REQUIREMENTS MANAGER

OBJECTIVE

Requirements Manager 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. **Requirements Manager** provides companies with a central repository of customer needs and the product requirements that satisfy them.

OVERVIEW

Requirements Manager 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. The benefits of **Requirements Manager** are further extended when used with other ENOVIA® and CATIA® solutions to define complex products, including their functional and logical aspects. In addition, as requirements are linked to program and project management activities, full traceability is established throughout the entire development process ensuring that the products that are developed will meet original market goals.

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

• Fully manage the requirements lifecycle from the 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.

HIGHLIGHTS

Customers will benefit from the following key features and capabilities:

Product Planning

Requirements Manager 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 then use this structure to manage the content of each product release for their assigned models.

Requirement Parameters for Product Objectives Setup

Requirements Manager offers the ability to specify objectives thru numerical values associated to the requirements to be met (e.g. mass for total weight, mass for CO_2 produced, percentage of recyclable materials, cost, response time, etc.). Those objectives are available to a 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

Requirements Manager allows users to capture and import requirements from Microsoft Word and Excel® versions 2013 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 **3DEXPERIENCE**® platform. 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 3DXML 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.

After initial capture, changes made on the Word document can be applied incrementally to the specification structure. The Export to Word command allows producing a Word document that is ready to perform such updates thru tags and helpers.

From Microsoft Excel spreadsheets, users can import requirements from user configurable formats. After requirements are captured and stored in the **3D**EXPERIENCE platform, 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 Manager also works with Dassault Systèmes Reqtify™ application suite to import requirements from various data sources. Reqtify interfaces to requirement-related information in a wide variety of data formats and file formats. Supported corporate requirement repositories include IBM-Rational DOORS™ and RequisitePro™, Borland CaliberRM™, and 3SL Cradle™. Supported file formats include common sources of requirements such as Microsoft Word, Excel, Adobe FrameMaker and PDF. In addition, Reqtify can extract requirements from less traditional file sources including UML formats such as ARTiSAN Studio and Enterprise Architect, CAD formats like Simulink, and software files such as C, C++, Ada, Java, VHDL, HTML, XML or ReqIF. After requirements are imported, **Requirements Manager** can use Reqtify to perform incremental updates and traceability analysis between the original requirements source and how they are currently defined.

Requirements Analysis

Requirements Manager 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 effectively maintain design decisions 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. **Requirements Manager** additionally provides the ability to reserve and un-reserve requirements structures to prevent multiple users from making modifications simultaneously.

Requirements Search

Requirements Manager 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. In addition, requirements can be cross-referenced with a folder hierarchy to provide another way to locate items of interest.

Key Benefits:
- Meet standards and regulations by controlling the requirement management process.
- Improve product quality and customer satisfaction with new products that are designed and developed to accurately reflect the voice of the customer.
- Reduce development costs and rework by bridging the gaps between product requirements, design and launch.
- 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.

Configuration Management

Date, product revision, configuration feature, and milestone effectivity values are supported on relationships between requirements. This enables users to filter requirements based on hierarchical structures holding the requirements as well as to relational linkage between elementary requirements. (Note that to apply "Configuration Feature" effectivity, **Product Manager** or **Product Architect** must also be used.)

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. **Requirements Manager** 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 just use issue management. For more complex changes, a company may use an enterprise-wide change management process to update the requirement and the downstream product deliverables from its logical, functional, and physical definition. By subscribing to modification events, users can stay informed via email whenever requirements change.

Requirements Traceability

Requirements traceability maintains the links from the source of each requirement through its decomposition to implementation and verification. **Requirements Manager** 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.

The captured requirements stored in the **3D**EXPERIENCE platform can be leveraged by other apps. For instance, systems engineers can search for requirement objects and allocate them to functional and logical system elements. Once requirements have been allocated to system elements, users 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 **Requirements Manager** or just want to read the requirements specifications off-line. **Requirements Manager** 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.

Collaboration & Approvals

Users can benefit from a wide range of capabilities for global enterprise collaboration. Those capabilities include the ability to manage and organize shared documents and structured product data; they also enable the creation of digital workspaces for virtual teams to work together. Users can easily raise issues, organize meetings and track decisions. Any object lifecycle modifications can be formally approved using routes defined by end-users or from standard route templates.

Microsoft Integration

Users can create and access **3D**EXPERIENCE data from the most popular Microsoft applications: Word®, Excel®, PowerPoint®, Outlook®, Windows Explorer, and Windows Desktop Search. This capability enables enterprise-level collaboration while not disrupting the established productivity of end-users. With product content being managed in **3D**EXPERIENCE rather than on users' PCs, organizations are able to create, manage and review product content more securely.

Our **3D**EXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3D**EXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit **www.3ds.com**.

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