IBM

Design Chain Management

**Part of IBM's PLM solutions portfolio
enabled by Service Oriented Architecture**

Design Chain Management

What if your business could…

- *Utilize business process management (BPM) to increase the part quality from your design partners and suppliers*
- *Collaborate more effectively with partners and suppliers*
- *Spend less time searching for data*
- *Propagate change and enhancement requests across different design domains and with partners and suppliers*
- *Reduce design changes late in development*
- *Increase business process flexibility and executive level business decision support*

The challenge

In today's highly competitive and dynamic business environment, innovation continues to drive competitive advantage. Enterprises with a vision for the future are beginning to focus, however, not just on product and service innovation, but also on innovating underlying business processes and models. There's no doubt that to succeed in today's always-on markets, key players throughout the extended organization need information to quickly make good business decisions, while maintaining flexibility.

But 25 percent of companies responding to a recent IBM survey say they have at least 15 product information repositories and they estimate that people in their organizations spend at least 20 percent of their time just searching for information. Only one in ten believes their organization has the ability to respond rapidly to changing market conditions.

Meeting the challenges of the marketplace is compounded by the need to operate effectively in a value chain. And delivering the product the market demands requires collaboration among a complex ecosystem of participants.

While product development may extend across multiple companies, more often than not the information required does not. Although a product may have only a single design, hundreds of companies may contribute to it. Each contributor's part may affect every other one, but in the end everything must come together and work.

Participants in this complex value chain may all use different systems for both design and data management, and each partner's activities may rely on information in systems they may not fully control. To add to the challenge and complexity, collaborators in one instance, may be competitors in another.

Meeting the challenge

So how can you get everyone sharing information and working together?

Three key areas must be addressed:
- *Collaboration*
- *Business Process Management (BPM)*
- *Integration*

Collaboration across the extended value chain improves productivity and drives innovation in your business. You know first hand that barriers between disparate systems make it difficult for people in interrelated functions to collaborate. Project participants must be able to access processes and data, regardless of software application or hardware platform and be able to work together while being geographically dispersed.

Business Process Management, a discipline that combines software capabilities and business expertise to accelerate process improvement and facilitate business innovation, provides orchestration to the overall process. It allows visibility into status, and provides formal mechanisms for organizations just like yours to communicate.

Integration connects disparate systems throughout the value chain and provides access by all stakeholders to the information they need to design their part of the product. Agility, flexibility and reliability are key attributes of a globally integrated enterprise. To realize these capabilities, vertical business silos with their associated data must be integrated to enable collaboration among disparate communities.

Solutions

For product designers and manufacturers who need improved product development collaboration, increased business flexibility and executive level business decision support, Design Chain Management enables manufacturers to distribute the product design and development process across the extended value chain. It is supported by IBM's Product Development Integration Framework (PDIF) and built using Service Oriented Architecture (SOA).

Combining PLM with SOA enables a business-centric view of your enterprise that orchestrates functions in terms of people, processes and information and delivers the flexibility required to power innovation. SOA allows your business and its partners and suppliers to more easily link and share PLM product data with information from other enterprise systems, including ERP, CRM, parts management solutions, manufacturing planning systems and in-field service management solutions.

With Design Chain Management solutions based on an SOA-enabled framework, integration is achieved through a federated information mechanism that all applications can access and share. Business processes exist independent of specific applications and can be viewed and accessed by all companies participating in the product development value chain, while portals provide access and visibility to all business processes relevant to individual users and their roles.

IBM is focusing on four key design chain management capabilities which combine software & hardware technologies as well as the integration services and business process management expertise to better equip a business to be more innovative and competitive:

- *Enterprise Engineering Change*
  Enables a streamlined change process that can span multiple applications and business partners' systems (including PDM to PDM, PDM to ERP, Simulation Data Management to PDM, and Requirements Management to PDM). Applies open standards definition of PDM data and processes for change orders, requests, notices, approvals, etc.

- *Integrated Product Change Management*
  Synchronizes the change management process across the electrical, mechanical and software engineering disciplines by integrating the software delivery platform for systems with your product data management system.

- *Decision Support and Collaboration*
  Enables one-to-one and one-to-many collaborations for ad-hoc and formal design reviews among stakeholders with access to product data from sources across the PLM environment (PDM, simulation requirements, etc.).

- *New Product Introduction*
  Enables the process of releasing and synchronizing updates of BoMs and product data continuously as opposed to batch operations across multiple systems, so that the latest and most accurate data is available to engineering and manufacturing.

IBM's Design Chain Management technology and process infrastructure enables the integration of new and legacy applications and processes, and facilitates collaboration, which:

- *Delivers the right information— saves engineering time and speeds development time through improved data consistency and quality.*

- *Ensures product build is aligned with engineering and enables robust integrated change management.*

- *Allows for better designs the first time, through improved collaboration.*

- *Maximizes the value of existing PLM and enterprise solution investments, extending existing capabilities and avoiding costly product development tool and systems replacement projects.*

To learn more about IBM Design Chain Management solutions, visit: **ibm.com**/solutions/plm/pdif

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