Hey, Buddy...

Instant messaging has quietly flown in under the radar screen of corporate America, making its way from users' home PCs to their desktops at work. As businesses start to take notice, IM and its core concept, presence, are poised to turn communications as we know it inside out.

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A year ago, if instant messaging (IM) was present at all in the workplace, it was most likely to be viewed as a drain on productivity. Like Internet chat rooms (and not altogether inaccurately), IM was characterized as a domain populated by teenagers, hackers, and purveyors of cybersex. It hasn't taken long, however, for this scenario to alter radically: The once dismissed medium of the instant message has now become an object of interest, controversy, and investment for a growing number of businesses.

The best proof of IM's growing demographic is the much publicized turf war among vendors of IM technology, most notably over the position of market leader America Online. The fervor with which companies like AOL, Microsoft, and Yahoo are pursuing these battles, despite the fact that few if any are presently drawing revenues from their services, is similarly a sign that IM's potential is far from fully realized. In the business environment, deployment of IM is still largely unauthorized by official channels. But that hasn't stopped scores of users from downloading the clients to their PCs and chatting with friends, colleagues, and co-workers. What these users, vendors, and, increasingly, planners of corporate IT and MIS strategies are finding is that IM can offer degrees of efficiency, effectiveness, and versatility that, at least in certain contexts, far surpass both telephony and e-mail.

While instant messaging is typically referred to as a "realtime" medium, in contrast to the asynchronicity of e-mail messages, it nonetheless operates on a distinctly different order of immediacy from a telephone conversation. What makes IM unique is not just the specific form of messages exchanged between users, typically short and text-based, but also the context in which these messages are initiated and processed. Most IM clients, for example, use e-mail-like addressing and exchange mechanisms, though for now, these mechanisms are mainly proprietary and non-interoperable across various clients. Unlike e-mail, however, a user ID for instant messaging refers to more than a static destination or message repository. Rather, IM addresses are intimately tied to presence, or the user's availability and willingness to send and receive messages.

The concept of presence holds innumerable theoretical and practical possibilities, extending to almost any form of communication. But in current IM applications, presence takes a very concrete form — the "buddy list." Popularized by AOL and supported by its acquired ICQ software, the buddy list in its most basic form consists of a list of users who are shown to be either online or offline at a given point in time. This information is published to other users who have subscribed to the service, and who, in most cases, have been authorized by their "buddies" to be so informed. When one subscriber sees that another is online, she can initiate an instant messaging session, typically by double-clicking on the name from her buddy list.

Different clients, of course, include different levels of functionality. Yahoo's Instant Messenger, for instance, lets users enter and display custom status messages to their buddies while online. Other systems offer default settings for "busy" mode or the ability to generate auto-replies to indicate that a user is online but not available. Some instant messengers integrate with e-mail clients, or include their own e-mail-like methods for reaching users who are not online at the time a message is sent. Most allow for multi-party "conferences," or what amount to on-the-fly private chat rooms, as well as one-to-one communication between users.

By making the status and availability of individual users known before any communication is attempted, buddy lists facilitate a realtime, or almost realtime, communications environment that is at once more effective and less obtrusive than a telephone call. Naturally, an IM message that "knows" that an addressee is available has a much better chance of reaching that person than a phone call, which more often than not ends up dropped into voicemail. At the same time, an IM session is typically less obtrusive than a phone conversation, because IM demands much less of a monopoly on the attention of its participants. Both because the medium is generally simple text, and because the exchange of presence information creates an essentially "open" channel for communication between users who are online, IM accommodates more of a free form, loosely structured style of conversation than the telephone. In addition, the fact that IM clients are usually lightweight and PC-

based allows them more easily to integrate with a user's desktop environment.

Combined, these characteristics comprise a medium that is particularly well-suited to active collaboration and to informal but important exchanges of ideas and information among users in a distributed work environment — scenarios that make up an integral part of any knowledge worker's daily routine.

IM IN (AND BEYOND) THE ENTERPRISE

While demand for instant messaging and presence services in a business context might be obvious, implementation at this point is not such a simple matter. Security issues have concerned many enterprise network managers, and prompted some to prohibit the use of third-party, Internet-based messengers on users' desktops altogether. Even if corporate users are permit-

ted to download the popular commercial clients, most firewalls will tend to disrupt, if not completely block, their functionality.

Some solutions to these challenges have been offered in the way of privately-hosted IM servers, created explicitly for enterprise use. Companies like **Lotus** and **Microsoft** have approached this area as an extension of the messaging and groupware environment, and both offer client/server products (**SameTime** for Lotus and **Exchange Conferencing Server 2000** for Microsoft) that integrate IM and other collaboration tools with their existing message servers. Other vendors, such as **ICQ**, have adapted their consumer-based products to the enterprise environment, while newer market entrants such as **Jabber.com** (Denver, CO — 303-308-3231, www.jabber.com) are focussed on building extensible platforms capable of working IM and presence into a range of business processes.

Jabber's product vision, which builds on open source development and leverages XML (see sidebar), hints at the direction of most commercial IM offerings. The company plans to offer three different versions of its IM server: one for small businesses, which can be hosted by the customer or by Jabber; one for larger enterprises, which includes LDAP and proxy support in addition to its core functionality; and one for service providers (ISPs, ASPs, carriers), which adds high degrees of fault tolerance and support for mainframe operating systems.
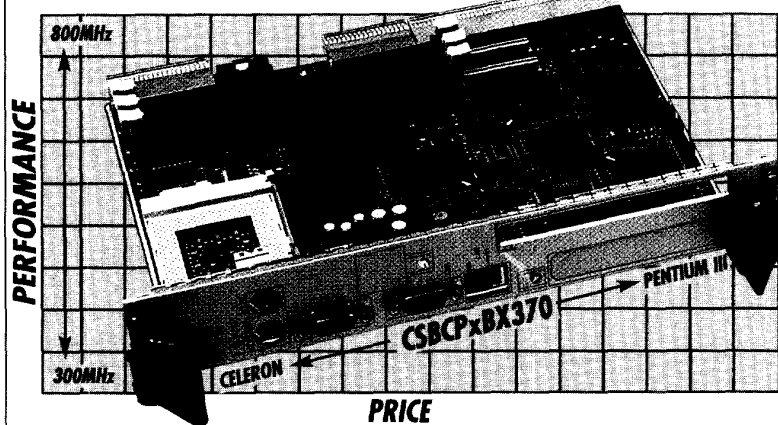
While most of today's consumer IM offerings are free, the prospect of selling into enterprises, either directly or through an ASP model, provides a clear profit opportunity. Security is certainly one important requirement in this respect, but customizable and differentiated feature and service offerings will add significant value to business-grade products. Jabber, for example, has proposed a variety of business-to-business and consumer-to-business applications of its technology, like online customer interaction and realtime auctions. Contact centers are a natural fit for the concept, where text-based IM can be used as a simple and less intimidating mode of communication between online shoppers and agents, as well as a way to proactively "push" customer service and marketing efforts.

Another extension of the presence concept is to strategically blur the distinction between business-related and consumer (or personal) applications.

While today's IM solutions rely on the activation of a desktop client to convey presence information, a next-generation system would work independently of a subscriber's proximity to the PC. My presence information, in the next-gen scenario, would potentially include my entire "ecosystem" of communications devices and contexts —from traditional IM clients, to mobile devices, to voicemail and e-mail stores, to plain old telephone handsets. The whole point of presence is to more intelligently link communications to a user (or to the variety of devices and applications that can serve as proxies for that user) in a way that is dynamic and adaptable to change. Thus, the more devices, net-

works, locations, and media it can accommodate, the better. What this implies, however, is at least a partial loosening of the rigid separation of business and personal communications.

No one is suggesting, of course, that distinctions between business and personal interactions should be eliminated outright. What is being proposed, however, is a system in which users would have the ability to establish rules, preferences, and accessibility for their communications from within one single mechanism, instead of two mechanisms or more. Today's work environments, increasingly distributed, decentralized, and loosely defined, lend themselves well to such a model.

Microsoft, who has been active in the consumer IM space with its MSN Messenger product, has recently discussed plans to extend the application of presence to other forms of realtime communication through "Microsoft.NET," the company's newest framework for Internet-based systems and software. "It's easy to think about a lot of applications, whether they are related to telephony or personal productivity or entertainment or anything else, by putting them into either business or consumer buckets," says Mark Lee, Windows Platform product manager. "But each of us wears different hats at different times of the day. This is why we think that the notion of a platform that can really take into account where you are 'right now' — that could, for example, integrate your business calendar with your personal calendar, and offer other services that truly deal with all your different hats — will have value."

INSTANT TELEPHONY

Presence information can help solve a lot of the problems associated with more traditional voice communications. A network that has dynamically updated information about a user's preferences and availability can perform more intelligent call routing than today's PSTN or existing find-me/follow-me services. Essentially, presence makes the telephone more effective both by adding dynamic information about the user to the static address of the device, and by placing the

Talk to Me

Although AOL and Yahoo! might be the most likely names to appear on desktop IM clients, text-based instant messaging certainly isn't the only game in town. For over a year now, users all over the world have been downloading free software from sites like Paltalk (New York, NY – 212-564-9997, www.paltalk.com) and Firetalk (San Francisco, CA – 650-616-1800, www.firetalk. com) and using them to exchange instant mesages as well as voice chat over the Internet with friends and co-workers. Although the technology behind these products may be similar to more conventional PC-to-PC and PC-to-Phone VoIP clients, these companies play in a rather different space from straight Internet telephony offerings. At the same time, they are quickly racking up users and minutes. Paltalk reports upwards of 9,000 new users of its product every day, while Firetalk pegs its total user population at 1.7 million.

Firetalk's core product features include instant messaging, voice-over-IP, conference calling, and web-based voicemail. Recent additions to this list are support for large-scale, interactive broadcast events using streaming media technology, as well as voice-enabled chat rooms driven by various communities of interest. Though Firetalk began with a focus mainly on consumers, the company reports seeing a good deal of interest and adoption from business users as well. The company is thus rolling out new features to target these users directly.

"Instant conferencing" is one potential killer app for business users, where ad hoc, informal conferences can be launched directly from users' buddy lists, drawing together parties from basically any location. All the users in a virtual conference room can collaborate by voice, while text IM can be used for side conversations between individuals. Firetalk has also seen business and consumer users pick up on "web touring." Here, a "tour leader" can guide up to 20 other users through web sites of their choosing, while integrating voice and text chat into the overall experience.

Paltalk's product, launched at the beginning of 1999, began similarly to Firetalk's, with one-to-one instant messaging and PC-to-PC calling, both integrated with a single buddy list. Since then, the company has added voice and videoconferencing capabilities, as well as multimedia chat rooms. All the features are available for free to consumers, and unlike some of its competitors, Paltalk says it has no plans to begin charging for its basic product. The company has proposed several alternative revenue models, however, which will complement its current use of banner ads. Among these are a deal struck recently with Deltathree (New York, NY – 212-500-4850, www.deltathree.com) to offer prepaid calling cards, along with the launch of a multimedia, interactive web store catering to Paltalk's existing user base. Other directions for the company include mobile integration (they've already demonstrated a Palm OS version of the client), as well as a possible version for enterprise users.

It's easy to see how features such as multiparty conferencing could be applied in a business context, but Paltalk's CEO Jason Katz stresses that it's the use of IM and voice chat as fundamentally new models for communications, not replacements for existing channels, that has driven adoption thus far. "I do see people who are coming to Paltalk for a way to talk for free over very long distances," Katz says. "But a tremendous number of people are coming to us just to socialize, for a new way to be entertained. They see it as a whole new medium to meet and communicate with others." A unique, if somewhat frightening, example Katz gives to illustrate his point – online karaoke.

InstantMessaging

phone itself in a broader context of media and devices, where the optimal medium can be matched to a given situation.

At the same time, the rise of presence and IM is having interesting effects on the way telephony will be used, and is expanding the definition of what constitutes a phone call. While the vast majority of instant messages sent rely purely on written text, a growing number of IM vendors are beginning to add voice-over-IP capabilities to their clients. Most of the major consumer products, in fact, including AOL, ICQ, and Yahoo, now come with the option to enable PC-to-PC voice communication. In many cases, these offerings are of the "push-to-talk" variety, like an intercom or a CB radio, where users are compelled to hold down a button on-screen while they speak. But enhanced features are being integrated rapidly. **Yahoo**, for example, already supports multi-party voice chats, and has recently sealed a partnership with **Net2Phone** (Newark, NJ — 201-530-4000, www.net2phone.com) to begin offering PC-to-phone calling as well.

Several vendors are also approaching this territory from the opposite angle — having started out with PC-based VoIP clients, they've evolved them into integrated IM and presence management systems. One example of this approach is **HearMe** (Mountain View, CA — 650-429-3900, www.hearme.com), a company founded on a solution for voice-enabled web chat. Last year HearMe acquired VoIP software vendor AudioTalk. While HearMe does not offer a conventional IM client, the company is actively integrating features typically associated with IM and buddy lists into its products.

After working briefly with ICQ on a beta offering for voice-enabled IM, HearMe has begun to implement its own server-based presence system, designed to work both with its VoIP client and with its web-based conferencing service. Beyond just applying the buddy list concept to VoIP, the HearMe product lets users leverage presence information from other subscribers to initiate on-the-fly conference calls through dynamically
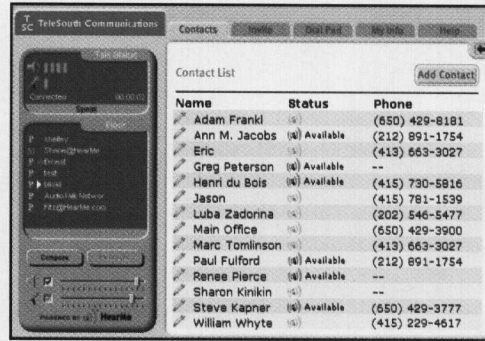
HearMe enables VoIP and video conferencing to be launched from a buddy list with its PC-based SIP software.

created, browser-based voice "chat rooms." HearMe's offering is also distinct in its ability to integrate HTML (users do not have to download the client to participate in a web-based conference) and e-mail (subscribers can "invite" other users to a realtime session through e-mail-distributed URLs).

Clearly, from HearMe's perspective, presence is an attribute that can be used as a building block for applications. "We believe that presence is what is really compelling about instant messaging products," says Steve Roskowski, HearMe's chief technology officer, "and that presence can be used to negotiate the communication mechanisms that you use today — the phone, e-mail, etc. — as much as it can instant messages. Text-based tools are useful, and certainly they are compelling, but we think that utilizing that environment to promote it to a realtime conversation is really what presence is best for."

Several vendors "escalate" from text chat to a real-time voice conversation. But while applications such as HearMe's conference calling can effectively replicate certain core functions of more traditional telephony, the potential of presence can go further. With a multifaceted presence system as the backdrop, instant messaging, could be used in some cases to supplement a traditional phone conversation — imagine text-based side conversations to a conference call, for instance — while in others it would simply supplant the use of a phone.

Similarly, adding presence to PC-based

VoIP tends to reposition its usage and realign its relationship with conventional telephony. While the first application of software VoIP clients may have been a thrifty replacement for toll long distance, the opportunities for this type of Internet voice are at once simpler and more compelling. Between conventional phone conversations and text-based instant messages, there lies significant potential for what might be called "instant telephony."

Conceptually the idea is simple — just add a buddy list to an existing VoIP client and you give users a way to instantly open and close voice channels, something like a distributed, Internet-based "hoot-n-holler" system. All of a sudden, imagine, things like toll quality voice and class 5 feature emulation don't seem so important, because the application involved doesn't really demand them. The benefit is a more efficient way of communicating, tailored to a specific set of circumstances where its use makes logical sense. (To take the simplest example, do I really need to make a phone call to a co-worker across the hall and risk either disturbing him or going through voicemail, just to find out what we're ordering for lunch?) Once this model can be integrated with a broader notion of presence, and made to operate seamlessly across media through standards, it becomes all the more powerful.

BUILDING NEXT-GEN PRESENCE

Until now, developments in instant messaging and presence have been largely driven from the client perspective, with an aim toward delivering a service. Because there have been no standards to enable server-to-server interoperability, a market for third-party infrastructure components has not really existed. Most vendors with an IM offering, therefore, have built their systems ground up, each using different, proprietary mechanisms for client/server communication, and each more or less attempting to establish itself as a de facto standard. With real standards widely agreed to be forthcoming, however, the

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