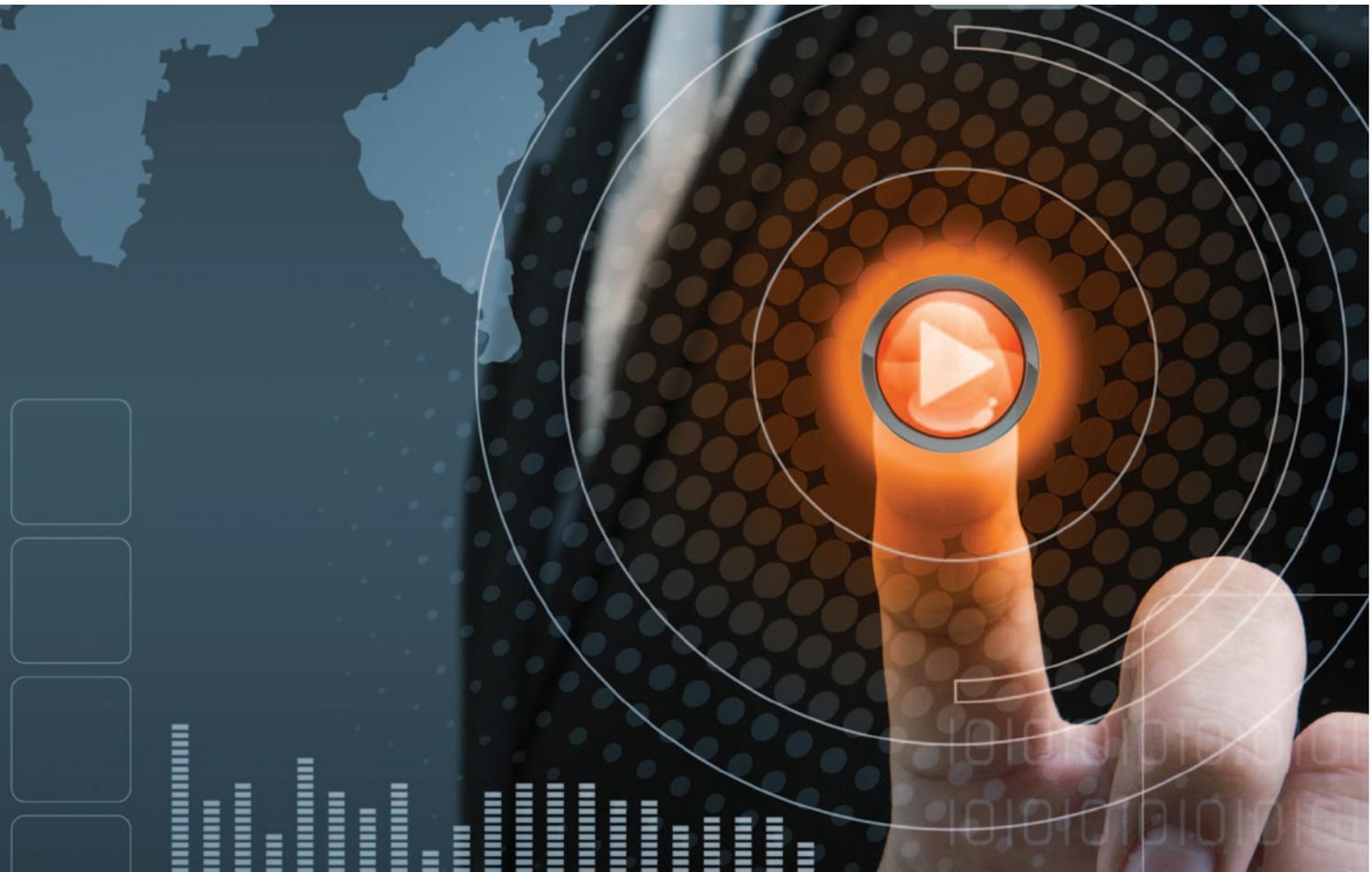


CONFIGURATION

ENOVIA Variant Configuration Central



Maintaining a competitive advantage while quantifying and minimizing the “cost of variety” is a business challenge many companies face today. In a competitive landscape driven by the rapidly evolving needs of technology-savvy consumers, companies recognize that product personalization is critical to business success. However, introducing customization and personalization in existing product portfolios increases development costs and introduces risk. Product managers use ENOVIA® Variant Configuration Central™ to tackle product customization and variety definition early in the “idea” or concept phase of the product development process.

Key Benefits

- Rapidly introduce a family of variant products to market using a logical product structure that allows the reduction in product diversity while still fulfilling market demands.
- Maximize the number of valid configurations available to the market.
- Increase design efficiency of complex configurable products.
- Increase customer acceptance by eliminating invalid product configurations early in the sales process.
- Optimize the design process of highly variant products by allowing design engineers to quickly create an EBOM.
- Maximize part reuse by controlling feature proliferation.
- Communicates product intent across product lines and process domains.

Product Overview

As products become increasingly complex with costly mechanical, electrical, and software capabilities, customers are demanding products that fulfill their unique needs at the lowest possible cost. To stay ahead of the latest innovations and market trends, companies must transition from traditional design processes to an approach that supports the definition of conceptual product architectures for highly variable configurations.

Unfortunately, many companies today have no simple mechanism for designing products that provide high market variation with technical modularity while controlling costs. With ENOVIA Variant Configuration Central, companies can define conceptual product definitions that can be reused across a multiple series of products, satisfy market specifications, and provide many possible optional capabilities. These conceptual product definitions serve as a framework for defining variant products that are configurable and drive the generation of engineering bills-of-material (EBOMs). As a result, companies can expedite the design process and lower costs while meeting customer demands.

ENOVIA Variant Configuration Central enables companies to manage the conceptual and commercial aspects of their products. Product managers define and manage a master option dictionary that standardizes and enforces reuse of option effectivity across products and design. These users leverage a single system architecture definition of the product as a conceptual framework to design and define the customization rules and parts to control custom choices and product costs. This approach to product definition helps companies get new product solutions to market faster, streamline the design process while minimizing design change and reducing development cost.

Companies improve their product introduction process and increase reuse by:

- Bridging the gap between marketing requirements and engineering
- Utilizing common modules across multiple product lines
- Delivering the right products to market as quickly and efficiently as possible
- Standardizing product definition across domains by establishing a master option dictionary with rules to which all processes adhere to

ENOVIA Variant Configuration Central effectively implements product standards throughout the development process, allowing companies to:

- Simplify the order fulfillment process of complex products
- Increase awareness of product options and their marketing and engineering rules
- Reduce order returns or invalid orders
- Offer pre-configured variant products as bundled solutions rather than just products
- Package a full solution early in the concept phase rather than waiting for a customer order

Product Highlights

ENOVIA Variant Configuration Central allows for rapid product configuration and development according to market demand and customer voice. Its key features and capabilities include:

Master Option Dictionary

ENOVIA Variant Configuration Central increases product definition integrity and design efficiency by establishing a single list of features and options with usage rules for all process domains to adhere to. Seamless and immediate access to each model's option list is available to VPM users when configuring any work-in-process structure in CATIA® and DELMIA®, allowing for a consistent option configuration definition across domains.

Product Line Definition

Product lines help product managers organize and manage the company's portfolio of products. Product lines can specify a library of mandatory features and with usage rules inherited by all products without compromising organization security.

Product Planning/Product Evolution

Product managers plan the capabilities that each product must have in order to fulfill the needs of target markets and/or customers. Product managers can now plan the introduction of features and options for a given product using a date range. Each product's adhere to the mandatory usage of the master option dictionary defined by each product line.

Before development starts, product managers plan product releases ("product revisions") that meet market demands and incorporate new technology improvements to stay competitive and respond to customer needs. With ENOVIA Variant Configuration Central, product managers can innovate during the product planning activities by identifying the list of features and options that will be offered and need to be developed for each product release. Product managers can manage concurrently parallel product releases within the same product/model.

Generic Product Architecture

The generic product architecture is a multi-level configurable generic product architecture with 150% components with all possible options from which a range of family of variants can be derived from. Advanced configuration tools help minimize feature proliferation and maximize the reuse of physical parts. This enables companies to support mass customization in their products while facilitating the introduction of new products as well of quickly refreshing existing products with new technology and design content.

Configuration Rules

Configuration rules support different kinds of rules to enable automatic inclusion of components based on configuration options in the definition of the generic product architecture (150%). Simple and complex expressions are supported as well as a wide variety of rules, if-then, Boolean compatibility, resource rules, and variant inclusion rules for both products and parts. Mandatory rules can be defined at any level of the product hierarchy to enforce consistency and control the number of buildable combinations.

Product Variants

Product variants allow companies to reduce diversity by controlling the option variation based on target market, price or technical capabilities. Product sales can configure product variants but the option choices can be limited based on geography or option packages. The generic product architecture is used as a framework to introduce a family of related variant products with specific technical and marketing options.

Product Configurator

ENOVIA Variant Configuration Central helps companies with highly configurable products meet market customization needs. Sales engineers alongside its customers can collect the product customization requirements using a configurator interface. All standard and default option choices are highlighted for the user during the product configuration session. Engineers can use the product configurator for design analysis or feasibility improvements. In addition, system engineers can create partial configurations for further refinement by other functional groups.

BOM Generation

ENOVIA Variant Configuration Central enables system engineers to define a generic variant product architecture that is used as a framework for generating different kinds of BOMs. An EBOM) can be generated based on a specific product configuration for Engineering to Order (ETO) business models. A precise bill of materials (PBOM) is a flat list of parts based on a specific product configuration for build-to-order business models.

During EBOM generation, engineers can preview the selected standard parts based on the selected configuration choices. Engineers can replace standard part selections with custom parts to satisfy custom order demands.

Configured Build Management

Track and plan units ordered for specific product configurations. Product planners have the ability to plan and track the end-item builds for each customer. Product planners can assign unit numbers, serial numbers, SKU/PCU numbers and manufacturing sequence numbers for each unit ordered for a specific product configuration.

Issue Resolution and Change Management

As products enter into the development phase of their project, changes are inevitable but too many changes are cost prohibitive. A cross-functional change process helps system engineers manage and respond to feature changes systematically. ENOVIA Variant Configuration Central provides a choice of change management processes that provide immediate visibility to change requests while maintaining integrity of the original reported problem to the internal resolution.

Configuration Planning for Virtual Manufacturing

With highly configurable products, engineering must consider design alternatives for all product offerings and manufacturing engineers must ensure that product options can easily be manufactured at all manufacturing facilities available to them. Manufacturing planners can now define "Manufacturing Plans" as placeholders in ENOVIA to reference unique alternative process definitions in DELMIA®. Each ENOVIA 'Manufacturing Plan' represents a unique way to produce a product or a sub-system in DELMIA. Manufacturing planners can then apply configuration rules to logically select the proper DELMIA process plan based on configuration criteria. When used with ENOVIA® X-BOM Unit Tracking, the unit numbers (builds) can be associated to Manufacturing Plans for as-manufactured traceability.

Rich Application Programming Interface

ENOVIA Variant Configuration Central includes a rich API dictionary for downstream processes or to satisfy specific customer implementation requirements such as sharing master feature-option dictionary with multiple sales configurators or to satisfy custom reporting needs.

The Role of ENOVIA V6 and PLM 2.0

ENOVIA Variant Configuration Central supports PLM 2.0, product lifecycle management online for everyone, and the ENOVIA V6 values, which are:

- Global collaboration innovation
- Single PLM platform for intellectual property (IP) management
- Online creation and collaboration
- Ready to use PLM business processes
- Lower cost of ownership.



Delivering Best-in-Class Products



Virtual Product



Information Intelligence



3D Design



Virtual Planet



Realistic Simulation



Dashboard Intelligence



Digital Manufacturing



Social Innovation



Collaborative Innovation



3D Communication

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