

Many States of Presence

by Christine Perey

Standards, SIMPLE, Standards

Some people who are involved in IP communications today remember when the work of Jonathan Postel, then working for the Information Science Institute at the University of Southern California, standardized how communications between networked peers, and between user agents and servers, would flow. When the Simple Mail Transfer Protocol (SMTP) was ratified in 1982, the intention was to allow anybody to interface with a server directly and carry out a communication session — to send and receive what became known as e-mail. Twenty-one years later SMTP is the basis for a variety of simple as well as sophisticated systems' ability to communicate with one another and with the people who need to know what the systems are doing. It practically defines a ubiquitous computing protocol.

History could repeat itself. Session Initiation Protocol for IM and Presence Leveraging Extensions (SIMPLE) is the Internet Engineering Task Force (IETF) standard [http://www.ietf.org/internet-drafts/draft-ietf-simple-presence-10.txt] on which Microsoft, IBM, Nortel Networks as well as many other companies, have publicly announced they will enable the communication of Presence and IM across enterprise platforms. Session Initiation Protocol (SIP) and SIMPLE could be the protocols through which thousands of future applications will communicate.

In addition to sharing the word "simple" in their names and the potential for greatness, SIMPLE and SMTP both allow developers to achieve their goal by leveraging an underlying and pervasive (though in the case of SIP, not ubiquitous) protocol: Telnet in the case of SMTP, SIP in the case of SIMPLE. In the case of SIMPLE, the services we will obtain by its universal implementation are a SIP-based system's ability to signal Presence and to communicate by Instant Messaging without needing to determine the other device or party's vendor. First, a device registers with a SIP-compliant server. This creates a SIP URL. SIMPLE then adds "subscribe," "notify," and "message" protocols to SIP. Subscribe is the act of adding people to your buddy list; notification is the portion of the protocol that SIMPLE-compliant systems use to publish changes in state, and message is used by one system to deliver a text string to another system on the buddy list. Like SMTP, SIMPLE is designed to permit elementary as well as very complex systems to communicate with one another.

Another characteristic that SMTP and SIMPLE share is that they both emerged through the IETF's formal standard development process. The concept of using SIP to transmit Presence information was first proposed by Jonathan Rosenberg, CTO of dynamicsoft, in 1998. Work on the protocol itself, however, was delayed while the IETF sorted out how to handle competing IM and Presence proposals. Only in 2000, after it became clear that there was insufficient agreement to move forward on one proposal, was the SIMPLE working group allowed to be chartered. The original working group assigned to gather requirements for Instant Messaging and Presence (IMPP) folded with-



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“When a protocol is in use and being implemented, it is living and continuously being adapted,” explains Jon Peterson, senior technical industry liaison at Neustar, and founder and co-chair of the SIMPLE working group. “We don’t stop working on protocols. We keep asking ‘what’s next?’ and applying the principles in new areas.”

out effectively resolving the differences between three competing factions.

The SIMPLE working group declared its core specification complete in May 2002. Although the IETF has yet to assign it a number, the specification has been frozen and implemented in numerous products. The work of defining extensions to it continues based on needs identified by developers and the marketplace at large. Some people interpret the continued work as a sign of immaturity. “When a protocol is in use and being implemented, it is living and continuously being adapted,” explains Jon Peterson, senior technical industry liaison at Neustar, and founder and co-chair of the SIMPLE working group. “We don’t stop working on protocols. We keep asking ‘what’s next?’ and applying the principles in new areas, which then reveals new needs. There’s always more standards work to be done, but that doesn’t mean that the core specification doesn’t work.” Peterson says that the SIMPLE working group is now working on architectures that look more scalable and that when in place will permit developers to optimize their systems.

One of Peterson and Rosenberg’s colleagues and a leading figure in IETF circles, Henning Schulzrinne, an Associate Professor in the Dept of Computer Science at Columbia University, agrees that this work needs to happen. But he adds that the current major challenge with SIMPLE is how to provide the elements with which to build complete systems with the richness of features some companies will want without sacrificing interoperability. “The missing components are mainly not SIP-based,” Schulzrinne says, “but rather relate to configuring watcher lists, admission control and advanced Presence information. The working group is trying to develop rather general protocols that will extend nicely to future services, but this does tend to slow down the discussion a bit.”

There is disagreement among experts on whether interoperability today between different servers and SIP user agents with SIMPLE is an issue. “It’s not black and white: do you support SIMPLE or not? There’s a lot of grey in there,” Peterson candidly admits. It depends, among other things, on if you are talking about the user agent, the servers, or the applications with which a user agent may want to communicate. Schulzrinne, on the other hand, says that interoperability tests conducted at the SIP Forum’s *SIPit* events have demonstrated that there are no major issues with the protocol that cause interoperability problems.

Jorgen Björkner, the SIP Forum Chairman and VP, Concept Development at SIP platform developer Hotsip, highly recommends that customers purchasing solutions that say they are SIMPLE-compliant probe a little further. “The customer should check for the vendor’s track record for participation in the interoperability tests. It is also important to determine how involved a vendor is in this community. Part of the involvement will bring experience with SIP and SIMPLE but also, and probably most valuable to the customer, it increases the likelihood that a vendor has built the necessary partnerships.” Björkner says that before purchasing multi-vendor solutions, the buyer should make sure that the suppliers have covered the “uncovered” components of the standard. “Until things like buddy list storage and authorization protocols are standardized,” warns Björkner, “you may not get all the features you expect. Vendors need to partner up to offer working end-to-end solutions.” The SIP Forum is one place where such partnerships are fostered.

At the end of the day, Peterson, Rosenberg, Schulzrinne and Björkner agree that the good news about SIP, overall, and SIMPLE in particular, is the increase in attention that this technology has earned in industry trades, from vendors bringing IP communications tools to market and the critical mass of users that are gathering around them. It’s clear that, like SMTP 20 years ago, these protocols will have a very significant impact on all forms of communications. ♦



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