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IT Business Brief

Taking Unified Messaging to the Next Level

by Larry Hettick

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VoIP

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A note from the founders

With VoIP,
it's all about applications.

In the old days, i.e., about three or four years ago, there were legitimate questions as to whether VoIP was technically ready for prime time. Now, the products — from routers to IP-PBXes — have answered that question affirmatively. But, at the same time, the economies of implementing VoIP primarily for toll bypass have continued to diminish. Instead, the primary reason to implement VoIP has shifted to the business benefits of allowing your workforce to be more efficient.

One of the first VoIP-enhanced applications to hit the streets is, of course, unified messaging. Even conservative estimates indicate a productivity gain of at least an hour a week, which translates into a work-week per year.

In this IT Business Brief, our colleague Larry Hettick takes unified messaging one step further — to a unified communications portal. Read on for a glimpse of what's coming in the not-too-distant future.

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Taking Unified Messaging to the Next Level

- Larry Hettick

Unified messaging isn't just about unified messaging anymore; rather, unified messaging systems and services are evolving into *unified communications portals*. Benefiting from advances in voice over IP (VoIP) and web-based open standards development and deployment, unified communications portals now provide the doorway to integrate voice, email, and fax with common desktop and back-office applications. These unified communications portals also help users customize how they will be reached using presence-based communications, and integrate technological progress in speech-to-text and text to speech–providing users greater control of their daily information deluge. In this brief we'll take a look at how the portal and underlying infrastructure are evolving and how this evolution can benefit the enterprise.

Legacy Unified Message Systems

With a historical unified messaging platform, users can "access voice, fax, and email from anywhere, using any device, at any time." (http://www.unifiedmessaging.com/) A typical system will provide the user both a desktop graphical user interface and a telephony interface. The desktop interface provides the users a view of their voice mail, email, and faxed messages; with a "click" they can see text messages and listen to audio — including text-to-speech conversions of email. The telephone interface offers audio access to incoming and stored messages.

Both the desktop and the telephone interfaces provide an option to reply with voice messages, email, or with a sound-file sent in an email message. Fax integration features typically let the user listen to the fax-sending number and redirect the fax to a standard fax machine or a desktop computer for printing. "Click to" call or contact (from the desktop), and "speak to" call or contact (from the phone) are also standard features.

While these legacy systems have been a good tool to increase user communications and productivity, they have also typically been based on specific hardware and have been proprietary, single vendor systems without the benefit of competitive "plug and play."

Building Unified Communications Portals

While back office applications like SAP, Oracle, Siebel, and PeopleSoft have provided web-based interfaces for several years, communications systems and applications like PBXs and voice mail have relied on proprietary hardware and on proprietary, or at least pretty cryptic, interfaces. However, over the past 12-18 months it seems the communications systems companies have finally become "converts" to a variety of web-based standards. The resulting support and implementation from companies including Alcatel, Avaya, Cisco, Nortel, and Siemens are changing the fundamental architecture of communications systems and thereby setting the stage for easy integration of new applications like instant messaging and collaboration.

For example, Session Initiation Protocol (SIP) and SIP Instant Messaging and Presence Leveraging Extensions (SIMPLE) are Internet Engineering Task Force (IETF) standards. SIP establishes, modifies, and terminates multimedia sessions between participants. And because SIP tracks user locations via a registration process, it also easily provides for a user's presence information.

Presence allows the network to route calls between multiple users–even if the user is in a remote location. Users can set their personal "reach me" profile, directing calls or emails to a specified location and onto an appropriate device, including both wireless and wireline phones and computers.

SIMPLE provides the needed extension for SIP to offer Instant Messaging (IM) and presence services. As multimedia protocols, SIP and

SIMPLE can easily signal between two communications types like instant messaging (IM) and a voice phone call.

Another standard gaining support from communications systems vendors is Extensible Markup Language (XML). XML was developed by the World Wide Web Consortium (W3C) to structure, store, and send information. XML has been designed to be easily understood and simple to implement. Because of these two goals, many developers (and even some amateurs) have learned to write using XML rules.

With a large development community available, XML has become a widely adopted protocol to communicate between applications. So, as unified communications portals support XML, they can more easily integrate applications like SAP and Oracle onto the portal.

Voice XML (VXML), also developed by the World Wide Web Consortium, allows people to use voice commands or DTMF prompts to interact with the web-based applications. Similarly, it provides for IVR responses from an application by playing prerecorded messages or relaying text into synthesized speech.

Speech Application Language Tags (SALT), similar to VXML because it turns human speech into applications commands and vice-versa, goes beyond VXML by interacting with both Web and voice applications concurrently.

Unified Communications Portal User Benefits

While the collection of standards being supported may be interesting to those who follow standards for a hobby, the implication for the enterprise is more than just interesting. Whereas a unified messaging system could bring together voice call, voice mail, email, and fax, a unified communications portal can bring together much more.

The first feature added to the new portal is instant messaging. About time — given that most enterprises either use or would like to use instant messaging.

The second productivity boost comes from the portals' ability to support presence. Applying the IM concept of a "buddy list," callers

know where users can be reached and can initiate an icon-driven conversation or conference call.

The third improvement is the easier integration of additional user appliances like wireless phones and PDAs as additional user terminals that support unified communications. Because the wireless industry has developed compatible web-based data services, the unified communications portal can transparently integrate wireless devices with user presence and profiles.

The fourth benefit comes from the way vendors are implementing their support for these open interfaces–using a software-based solution independent from legacy hardware systems. This approach more easily allows for multi-vendor solutions, so the enterprise can more easily integrate for example, one supplier's email system with another's IM system. XML-based interfaces between the two vendor systems offer integration capability in a matter of hours, not months.

The fifth change comes with the ability to offer integrated desktop PC applications like Outlook and server + PC applications like LOTUS with the unified portal. Microsoft's .NET product suite and strategy to integrate PC and server applications with communications systems have gone a long way to advance this change quickly.

The sixth user benefit is easier collaboration. With a simple "click to collaborate" users will be able to share documents easily by launching a transparent portal application.

The final and most profound benefit is the shift in the underlying communications infrastructure. Today, unified communications portals can be used to facilitate user-to-user communications. But with web-based interfaces available, users will soon be able to more effectively communicate with the applications they need for their daily activities. The unified communications portals of tomorrow will allow users to customize how they engage data applications and data processing as easily as they can customize communications with other human users today.

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