Voice Over IM: Enabling a New Telecom Services Model

EXECUTIVE SUMMARY

The Internet-connected PC is now firmly established as a mainstream communication tool, and it is also beginning to transform into the primary tool for real-time (i.e. "live") communication. Instant messaging – IM – is the killer application that is helping to make the PC the main medium for the widest range of communication possibilities. By adding voice services to their IM platforms, operators of IM networks are aiming to complete that transformation.

Stated simply, VOIM is voice over IP (VOIP) that originates and/or terminates on a PC's IM-based client. Softphones, or software-based telephones, also enable VOIP to originate and/or terminate on a PC, but that term traditionally refers to the telephone application only, and many of today's clients have expanded to incorporate IM functionality or have grown from IM clients. While the subject of this report is voice over IM, one can hardly separate the voice application from text, video, file sharing, picture sharing, and gaming that is possible via sophisticated IM clients. In fact, that integrated communications element of the service is itself what makes VOIM so different from traditional telephony.

Voice Over IM: Enabling a New Telecom Services Model takes a close look at VOIM technology, the companies providing these services, how their offers differ, how they are being used, and the possibilities they hold for the future of telecommunications. It analyzes ten VOIM service offerings, with in-depth profiles of eight different service providers. It also evaluates the products and market positioning of 11 different VOIM-related service and technology providers.

The main objective of this study is to identify and analyze the trends across the VOIM market. To achieve that end, we spoke with a wide variety of companies that provide technology and services that are being incorporated into VOIM offerings, shedding light on the depth and breadth of their capabilities. Many of these companies are leaders in their industry or are emerging with new approaches and capabilities. As a result, we have been able to capture the essence of what VOIM is about today, as well as gain some insight into how it is changing the future of telephony.

The methodology of this report was designed to achieve two objectives: to gain a deep understanding of the existing VOIM services available today; and to gain a broad perspective on how the technology is evolving and what capabilities may be available in the future.

To achieve the first objective, Heavy Reading conducted in-depth interviews with marketing and network professionals from eight different VOIM service providers, which collectively serve more than 600 million active IM user accounts. Companies range from the largest IM providers in the world to relatively newer players.
To achieve the second objective, *Heavy Reading* conducted in-depth interviews with marketing and network professionals from 11 different VOIM-related service and technology providers. The capabilities of these companies range from codec and presence technology to white-label services providing interconnectivity for service providers and consumers.

In addition to a detailed analysis of the technology issues surrounding VOIM deployment, the report delivers a concise competitive analysis of current and planned VOIM offerings from major IM operators. This information provides a definitive roadmap to the VOIM service environment.

**Excerpt 1: Summary of VOIM Service Providers**

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>AOL</th>
<th>AOL</th>
<th>EARTH-LINK</th>
<th>GOOGLE</th>
<th>MICRO-</th>
<th>SIPPHONE</th>
<th>SIGHT-</th>
<th>SKYPE</th>
<th>YAHOO!</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM SERVICE</td>
<td>AIM</td>
<td>ICQ</td>
<td>MindSpring</td>
<td>Google</td>
<td>Talk</td>
<td>Windows Live Messenger</td>
<td>Sight-Speed</td>
<td>Skype</td>
<td>Yahoo! Messenger</td>
</tr>
<tr>
<td>ESTIMATED USERS (ACCOUNTS)</td>
<td>&gt;67M (including AIM, ICQ, &amp; the AOL Buddy List)</td>
<td>Included in AIM estimate</td>
<td>Not disclosed; EarthLink has 5.3M users total</td>
<td>10M-20M</td>
<td>255M (as of Sept. 2006)</td>
<td>2M</td>
<td>&lt; 1M (estimate: subscriber count not disclosed)</td>
<td>171M</td>
<td>100M</td>
</tr>
<tr>
<td>PSTN OUTBOUND</td>
<td>Unlimited AIM PhoneLine</td>
<td>ICQ Phone</td>
<td>MindSpring Dial Out</td>
<td>No</td>
<td>Windows Live Call</td>
<td>Gizmo Call Out</td>
<td>Phone Out</td>
<td>SkypeOut</td>
<td>Phone Out</td>
</tr>
<tr>
<td>PSTN INBOUND</td>
<td>AIM PhoneLine</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Gizmo Call In</td>
<td>Phone In</td>
<td>Skypeln</td>
<td>Phone In</td>
</tr>
<tr>
<td>PSTN CARRIER(S)</td>
<td>Level 3 (formerly Broadwing)</td>
<td>N/A</td>
<td>Solegy</td>
<td>N/A</td>
<td>Verizon</td>
<td>Digiline, GlobalX, iBasis, Level 3, PointOne, Singtel, Teleglobe</td>
<td>Two unnamed PSTN providers</td>
<td>Not identified</td>
<td>AT&amp;T preferred; suite of others, including VSNL and iBasis</td>
</tr>
</tbody>
</table>

*Source: Heavy Reading*

Although VOIM can be viewed as a subset of VOIP, in that it delivers packet-based voice to end users, there are fundamental differences between the two. While VOIP is designed as a network service that is based on traditional voice telephony, VOIM is designed as an application that runs over the Internet. These represent two fundamentally different approaches to networking, following the form of the long-running “Bellheads vs. Netheads” debate that began with the growth of the Internet.

IM and VOIM services are provided over the open Internet, with the objective of passing as much of the traffic as possible directly between the IM clients. Central directories authenticate subscribers, accept presence information, and publish presence and address information to authorized subscribers. The IM clients communicate directly where possible, routing the media path through service provider servers only where necessary due to firewall issues. Some of the service providers interviewed for this report noted that more than 90 percent of their sessions are routed directly between clients.
Excerpt 2: VOIM Service Infrastructure

![VOIM Service Infrastructure Diagram](image)

Source: Heavy Reading

Report Methodology

Voice Over IM: Enabling a New Telecom Services Model is structured as follows:

Section I is an introduction to the report, with complete report key findings.

Section II offers an overview of VOIM technology and examines its fundamental differences from traditional voice networks, as well as the related issue of network neutrality.

Section III analyzes the basic features of instant messaging technology, upon which all VOIM services are based.

Section IV discusses the differences between VOIM and its more established cousin, VOIP, including both technological and business-model distinctions.

Section V examines the network infrastructure needed to support VOIM services, placing VOIM in the larger context of Heavy Reading's VOIP industry taxonomy and addressing relevant industry standards, including IP Multimedia Subsystem (IMS) and Session Initiation Protocol (SIP) for Instant Messaging and Presence Leveraging Extensions (Simple).

Section VI investigates the issue of voice quality in VOIM services, discussing the latest codecs and jitter-buffering techniques that can make VOIM call quality even better than the PSTN.

Section VII explores how VOIM is shaping the future of communications by both altering the behavior and expectations of customers and revolutionizing service provider business models.

Section VIII profiles the nine major VOIM service providers, including details of how their VOIM services work, how they plan to make money from them, and how these companies are positioned to compete in the rapidly developing VOIM marketplace.

Section IX profiles 11 leading providers of VOIM-related services and technology, including suppliers of codec and presence technology, call-management services, interconnectivity services, conferencing solutions, and even end-user devices.
Voice Over IM: Enabling a New Telecom Services Model is essential reading for a wide range of industry participants, including the following:

- **VOIP and VOIM technology suppliers:** How will increased use of VOIM affect demand for your products? Which technologies and platforms are emerging as the most likely winners in the VOIM sector? Is your company positioned to take advantage of those anticipated changes?

- **VOIP and VOIM service providers:** How do your plans for voice services compare with those of your competitors, and how will the emergence of VOIM affect those plans? How will market timing for mainstream VOIM affect your service portfolio?

- **Investors:** Which technologies and platforms are emerging as the winning solutions for VOIM, and which companies are the leading providers of those solutions? How will VOIM affect profitability for the telecom services sector in the coming months and years?

Voice Over IM: Enabling a New Telecom Services Model is published in PDF format.