PTC Announces their Next Generation CAD Platform

CIMdata Commentary

PTC today (28 October 2010) unveiled its new next generation computer-aided design focused product suite embodying advanced flexible design capabilities developed under the code name Project Lightning. The new suite, conceived and developed as an improvement on traditional CAD product design techniques, is named Creo™. Given today's preview, CIMdata feels that PTC has made a significant step forward in providing flexibility in how designs can be created and modified. Creo eliminates some of the problems that currently inhibit shared design activities by providing:

- Support for both parametric and direct modeling paradigms that can be used in collaborative design environments and lets users work in whichever mode they find comfortable and most efficient
- Direct modeling that helps less experienced users make changes to parametric models that typically required more expert users who understood how a parametric design was created
- Interoperability among three modeling paradigms—parametric, direct, and assembly
- Avoidance of technology lock-in that makes it difficult to change CAD or use multiple CAD solutions
- Embedded assembly modeling in which parts can come from any CAD source that may or may not be parametric and which supports complex configurations

Creo encompasses a suite of tools that provide flexibility in CAD design by enabling designers to use either parametric modeling (PTC's Pro/ENGINEER approach) or direct modeling (PTC's CoCreate approach) or both within the same design. A design can be created in either paradigm and then edited in either as well. The suite's underlying common data model is based on an expansion of PTC's existing ProductView visualization technology that is embedded in Creo. This common format allows designs from many different CAD environments to be imported into Creo for further editing and inclusion in assemblies. PTC has stated their intention to open access to the Creo format so that other companies can use it in their products. For example, a third-party CAE solution supplier could use this format to allow Creo data to be used directly within their simulation and analysis tools.

Four key concepts characterize this new product suite:

• AnyRole Apps—provide adaptable user interfaces, context sensitive and right-sized for different user types. They support customizable user interactions and are able to use CAD data directly in the underlying common data model.

- AnyMode Modeling—flow data among 2D, 3D and parametric design paradigms all in the same CAD design, and allow users to modify data across modes—preserving parametric and other intelligence in the data throughout round trips.
- AnyData Adoption—provides a data compatibility layer that supports importing data regardless of CAD source via ProductView's data import capabilities. When

CAD data is managed in Windchill, the ProductView viewable format is automatically generated on check-in.

- AnyBOM Assembly—provides bottom-up and top-down assembly design using a Visio-like graphical interface to navigate through and select parts to build very complex configurations.

Creo is not a single application. It incorporates capabilities from PTC's traditional design tools, ProductView, PRO/ENGINEER and CoCreate. They will be updated to be part of the new solution suite and will be renamed, creo elements/view, creo elements/pro and creo elements/direct respectively. PTC has stated that they intend to begin releasing Beta versions of the first of these new products in the spring of 2011 and plan general availability of customer releases during the summer.

While many of the concepts incorporated in Creo already exist in some form in various products, the Creo product suite is a major departure for PTC—the company that brought the first viable 3D parametric modeling capability to the industry. They have recognized the users' need for enhanced flexibility in design methods and the benefits that this new capability can deliver. Their acquisition of CoCreate and its direct modeling solutions has undoubtedly influenced them greatly. CIMdata is very pleased to see PTC's recognition that parametric and direct modeling design methods can coexist and provide important benefits to product designers. Furthermore, CIMdata believes that when PTC's Creo product suite is fully realized, it will represent a major step forward in the evolution of their CAD and product design capabilities and help their customers be more productive.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. Visit http://www.CIMdata.com for more information.