

Instant Messaging In The Enterprise

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Executive Summary

The proliferation and maturity of instant messaging software like AOL Instant Messenger, forced millions of users world-wide to sign up and actively use the tool as means of communication, peer-to-peer file sharing and even video-conferencing. Business use of instant messaging is expected to rise from 65.5 million users today to 260 million by 2006, according to IDC. While the consumer market has quickly adopted the use of instant messaging, the enterprise market is still waiting for robust and secure messaging tools that fill all the enterprise-class requirements. Since enterprises are not yet utilizing instant messaging, that forced users of such software to install the easily downloadable software and use it while abusing company's bandwidth and resources. This in turn presents a number of issues for the corporations.

The first issue is security. Instant Messengers are known to tunnel IM traffic over widely open ports like http (port 80), therefore undermining the security precautions taken by the internal security and infrastructure teams. The file transfer capabilities override the any virus scanning software that is implemented company wide. On top of that, the privacy issues of allowing anybody to add you as a contact served as a catalyst to the Instant Messenger virus like Goner.A (which used the ICQ contacts list to replicate). There are also concerns with a number of security holes that the IM clients had. There have been numerous CERT advisories for the AOL ICQ instant messenger.

The second issue is intellectual property protection. Privacy threats caused by IM clients in the workplace include personal information leakage, IP address exposure, loss of confidential information, and eavesdropping. Most employees are not aware that if they are trying to send an instant message to somebody across the hall, that the message actually travels out of the corporate firewall, through the internet and then back into the corporate environment in plain text. Therefore one of the requirements for corporate IM systems should be encryption.

Last but not least, there are identity issues. Anybody on the internet can impersonate anybody else. Even if an employee is looking at a screen name that is familiar to him/her, the disclosed information might be placed in the wrong hands. Hence there is a need for strong credentials and strong authentication, utilizing LDAP/PKI/NTLM

And finally productivity! In a recent study performed by Jupiter Media Matrix said that use of M in businesses rose 113% from 2.3 billion minutes in September 2000 to 4.9 billion in September 2001. This is a huge strain on the time that the employees spend on the various instant messengers hence lowering their productivity.

In summary an enterprise-class instant messaging system requires great consideration in order to facilitate security, customer/client communication as well as decrease telecommunication costs and increase corporate productivity. Below we will outline the pros and cons of such a system, feature requirements as well as present numerous options for implementation.

Feature Requirements

Based on the above summary we identified a number of feature requirements in order to be able to successfully and securely implement an instant messaging infrastructure in an enterprise environment. We broke out the requirement into a number of groups: User Requirements, Security Requirements, Infrastructure Requirements and Client Requirements

User Requirements

Message history	User needs to be able to see message history in each of the conversations
File Transfer	Peer-to-peer file sharing is a requirement on the corporate network(will most likely be blocked to the clients)
Multi-Person chat	Users must be able to hold multi-person chats. i.e. troubleshooting a problem and need multiple teams representation
Voice/Video Chat Conferencing	To cut videoconferencing costs, the IM software must support video/voice chat as well as white-boarding
Invite People	Goes along with Multi-Person chat feature
User Directory and Search	Being able to look up anyone in the enterprise and have permissions to add him/her
Server Stored Contact Lists	For backup purposes the contact lists should be stored on the server
Multiple IM platform support	The software must support gateways to AIM,MSN and Yahoo for cross-IM platform compatibility
Offline Message Store and Delivery	This can server in lieu of v-mail to cut internal voice mail system storage costs

Security Requirements

Secure encrypted IM	Utilize TLS for secure instant messaging internally and with clients
Auditing/Logging/Archiving	Treat IM just like an email and utilize auditing, logging features in order to be able to trace misconduct of employees
Digital Certificate support/PKI	For future use to prevent identity fraud
Virus Scanning	Prevent malicious viruses like GONER.A to enter the environment
Federated Authentication(e-mail style usernames)	Forcing username based on the corporate domain @yourcompany.com as well extending that functionality to the clients for ex @yourclient.com

Infrastructure Requirements

Message Indexing and searching	Enable administrators to index and search the instant messages
Server Clustering for HA	High Availability for a messaging system
LDAP Integration	For future use to utilize a centralized LDAP server for authentication
Management Console/Supporting policies	A need for a management console with the ability to define corporate instant messaging policies. i.e. (Customer Service Reps can only talk to client A)
Windows Domain Integration/Exchange	Utilize current windows domain infrastructure for authentication and authorization
Identity Control	Insure you are talking to who you think you are talking to
WAP/Wireless Support	For future us – roll out to PDA's via VPN
Server-to-server communication for geographic deployment	Possibly deploy IM systems in logical geographical locations
Multi- Database Support	Being able to support a wide range of databases for message tracking, storage and etc.

Client Requirements

Client/Web Based	IM software needs to be able to be deployed as a client/server application as well as a web based tool in order to support large number of remote clients (where deploying application to the desktop is not feasible)
Custom Skin/Logo/HTML	The content surrounding the IM window should be able to contain customized news and log. For ex. All clients can get a reminder message that the system will be down for maintenance
Disclaimer insertion	Just like e-mail we should be able to insert a standard disclaimer

Instant Messaging: The big picture

Even though the corporate instant messaging market is very young, there are a number of major players competing for a market share in this field.

Akonix L7	http://www.akonix.com
ImLogic IM Manager	http://www.imlogic.com
FaceTime Communications	http://www.facetime.com
WireRed e/Pop	http://www.wiredred.com
Bantu IM	http://corp.bantu.com
Jabber	http://www.jabber.com

In the recent quarter all three major consumer IM products announced an entry into the enterprise class instant messaging arena.

AOL has announced their AIM Enterprise Gateway which utilizes technology from FaceTime Communications for auditing and logging.

<http://enterprise.netscape.com/>

Microsoft has announced the release of MSN Messenger Connect which also utilizes products from FaceTime as well as IMLogic and will be a free add on to the .NET server

http://www.microsoft.com/net/services/msn_messenger_connect.asp

And Yahoo is releasing Yahoo Messenger Enterprise Edition which features SSL and works with Verisign Inc. for user authentication as well as IMLogic and FaceTime .

<http://messenger.yahoo.com>

While the above announcements are a great push forward in the Enterprise Instant Messaging world, until these giants are willing to accept interoperability, choosing any of the above solution limits the enterprise and its customers to one platform.

There are a number of developments to resolve the interoperability issues. In September, IETF approved SIP (session initiation protocol) working group to develop a technology for enterprise IM. SIP and SIMPLE (SIP for IM and Presence Leveraging Extensions) provide standards in defining a message among different IM servers. The above protocols are backed by the giants like IBM and Microsoft and supposedly Microsoft will support SIP in its upcoming real-time communication server code name Greenwich.

There is a competing standard which was proposed by Jabber Inc. – XMPP (Extensible Messaging and Presence Protocol.) While it is highly supported in the open-source community the likely hood of its survival is very bleak.

Product Landscape

Akonix L7

Akonix L7 is a privately held company with venture capital investments. Akonix is a security software company that is dedicated in protecting enterprises from “Rogue Protocols”. Akonix L7 reduces the risks posed by Rogue Protocols by subjecting them to standard network security policies. Unauthorized connections are blocked, while authorized connections occur within corporate-imposed and Akonix L7-enforced policy limitations.

Key Advantages

- user management – integrates tightly with Active Directory and discovers new users
- policy management – user/group, custom groups
- archiving and reporting – rich list of reporting and archiving options
- P2P Sharing adapter option
- L7 enforcer to reset escaped IM and P2P traffic
- Supports any IM platform (MSN,Yahoo,AIM)

Disadvantages

- Gateway and Enforcer runs only on a Windows platform
- Lack of support for non-Windows clients
- Lack of support for web-based IM clients
- No support for Jabber and Sametime
- Requires Microsoft SQL licenses

IMLogic IM Manager

IMlogic IM Manager is the first enterprise-class instant messaging management solution to bring control, reporting, security, archiving and compliance to traditionally unmonitored and uncontrolled IM networks

Advantages

- File Transfer Control
- Extensibility to E-Mail and Data Storage Systems
- Scalable persistent connectivity and low-latency on IM traffic
- Conversation reconstruction
- Supports any IM platform (MSN,Yahoo,AIM)

Disadvantages

- Supports only Windows Platform

FaceTime Communications IM Auditor

IM network-independent auditing solution for regulatory compliance.

Advantages

- Web Based configuration
- Supports any IM platform (MSN,Yahoo,AIM)

Disadvantages

- Supports only Windows Platform

- Requires Microsoft SQL licenses

WireRed e/Pop

WireRed Software is the leader of secure instant messaging and enterprise real-time communications software. Over 3,000 corporate and government organizations have paid licenses for e/pop and WireRed's real-time technology. The first to offer rich-text messages, security and IT-friendly controls, WireRed played a key role in pioneering Enterprise Instant Messaging (EIM) software, and today enjoys a significant share of this growing market.

Advantages

- NT4 integration as well as Active Directory
- Multi-office/ multi server support
- Citrix and Terminal Service support
- VoIP conferencing
- Java Web Based Client

Disadvantages

- Proprietary IM platform

Bantu IM

Setting the standard for secure instant messaging (IM), Bantu is the leading provider of business-grade IM and Presence solutions.

Advantages

- Interoperable with other IM networks
- Multi Platform support including linux, macintosh, windows and WAP
- Can be integrated into intranet, extranet
- Web Based

Disadvantages

- Hosted at Bantu

Jabber Inc.'s Jabber

Jabber, Inc. is a commercial software company devoted to helping customers move their ideas forward. By letting companies embed streaming XML data into other applications, devices and services, Jabber extends the benefits of real-time communication beyond instant messaging.

Advantages

- Based on open-source
- Fully customizable
- XML based allowing easy integration into applications

Disadvantages

- Does not have a feature rich archiving/auditing functions. Looking to partner with FaceTime/Akonix to provide those features.

Summary

As stated above, the instant messaging market is very young when it comes to the needs of a corporate environment. There are a number of solutions in the market including proprietary software like E/Pop, hosted application providers like Bantu and Ikimbo. Akonix, FaceTime and IMLogic all provide feature rich products that allow corporate environments to archive and audit as well as control the rogue IM traffic. And last but not the least there are the consumer targeted IM platform like AIM, Yahoo and MSN messenger that are working their way into the Enterprises by partnering with FaceTime Communication and IMLogic to provide the IT needed features to their consumer grade platforms.

The current recommendation would be to enable and allow Instant in your enterprise if there is a strong business need for it by utilizing one of the three major policy based IM vendors (FaceTime, IMLogic and Akonix). Another option is to utilize the Exchange IM for internal instant messaging only. This however will not support the business need of communicating with clients/vendors in a secure and compliant matter.

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