

Context-aware Communications for Competitive Advantage

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Today's CIOs are asked to envision an organization where employees, customers, partners and suppliers are able to reach whatever person or information they need whenever they want and from wherever they are. This is a place where employees are highly productive, customer service excels and business hums along nicely. The Yankee Group calls this the Anywhere Enterprise. Alcatel-Lucent defines it as The Dynamic Enterprise. While this presents a nice vision, it does beg several questions: Who is the most knowledgeable person to contact? How does a service representative fully understand the customer requirement? If the matter is time-critical, who is the closest person with the answer? Which individuals are available? Where is the device that I need to communicate with that person?

There are many more questions that need to be answered in the day-to-day activities of any individual. So, while technology trends are moving us closer to the vision, something else is required to truly deliver on the Anywhere Enterprise. That something is context.

For the purposes of this article, context is defined as understanding who the user is, where they are located, whether they are available, which device they can be reached on and if they have the required skills or knowledge. The main components of context are as follows:

- **Presence:** In the simplest terms, the presence of a user is an indicator of whether a user is available. If the user shows "available," the person investigating the user's presence should feel free to contact them. Presence has expanded greatly over the past few years to the point that it is very easy to know exactly what a user is doing. Users are able to show status messages such as "busy," "on the phone," "in a meeting" or even user-defined messages such as "In Boston office today; please call me at 617-555-1212." Presence can also indicate the best possible device on which to reach a user.
- **Location:** The location of a user is an indicator of where the user is. Location information can be gained from a variety of sources, including RFID tagging devices, information collected from cellular phones or corporate communications devices.
- **Unified Communications (UC):** UC is critical to context because it ties all of our communication and collaboration tools together. Part of context is understanding whether the user's preferred communications tool is, for example, a desk phone, video, cell phone or chat. UC can bring these tools together in a single interface and also allow that interface to be delivered in a mobile world.
- **Integration with knowledge and knowledge systems:** The ability to integrate into knowledge systems provides the user with an understanding of who in the organization is the most qualified to answer a certain question, solve a problem or attend to a required task.

In some cases, context can be extended from users to devices and objects in an organization. This is common in environments such as manufacturing, hospitals or the entertainment industry, where devices are an integral part of the business process.

Why Context is Important to Communications

Context can bring required intelligence to a user when trying to locate the best person or device. Let's consider the real-world example of a hospital environment. Today, when a patient alarm is triggered, the hospital clinician attending to the patient needs to react quickly. If the situation requires

escalation, the clinician will usually need to involve a doctor in the process to adequately treat the patient. With traditional communications, the clinician may need to ask a number of individuals who the best doctor is and how to reach them and then leave messages for several doctors through a number of mediums such as e-mail, paging or voice communications.

With context-aware communications, the clinician would be able to go to a single interface and search a keyword such as “cardiac” to find a list of all qualified doctors. The presence status “available” would identify those who are accessible, saving the clinician time by eliminating the need to locate doctors who are not “on call.” The clinician would then further refine the search and focus only on those doctors on the current premises or campus. Finally, when the correct doctor is identified, the clinician can then know the best method to communicate with that doctor, saving the clinician time by sending one message or making one call.

By using context-aware communications, the clinician is able to take a traditionally manually intensive, communications-heavy process and streamline it to just a few mouse clicks to reach the correct individual in the shortest time possible. In the example of the hospital, this could make the difference in a patient receiving the proper care in the correct time. The result could be as dramatic as saving the patient’s life.

Summary

Seamless connectivity, social networking and advancements in mobile technology have made it much easier for us to reach people “on demand.” However, the flexibility that this technology has created also added a significant amount of human delay into many of the processes. Context-aware communications can streamline many of today’s communications-intensive processes and allow organizations to create new ways of interacting, built around collaboration. Context-aware communications allows companies to take full advantage of many of the technology advancements of the past few years and bring productivity to unprecedented levels. Organizations need to make delivering context-aware communications a priority or risk rapidly falling behind the competition.

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