

# **INTEROP<sup>®</sup> LABS**

***Unified Communications***

## ***Overview***

Unified Communications (UC) is a commonly used term for the integration of disparate communications systems, media, devices and applications. This potentially includes the integration of fixed and mobile voice, e-mail, instant messaging, presence, Internet Protocol (IP)-PBX, Voice over IP (VoIP), Voice over Wireless LAN (VoWLAN), voice mail, fax, audio, video and web conferencing, unified messaging, and unified voicemail into a single environment. UC represents a communication's "Holy Grail" by magazines and writers in the science fiction community.

## ***Definition***

UC is an evolving communications technology architecture, which automates and unifies multiple forms of human and device communications in context, and with a common experience. Its intent is to optimize business processes and enhance communications by reducing latency, managing flows, and eliminating device and media dependencies. All without ignoring existing business rules imposed by a globalized economy.

## ***History***

The history of Unified Communications is tied to the evolution of the supporting technology. Unified Communications relies on the Internet Protocol (IP), which also supports e-mail and the World-Wide Web. Previously telephony was separated from data communications and was based upon TDM (Time Division Multiplexing). As the world changed telephony began evolving toward employing software and servers and moved toward using IP thereby transforming the industry. Voice over Internet Protocol (VoIP) provides digital telephone services over IP networks, including the public Internet, instead of traditional switched telephone networks. With this shift in mode of delivery over the course of the past ten years or so, Unified Communications and all its real-time capabilities and uses became reality instead of science fiction.

## **The difference between Unified Communications and Unified Messaging**

Unified Communications is sometimes confused with Unified Messaging, but it is distinct. Unified Communications refers to a real-time delivery of communications based on the preferred method and location of the recipient; Unified Messaging systems culls messages from several sources (such as email, voice mail and faxes), but holds those messages for retrieval at a later time.

## **Components of Unified Communications**

Unified Communications can include a variety of tools: such as instant messaging, telephony, video, email, voicemail, and short message services, all of which can be brought into real time and coordinated. The concept of presence is also a factor – knowing where one's intended recipients are and if they are available, in real time is itself a key component of Unified Communications. Simply put, Unified Communications integrates all the systems that a user might already be using and helps those systems work together in real time. For example, Unified Communications technology could allow a user to seamlessly collaborate with another person on a project, even if the two users are in separate locations. The user could quickly locate the necessary person by accessing an interactive directory, engage in a text messaging session, and then escalate the session to a voice call, or even a video call – all within minutes. In another example, an employee receives a call from a customer who wants answers. Unified Communications could enable that worker to access a real-time list of available expert colleagues, then, make a call to the necessary person, enabling the employee to answer the customer faster, and eliminating rounds of back-and-forth emails and phone-tag.

The examples in the previous paragraph primarily describe "personal productivity" enhancements that tend to benefit the individual user. While such benefits can be important, enterprises are finding that they can achieve even greater impact by using Unified Communications capabilities to transform business processes. This is achieved by integrating UC functionality directly into the business applications using development tools provided by many of the suppliers. Instead of the individual user invoking the UC functionality to, say, find an appropriate resource, the workflow or process application automatically identifies the resource at the point in the business activity where one is needed.

When used in this manner, the concept of "presence" often changes. Most people associate presence with IM "buddy lists" -- the status of individuals is identified. But, in many business process applications, what is important is finding someone with a certain skill. In these environments, presence will identify available skills or capabilities. In some cases presence are integrated with office productivity tools with icons listed next to the collaborator list to indicate availability and location at a glance.

Additionally many UC offerings have integrated auditing features that provide a historical view of communications threads while making it easier to fulfill regulatory issues involved with various market segments. This "business process" approach to integrating UC functionality can result in bottom line benefits that are an order of magnitude greater than those achievable by personal productivity methods alone

## **Unified Communications in action**

Given the sophistication of Unified Communications technology, its uses are driven by business processes. It enables users to know where their colleagues are physically located (say, their car or home office), and their preferred mode of communication the recipient prefers at any given time (perhaps their cell phone, or email, or instant messaging). A user could seamlessly set up a real-time collaboration on a document they are producing with a co-worker, or in a retail setting a worker might do a price-check on a product using a hand-held device and be able to consult with a co-worker based on a customer inquiry. With Unified Communications, instant messaging and presence could be built into the application, and the problem could be resolved in moments. The reach and scope of Unified Communication is emerging in the toolkits of the software developers and its true impact will only be revealed as UC features become more tightly integrated into the business process.

## **Business benefits of Unified Communications**

Unified Communications helps businesses, small and large alike, to streamline information delivery and ensure ease of use without ignoring rules involved with the business process. Human delays are also minimized or eliminated, resulting in better, faster interaction with improved service-delivery for the customer, and cost savings for the business. Unified Communications also allows for easier, more direct collaboration between co-workers and with suppliers and clients, even if they are not physically on the same site. This allows for possible reductions in business travel, especially with multi-party video communications, reducing an organization's carbon and economic footprint.

## **Who is it for?**

Unified Communications is a new tool for knowledge workers, information workers, and service workers alike, many of whom may cross the lines between the various sectors on a daily or hourly basis, depending on the task and the client. With an increasingly mobile workforce, businesses are rarely centralized in one location. Unified Communications facilitates this on-the-go, always-available style of communication. In addition, Unified Communications technology can be tailored to each person's specific job or to a particular section of a company. As UC technology develops the science fiction hinted at in Arthur C. Clarke's *2001A Space Odyssey* is linking together the global society in ways we could only previously imagined.