

# REQUIREMENTS

## ENOVIA Requirements Central



ENOVIA® Requirements Central™ enables organizations to improve their overall global requirement management process by capturing the “voice of the customer” and translating it into user requirements that define new products. ENOVIA Requirements Central provides a central repository of customer needs and the product requirements that satisfy them. The benefits of having ENOVIA as a “single source of the truth” is maximized when ENOVIA Requirements Central is used with other ENOVIA and CATIA® capabilities to define complex products, including their functional and logical aspects. In addition, as requirements can be linked to ENOVIA program and project management activities, users get full traceability throughout the entire development process ensuring that the products that are developed meet original market goals.

### Key Benefits

- Meet standards and regulations by controlling the requirement management process
- Improve product quality and customer satisfaction because new products are designed and developed that accurately reflect the voice of the customer
- Reduce development costs and rework by bridging the gap between product requirements, design and product launch processes and disciplines
- Improve visibility, team communication and collaboration because teams are using a central repository and common tool to manage product requirements
- Improve overall traceability throughout the evolution of requirements

## Product Overview

ENOVIA Requirements Central enables global development organizations to drive consistency in a shared environment when capturing customer, regulatory standards and market-driven requirements. Requirements can be defined and decomposed into a hierarchy, and fulfilled through the design, implementation and testing of final products to provide traceability throughout product development.

ENOVIA Requirements Central enables companies to improve efficiencies and effectiveness of their requirements management process by enabling the following:

- Improve efficiency and effectiveness of the product planning process using a common source to manage requirements
- Fully manage the requirements lifecycle from initial authoring to fulfillment with a product launch
- Maintain requirements traceability back to the original customer and marketing (source) documents
- Improve configuration of requirements to reduce development costs and project schedule slippage by establishing baselines agreed to by all stakeholders
- Enhance sharing and communication of requirements to cross functional organizations resulting in less rework, missed objectives and missed deadlines
- Support optimal design architecture definition by enabling trade-off analysis that balances functionality, performance and cost

## Product Highlights

### Product Planning

ENOVIA Requirements Central provides companies with the ability to organize and manage their portfolio of products and the planning and introduction of future products. Product lines and model hierarchies organize a company's family of products. Model hierarchies represent specific products available to customers. Models are product masters that manage available and future product releases as well as candidate requirements. Product managers are responsible for managing the content of each product release for their assigned models.

### Product Objectives Setup

ENOVIA Requirements Central offers the ability to specify objectives thru numerical values associated to the requirements to be met such as mass for total weight, mass for CO<sup>2</sup> produced, percentage of recyclable materials, cost, response time, etc. Those objectives are available to constrain the implementing objects (Functions and Logical/Physical components) allowing to have a real seamless requirement-driven design process. The knowledge management solutions can also be leveraged to check whether the objectives are met, and dashboards can be used to ensure that the design is converging towards the objectives.

### Requirements Capture

ENOVIA Requirements Central allows users to capture and import requirements from Microsoft Word and Excel® and 2007, and 2010. From Microsoft Word documents, users can manually or automatically parse a chapter structure and requirements by key words and then import them into the ENOVIA database. These requirements are captured from Microsoft Word by highlighting and tagging individual requirements. When capturing requirements from Word, it is possible to import and maintain how the requirements were organized into chapters. The captured data can include rich text formatting, tables, bullets, images, symbols and 3D XML information. Each chapter and requirement imported from a source document is given a unique object ID and organized into a specification structure that is traceable to the respective section in the source document. From Microsoft Excel spreadsheets, users can import requirements from user configurable formats.

After requirements are captured and stored in the ENOVIA database, product teams can use a robust structure navigator and rich text editor to browse, view and modify the requirements without losing any of the original formatting.

### Requirements Analysis

ENOVIA Requirements Central supports the requirements analysis process so that users can review, assess, prioritize, and balance the needs of numerous customers. Requirements can be decomposed from high level requirements into individual detailed low-level requirements so that they can be partitioned and allocated to products and system components. While creating derived and decomposed requirements, design rationale can be captured to maintain design decisions effectively throughout the product lifecycle and provide traceability to the underlying foundation of the original designs.

During the analysis process, users can filter requirements in specifications and compare entire requirement structures or individual requirements to identify changes or deltas. ENOVIA Requirements Central additionally provides the ability to reserve and un-reserve requirements structures to prevent multiple users from making modification simultaneously.

### Requirements Search

ENOVIA Requirements Central has an advanced requirement search capability that allows users to query the entire database based on defined attributes or query for requirements that are included in the context of a requirement specification structure and product revisions.

### Organization Nodes for Very Large Scale Program Support

In order to allow management of many diverse specifications, whose applicability along the different stages of the project may vary a lot, it is now possible to organize those specifications within structuring elements. New grouping nodes will allow to build trees whose specifications will be the leaves.

### Configuration Management

Date effectivities, product revisions and configuration features effectivities are supported on relationships between requirements. This enables to filter requirements based on hierarchical structures holding the requirements as well as to relational linkage between elementary requirements.

Note: "Configuration Features" effectivity requires ENOVIA® Variant Configuration Central™ (FTR).

### Change Management

Once requirements have been reviewed and approved, a requirements specification baseline can be established that prevents a set of requirements from being changed. A baseline establishes a set of agreed upon requirements for all stakeholders to measure performance. Changes to requirements specifications and requirements are inevitable; therefore, specifications and requirements can be revised or versioned as part of a cross functional change process that is managed, auditable, and traceable. ENOVIA Requirements Central provides a choice of change processes. Users gain immediate visibility to change requests when reported and can also review the eventual internal resolution. For simpler changes, a company may choose to use issue management. For more complex changes that affect many downstream processes, a company may choose to use a formal engineering change after an initial issue is submitted. By subscribing to modification events, system engineers stay informed via email in real-time whenever requirements change.

### Requirements Traceability

Requirements traceability maintains the linkages from the source of each requirement through its decomposition to implementation and verification. ENOVIA Requirements Central provides the following traceability reports:

- The requirements validation matrix report provides traceability from requirements to test cases to ensure that every requirement has a test associated for verification and validation purposes.
- The requirements to requirements traceability matrix report provides traceability to other derived and decomposed requirements to ensure that every lower level requirement can be traced to a higher level requirement or original source.
- The requirements fulfillment report provides an overview of the fulfillment progress of requirements to linked product features in the context of their associated products.
- The derivation traceability report ensures a complete system requirement definition by analyzing how requirements have been derived into new requirements and captured in a requirement specification.

In addition, users can navigate from selected requirements to view all parent and children requirements with all related product information. Navigation can continue to derived requirements for a complete understanding of requirement allocation.

## **Requirements to Functional and Logical Traceability**

The captured requirements stored in the ENOVIA database can be leveraged by other ENOVIA products. Users of ENOVIA® System Functional Logical Definition can search for requirement objects and allocate them to functional and logical system elements. Once requirements have been allocated to system elements, a ENOVIA Requirements Central user can generate reports to view these system allocations.

The following are the available reports:

- The requirements to function traceability report provides an overview that all functional requirements are allocated to functions.
- The requirements to logical traceability report provides an overview that all requirements are allocated to a logical component.

## **Document Report**

Some stakeholders will not have access to ENOVIA Requirements Central or just want to read the requirements specifications off-line. ENOVIA Requirements Central provides the ability to download the entire requirement specification structure with all its related rich text and detailed information to Microsoft Word for viewing or printing.

## **The role of ENOVIA V6 and PLM 2.0**

ENOVIA Requirements Central supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 values: global collaboration innovation, single PLM platform for intellectual property (IP) management, online creation and collaboration, ready to use PLM business processes, and lower cost of ownership.



## Delivering Best-in-Class Products



Virtual Product



Information Intelligence



3D Design



Virtual Planet



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### Europe/Middle East/Africa

Dassault Systèmes  
10, rue Marcel Dassault  
CS 40501  
78946 Vélizy-Villacoublay Cedex  
France

### Asia-Pacific

Dassault Systèmes  
Pier City Shibaura Bldg 10F  
3-18-1 Kaigan, Minato-Ku  
Tokyo 108-002  
Japan

### Americas

Dassault Systèmes  
175 Wyman Street  
Waltham, Massachusetts  
02451-1223  
USA

Visit us at  
**3DS.COM/ENOVIA**

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