

The Changing Face of Collaboration

CIMdata Commentary

Key takeaways:

- *Three major technology-driven themes—the consumerization of IT, the availability of information-on mobile delivery devices, and the social media-savvy workforce—are converging and changing the face of collaboration.*
- *This convergence is forcing companies to implement new PLM-related business processes and technologies that allow and enable social business collaboration.*
- *Nuage is taking an exceptional approach by offering an online business application suite for social business collaboration that provides users the flexibility and interactivity often lacking in today's traditional data management solutions.*

The Future is Upon Us

Ready or not, here they come. This is the soft rumble that is reverberating throughout much of the corporate world. The social media-savvy workforce is upon us, but is the corporate world ready for this new wave of workers who expect instant download of applications and data with little or no training necessary; where everything is accessible via the Internet and over their mobile devices; where they are always connected and most communication is done in short bursts? Are today's corporations ready to take full advantage of this new form of communication, this new way of collaborating? Many are beginning to refer to this new way of working as social business collaboration—using social media techniques and technologies to support business execution, with a focus on the interchange of ideas in an open and highly interactive manner.

In many ways we are witnessing the convergence of a number of technology-driven themes that have the potential of significantly changing collaborative work processes within and outside of a company's four walls. The first technology-driven theme can be categorized as the consumerization of information technology (IT). The second is the explosion in the availability, capability, and usability of mobile information delivery devices. And the third is the entrance of social media-savvy individuals, who've grown up using Facebook, Twitter, and the Internet, into the corporate workforce. This convergence is well underway and today's companies need to prepare and implement the appropriate processes and technologies that support the new way of collaborating.

The Consumerization of IT

Simply stated, consumerization is a widely accepted term used to describe the growing movement for new IT to appear first in the consumer market and then spread into business. The emergence of consumer markets as the primary driver of IT innovation is seen as a major IT industry shift.

In a January 2012 *InfoWorld* online article, Galen Gruman wrote about “The real force behind the consumerization of IT.” In the article he commented that, “You can blame the iPhone, Salesforce.com, and Facebook, but the truth is that business itself has driven the shift to employee-directed technology.” His conclusion is that businesses, because of their lack of

user-centric solutions and personalized information delivery devices, have forced new workers to seek better ways of accessing corporate information and performing their assigned tasks. Mr. Gruman puts forward a rather provocative statement as he concludes his article. “The uncomfortable reality for IT and business executives is that most are operating in a fool’s paradise when it comes to the consumerization trend.” Let this be a warning for all of us in the product lifecycle management (PLM) industry where information management has been at its core since its early beginnings.

In Kim Nash’s CIO.com post of January 28, 2011 entitled, “How Social Networking Creates a Collaboration Culture,” she comments that “Thanks to Facebook, people have become willing to share information, creating a workplace culture ready for collaboration. But CIOs need to deploy the right tools.” This also means that PLM solution providers need to enable this new way of working within the context of product development and lifecycle support. In some cases this will require a new way of looking at and enabling data and process management. Tightly controlling all product-related data will no longer be the only appropriate way to handle a corporation’s product data, and accessing product data via engineering-centric user interfaces will no longer satisfy all PLM users.

For several years, a number of leading PLM solution providers have been embedding social computing technology or techniques *within* their solutions. Some are intended for use within the enterprise and others are designed to support the extended enterprise. Some companies, such as Nuage (www.go-nuage.com), are offering social computing solutions *as* their product. This trend is a clear indication of what is to come. As the demand for more natural ways of finding, communicating, and collaborating on product data continues to increase, today’s PLM solution providers need to continue to adjust or they will not be part of the solution, but rather an example of other legacy systems—systems that today’s social media-savvy workers will bypass.

Some would argue that social media technologies have no place within the structured environment of your typical PLM solution, but this couldn’t be further from the truth. At its core, PLM is about data and process management—management of the product definition lifecycle where ideas come together over time to form designs, and full and discrete product definitions. While it is true that PLM needs to deliver specific and discrete designs (e.g., a discrete bill of material) to manufacturing, it also needs to support the iterative and not always black and white process of product development, where ideas, solutions, and innovation must be allowed to flourish. This is why a company’s PLM environment needs to support both structured and unstructured data and the processes by which they are created and used.

Mobile Information Delivery Devices: Always On, Always Connected

As with every digital advance, mobility presents a lot of dramatic opportunities plus a few big challenges. Both are sharply defined in the PLM domain—perhaps more so than elsewhere in the enterprise. From a PLM standpoint, mobility can greatly enhance product lifecycle management activities while enriching the underlying intellectual property created and used throughout the lifecycle. With more diverse inputs better decisions can be made, and can often be made sooner, while the number of decisions based on too little information can be reduced. A potential downside is security, as the variety and capability of mobile devices continues to grow exponentially. Fortunately, the push towards consumerization is forcing this issue to be rapidly addressed.

Mobility now reaches anywhere and everywhere. Mobility extends digital connectivity to every unit and activity in the enterprise—not just to new product development and engineering—

and to nearly every worker. The impact of mobility is even more dramatic outside the organization's walls, reaching far beyond the major customers who have been connected for decades. In other words, mobility is a completely new way of doing business. As virtually every analyst and commentator has noted, mobility is empowering, which is exactly why today's social media-savvy workers demand to be always on and always connected. The practical, everyday impacts and benefits pop up everywhere in the enterprise—most visibly in the availability of documentation and constant access to the expert. Because of this, the strategy of linking mobile devices to PLM is proving to be essential.

Mobility means workers with their iPads, Androids, tablet computers, Blackberries, and a bevy of Internet-empowered smart phones can work from anywhere, at any time. "Anywhere" means hotels, coffee shops, vehicles, airport lounges, customer facilities in other time zones, supplier operations on other continents, and so on. The "anywhere" aspect of mobility also means any time; clocks and "nine-to-five" are becoming artifacts. Mobility is also rapidly eroding business constraints like geography. Widely available bandwidth for video is transforming the meaning of "face-to-face." This is unprecedented in the developed world's engineering of new products.

Younger workers, i.e., those in Generation Y, and new hires are tuned in to this phenomenon. They insist on unplugging and walking away from desks, computers, servers, and now even laptops. These workers insist on using digital devices that will connect over today's high-speed networks. This marks a radical shift in workers' expectations. The comfort zones of middle management are being stretched as never before.

Of all the lifecycle-focused and product-related parts of the enterprise, only PLM can provide a single point of access that mobility makes more necessary than ever before. Departments and business units can't provide that; departmental systems cannot ensure timely access to product data in readily reusable forms for all who need it. This means that today's PLM solution providers need to figure this out to survive. While there are some successful recent examples, the issue is about much more than delivering the PLM user interface (UI) on a mobile device's browser. It's about taking advantage of the new UI and the device's unique capabilities, e.g., location services, camera, touch screen, and characteristics, e.g., portability, form, and weight.

The Social Media-Savvy Workforce

For the most part, the social media-savvy workers are of Generation Y—children of the Baby Boomers, born between 1980 and 1995. As with other generations, Generation Y individuals display some common characteristics because of the social, political, and economic environment in which they grew up. They are the first true digital generation; they don't really know a world without cell phones and digital recording devices; they think of email as being old technology, the phone as out-of-date technology, and Tweeting and Facebooking good for now, but not necessarily the preferred way to communicate in the near future.

At the 2011 Systems Thinking Conference¹ held last October at MIT, Professor Steven D. Eppinger, ScD, Professor of Management Science at the MIT Sloan School of Management, commented that those in Generation Y expect and want to work anywhere and anytime. They want to collaboratively innovate, distribute leadership, execute global business processes, have immediate access to information, gain rapid feedback, use multi-channel and multi-media communications, and be part of participatory decision making processes. During his

¹ <http://sdm.mit.edu/systemsthinkingconference/2011/speakers.html>

talk on “The Future of Engineering Design,” Professor Eppinger went on to comment that the engineering design process has become almost entirely digital; engineering organizations are now more globally distributed than ever, and the engineering culture is changing with the influx of Generation Y engineers. Professor Eppinger points out that these new engineers “...have grown up using the Internet and various social media tools and, as a result, think and work differently than their predecessors.” He went on to say that, “The impact of these changes will be far-reaching.... Engineering-based businesses must learn to utilize engineering talent in more open and collaborative ways.... Engineering design methods will continue to evolve through the incorporation of collaborative and distributed tools for the execution of more and more of the development process. Entirely new design and development processes will become feasible with the incorporation of advanced networking methods.”

With the ongoing convergence of the consumerization of IT and the expectations it brings, the availability, capability, and usability of mobile information delivery devices, and the entrance of social media-savvy individuals into the corporate workforce, Professor Eppinger’s comments must be taken seriously by today’s PLM solution providers. If not, corporations will struggle, as Professor Eppinger stated during the aforementioned presentation, “...to capture the energy of Generation Y to create a new working culture.”

The need to define and enable new collaborative processes and enabling technologies are not optional, they are mandatory—not only for Generation Y but also for the rest of us who need to compete in this highly collaborative and connected world. Without providing the correct level of support, today’s PLM solutions will be tomorrow’s legacy systems.

Collaboration’s New Face

The convergence of conditions described are forcing companies to implement new PLM-related business processes and technologies that allow and enable the new workforce with an environment that encourages open communications—an environment where employees identify, analyze and solve problems, and identify opportunities. The new social media-savvy workforce demands a high level and rich form of interaction. They are not accustomed to working by themselves. They are used to multi-tasking with multiple windows open, doing more than one thing at a time. The challenge for most companies will be to harness these skills but still generate and deliver specific discrete items to the market. The freedom to collaborate must be within a framework supporting the necessary level of process control with an outcome appropriate for the situation at hand. For example, the process to solve a problem can be open and flexible, but once the solution has been identified, it must be implemented and communicated in a specific and regimented manner.

As commonly defined, collaboration is a process by which people work together on an intellectual, academic, or practical endeavor. In the past, that has meant in person, by letter, or on the telephone. Today, we are increasingly collaborating using various electronic forms enabled by social media technologies. At its core, social media is all about enabling collaboration—the free flow of ideas among individuals, groups, and organizations that rapidly and efficiently form and dissolve as required.

In his book *Collaborative Advantage*², Jeffrey Dyer describes three major factors at play in creating and maximizing the value of a partnership (i.e., a group brought together to solve a specific problem). Those factors are:

² Dyer, Jeffrey H., *Collaborative Advantage: Winning Through Extended Enterprise Supplier Networks*, Oxford University Press, 2000.

- Dedicated assets—dedicated investments in facilities, equipment, processes, and people
- Knowledge-sharing routines—the systematic and purposeful attempts of the partners throughout the extended enterprise to share knowledge
- Trust—trusting relationship between the organizations

Most would argue that trust is the most important factor, one that those who use social media clearly understand and value. According to Mr. Dyer, without trust, partners will waste a considerable amount of time and money negotiating, monitoring, and enforcing the relationship—something not tolerated by today’s social media-savvy workers.

Mr. Dyer also states in his book that, “The most successful virtual enterprises of the future will be those that can figure out how to get a collection of relatively autonomous, self-interested firms [or individuals], who often have a bargaining relationship with their neighbors in the value chain, to collaborate in the development of complex, customized products.” This was a powerful statement when he wrote it twelve years ago. It is even more powerful today as Generation Y moves into the workplace and demands new ways of partnering, enabled by social business solutions that allow such relationships to be formed and managed within the appropriate context.

In summary, the new face of collaboration must:

- Allow the rapid identification of individuals who can help when given a specific task
- Support the free flow of ideas in an open environment
- Be always available, always on, always connected, anywhere, at any time
- Be available and enabled via an individual’s personal mobile device
- Be intuitive, natural, personal, and in an ad-hoc form that empowers Generation Y
- Support the appropriate level of data and corporate security, while at the same time not disturbing or interfering with all of the above

The potential benefits of enabling such an approach within a PLM context are significant. Not only will the Generation Y employee feel at home, but everyone in the organization will also be better connected to the individuals and data that they need, when they need it, in the form needed. This type of connectivity has proven in the past to speed and improve decision-making processes, enhance product quality, speed time to market, and increase organizational efficiencies, among other important and measureable benefits.

Nuage—Bringing Social Media Practices to the Workplace

Nuage, a relatively new entrant to the market, is among a small handful of start-ups that are defining and delivering social business collaboration solutions—solutions that are bridging the gap between social computing and business computing. Nuage is taking a unique approach by offering an online business application suite for social business collaboration that provides users the flexibility and interactivity often lacking in today’s traditional data management solutions. By combining the benefits of this flexible approach with social media and cloud technologies, Nuage seeks to revolutionize the way companies interact and conduct business on a global stage. Given the three main technology-driven themes converging and impacting the corporate world, Nuage appears to be well positioned. Released in April of 2012, Nuage Café (www.nuage-café.com) provides a social business collaboration platform that can be

used today for document management, and will be expanded in Q4 2012 to include additional capabilities, for example group-level security and workflow automation.

Nuage Café is designed to facilitate social business collaboration. Today, it enables secure, fast, and effective collaboration for organizations of all shapes and sizes. Future plans call for the introduction of workflow, change management, and configuration management—all on the same easy to use, open platform. But Nuage Café isn't just for traditional product organizations. Its capabilities are applicable for management consulting, real estate, financial, and any other endeavor that needs to support unstructured and ad hoc collaboration. Nuage Café is hosted on the cloud and is purchased on a subscription basis (the basic subscription is free for 2GB of storage space). This makes acquisition, implementation, and support easy, fast, and inexpensive. Nuage Café is more than simple file sharing. It allows subscribers to check-in and check-out documents so virtual partnerships can be formed and collaboration can occur in an open and flexible manner. It provides a secure and customizable environment where ideas and individuals can come together. By bringing social media practices into the workplace, Nuage Café creates a more natural environment for communication.

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. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.