



## Position Paper

### Nortel Global Services

## Contextually-enhanced communications-enabled applications

*Adding a new dimension to unified communications*

### Enterprise challenges

In today's complex business environment, IT executives say their main opportunities by far are to "improve and/or innovate new business processes."<sup>1</sup>

Opportunities for innovation are becoming more apparent as information and communications merge, and IT begins to see the necessity of treating them both the same way. One opportunity in particular comes from recognizing that human delays can slow business processes and cost money. Enabling these business processes with integrated communications helps address delay issues and can be highly transformational for enterprises. Communications-enabled applications and services help streamline business

processes, accelerating your time to decision-making, to revenue, to service, to support, to product, and allow increased business agility, accuracy, service velocity and productivity.

With communications-enabled applications, users can initiate communication sessions — emails, instant messages, phone calls — directly within the business applications they use, including business dashboards. Communication sessions can also be triggered automatically by a business event, further streamlining processes and ensuring more accuracy.

Because of these benefits, many CIOs are looking at communications-enabled applications as a means of streamlining business processes and as a source of application innovation.

The opportunities are numerous. You can accelerate projects through faster access to experts and decision-makers, employees can collaborate more closely and with less travel, and you can resolve problems faster and provide more responsive customer service. Your executives will cheer at tools that can shorten sales cycles and increase revenue by improving connectivity for field and sales teams.

All of this adds up to some wonderful business opportunities. But there is one major obstacle. Today, the hyper-connected employee has to deal with multiple devices to stay connected. Multiple devices mean multiple passwords, access numbers, inboxes and security environments. Multiple devices also mean missed calls, telephone tag and security exposures — all of which slow down business processes. These communications challenges are being addressed by unified communications.

This position paper explores how communications capabilities, which usually are separate from the work flow and work beneath it, can be contextually enhanced and integrated with the work-flow. The paper provides insights into Nortel's strategy, solutions and services for contextually-enhanced communications-enabled applications.



<sup>1</sup> According to a June 2008 *Information Week* survey of 700 corporate managers, CIOs and IT executives.

## Moving unified communications into the work flow

Unified communications combines presence, real-time communication modes such as telephony, video and application sharing, and near-real-time communication modes such as instant messaging, email and voicemail, into a single experience — any time, anywhere and over any device. Unified communications creates a collaborative environment that decouples communications from the location of users and the device they are using.

The business opportunities of unified communications can be maximized by thinking of unified communications as “communications integrated to optimize business processes,” a definition promoted by UC Strategies ([www.ucstrategies.com](http://www.ucstrategies.com)), an alliance of leading advisors, analysts and consultants. This is a useful perspective that includes both human and electronic business processes. Unified communications has proven to be an effective business process acceleration tool, while contextual enhancements, such as presence — which includes location and other context information — make it an effective competitive differentiator.

Business opportunities increase substantially when contextually-enhanced unified communications is moved into the work flow, rather than existing separately below it. For example, embedded communications can provide:

- Acceleration of projects with access to key decision-makers
- Access to experts for better and more timely response to service issues
- Rapid problem resolution, especially associated with major investments such as product launches
- Improvements in customer experience with increased opportunities for up-selling and cross-selling leveraging expert access
- Shortened sales cycles and increased revenues

Vertical industry	Example of communications-enabled applications
<b>Healthcare</b>	Patients can be discharged more quickly, because the patient care application can reach out to authorizing medical personnel wherever they are.
<b>Insurance</b>	Policies can be approved faster because the insurance application allows agents to communicate in real time with the required approvers.
<b>Finance</b>	Brokerage teams can respond faster to market dynamics through a communications-enabled brokerage application, which orchestrates real-time collaboration triggered by market events.
<b>Government (and general enterprise)</b>	More effective emergency response can be provided because the first responder application recognizes the availability and location of key resources.
<b>Education</b>	Tutoring requests can be met more quickly by identifying the most appropriate tutor based on skills, proximity and availability.

Over time, more and more business processes will be communications-enabled, addressing content, time, communications and context management dimensions. In fact, some enterprises, such as Orlando Healthcare, are starting down this path today. Orlando Healthcare has advanced patient discharge times by four hours by communications-enabling their Physician Order Entry application.

## Contextually-enhanced communications-enabled applications

Let’s step back and look at the key dimensions that need to be addressed in accelerating business processes.

Research by Dr. Sandra Haseloff has identified four areas<sup>2</sup> that are critical in information logistics:

- **Content management:** Content management ensures that each person is supplied with only that content he/she really needs, while minimizing information overflow including duplication.
- **Time management:** The just-in-time delivery of information is of utmost importance.
- **Communication management:** Communication management involves using the most appropriate method to communicate with

decision-makers, adjusting to the preferred device of the user.

- **Context management:** Context management, which is much more than presence, encompasses the interrelated conditions in which the business process exists.

Context is traditionally viewed as presence, but it should also be viewed as any information that can be used to accelerate a business process by allowing decisions to be made more quickly, leveraging unified communications.

There are four components to context:

- **Identity/role:** Knowledge of the identity and respective roles of individuals in a work flow is essential to any context-aware communications. The preferences, interests and other attitudes of a user may have a great influence on how relevant information supply is delivered and what information is to be provided. Consider, for example, how enterprise policies influence which information is delivered to whom.
- **Presence/reachability:** The state of users includes their physical activity and applications being accessed. It also reflects the disposition of the user and his or her priorities at that time.

<sup>2</sup> In her thesis work at the Technical University of Berlin (2005) ([http://edocs.tu-berlin.de/diss/2005/haseloff\\_sandra.pdf](http://edocs.tu-berlin.de/diss/2005/haseloff_sandra.pdf)).

Reachability denotes the sum of all communications media a person has at his/her disposal and is able to use, or prefers to use, at a given point in time. Device, cost of service, quality of service and available modalities all can impact reachability.

- **Location:** Location describes where, in which direction and how fast. It also includes information on the surroundings, such as people and objects/devices near an entity. Consider, for example, a confidential message that is not displayed on a user's screen when other people are near, or a high-res display that could be used by a mobile user.
- **Situation/activity/event:** This includes the business process needs for reduced time to X, various entities in the decision-making process, the urgency of the matter at hand, the type of information exchange that is needed and the communication media available or preferred and any relevant real-time and/or historical content, potentially delivered as notifications and alerts. Even external conditions, such as traffic or weather, may impact decision-making activities.

Enhancing unified communications with context can reduce the human latency involved in making sense of data from different sources; orchestrating suitable responses to events; or keeping track of actions responding to information received. Context adds important identity, presence, location and situational information to the communications and in turn to the communications-enabled application.

Benefit of Nortel communications-enabled applications	Examples
<b>Speed and accuracy</b>	<ul style="list-style-type: none"> <li>• Accelerates human and electronic business processes</li> <li>• Improves customer and supplier relationships</li> <li>• Brings goods and services to the market faster</li> <li>• Reduces errors and mistakes</li> </ul>
<b>Improved business agility</b>	<ul style="list-style-type: none"> <li>• Creates new opportunities from unified communications investments</li> <li>• Enables quick reactions to changes</li> <li>• Equips businesses for sustainable competitive advantage</li> </ul>
<b>Improved overall productivity</b>	<ul style="list-style-type: none"> <li>• Enhances personal, group and business effectiveness</li> </ul>

### Nortel accelerates business processes

Nortel's vision capitalizes on Hyperconnectivity to impact how work is done through rich collaboration across an increasingly mobile and virtualized organization, as well as to redefine how work and business processes are organized and accelerated in a business environment in which time-sensitive everything is demanded by clients, citizens and customers.

A key component of the Nortel vision is the acceleration of business processes through contextually-enhanced unified communications and by integrating unified communications into business applications, which Nortel calls communications-enabled applications. To help customers and partners realize this vision, Nortel offers comprehensive Application Integration Services to help accelerate the realization of this vision.

Nortel is committed to deliver a consistent unified experience for the user

across telephony, mobility and the PC desktop environments. To this end, it has developed state-of-the-art, end-to-end unified communications solutions. Furthermore, Nortel has established very strong alliances with Microsoft ([www.innovativecommunicationsalliance.com](http://www.innovativecommunicationsalliance.com)) and with IBM ([www.nortel.com/ibm](http://www.nortel.com/ibm)) to deliver the most comprehensive unified communications solutions to enterprises that have embraced Microsoft Office Communications Server (OCS) 2007 and IBM Sametime respectively.

Enterprises and carriers can best realize the benefits of contextually-enhanced solutions when these have been deployed effectively, taking into account all aspects of the overall enterprise environment. When critical business and technical requirements are assessed and addressed prior to implementation, you can prevent costly delays, improve service quality and deploy a solution that will meet your business needs now and in the future.

To meet these needs, Nortel Unified Communications Services offers a suite of capabilities, including business process improvement analysis, training, custom development, testing and deployment of applications for both enterprise and carrier customers. The solutions delivered by Nortel Unified Communications Services are based on an open architectural approach that

Context dimension	Contextually-enhanced functionality
<b>Identity/role</b>	<ul style="list-style-type: none"> <li>• Profile consolidation</li> <li>• Team and role association</li> </ul>
<b>Presence/reachability</b>	<ul style="list-style-type: none"> <li>• Aggregated presence</li> <li>• Personal Agent</li> </ul>
<b>Location</b>	<ul style="list-style-type: none"> <li>• Personnel safety monitoring</li> <li>• Asset availability tracking</li> </ul>
<b>Situation/activity/event</b>	<ul style="list-style-type: none"> <li>• Notifications, alerts and information push</li> <li>• Unified people/resource scheduling</li> </ul>

generates context information from various sources (such as from Exchange and OCS, Lotus Notes and Sametime, Nortel and non-Nortel IP PBXs, GPS-equipped phones and Wi-Fi location servers) and can integrate contextually enhanced unified communications into the business process to create a seamless user experience.

Nortel's lead product for communications-enabled applications is the Agile Communication Environment. Agile Communication Environment is communications integration software that helps enable key context-enhanced communication capabilities (such as Click to Connect, location and aggregated presence) to be presented as services in a web-based environment. Through Agile Communication Environment, these can be quickly and easily integrated into business applications and processes.

The Agile Communication Environment allows customers to mix and match these services with IT

applications in order to create new, rich, value-added applications. For instance, in its first release, Nortel's Agile Communication Environment is integrated on IBM's WebSphere® Application Server, adapts to multi-vendor telecom environments and integrates with Lotus Sametime. The Agile Communication Environment is also available as a toolkit and is being integrated with other leading vendors' SOA frameworks (such as Microsoft's Biztalk).

While the Agile Communication Environment provides a highly extensible SOA-based framework, contextually-enhanced communications-enabled applications can, in some cases, be more effectively achieved as point solutions working with OCS, Sametime or Nortel MCS APIs. Specifically, Nortel can work with customers who want to add additional context to their unified communications environments and accelerate their business processes. For example, Microsoft OCS server APIs

can be used to create plug-ins directly into OCS that can monitor, archive and affect the routing of messages through the server, and Office Communicator APIs can be used to query for presence information, launch IM, voice and video sessions, and enhance the client experience.

## Summary

The business opportunities associated with unified communications increase substantially when unified communications is moved into the work flow, rather than existing separately below it, through contextually-enhanced unified communications and communications-enabled applications. Nortel, a leader in unified communications (see Gartner's UC Magic Quadrant), is committed to help enterprises accelerate their businesses through software-based solutions and Application Integration Services.

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Nortel is a recognized leader in delivering communications capabilities that make the promise of Business Made Simple a reality for our customers. Our next-generation technologies, for both service provider and enterprise networks, support multimedia and business-critical applications. Nortel's technologies are designed to help eliminate today's barriers to efficiency, speed and performance by simplifying networks and connecting people to the information they need, when they need it. Nortel does business in more than 150 countries around the world. For more information, visit Nortel on the Web at [www.nortel.com](http://www.nortel.com). For the latest Nortel news, visit [www.nortel.com/news](http://www.nortel.com/news).

For more information, contact your Nortel representative, or call 1-800-4 NORTEL or 1-800-466-7835 from anywhere in North America.

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