



White Paper

The hyperconnected enterprise — a CIO's survival guide

A global megatrend is currently underway even as the economy is slowing down. This phenomenon called Hyperconnectivity represents the unfolding of a new era in communications in which all things that can benefit from being connected to the network, will be connected — including people, communication devices, machines and applications.

To check the real-world pulse of Hyperconnectivity, Nortel sponsored a global IDC study¹ of almost 2,400 information workers in 17 countries. The study found that enterprises are facing an exploding “culture of connectivity” with 16 percent of workers dubbed as “hyperconnected”. The hyperconnected worker fully embraces a world of multiple devices and intense use of new communications applications and uses a minimum of seven devices for work and personal access, plus at least nine applications like instant messaging (IM), text messaging, web conferencing and social networks. The hyperconnected are closely followed by a second group of 36 percent designated as “increasingly connected” or those using a minimum of four devices for

work and have personal access to six or more applications. As the increasingly connected advance in capabilities — and changing demographics of the workforce are factored in — the study predicts that hyperconnected users will rise to 40 percent in just a few years.

With this new era of Hyperconnectivity, the role of the CIO has never been more important to an organization. It's the CIO who must keep an eye on the latest technology demands and societal trends of users and leverage the opportunities they present with traditional IT needs of an organization.

The strategic imperative for today's CIO is to develop a business-driven vision and strategy that mitigates the challenges of Hyperconnectivity

and balances the needs of the hyper-connected user with those of the enterprise. The same technology driving this trend also supports unified communications solutions, which can redefine how work and business processes are organized and accelerated in a business environment.

The challenges of Hyperconnectivity

There are four key challenges associated with Hyperconnectivity.

- 1. Lost group productivity** – If you think about it, knowledge and information workers are paid to make decisions and making decisions often includes collaborating with others who are increasingly distributed



¹Source: IDC White Paper, “The Hyperconnected – Here They Come!” sponsored by Nortel, May 2008

across the enterprise — at another site, on the road or at their home offices. Nemertes Research has found that 87 percent of all workers do not work at the company's headquarters. One of the reasons for this shift in remote employees is the trend to move work to where it can be done most effectively. In this environment, some of the same factors that impact personal productivity impact group productivity by getting in the way of reaching key contributors. It's not just about connecting with a voice call or IM, but sharing information and collaborating to convert information and knowledge into decisions, as quickly and effectively as possible. A productivity loss of just 5% could cost organizations millions of dollars.

- 2. Delays in business processes** – Business processes are slowed down through human latency or human delay. This impacts what we call the 'time to X', where X can be a problem resolution, service, product, revenue and so on. With Hyperconnectivity, human delays are reduced as people are more connected, but this could become a new challenge by the need to manage multiple ways of reaching people across multiple media.
- 3. Chaos when everything gets connected** – As more things and people are connected together, the IT world becomes quite complex. Meeting user, application and business demands with adequate scalability — in the dimensions of performance, ports and bandwidth — and reliability without a business-driven plan will result in increased complexity and greatly increased costs.

With Hyperconnectivity, a myriad of devices and low-cost sensors and controllers could find their way on to the enterprise network, increasing the connectivity demands significantly. This includes facility heating, ventilating and air conditioning (HVAC) systems, equipment or shipment tracking devices (e.g., using RFID tags or Wi-Fi) and surveillance cameras. When everything gets connected and there is no strategic plan to manage the connectivity, chaos could result. On top of that, security could be compromised and the needs of the owners of these devices and the associated applications could be unmet.

- 4. Low employee satisfaction and productivity** – Today, the hyper-connected employee has to deal with multiple devices, multiple telephone numbers and passwords, multiple inboxes and multiple security environments. The Nortel and IDC study found that nearly one in five business workers found it hard to manage multiple disparate sources of communication, which can lead to missed calls, telephone tag and security exposures. This can also have an effect on employee productivity and lead to poor morale.

Business strategy tames the hyperconnected enterprise

In response to the issues listed above, there are essential actions that businesses can take to meet the challenges of Hyperconnectivity.

- 1. Deploy unified communications to increase productivity and employee satisfaction**

Unified communications is the key initial step to improving business processes, collaboration and workflow capability because it helps to break down the barriers between

voice, email, video and IM. Unified communications helps users manage and integrate all of their devices, telephone numbers, passwords, inboxes and security environments.

Unified communications can improve productivity by 18% and is central to addressing the needs of the hyperconnected user, noting that younger new hires (often referred to as Millennials) are most likely to demand these types of capabilities. Unified communications delivers a presence-enabled interface for different modes of communications, and allows users to easily transition from, for example, a simple IM exchange to a multi-party multimedia conferencing call with one click of the mouse. A key component of unified communications is mobility, allowing users to stay connected through fixed mobile convergence, bridging the enterprise wired and wireless environment with the public wireless network. It is important that all future investments in communications be made within the context of rolling out unified communications.

- 2. Target work groups or project teams that will benefit from more comprehensive and integrated collaboration through unified communications**

According to a recent CIO Insight survey, collaboration/workflow capabilities were listed as the #2 technology that will make the most significant contribution to their future business strategy. Unified communications solutions include various forms of conferencing and telepresence, and can improve collaboration and allow these workers to work together more effectively and quickly across a highly distributed environment.

Unified communications can also be used in customer contact centers to identify additional sales opportunities by giving workers the tools they need to quickly connect with subject matter experts anywhere in the enterprise. In the longer term, Web 2.0 and virtual reality business communication environments integrated with unified communications and contact centers will provide even richer collaboration capabilities ideal for certain business functions, such as training and brainstorming sessions. Rich collaboration can provide a powerful business case to justify unified communications investments.

3. **Communications enable your business applications to improve ROI**

The CIO Insight survey also found that 35 percent of respondents identified improving business processes as a top priority in 2008. While unified communications allows people to be reached more easily and effectively, its productivity potential can be extended even further through communications-enabled business applications. Communications-enabled applications can accelerate human processes by providing real-time communications capabilities and network-oriented functions while also allowing workers to initiate unified communications sessions directly from within the business applications, and allow applications themselves to initiate unified communications sessions and notifications based on an event. These types of implementations can result in improved time to revenue by up to 27%. One example of a communications-enabled business application could be a salesforce “dashboard” that brings together key role or identity-based operational metrics like the latest customer activi-

ties or order status for the business, up-to-date product and customer data, communications capabilities and context-enabled directories. Communications-enabled business applications give workers immediate and up-to-date information about the business — using any device, application or network connection. For instance, healthcare workers can know the exact location of medical equipment, the latest patient vital signs, and physician availability and location — from anywhere, using any device. This can help improve patient care and operational efficiencies.

CIOs can help their business by identifying key process areas, and building a framework to quickly respond to business needs of these areas and individual lines of business.

4. **Educate key business stakeholders about the ROI gained from unified communications and machine-to-machine or device communications**

With ROI saving as high as 178%, organizations need to recognize the value of unified communications. Hyperconnectivity goes well beyond cell phones, PDAs and laptops being connected to a network and extends to hundreds of devices such as cars, environmental control systems and medical instruments — anything that is IP-enabled. For example, businesses can deploy environmentally-aware business applications that monitor and control a broad range of assets such as security cameras, vehicular fleets and critical equipment, using sensors, location and RFID. The IDC study found that roughly 47 percent of the respondents surveyed already leverage networked building control systems inside their corporation. This can improve energy efficiencies and the bottom line significantly. CIOs and IT departments will have more

success implementing these types of business improvements by educating their key stakeholders about their potential ROI and gains in operational efficiencies.

5. **Use technology to minimize infrastructure complexity**

There are three tools to help businesses minimize the complexity of their communications infrastructure:

- A **Service Oriented Architecture (SOA)**-enabled environment allows businesses to take different building blocks of communications and application functions and put them together in various ways to build new, intelligent communications applications, services and business processes. For example, a business can take communications capabilities such as IM and integrate it into its inventory control system application (ERP) so when a certain level of inventory is reached, notifications can be sent automatically. With SOA, these capabilities can be mixed and matched quickly and simply into custom applications, wherever they are most effective to a particular business function, allowing previously separate IT and network functions to work seamlessly together, as if they were one.
- Software-centric **unified communications** can enable unification of not only the client experience but also of the infrastructure, eliminating traditionally independent systems delivering capabilities such as telephony, voicemail, email and various forms of conferencing. This helps to improve productivity by allowing employees to better communicate with customers, suppliers, partners and each other from virtually any location and any device.

- The underlying **data networks** must meet the Hyperconnectivity challenge of real-time communications by substantially improving performance, scalability and reliability, while simplifying the overall network and lowering the total cost of ownership. Operating expense savings and a measurably smaller carbon footprint can be achieved by deploying data networks that use less energy. In contrast, approaches that add intelligence at all levels of the network add cost, consume more power and reduce reliability, and thus drive the need for added investments to meet Hyperconnectivity needs.

Enterprise transformation through IT-business alignment

In this new era of Hyperconnectivity, the role of the CIO and IT has never been more important to an organization. It's the CIO who must keep his/her finger on the pulse of societal trends and new technologies and the challenges they present their organization.

IT is in a position to help increase business productivity and improve their business strategies more than ever. Businesses must empower their IT departments with the freedom to create distinctive solutions and apply technology in new and innovative ways or risk being left behind by their competition.

In fully leveraging Hyperconnectivity for business advantage, it is essential that IT align itself with business objectives and priorities. Technology for its own sake

is not the path to success. Just because you can do something doesn't mean you should. This includes reviewing and establishing corporate policies that address the blurring of personal and work communications, and define who and what can get connected to the network, as well as to applications and database resources. Businesses may also want to seek the counsel of trusted advisors to help determine their strategy, develop business cases for phased deployments and ascertain which architectures will be most appropriate for their particular situation. Partners bring wisdom gleaned from other enterprises and also help as a catalyst for organizational change in getting the IT department and business units on the same wavelength.

For more information on how Nortel unified communications solutions can help your business address the challenges and opportunities of Hyperconnectivity, visit www.nortel.com/uc.

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