Product Lifecycle Management by Oleg Shilovitsky

Interoperability will play a key role in a success of future CAD/PLM

Data. Conversion. Interoperability. Translation. The discussion about these topics is endless in CAD/PLM world. Customers are looking for interoperability between different product versions, competitive products, data models, data formats, databases and geometrical kernels. Customers were always first impacted by problems of interoperability. The lifecycle of engineering and manufacturing work is longer than typical lifecycle of product version or even engineering IT solution. Technically, data interoperability is a complex problem. It is not easy to solve, even if you are want to do so. Evan Yares recently posted an interesting article about interoperability – CAD Interoperability today (http://www.designworldonline.com/cad-interoperability-today/). Interoperability plays an important role in product lifecycle applications in large OEMs and Supply Chain (http://gpdisonline.com/index.html).

Until now, the perception was that customers are most impacted from data interoperability problems. It was true until very recently. However, I can see some new trends and changes in this space . Consumerization, BYOD and cloud trends are introducing new elements and aspects in product development roadmaps. CAD/PLM vendors are forced to think about cloud and mobile development as well as potential disruptive competition coming from newcomers and other vendors. New design applications become more granular and focusing on a specific functionality or target customers. Two examples of recent announcements are Autodesk Fusion 360 (http://usa.autodesk.com/adsk/servlet/pc/index?id=20884205&siteID=123112), SolidWorks Mechanical Conceptual (http://blogs.solidworks.com/solidworksblog/2013/01/introducing-solid.html). These application were born to co-exist with old products. Existing products won't retire tomorrow. The ability to re-use data with existing product lines such as Inventor (for Autodesk) and SolidWorks (for Dassault) and other CAD packages will be vital for success of new products. I've been reading GraphicSpeak – SolidWorks Mechanical Conceptual introduced but not delivered (http://gfxspeak.com/2013/01/25/solidworks-mechanical-conceptual-introduced-but-not-delivered/) article earlier today. Randall Newton is talking about the product SolidWorks Mechanical Conceptual (SWMC) announced by SolidWorks during SolidWorks World 2013 (http://www.solidworks.com/sww/) in Orlando last week. SWMC is build on top of Dassault 3DEXPERIENCE (http:/) platform. I found the following passage interesting:

Reading between the lines, so to speak, of what was said at SolidWorks World, it seems two critical challenges remain before SWMC will be a selling product. It must prove to be fully and seamlessly interoperable with SolidWorks, and it must be more cloud-based. Interoperability has always been a significant challenge in the 3D CAD industry. 3D kernels are complicated. Dassault's 3D Experience platform uses the CGM 3D kernel; SolidWorks uses the Parasolid 3D kernel from Dassault's rival Siemens PLM. Completely accurate automated moving of files from Catia V5 and V6 is not commonly possible, and they share the same 3D kernel. Most of us can only imagine the complexity of moving between CGM and Parasolid.

Granularity is one of the most trending topic these days. Everybody are thinking about Apps. Company are moving away from developing heavy and complex product suites towards granular applications. Al Dean of Develop3D wrote an interesting article about granularity few years ago – Why granularity is going to rock your future… (http://develop3d.com/blog/2010/03/why-granularity-is-going-to-rock-your-future) This is my favorite passage:

There are two things that might influence this and push us into further levels of explicit detail and granularity. The first is the 'cloud' (yes, I broke my own rules). When you're working on a system that's remotely located on a server, whether that's over your internal network or across the wider web, you'll need to manage and exchange finite packets of information, features, sketch entities and such. To do that, you need to manage and keep track of those individual parcels of data and oackets of change. That's going to require a level of granularity that's way beyond what most data management systems are currently capable of. Consider what would happen when you start to work on today's products, in a highly collaborative environment, where data is being passed globally, between teams, between languages, between professional disciplines. And you still need to track data down to this type of level. And when you're working on a product that looks like X-Ray image.

What is my conclusion? I agree with Al Dean. We will see more granularity in data and new applications. Interoperability becomes a very important factor in a future success of new apps. New level of data compatibility is required. Vendors will be forced to improve the level of interoperability of their existing products as well as new apps. Interesting time and change happens these days. Vendors need take a note. Important. Just my thoughts…

Best, Oleg

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One Response to *Interoperability will play a key role in a success of future CAD/PLM*

1. *plm_specialist* says:
   January 28, 2013 at 12:43 pm
   Why nothing about PTC Creo interoperability capabilities ?
   CREO is not only able to deal with current comptetition MCAD products of the market like NX or CATIA, but also with legacies. And this is where interoperability has value : not only dealing with modern formats but also with legacy ones…

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