

## Frequently Asked Questions

### PTC's Fall Launch

#### Collaborative Product Commerce

##### **Q. What is collaborative product commerce?**

- A.** In their October 7, 1999, Market Viewpoint, the Aberdeen Group defines Collaborative product commerce (CPC) as “a class of software and services that uses Internet technologies to permit individuals—no matter what role they have in the commercialization of a product, no matter what computer-based tools they use, no matter where they are located geographically or in the supply net—to collaboratively develop, build, and manage products throughout their entire lifecycle.”

##### **Q. What technologies are found in the CPC category?**

- A. Federated, webcentric technology is essential in the CPC space. Solutions that provide this technology can deliver the key capabilities for finding, managing, and using information.**

- **Technologies required for finding information**

First, it must be possible to find, access, and interact with the relevant elements of product development information from the various sources where it currently exists. Many companies have a multitude of existing product development information systems where they store everything from part numbers and bills of materials (BOMs) to engineering change orders (ECOs), documents, and CAD files. The need to find all of this information translates into a strong requirement for enterprise application integration (EAI) technologies; however, unlike conventional EAI offerings, the focus here is on Web-based XML and/or HTML approaches that work well with “green screen” legacy systems, modern databases, and everything in between.

- **Technologies required for managing information**

After finding the information, it is necessary to manage it effectively. This entails managing versions of information and relationships between information elements as well as automating and managing process-related interactions. A good example is to connect an online engineering change order (ECO) from one system to affected part numbers and CAD documents in other systems, then to drive the ECO-processing activities with automated workflow and e-mail. From a product development perspective, a common goal of a CPC system is to use these techniques to build a master product structure with bidirectional, Web-based connectivity into the existing business systems and then to manage it. The need to manage it translates into a strong requirement for a federated data model, that is to say, a system that is capable of managing data references for information that remains sourced in external databases.

- **Technologies required for using information**

Web browsers provide an obvious means to deliver and use information among a range of constituents within the company and extended enterprise. However, there is an extra challenge with information related to product definition, because this information is comprised largely of nonstandard-format drawings, models, assembly models, schematics, technical specifications, documents, and multimedia application data. It simply isn't adequate to transform this information to

one of the standard bitmap formats that the browser can handle because the richness of the data is lost and the users cannot achieve their intended objectives. To understand a product definition model, for example, users need the abilities to interactively zoom or rotate, to measure and cross-section, and to inquire the properties of any selected component. Irrespective of the comparatively costly and complicated application that originally authored the data, they need to be able to visualize and interrogate the resulting deliverable. The need to use it translates into a strong requirement for a multiformat, Web-based, product data visualization offering.

**Q. How is CPC different from product data management?**

- A.** Product data management (PDM) solutions target primarily the designers, engineers, and manufacturers within an engineering department as a tool to manage and store released design data. Traditional PDM systems deploy new databases that focus on CAD file management—with an emphasis on vaulting and version control—and provide rigid processes to manage changes. Such systems are a valued asset for some but do not address the breadth of requirements of today’s interenterprise community who use the Internet to collaborate around product development, manufacturing, and service.

The vaulting and change management functionalities of PDM remain important components of a CPC solution; however, CPC represents a much broader concept. CPC encompasses the many existing submarkets that provide point solutions throughout the product and process lifecycle, including project management, requirements management, PDM, virtual product development management (VPDM), component and supplier management (CSM), computer-assisted process engineering (CAPE), CAD/CAM/CAE, MRO, ERP integration, and document management and visualization. With its far reaching influence, CPC provides new opportunities for organizations and changes the business playing field for management, enabling them to be move from a commodity to a customized product focus.

From a technology perspective, CPC solutions are also quite different than traditional PDM solutions. They manifest themselves in the form of Web-based portals that allow the myriad of users to participate in activities related to product development by enabling them to access, manage, and use the relevant product information that exists in new and legacy product information repositories throughout the enterprise.

**Q. What has driven the emergence of CPC?**

- A.** Manufacturers who want to stay competitive must deliver customer-tailored goods faster and at more competitive prices. At a time when an organization’s assets have become more dispersed, suppliers contribute between 40 and 70 percent of a given product, and partners and suppliers are changed opportunistically. Being able to interact and collaborate with a broad spectrum of participants on a dynamic basis greatly enhances a company’s ability to increase innovation and advance its competitive advantage.

- **Business drivers**

- the need to get closer to customers, suppliers, and development partners so as to respond in a more timely manner
- the need to support a changing discrete manufacturing and delivery model that can support the transition from mass production to mass customization
- the need to obtain product advisory input from employees, customers, and suppliers

- the need to involve in the product and process lifecycle as many enterprise resources as possible, including engineering and design, manufacturing, quality assurance, marketing, sales, field support, procurement, customer services, human resources, legal, and professional services
- the need to work in a more collaborative environment
- the need to interoperate with existing and legacy systems such as ERP, SCM, CRM, CSM, PDM, MRO, and others
- **Technical drivers**
  - the need to take advantage of the Internet's global accessibility and connectivity
  - information access must have location transparency and support working with structured and unstructured data
  - heterogeneous engineering authoring tools must be supported independently and in a collaborative work environment
  - individual repositories of information must be able to be separately supported and maintained using native tool sets
  - casual viewers must have access to product information with the tools familiar to them

**Q. Who else competes in this category?**

- A.** No single company provides all the necessary capabilities to compete in the CPC market. Some offer point solutions that address portions of CPC, but PTC provides the broadest solution today that most closely satisfies the technical and business requirements that define CPC.

**Q. What is the growth potential for this market?**

- A.** According to Aberdeen Group and GartnerGroup, CPC is one of the fastest growing and most important emerging markets for discrete manufacturing organizations. Similar to ERP, CPC is a compilation of many submarkets, including PDM, VPDM, visualization, document management, CSM, CAD/CAM/CAE, CAPE, product planning, requirements management, and MRO. As a result, CPC is expected to grow to become much larger than all of these submarkets combined.

**Q. Can PTC deliver such a breadth of solutions?**

- A.** Yes! With its latest release of Windchill<sup>®</sup>, combined with the PTC *i*-Series and the integration of auxillium inc. and Division Group plc acquisitions and the Tecnomatix Technologies Ltd. strategic partnership, PTC provides the most complete solution for CPC today.

**Windchill Release 4.0**

**Q. What's new in Windchill Release 4.0?**

- A.** Windchill release 4.0 delivers 17 new modules and introduces the Windchill Factor! e-Series<sup>™</sup>, which provide comprehensive e-business solutions for CPC. Additionally, significant enhancements have been made to existing Windchill products, including Windchill Foundation, Windchill PDM, and the Pro/INTRALINK<sup>®</sup> and Pro/PDM Gateways.

**Q. How does Windchill fit into the overall IT strategy of a particular business?**

- A. The Windchill Factor! e-Series offers a federated product and process model based on technologies that allow CPC constituents to find, manage, and use information. Applications don't have to be replaced and information does not have to be rehosted. Similar to CPC, Windchill embraces diversity by providing the technology that seamlessly knits different information sources together and presents the information logically to members of the extended enterprise. This powerful capability allows companies to make strategic decisions regarding the retirement, consolidation, and maintenance of their historical IT investments by providing access to valuable product information stored in a variety of repositories.

Additionally, by incorporating standard Web technology, such as Java®, search engines, HTML, XML<sup>1</sup>, HTTP, e-mail, hyperlinks, and RMI, Windchill puts companies in a better position to take advantage of emerging Web technology and their existing intranets and extranets.

**Q. What are the solutions available within the Windchill Factor! e-Series?**

- A. The Windchill Factor! e-Series gives manufacturers the competitive edge they need. Its Web-based approach allows them to bring customers, partners, and suppliers into the product development process. With this collaborative effort, manufacturers can create innovative new products, deliver those products to market faster, and manage the complexities of an evolving supply chain.
- **Collaboration Factor!** creates an interenterprise collaborative environment for the sharing and visualization of valuable product and process knowledge, regardless of where that information resides or what format it is in.
  - **Product Planning Factor!** enables companies to meet the increasing demand for customer-tailored products by providing the means to define flexible engineered-to-order products, supply customer-specific portals, and easily identify existing variation for reuse.
  - **Engineering Factor!** optimizes the product innovation and design environment to reduce concept-to-design cycle times and improve product team collaboration.
  - **Sourcing Factor!** gives manufacturers the ability to reduce global procurement and product development costs by standardizing and consolidating part and supplier information.
  - **Product Management Factor!** creates a common product representation, with various bills of materials (BOMs) and effectivity and eliminates information latency and the need to reenter data at different stages in the product lifecycle.
  - **Manufacturing Planning Factor!** integrates a company's product development and design with its manufacturing processes.
  - **Production Factor!** integrates Windchill with market-leading enterprise MRP/ERP systems.
  - **Customization Factor!** lets manufacturers rapidly create and deploy customized Windchill lifecycle applications.

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<sup>1</sup> Windchill Foundation contains the IBM XML Parser for Java Edition and the IBM LotusXSL Edition.

**Q. How do Windchill Foundation, Windchill ProductView, and Windchill Info\*Engine fit in the Windchill Factor! e-Series?**

A. The Windchill Factor! e-Series is supported by the Windchill Collaboration Factor!. Consisting of Windchill Foundation, Windchill Info\*Engine, and Windchill ProductView, this solution creates an interenterprise collaborative environment for finding, managing, and using valuable product and process knowledge, regardless of where that information resides or what format it is in. The Windchill Collaboration Factor! allows members of the extended enterprise to easily participate in any phase of the product lifecycle, resulting in higher quality products and accelerated time to market. Products within this solution have been considerably enhanced with this release.

**Q. How does Windchill EPM, recently announced in Release 3.0, fit in the Windchill Factor! e-Series?**

A. Previously introduced with Windchill Release 3.0 as Windchill EPM, the Windchill Engineering Factor! optimizes the product innovation and design environment to reduce concept-to-design cycle times and improve product team collaboration. This release introduces the following:

- Five Workgroup Managers, all providing management of CAD files directly within Windchill:
  - Workgroup Manager for Pro/ENGINEER
  - Workgroup Manager for CADD5
  - Workgroup Manager for AutoCAD
  - Workgroup Manager for CADAM
  - Workgroup Manager for Helix
- Optegra® Gateway, providing connectivity between Windchill and Optegra.
- Enhancements to the Pro/INTRALINK Gateway

**Q. Does Windchill Release 4.0 automatically ship with the entire Windchill Factor! e-Series or can you purchase specific solutions within the e-Series?**

A. All Windchill customers with active maintenance contracts will be shipped Windchill Release 4.0 automatically. These customers are entitled to use any products for which they are licensed and the enhancements made to those products with this release. To obtain capabilities within any of the new solutions of the Windchill Factor! e-Series, customers must purchase the new products of interest.

**Q. What business needs are addressed with the Windchill Factor! e-Series?**

A. The Windchill Factor! e-Series creates an interenterprise portal of product and process information. This solution series gives companies the ability to strategically decide which of their many systems they want to retire, maintain, or consolidate by allowing them to connect and leverage these systems to one another to create a complete product picture.

These solutions also facilitate collaboration among customers, suppliers, and partners to help companies meet all their business initiatives, including customer-driven design, engineer-to-order practices, leveraging of supplier innovation, and strategic sourcing—all through a Web-browser.

Finally, Windchill improves product and corporate agility, resulting in new business opportunities as well as the ability to opportunistically change the mix of suppliers and partners and support design/anywhere build anywhere practices.

**Q. Who are the target users of the Windchill Factor! e-Series?**

- A. The Windchill Factor! e-Series CPC solutions are geared for manufacturing companies, their partners, and their suppliers. Organizations within these extended enterprises that will attain the most value from these solutions are those which have any interaction with product information. This includes but is not limited to marketing, engineering, project management, procurement, manufacturing, production, or technical publications.

**Q. How does the Windchill Factor! e-Series tie into a business' ERP, supply chain, or customer management initiative?**

- A. CPC operates within an e-commerce environment as the command center of a company by sharing important and current product information with enterprise resource planning (ERP), supply chain management (SCM) and customer resource management (CRM), making these business initiatives even more valuable. The product definition emanates from CPC. For example, CPC can provide as-planned manufacturing planning information to ERP and receive costing information back from ERP. CPC ensures that CRM systems actually know which products are available for sale and which are still available for service.

**Q. How does the Windchill Factor! e-Series differ from other offerings?**

- A. Several companies offer products targeted at submarkets within CPC. For example, Agile, EAI, and Centric represent companies who focus on niche submarkets that are subsumed by CPC. The Windchill Factor! e-Series provides the broadest range of solutions for CPC. These federated, Web-based solutions put PTC far ahead of its nearest competitors.

**Maturity**

**Q. PTC's strategy is to integrate the entire product and process lifecycle management process. With the introduction of Windchill Release 4.0, how far along is PTC in realizing that vision?**

- A. With this release, PTC has realized this vision by introducing eight solutions that leverage an impressive 17 new modules, delivering value across the product lifecycle. These solutions meet the needs of organizations ranging from product planning and engineering, to procurement, configuration management, manufacturing planning, and release-to-production. With the Windchill Customization Factor!, companies can rapidly create and deploy customized Windchill lifecycle applications that capture proprietary knowledge and take advantage of emerging Internet technology, thus safeguarding their leadership status.

**Q. How many Windchill customers do you have now?**

- A. PTC is actively engaged in over 320 Windchill implementations in various industries including aerospace, automotive, heavy equipment, electronics, and networking products.

**Q. How many of PTC's customers have progressed from pilot implementations to production?**

- A. The unique implementation benefit that Windchill offers is the ability to deploy systems into production quickly. To complement this benefit, PTC has developed a rapid, evolutionary implementation

methodology. The methodology focuses on implementing production Windchill applications in an incremental fashion. During the last three months, PTC has seen a significant number of pilot customers move applications into production. As these production implementations are put in place, additional Windchill implementations can be integrated easily using federation or existing implementations can be expanded by extending the data model and employing the PTC methodology.

Many customers have completed successful proof-of-concept projects and are now moving into the subsequent phase of production usage. Examples of customers using Windchill in production include Babcock & Wilcox, BMW Rolls-Royce, British Aerospace, Ingalls Shipbuilding, Lockheed GES, PTC, and Timberjack, with a host of other customers planning for production deployment within the next three months, including Federal Mogul, Hutchinson Technology Inc., and NEC.

## **Packaging and Availability**

### **Q. Describe Windchill Release 4.0 packaging.**

**A.** The Windchill Factor! e-Series is a comprehensive suite of e-Business solutions for CPC. Each solution leverages a set of individual Windchill products that are available on an enabled user basis. The end users for each product within a solution are often different based on their responsibilities and will often result in a different number of units sold per organization. For example, the Windchill Product Planning Factor! is made up of 3 products: the Configuration Modeler, the Order Generator and the Product Register. Typically, the Configuration Modeler would be used by an engineer or marketing representative to define the configuration logic for a product. The Order Generator would be used by customers or sales engineers to define specific product configurations. The Product Register would be used by a requisition engineer to determine the work necessary to deliver the product. Each Windchill Factor! contains the products necessary to address a specific business need, while enabling customers to select the appropriate volume on an a-la-carte basis for their requirements.

### **Q. When will Windchill 4.0 be available?**

**A.** Windchill Release 4.0 will be available within the next 30 days.

### **Q. Can existing Windchill customers upgrade to Windchill Release 4.0 for free?**

**A.** All Windchill customers with active maintenance contracts will automatically be shipped Windchill Release 4.0.

### **Q. Windchill Release 3.0 was shipped only a few months ago. Is Windchill Release 4.0 just a repackaging of existing products or are there new components/products?**

**A.** No. While PTC has done some rebranding around the name Windchill, this release introduces 17 new modules and many significant enhancements to previously available products.