

Joana Vilhena

*NeeaConsulting Portugal, Project Manager - joanav@neeaconsulting.com*

*We are living in a world of on-demand communication.*

*Today's turbulent business world, require companies to continually update their skills and capacities. Companies are exploring ways to align and integrate technology-based learning into business processes and strategy. On-demand collaboration is a new trend that is driving higher levels of connectedness than ever before, and which is greatly affecting the way people collaborate and negotiate, since people want to work together anyone, anywhere, anytime. The collaboration market is so crowded, it becomes imperative to select a viable vendor that will survive the consolidation.*

## 1. INTRODUCTION

In the turbulent business world of today, technological advancements, elevated competition and the shifting demands of business require companies to continually update their skills and capacities.

Trends in areas such as demographics, technology, globalization, branding, consolidation/privatization, and outsourcing will greatly affect the way people collaborate and negotiate.

Nowadays, companies are exploring ways to align and integrate technology-based learning into business processes and strategy. They also want to provide employees, clients and partners with the information and skills they need to solve immediate business problems.

Competition today is driving firms to introduce products with a higher degree of novelty. Consequently, there is a growing need to understand the critical success factors behind more novel product innovations. Empirically we can analyze the role of different types of collaborative networks in achieving product innovations and their degree of novelty. Studies (Cotton and Brehm, 2005) (Barbier et al, 2007) show that technological collaborative networks are of crucial importance in achieving a higher degree of novelty in product innovation. Continuity of collaboration and the composition of the collaborative network are highly significant dimensions. Collaboration with suppliers, clients and research organizations— in this order— has a positive impact on the novelty of innovation. The greatest positive impact on the degree of innovation novelty comes from collaborative networks comprising different types of partners.

On-demand collaboration is a new trend that is driving higher levels of connectedness than ever before. People want to work together on tasks, activities, and projects with anyone, anywhere, anytime, and on any connected device. As the environment for collaboration is changing, IT is coming under increased pressure to view on-demand collaboration as part of the infrastructure of their organizations. Over the last decade collaborative solutions have mostly been departmentally focused, but with the drive towards globalization, enterprise-wide solutions are now on IT's agenda. (Howard, 2005)

---

*Please use the following format when citing this chapter:*

Vilhena, J., 2008, in IFIP International Federation for Information Processing, Volume 266, *Innovation in Manufacturing Networks*; ed. A. Azevedo; (Boston: Springer), pp. 337–344.

To meet the needs of the enterprise, and with quality of service expectations approaching 99.999%, IT must take a close look at the infrastructure needed to support on-demand collaboration. Top level infrastructure decisions need to be made on Software-as-a-Service vs. premise-based environment, and Performing collaboration activities over a public vs. private network.

In addition to these decision points, there's some criteria that can be used by IT management in evaluating and selecting an infrastructure solution that can support the high service level requirements of on-demand collaboration in an enterprise environment. Security, reliability, accessibility, and scalability are just a few.

We are living in a world of on-demand communication. Cell phones, PDA's, etc. have transformed us into a mobile, connected society where people never want to be out of touch with one another. Many in the younger generation tend to be network-centric and always scanning for opportunities to connect. They don't want to miss anything! We see this desire to be connected having implications in the business world and helping to drive on-demand collaboration in the workplace.

With a myriad of collaboration solutions on the market today, IT management in global organizations is faced with a dilemma on how to make the best decision for the enterprise. (Achrol, 1990)

## **2. THE MARKET ON-DEMAND COLLABORATION**

We can define On-demand collaboration as the ability for people to work together around tasks, activities, or projects "with anyone, anywhere, anytime, on any connected device." (Coleman and Sayle, 2006) On-demand collaboration can occur among parties in a real time, synchronous environment or in a distributed, asynchronous environment where individuals are working independently of one another.

Growing usage of on-demand collaboration has resulted from several market drivers that are pushing it to the forefront.

- The need for users in disparate geographic locations to interact with each other more efficiently and make timely business decisions is becoming more critical due to increasing competition in the marketplace.
- The complexity of doing business is increasing. Outsourcing has become a way of life for companies. The ability to communicate and collaborate efficiently with outsourcing partners who are integrated into mission critical business processes requires on-demand collaboration technologies.
- The globalization of business has introduced significant challenges in managing a global workforce and working with customers, suppliers, and partners all over the world.
- The emergence of the "human-based computing" trend places the individual as the focus of the interaction rather than the technology.

This is impacting the design of technologies so people can work naturally and don't have to change their behaviors or work habits to accommodate particular hardware or software requirements.

- Telecommuting is a growing trend in business. Employees engaged in team activities are looking to on-demand collaboration to improve their productivity in communicating and collaborating with their teammates who are in dispersed locations. (Coleman and Sayle, 2006)

The SaaS environment offers advantages in that it minimizes IT resources needed to manage and maintain the collaboration infrastructure. These resources can be deployed on other critical activities within the IT organization. Often the cost is low, and it provides a

good environment to trial on-demand collaboration solutions before scaling them to the enterprise level. There are some criteria that must be considered when making a decision on the infrastructure for enterprise-scale collaboration. Below there's a checklist of criteria Table (Table 1) that can be used in developing the requirements in an organization.

Table 1. Checklist of criteria Table used in developing the requirements in an organization.

| Check Box | Criteria                                     | Description  |
|-----------|--|--|
| ✓         | Security                                     | Support end-to-end data encryption to prevent unauthorized access  |
| ✓         | Reliability                                  | Support 99,999% reliability among parties engaged in collaboration activities located anywhere in the world                                      |
| ✓         | Availability                                 | Support 100% availability on 24x7x365 basis  |
| ✓         | Interoperability with different platforms    | Support users working on different operating platforms such as Windows, MAC, Unix, etc.  |
| ✓         | Scalability                                  | Support user growth seamlessly without any degradation in service.   |
| ✓         | Multimedia Support                           | Support voice, data, streaming and video conferencing  |
| ✓         | Connectivity                                 | Support user connectivity from anywhere in the world within a language-friendly interface. Provide technical support 24x7x365 on global basis    |
| ✓         | Global access, support and localization      | Support speedy user access from anywhere in the world within a language-friendly interface. Provide technical support 24x7x365 on a global basis |
| ✓         | Integration with critical business processes | Support ability to launch conferencing sessions from within mission critical applications to streamline the business process                     |
| ✓         | Ease of use                                  | Support an intuitive user interface that requires no training of first time users  |
| ✓         | Operational Support Systems                  | Support comprehensive OSS features for provisioning, monitoring and troubleshooting the network to deliver a 99,999% service level.              |
| ✓         | Total Cost of Ownership                      | Support a pricing structure that eliminates hidden costs and makes the Total Cost of Ownership completely visible to the customer                |

One of the trends we are seeing is a consolidation of collaborative technologies in use in the enterprise being driven by IT. Since on-demand collaboration has evolved as a departmental solution in many organizations, it has resulted in a myriad of different solutions in use across the enterprise.

There is often pressure from IT to consolidate these collaborative applications down to one or two to reduce usage and support costs. As usage and adoption increases at the enterprise level, IT management must think of on-demand collaboration as part of the infrastructure. Service level expectations of users of these technologies are also growing.

This is placing IT management under significant pressure to deliver service levels approaching 99.999%, similar to or even higher than telephony service.

In addition to IT organizations looking to consolidate the number of collaborative solutions in use across their organizations, we also see a consolidation in the number of vendors offering on-demand collaboration solutions in the market. The collaboration

market is very crowded. There are approximately 200 vendors offering real-time, synchronous collaboration solutions today.

Collaborative Strategies predicts this consolidation will continue over the next few years, which can be good for the market, because it weeds out the weaker vendors. However, it makes the market a minefield for IT management. It becomes imperative to select a viable vendor that will survive the consolidation.

The table below (Table 2) provides a list of the top vendors of real time collaborative solutions based on revenue generated from their data/web conferencing solutions:

*Table 2.* List of the top vendors of real time collaborative solutions based on revenue generated from their data/web conferencing solutions (Coleman and Sayle, 2006)

| Company Name              | 2004 Est. Revenues | 2005 Est. Revenues |
|---------------------------|--------------------|--------------------|
| WebEx                     | \$249M             | \$308M             |
| IBM/Lotus                 | \$200M             | \$240M             |
| Citrix (Online)           | \$75M              | \$95M              |
| Genesis Conferencing      | \$78M              | \$85M              |
| Microsoft                 | \$69M              | \$80M              |
| Cisco (Latitude)          | \$50M              | \$75M              |
| Oracle                    | \$15M              | \$75M              |
| Adobe (Macromedia Breeze) | \$28M              | \$40M              |
| Polycom                   | \$30M              | \$33M              |

Additional research shows there are only few solution providers offering an enterprise-level solution built upon a private network infrastructure supporting on-demand collaboration.

- **WebEx** — offers a **comprehensive SaaS solution supporting both real time, synchronous and asynchronous activities** that are built upon its MediaTone network.
- **Cisco** — offers collaboration appliances and a service offering that integrates Web conferencing with its IP phones and network products. (Coleman and Sayle, 2006)

### 3. INNOVATION EXECUTION FRAMEWORK ARCHITECTURE

Achieving innovation productivity requires an architecture that accommodates some important capabilities, thus creating a ‘borderless’ enterprise. Aligning the evolution of the architecture with the company’s framework priorities can drive an investment commensurate with a calculated ROI. For instance, implementing a Consumer Insight Network would align with specific IT investments. The full architecture is highlighted in the next Picture (see Figure 2).

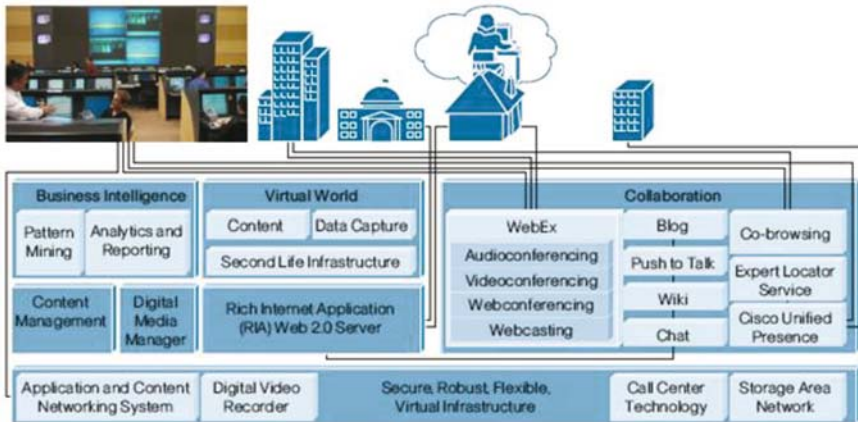


Figure 2. Innovation Execution Framework Architecture (Barbier et al., 2007)

#### 4. REAL TIME COLLABORATION WITH WEBEX

WebEx is the leader in real-time communications infrastructure for Web meetings.

WebEx built a service that could handle massive concurrent connections while maintaining exceptional response times to support live video, shared applications, presentations, documents, and Web pages in highly interactive meetings. WebEx's challenge was to continue to offer the same high level of response time and reliability, while rapidly expanding its customer base and the number of meetings held on its worldwide network. WebEx used Forte Developer 6 to implement the expansion of the WebEx Interactive Platform (WIP), its real-time, multithreaded, multipoint data/audio/video communications platform.

WebEx offers a comprehensive SaaS solution supporting real time collaboration which represented for companies as Sun Microsystems (for example), extraordinary results in productivity efficiency and real time collaboration.

#### 5. CURRENT INNOVATION PROCESSES IN COLLABORATIVE NETWORKS

Nowadays, a more knowledgeable customer is driving the industry.

The companies implementing on-line collaboration services are requiring a system that integrates with their ERP/CRM systems. This market is also putting higher demands and quality expectations on the on-line collaboration industry. These companies have found they have been able to do more with less since their reliance on online delivery have increased. (Lamming, 1993)

#### 6. CASE STUDY

**Sun Microsystems strengthens collaboration over distance with WebEx online platform.** by Chris Saleh - Program Manager, Open Work Services Group, Sun Microsystems

### **Case study context**

Established in 1982, Sun Microsystems, Inc. is the global supplier of network computing solutions that power the world's most demanding businesses. Among Sun's many breakthrough technologies are the Solaris Operating System and Java. Today, Sun conducts business in 100 countries around the globe. Sun Microsystems required an enterprise-wide collaboration tool to meet the needs of a widely distributed workforce. WebEx helped Sun create an open work environment, bridging geographies while enabling employees to work conveniently from anywhere, any time. Enterprise-wide use of WebEx has significantly reduced operating costs, increased productivity, and opened new business opportunities for the company.

### **The challenge**

At Sun Microsystems, the *Open Work Services Group* plays a critical role in maximizing both corporate productivity and employee satisfaction. In the last few years, a number of significant developments at Sun resulted in a new set of challenges for the Group. As Sun grew globally, the company became more geographically dispersed. Sun's engineering teams, for instance, suddenly spanned five sites including Bangalore, St. Petersburg, and Beijing. In addition, the acquisition of other companies and consequent reorganizations resulted in a surplus of real estate, and Sun began to close campuses. In 2006, Saleh's group conducted a corporate-wide survey that confirmed Sun was deficient in collaboration tools enabling employees to work over distance.

### **The solution**

Chosen by the IT department years before, WebEx was already in place at Sun but wasn't used much. Saleh says, "*When we realized we needed an enterprise-wide collaboration tool, we decided to re-examine our WebEx deployment.*"

Sun stopped billing individual departments for WebEx usage and converted to an unlimited plan, providing each seat with 24-hour-a-day access to all five WebEx solutions. Today, Sun primarily uses WebEx Meeting Center across the organization to communicate with, train, and support internal and external customers located around the world. The solution's intuitive capabilities facilitate remote sales calls, demonstrations, installations, and product trainings. WebEx registration and automatic notifications make the sessions easy to plan, while the application sharing feature enables effective visual demonstrations.

WebEx also facilitates program and product development for global teams by providing highly interactive online meetings. For the IBIS Spares Team at Sun, WebEx enables colleagues to provide input to documents the team is creating or editing in real time. Using WebEx, the PDM project, a multi-year effort touching many organizations at Sun, conducts online workshops, presentations, application demos, and document reviews.

### **The benefits**

WebEx helped the Open Work Services Group deliver on its initiative to enable Sun employees to work from anywhere, anytime - reducing costs, increasing productivity, and opening new business opportunities for the company. Sun has increased employee satisfaction and saved on energy and real estate costs.

### **The future**

Since implementing the unlimited WebEx usage, Sun has received a very positive response from her WebEx user community. The Education Services Department at Sun was unhappy with the previous online solution used to provide online product training to

its customers. Saleh comments, “*When they found out that WebEx was available at Sun, they switched over and are now very happy users.*” Saleh is extremely satisfied with the benefits achieved with this real time collaborative solution and is expecting to grow its usage more and more in the years to come.

## 7. CONCLUSIONS

Productivity is a key reason for deploying new technology today. To accurately measure the productivity-based returns from a technology requires a structured approach.

Organizations are striving to achieve global connectivity in a dynamic environment where travel is becoming more difficult and expensive, employees are more dispersed, and business boundaries are constantly being extended. People are discovering and inventing new methods to share relevant information with lightning speed. As the Internet pervades all aspects of communications, markets are getting smarter with each passing day. To harness the benefits of the new work order, organizations are looking to achieve true collaboration with customers, partners, suppliers and employees. Simply put, the focus is to improve productivity while lowering costs. Increasing numbers of companies, are discovering the practical and very tangible benefits of online collaboration, and how it can make product training and the sales process more efficient, cost-effective, persuasive and ultimately, more successful. Companies now are able to rollout new products in days, rather than weeks or months. The result has been a dramatic improvement in responsiveness, to both customer needs and market changes. Web collaboration is becoming imperative in reaching this fundamental goal by offering anytime anywhere communications that impacts the bottom line and improves profitability.

Beyond the core benefits of travel cost and time savings are even more significant ways in which web collaboration is providing maximum value.

In addition to the hard benefits, the consensus is that web collaboration delivers increased speed, reduced time to market and increased team productivity. Online collaboration represents the leading edge in workforce communications, but at the same time, the upfront capital expenditures of this method are minimal. Without costly investments in additional computer equipment and software, online communications allow companies to quickly communicate with employees, customers and sales prospects, by sharing their best, time-honored practices via an online environment. (Cotton and Brehm, 2005) According to *Wainhouse Research*, an oston-based communications research and consulting firm that specializes in “rich media,” the demand for rich-media communications will grow at a compound rate of 90% a year, for the next three years.

## **8. REFERENCES**

1. Achrol, R. et al. Designing successful trans-organizational marketing alliances. Cambridge, MA: Marketing Science Institute, September, 1990
2. Ettl J., Product-process development integration. *Management Science*, v.41, n.7, July, 1995.
3. Kanter, R., Collaborative advantage: The art of alliances. *Harvard Business Review*, 1994
4. Lamming, R., *Beyond partnership: Strategies for innovation and lean supply*. United Kingdom: Prentice-Hall, 1993
5. Porter, M., *Estratégia competitiva: Técnicas para análise da indústria e da concorrência*. Rio de Janeiro: Campus, 1991
6. Amaral D. - Escola de Engenharia de São Carlos, Toledo J. - Universidade Federal de São Carlos, Washington R., *Modelo para avaliação da integração na colaboração entre empresas*, 2006.
7. Barbier J., Wysocki M., Du Mont S., Finke S., Kirby S., Macaulay J., McLaughlin M., Sheikh W., Stine J., Van Zanten R., *Improving innovation productivity in the consumer packaged goods industry - Cisco Internet Business Solutions Group (IBSG)*, 2007
8. Coleman D., Sayle R., *The drive towards on-demand collaboration: Criteria and analysis for making a well-informed decision on web collaboration and collaborative strategies*, 2006
9. Howard C., *Impacting Business with online training: Case studies on the next generation of e-learning*, September 2005
10. Cotton B., Brehm J., *Measuring the true business benefits of web collaboration*, San Antonio, 2005