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NOTICES:	Welcome to Electronic Commerce!			

## **Introduction to Electronic Commerce: The Instant Messaging Affair**

[Tuesday, August 28, 2001]

### **READINGS**

#### **Introduction to Instant Messaging**

Start with the the introductory pages from the major messaging providers. Follow the relevant links, considering the following questions: What is Instant Messaging? Why is it popular? What is the business model that the providers are trying to execute? Are the various services the same? Which service is more valuable to users? Why?

[AOL Instant Messaging](#)

[Yahoo Instant Messaging](#)

[Microsoft MSN Messenger](#)

[ **Optional:** If you want to experiment with IM, you might use the [discussion board](#) to find someone to work with. Or you can try your instructor on [AOL Instant Messenger](#), name: *polkwagner*. ]

#### **Technology: How Instant Messaging Works**

Try to understand the mechanics of Instant Messaging. How do users find others to exchange messages with? Where do messages (and files, etc.) go when sent (i.e., how are they routed)? Who controls the IM system?

[Jeff Tyson, \*How Instant Messaging Works\*, How Stuff Works.com](#)

#### **IM Struggle: The Controversy over Compatibility**

Ideally, of course, users of the various IM services could "talk" to each other through the systems. As the following section indicates, however, this is not so simple. Consider why the various players might have an incentive to be compatible or incompatible? What is/was AOL's strategy? Microsoft's and Yahoo's? Try to form a timeline of the events -- and consider whether any of the players is gaining an advantage.

##### **Part 1: Initial Events**

[Jim Hu and Sandeep Junnarkar, \*AOL blocks Microsoft Net messaging\*, CNET News.com  
July 23, 1999, 11:50 a.m. PT](#)

*Instant Messaging Wars*, NPR, August 3, 1999 [RealAudio]

Chris Oakes, *AOL Disconnects MS Messaging*, Wired News, 12:15 p.m. Aug. 6, 1999 PDT

## Part 2: Controversy and Response

Louise Rosen, *Why IM matters so much*, UPSIDE, September 19, 2000

Stephen Labaton, *F.C.C. Approves AOL-Time Warner Deal, With Conditions*, NY Times, January 12, 2001

Greg Lindsay & Erik Wemple, *Instant-Messaging Restriction Won't Hamper AOL-Time Warner*, Inside.com, Jan 12 2001 06:31 PM PST

Jim Hu, *Decision to cut off rivals may backfire in Microsoft battle*, CNET News.com, April 5, 2001, 4:00 a.m. PT

## Part 3: Recent Developments

Jim Hu, *IM rivals can't connect on messaging plans*, CNET News.com, June 8, 2001, 1:45 p.m. PT

Jim Hu, *Microsoft messaging tactics recall browser wars*, CNET News.com, June 7, 2001, 4:00 a.m. PT

Alec Klein, *AOL Begins Test to Share Instant Messaging*, Washington Post, July 24, 2001; Page E05

## Why Do We Care? The Future and Implications of Instant Messaging

Consider the future of Instant Messaging. What uses do you foresee for this tool? Is it analogous to any real-world tools? What business models can you foresee based on Instant Messaging?

Aaron Pressman, *Business Gets the Message*, The Industry Standard, Feb 26 2001

David S. Isenberg, *Windows Messenger: New waves of Innovation*

Stefanie Olsen, *IM buddy making more powerful friends*, CNET News.com, May 23, 2001, 2:50 p.m. PT

Alec Klein, *AOL's New Instant Message: Synergy*, Washington Post, August 3, 2001; Page E01

## NOTES & QUESTIONS

**1. Compatibility & Architecture.** The IM controversy points out a crucial theme of this course: the power of architecture. Consider how the technology underlying the IM systems can be used strategically. How does one IM provider make their system "compatible" or "incompatible" with another's? How can a rival respond? Does this suggest any limits to the power of architecture?

**2. Other Legal Issues.** Much of the readings consider IM in the context of the competitive landscape in ecommerce. But several other legal issues lurk about here as well. Consider the syllabus for this course -- are of the legal issues we'll consider over the term extant in the deployment and use of Instant Messaging?

**3. Regulation.** Another theme of this course is whether (and how) governmental regulation is desirous in the ecommerce field. Does the IM controversy suggest a role for the government? If so, what role? Did the FCC do the right thing in placing some limitations on AOL-Time Warner's IM system? Should the government step in again under certain circumstances? What are the alternatives to governmental regulation that might be used?

**4. The Big Picture.** Throughout the course, we'll consider ecommerce as both a "new" means of commercial interaction and as an "evolutionary" phenomenon. Much debate over the law and policy of ecommerce will be colored by the lens through which we view the issues. Consider Instant Messaging: is this something "new" or simply a development of existing tools? Does the new technology call for new laws and regulations, or should we simply apply the old principles to this situation? Is there a "law" of ecommerce, or do we simply talk about "law"?

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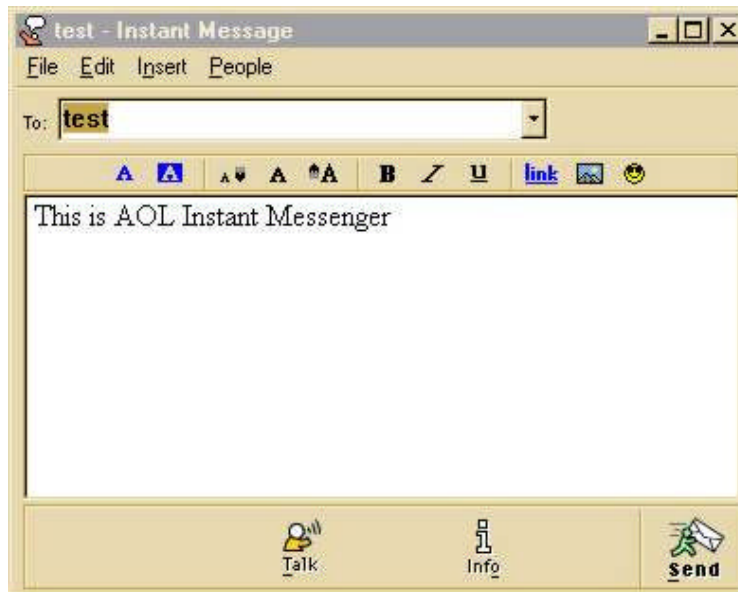
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## How Instant Messaging Works

by Jeff Tyson

There is no doubt that the Internet has changed the way we communicate. For many of us, e-mail has virtually replaced traditional letters and even telephone calls as the choice for correspondence. Every day, billions of e-mail messages are sent out. E-mail has been the most rapidly adopted form of communication ever known. In less than two decades, it has gone from obscurity to mainstream dominance.



America Online's Instant Messenger (AIM) program is one of the most popular instant messaging utilities available.

In our fast-paced world, sometimes even the rapid response of e-mail is not fast enough. You have no way of knowing if the person you are sending e-mail to is online at that particular moment or not. Also, if you are sending multiple e-mails back and forth with the same person, you normally have to click through a few steps to read, reply and send the e-mail. This is why **instant messaging** (IM) has gained popularity.

Instant messaging allows you to maintain a list of people that you wish to interact with. You can send messages to any of the people in your list, often called a **buddy list** or **contact list**, as long as that person is online. Sending a message opens up a small window where you and your friend can type in messages that both of you can see.

Most of the popular instant-messaging programs provide a variety of features:

- **Instant messages** - Send notes back and forth with a friend who is online
- **Chat** - Create your own custom chat room with friends or co-workers
- **Web links** - Share links to your favorite Web sites
- **Images** - Look at an image stored on your friend's computer
- **Sounds** - Play sounds for your friends
- **Files** - Share files by sending them directly to your friends
- **Talk** - Use the Internet instead of a phone to actually talk with friends
- **Streaming content** - Real-time or near-real-time [stock](#) quotes and news

In this edition of [HowStuffWorks](#), you will learn about the history of instant messaging and how it works. You will also learn what the major IM programs are, what makes them different from each other and what the future holds for IM.

## Bulletin Boards and Chat Rooms

Before the Internet became popular, a lot of people were already online through the use of **bulletin boards** and **online services**. A bulletin board is

comparable to a single, isolated Web site that you reach using special communications software and a [modem](#). You create an entry in the software for the bulletin board that contains the board's direct phone number and any special parameters for connecting to the [computer](#) hosting the bulletin board. Once connected to the board, you normally use a series of menus to navigate through the board's contents. To reach another board, you have to disconnect from the first board and dial up to the other one.

Major online services, such as **America Online (AOL)**, **Prodigy** and **CompuServe**, were the main way that ordinary people could connect and communicate with each other online. Think of an online service as a very sophisticated bulletin board. Whereas most small bulletin boards use standard communications software, online services provide a complete application that includes the communications software necessary to connect to their service. This application also includes the actual interface that you use once you are online and connected to the service. This allows the online service to create a very sophisticated and targeted experience for their users.

Probably one of the biggest attractions of the online service model is the **community** that it builds. AOL is considered the pioneer of the online community. AOL provides its users with the ability to talk in real-time with each other while they are online through the use of **chat rooms** and **instant messages**. A chat room is software that allows a group of people to type in messages that are seen by everyone in the "room," while instant messages are basically a chat room for just two people.

In the early 1990s, as people began to spend increasing amounts of time on the Internet, creative software developers designed software that could reproduce some of the aspects of an online service. Chat-room software was developed and set up on [Web servers](#), used by sites like [TalkCity](#).

Instant messaging really exploded on the Internet scene in November 1996. That's when **Mirabilis**, a company founded by four Israeli programmers, introduced **ICQ**, a free instant-messaging utility that anyone could use.

## I Seek You

ICQ, a combination of letters that is shorthand for the phrase "I seek you," is a real-time tool that uses a software application, called a **client**, that resides on your computer. The client communicates with an ICQ server whenever you are online and the client is running.



ICQ was one of the first available IM programs.

Look at the steps below to understand exactly what happens with ICQ.

1. You go to the download page ([www.icq.com](http://www.icq.com)) for ICQ and get a copy of the free software client for your computer.
2. You install the software and open the client.
3. The client tries to connect to the ICQ server. It uses a proprietary [protocol](#), **ICQ v5**, for communication.
4. Once the client is connected to the server, you can enter your name and password to log in to the server. If this is your first time on, you can sign up for an account and immediately begin using it. When the server verifies your name and password, you are logged in.
5. The client sends the server the connection information ([IP address](#) and number of the [port](#) assigned to the ICQ client) of the computer you are using. It also provides the user with the names of everyone in your ICQ contacts list.
6. The server creates a temporary file that has the connection information for you and the list of your contacts. It then checks to see if any of the users in your contact list are currently logged in.
7. If the server finds any of your contacts logged in, it sends a message back to the ICQ client on your computer with the connection information for that user. The ICQ server also sends your connection information to the people in your contact list that are signed on.
8. When your ICQ client gets the connection information for a person in your contact list, it changes the "status" of that person to "Online."





The ICQ message window provides more details about your session than other IM utilities do.

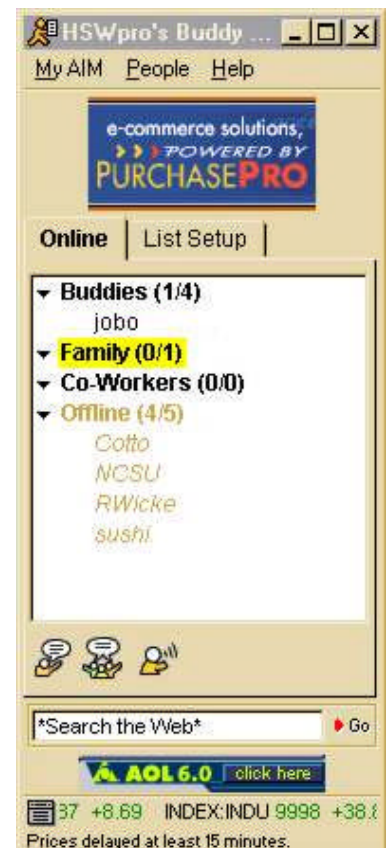
9. You click on the name of a person in your contact list who is online, and a window opens that you can enter text into. You enter a message and click "Send" to communicate with that person.
10. Because your ICQ client has the IP address and port number for the computer of the person that you sent the message to, your message is sent directly to the ICQ client on that person's computer. In other words, the ICQ server is not involved at this point. All communication is directly between the two clients.
11. The other person gets your "instant message" and responds. The ICQ window that each of you see on your respective computers expands to include a scrolling dialog of the conversation. Each person's instant messages appears in this window on both computers.
12. When the conversation is complete, you close the message window. Eventually, you go offline and exit ICQ. When this happens, your ICQ client sends a message to the ICQ server to terminate the session. The ICQ server sends a message to the ICQ client of each person on your contact list that is currently online to indicate that you have logged off. Finally, the ICQ server deletes the temporary file that contained the connection information for your ICQ client. In the ICQ clients of your contacts that are online, your name moves to the "Offline" status section.

While some of the details vary between utilities, the basic steps outlined above for ICQ apply to all of the other IM utilities on the market today. ICQ is still very popular. In fact, Mirabilis was acquired in June 1998 by AOL, and ICQ became part of the suite of online services that AOL owns.

## Take Aim and Fire

Not long after ICQ established the popularity of IM, AOL decided to enter the fray. Within a very short time, **AOL Instant Messenger (AIM)** supplanted ICQ as the leading IM utility.

Like all of the other major IM utilities, **AIM** uses a **proprietary protocol** that is not understood by other instant-messaging services. A key reason why AIM is so popular is that it allows AOL members to communicate with non-members -- other IM utilities have not been able to provide this link between AOL and the rest of the Internet. With more than 20 million subscribers to AOL, this is no small matter. In fact, one of the provisions of the recent AOL-Time Warner merger was that other services be allowed access to the AOL community and AIM protocol.



AIM provides a small window that shows your buddy list.



Customizing AIM is easy.

It is important to note that instant messaging is not considered a **secure** way to communicate. Messages and connection information are maintained on servers controlled by the provider of the IM utility that you use. Most utilities do provide a certain level of **encryption**, but they are not so secure that you should send any confidential information through the system. There have been reported cases of IM user logs being captured and **used by nefarious sorts**.

## Always in Touch

Although AIM and ICQ are the leaders in the IM race, there are several other worthy entrants. Microsoft recently introduced **MSN Explorer**, an incredibly versatile suite of utilities that includes instant messaging. **MSN Explorer** requires Windows 98, 2000 or Millennium in order to operate. A key feature of MSN Explorer, which the other major IM packages also include, is the ability to talk with another MSN Explorer user just like you would over the **telephone**. You and the person you wish to talk to must each have a **sound card**, **microphone** and **speakers** to use this feature.



Detail of the menu bar in MSN Explorer

Another IM utility that has been around for a while is **Yahoo! Messenger**. The interesting thing about **Yahoo! Messenger** is how well it integrates with other Yahoo! content and services. There are several utilities, such as **Odigo** and **Omni**, that combine various services. Odigo allows you to combine AIM, ICQ and Yahoo! Messenger contact lists. Omni lets you combine the functionality of AIM, ICQ, MSN Explorer and Yahoo! Messenger, plus the file-download utilities **Napster** and **Gnutella**, all in one program!



Yahoo!

The future of instant messaging is very bright. All of the utilities described in this article continue to be updated by their owners. And the **Internet Engineering Task Force** (IETF) is developing a standard protocol for instant messaging, called the **Instant Messaging Presence Protocol**. Business users are discovering that instant messaging allows them to have virtual conferences and collaborate on projects very easily. In other words, if you have not tried IM, you're missing out on a whole new world of communication.

## Links

### Related HowStuffWorks Links

- [How E-mail Works](#)
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- [How Encryption Works](#)
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### Other Great Links

- [IETF.org: Instant Messaging Presence Protocol](#)
- [AOL Instant Messenger Homepage](#)
- [How AIM Works](#)
- [AIM FAQ and Help](#)
- [MSN Explorer Homepage](#)
- [MSN Explorer Flash Tour](#)
- [Yahoo! Messenger Information](#)
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## AOL blocks Microsoft Net messaging

By [Jim Hu](#) and [Sandeep Junnarkar](#)  
Staff Writers, CNET News.com  
July 23, 1999, 11:50 a.m. PT

**America Online is blocking Microsoft and Yahoo instant message users from communicating with users on its coveted Buddy List.**

"Just as we have in the past, we continue to block anyone who attempts to use the AOL infrastructure in an unauthorized way regardless of whether those infringements involve new products or efforts like spamming, hacking, or password stealing," said AOL spokeswoman Ann Brackbill.

Microsoft yesterday **unveiled** its MSN Messenger service, which has an added feature that allows its users to communicate with AOL Instant Messenger users. An updated beta version of Yahoo Messenger also allows users to communicate with AOL screen names.

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AOL yesterday criticized Microsoft's MSN Messenger, charging that it poses a security risk to AOL users. When new MSN Messenger users want to import their AOL Buddy Lists, it asks them to type in their passwords. AOL said Microsoft was "goading" users to reveal their passwords and compared the practice to what hackers do. In response, Microsoft denied there was a security risk because the company cannot access the passwords.

Users of Microsoft and Yahoo's services were able to send instant messages to AOL screen names yesterday. But this morning, a number of CNET News.com readers, including members of the Internet Engineering Task Force charged with seeking a standard protocol, reported that they were unable to send messages from MSN Messenger software to users of AOL Instant Messenger, despite having been able to do so yesterday.

The readers said that attempts to send messages from Microsoft's software to AOL Instant Messenger users results in an "incorrect password/login" error. Some said the same is true for Yahoo Messenger, Yahoo's second-generation instant messaging client, which is currently in beta.

Brian Park, senior producer for Yahoo Messenger, said the protocols used to build interoperability with AOL Instant Messenger are not working anymore.

"They were working last night, and they are not working today," he said. "I'm assuming that AOL made a change to their protocols."

A Microsoft spokesman called the act "unfortunate" and against consumer demands for open instant messaging platforms. "They are more focused on maintaining their own situation than what's right for their consumers," he said about AOL.

AOL's Brackbill disagreed. "This has nothing to do with being unreceptive to consumers," she said. "In our view, Microsoft's just violated the cardinal rule of the Internet by asking our users their screen names."

AOL's popular Instant Messenger service allows users to establish a Buddy List of users with whom they can communicate in real time. AOL has attracted millions of users to its Buddy List network, which it considers a valuable platform to serve advertising and promote its subscription service. Much of the Buddy List's traffic stems from nonmembers who can download the communication software onto their computers.

Microsoft has said it supports establishing an open standard for all instant messaging services to communicate with one another. But the client currently does not allow communication with Yahoo Messenger.

AOL is opposed to the proposed standard, because it wants to protect its existing market dominance, analysts said. AOL also owns ICQ, another popular instant messaging service that the company has turned into a "desktop communications portal." As of June, ICQ had 35 million registrations.

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- [AOL Instant Messenger \(32-bit\)](#)
- [MSN Messenger Service](#)
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## AOL Disconnects MS Messaging

by **Chris Oakes**

12:15 p.m. Aug. 6, 1999 PDT

America Online is striking knock-out punches against Microsoft's instant messaging users.

AOL began disconnecting live chat sessions Friday between MSN Messenger users and AOL's own instant messaging users. The latest AOL maneuver logs Microsoft users off their own service and even disrupts any ongoing chat with other MSN Messenger users.

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See also: [AOL Insta-Spams MSN Messenger](#)

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"You have been disconnected from the AOL Instant Message Service for accessing the AOL network using unauthorized software. You can download a FREE, fully featured, and authorized client, [here](#)," the sabotaging message informs MSN Messenger users.

Instant messaging is similar to live email in which users can summon each other immediately and exchange messages in real time. It's similar to open chat rooms on the Net, but is specific to two or more acquainted users.

Microsoft released its new MSN Messenger service and client software last month so that users could access AOL's popular Instant Messenger accounts.

Friday's move by AOL was an intensification of the battle that took another turn Thursday, when AOL [fired off a warning note](#) to all connected MSN Messenger users.

Tony Coppoletta, a Chicago-based MSN Messenger user, said he was knocked out of the MSN messaging system three times Friday morning.

"This response from AOL seems to be the most damaging because it's not just a way to keep Messenger users off AOL's network.... It's causing a problem with service for Messenger users."

Any other simultaneous chats that Messenger users are conducting will be disconnected as well. "It puts a deadstop to the conversation," said Coppoletta.

AOL spokeswoman Tricia Primrose confirmed that AOL blocking activity is disconnecting MSN Messenger user who are chatting with AIM users. But AOL isn't responsible for any further effects, she said.

"We're just doing what we've always done, which is closing the connection to the AIM 'name space,'" Primrose said. "...We've been blocking, Microsoft has been doing workarounds. This problem that has emerged with people being logged out is not in any way connected to us disconnecting them."

She deferred questions as to the cause of the additional problem to Microsoft, which Friday afternoon said it was still investigating the issue.

The battle between Microsoft and AOL over chat services flared up 23 July when Microsoft debuted its new AOL-compatible instant messaging client. AOL didn't like Microsoft's access to its messaging system, and made a defensive code alteration to its servers.

On 30 July, both AOL and Microsoft lined up partner companies to support their initiatives for instant messaging. AOL and Microsoft have exchanged letters, but have had no formal discussions to settle their dispute over how to create and open up the instant messaging platform.

Microsoft continues to counteract the almost daily changes that AOL puts in place to block MSN users.

Messenger user Coppoletta, for one, doesn't buy the AOL argument that Microsoft's software and service is hacking into AOL's.

"Microsoft is using the same means of accessing the network as AOL permitted people using Unix clients to do as well.... I wouldn't see it as a security risk or opening up a security hole any more than an email client would."

AOL spokeswoman Tricia Primrose said that the warning messages are just another part of the company's "blocking strategy" against MSN hacks.

"We want to let MSN Messenger users know they're using unauthorized software, and that they're welcome to download our product."

Primrose asserts that MSN is hacking because its service mimics legitimate AOL software. "It's an attempt to access our server, or fool our servers, into thinking they are receiving from our authentic software."

"We're not going to stand by and allow Microsoft to hack into our servers in an unauthorized way," she added. "If they want to sit down and arrive at a legit agreement, we'd be happy to."

And if users get caught in the middle?

Primrose said AOL is only trying to secure its own service. "We have a responsibility."

In an apparent example of the kind of agreement they would like to work out with Microsoft, AOL allied with other ISPs Friday to open them up to AOL-compatible instant messaging. America Online reached deals Friday with service providers EarthLink Net and MindSpring Enterprises Inc. to offer instant messaging services.

AOL agreed to develop co-branded versions of its Instant Messenger aimed at EarthLink's more than 1.3 million Internet subscribers and MindSpring's 1.2 million members, building on the 40 million users of AOL's existing messaging service.

Microsoft could not be reached for comment.

***Related Wired Links:***

[Messaging Alliances Take Shape](#)

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[AOL Uses Apple to Send Message](#)

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[AOL's Chat and Mouse Game](#)

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[AOL Blockades Yahoo and MSN](#)

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**Why IM matters so much**  
 by Louise Rosen  
 September 19, 2000

NEW YORK -- Since federal regulators began their review of the **America Online (AOL)-Time Warner (TWX)** merger, most attention has focused on the issues surrounding open access to the merged company's cable pipes and interactive services.

Now instant messaging has jumped to the fore. And all of a sudden, AOL's openness, or lack thereof, to a standard that all instant messaging services could subscribe to, has suddenly emerged as a hot-button issue.

The *Wall Street Journal* reported last week that "federal regulators could force AOL to open up its instant messaging service to rivals as a condition of approving its acquisition of Time Warner." Although several observers doubt that IM will prove a deal breaker, the issue is under the microscope of the Federal Communications Commission.

In recent weeks regulators have spent more time talking to AOL's IM competitors to learn the issues. "[The regulators] have gone to great lengths to see the future of IM and the implications surrounding it as it moves onto wireless devices and television," says Alex Diamandis, vice president of marketing for IM provider **Odigo**.

Company	Number of members
<b>AOL AIM &amp; AOL ICQ</b>	130 million
<b>MSN Messenger</b>	18 million
<b>Tribal Voice</b>	8 million
<b>Odigo</b>	1.5 million

**Sticky, sticky, sticky**

Instant messaging might seem like nothing more than a touchy-feely service for teen-agers now, but it's one of the stickiest applications on the Web, and in the future there are potential revenue streams that could yield billions of dollars.

IM can drive up a site's traffic and brand awareness. It will be an important feature of interactive television; it has the potential to be used as a killer direct marketing tool, and can add real-time customer services to a site.

"IM has come to represent a killer application to attract users," says Lydia Loizides, Web technology analyst for **Jupiter Communications**. This is the reason AOL's competitors want interoperability among different services.

**IM the beginning**

In 1996, AOL introduced its subscribers to the "Buddy List," which allowed AOL members to see when their friends were online and available for instant chats.

A year later AOL introduced the AOL Instant Messenger (AIM), a free service that enables Internet users to communicate with AOL members and other AIM users. The Internet availability opened up the user base, and the technology was later licensed to other companies, including **Netscape** in 1997 -- before AOL acquired the company.

Twenty other application providers have since licensed the technology from AOL, including **Apple (AAPL)**, **IBM (IBM)**/Lotus Notes and **EarthLink (ELNK)**/**Mindspring**.

With its Buddy List, AIM and another IM service -- **ICQ** -- acquired by America Online, the company now has about 130 million IM users, vastly outnumbering its competitors' numbers. MSN Messenger, for example, has 18 million users and Tribal Voice 8 million. Since it first introduced the service, AOL estimates that about 40 other companies have begun offering similar services.

Last year AOL blocked users of competing IM software from contacting its members, citing concerns for its members' security and privacy. It continues to use that argument as a reason for not adopting interoperability. Since the merger review began, AOL has assured regulators it is working toward creating a standard that does not compromise the security or privacy of its service.

**The Internet Engineering Task Force**, an Internet standards body, is trying to establish a set of standards that would allow all users of competing IM providers to communicate with each other. AOL has submitted its recommendations to this body, but other providers have accused the company of foot-dragging, and have formed their own panel to create a standard to facilitate interoperability called **IMUnified**.

Among the members of IMUnified are **Yahoo (YHOO)**, **Aamp;T&T (T)** and **Excite@Home (ATHM)**. At the beginning of September the group announced that it had completed the development of standards that will enable interoperability across the different IM services. (See "**IMUnified develops IM interoperability standard.**")

"We brought together many disparate companies and still managed to create an open protocol," says Diamandis.

AOL continues to maintain that it will review the standards but will ensure that its members' security and privacy are protected before it opens up its service. In the meantime, it's working on its own standards.

### **Not in any hurry**

But observers are skeptical that AOL, even with regulators breathing down its backs, will open up its system anytime soon. "AOL is going to drag its feet as long as it can, especially since this is not going to be a derailing factor for the merger," says Ken Kiarash, Internet analyst at **Buckingham Research Group**.

The competition wants interoperability, and the motivation is not as simple as merely allowing members to communicate in real time with one another. There may not be any revenue streams worth noting now, but there will be in the future. And that is what they have been trying to make the regulators see.

So what does the future hold for IM? Voice, streaming media, advertising messages, files, interactive television and potential revenue are but a few of the things that are beckoning.

**Microsoft's (MSFT)** MSN Messenger 3.0 already can carry voice over the Internet, and Loizides believes that this feature "brings a new dimension to the IM market" that "will surely heat up the already fiery rivalry between Microsoft and AOL." This VoIP feature enables users to make free long-distance calls.

IM will be an important feature of the new AOLTV, already in some test markets, a settop box that will converge the television with the Internet. Viewers will be able to chat to one another online while watching their favorite shows.

But perhaps one of the most compelling arguments for opening up the system -- and the most compelling reason for AOL to keep it closed -- is the potential revenue stream.

"Revenue potentials are coming from ASP user fees, advertising on the windows, and the potential for it to be used by group buyers," says Diamandis.

### **Real-time promotions**

Marketers are salivating for an open system. They envision sending real-time promotions to IM users. E-commerce sites, for example, which need to clear inventory with a sell-by date, might alert customers to specials. A link could direct customers to the site instantly.

This will become even more important as the use of Web-enabled wireless devices proliferates.

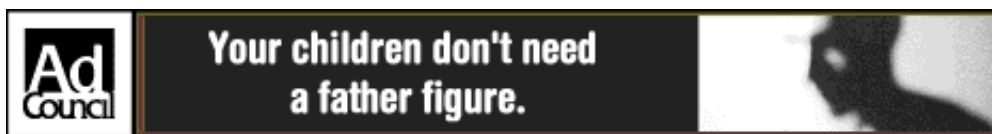
Another potential IM use, according to Loizides, is in real-time customer-service features. "The real potential to monetize the service comes when it's included to add value to a site," says Ross Bagully, chief executive of AOL IM rival **Tribal Voice**.

AOL's IM competitors are hoping that these issues will compel the regulators to force AOL to open up

its system. But the analysts are not so sure that AOL will do so within a year.

"The IM feature has been important to AOL as part of its e-commerce and advertising strategies," says Kiarash. "The company could be hurt if the growth in users slows down as rivals gain access to its users."

Regulators have another month before they wrap up their review and put it to a vote.



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ON THE WEB

January 12, 2001

## F.C.C. Approves AOL-Time Warner Deal, With Conditions

By **STEPHEN LABATON**

**W**ASHINGTON, Jan. 11 — Clearing the final obstacle to the creation of the world's biggest media business, the Federal Communications Commission approved tonight the proposed merger of **America Online** and **Time Warner**.

In doing so, however, the agency laid down conditions intended to make America Online's popular instant-messaging service compatible with the systems of Internet rivals.

Officials said the conditions were imposed because the merger joined the world's largest Internet company, AOL, with the nation's second-largest cable company, Time Warner. Regulators said they feared that the company could take advantage of its dominance over instant messaging to monopolize related Internet services that might be developed for high-speed cable connections.

Executives of the companies closed the deal shortly after the agency's announcement.

The commission's order, issued a year and a day after the announcement of the merger, is the final major decision by the commission under the leadership of William E. Kennard, who said that he intended to step down before President-elect George W. Bush took office on Jan. 20.

All five commissioners supported approval of the merger, although only the three Democrats voted to impose conditions on the instant messaging service as the price of completing the deal.

"The conditions we impose today are forward-looking and fair," Mr. Kennard said. "They preserve the openness of the Internet. They protect consumers and avoid heavy-handed regulation by using a narrowly tailored market-opening approach. And they ensure that neither AOL Time Warner nor a government agency will pick winners and losers in this dynamic marketplace."

Last month the Federal Trade Commission approved the merger after the companies agreed to stringent conditions meant to ensure competition in providing Internet services and the interactive television systems of the future.

Executives of the companies had pledged to open their instant messaging services within a year.

But F.C.C. officials said that the voluntary commitment of AOL, while laudable, was not enough, and that the order would actually require the company to open its messaging services.

The companies made it clear that they could live with those demands.

"The conditions on open access are consistent with our memorandum of understanding that we signed last year, and our business model," said Kathy McKiernan, an AOL spokeswoman. "We believe the instant messaging conditions were unnecessary, but we're pleased that they do not affect our current services, and they will have no financial impact on the company."

Moreover, the lasting effects of the F.C.C.'s order on future policy makers may be fleeting.

In a sign of the sharp shift in direction the agency may take under the Bush administration, one of the two commissioners who sharply dissented on the conditions imposed on the merger was Michael K. Powell, the leading inside contender to be the next head of the

agency.

"I believe the majority has given in too much to their collective imaginations, rather than sound reasoning based on the record, in reaching some of the conditions on the merger," Mr. Powell wrote. "This order makes clear that the F.C.C. has jurisdiction to regulate virtually every Internet product."

Mr. Powell's father, Gen. Colin L. Powell, has been nominated as secretary of state. General Powell also serves on the board of America Online. Michael Powell decided not to remove himself from the review after ethics officials at the F.C.C. said his relationship to his father did not pose a regulatory problem.

Consumer groups hailed tonight's decision. Combined with conditions imposed on the deal last month by the Federal Trade Commission, they said, the terms have made the deal more attractive to consumers.

"In the face of enormous dangers to consumers, federal regulators have imposed critical consumer protections on the merger of AOL and Time Warner," said Gene Kimmelman, co-director of the Washington office of Consumers Union. "The combined actions of the F.C.C. and the F.T.C. have transformed a merger that threatened competition into one that could actually expand consumers' choices for high-speed Internet and interactive TV services."

Calling the order a "tremendous win for consumers," Edward Adler, a Time Warner spokesman, said, "AOL Time Warner will be uniquely positioned to speed the development of the interactive medium and the growth of all its businesses for the benefit of consumers worldwide."

The order today was a compromise among the Democrats, and was hammered out after weeks of intense negotiations. Compounding the complexity of the review was the fact that the agency has never confronted many of the regulatory questions posed by the merger of the two companies. At bottom, the questions raised — about instant messaging, telephone service on the Internet and interactive television — involve issues that do not fit neatly into a regulatory scheme created long before the Internet.

AOL's instant messaging services are a kind of hybrid that combines the most attractive features of telephones and e-mail by allowing two or more computer users to communicate virtually instantaneously. The company's two instant messaging services, AOL Instant Messenger and ICQ, have more than 140 million registered users, dwarfing competing services offered by **Microsoft**, **Yahoo** and others.

Under the order, AOL must make the system compatible with the instant messaging system of at least one rival immediately once AOL Time Warner augments its own service to allow the exchange of live video. Within six months it would have to make its messaging system compatible with those of at least two other rivals.

Mr. Kennard said the commission had approached the proposed merger from a historical framework, hoping to avoid a repeat of AT&T's growth earlier this century into a monopoly that effectively shut out any competitors by making its telephone system incompatible with those of rivals.

"The fundamental issue is not different from the interconnection issues of the last century," Mr. Kennard said. "The emerging monopoly of AT&T occurred because it did not allow other companies to interconnect. What has made this review challenging is that the Internet has grown and flourished by not being dominated by a single entity. But now the fear has emerged that one entity may be able to dominate this marvelous new means of communicating" through instant messaging.

At the same time, there was concern about being too heavy-handed in regulating the Internet, particularly because technological changes have come so rapidly in the largely unregulated industry. The commissioners thus rejected proposals to set the standards for compatible instant messaging services or precise deadlines.

Instead, the agency decided to use AOL's commitment to make its system compatible with those of rivals within the next year, and impose penalties on the company if it fails to live up to that schedule.

"All of the commissioners wanted to do something, but do it in an Internet-friendly way," Mr. Kennard said. "The days of government micromanaging protocols and standards are passed. We can't expect government lawyers to write technical standards. But we also tried to look at this from a consumer's point of view and ask: 'Does the consumer have a choice? Is there a danger that a single player becomes so dominant that other players can't thrive?'"

Mr. Kennard, who has led the agency since 1997 and served before that as its general counsel, gave his farewell address to the commission this morning. He choked with emotion as he praised the staff and his fellow commissioners.

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## Instant-Messaging Restriction Won't Hamper AOL-Time Warner

By Greg Lindsay and Erik Wemple - Inside.com

Jan 12 2001 06:31 PM PST

**By delaying anticompetition terms until the arrival of broadband IM, the newly formed company's monopoly on instant messaging should continue. Meanwhile, concerned IM rivals are banding together.**

The FCC's dragged-out deliberations about the AOL-Time Warner merger finally yielded a thumbs up Thursday, albeit with a host of restrictions. But it turns out that the last-minute haggling over instant messaging should do little to hamper the newly formed company or address the concerns of such competitors as **Microsoft (MSFT)**, Odigo and **Yahoo (YHOO)**.

As long as the messaging remains on telephone and DSL lines, AOL-Time Warner can manage its IM system however it sees fit. The regulatory body, split 3-2 along Democratic-Republican lines, decided to impose restrictions only on a future, broadband version of its real-time chat technology dubbed "Advanced IM." Only when the company tries to combine its instant messaging with broadband cable - which would allow video streaming and other "space-age" applications - do the FCC curbs kick in.

That sort of innovation is at least a year away, competitors say, and has little to do with AOL's continued attempts to keep its competitors from talking to IM users. "The whole concept of 'Advanced IM' is weird for me," said Avner Ronen, co-founder of Odigo, a rival instant-messaging company. "The way I see it, it is a new way of communication already - the first effective use of real-time text."

But the FCC's discussions of IM did not address the medium as worthy of scrutiny until more advanced features are added. By specifically outlining those features, Ronen added, the FCC has almost guaranteed that AOL Time Warner will delay adding them. "I think [AOL and Time Warner are] very happy with the ruling," he said. "Right now they don't have to do anything."

The concessions wrested from AOL Time Warner - and the disappointment among rival companies - are of a piece of the philosophy guiding the FCC's decision, Chairman **William Kennard** said. At a Friday press conference, Kennard cast himself as an abstemious regulator whose goal is to allow cutting-edge companies - and not big government - to determine the future of the Internet. "We have imposed narrowly tailored, minimally intrusive conditions."

The chairman started his Friday morning address by citing "confusion" in media accounts as to how severely the commission is regulating instant messaging, and then he stressed that the commission was not "micromanaging" interoperability standards or otherwise dictating to the Internet how it should function. "We don't know exactly when AOL will decide to marry its cable assets with its IM assets," Kennard said. "But when it does, consumers will be protected."

As outlined in FCC documents, AOL-Time Warner won't be allowed to offer video streaming and the like over IM until it grants access to its service to at least one competitor. And at least two rivals must be allowed to use its fat pipes within six months, or the company will face having these advanced services shut down. If the company adopts industry-wide standards for open access or proves that such a condition is no longer in the public interest, AOL Time Warner will be free to implement whatever broadband magic it likes.

Of course, this regulatory view carried the day by a single vote. Republican commissioners **Harold Furchtgott-Roth** and **Michael Powell**, who will likely take over as chairman Jan. 22, both protested the merger conditions. "This sends a signal to the rest of the world that it's perfectly OK to regulate the Internet. Go right ahead!" Furchtgott-Roth said.

But that signal is about to change. The authors of the conduct restrictions - namely, Democratic commissioners with a majority representation on the FCC as well as the Federal Trade Commission - will soon lose their sway to Bush appointees. (By statute, neither commission may have more than three members of one party.) Which means that devoted deregulationists such as Powell and Furchtgott-Roth will assume responsibility for enforcing orders that contradict their principles. "Would the next commission look at the companies with a wink and a nod?" Furchtgott-Roth said. "That's highly speculative. It's possible."

With no relief in sight, therefore, the IM competitors of AOL-Time Warner plan to roll out their counterstrike. **ATT (T)**, Microsoft, Odigo, Yahoo and several smaller companies are joining forces to offer a common standard for instant messaging dubbed "IMUnified." The consortium of the same name finished the open protocol "late last year," according to Ronen, and is busy building it into products such as Yahoo Messenger and MSN Messenger.

IMUnified would create the sort of common ground for messaging that standards like the Hypertext Markup Language, or HTML, and Hypertext Transport Protocol, or http, did for the Web, guaranteeing that competing software companies would not get frozen out by proprietary technologies.

AOL, however, has refused to allow users of its two IM systems, AIM and ICQ (the pioneer bought in 1998 by AOL for \$287 million), to communicate with its competitors' customers. The online service has said it will lift that ban when its users' privacy and security is assured. Odigo, for one, has viewed AOL's stance as a challenge, inspiring it to breach AOL's defenses 30 times in the past six months only to have AOL lock it out once again. Since the latest breach two months ago, AOL has done nothing to patch the hole, Ronen said.

The introduction of IMUnified is likely to have little impact on the instant-messaging consumer market. Considering 60 million of the 100 million current IM users are signed up to AOL's IM - most of the remaining 40 million customers subscribe to Yahoo and Microsoft - it's uncertain whether anyone could build a stand-alone consumer business around instant messaging, because the most successful competitors use the service as a way to move people to their other offerings. Venture capitalists seem inclined to treat messaging as a technology rather than a product, and require more from entrepreneurs than just an IM client.

"I think all the portals will have it," said Phillip Sanderson, a general partner at the technology and media VC firm WaldenVC. "I also think IM will be ubiquitous within the enhanced TV environment. We're starting to see that now: AOL TV already has it. That's a good bridge to the set-top box and interactive television. You'll be able to shoot messages back and forth with a buddy. But basically, it's going to exist as a product feature, as a core functionality within those platforms."

*Greg Lindsay and Erik Wemple write for Inside.com.*

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## Did AOL shoot the messenger?

By [Jim Hu](#)

Staff Writer, CNET News.com

April 5, 2001, 4:00 a.m. PT

<http://news.cnet.com/news/0-1005-201-5464191-0.html?tag=prntfr>

### Decision to cut off rivals may backfire in Microsoft battle

By [Jim Hu](#)

Staff Writer, CNET News.com

April 5, 2001, 4:00 a.m. PT

To many, it seemed the height of arrogance: In a bid to dominate the growing popularity of instant messaging nearly two years ago, America Online blocked communication between its subscribers and those using competing software.

Despite much criticism, the brazen strategy appeared to be working--until now. A little-publicized but startling study released last month showed that one of AOL's chief rivals in this market, Microsoft's MSN Messenger, tallied more subscribers worldwide.

[Microsoft likely to put IM everywhere](#)  
Avner Ronen, Odigo founder

Although the study was commissioned by Microsoft, thereby making it vulnerable to immediate challenge, its findings have raised questions about AOL's controversial move to [cut off](#) the rest of the IM world. The decision may have backfired by effectively limiting the potential growth of AOL Instant Messenger (AIM) and by forcing the media giant into a protracted war with the powerful software company--just as AOL Time Warner faces other problems, ranging from merger integration to government regulation.

Adding insult to potential injury, the newly combined AOL Time Warner must mind its actions under court-appointed antitrust supervision even though its chief antagonist in instant messaging is a global empire that has become [virtually synonymous](#) with high-tech monopoly.

"You see a next-generation parallel to what Microsoft was trying to do in 1997 with the browser," said one AOL employee who requested anonymity. "From our perspective and the perspective of other folks who are looking at this very carefully right now, there is very much a return precisely to the scene of the crime that brought them to the judge's chambers."

Unfortunately for AOL, the regulatory spotlight is trained on its own actions in instant messaging, not on that of its rivals. Aggravating the situation is Microsoft's [unabashed push](#) into the market in recent months, appropriately named "HailStorm," which would put MSN Messenger at the heart of all the software giant's Web products.

AOL has made no public comment about how it plans to compete from its increasingly precarious position. But the media conglomerate maintains some powerful weapons in its arsenal, as long as it can employ them without overstepping any regulatory boundaries.

Through its Time Warner properties, AOL has acquired valuable advertising space in print outlets and air time on television. On the Web, the company has begun offering AIM through several Time Warner sites, including Time.com, People.com and *Entertainment Weekly's* EW.com.

In addition, AOL has agreements with IBM, RealNetworks, Apple Computer, EarthLink, Juno Online Services and Novell to offer a co-branded version of AIM through their services. AIM also is going into mobile devices, such as cell phones using AT&T or Sprint, Research In Motion pagers, and Palm handhelds.

"Is this something that is a priority for the company to deal with? Absolutely," the AOL source said. "It's something that is being viewed in a multifaceted way, both as a business and as a political challenge, and we will be able to deal with it effectively."

Yet these deals may not be enough for AOL to weather HailStorm.

The company is fully aware that the rivalry over instant messaging is [reminiscent](#) of some of Microsoft's most notorious conflicts, such as the operating systems war against Apple and the Web browser battle against Netscape Communications--now a subsidiary of AOL.

[AOL buddies with mobile phone users via short message service](#)  
InfoWorld.com

[Business gets the message](#)  
TheStandard.com

[A BlackBerry in AOL clothing](#)  
MSNBC

[Instant message is the medium](#)  
Detroit Free Press

[AOL takes AIM to OS X](#)

[With HailStorm, think fee, not free](#)

[Microsoft's HailStorm unleashed](#)

[Ad banners seek home on ICQ](#)

[Will instant messaging become instant spamming?](#)

[Microsoft readies "HailStorm" against AOL](#)

[New MSN Messenger fuels rivalry against AOL](#)

Not long ago, MSN Messenger was thought to be [woefully late](#) to the market, playing an unenviable game of catch-up to AOL's service. But the way it has closed the gap has been [textbook Microsoft](#): Target the software that potentially threatens the Windows franchise, create your own version, tie it closely to Windows, push your product as a standard, solicit developers and vendors to build and sell it, and then watch market share tilt in your favor.



"When you're facing Microsoft and a product that's good, it's a tough war to have," said Avner Ronen, founder of IM company Odigo. "Look at Microsoft's tactics in pushing (its Internet Explorer browser), and you can see that they're doing the same thing with IM."

The Microsoft-commissioned report, conducted by Jupiter Media Metrix, showed MSN Messenger had edged out AIM in worldwide usage in February. Although AIM continued to hold the lead in the United States, a separate market study found that MSN Messenger had closed that gap as well since September 1999.

Already, MSN Messenger is embedded in Windows Millennium Edition, the latest version of Microsoft's consumer operating system, and in MSN Explorer, a service that combines Web browsing with integrated buttons that link to other MSN sites. The HailStorm concept presents an even [greater threat](#) to AOL, providing access to Internet features--such as calendars, phone books and address lists--from any device.

HailStorm will rely heavily on MSN Messenger and free e-mail service Hotmail as the connective tissue that links Web sites and services to its consumers. For example, if someone makes an online travel reservation, HailStorm can send an instant message to the person if changes occur in the itinerary and then automatically update his or her calendar. Microsoft will [introduce](#) HailStorm technology into its next-generation operating system, Windows XP.

From Microsoft's perspective, HailStorm provides a convenience to consumers by linking all of the company's software products to a unified login service. From AOL Time Warner's view, HailStorm raises red flags and questions of unfair business practices not unlike past misdeeds.

"We, along with others in the industry and regulators, need to watch Microsoft's actions and react accordingly," Kenneth Lerer, executive vice president of AOL Time Warner, said in a statement. "With Microsoft integrating MSN Messenger into the operating system, the landscape may well have fundamentally changed."

It is in the realm of anti-competitive behavior, however, that a decision in 1999 to [close AIM](#) to interoperability may return to haunt AOL.

Showing that it, too, is willing to play the antitrust card, Microsoft has been a vocal critic of AOL ever since the online service's engineers blocked MSN Messenger and Yahoo Messenger from communicating with AIM. Late last year, Microsoft Chairman Bill Gates called William Kennard, then chairman of the Federal Communications Commission, urging him to closely examine AOL's IM dominance when studying the company's proposed merger with Time Warner.

Microsoft has also helped lead [IMUnified](#), a coalition of companies including Yahoo, AT&T and Excite@Home, which is expected to launch a system that will link the messaging products and networks of its members. IMUnified aggressively lobbied federal regulators and Capitol Hill to force AOL to open its IM network as a condition of its merger with Time Warner.

The FCC did say it would require interoperability, but only once AOL begins to offer "advanced" IM services such as video and audio streaming through its product. Although competitors called the requirement insufficient, AOL Time Warner remains under the scrutiny of regulators wary of the company's ownership of cable networks; TV, film and music content; and interactive TV.

In addition to AIM, AOL owns the second-largest instant messaging service: ICQ. Both services are available free; their value comes from the marketing and cross-promoting of other AOL products, or in the recruiting of new subscribers to the company's online service.

None of this is lost on Microsoft, which has built its business through similar kinds of promotions for its products. That means it views instant messaging as a way to maintain control of the entire computing environment, not just as a tool for real-time text conversations punctuated by smiley-face icons.

"Browsers weren't a big business, but they were strategic," said David Smith, an analyst at Gartner. For instant messaging, "there's no dollars involved, but it's important for other reasons," such as advertising, e-commerce and other complementary software.

IM proponents believe the technology will become as ubiquitous and convenient as the telephone.

Of particular importance is the technology's ability to let people know when others are online--"presence," in industry vernacular. The detection in turn can help communications devices such as cell phones, handheld computers and telephones reach a desired party.

On the desktop, the software that provides IM services sits on top of a computer's operating system. That is precisely what concerns Microsoft, which has ferociously guarded its Windows franchise.

"I think Microsoft is ultimately going to win the instant messaging wars," said Jeff Pulver, a telecom entrepreneur and organizer of the annual [Presence & Instant Messaging](#) conference. "Microsoft thinks strategic, while AOL thinks tactical."

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## IM rivals can't connect on messaging plans

By [Jim Hu](#)

Staff Writer, CNET News.com

June 8, 2001, 1:45 p.m. PT

<http://news.cnet.com/news/0-1005-200-6228024.html?tag=prntfr>

Barriers between instant messaging products are proving hard to dismantle, sparking new tactics in a brewing standards war over the nascent technology.

Talks held by the Internet Engineering Task Force (IETF) that aimed to set technical specifications allowing rivals such as AOL Time Warner, Microsoft, Yahoo and others to develop a joint IM platform have stalled, according to people close to the discussions.

AOL Time Warner, the leader in instant messaging, says it is continuing to work on solutions to connect its AOL Instant Messenger (AIM) and ICQ services to competitors but that it has no firm deadline for implementation.

Meanwhile, an independent effort to connect incompatible services this year by a coalition of AOL Time Warner competitors, known as IMUnified, has run into delays.

"In retrospect, it was unrealistic," one executive in an IMUnified company said about the time frame to launch the standard.

The quest for interoperability has driven the IM market ever since competitors first stepped forward to challenge AOL Time Warner for control of one of the fastest-growing technologies on the Net. But now, in a sign that frustrations over cooperation are fading, IM developers such as Microsoft are moving ahead with independent plans for the technology, leaving AOL Time Warner and others to go their own way or follow their lead.

In the strongest sign yet that Microsoft is preparing to provide a broad platform for IM standards, the company this week unveiled [Windows Messenger](#), a product that offers chat, multimedia, conferencing and telephony features that wrap around any IM product.

"From a strategic standpoint, IM providers will certainly want to work with any underlying protocol that Microsoft would want to support without question because of their strength in the marketplace," said Alex Diamandis, an executive at rival IM company [Odigo](#). AOL Time Warner "doesn't have the ability to do what Microsoft can do, which is to embed it into all of these other applications--embed it into Outlook, embed it into Office, embed it into browsers, and on and on."

The strategy reflects significant changes in the marketplace from a year ago. Although AOL Time Warner still leads with the combined use of its separate AIM and ICQ networks, Microsoft has presented evidence that its MSN Messenger service is the single-most widely used IM service.

Perhaps more importantly, Microsoft is feeling new confidence with the upcoming October release of its Windows XP operating system that it can drive standards single-handedly by expanding the features supported by instant messaging and encouraging developers to build to its specifications.

Microsoft spokesman Jim Cullinan confirmed the company's open platform is an intentional contrast with AOL Time Warner's proprietary approach.

"The question you need to ask is, 'Where is the value of developers?'" he said. "Do they want to call on things that are in Windows XP, in AOL or in Linux? That's up to the developer. So from our point of view, we're always considering how to provide excitement for developers."

### Microsoft's standards game

Although IMUnified may be stalled and its loudest voices quieted, Microsoft has continued to play two decks in pushing for standards. Besides its commitment to IMUnified, Microsoft has put its weight behind a technology called SIP (Session Initiation Protocol).

SIP is a road map that allows computer servers to exchange information with each other. It is also the protocol behind how people using the new Windows Messenger can communicate in real time.

Microsoft's MSN Messenger has its own proprietary protocol that lets people using its service communicate only with each other. But there remains a possibility in the future for MSN Messenger to also use SIP as its protocol, allowing both products to evolve more closely together. Already, Windows and MSN messenger users will be able to chat with each other through text.

But for now, the two services are different. Windows Messenger lets Windows XP users communicate with each other through video, telephony and audio. MSN Messenger remains a text-based service.

"On some level these two will always be kissing cousins, but Windows Messenger offers added value that's a superset of MSN Messenger features," said Tom Laemmel, a product manager for Windows.

### Plodding toward compatibility

Meanwhile, efforts to establish compatibility for competing IM services are continuing on several fronts, according to participants, although progress has been stymied to date.

"We are on track to begin testing a possible solution this summer and continue to be committed to interoperability to protect consumers' privacy, security and system performance," said Kathy McKiernan, an AOL spokeswoman.

IMUnified, whose members include Microsoft, Yahoo, AT&T, Excite@Home, CMGI and Odigo, is still pushing to establish interoperability between its members, according to representatives.

"We are still working together and expect to make an announcement on reaching interoperability later this year," said Estela Mendoza, a spokeswoman for IMUnified and Excite@Home.

Mendoza attributed the delays to continued technical issues, where companies are trying to flush out "kinks" in the system.

Other members of the coalition have blamed a host of other issues for the delays. The most vocal members of the group represented by CMGI-owned Tribal Voice and iCast both were shut down after their parent company restructured its holdings.

Meanwhile, Odigo's Diamandis said the technology behind IMUnified's standard has been operational for months, but getting all of the players to sign off on it has been difficult. Diamandis noted that IMUnified was created as a temporary solution to circumvent AOL Time Warner and that companies would likely adopt the standard approved by the [IETF](#).

The standards task force, for its part, continues to be at a standstill in choosing an appropriate standard for IM interoperability.

"The reality is we're not necessarily much further than we were a year ago," said Andre Durand, general manager of Jabber, which makes Linux-based IM servers.

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## Microsoft messaging tactics recall browser wars

By [Jim Hu](#) and [Mike Yamamoto](#)

Staff Writers, CNET News.com

June 7, 2001, 4:00 a.m. PT

<http://news.cnet.com/news/0-1005-201-6208902-0.html?tag=prntfr>

### Microsoft messaging tactics recall browser wars

By [Jim Hu](#)

Staff Writer, CNET News.com

June 7, 2001, 4:00 a.m. PT

The battle over today's instant messenger market is vintage Microsoft, whose strategy enemies call "the three E's" in a parody of the company's marketing mantra: Embrace a rival's technology, extend it to work best with Windows, and extinguish the competition.

Regardless of how it is characterized, a familiar cycle is being accelerated by a confluence of seemingly disparate events--the [momentum](#) of Microsoft's federal antitrust case, [contract negotiations](#) with archival AOL Time Warner, and the [pending release](#) of new operating system Windows XP. Instant messaging has emerged as the nexus this week as Microsoft prepares a test version of XP that will include a powerful new form of the communications software.

The software giant on Monday announced Windows Messenger, a text, chat, video, audio and telephony service that will be integrated with Windows XP. The feature has until now been a relatively muted part of the roughly \$200 million marketing blitz for the new operating system. But its new [multimedia features](#) and its [central role](#) in the planned integration of Microsoft's Internet properties elevate the software well beyond a vehicle for text communication.

Analysts said Microsoft views instant messaging--a key element of Windows Messenger--as glue for its new Internet services such as Passport and HailStorm. Such services promise to simplify Web surfing by giving people a single online identity and providing secure access to personal information such as credit card numbers with one click.

"Instant messaging is a potential platform for advertising and for things to piggyback onto it," said Gartner analyst David Smith. "It's also a carrier of the screen name, and Microsoft wants people to use Passport and HailStorm."

Microsoft has long used its ubiquitous Windows operating systems to distribute related products or effectively shut out competing technologies--thereby stifling innovation, in the view of opponents.

In the case of instant messaging, Microsoft has embraced America Online's popular services for sending short text messages and extended the communications technology to work directly with its operating system.

**Gartner** analysts Michael Silver and David Smith say Microsoft's enhanced version of Messenger, which the company intends to integrate into Windows XP, adds new technology to wrestle the messaging lead from AOL Time Warner.

[see commentary](#)

No one is suggesting that the final "E" will [materialize](#) anytime soon. But Microsoft is putting new pressure on AOL just as it is struggling to digest Time Warner.

Windows Messenger, due out in October with the release of Windows XP, is threatening to force AOL to make its IM networks interoperable with competing instant messaging services, an outcome that could seriously erode its market leadership.

"What Microsoft is doing here is leveraging its monopoly on the desktop and extending it onto the Internet," said Mark Cooper, research director for the Consumer Federation of America.

Microsoft faces a markedly different opponent in AOL Time Warner, hardly the kind of start-up with limited resources that the software giant has commonly left in its wake. And the launching pad for its messaging weapon is an operating system that is shaping up to be the highest-profile product release in the company's history, making the much-hyped Windows 95 debut pale in comparison.

Although Microsoft has added enhancements in recent months to its current instant messaging client, MSN

[MSN to AOL: You've got competition](#)  
Bob Visse, group product manager, Microsoft Networks

[Content will make or break broadband](#)  
Marc Liggio, VP broadband research, Allied Business Intelligence

[Windows XP may steer users' Web choices](#)

[Will AOL miss the window for Windows XP?](#)

[New Microsoft messenger takes aim at AOL](#)

[Microsoft, AOL consider new alliance](#)

[Is the ICQ experiment working?](#)

[IM poised to become instant information tool](#)

[Did AOL shoot the messenger?](#)

[With HailStorm, think fee, not free](#)

[Microsoft's HailStorm unleashed](#)

[Microsoft mulling fee-based services for MSN](#)

[Puppet masters: Who controls the Net](#)

[Microsoft improving Windows Messenger](#)  
Chicago Sun-Times

[Microsoft has an instant message for AOL](#)  
NewsFactor Network

Messenger, its latest move takes the important step of embedding the software directly into the operating system, making it far more difficult to separate the two products. It is this [tactic](#) that triggered the landmark antitrust investigation and lawsuit by the U.S. Justice Department, which accused Microsoft of unfairly using its dominance in operating systems to foist other products on customers.

"It's 1996 all over again," said Ed Zander, president of Sun Microsystems, a longtime mortal enemy of Microsoft. His [remarks](#), made Monday at his company's annual JavaOne conference, were directed at parallels he sees between Microsoft's current strategies and the beginning of its [assault](#) on the Web browser market that eventually buried rival Netscape Communications.

The resulting government lawsuit focused on the linking of Windows 95 to the Internet Explorer browser, but Microsoft has long used its operating systems to promote its products in many other areas, including [word processing](#), [desktop databases](#), [multimedia streaming](#), [music downloads](#), [content](#) and [Internet access](#).

Andy Gavil, a professor at Howard University School of Law, said Microsoft's integration of instant messaging with new features in Windows XP recalls the same well-worn practice.

"I think it does have a déjà vu quality to it based on Netscape and all the issues that are very alive in the government's appeal of Microsoft," he said. "The question is, if Microsoft folds these features into the operating system so we all get them like we got IE, will that destroy the separate marketplace for these small software programs? Will it allow them to compete better with AOL, or to push AOL off the desktop?"

Some consumers also expressed worries about Windows' growing footprint.

"I know how aggressive they are. I'd like them to back off a bit," said Tom Wesson, a computer programmer in Schaumburg, Ill. "I think they'd be more successful if they showed a little more respect and didn't try to dominate everything."

Some also see evidence of an urge to dominate in Microsoft's forthcoming Windows XP operating system. A feature called Smart Tags could give the company some [control](#) over consumers' access to sites, content and services on the Web.

Yet for all of Microsoft's critics, the legal assessment of its competitive practices remains anything but clear, and some antitrust experts even give the corporation good odds to win its pending appeal in federal court. That may encourage Microsoft to push harder with plans to tightly integrate its instant messenger and other software with the XP operating system.

Microsoft spokesman Jim Cullinan concedes that the integration of an instant messaging technology within Windows XP has some parallels to the company's approach in integrating Internet Explorer with Windows 95. But he offers no apologies.

"It's about business decisions and technology," Cullinan said. "When Netscape was on top of its game, it tried to build a Java browser and 50 other things that didn't work. Those were business decisions that had nothing to do with Microsoft. In this case, AOL was the leader in instant messaging for years and did nothing with it."

Microsoft could be further emboldened by contract negotiations with AOL involving the new operating system. As it has with previous Windows versions, AOL would prefer its software to be packaged with XP. But in this tenuous relationship, it has always been suggested that Microsoft has the upper hand.

An AOL spokesman downplayed the importance of the talks. "If we don't come to a deal, then that's fine," he said, adding that the company is confident it can compete on the merits of its products.

Analysts were more skeptical. "Long term, these negotiations matter. Windows XP effectively embeds many components of the online service directly into the operating system," Internet analyst Henry Blodget wrote this week in a report for Merrill Lynch. "It would obviously not help AOL over the long term if these features gained a significant amount of traction."

Indeed, the timing of this week's XP announcements appear more than just coincidence. But history has shown that Microsoft rarely bluffs when it senses even a hint of a threat to its operating system franchise.

The reason for the software empire's paranoia is simple: Microsoft knows how easily a leader can be toppled because that's precisely what it did on its way to the top of the operating system market, first with IBM and later with Apple Computer. In a telling [1996 interview](#) that remains insightful today, Microsoft's Steve Ballmer explained why his company seemed [obsessed](#) with Netscape's Navigator browser at the time.

"Let me tell you a story. Once upon a time there was a piece of software that was an extension of an operating system, and it had a nice little user interface and it had some programming interfaces and people kind of liked it, and over time they built on top of it. One day, the thing that it was built on top of wasn't all that important anymore," said Ballmer, a close friend of Microsoft Chairman Bill Gates, who would later become chief executive. "I'm telling you, of course, the story of Windows 95, Windows and DOS. And when we tell the story about what's happening today with browsers 10 years from now, I want the thing that replaces Windows to be Windows."

[Microsoft to embed Messenger in Windows XP](#)  
IDG.com

[Microsoft takes aim at AIM](#)  
The Washington Post

[Instant messaging is a bundle for Microsoft](#)  
The Industry Standard

[Microsoft and AOL discuss linking products](#)  
The New York Times--free registration required

[Much ado about Windows XP](#)  
Forbes

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**Editors:** Mike Yamamoto, Jeff Pelling, Evan Hansen, Lara Wright, Scott Martin  
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To understand the motives behind HailStorm, one needs only to substitute *messaging* for *browsers* in that statement. The communications software is but the latest potential encroachment on Windows, and for more than a decade Microsoft has had one primary goal: protect the operating system's dominance at all costs.

If the company wants to make sure that Windows is the first thing a person sees and uses when turning on a computer, it is understandable why Microsoft is so aggressively competitive. In case after case, the company has thwarted or slowed the success of technologies that could conceivably sit on top of the operating system, much the same way Ballmer said Windows did with DOS: word processing (Corel's WordPerfect), calendar (Lotus Development's Notes), e-mail (Qualcomm's Eudora), directory services (Novell's NDS), Web browsers (Netscape's Navigator), audio and video streaming (RealNetworks' RealPlayer and Apple's QuickTime), and, of course, competing OS products (Apple's Mac and IBM's OS/2).

Nor has Microsoft been shy about using its considerable war chest to buy successful competitors such as [Hotmail](#) or purchase companies just to keep their technologies out of the hands of rivals. In 1996, Microsoft became so concerned with Sun's Java programming language that it sought to acquire or partner with several companies to "take mind share away from Sun," according to internal Microsoft [documents](#). Among those companies were Metrowerks, Apple, Hewlett-Packard and Fujitsu.

AOL is well aware of this track record and does not want its Instant Messenger to be the latest entry on any listing of the software company's conquests. That is why it has gone to such great lengths to combat Microsoft on this [front](#), going so far as to [block](#) repeated attempts by the architects of MSN Messenger, Yahoo Messenger and other rivals to connect their subscribers with AOL members through the various communications networks.

Some in the industry believe that the controversial blockade, which drew criticism as an affront to the open philosophies that founded much of the Web, may have [backfired](#) on AOL by limiting its growth potential. Market research commissioned by Microsoft indicated that the gap between MSN Messenger and AOL Instant Messenger narrowed significantly last year.

At the same time, instant messaging has become increasingly important to the HailStorm project and the company's overall .Net initiative, which aims to make all Microsoft software and services available through the Web to any type of computing device, handheld organizer or cellular phone with the company's Passport security technology. The initiative is one way Microsoft hopes to maintain the dominance of Windows as the world moves beyond the traditional desktop PC for its technological needs.

Moreover, Microsoft intends to charge for this service, making it a major test to determine whether people will be willing to pay to use the Web. All online companies are watching the experiment closely for clues to their own future now that advertising revenues alone have proven [insufficient](#) to sustain many businesses.

"The trend is towards charging for services as opposed to giving consumers a free lunch," Gartner's Smith said. "HailStorm and Passport make that easier by offering a standard for enabling transactions. That will help accelerate the adoption of payment technologies such as single sign-on and micropayments."

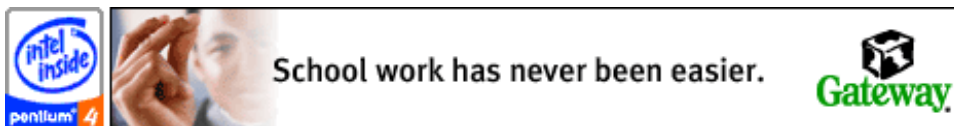
Talk like that is exactly what Microsoft wants to hear. After years of losing billions of dollars on various online services, executives at the company compound outside Seattle in Redmond, Wash., are more than ready to start making some money. And if that can be done at the expense of AOL, it will be that much sweeter.

As group product manager for the Microsoft Network, AOL's main but distant competitor in the dial-up Internet access market, Bob Visse is one such executive. He is spearheading MSN's effort to [lure](#) disgruntled subscribers from AOL since the service raised its monthly rates.

"The general rule that we're trying to follow is to add value on top of what people are getting for free," Visse said, such as multiplayer games, music services and video on demand, as well as the type of enhanced video and voice communication envisioned through instant messaging. "We will introduce paid-for services on MSN."

*News.com's Mike Yamamoto and Evan Hansen contributed to this report.*

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## **AOL Begins Test to Share Instant Messaging**

Step Toward Interoperability With Rivals Responds to FCC Rules on Time Warner Merger

By Alec Klein  
Washington Post Staff Writer  
Tuesday, July 24, 2001; Page E05

AOL Time Warner Inc. said yesterday that it has recently begun an internal test to open its coveted instant-messaging service to rivals, and it remains on track to launch a trial with another firm later this summer.

The long-awaited trial could lead the way for a major overhaul in instant messaging, allowing different services to communicate in one massive network. Instant messaging allows Internet users to receive notes almost as fast as they are sent. The notes appear as pop-up windows on a user's computer screen.

AOL said its trial involves a "leading technology company" it did not name in a report to the Federal Communications Commission. The New York media giant said it is drafting a contract to address such issues as system performance requirements and cost sharing.

The FCC, concerned about the future of instant messaging, ratified AOL's merger with Time Warner in January on several conditions, including a requirement that AOL submit a progress report on instant-messaging interoperability 180 days after the federal agency issued an order approving the acquisition.

The 11-page report, however, was short on details about the trial and did not say when AOL would open its system to rivals; instead, the company devoted much of the report to why interoperability is technically difficult to achieve and fraught with risk to users' privacy and security.

Competitors such as Microsoft Corp., which has about 36 million registered users, have long sought AOL's commitment to open its system so that users of different messaging services can communicate with each other.

With more than 100 million registered users, AOL Instant Messenger, or AIM, is the market leader in this fast-growing field. AOL also operates two other major instant-messaging services -- ICQ, which also has more than 100 million registered users, and a system for its more than 30 million online subscribers.

"While we haven't had a chance to actually see the [FCC] document, based on our understanding, it doesn't offer much in terms of standardizing interoperability," said Bob Visse, group product manager of MSN, Microsoft Corp.'s Internet service provider.

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THE INDUSTRY STANDARD MAGAZINE

## Business Gets the Message

By Aaron Pressman

Issue Date: Feb 26 2001

**With corporate America - and the U.S. Navy - embracing instant messaging, pressure is building to establish universal standards.**



AS FAR AS LT. CMDR. HOUSTON IS CONCERNED, INSTANT MESSAGING IS LEAGUES AHEAD OF RADIO.

JONAH LIGHT

WASHINGTON - When Adm. Gerald Hoewing took the aircraft carrier *USS John C. Stennis* to the Pacific Ocean for a six-month tour of duty last year, he followed an old Navy custom known as the fireside chat. Each night after dinner, Hoewing debriefed the commanding officers of the ships in his battle group.

But while Hoewing honored the Navy tradition, he did it in a nontraditional way. Instead of talking by radio, as commanders have done for decades, the admiral and his captains sat at personal computers and conducted their conversations using Lotus instant-messaging software running over an encrypted satellite link. Navy brass were so impressed that they ordered similar setups for every ship at sea. By this summer, everyone from ensigns to admirals will be using instant messaging to communicate within ships, across the Navy and even back to the Pentagon in Washington.

"Instant messaging has allowed us to keep our crew members on the same page at the same time," says Lt. Cmdr. Mike Houston, who oversees the communications program. "Lives are at stake in real time, and we're seeing a new level of communication and readiness."

Not long ago, instant messaging was the communications mode of choice for chatty teenagers. Now the simple application that allows real-time exchange of short text messages has found more grown-up pursuits in government and corporate offices. But instant messaging won't become a truly mass medium until it clears one hurdle: compatibility. Right now, there is no standard for instant messaging. And with business use on the rise, the industry and regulators are under increasing pressure to solve this problem.

Dozens of companies offer instant messaging, and they all speak different languages. America Online, **Microsoft** (MSFT) and **Yahoo** (YHOO) are the free-messaging leaders; just to complicate matters, AOL has two systems, AOL Instant Messenger and ICQ - and they're incompatible. Along with **Cisco** (CSCO) Systems and Lotus, Microsoft also sells more complex systems for corporate use.

Small businesses tend to use the free services to converse with employees, customers and suppliers. At political consulting firm Mindshare Internet Campaigns in Washington, CTO Shabbir Safdar uses ICQ to communicate with his company's dozen employees and their clients. "You get to drop all the time-consuming protocols of telephone conversations without breaking the politeness barrier," he says.

Larger enterprises, like the Navy, are relying on the bigger corporate programs that give them greater control over users and tighter security to keep out eavesdroppers. Retailer **Lands' End** (LE) has fitted its Web site with browser-based messaging from Cisco to let customers chat directly with company reps.

At Shaw Pittman, a large multinational law firm, its 400 attorneys use software from Lotus to consult with each other and clients. They even use it during conference calls between the firm's clients and opposing parties. Partner Jim Alberg says the software lets him, in effect, slip notes under the table to his clients on a call even when they are in different cities. "It might be a hint about a negotiation, or 'I can't believe how stupid this guy is,'" Alberg adds.

But if he wants to send an instant message to co-counsel at another firm, Alberg's out of luck unless the colleague uses the same service.

More than 53 million people in the United States used free instant messaging from home in January, while about 11 million sent messages from work. (These numbers include some double counting of people who use more than one messaging service, according to market research firm Media Metrix.)

So pressing is the need to standardize instant messaging that former Federal Communications Commission Chairman **William Kennard**, who stepped down in January, abandoned his long-held position that the government should refrain

from regulating the Internet. "I think it's going to force policymakers to think differently about this mantra that we've all been saying - hands off the Internet," he says.

The FCC's new chairman, [Michael Powell](#), is unlikely to heed that advice, though. Powell has yet to comment on instant messaging, but he has already expressed strong skepticism about imposing government rules on free markets. "I have no confidence that either I, personally, or this institution has the foresight and the understanding to be sufficiently accurate in its predictions about how technology or markets are going to unfold to actually try to participate in engineering where they go," Powell told reporters recently in his first public statement since becoming FCC chief. Powell's bear hug of the free market surprised some consumer groups, which expected he would continue the moderate approach he took as an FCC commissioner.

That's good news for America Online, which operates the largest instant-messaging service and which has long refused to allow messages to flow between its subscribers and those of most competing services. When the FCC approved AOL's merger with **Time** (AOL) Warner in January, the commission allowed the company to continue to block users of other services. Only if **AOL Time Warner** (AOL) puts multimedia content (like a CNN video feed) on instant messaging must AOL open the service to competitors.

For the time being, AOL Time Warner's competitors aren't counting on the government to set standards for instant messaging. "The FCC would take 18 months, and antitrust is very slow, too. Neither one of those will be very quick in forcing this company to play nice," says a lobbyist for one of AOL's competitors who spoke on the condition of anonymity.

America Online executives have pledged to open their service once security standards are set. But the competition, including **ATT** (T), Microsoft and Yahoo, has banded together to establish industrywide standards that could push AOL to act sooner rather than later. Once the leading non-AOL services allow message exchange, they hope the pressure on AOL will prove irresistible.

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## Windows Messenger: New Waves of Innovation

### *A brief, opinionated history and prospectus of Internet telephony and messaging*

Posted: June 04, 2001

by David S. Isenberg, Principal Prosultant<sup>SM</sup>, [isen.com](#), inc.



Microsoft's new Windows Messenger promises to add a significant range of useful capabilities—capabilities like end-to-end Internet telephony that have been missing in action until now—to devices at the edges of the Internet.

#### Stupid Network, Smart Edges

Today, four years after I wrote "*The Rise of the Stupid Network: Why the Intelligent Network was a Good Idea Once but Isn't Anymore*<sup>1</sup>," most of the vision I described in it has come to pass. Today, it is a truism that services and applications at the edges of communications networks are richer, more useful and more innovative than services that are centrally deployed and controlled.

The user's edge has become a cornucopia of connected desktop, laptop and handheld applications.

At the same time, service providers are increasingly able to field innovative applications rapidly and cheaply without owning wires and switches. This is due to the emergence of a service provider's edge, where concentrated, cost-effective racks of servers thrive on commodity connectivity from multiple vendors to deliver reliable communications and individualized content. Simple, high performance, networking protocols like Ethernet, IP (Internet Protocol), and TCP (Transmission Control Protocol) run on edge platforms, making applications and services less dependent on core network processing.

Applications proliferate that were never envisioned in legacy circuit-switched networks designed for voice telephony. Today our lives depend on e-mail. The World Wide Web is an open window on the world. We chat. We game. We blog. We digitize everything. We put our photos on line. Audio-on-demand (envisioned by telephone companies as an ISDN app in the early 1990s but never delivered) is here. We listen to radio stations around the world. We trade recorded music on-line (despite the disruption this extremely popular application has created in the recording industry). Video-on-demand soon will come. Applications, freed from the constraints of circuit switching, are limited more by our imagination than by our platforms or our networks.

#### Voice: The Last Captiveapp

But something's wrong with this picture. Where is voice-over-everything? Telephony over IP has not yet arrived at our desktops in any meaningful way. Voice remains shackled to circuit switched networks. Real-time communications applications have not yet merged with Internet apps. I've been expecting this merger for years. Until today, I've been disappointed.

My disappointment is based on expectations originally set by VocalTec, which introduced Internet telephony as a PC application in February 1995. The VocalTec story is a necessity-mothering classic. In the early 90s, VocalTec sold an audio output dongle for a PC parallel port. VocalTec's R&D labs were in

Israel; Sales & Marketing were in New Jersey. The company was spending tens of thousands of dollars per month on international phone calls. In 1994, VocalTec applied its digital audio expertise to the recently arrived commercial Internet. The result—its Internet telephony app—worked so well they decided to make it a product.

Today, PC-based voice telephony applications like VocalTec's stand as almost-forgotten signposts on the road to the end of telephony-as-we-know-it. Except for a few niches, PC-to-PC Internet telephony was not a success. In precise technical terms, voice quality sucked. Early releases were hobbled by half-duplex soundboard firmware, which gave them a push-to-talk, amateur-radio quality. Then, even when PC sound systems improved, early PC-based telephony applications had delays of hundreds milliseconds (and more) that seriously degraded the dynamics of a conversation. Neither modems, nor the processors of the mid-90s nor PC operating systems of that time were designed for real-time voice.

There were other problems, too. In the mid-1990s the Internet was in adolescent growth-spurt mode. Traffic bottlenecks materialized frequently, which caused long network delays, which added to delays introduced by the PC itself to cause additional disruption.

Usability was another issue, especially for non-techies. When I installed my first PC telephony application, I had to acquire a headset because I couldn't use my PC mic and speakers for calling. Three headsets later, I found out that with my PC's particular sound system, it had to be an amplified headset. Then I had to adjust microphone volume at three independent places on my PC. I could not figure out the correct volume setting so other parties could hear me. I had to hack incessantly to make things work right. Reachability was another issue. Far fewer people had a PC and an Internet connection in the mid-1990s, which limited the addressable population. Even then, Internet connections were not always on. Dial-up connections were intermittent by definition. Presence protocols and instant messaging had not yet arrived—so it was unthinkable to integrate them into the other ways we might want to communicate.

### Telcos Platforms: Part Way There

Telephone companies saw Internet telephony as a way to lower costs. But if telephone companies were going to adopt PC-based telephony, they needed the PC-originated calls to reach every other telephone in their network. They fielded Voice-over-Internet Protocol (VOIP) platforms designed specifically to interface to the telephone network. These platforms made it possible for calls from any telephone to be routed across the Internet (or across dedicated Internet connections) to any other phone. They used proprietary technology to improve performance of modems, digital signal processing, operating systems and networks. In addition, these platforms adopted the H.323 standard, a circuit-like protocol that was originally designed for ISDN teleconferencing. H.323 was consistent with telephone company practice, and it worked well in VOIP platforms, but it was not sufficiently modular to support Internet-style innovation, nor was it extensible to support e.g., instant messaging.

Telephone company VOIP reduced costs, mostly because international calls could arrive at the destination country as data, avoiding high per-minute charges specified by voice telephony treaties between nations. Today, unbeknownst to their customers, all major U.S. telephone companies deliver some of their international traffic using VOIP—the quality of such calls is indistinguishable from traditionally-routed circuit-switched calls. On the domestic calling front, corporations with wide-area networks began to adopt telco-style VOIP platforms to unify their networks, reducing the operating expense of running both a voice and a data network, and to reduce domestic long distance charges.

Along with these transitional VOIP platforms came Signaling System 7 interfaces, billing platforms, network management systems, and enterprise systems that use IP to integrate computing and telephony within businesses. Improved PC-based client applications gradually made it possible for PCs to be able to call the other telephones of the world with acceptable quality most of the time. Edge-based service providers like Net2Phone and Dialpad now use this telco

equipment to offer PC-to-anywhere calling for little more than the price of a network connection. Slowly, telephone company VOIP platforms began to address the reachability problem.

### Microsoft's Windows Messenger

Solutions for several of the other problems that have kept voice shackled to legacy telephone networks can be found in Microsoft's new operating system, Windows XP. The piece of Windows XP that addresses real-time communications is called Windows Messenger.

Microsoft calls Windows Messenger a new "experience." I think it is much more than that. I think that Windows Messenger has the potential to fulfill the promise of end-to-end IP telephony, of voice-over-everything that dates back to VocalTec's original application. I think Windows Messenger has the potential to bring real-time Internet communications apps, including IP-based voice telephony, to our desktops.

To do this, Windows Messenger introduces three broad technological improvements. First, it significantly reduces voice delay to a floor of about 70 milliseconds. When communicating clients are on one, well-engineered LAN, this delay is not noticeable. When clients communicate over the greater Internet, there is substantial headroom (at least 80 milliseconds) before delays begin to interfere with conversational dynamics.

Second, Windows XP comes with a variety of voice coders and decoders (codecs) which Windows Messenger uses. When network conditions favor wide bandwidth and low delay, these make voice sound significantly better than telephone quality. When network throughput degrades or delay increases, coders are able to gracefully fall back to lower bit rates. When network congestion eases again, coders dynamically step up to higher quality. This happens automatically, under application control.

Third, Windows Messenger includes acoustic echo cancellation software, which reduces echo and eliminates the need for a headset in average-sized offices.

Windows Messenger doesn't solve Internet delay or reachability problems, but it appears at the right time. Today the Internet is significantly faster than it was five or six years ago. Many, many more people have PCs. Increasingly, these PCs are always on. At work, these PCs are usually connected to the Internet via 100 megabit/s Ethernet. At home, residential always-on connections (DSL, cable and wireless) are becoming more and more prevalent. Increasingly, PCs can place IP phone calls to any other phone in the world using gateway providers as mentioned above.

Issues of delay, voice quality, reachability and network performance will gradually exit from computer manuals and enter into the history books.

### Real-time Messaging: More than Voice Telephony

A hundred years ago, voice telephony was miraculous technology. Today, when advances in digital electronics and internetworking let us see much further, technology designed for voice alone seems inflexible and limited. The classic telephone company model depends on the voice-only network to deliver a relatively narrow set of services. Telephone companies are beginning to realize that these times of rapid change demand renewal and rethinking.

Telephony could be much more useful than it is. Most voice calls don't connect. Either we hit an answering machine or reach a receptionist. Occasionally, we get a line-busy or (especially when calling mobile phones) a network-busy signal. If we happen to reach the person we want to talk to, and if they happen to be available to talk, it is a happy accident.

Our patterns of communications are shifting. I have seen my own mix of communications go from lots-of-phone-calls-and-an-occasional-letter to lots-of-e-mail-and-an-occasional-phone-call. Often I use e-mail to schedule calls, request faxes, or announce that I've just sent paper mail. Other people rely on instant

messaging, which is driven by presence protocols that deliver information about whether buddies or colleagues are logged on, and/or active. Today, however, mostly these applications exist separately.

### **Session Initiation Protocol (SIP): Seriously Important Progress**

Session Initiation Protocol (SIP) will be a critically important piece of Microsoft's Windows Messenger. SIP is an emerging Internet standard that allows flexible integration of messaging, presence, multimedia conferencing, and real-time communications like telephony. It was designed to be modular to integrate applications in innovative ways, and extensible to support new technologies.

Internet researchers at Columbia University and Bell Labs, who were the prime movers behind SIP, designed it to be analogous to Hypertext Transfer Protocol (HTTP). HTTP makes it possible for the World Wide Web to integrate text, pictures, and other kinds of data much as SIP integrates communications apps in new ways. Like HTTP, SIP relies on the end-to-end nature of the Internet (stupid inside, smart at the edges) so a wide variety of Internet-connected devices will be able to interoperate over a very wide range of SIP-based communications capabilities. As with HTTP, knowledgeable SIP users will be able to create their own communications and messaging applications with visual drag-and-drop editors and mark-up languages (such as Call Processing Language (CPL) and Telephony Markup Language(TML)).

SIP gateways allow Internet-based applications to interoperate with existing telephony applications and with older H.323-based Internet telephony apps. But the true potential of SIP is that it extends communications capabilities beyond voice. People will be able to use their SIP-enabled devices, such as PCs, Pocket PCs or even smart, telephone-like Internet appliances, to find out if friends or colleagues are on line, and then invite them to talk. This interaction might be followed by an invitation to be part of a multi-party videoconference. In the course of the conference, two participants might use instant messaging to open another voice channel for a side conversation. Yet another conference participant might share a spreadsheet with the group, another might send an image file to a designated sub-group, and so forth<sup>2</sup>. The forms of communications under SIP control can be as non-interfering as Web browsers are with e-mail clients, or tightly linked as voice is to video in a teleconference.

The use of new technologies is notoriously unpredictable. For example, Alexander Graham Bell thought that the telephone would be used to bring live symphony concerts to distant audiences. SIP is so broadly extensible that we cannot imagine the useful applications we can create with it. Jonathan Rosenberg, one of the original architects of SIP, says that, "Most of the communications applications have not yet been discovered." SIP provides an extraordinarily capable discovery vehicle.

SIP-based applications are just beginning to come on line today. SIP products, such as PC client software, servers, proxies, gateways, and software toolkits are offered by such well-known vendors as Agilent, Cisco, and 3Com; by start-ups like DynamicSoft, Ubiquity, and Indigo; and by service providers like TellMe, Webley, WorldCom, and Level3.

Much of the power of SIP derives from its status as an accepted standard that is implemented on the platforms of multiple vendors. Microsoft has committed to interoperate with the other SIP platforms in the marketplace and it has been an active participant in recent SIP Interoperability events. Microsoft's support of standard SIP will add momentum to SIP in proportion to the square of the number of SIP-based Microsoft endpoints (according to Metcalfe's Law).

### **My Windows Messenger Demo: Usefulness and Usability**

What I saw of Windows Messenger is impressive. I got a test drive in preparation to write this paper. User control (signaling functionality, to telephone techies) takes place in an instant messaging (IM)-like Conversation window. When I got an invitation to answer a call, it appeared in the Conversation window as a hyperlinked field. I clicked to "Accept" the call invitation, and instantly I was talking to the party that invited me. Adding two-way video took another click by

each party. To initiate a call, I clicked on a menu item and selected who I wanted to call from my contact list. I could see who in the list was online. To share a document, I clicked on "Invite," selected "Application Sharing" from a drop-down box then selected the file I wanted to share a couple seconds later; the receiving party opened it with a click and we began to mark it up collaboratively. It worked very intuitively, in part because it was consistent with my previous learning about how to use a PC, and in part, I think, because I had a guide at my side.

I'm a hard-liner when it comes to usability. Maybe it is because I'm always getting myself into technological tangles—I certainly don't consider myself an early adopter. Or perhaps I have a stricter criterion than most people for calling something 'usable.'

When I worked at Bell Labs, there was a myth called, "As-easy-to-use-as-a-telephone." With all due respect, telephones are *not* easy to use. You have to remember long numbers, or look them up. You have to dial them, which is a mistake-prone process. You have to understand the meaning of a variety of network tones. You have to know when to dial with an area code, and when to add "1" and how to get an outside line. If you need a reminder about how difficult it is, I recommend a night in a hotel room in a country where you don't speak the language.

As a rule, a newly created user interface can be almost perfect, but one or two wrongly implemented details can sink it. There is no way to know until people—real-world customers—use it. Furthermore, Windows Messenger is Release 1.0 of a remarkably new and complex set of applications and capabilities. Microsoft has repeatedly shown that it can learn from its experience. It is likely to reap benefits from experience with previous applications like Windows NetMeeting.

All that said, my demo of Windows Messenger conferencing, instant messaging, and application sharing felt remarkably intuitive. The video and audio were smooth and rich. There was no detectable echo or delay. The process of initiating a call does away with looking up, remembering, and dialing phone numbers completely. User control was positive, with good feedback as to the state of the connection. The Microsoft people who set up the demo were proud of the way it worked. Justifiably so! They've done it right, really right, as far as I can tell. And we can be sure that Release 2 (or whatever they choose to call it) will be even better.

### Digital Infrastructure Today and Tomorrow

It is important to distinguish between Internet *investment* and inherent Internet *value*. Investments have their ups and downs, but the usefulness of the Internet continues to increase. Every month I find new things to do with the Internet and new ways that it adds value, pleasure and convenience to my life.

Similarly, in telecommunications it is widely perceived that the U.S. Telecom Act of 1996 is not working. Certainly there could be much more competition in local telephony and data communications services. Yet, every year new forms of networked connectivity become available. This year, for example, we are seeing a great leap in wireless Ethernet (802.11b) connectivity. Every year, more homes and businesses get DSL, cable modem service, MMDS, DirecPC, and free-space optical service.

That said, there is no doubt that the technology—and the economics—for simplified, end-to-end, fiber optic Internet connectivity has arrived. Perhaps United States legal and business issues will keep the U.S. from being a leader in fiber network deployment. This will not stop progress. Other areas of the world will take the initiative.

Meanwhile, the headlong surge of digital infrastructure advances has brought human communications capabilities very far very fast. If all progress in underlying digital infrastructure were to stop, we could spend the next few decades discovering, integrating and iterating upon the new capabilities these advances have afforded.

Until today, digital infrastructure progress has left desktop voice and real-time

communications behind. Now, Microsoft's Windows Messenger, including real-time infrastructure improvements and support of SIP, will bring an important new set of capabilities—and new waves of innovation—to today's digital desktop.

<sup>1</sup>For the original Rise of the Stupid Network, see <http://isen.com/>.

<sup>2</sup>SIP is inherently a multi-party protocol, however, the first release of Windows Messenger will only support two-way voice and video conversations.

*This article was written by David S. Isenberg at the request of Microsoft in support of the Windows Messenger rollout.*

*Prosultant is a service mark of isen.com, inc.*

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## IM buddy making more powerful friends

By [Stefanie Olsen](#)

Staff Writer, CNET News.com

May 23, 2001, 2:50 p.m. PT

<http://news.cnet.com/news/0-1005-200-6021116.html?tag=prntfr>

Real-time stock quotes may soon be available on request through popular Internet chat programs under a deal this week that offers the latest sign of instant messaging's growing maturity.

Software start-up [ActiveBuddy](#) said it has secured agreements to deliver real-time stock quotes via automated instant messenger "[bots](#)" with the Nasdaq Stock Market, the New York Stock Exchange and the American Stock Exchange.

The New York-based company is testing a service to send news, weather and related information via instant text messages.

Monday's endorsement comes as ActiveBuddy prepares to launch a financial "buddy" branded by Reuters, one of its two financial backers. The buddy, which will sit on a chat program's friend list, will let people send an instant message with the text "GE stock," for example, and instantly receive a response with the current price of General Electric shares.

ActiveBuddy is planning a broad launch of its service in June.

"Whenever you get a population in the hundreds of millions, developers are going to rush to build applications for those services," said Dan O'Brien, senior analyst at Forrester Research. "It's about turning IM into a more general-purpose tool, not for the display of rich information the way the browser does but for quick access to data."

ActiveBuddy is only the latest example of how instant messaging is getting a face-lift. Microsoft and others are exploring new ways to turn instant messengers from chat boxes into something that rivals the power of the Web itself.

Taking advantage of the sheer popularity of instant messaging, Net businesses are quickly trying to transform instant chat into a vehicle for file sharing; transactions; private, encrypted communication networks; and access to real-time data. By adding such features, any of the IM networks could gain a competitive advantage in the marketplace.

Microsoft [plans](#) to overhaul instant messaging with its upcoming set of Web services building blocks, code-named HailStorm. With this project, the company is set to position an instant messenger as a complete development application, going far beyond being a vehicle for simple conversations. Its IM technology would be the infrastructure for a range of Web services, including Web-based e-mail, real-time stock quotes and calendar functions.

Microsoft Chief Executive Steve Ballmer first discussed the idea of using instant messaging as a Web service-delivery mechanism for online transaction data more than a year ago.

IBM, Microsoft and several other small players have already created a well-established market for IM in business. IBM Lotus, for example, introduced [Sametime](#), which lets corporations interact via instant messenger on an encrypted network. Microsoft has a similar product within Exchange.

For consumers, Yahoo and others have pushed to make instant messaging more Web-like with each iteration. The newest version of Yahoo Messenger, introduced earlier this month, includes PC-to-phone calls for the international market, as well as the ability to archive conversations, similar to e-mail message archives.

The IM service had already offered stock quotes, news, auction alerts and calendar lists for consumers who have personalized such services on its site. And a Yahoo representative said the company is "evaluating different uses of [Yahoo Messenger](#)."

Consumers, meanwhile, have started swapping files through instant messaging via services such as [Aimster](#).

Although such features may add to the popularity of instant messaging, they may not add to the bottom line. Yahoo, [America Online](#) and others have long tried to figure out how to make money from instant chat. One answer has been to sell ads within the instant text box. Marketers have also started to [contact](#) consumers on IM through file-sharing networks such as Napster.

ActiveBuddy plans to make money by licensing its technology to major brands wanting to reach consumers. It recently inked a deal with Capitol Records to build the first "activebuddy" to market the launch of a new record from rock band Radiohead, due out June 5. The buddy will let fans pull up fast answers on the band's tour dates, song lists and bios, among other tidbits.

It is also negotiating with the major IM providers to offer its service on their networks for a fee, analysts say.

ActiveBuddy has developed a natural-language search called "buddy script." This script can communicate with various content databases, such as Reuters, to pull up answers on topics at lightning speed.

An early version of the technology [quietly lived](#) inside AOL Time Warner, Microsoft and Yahoo chat networks under the code name Smarterchild.

The buddy provides movie schedules, stock quotes and news headlines, as well as a search function for dictionary terms and answers to math questions.

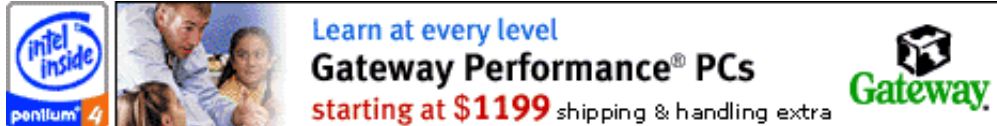
The company is quietly testing its buddy for Radiohead under the code name Googlyminotaur.

Despite the potential for such a service, it faces several hurdles, including a lack of standards among IM networks. AOL Time Warner's AOL Instant Messenger and ICQ services do not work with each other or with rival services such as Microsoft's [MSN Messenger](#) and Yahoo Messenger, forcing a battle over interoperability that could slow the development of new features such as ActiveBuddy's data bots.

In addition, the networks aren't equipped for secure communication. As a result, deals to allow stock trades or retail purchases via IM haven't come to fruition, said Nicole Lewis, associate analyst at Jupiter Media Metrix.

"The potential for IM is within marketing-oriented services," she said.

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## AOL's New Instant Message: Synergy

By Alec Klein  
Washington Post Staff Writer  
Friday, August 3, 2001; Page E01

AOL Time Warner Inc. has launched an expanded instant-messaging service, offering consumers a set of Web features that promote many of the company's vast media holdings while positioning the technology to become a broader communications platform.

The new version of AOL Instant Messenger, or AIM, includes a Web page called "AIM Today." The page, which pops up automatically when users sign on to the service, includes the weather, headlines and a search engine -- acting like a scaled-down Web portal.

AIM Today links to various AOL properties, including its Netscape Web site, an Internet radio service called Spinner, and Bugs Bunny and other Looney Tunes cartoon characters, which it acquired when the company merged with Time Warner in January. Much of the promise of the \$112 billion merger was based on such potential cross-promotional opportunities.

The new AOL software also is designed to be an engine for growth for the New York company's online subscription service. When users download Instant Messenger software from the Web, an AOL icon automatically appears on their desktop computer screen, offering a trial promotion of America Online. Similar promotions were used with previous versions of AIM.

AOL's online service could get a big boost from the trial promotion offered through its instant-messaging service. AIM, a free service, has more than 100 million registered users, ranking it first ahead of Microsoft's MSN Messenger Service, which has about 36 million. AIM Today also encourages users to get other people to sign up for the instant-messaging service.

AOL, however, said that the latest AIM upgrades were put in place mainly to entertain its users and build a community for them.

"It's meant to be fun for users," said company spokeswoman Jane Lennon. "In addition to that, folks -- AIM users -- wanted more ways to get in touch and instant-message in new ways."

For example, she said, one AIM Today feature, "Rate-a-Buddy," allows users to submit their digital photograph for display. Other users can rate the picture on a scale from 1 to 10. Other features allow users to read their horoscope and message an animated kiss to another user.

Competitors, however, said that AOL's new instant-messaging software is designed to carve out more Internet real estate for the company by directing users to its own content. "They're spawning a different window, which actually gives you more, upon launch, exposure to their services immediately," said Alex Diamandis, vice president of sales and marketing at Odigo Inc., a New York-based instant-messaging firm.

Odigo's software comes with content channels on such topics as the weather, dating and gifts. The Washington Post Co. also competes with AOL in offering news and a personalized Web portal service.

Instant messaging allows Internet users to receive notes almost as fast as they are sent. The notes usually appear as pop-up windows on their computer screens, although the service has been extended to other devices, including cell phones.

AOL, which popularized the technology in the 1990s, has increasingly built up its service. Last year the company began to sell space to major advertisers on the pop-up windows that appear when users activate the software. Last month, the company said it had begun an internal test to open its service so that its users can send instant messages to people using rival systems.

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