IBM

WebSphere® software

IBM Product Lifecycle Management Content Pack for WebSphere Business Process Management

---

Highlights

■ *Accelerates the deployment of innovative new products and services by extending and transforming product lifecycle management (PLM) processes*

■ *Enables business users to rapidly develop new business processes and make concurrent changes with governance that have minimal impact on IT— while reusing and sharing current IT assets*

■ *Promotes reuse of IT technology by delivering pretested, precertified assets based on industry standards for industries such as automotive, electronics, aerospace and defense, and industrial*

■ *Supports and maintains unique business needs because it is extensible and configurable*

■ *Enables enterprise-wide policy changes to be replicated concurrently across all applicable processes by storing and acting upon formerly hard-coded individual process attributes in an IT-governed, easily updatable database and runtime environment*

■ *Helps decrease maintenance costs by providing consistency of process, services and data definitions across multiple processes*

■ *Uses business-defined vocabulary and tasks to enable the assembly of existing and new IT assets into business services— discrete business functions based on service oriented architecture (SOA)*

■ *Provides PLM process support based on leading industry standards including product data management, engineering change management, bill of material management and supplier collaboration*

Combating complexity in product lifecycle management

You probably know that the ecosystem for developing and delivering a product is complex. Therefore, a comprehensive system to support product development must include the tools, applications, IT and manufacturing systems to support company business processes and data that span the full lifecycle of a product—from initial concept through the end of the product's life.

A well-implemented PLM system allows your company to create new and innovative products. It also allows you to assess functional capabilities and your ability to satisfy market demands—even in the early stages of product development. It also helps you to create detailed engineering and manufacturing designs and to support the maintenance and changes to the product throughout its service life.

How your company implements and manages PLM can affect your strategic ability to be competitive in the marketplace. However, a complete PLM system is not something a company can buy off the shelf. Frequently, applications and authoring tools used within the PLM system can be purchased from multiple software vendors. The same is true for the computing and networking platforms on which they run. The PLM landscape typically grows through the introduction of different systems or applications over many years. Some of these are developed within the company, and others are introduced through corporate acquisitions of other business units or companies.

To compound this complexity, your PLM system must extend to your network of design and production partners—particularly as more original equipment manufacturers (OEMs) transfer up to 70 percent of the product design and manufacturing to partners or suppliers. Extending your product development processes through the extended value chain requires integration of information and processes. Your company must align the overall IT landscape to enable innovation from all the stakeholders involved in contributing to the product.
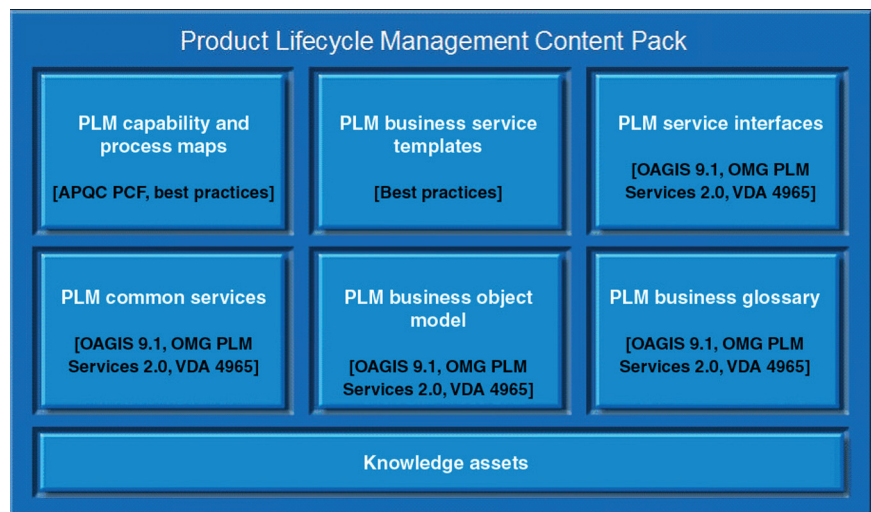

Figure 1: Product lifecycle management content pack

Another contributor to the complexity of PLM is that its scope has expanded beyond engineering. Rather than simply developing and selling a product, companies are achieving their performance targets by capturing and addressing the full range of customer requirements and market needs for a product across its complete lifecycle. Furthermore, governments have become more involved in legislating responsibility for a product through retirement or disposal by imposing regulatory and environmental constraints.

The need for a more integrated and collaborative PLM environment is also being driven by the increased electronics and software content of today's products. The ever-increasing complexity of mechanical, electronics and

software content requires a systems engineering approach to product development. The necessary business transformation needed to achieve a product development approach (based on systems engineering practices and methodology) requires that you manage business processes and information in context from one end of the business to the other. This requires an end-to-end collaborative and integrated PLM environment.

In summary, PLM must address the full scope of the product lifecycle, from the initial idea in portfolio planning to structuring and development of the product, through testing and interacting with marketing, sales and finance, through

service of the product in the field, until product retirement or disposal—implemented across a heterogeneous environment of worldwide stakeholders, all potentially using different product development and enterprise applications.

How WebSphere Business Process Management can help you manage this complexity

To manage the complexity of distributing product development within a globally integrated enterprise, you must have an infrastructure that supports distributing a complex business process across disparate enterprise applications. Such an infrastructure is enabled by Services Oriented Architecture (SOA), which allows you to create software components (services) that perform business functions. These services can be combined to create composite applications that deliver PLM functionality.

This SOA infrastructure is provided by IBM WebSphere® Dynamic Process Edition (WDPE), a dynamic platform for delivering BPM (Business Process Management) solutions. IBM WebSphere Business Services Fabric, at the core of WDPE, allows your business to adapt and respond dynamically to change with SOA-based business processes—while reusing and

sharing existing IT assets. It also helps your IT infrastructure to respond at the speed your business needs to solve pressing problems, take advantage of changing business conditions, and even save IT effort and money.

Added value with standards-based PLM SOA assets

The IBM PLM Content Pack is a key offering of the Product Development Integration Framework, an industry-specific architecture from IBM that provides and enables reusable assets and guides users in performing tasks quickly and reliably. By using the prebuilt SOA assets in the IBM PLM Content Pack, your business can accelerate the assembly, compliance and reuse of PLM-specific business services.

The IBM PLM Content pack provides added value by:

- *Providing prebuilt industry content fashioned on the WebSphere BPM platform*
- *Simplifying the consumption of industry standards in an SOA environment*
- *Offering reusable SOA assets based on PLM standards*
- *Providing consistency across industry lines of businesses and processes*
- *Supplying you with a governing architecture to manage and extend your content*

The assets within IBM PLM Content Pack are interoperable and share common reference architecture to ensure credible governance as you develop SOA solutions. Beyond addressing IT concerns, these assets are also designed to align business objectives with IT efforts and include:

- **Capability and process maps:** *These maps are based on the American Productivity and Quality Center (APQC) process classification framework (PCF) model and PLM best practices, and they can be customized to your specific needs. The maps guide the decomposition of your existing PLM business functions into business capabilities and processes mapped to services. This mapping reveals how SOA solutions enable reuse and consistency across the business.*
- **Business service templates:** *Once you have decomposed your capabilities, you need to define the business functions to assemble reusable business services. These business service templates help you use your existing IT applications to create new business processes. The definition and granularity of PLM business service templates is based on the capability and process maps, the application ecosystem, and applying SOA principles and methodologies for granularity of services.*

- **Service interfaces:** *Now that you have identified the reusable building blocks or business services, you need service interfaces that can interoperate with the existing IT functions. The PLM service interfaces are based on Open Applications Group Integration Specification (OAGIS) 9.1, Object Management Group (OMG) PLM Services 2.0, Visualization and Data Analysis (VDA) 4965.1 and 4965.2, and IBM's best practices for the PLM industry.*

- **Common services:** *In an SOA scenario, an enterprise needs a set of common transaction functions that help process transactions such as bulking, de-bulking, validation, error identification, and transformation, and that can be reused across multiple solutions. Like the PLM service interfaces, PLM common services are based on OAGIS 9.1, OMG PLM Services 2.0, VDA 4965.1 and 4965.2, and best practices for PLM.*

- **Business object model:** *When you need to create new operational data stores or physical data models, a conceptual domain model, called a business object model (BOM), is needed. The PLM BOM is derived from OAGIS 9.1, OMG PLM Services 2.0, and VDA 4965.1 and 4965.2.*

- **Business glossary:** *SOA solutions require business metadata such as definitions of roles, channels, conditions, policies, rules, events and other information. All these definitions are typically inconsistent across various projects. The business glossary ensures reuse and consistency of PLM business terms using a common vocabulary that is extensible. The PLM business glossary is derived from OAGIS 9.1, OMG PLM Services 2.0, and VDA 4965.1 and 4965.2.*

- **Knowledge assets:** *Additional resources help you use and extend the content pack assets. These include a reference architecture guide, a how-to guide, a developer's guide and a PLM reference implementation.*

An open and customizable solution

The IBM PLM Content Pack is extensible and open for configuration and customization based on your organization's key business processes. With WebSphere Business Services Fabric, your company can optimize its business processes and maximize its efforts to provide unique value to your customers and partners.

Start small and expand process transformation at your own pace

Whether the business outcome you seek involves small refinements to business processes—such as automation—or a complete reengineering of a process, IBM can support your goals. You can begin by focusing on a discrete business process area and then reusing those processes within other areas. Or, you can take dynamic process management a step further, to process transformation. The cohesive set of capabilities and best practices in dynamic process management can spur a quantum leap in your ability to respond quickly and effectively to change and business needs, resulting in an agile enterprise. This support is available through the market-leading offering, IBM WebSphere Dynamic Process Edition, with WebSphere Business Services Fabric at its core.

A cornerstone offering in the IBM Business Process Management Suite, WebSphere Dynamic Process Edition enables you to continuously—and dynamically—optimize your

business processes. The software also helps you better align IT with the business, by sharing, discovering and reusing business processes to:

- *Provide powerful simulation and rapid-deployment capabilities to help you optimize processes and continually refine them over time. You can employ process best practices to reuse or share existing resources and simply configure necessary changes when needed.*
- *Enable end-to-end process insights and make process changes in real time. This means increased process visibility, tracking and monitoring that foster collaboration between your business and IT.*
- *Facilitate process change through configuring business service policies instead of recoding applications—unlike offerings from other vendors.*

You can incrementally implement your ongoing business transformation and optimization efforts with confidence, fully supported by IBM software, services, accelerators and deep industry knowledge. IBM offers unmatched expertise, complete with market-leading business process management and SOA methodologies, a wealth of consultants and services, and the industry's largest business process management partner ecosystem. WebSphere Dynamic Process Edition with WebSphere Business Services Fabric empowers business and IT to collaborate to achieve innovation, greater market share and a stronger competitive foothold.

For more information
To learn more about IBM WebSphere Business Services Fabric, IBM PLM Content Pack and system requirements, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web site:
ibm.com/software/integration/wbsf

To learn more about IBM WebSphere Dynamic Process Edition and system requirements, please contact your IBM marketing representative or IBM Business Partner, or visit the following Web site:
ibm.com/software/integration/wdpe

Additionally, IBM Global Financing can tailor financing solutions to your specific IT needs. For more information on great rates, flexible payment plans and loans, and asset buyback and disposal, visit:
ibm.com/financing

IBM®

Recyclable, please recycle.

WSD14033-USEN-00