



Improving Communication Between Messaging Systems

The Industry Moves Closer to a Working “VPIM” Standard
White Paper

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Overview

This paper will discuss the views of Avaya on an emerging industry standard aimed at linking messaging systems made by different vendors worldwide. In this day of global communications, messaging systems that provide fast, effective, efficient communications across technological platforms are now a necessity in the marketplace. The Voice Profile Internet Mail (VPIM) standard discussed here is helping to make this happen.

Avaya supports the development and rollout of the 'VPIM' standard to better serve enterprises everywhere. In this paper, you will find out why – and how – the industry is moving forward aggressively on this initiative.

What is VPIM?

A hot topic these days in the messaging arena is the Voice Profile Internet Mail industry standard, which is a technical protocol that allows different vendor's messaging systems to communicate with each other. With the growing need to communicate across networks – to send messages to customers, vendors, suppliers and other stakeholders worldwide – many enterprises (businesses and government agencies) are eager to know just how far the vendor community has advanced in delivering on a working VPIM standard.

Questions include: What effect will the VPIM protocol have on current business operations and net-

works? What are the advantages – and drawbacks – of networked messaging systems? When will the standard be completed and fully workable?

These are just a few of the issues our paper explores.

Clarifying the Confusion

Perhaps it is best to start this discussion with a full definition of VPIM, since a fair amount of confusion still exists in the marketplace. First, it is important to note that VPIM is not a technology itself, as some people have been led to believe. VPIM is an emerging industry-standard that, ultimately, will allow different vendor's messaging systems to talk with one another easily and cost-effectively.

To be even more precise, VPIM is a digital messaging transmission protocol for messaging systems that enterprises worldwide will be able to use to network different vendors' systems. When fully tested and certified for compliance, the VPIM protocol will allow digitally-encoded messages to be sent over a wide area network, allowing messaging system subscribers to send voice, fax, and text messages across locations without incurring traditional long-distance charges.

It is important to note that the VPIM protocol is not simply a replacement for the currently used Audio Message Interchange Specification (AMIS)-analog messaging integration standard. AMIS is a mature protocol for existing analog systems and will con-



tinue to be supported by all releases of the Avaya Interchange networking server. VPIM, on the other hand, is still in the formative stages and – while it represents great promise – is not yet a marketplace reality for all vendors. It is also useful to clarify here that VPIM is email oriented. In other words, it is a voice profile for new and existing email standards.

What effect will VPIM have on business operations?

In addition to cutting communications costs, the VPIM standard will help customers protect their current investments in messaging servers. As more and more companies undertake mergers and acquisitions, and establish new business models for virtual enterprises (such as forming partnerships with key vendors, sales channels, and even key customers) they need to integrate different messaging systems within their virtual enterprise. Moreover, many businesses today want to expand the functionality and networking ability of their current analog messaging systems through more cost-efficient digital communications.

VPIM will help accomplish all this and more.

What are the advantages of networking messaging systems with VPIM?

The VPIM protocol will provide clear, uninterrupted digital connectivity between different vendor's messaging servers that support the protocol. This digital connectivity will provide faster communications and greater messaging functionality compared to analog networking, which already exists today. For instance, VPIM's digital networking will allow for private and priority distinctions on messages, multiple recipients per message, and other advanced features.

The overall benefits of VPIM are clear: Lower long-distance costs, investment protection for existing messaging servers capable of supporting the VPIM standard, more efficient use of time and resources through digital networking, and enhanced messaging capability across enterprise locations. For example, after a merger of companies with two different – but VPIM-compliant – types of messaging systems, there would be no need to retrain users on a new message system or user interface. Instead, both companies can use their legacy systems and still communicate across the entire enterprise via VPIM.

Progress Made To Date

With so many obvious benefits to be gained, the industry is continuing to move forward aggressively to deliver the VPIM standard. To understand



progress made to date, customers need to look no further than the industry group charged with developing the standard: The Electronic Messaging Association (EMA).

The EMA's VPIM effort started in 1995 under the auspices of the group's Voice Messaging Committee. Later, a VPIM Work Group under IETF (Internet Engineering Task Force) was formed to work out the details of developing, approving, testing and certifying a standard. From the beginning, the VPIM Work Group's goals have included:

- Establishing an internationally accepted standard profile of ESMTP/MIME to allow the interchange of voice and fax messages between voice messaging systems
- Ensuring that the VPIM profile allows interchange with non-voice messaging, MIME-compatible email systems
- Establishing a directory service to support lookup of routable addresses
- Establishing a defined mapping specification with other voice messaging applications

Much of this work has been accomplished. In fact, VPIM Specification Version 2 was approved nearly two years ago as a proposed standard. After the references were published, commented on and refined, VPIM v2 was first published in final form as RFC2421 in September 1998. The original RFC that defines the standard has been updated to an

"Internet Draft" and can be found at <http://www.ietf.org/internet-drafts/draft-ietf-vpim-vpimv2r2-03.txt>

While developing the standard, the VPIM Work Group also hosted a series of concept and product demonstrations at industry trade shows and worked with the Voice Mail Association to demonstrate VPIM as part of a Global Voice Mail Service. All along, the Work Group sought out customer input.

Now, under the auspices of the Telecommunications Messaging Industry Association (TMIA), a consortium of North American service providers, members are developing a series of "Intercompany Messaging Agreements" in an effort make the exchange of voice mail over the Internet a reality technically, legally and procedurally. This work is extremely important, especially in light of emerging SPAM mail and virus management issues, as well as continuing FCC restrictions on network carriers. The TMIA work will provide specific processes and procedures for implementing, testing and certifying VPIM-capable systems to assure they interconnect as easily and effectively as possible for customers. At the same time, the group is continuing to advance VPIM v2 while evaluating the requirements for creating yet another protocol more appropriate for unified messaging.

But this full integration or unification of all messaging forms – e-mail, voice mail, fax mail, etc. – is a highly complex task that requires the use of Application Programming Interfaces (APIs) to syn-



chronize communications between different types of messaging servers. VPIM, on the other hand, requires no new API's. Once a voice mail message has become an SMTP/MIME e-mail message (via VPIM protocol), it can navigate the Internet quickly and be accepted at its final destination. (There is also an effort underway to integrate voicemail into general email messaging. This effort is called "Internet voice mail" or VPIM v3. However, this is a recent effort with only limited progress to date.)

Ultimately, VPIM will do for voice mail what standards such as SMTP (Simple Mail Transport Protocol) and POP (Post Office Protocol) have done for e-mail. But just as importantly, VPIM will also allow users and vendors to develop messaging integration plans and strategies based on a fixed, open, public, Internet standards.

Currently, the VPIM v2 standard has been adopted by all leading voice mail vendors as the common method for exchanging voice and fax messages between systems of different vendors. Top enterprise voice system vendors – such as Avaya – have even demonstrated the ultimate interoperability of systems based on the VPIM v2 specification. Avaya has demonstrated VPIM v2 in both the laboratory and at recent EMA conferences. We have shown that the standard does indeed provide interoperability. Right now, the industry is conducting additional VPIM trials that include enterprise, service provider, and network operator participants. The EMA and the VMA have invited all interested

enterprise users, service providers, and voice mail system vendors to participate in these initiatives.

Vendor companies formally participating in the EMA and VMA trials include: Alcatel, Avaya, AVT Corporation, Applied Voice Technology, BriteVoice, Comverse Network Systems, Centigram, Glenayre, IBM, Microsoft, Nortel, Priority Call, ReadyCom, Siemens ICN, Tecnomen, UNIFI, and Unisys. Interest in the trials has been expressed by major North American service providers and by virtually all public network providers in Europe and Scandinavia, as well as leading Fortune 2000 companies.

So, significant progress has been made in defining a workable VPIM standard. The industry is closer than ever to full implementation.

Next Steps

Aside from the built-in complexities of creating a single technical standard across dozens of existing products, the primary reason testing and roll-out of VPIM v2 has not yet been completed is that no formal conformance test lab exists. Rather, founding VPIM vendors have agreed, by necessity, on a process of self-testing to protect their current proprietary platforms while moving toward full interoperability. This process is intricate and time-consuming, requiring a series of one-on-one agreements and inter-vendor technical work between competitors who must protect their market posi-



tions while also working to merge systems and software.

Additionally, customers need to protect their existing system investments. In some cases, older messaging servers are not capable of being upgraded to the VPIM standard. Ultimately, these systems must be changed out to newer, VPIM-capable systems to make the standard viable for these enterprises.

Still other obstacles to VPIM come from the individual cost-benefit scenarios most businesses must undertake prior to implementation. Right now, unless customers have multiple sites with fairly high long-distance charges and heavy messaging volumes, the costs to implement VPIM on enterprise servers – linked through a central VPIM-capable interchange server – can be prohibitive. As with all new technological advances, of course, the costs will continue to decline significantly as the standard is adopted.

Avaya Position on VPIM

Avaya has been, and continues to be, a long time supporter and even one of the pioneers of the VPIM standard. Indeed, Avaya's commitment is – and always will be – to help customers realize the full value of their enterprise network investments, by leveraging current communication systems investments while delivering advanced technologies and business solutions for the future.

It is important to note: Now that the EMA and the communications industry has advanced the VPIM protocol to a point where intervendor testing and compliance is fully achievable, Avaya has made the strategic corporate decision to fully support VPIM on the next release (R5.4) of the Avaya Interchange system.

Since the Avaya Interchange will be fully VPIM-compliant – and since it supports all Avaya messaging servers and their protocols – the system will effectively enable all of Avaya's messaging servers and their legacy products to work interoperably with each other and with other vendors' equipment.

For instance, Avaya Interchange system – using a working VPIM standard – will network any voice or multimedia messaging system, regardless of who the vendor is (as long as the vendor's server is VPIM-capable). With its unique store and forward approach to networking, the Avaya Interchange acts as a messaging "hub" or server that receives messages, performs the necessary protocol conversions, and delivers the message to one or multiple recipients. This type of topology improves upon highly complex point-to-point networking approaches that require each location to connect to every other location in a network.



The Avaya Interchange greatly simplifies network management and implementation, making it less costly for customers everywhere to connect new remote message servers or create centralized functions such as directories, large lists and network monitoring.

Customers who are interested in taking advantage of VPIM through the Avaya Interchange and its networking capabilities need to work with their communications systems vendors to fully evaluate all cost-benefit factors, including: number of sites to be networked, volume of messaging between sites, and current addressing schemes to be accommodated. In the case of Avaya, enterprise sales representatives stand ready to assist customers with this in-depth review and evaluation process.