— = Not available

### ENOVIA Portal Solutions

**All ENOVIA Portal 3d com Solution Products**

- 3d com Navigator Configuration (5691-N3V) including:
  - Function N3R 3d com Navigator  
  - Function N3S 3d com Navigator Version 5 Plug-In  
  - Function P3B 3d com Publish  
  - Function DCL MultiCAx CATIA Plug-In  
  - Function DDL MultiCAx DELMIA Plug-In  
  - Function PML MultiPDM — PM Plug-In  
  - Function VPL MultiPDM — CDM/VPM Plug-In

- Optional products for 5691-N3V Configuration:
  - 3d com Space Analysis Product (5691-S3A)  
  - MultiPDM — OP Plug-In (5691-OPL)

- Shareable products for 5691-N3V Configuration:
  - MultiCAx — P Plug-In Product (5691-DPL)  
  - MultiCAx — I Plug-In Product (5691-DIL)  
  - MultiCAx — U Plug-In Product (5691-DUL)

Refer to Software Announcement 200-191, dated June 20, 2000, for a complete description of the base ENOVIA Portal Solutions products.
Function N3R — 3d com Navigator

The ENOVIA Portal 3d com Navigator function is a Web-centric product based on industry standards and best-of-breed Web technologies.

The fully Web-centric architecture provides native support of thin-client configurations based on Web browsers. Any client can download from a server all Java™-based software (applets) needed to perform user’s tasks. This architecture centralizes all the administration on the server side and does not necessitate any installation or administration on the client side.

ENOVIA 3d com products leverage a new component-based, open architecture. Any Web application accessible from a browser can be integrated to the portal and new components based on Java, JavaBeans, or ActiveX technologies.

The infrastructure complies with Internet security protocols and supports standard firewall configuration for HTTP allowing the usage of ENOVIA 3d com Navigator over the Internet.

New product functionality for Release 5 includes:

- Orbix 3.1 and Orbix 3.0.1 support (enabling IIOP-based communications).
- Enhanced contextual help.
- Native applications launch for modification/creation purposes.
- Copy/paste images from viewers to other applications.
- Public/private work books.
- “Copy” function allows duplication of any 3D model within the 3D viewer.
- Offline mode allowing users to work disconnected from the network.

Function P3B — 3d com Publish

As an extension module, ENOVIA 3d com Publish takes advantage of all the capabilities delivered by the ENOVIA 3d com Navigator product.

The ability to purge published pages when needed is a new function in Release 5.

Function PML MultiPDM — PM Plug-In: ENOVIA MultiPDM plug-ins are adapter mechanisms that allow the ENOVIA Portal Solutions to access data sources across the extended enterprise. They are one way the ENOVIA Portal Solutions support heterogeneous system federation. Using plug-ins, the Portal becomes a single window on product information that may be stored in multiple underlying systems. The plug-ins leverage the Portal’s Web-centric infrastructure so that users located anywhere in the world still have immediate access to product data.

ENOVIA MultiPDM plug-ins are implemented through the Portal’s Product Explorer function, one of the features of the ENOVIA 3d com Navigator. The ENOVIAPM plug-in supports the visualization of ENOVIAPM data. ENOVIA Portal can also include plug-ins for CDM and ENOVIAVPM (packaged with the ENOVIA 3d com Navigator Configuration) and for Optegra (optional product for ENOVIA 3d com Navigator).

The ENOVIA MultiPDM PM plug-in provides ENOVIA 3d com Navigator users with Web-based access to data stored in ENOVIAPM. To access ENOVIAPM, a user needs to have appropriate authorization.

Function VPL MultiPDM — CDM/VPM Plug-In: The ENOVIA MultiPDM CDM/VPM plug-in provides ENOVIA 3d com Navigator users with Web-based access to data stored in ENOVIAVPM and CDMA. For both CDA and ENOVIAVPM data, users can browse through product structures and access associated product data. For ENOVIAVPM, it also supports many functions of the ENOVIAVPM Manager Solution. To access CDMA or ENOVIAVPM, a user needs to have appropriate authorization.

For ENOVIAVPM users, the ENOVIA MultiPDM CDM/VPM plug-in provides ENOVIA 3d com Navigator users with Web-based capabilities that make up a rich subset of the functions available in the manager and casual user roles.

3d com Space Analysis Product (5691-S3A): ENOVIA 3d com Space Analysis takes advantage of the capabilities delivered by the ENOVIA 3d com Navigator product. Functions including Release 5 are:

<table>
<thead>
<tr>
<th>Analysis Function</th>
<th>V4 Data</th>
<th>V4 Server</th>
<th>V5 Data</th>
<th>V5 Server</th>
<th>MultiCAx Data</th>
<th>V5 Server</th>
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<tr>
<td>Surface</td>
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<td>or approx</td>
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</tbody>
</table>

Refer to the DMU Plug-In descriptions in this section for a description of these functions:

- Function DCL — MultiCAx CATIA Plug-In
- Function DDL — MultiCAx DELMIA Plug-In
- MultiCAx — P PLUGIN PRODUCT (5691-DPL)
- MultiCAx — I Plug-In Product (5691-DIL)
- MultiCAx — U Plug-In Product (5691-DUL)

MultiPDM — OP Plug-In (5691-OPL): These plug-ins are adapter mechanisms that allow the ENOVIA Portal to access data sources across the extended enterprise. They are one of the ways the Portal supports a homogeneous system federation. Using plug-ins, the portal becomes the single window to product information that may be stored in multiple underlying systems. Because plug-ins leverage the Portal’s Web-centric infrastructure, users can be located anywhere in the world and still have the product data immediately at their fingertips.

ENOVIA MultiPDM plug-ins are implemented through the Portal’s Product Explorer capability, one of the features of the ENOVIA 3d com Navigator product. The OP plug-in supports visualization of Optegra data. ENOVIA Portal Version 5 Release 5 also includes off-the-shelf plug-ins for ENOVIAPM, CDM and ENOVIAVPM (packaged with the ENOVIA 3d com Navigator Configuration).

ENOVIA DMU Products

The ENOVIA Portal Solutions include four DMU configurations to help maximize the user’s digital mock-up processes. The ENOVIA DMU products and configurations facilitate the full integration of DMU-centric processes within the global engineering environment. By addressing all participants involved in DMU-related processes within the extended digital enterprise, these products offer high-performance capabilities for handling
digital mock-ups of all sizes in Windows NT™ and UNIX® environments.

The ENOVIA DMU products deliver leading-edge optimization functions, based on a powerful graphic architecture, and advanced ease-of-use concepts. These functions and concepts have been pioneered in the context of CATIA Version 4, validating them in the most advanced and demanding DMU-based processes.

There are no new products for ENOVIA DMU Solutions in Release 5.

Configurations and Components

- **DMU Review 1 (P1) Configuration (5691-DM1)**, which includes:
  - DMU Navigator 1 (Function DU1)
  - MultiCAX —CATIA Plug-in (Function DCL)
  - MultiCAX —DELMIA Plug-in (Function DDL)

Functions that can be added to this configuration:
- DMU Space Analysis 1 (Function DS1)
- DMU Digital Plant and Ship Review 1 (Function PR1)
- DMU Dimensioning and Tolerancing Review 1 (Function DT1)

Shareable products for this configuration:
- MultiCAX —P Plug-in (5691-DPL)
- MultiCAX —I Plug-in (5691-DIL)
- MultiCAX —U Plug-in (5691-DUL)
- MultiCAX —SolidWorks Plug-in (5691-DSS)
- MultiCAX —SE Plug-in (5691-DEL)
- MultiCAX —AD Plug-in (5691-DAL)

- **DMU Digital Plant and Ship Review 1 (P1) Configuration (5691-PS1)** includes:
  - DMU Navigator 1 (Function DU1)
  - DMU Digital Plant and Ship Review 1 (Function PR1)
  - DMU MultiCAX —CATIA Plug-in (Function DCL)
  - DMU MultiCAX —DELMIA Plug-in (Function DDL)

Functions that can be added to this configuration:
- DMU Space Analysis 1 (Function DS1)
- DMU Dimensioning and Tolerancing Review 1 (Function DT1)

Shareable products for this configuration:
- MultiCAX —P Plug-in (5691-DPL)
- MultiCAX —I Plug-in (5691-DIL)
- MultiCAX —U Plug-in (5691-DUL)
- MultiCAX —SolidWorks Plug-in (5691-DSS)
- MultiCAX —SE Plug-in (5691-DEL)
- MultiCAX —AD Plug-in (5691-DAL)

- **DMU Digital Product Synthesis 2 (P2) Configuration (5691-DPS)** includes:
  - DMU Navigator 2 (Function DMU)
  - DMU Space Analysis 2 (Function DSA)
  - DMU Kinematics Simulator 2 (Function DKI)
  - DMU Fitting Simulator 2 (Function DFI)
  - DMU MultiCAX —CATIA Plug-in (Function DCL)
  - DMU MultiCAX —DELMIA Plug-in (Function DDL)

Functions that can be added to this configuration:
- DMU Digital Plant and Ship Review 1 (Function PR1)
- DMU Dimensioning and Tolerancing Review 1 (Function DT1)
- DMU Optimizer 2 (Function DOP)

**DMU Review 2 (P2) Configuration (5691-DM2)** includes:
- DMU Navigator 2 (Function DMU)
- DMU Space Analysis 2 (Function DSA)
- MultiCAX CATIA Plug-in (Function DCL)
- MultiCAX DELMIA Plug-in (Function DDL)

Functions that can be added to this configuration:
- DMU Digital Plant and Ship Review 1 (Function PR1)
- DMU Dimensioning and Tolerancing Review 1 (Function DT1)
- DMU Kinematics Simulator 2 (Function DKI)
- DMU Fitting Simulator 2 (Function DFI)
- DMU Optimizer 2 (Function DOP)

Shareable products for this configuration:
- MultiCAX —P Plug-in (5691-DPL)
- MultiCAX —I Plug-in (5691-DIL)
- MultiCAX —U Plug-in (5691-DUL)
- MultiCAX —SolidWorks Plug-in (5691-DSS)
- MultiCAX —SE Plug-in (5691-DEL)
- MultiCAX —AD Plug-in (5691-DAL)

**ENOVIA — DMU Navigator 1 and Navigator 2 (Function DU1 and DMU):**

The ENOVIA —DMU Navigator products extend the user’s CAD functions with a powerful and collaborative design review environment that can be extended to advanced synthesis, involving multiple synchronized simulations.

New functions in Release 5 are:
- **User interface improvements, including:**
  - Enhanced object identity card (“file desk”) to display characteristic object data including relationships, attributes, and documents, promoting interactive relational design business processes
  - Ergonomic Improvements in Tools/Options; a new classification, page tabs to allow same hierarchy as in start menu for better understanding of the available options
  - Statistics management optionally provides the time spent in each workbench
  - Ability to repeat the last command
  - Enhanced keyboard access for escape management

- **Visualization:**
  - Visualization of components in “No Show” region/function within the product structure
  - Drilled Selector for overlapped elements selection; definitely easy and productive
  - For graph access, users benefit from a very user-friendly interface inheriting benefits of the standard Windows™ Graph Explorer
  - Extended quality of images captures especially for documentation tasks through HLR support on mock-up and light models
- Support of CGM version 3 entities; Beziers, Spline, Nurbs providing enhanced quality and smaller file sizes
- Enhance the quality of realtime hardware rendering including the ability to define multiple source types, environmental scene control
- Support of clearcoat 360 on SGI hardware

• Measures:
  - Extended range of available measurements
  - Mass and Inertia Measurements command extended to surfaces

• Collaborative:
  - Mail system integration on NT
  - Graphical properties of markups can be edited (size and font)
  - Information can be added to the annotated views to facilitate collaborative work (user, creation and modification dates, and phone number)
  - Replicate conferencing now supports move product Freehand and Show/Hide
  - New publish capability for clash, simulation, and path finder

• Journaling: New automation capabilities for commands (markup, Group, proximity query, Replay, Scenes, Move)

• Integration:
  - Send CATIA Version 4 file-based and ENOVIA VPM-based models to a running CATIA Version 4 application
  - Read 4D Navigator scenes

• Animation and Simulation: Define, control, and animate a turntable

• System considerations:
  - Hardware and software configuration check on Windows
  - Support of nodelock licenses on Windows 9X
  - Import nodelock licenses in batch mode
  - Windows 2000-ready
  - Batch generates visualization files (.cgr, .3dmap) directly in cache directories using current visualization settings (SAG.LOD...)

DMU Space Analysis 1 and Space Analysis 2 (Function DS1 and DSA): The ENOVIA — DMU Space Analysis products are powerful tools that enable the validation of designs (parts and assemblies) and ensure a better understanding of problems in order to quickly solve them. These products can be used throughout the product life cycle.

New functions for Release 5 are:

<table>
<thead>
<tr>
<th>Analysis Function</th>
<th>V4 Data V4 Server</th>
<th>V5 Data V5 Server</th>
<th>MultiCAx Data V5 Server</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>Exact</td>
<td>Exact</td>
<td>Exact</td>
</tr>
<tr>
<td>Mass, Density</td>
<td>Exact</td>
<td>or approx</td>
<td>Exact</td>
</tr>
<tr>
<td>Volume</td>
<td>Exact</td>
<td>or approx</td>
<td>or approx</td>
</tr>
<tr>
<td>Center of gravity</td>
<td>Exact</td>
<td>or approx</td>
<td>or approx</td>
</tr>
<tr>
<td>Bounding box</td>
<td>Exact</td>
<td>or approx</td>
<td>or approx</td>
</tr>
</tbody>
</table>

ENOVIA — DMU Kinematics Simulator 2 (Function DKI):
The ENOVIA — DMU Kinematics Simulator 2 product allows the user to simulate mechanisms in the context of the collaborative design review environment of the full digital mock-up. New functions in Release 5 are:

- 3D Mechanisms based on the following basic joint types and be created/edited/simulated; Revolute, Prismatic, Cylindrical/Actuator, planar, Rigid, Spherical, Universal, Point-Surface, Point-Curve, Roll-Curve, Slide-Curve joints. There is a complete associativity between the created mechanism and the used geometry.
  - Improvement in Revolute joint; ability to define the offset between the parts allowing them not to be in contact
  - Improvements in Point-Curve, Roll-Curve, Slide-Curve joints that allows automatic search of the maximum reachable area of the curves and support for Version 4 curves
  - Improvement in “command” data management; “command” range is stored in the CATIA document allowing work in concurrent engineering

- Conversion of mechanical assembly constraints into mechanisms.

- Dynamic clash tests.

- Swept volume computed relative to a moving part.

ENOVIA — DMU Optimizer 2 (Function DOP): With ENOVIA Portal Solutions Version 5 Release 5, the ENOVIA — DMU Optimizer 2 is available for simulation functions. This product improves productivity by computing alternate representation of data to be used for mock-up verification.

In the prevalidation prototype assembly and maintenance procedures of the design stage, the ENOVIA — DMU Optimizer 2 lets the user perform space reservation early in the assembly process. The user can protect confidential information by replacing accurate models with their simplified representations. In addition, this product enhances productivity at any stage of the digital mock-up review. New functions in Release 5 are:

- Interrupt all the ENOVIA — DMU computations at any time to change the parameters
- Export all ENOVIA — DMU results as VRML files
- Command enhancements
- Compute the contiguous free space inside a geometry and surrounding a selected point
ENOVIA — MultiCax Plug-Ins

There are eight plug-in products:

- MultiCax — CATIA Plug-in
- MultiCax — DELMIA Plug-in
- MultiCax — PROE Plug-in
- MultiCax — U Plug-in
- MultiCax — SolidWorks Plug-in
- MultiCax — SE Plug-in
- MultiCax — AD Plug-in

These plug-ins operate on the same principles as the ENOVIA DMU Navigator. To facilitate the access to data, the ENOVIA DMU Navigator offers a homogeneous user interface for all supported formats, and automatic recognition of file types (such as .igs, .stl, and .wrl). Due to a generalized cache mechanism, the data that is read (regardless of the CAD source) remains synchronized with the most current level available.

The ENOVIA DMU Navigator is an open system, capable of importing data from the most used data standards and CAD systems in the CAD/CAM/CAE industry. In addition of importing data from the most used data standards and CAD systems in the CAD/CAM/CAE industry. In addition to the support of STL, IGES, OBJ (from Wavefront), BYU, and CATIA Version 5 data by the ENOVIA DMU Navigator product, these plug-ins allow the import of additional data, as described for each product below.

<table>
<thead>
<tr>
<th>CAD Application — MultiCax Product ProE with Module tPro Foundation (5691—DPL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product UG with Module tOpen Execute (5691—DUL)</td>
</tr>
<tr>
<td>Y</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product IDEAS with Module tCore Master Modeler (5691—DIL)</td>
</tr>
<tr>
<td>Y</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product SolidWorks (5691—DSL)</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product Solid Edge (5691—DEL)</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product ACIS (5691—DAL)</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>CAD Application — MultiCax Product DXF 3D (5691—DAL)</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>

Note: In Portal Solutions Version 5 Release 5, the ENOVIA 3d com server used in conjunction with ENOVIA MultiCax plug-ins is only available on the UNIX platform. This means that only UNIX-based ENOVIA — MultiCax plug-ins are available with ENOVIA 3d com.

ENOVIA — MultiCax — CATIA Plug-In

Import CATIA Version 4 models and sessions. As a link between the ENOVIA DMU Navigator and CATIA Version 4, the user can tightly bridge digital mock-up tools and processes together with digital manufacturing initiatives. This results in a higher-level optimization of the user’s global creation process.

This plug-in offers:

- Support of CATIA Version 4 parts models and sessions
- Ability to use translated data with the same level of functionality as CATIA Version 5 data in all products

ENOVIA — MultiCax — DELMIA Plug-In

This plug-in allows the import of DELMIA workcells, devices, and parts. As a link between the ENOVIA DMU Navigator and DELMIA, the user can tightly bridge digital mock-up tools and processes together with the user’s digital manufacturing initiatives. This results in a higher-level optimization of the user’s global creation process.

This plug-in offers:

- Support of DELMIA parts
- Support of DELMIA devices and workcells
- Use of translated data with the same level of functionality as CATIA data in the following products:
  - ENOVIA — DMU Navigator 1 and 2
  - ENOVIA — DMU Space Analysis 1 and 2
  - ENOVIA — DMU Fitting Simulator 2
  - ENOVIA — DMU Optimizer 2
  - ENOVIA — 3d com Navigator

Note: Translated data cannot be used in products requiring CATIA native data.
ENOVIA — MultiCax — P Plug-In

Import Pro/E parts and assemblies. As a link between the ENOVIA DMU Navigator and Pro/E, the user can preserve the CAD investment while benefiting from the digital mock-up processes and from the power of the DMU solution.

This plug-in offers:
- The support of Pro/E parts
- Support of Pro/E assemblies
- Support of two translation modes: batch and associativity
- Ability to use translated data with the same level of functionality as CATIA data in the following products:
  - ENOVIA — DMU Navigator 1 and 2
  - ENOVIA — DMU Space Analysis 1 and 2
  - ENOVIA — DMU Fitting Simulator 2
  - ENOVIA — DMU Optimizer 2
  - ENOVIA — 3d com Navigator

Note: Translated data cannot be used in products requiring CATIA native data.

ENOVIA — MultiCax — I Plug-In

Import IDEAS Master Series parts and assemblies. As a link between the ENOVIA DMU Navigator and IDEAS Master Series, this plug-in allows the user to preserve the CAD investment in IDEAS while benefiting from the digital mock-up processes and power of the DMU solution set.

This plug-in offers the support of:
- IDEAS Master Series parts
- IDEAS Master Series assemblies
- Batch translation mode
- Ability to use translated data with the same level of functionality as CATIA data in the following products:
  - ENOVIA — DMU Navigator 1 and 2
  - ENOVIA — DMU Space Analysis 1 and 2
  - ENOVIA — DMU Fitting Simulator 2
  - ENOVIA — DMU Optimizer 2
  - ENOVIA — 3d com Navigator

Note: Translated data cannot be used in products requiring CATIA native data.

ENOVIA — MultiCax — U Plug-In

Import of Unigraphics parts and assemblies. As a link between the ENOVIA DMU Navigator and Unigraphics, the user can preserve the CAD investment in Unigraphics while benefiting from the digital mock-up processes and power of the DMU solution set.

This plug-in offers:
- Support of Unigraphics parts
- Support of Unigraphics assemblies
- Support of two translation modes: batch and associativity
- Ability to use translated data with the same level of functionality as CATIA data in the following products:
  - ENOVIA — DMU Navigator 1 and 2
  - ENOVIA — DMU Space Analysis 1 and 2
  - ENOVIA — DMU Fitting Simulator 2
  - ENOVIA — DMU Optimizer 2
  - ENOVIA — 3d com Navigator

Note: Translated data cannot be used in products requiring CATIA native data.

ENOVIA — MultiCax — SolidWorks Plug-In

ENOVIA MultiCax — SolidWorks Plug-In (DSL), new in Release 5 offers:
- Support of SolidWorks Parts. As SolidWorks Parts are loaded into ENOVIA — DMU Navigator, they are inserted as additional representations within a DMU Product Structure, along with any other representations previously inserted from any supported source. Exact positioning between a converted SolidWorks part and another part (CATIA or ProE/UG/IDEAS translated part) is available (through planes, coordinate systems, and cylinder axis).
- Support of SolidWorks Assemblies. As SolidWorks Assemblies are loaded into ENOVIA — DMU Navigator, the links they carry towards SolidWorks Parts are resolved. As a result, parts related to assemblies are automatically inserted in the DMU Product Structure, with accurate location.
- Translated data can be used in all ENOVIA — DMU products.

ENOVIA — MultiCax — SE Plug-In

The ENOVIA — MultiCax SE PLUG-IN (DEL), new in Release 5 offers:
- Support of Solid Edge Parts. As Solid Edge Parts are loaded into ENOVIA — DMU Navigator, they are inserted as additional representations within a DMU Product Structure, along with other representation inserted from any supported source.
- Exact positioning between a converted Solid Edge part and another part (CATIA or any other MultiCax translated part) is available (through planes, coordinate systems and cylinder axis).
- Translated data can be used in all ENOVIA — DMU products.

ENOVIA — MultiCax — AD Plug-In

The ENOVIA — MultiCax AD PLUG-IN (DAL), new in Release 5 offers:
- Support of ACIS/DXF 3D Parts. As ACIS/DXF 3D Parts are loaded into ENOVIA — DMU Navigator, they are inserted as additional representations a DMU Product Structure, along with other representation previously inserted from any supported source.
- Exact positioning between a converted ACIS/DXF 3D part and another part (CATIA or any other MultiCax translated part) available (through planes, coordinate systems and cylinder axis).
- Data format is ACIS V6 native data and/or ACIS data in AutoCAD DXF 3D format generated by ACAD R2000 and MDT V5.
- Translated data can be used in all ENOVIA — DMU products.
Education Support

Schedules and Enrollment

Call the IBM Engineering Solutions/North America (ES/NA) response line at 800-395-3339 for schedules and enrollments. Ind+ ‘Technical Information’.

Technical Information

Hardware Requirements

ENOVIA Portal 3d com Solutions:

ENOVIA Portal 3d com is designed to operate with the following hardware:

On the Server Side — The following OS and minimum configurations are supported:

<table>
<thead>
<tr>
<th>OS server</th>
<th>Level</th>
<th>Memory (MB)</th>
<th>Disk (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIX</td>
<td>4.3.2</td>
<td>256</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>4.3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP-UX*</td>
<td>10.20 ACE4</td>
<td>256</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>10.20 ACE5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.ACE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRIX</td>
<td>6.5.2m</td>
<td>256</td>
<td>700</td>
</tr>
<tr>
<td>Solaris</td>
<td>Solaris 2.6, 7, and 8</td>
<td>256</td>
<td>700</td>
</tr>
<tr>
<td>Windows</td>
<td>Not Supported</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Patch 15731 is required.

The hardware needed for networking the workstation on LAN or WAN depends on the type of network.

The memory requirement depends on the number of simultaneous ENOVIA Portal 3d com sessions; clients are invited to dimension the server machine accordingly.

When using ENOVIA Portal 3d com in conjunction with a CAD/CAM server (CATIA Version 4 or CATIA Version 5), the server dimensioning should evaluate the memory used by the CAD/CAM process on the server.

For CATIA Version 5

- ENOVIA Portal 3d com consumes 50 MB for the first session and 10 MB for each additional session for an average 1 MB model.
- The RAM requirement formula is the following: 50 MB + n * 10 MB + m MB, where n is the number of maximum concurrent sessions and m the average size of the CATIA models.

Note: If several models are multi-selected in one session, only one model remains loaded at the same time, thus optimizing the memory consumption. As an example, for 10 concurrent users manipulating 10 MB average-size models, the minimum RAM requirement is 256 MB.

- For better response time a graphic card can be installed on the server and shared in a sequential mode between the simultaneous sessions to improve 3D rendering. Customers must dimension the server graphic card accordingly. For AIX, Virtual Frame Buffer (VFB) is supported.

For CATIA Version 4

- As a rule of thumb, ENOVIA Portal 3d com consumes 39 MB for the first session and 14 MB for each additional session for an average 1 MB model.
- The RAM requirement formula is the following: 39 MB + n * 14 MB + m MB, where n is the number of maximum concurrent sessions and m the average size of the CATIA models.

Note: If several models are multi-selected in one session, only one model remains loaded at the same time, thus optimizing the memory consumption. As an example, for 10 concurrent users manipulating 10 MB average-size models, the minimum RAM requirement is 256 MB.

- For better response time a graphic card can be installed on the server and shared in a sequential mode between the simultaneous sessions to improve 3D rendering. Customers must dimension the server graphic card accordingly. For AIX, Virtual Frame Buffer (VFB) is supported.

One of the CDs included in the ENOVIA 3d com product set is entitled, "Volume 5: Windows NT and 2000." This CD contains only the 3d com MetaSearch server software for Windows NT. The main server capabilities of 3d com Navigator are not supported on a Windows platform today. The volume 5 CD is provided purely to give customers the option of installing the 3d com MetaSearch server on a different machine (for example, Windows NT) from the 3d com Navigator server software.

Note: If the MetaSearch server is on the same machine as the Portal 3d com CAD server, then the operating system should be at certain levels (for example, AIX 4.3.3). Also, the Portal 3d com products can be installed on a server that has no CAD products installed, or only the ENOVIA MultiCACx product set.

MetaSearch Server installation is supported on the following systems:

<table>
<thead>
<tr>
<th>OS</th>
<th>Server and Search</th>
<th>Portal 3d com Server Only</th>
<th>Search Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solaris 2.6</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Solaris 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solaris 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIX 4.3.2</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>AIX 4.3.3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HP-UX 11.ACE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HP-UX 10.20</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>IRIX 6.5.2m</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Windows NT V4.0</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

On the Client Side — The following OS and minimum configurations are supported:

<table>
<thead>
<tr>
<th>OS client</th>
<th>Level</th>
<th>Memory (MB)</th>
<th>Disk (MB)</th>
<th>CPU (MHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 95</td>
<td>OSR2</td>
<td>96</td>
<td>10</td>
<td>233</td>
</tr>
<tr>
<td>Windows 98</td>
<td></td>
<td>96</td>
<td>10</td>
<td>233</td>
</tr>
<tr>
<td>Windows NT</td>
<td>V4.0 SP4/SP5</td>
<td>96</td>
<td>10</td>
<td>300</td>
</tr>
<tr>
<td>Windows 2000</td>
<td></td>
<td>128</td>
<td>10</td>
<td>300</td>
</tr>
<tr>
<td>AIX</td>
<td>4.3.2</td>
<td>128</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.3.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP-UX</td>
<td>10.20 ACE4</td>
<td>128</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.20 ACE5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11.ACE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRIX</td>
<td>6.5.2m</td>
<td>128</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Solaris</td>
<td>Solaris 2.6, 7, and 8</td>
<td>128</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
• Memory consumption on a Windows NT client is about 22 MB once all ENOVIA Portal 3d com Java applets have been used (taking into account the browser itself).
• ENOVIA Portal 3d com works on Windows 95 with 64 MB of memory.
• The cumulative size of all Java applets is 2.5 MB.
• An OpenGL 3d adapter or a software emulation of OpenGL is required.

ENOVIA Portal DMU Solutions

The following requirements are common to all operating systems supported by ENOVIA — DMU Version 5 Release 5. System unit and graphic requirements are platform-specific and are detailed in these topics:

Required Components and Features

• Disk drive: An internal or external disk drive (minimum recommended size, 2 GB) is required to store program executable, program data, usage environment, and paging space.
• 256 MB of main memory is the minimum recommended amount for all applications. 512 MB of main memory is recommended for ENOVIA-DMU applications with large assemblies. Requirements may be greater when large amounts of data are used.
• A CD-ROM drive is required for program installation and access to the online documentation, which can optionally be downloaded to disk.
• A graphic color display, compatible with selected graphic adapter (minimum recommended size for usability reasons is 17 inches; 800 x 600 minimum resolution required on Windows workstations; 1280 x 1024 minimum resolution required on UNIX workstations). When selecting a graphic adapter, hardware texturing capability is strongly recommended when using ENOVIA — DMU Version 5 products that use texture mapping, in which case the amount of RAM has to be adequate for the number and complexity of textures to be used.
• Keyboard: A specific keyboard compatible with selected installation locale may be required for national language support.
• Pointing device: 3-button mouse.
  The 3-button mouse is recommended for usability reasons. On Windows 95, Windows 98, or Windows NT workstations, a 2-button mouse may alternatively be used (the third button is emulated with a keyboard sequence). IntelliMouse, a 2-button mouse plus wheel is also an alternative with the wheel acting as the middle button and allowing additional manipulations such as panning and scrolling.
• Optional components and features: a SpaceBall or a SpaceMouse can be used in addition to the standard mouse to perform graphic manipulations (zoom, pan, rotate). The required drivers are delivered with these devices.

The robustness of the overall solution is dependent on the robustness of the operating system and the hardware environment used. Windows NT and UNIX hardware configurations certified by Dassault Systemes for running ENOVIA — DMU products are published at: http://www.ibm.com/solutions/plm

Although ENOVIA — DMU products might run on other configurations or other graphic adapters, incidents specific to these configurations or adapters would not be accepted for support.

Hardware Requirements in a Windows 95 or Windows 98 Environment

Windows 95 and Windows 98 apply only to ENOVIA — DMU Platform 1 (P1). ENOVIA — DMU Platform 2 (P2) products do not run on Windows 95 or Windows 98.

Windows 95 and Windows 98 clients can use nodelocked licensing or can run with Windows NT, Windows 2000, or UNIX license servers.

System Unit: Intel® Pentium™ II- or Pentium III-based workstations running Microsoft™ Windows 95, OSR2, or Windows 98.

Graphic Adapter: An OpenGL-capable graphic adapter is required.

Note: Graphic performance on local transformations (panning, zooming, rotating model) will depend on the selected graphic adapter. This graphic adapter should have the following capabilities:
• 16-bits, high color, double buffered visual
• 16-bits Z-buffer (when hardware accelerated)
• Stencil buffer (1-bit)
• Minimum supported resolution is 800 x 600; a resolution of 1280 x 1024 is recommended for usability reasons

Tested graphic adapters on Windows 95 or Windows 98: Whereas Dassault Systemes has certified complete configurations (workstation model and graphic adapter) for ENOVIA — DMU Version 5 running on Windows NT, only generic graphic adapters that have been tested on Windows 95 and Windows 98 will be documented. The updated list of these adapters is published on the CATIA Version 5 Web site: http://www.ibm.com/solutions/plm

Hardware Requirements in a Windows NT or Windows 2000 environment:

• Graphic adapter: A graphic adapter with 3D OpenGL accelerator is required.

Note: Graphic performance on local transformations (panning, zooming, rotating model) will depend on the selected graphic adapter. The graphic adapter should have the following capabilities:
  • 24-bits, true color, double buffered visual
  • 24-bits Z-buffer
  • Stencil buffer
  • Minimum supported resolution is 800 x 600; a resolution of 1280 x 1024 is recommended for usability reasons
• Network Adapter: An active LAN adapter (Ethernet or token-ring, installed and configured) is required for licensing purposes.

Hardware Requirements in an AIX Environment

- System unit: Any RS/6000®, based on PowerPC 604™ (166 MHz minimum clock speed), Power2 or Power3 processor families, supported on AIX Version 4 Release 3.2 or 3.3, provided that requirements described below are met.

**Note:** With Release 5, CATIA Version 5 no longer supports Release 3.0 or 3.1 of AIX Version 4.

- Graphic adapter: One of the following graphic adapters is required:
  - GXT500P
  - GXT550P
  - GXT800P
  - GXT800M
  - GXT2000P
  - GXT3000P

Hardware Requirements in an HP-UX Environment

- System unit: Any B-Class, C-Class, or J-Class workstation supported on HP-UX Version 10.20 A.C.E. 4. Workstation Additional Core Enhancements for HP-UX 10.20 — (June 1999), HP-UX 10.20 A.C.E. 5 (December 1999), or HP-UX 11 ACE (November 1999), provided that requirements described below are met.

- Graphic adapter: One of the following graphic adapters is required:
  - Visualize-FX6
  - Visualize-FX4
  - Visualize-FX5
  - Visualize-FX6
  - Visualize-FX10

Hardware Requirements in an SGI-IRIX Environment

- System unit: Any O2, Indigo2, Octane, Octane2, or Onyx2 workstations based on R5000, R10000, or R12000 processors, supported on IRIX 6.5, provided that requirements described below are met.

- Graphic adapter: One of the following graphic adapter is required:
  - Integrated graphic adapters on O2 workstations
  - Solid Impact or SI/SE
  - Super Solid Impact or SSI/SSE
  - High Impact
  - Maximum Impact or MXI/MXE
  - VPro V6
  - VPro V8
  - InfiniteReality

Hardware Requirements in a Sun Solaris Environment

- System unit: Any Ultra1, Ultra2, Ultra10, Ultra30, or Ultra60 workstation based on UltraSPARC processor, supported on Solaris 2.6.0, Solaris 7, or Solaris 8, provided that requirements described below are met.

- Graphic adapter: One of the following graphic adapters is required:
  - Creator3D
  - Creator3D Series III
  - Elite 3D Model M3 (Ultra10-440 MHz workstations only)
  - Elite 3D Model M3 and M6 (Ultra60 workstations)

Software Requirements

**Note:** Correct operation of ENOVIA 3d com products requires the installation of CATIA/ENOVIA Version 5 Release 5 Service Pack 2, which is shipped with all orders of ENOVIA Portal Solutions V5.5.

ENOVIA Portal 3d com Solutions: ENOVIA Portal 3d com products are designed to operate with the following software:

**On the Client Side** — Java-enabled HTML browser:

- An OpenGL 3d adapter or a software emulation of OpenGL is required.
- Netscape Navigator 4.5, or later, on Windows with JDK1.1 support.
- Netscape Navigator 4.5, or later, on UNIX with JDK1.1 support.
- Microsoft Internet Explorer 5.0 on Windows with Microsoft Java Virtual Machine 3240, or later, installed.
- For Windows clients, an ENOVIA Portal 3d com browser product can be installed as a stand-alone application. In that case, no HTML browser is necessary, but only the Microsoft Java Virtual Machine (JVM 3240, or later).
- The imbedded Web browser is available only on Windows until official release of Netscape 6 on UNIX.
- No specific CAD/CAM products are required.
- On-the-fly conversion to VRML does not require any additional software:
  - If no plug-in is available to display the converted data the browser will propose to store the data with extension .wrl on the client.
  - If a VRML plug-in is available it will be automatically invoked for viewing and manipulation.
- Usage of 2D/3D local viewers on Java 1.1-enabled Netscape browsers requests the installation of a library on the client side. This library can be dynamically downloaded from a ENOVIA Portal 3d com server and will be installed one time for all future use.
- The Orbix Web 3.1 product (supplied with ENOVIA 3d com Navigator) is implemented in Version 5 Release 5 and enables IIOP-based, CORBA-compliant communications on the client side.

**On the Server Side** — When using ENOVIA 3d com in conjunction with a CAD/CAM server (CATIA Version 4 or Version 5), the following levels are supported:

- CATIA Version 5 Release 5; delivered on the 3d com CD
- CATIA Version 4 Release 2.2 Refresh 1; not delivered on the 3d com CD

The operating system level is dependent on the CAD/CAM software installed on the server side. To determine the operating system level, refer to CATIA operating requirements on:


- HTTP server (not delivered with the ENOVIA Portal 3d com products). The products are built to run with any HTTP server and have been certified with Netscape Enterprise Server, Apache, and Lotus® Domino™ Go.
• The ORBIX 3.0.1 product (supplied with ENOVIA 3d com Navigator) is implemented in Version 5 Release 5 and enables IIOP-based, CORBA-compliant communications on the server side.

To access CATIA data using ENOVIA Portal 3d com products, installation of CATIA (Version 4 or Version 5) is required on the server.

• CATIA Version 4 and CATIA Version 5 servers may be run together.

• For this ENOVIA 3d com release, the Version 5 server is provided and installed by default.

• Some 3d com capabilities require CATIA Version 4 Release 2.2 Refresh 1 products to also be installed on the server. More details are provided in the following tables listing functionality and current support on specific configurations.

### 3d com Product/Function Information

Important: The ENOVIA 3d com Navigator Configuration includes CATIA Version 5 server functionality. This functionality supports reading and visualizing CATIA 3D data created at any level up to and including CATIA Version 5 Release 5 and CATIA Version 4 Release 2.2 Refresh 1.

For this ENOVIA 3d com release, some 3d com capabilities require a license for CATIA Version 4 Release 2.2 Refresh 1 products to be on the server.

The following matrix details the 3d com and CATIA product requirements needed on the server to obtain the desired 3d com functionality.

<table>
<thead>
<tr>
<th>3d com product</th>
<th>3d com functionality</th>
<th>Additional products required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5691-N3V</td>
<td>To Read and Visualize 3D CATIA V4 &amp; V5 models</td>
<td>None</td>
</tr>
<tr>
<td>5691-N3V +5691-53A</td>
<td>To perform analysis command on CATIA V4 data in 3D local and 3D Remote viewer: exact measurement, volume, center of gravity, mass, bounding box, layer, comment page</td>
<td>5626-COM +5626-SPA</td>
</tr>
<tr>
<td>5691-N3V +5691-53A</td>
<td>The Measure command in 3D Remote to perform approximate measurement</td>
<td>5626-COM +5626-SPA</td>
</tr>
<tr>
<td>5691-N3V +5691-53A</td>
<td>The Interference check in 3D Remote: clash, clearance and distance</td>
<td>5626-COM +5626-SPA</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Hyperlink in 3D Remote: Check for URLs in V4 models</td>
<td>5626-COM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Command Hide/Show in 3D Remote: command to hide and show individual parts</td>
<td>5626-COM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>2D Remote &amp; 2D Local Viewer: access to 2D data</td>
<td>5626-COM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Access to CATIA models stored in COM</td>
<td>5626-COM +5626-CDA +5626-CDR</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Access to CATIA models stored in VPM</td>
<td>5626-COM +5626-CDA +5626-CDR +5691-VPM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Visualization of ENOVIAVPM BOM and actions</td>
<td>5691-VPM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3d com product</th>
<th>3d com functionality</th>
<th>Additional products required</th>
</tr>
</thead>
<tbody>
<tr>
<td>5691-N3V</td>
<td>Visualization of ENOVIAVPM data</td>
<td>ENOVIApm</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Visualization of CATIA models stored in COM through ENOVIAVPM</td>
<td>5626-COM +5626-CDA +5626-CDR +5691-VPM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>CATIA V4 Declarative File Tree</td>
<td>5626-COM</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Display FDT</td>
<td>None</td>
</tr>
<tr>
<td>5691-DPL</td>
<td>MultiCax functions</td>
<td>None</td>
</tr>
<tr>
<td>5691-DIL</td>
<td>MultiCax functions</td>
<td>None</td>
</tr>
<tr>
<td>5691-DUL</td>
<td>MultiCax functions</td>
<td>None</td>
</tr>
</tbody>
</table>

### Current Restrictions

The following table gives the list of functionality currently supported only on specific configurations of Client or Server OS:

<table>
<thead>
<tr>
<th>Product</th>
<th>3d com Functionality</th>
<th>Supported only for</th>
</tr>
</thead>
<tbody>
<tr>
<td>5691-N3V</td>
<td>DMU Navigator V5R5 Interoperability</td>
<td>Client: Windows NT</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Extended Java Print (JPRINT) support for accurate local printing</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Imbedded browser</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Read office document</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Access and manage ENOVIAVPM actions</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Application mode to use 3d com products without HTTP connection</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Stand-alone mode</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Copy/Paste Image from viewer</td>
<td>Client: Windows NT, 95, 98, 2000</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Read CCD drawing</td>
<td>Server: AIX</td>
</tr>
<tr>
<td>5691-N3V</td>
<td>Lite HTML imbedded viewer</td>
<td>Server: File or HTTP with DNS address</td>
</tr>
</tbody>
</table>

### ENOVIA Portal DMU Solutions

**Common Software Requirements:** Refer to the Program Directory or contact the IBM Support Center for appropriate corrective service to apply to the software described in the topics that follow.

**Software Requirements in a Windows 95 or Windows 98 Environment**

**Note:** The Windows 95 and Windows 98 environments apply only to ENOVIA — DMU P1. ENOVIA — DMU (P2) products do not run on Windows 95 or Windows 98. Windows 95 and Windows 98 clients can use nodelocked licensing or can run with Windows NT, Windows 2000, or UNIX license servers.
The following components at the minimum indicated level are required:

- **Microsoft Windows 95, OSR2, or Windows 98:**
  - A Microsoft implementation of OpenGL libraries as delivered with Windows 95, OSR2, or Windows 98. These libraries may be updated depending on selected graphic adapter, when installing the graphic adapter and associated drivers. Dassault Systemes will provide recommendations related to driver levels based on tested graphic adapters through CATIA Version 5 Web site at: http://www.ibm.com/solutions/plm
  - Localized version of the operating system may be required when selected installation locale differs from Latin1.

- **ENO VIA — DMU P2 products do not operate on Windows 95 or Windows 98.**

### Software Requirements in a Windows NT or Windows 2000 Environment

The following components at the minimum indicated level are required:

- **Microsoft Windows NT Workstation Version 4.0 at Service Pack 4 or Service Pack 5 level or Windows 2000 Professional, with the following components:**
  - Microsoft Windows NT 4.0 and Windows 2000 deliver an implementation of OpenGL libraries. These libraries may be updated depending on selected graphic adapter, when installing the graphic adapter and associated drivers. Dassault Systemes will provide recommendations related to driver levels based on certified configurations through the CATIA Version 5 Web site at:
  - Localized version of the operating system may be required when selected installation locale differs from Latin1.

**Note:** For remote access from networked clients, Terminal Server is supported with Microsoft Windows NT 4.0 Terminal Server Edition, at Service Pack 4 level on the NT server. Access through a standard browser requires Citrix MetaFrame 1.0 to be installed in addition to the server. Terminal Server is also available with Windows 2000 Server and Windows 2000 Advanced Server.

### Software Requirements in an AIX Environment

The following components at the minimum indicated level are required:

**Note:** With Release 5, CATIA Version 5 no longer supports Release 3.0 or 3.1 of AIX Version 4.

- **AIX Version 4 Release 3.2 or 3.3, including:**
  - C Set++ for AIX Application Runtime (delivered with the Operating system)
  - At minimum level 3.6.4 for AIX 4.3.2 (5648-A81)
  - At minimum level 4.0.2 for AIX 4.3.3 (5765-D82)
  - IBM XL Fortran Runtime Environment for AIX, at minimum level 5.1.0 (5765-C11 or product 5801-AAR feature 7070, P/N 04L2123)
  - OpenGL and GL3.2 Runtime Environment (delivered with AIX 4.3 operating systems)
  - Common Desktop Environment (CDE) (delivered with the operating system)

### Software Requirements in an HP-UX Environment

The following components at the minimum indicated level are required:

- **HP-UX Version 10.20 A.C.E. 4 (Workstation Additional Core Enhancements for HP-UX 10.20 — June 1999) or HP-UX 10.20 A.C.E. 5 — (December 1999), or HP-UX 11.0 A.C.E. (November 1999), including:**
  - ANSI C++ Runtime Environment (a C++, at minimum level 1.21, delivered with the operating system).
  - HP FORTRAN Runtime Environment (delivered with the operating system).
  - HP-UX 700 OpenGL 3D API Runtime Environment.
  - CDE (Common Desktop Environment delivered with the operating system).
  - Localized version of the operating system may be required when selected installation locale differs from ISO code pages.

### Software Requirements in an SGI IRIX Environment

The following components at the minimum indicated level are required:

- **IRIX 6.5.2m, including:**
  - C, C++, and Fortran77 standard execution environment (delivered with the operating system).
  - OpenGL (delivered with IRIX execution environment).
  - IRIX Interactive Desktop (delivered with the operating system).
  - WorldView is required when selected installation locale differs from ISO-1.

### Software Requirements in a Sun Solaris Environment

The following components at the minimum indicated level are required:

- **Sun Solaris 2.6.0, Solaris 7, or Solaris 8 including:**
  - C and C++ runtime environment (delivered with the operating system).
  - OpenGL runtime environment (delivered with the operating system).
  - Fortran runtime environment is delivered with ENOVIA — DMU Navigator Version 5.
  - CDE (Common Desktop Environment is delivered with the operating system).
  - Localized version may be required when selected installation locale differs from ISO-1.

### Specific Software Requirements

**ENO VIA MultiPDM and MultiCAx Plug-Ins**

**ENO VIA MultiPDM and MultiCAx Plug-Ins**

- **ENO VIA MultiPDM plug-ins run on all platforms supported by their prerequisite; ENOVIA 3d com Navigator.**
- **ENO VIA MultiCAx plug-ins require ENOVIA DMU-P1, DMU-P2, or 3d com Navigator configurations to be installed.**
ENOVIA 3d com Navigator server is currently UNIX only; therefore, only UNIX-based MultiCAx Plug-ins are available with 3d com. These plug-ins (DUL, DIL, DPL) must be installed on the server side.

New MultiCAx Plug-Ins for Version 5 Release 5 (DSL, DEL, DAL) are available only on Windows NT or Windows 2000 and run only with ENOVIA DMU-P1 or DMU-P2 configurations.

Specific capabilities for the ENOVIA MultiCAx plug-ins are identified in the following chart:

<table>
<thead>
<tr>
<th>CAD environment</th>
<th>Plug-In required</th>
<th>Support type</th>
<th>File extensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProE with module</td>
<td>DPL</td>
<td>Part &amp; Assembly</td>
<td>.prt &amp; .asm</td>
</tr>
<tr>
<td>ProE Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UG with module</td>
<td>DUL</td>
<td>Part &amp; Assembly</td>
<td>.prt</td>
</tr>
<tr>
<td>1Open Execute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDEAS with module</td>
<td>DIL</td>
<td>Part &amp; Assembly</td>
<td>.mf1 &amp; .mf2</td>
</tr>
<tr>
<td>IDEAS 97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SolidWorks</td>
<td>DSL</td>
<td>Part &amp; Assembly</td>
<td>.sldprt &amp; .sldasm</td>
</tr>
<tr>
<td>Solid Edge</td>
<td>DEL</td>
<td>Part</td>
<td>.par</td>
</tr>
<tr>
<td>ACIS</td>
<td>DAL</td>
<td>Part</td>
<td>.sat</td>
</tr>
<tr>
<td>DIF 3D</td>
<td>DAL</td>
<td>Part</td>
<td>.dxf</td>
</tr>
<tr>
<td>Parasolid</td>
<td>DUL</td>
<td>Part</td>
<td>.xjt</td>
</tr>
<tr>
<td>DELMIA</td>
<td>DDL</td>
<td>Part, device &amp; workcell</td>
<td>.pdb or user extensions, .dev &amp; .wcl for VI4</td>
</tr>
<tr>
<td>(included)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CATIA V4</td>
<td>DCL</td>
<td>Part, session, kinematics</td>
<td>.model &amp; .session</td>
</tr>
<tr>
<td>(included)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Specific platform support for the ENOVIA MultiCAx plug-ins are identified in the following chart:

<table>
<thead>
<tr>
<th>Plug-In ID</th>
<th>CAD level/format</th>
<th>CAD License required?</th>
<th>Win 2000</th>
<th>NT SP4</th>
<th>SUN</th>
<th>SGI</th>
<th>AIX</th>
<th>HP-UX</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPL</td>
<td>ProE 2001</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DPL</td>
<td>ProE 2001</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>DPL</td>
<td>ProE 20001</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>DPL</td>
<td>ProE 200012</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>DUL</td>
<td>UG V15</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>DUL</td>
<td>UG V15</td>
<td>Y</td>
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<td>UG V16</td>
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<td>Y</td>
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</tr>
<tr>
<td>DUL</td>
<td>Parasolid</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>IDEAS MS7.0</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>DUL</td>
<td>IDEAS MS8.0</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>DUL</td>
<td>SolidWorks99</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>SolidWorks2000</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>SE up to V8</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>ACIS V6.0</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
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<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>ACAD R2000</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>DUL</td>
<td>MDT V5</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Additional Software Requirements

Online documentation:

- Online documentation and User GALAXY (online product marketing information) are delivered in HTML format. An HTML browser is required to access this documentation.
- In a UNIX environment (AIX, HP-UX, IRIX, Solaris) — Netscape Navigator at minimum level 4.5.
- In a Windows environment (Windows 95, Windows 98, Windows 2000, or Windows NT), either:
  - Microsoft Internet Explorer (delivered with Windows NT 4.0), at minimum level 4.01, Service Pack 1
  - Microsoft Internet Explorer 5.0 (delivered with Windows 2000)
  - Netscape Navigator at minimum level 4.5

Portable Document Format (PDF) documentation is delivered in addition to HTML documentation. Printing, and eventually browsing of this documentation, requires the availability of Adobe Acrobat Reader at minimum level 3.0. Adobe Acrobat Reader Version 3.0 may be downloaded from:

http://www.adobe.com/

Although access to the online documentation might work on other HTML browsers, incidents specific to other browsers than above mentioned products are not eligible for support.

For the licensing environment:

- Windows workstations must have a LAN Card (Ethernet or token ring) and TCP/IP installed and properly configured, even in the case of nodelock licensing, but there is no need to have the workstations connected to the network.
- No additional software is required when accessing nodelock licenses on Windows NT.
- ENOVIA 3d com products do not support nodelock licensing.
- IBM License Use Management (LUM) is required to serve licenses across a network.
  - LUM 4.5.5 is the minimum level required on UNIX or Windows NT license servers.
  - LUM 4.5.8 is the minimum level required on Windows 2000 license servers.
  - LUM 4.5.9 is required when High Availability Licensing (HAL) mechanism is used.
  - Windows 95/98 are not supported for IBM LUM license servers. For Windows 95/98 clients, the license server must be a UNIX, Windows NT, or Windows 2000 server, or Windows 95/98 workstations must have a nodelock license.
- IBM LUM may be obtained at no charge from:

http://www.software.ibm.com/is/lum/download.html

ENOVIA — DMU Macro Replay Capabilities: In a Windows environment, Visual Basic Script (VB Script), at minimum level 3.1 is required for Macro replay capabilities. VB Script libraries at level 3.1.0.2124 are delivered with Internet Explorer 4.01 SP1™, or later, levels.
In a UNIX environment, the interpreter is BasicScript from Summit Software. It is included in ENOVIA — DMU as a shared library.

Macros recorded in either UNIX or Windows environments can be replayed in either environment. However, because of differences between BasicScript and VB Script, macros written “by hand” will run only if the developer uses features supported by both interpreters.

Printer and Plotter Support in a UNIX Environment:

- **ENOVIA — DMU Navigator Version 5** provides support for main plotter/printer languages:
  - CalComp C907
  - CGM-ISO, ATA, CALS
  - Hewlett Packard HP-GL/2-RTL and HP-GL or IBM-GL subsets
  - Hewlett Packard HP-GL/2 and HP-RTL
  - OCE Graphics GPR50: VDF Plotting routines
  - VCGL: Versatec Graphics Software,
  - VGS 2.0 VRF: Versatec Graphics Software, VGS 2.0
  - Postscript

- **Printer and Plotter Support in a Windows environment:** Support of printers and plotters on Windows is determined by the availability of the desired printer/plotter drivers compatible with the version of Windows being used. Contact the appropriate printer/plotter vendor for support.

**Software Installation**

In a Windows environment, installation and de-installation rely on Windows-compliant tools (for example, InstallShield) enabling anyone familiar with Windows procedures and concepts to install the software by themselves. The concepts, procedures, and “look and feel” of installation procedures for Windows have been carried over to the UNIX environment in order to give a common Version 5 installation interface for all supported operating systems.

Key aspects of the installation procedures are:

- Easy installation — any user can install and execute the product with a limited number of interactions.
- Fast installation — gives the user access to the product in about 10 minutes.
- Reduced user environment — when installed, minimum customization is necessary to give access to the product to any user.
- Customizable installation — installation procedures include the possibility to select downloaded products.

**Planning Information**

**Direct Customer Support:** Direct customer support is provided under the Product Lifecycle Management Enhanced Support Offering (ESO). This fee service enhances the customer’s productivity by providing voice and electronic access to the Product Lifecycle Management Support Center. The ESO helpdesk will answer questions pertaining to the installation, administration, use, and handling of suspected software defects for eligible products.

Additional information on ESO and other available Product Lifecycle Management Services offerings is available by going to the Product Lifecycle Management Web page:


Click the services tab on the left side, then right click the offerings tab and select Engineering Support Services.

Eligible customers can obtain installation and usage assistance from the Engineering Solutions Support Center through the Engineering Support Services — ESO. To obtain information on customer eligibility and registration procedures, refer to the Engineering Solutions Web page at:


Click on the left side of SERVICES, then on the right side of OFFERINGS and select ENGINEERING SUPPORT SERVICES.

**Packaging**

**ENOVIA Portal Solutions Version 5 Release 5 Physical Packaging**

Base product CD set includes 2 code packages:

**Package 1:**

- DMU product CD set (LCD4-4676-01) includes:
  - Six-position CD holder, shrink wrapped
  - CD holder cover with front, back, and edge panels including LCD number, title, barcode, and pointer to the softcopy installation booklet.
  - Six product CDs with full-color screen printed labels:
    - Volume 1 Portal DMU V5R5 AIX
    - Volume 2 Portal DMU V5R5 HP-UX
    - Volume 3 Portal DMU V5R5 IRIX
    - Volume 4 Portal DMU V5R5 Solaris
    - Volume 5 Portal DMU V5R5 Windows NT and Windows 2000
    - Volume 6 Portal DMU V5R5 Windows 98 and 95

**Package 2:**

- 3d com product CD set (LCD4-4242-02) includes:
  - Six-position CD holder, shrink wrapped
  - CD holder cover with front, back, and edge panels including LCD number, title, barcode, and pointer to the softcopy installation booklet.
  - Five-product CDs with full-color screen printed labels:
    - Volume 1 ENOVIA Portal 3d com products V5R5 AIX
    - Volume 2 ENOVIA Portal 3d com products V5R5 HP-UX
    - Volume 3 ENOVIA Portal 3d com products V5R5 IRIX
    - Volume 4 ENOVIA Portal 3d com products V5R5 Solaris
    - Volume 5 Portal DMU V5R5 Windows 98 and 95
Common products included in ENOVIA Portal Solutions:

**Softcopy Collection Kit (SK3T-5188)** will contain product softcopy publications in a single position jewel case with full-color front and back panels with publication numbers, title, and barcode. Correct NLS softcopy publications CD selected by NLS feature number. The CD will have a full-color label.

- **NLS Softcopy Collection Kits**
  - SK3T-5188 English
  - SK3T-0572 French
  - SK3T-0573 German
  - SK3T-0574 Japanese

- **CD-ROM (LCD4-4670-01) LUM V4.58**, in a single position jewel case with full-color front and back panels with a CD number, title, and barcode. The CD will have a full-color printed label.

- **A seven-position package of CDs containing the CATIA/ENOVIA Version 5 Release 5 Service Pack 2 code and program directory needed for correct operation of ENOVIA Portal Solutions 3d com products.**
  - LCD4-5006-00

- **Informal Publications:**
  - Licensed Program Specification (GI11-1225)
  - Memo to Current Users (GI11-1356)
  - Registration Memo (GI11-1224)

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**Security, Auditability, and Control**

The announced programs use the security and auditability features of the host hardware or operating system software. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

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**Customer Financing**

IBM Global Financing offers attractive financing to credit-qualified commercial and government customers and Business Partners in more than 40 countries. IBM Global Financing is provided by the IBM Credit Corporation in the United States. Offerings, rates, terms, and availability may vary by country. Contact the local IBM Global Financing organization. Country organizations are listed on the Web at:

http://www.financing.ibm.com

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**Ordering Information**

**Previously Announced Terms and Conditions**

The terms and conditions previously announced for ENOVIA Portal Solutions Products are unaffected by this announcement.

**Current Licensees**

Current licensees of ENOVIA Portal Solutions Version 5 will receive this update from IBM Software Delivery and Fulfillment automatically.

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Shipment of this release is scheduled to be completed availability plus two weeks.

**New Licensees**

Orders for new licenses can be placed now.

Shipment will not occur before availability date.

Unless a later date is specified, orders entered before the planned availability date will be assigned a schedule date of one week following availability.

Shipment will begin on the planned availability date.

**Basic License:** To order a basic license for a standard configuration, shareable or optional (a-la-carte) product, specify:

- The configuration/shareable/optional product program number
- Feature number 9001 for asset registration
- The appropriate Primary Annual License Charge (PLC/ALC) or Yearly License Charge (YLC) billing feature numbers

To order a basic license for a custom configuration, specify:

- The standard configuration program feature number
- Feature number 9001 for asset registration
- The appropriate PLC/ALC or YLC billing feature numbers for the configuration
- The appropriate PLC/ALC or YLC billing feature numbers for the add-on products

**Notes:** The quantity of each add-on product ordered on a custom configuration must equal the quantity of the configuration.

**New Shareable Products Number**

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Program Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENOVIA — MultiCAx SolidWorks Plug-In</td>
<td>5691-DSL</td>
</tr>
<tr>
<td>ENOVIA — MultiCAx SE Plug-In</td>
<td>5691-DEL</td>
</tr>
<tr>
<td>ENOVIA — MultiCAx AD Plug-In</td>
<td>5691-DAL</td>
</tr>
</tbody>
</table>

**Billing Feature Numbers for New Shareable P1, P2, and 3d com Products**

**Notes**

- Tier 1 Usage Level 1-9
- Tier 2 Usage Level 10-25
- Tier 3 Usage Level 26+

- The above tier usage levels apply to all of the products listed
- For order quantities exceeding 250, contact a representative
**Billing Feature Numbers**

**PLC ALC YLC**

- **MultiCAx SolidWorks Plug-In (5691-DSL)**
  - Tier 1: 0011 0006 0001
  - Tier 2: 0007 0002
  - Tier 3: 0008 0003

- **MultiCAx SE Plug-In (691-DEL)**
  - Tier 1: 0011 0006 0001
  - Tier 2: 0007 0002
  - Tier 3: 0008 0003

- **MultiCAx AD Plug-In (5691-DAL)**
  - Tier 1: 0011 0006 0001
  - Tier 2: 0007 0002
  - Tier 3: 0008 0003

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**Configuring Orders**

For orders of ENOVIA Portal for Microsoft Windows, IBM AIX, HP-UX, SGI, IRIX, or Sun Solaris platforms, configure ENOVIA Portal using the PCRS6000 configurator. Specify the feature numbers below with a quantity equal to the number of users:

<table>
<thead>
<tr>
<th>Software Platform</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows</td>
<td>5353</td>
</tr>
<tr>
<td>IBM AIX</td>
<td>5350</td>
</tr>
<tr>
<td>Hewlett Packard HP-UX</td>
<td>5351</td>
</tr>
<tr>
<td>SGI IRIX</td>
<td>5352</td>
</tr>
<tr>
<td>Sun Solaris</td>
<td>5354</td>
</tr>
</tbody>
</table>

**Ordering Examples**

It is a licensing requirement that each unique custom configuration of ENOVIA Portal Solutions is assigned a unique SW serial number. All ENOVIA DMU and ENOVIA 3d com products are built on custom configurations. To provide a unique serial for each custom configuration, an install record has to be created for each unique custom configuration. The number is assigned automatically by the IBM ordering systems each time the output from the configurator system is loaded into the IBM ordering system. The SW serial number becomes part of the permanent Customer Number record.

Additional ENOVIA Portal Solutions products can be added to an already established SW serial number through an MES order. Use of the MES procedure with the IBM configurators requires that the ordering representative first load the configurator with the complete list of unique SW serial numbers for the unique customer number ordering the MES.

**Example 1**

A user wishes to order ENOVIA — DMU Review 2 Configuration (5691-DM2), and Shareable product ENOVIA — MultiCAx SolidWorks Plug-in (5691-DSL), the ENOVIA Configuration add-on product ENOVIA DMU Dimensioning and Tolerance (DT1), with 10 users on the AIX platform.

Required configuration information:
- IBM customer number — 12345-67
- Attaching system serial number — 12345
- ENOVIA configuration name — ENOVIA — DMU Review 2 (5691-DM2)
- Platform type — AIX feature number 5350
- Quantity required per platform — 9 AIX feature 5350
- ENOVIA configuration add-on product — Dimensioning and Tolerance (DT1)
- ENOVIA shareable product name — MultiCAx SolidWorks Plug-In (5691-DSL)
- Platform type — AIX feature number 5350
- Quantity required per platform — 10 AIX feature 5350

The following numbers may also apply:
- NLS Docs feature numbers
- Specialized handling feature numbers
- Type of license option
- Additional softcopy publication

The configurator will automatically add the necessary asset registration feature codes (9001), the correct license tier codes for the quantity ordered and the correct System Program Order (SPO) numbers.

**Example 2**

A customer wishes to add to his already existing ENOVIA Portal Solutions license the new product, ENOVIA — MultiCAx AD Plug-In (5691-DAL), for 10 users on the SGI platform.

Required configuration information:
- IBM customer number — 12345-67
- Attaching system serial number — 12345
- ENOVIA shareable product name — MultiCAx AD Plug-In (5691-DAL)
- Platform type — SGI feature number 5352
- Quantity required per platform — 10 SGI feature 5352

The configurator will automatically add the necessary asset registration feature numbers (9001), the correct license tier codes for the quantity ordered and the correct SPO numbers.

**Basic Machine-Readable Material:** ENOVIA Portal Version 5.5, feature number 3410, is available on CD-ROM only.

ENOVIA Portal Solutions Products can be ordered on the following platforms:
- AIX Platforms (#5350)
- Hewlett Packard HP-UX Platforms (#5351)
- SGI-IRIX Platforms (#5352)
- Microsoft Windows (#5353) — selected products only
- Sun Solaris Platforms (#5354)

**SPO**

**5628-DMU SPO**

ENOVIA Portal programs for all platforms (UNIX and Microsoft Windows) will be shipped under the 5628-DMU SPO. The SPO is required for all program shipments and future updates.

Initial orders placed for a program type 5691 without a corresponding order or MES for the 5628-DMU SPO will either fail order validation, or will not generate a media
shipment. The SPO is designated to the processor on which the program type 5691 is licensed. Each customer number must have its own SPO.

**Initial Orders:** When ordering the first 5691-xxx configuration for ENOVIA Portal an order must also be placed for the 5628-DMU SPO. Both the 5691-xxx program order and the SPO must be for the same CPU system type/system number, and have the same scheduled shipment date.

**Subsequent Licenses:** The SPO must have a feature number for every ENOVIA Portal configuration that is installed or on-order. Therefore, when a configuration that was not previously installed is ordered, the SPO must be updated.

**To Update an On-order System:** When a license for a new 5691 program is ordered for an on-order system, the 5628-DMU SPO must be updated to reflect the feature number of the licensed program desired. Also, for asset registration and billing purposes an order for the individual licensed program type 5691 is required.

**To Update an Installed System:** When a license for a new 5691 program is ordered for an installed system, the 5628-DMU SPO must be updated to reflect the feature number of the licensed program desired.

**5628-DMU Feature Numbers:** The following program feature numbers are used with the 5628-DMU SPO to show which configurations and products are installed. This information is used for shipment of media. The maximum quantity of each of the features that may be specified is one for each of the 5691 programs.

### Program Feature Numbers for New Products in Release 5

<table>
<thead>
<tr>
<th>Configuration/Product Name</th>
<th>Program Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENOVIA —MultiCAx SolidWorks Plug-in</td>
<td>3013</td>
</tr>
<tr>
<td>ENOVIA —MultiCAx SE Plug-In</td>
<td>3014</td>
</tr>
<tr>
<td>ENOVIA —MultiCAx AD Plug-In</td>
<td>3015</td>
</tr>
</tbody>
</table>

**Customization Options:** Select the appropriate feature numbers to customize the order to specify the delivery options desired. These features can be specified on the initial or MES orders.

**Example:** If publications are not desired for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then, the publications will ship with the next release of the program.

### Description

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial number only (suppresses shipment of media and documentation)</td>
<td>3444</td>
</tr>
<tr>
<td>Ship media only (suppresses initial shipment of documentation)</td>
<td>3470</td>
</tr>
<tr>
<td>Ship documentation only (suppresses initial shipment of media)</td>
<td>3471</td>
</tr>
<tr>
<td>Single Pallet delivery</td>
<td>3483</td>
</tr>
</tbody>
</table>

**Update Shipments**

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship Media updates only (suppresses update shipment of documentation)</td>
<td>3480</td>
</tr>
<tr>
<td>Ship documentation only (suppresses update shipment of media)</td>
<td>3481</td>
</tr>
<tr>
<td>Suppress updates (suppresses update shipment of media and documentation)</td>
<td>3482</td>
</tr>
</tbody>
</table>

**Expedite Shipments**

<table>
<thead>
<tr>
<th>Description</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local IBM office expedite (for IBM use only)</td>
<td>3445</td>
</tr>
<tr>
<td>Customer expedite process charge ($30 charge for each product)</td>
<td>3446</td>
</tr>
</tbody>
</table>

Expedite shipments will be processed to receive 72-hour delivery from the time IBM Software Delivery and Fulfillment (SDF) receives the order. SDF will then ship the order via overnight air transportation.

**Unlicensed Documentation:** One English softcopy publication CD-ROM is automatically included in all shipments. National Language Versions (NLVs) of the softcopy publications in French, German, and Japanese will be available at a later time at no charge. To order, specify the language using the feature numbers below. Only one additional copy of a kit can be ordered per license.

<table>
<thead>
<tr>
<th>Publication Name</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — English</td>
<td>7100</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — French</td>
<td>7101</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — German</td>
<td>7102</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — Japanese</td>
<td>7103</td>
</tr>
</tbody>
</table>

To view Getting Started with ENOVIA Portal Version 5.5 on the Web, go to:


Then select Products to get to the products page and then select ENOVIA Portal Version 5.5.

Additional Softcopy Collection Kits can be ordered through PUBLISHING using the following numbers:

<table>
<thead>
<tr>
<th>Publication Name</th>
<th>Feature Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — English</td>
<td>SK3T-5188</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — French</td>
<td>SK3T-0572</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — German</td>
<td>SK3T-0573</td>
</tr>
<tr>
<td>ENOVIA Portal Version 5 Release 5 Softcopy Collection Kit — Japanese</td>
<td>SK3T-0574</td>
</tr>
</tbody>
</table>

**Displayable Softcopy Publications**

ENOVIA Portal Version 5.5 product publications are offered in displayable and printable HTML and PDF softcopy form. All unlicensed manuals are included. These softcopy manuals are part of the basic machine-readable material that automatically ships with an order for a standard or custom configuration. The manuals are shipped on CD-ROM. Terms and conditions for use of the machine-readable files are shipped with the product.
The displayable manuals are in HTML format and can be viewed in any of the supported environments using one of the HTML browsers specified under &@jmpx Software Requirements in the in the &@jmpx Technical Information section. The printable manuals are in PDF format and can be displayed and printed with Adobe Acrobat Reader at minimum level 3.0. The Adobe Acrobat Reader may be downloaded, at no charge, from:

http://www.adobe.com/prodindex/acrobat/readstep.html

Additionally, customers with the Enhanced Support Offering can view the latest ENOVIA Portal Version 5.5 publications in HTML form by going to:

http://service.software.ibm.com/catia/us/support

Then click on Technical Support.

Licensed Documentation: There are no licensed publications for ENOVIA Portal Solutions Version 5 Release 5.

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

Terms and Conditions

Licensing: IBM Customer Agreement (ICA)

Designated Machine: Not required

Installation License or Location License Applies: No

Usage Restriction Applies: Yes

ENOVIA Portal Version 5 Release 5 Licensing Principles

The ENOVIA 3d com Navigator configuration allows users to access a wide range of data types both local and remote throughout a typical day. This consistent usage lends itself to a lower price point and a licensing methodology referred to as named-user. Named-user licensing requires that the customer purchase one license for each user who will utilize the product at any time. Optional products ENOVIA 3d com Space Analysis and ENOVIA MultiPDM OP Plug-In which have the 3d com Navigator configuration as a prerequisite are also licensed on a named-user basis.

When accessing other systems via the ENOVIA 3d com Navigator it is usually necessary to have a license or required authorization on that system. For example, to work with data in ENOVIAPM, ENOVIAVPM, or Optegra a license for the corresponding user role within those systems is needed. Basic access for DELMIA, CATIA Version 4 and CATIA Version 5 data is included in the 3d com Navigator configuration. However, if data such as CAD models are to be loaded into the authoring system such as CATIA Version 5, the corresponding product configuration and license must be available. For full-function capability on CATIA Version 4 data there is a temporary requirement on a CATIA Version 4 COM and/or SPA license. If required each CATIA Version 4 COM license will serve up to 10 3d com Navigator users.

The ENOVIA Digital Mock-Up (DMU) Navigator configurations and associated DMU add-on products tend to be used on a more occasional basis. This type of product usage lends itself to a higher price point and a licensing methodology referred to as concurrent-user licensing. Concurrent user licensing is based on how many users will be accessing the product simultaneously. A customer purchasing the DMU products should evaluate how many users will need to access the products. The appropriate configurations are established and an adequate number of licenses should be purchased based on how many will be needed at one time.

The ENOVIA MultiCAx plug-ins are available as shareable products and also tend to be used in an occasional manner. These Plug-ins utilize concurrent licensing and have either the 3d com Navigator configuration or one of the DMU configurations as a prerequisite. One license of a MultiCAx product can be shared across multiple Portal configurations whether they be Web-based (3d com Navigator) or Windows-based (DMU configurations).

Test Period: None

Academic terms are available for the ENOVIA Portal Solutions Version 5 Release 5 through Special Bid. A qualifying institution for these products will be able to purchase the products for an annual fee.

For qualification criteria and detailed terms and prices:
Contact Buz Nowicki (qnowicki@us.ibm.com) at 248-552-5981 for additional information and approvals.

Volume Discount: Contact an IBM representative.

Warranted: Yes

Licensed Program Materials Availability

• Restricted Materials of IBM: None
• Non-Restricted Source Materials: None
• Object Code Only (OCO): All

Program Services: Program services for ENOVIA Portal Solutions Version 5 will be available until discontinued by IBM upon six months written notice.

Customers may report problems against a given Release of ENOVIA Portal Solutions Version 5 for a limited time only. This service period ends four months after the planned availability of the second subsequent Release of ENOVIA Portal Solutions Version 5.

Therefore, the end-of-service date for ENOVIA Portal Solutions DMU Version 5 Release 2 will be four months after the planned availability date of this release.

For a list of all currently supported releases of ENOVIA Portal Solutions Version 5, refer to:

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

Then click on Release nomenclature and end of service dates in the What’s new column.

Program Services offer a method of reporting code-related problems for ENOVIA Portal Solutions Version 5 licensed software products. Problems may be reported electronically, by facsimile, or by U.S. mail and will be responded to via the same medium used to submit the problem. IBM will respond to customer inquiries within two business days of electronic or facsimile receipt and seven days of U.S. mail receipt advising of the problem disposition.

For technical assistance, go to the Product Lifecycle Management Technical Support e-Services Web page at:


Then click on the CATIA/ENOVIA Solutions Technical Support link.
Use one of the following methods to report problems:

- Mail
  IBM Corporation
  Product Lifecycle Management Solutions
  2455 South Road P540
  Poughkeepsie, NY 12601-5400
  Attn: ENOVIA/CATIA APAR Coordinator
- Facsimile: 845-433-9901
- e-mail: catia@us.ibm.com
- Electronic PMR submission:
  http://techsupport.services.ibm.com/catia/us-welcome.html

Electronic support gives the customer the option of submitting code-related problems either by e-mail or through the Product Lifecycle Management Web site using a Problem Management Report (PMR). When using the PMR option, all communications will be through the PMR. It is the customer’s responsibility to monitor and update their problem no less than once a week.

Preventive Service is delivered through the next Release of ENOVIA Portal Solutions Version 5. The new Release will also include corrections to problems, depending on the time of their submission and their severity.

Corrective service for ENOVIA Portal Solutions Version 5 is delivered through “Service Packs” on a regular basis. A Service Pack includes corrections for blocking problems in production systems reported on this Release and all corrections available for all components at the time it is built. Service Packs are provided at the same time for all platforms currently supported. Each service pack supersedes the previous one and can be installed on top of the released level or on top of a previous service pack. No individual corrections will be delivered between two service packs. Updates to online documentation will not be provided through service packs.

Customers may request a correction via a service pack for blocking problems. These requests for corrections to a given release of ENOVIA Portal Solutions Version 5 may be made up to four months after the next release of Version 5 becomes generally available. After that date, no new Service Packs will be built for that release. This final Service Pack will still be available for ordering on CD-ROM via the IBM Support Centers for the duration of the service period of each release. The service period ends four months after the planned availability of the second subsequent Release of ENOVIA Portal Solutions Version 5.

Based on the above schedule, the end of corrective service date for ENOVIA Portal Solutions 3d com Navigator and DMU Version 5 Release 4 will be four months after the planned availability date of this release.

If the problem reported is not known to be a code-related problem, the customer will be informed that IBM will continue to work on it provided the customer has an ESO contract.

Additional information on the ESO and other available Product Lifecycle Management services offerings are available by going to the Product Lifecycle Management Web page at:

On the left side, click on Services and then on the right, click on Offerings and finally on Engineering Support Services.

For help guides and information on education, go to the Product Lifecycle Management Web page at:

On the left side, click on Education.

Support Line: No

Other Support: IBM Support Center

Charges

Contact an IBM representative for charges information for this announcement.

Trademarks

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