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State of Collaboration Technology and CAD Engineers
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CAD engineers and Collaboration

CAD professionals have always been consumers of rich visual information where precision is of essence. First it was elaborate hand-sketched drawings authored with adherence to the principle of Machine Drawing. The era of design automation started with 2D sketching packages with tablets and other input devices to aid creation of precise drawings. Then companies like SDRC and PTC gave designers new freedom to work with by constraining the behavior of virtual geometric elements such as NURBS curves and surfaces. Today, web is an amazing phenomenon which emerged as a single-lane highway where a recipient initiates a request to a web-server (e.g. cnn.com) and receives requested content (html, movie, images) in form of a stream directed to the browser. Voila, image appears – end of story!

But is it really over though? Some experts believe that the reliable one-way information streaming is in fact only the beginning of a more interesting and powerful story: the collaborative web and many initiatives are still to come and opportunities to emerge.

For CAD engineers, collaboration as a concept is not a new phenomenon. In its conventional form, product design with your team, estimate of product costs for your program manager, review of supplier quotes, or incorporating customer's input into design are all collaborative functions. New forces such as security concerns in the wake of terrorist attacks, design outsourcing to partners both local and global, as well as telecommuting and pressure to reduce travel related costs are increasing the demand for online collaboration tools.

Toolbox for Collaboration

Over the last few years, CAD engineers have used several options to collaborate. For techies, VNC [www.realvnc.org] has served as a great way to collaborate online. Microsoft Netmeeting has been a reasonable option as well. More recent players such as WebEx and PlaceWare (now part of Microsoft) addressed substantial demand with their online meeting products. These methods of collaboration have helped streamline online meetings, but present the following challenges: require technical knowledge to reconfigure firewalls, Active Directory setup, ability to bear high costs ($1000/user/year), or collaborate in the absence of context.

The Context of Collaboration

Focused on streamlining online meetings, solutions mentioned above are good collaborative tools but are not designed to provide the context required for design collaboration sessions. The question is: what is context? Well, when you are jotting down action items after a meeting, you are attempting to preserve the context of the meeting. Collaborating in the absence of a context is like meeting at a location away from your office rather than in the familiar meeting room where you can leave notes on the whiteboard or use notes from last meeting. While solutions like WebEx are excellent tools for a financial advisor making sales presentation to a client, working on CAD models with your peers requires a far richer context and elements that present this context are project peers, suppliers, models, requirements, bill of material, costs, etc.

Share anything with anyone without sharing everything with everyone

Domain specific collaboration solution are emerging. For instance, PDMOffice is an online collaboration suite aimed at CAD engineers which provides online collaboration in a context supported by its Program Management, Product Collaboration, and Partner Management modules. Engineers can manage, use, and share any elements of their shared project workspace or CAD models such as requirements, sketches, application sessions in white-boarding, instant messaging sessions with a single click. Collaboration can be initiated from within your design management framework at PDMOffice allowing an on-demand

sharing of any elements of projects, products, or RFQ's with the right party at any time. For instance, the system allows you to select the CAD file to share and a particular project team you want it shared with, with a single click.

The advent of such domain-centric, on-demand collaboration applications offering the ability to preserve the context of collaboration will see their increased adoption in the marketplace. These applications will allow users to invite and host their peers as well as share with them information items comprising their projects. As users start to stream out information they will not only mark the beginning of their collaborative webs, but also cut the costs of product development activities, shrink product's time-to-market, and enable efficient communication globally.

Rajiv Saxena founded and serves as President & CEO of PDMOffice, a provider of on-demand collaboration suite for CAD engineers. Rajiv has worked at leading software product companies Microsoft Corporation, Siebel Systems, and Structural Dynamics Research Corp. Rajiv received his MBA from the Wharton Business School at University of Pennsylvania in Entrepreneurial Management and Marketing. He also holds M.S. in Mechanical Engineering from University of Maryland. He can be reached at rajiv@pdmoffice.com. For more information on PDMOffice, please visit www.pdmoffice.com

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