Voice over IP using Session Initiation Protocol Initiative

By Joel M. Snyder

The iLabs VoIP using SIP technology focus area shows a functioning multi-vendor VoIP network highlighting the interoperability of basic and advanced SIP features, security, and even video. The goal of this area is to prove that IP telephony with SIP products is understandable, flexible, cost-effective, and interoperable, and gives the end user an experience as good as, or better than, traditional telephony.

The SIP team has built a network showing 25 different vendors and 75 devices, all interoperating and interconnected to provide a single, homogeneous IP-based telephone network.

At the network's center are nine SIP proxy servers from eight vendors that represent pieces of a large multi-vendor VoIP deployment. Seven of the proxy servers form the core of the network and are interconnected with each other so that calls from any phone can be placed to any other phone with simple, four-digit dialing. This allows interoffice traffic to flow over the IP network rather than the PSTN.

Each of the proxy servers also has an Internet-based path to the PSTN for local and long distance voice traffic using SIP service provider, NuFone Networks. The SIP proxies also have a connection through VeriSign's new inter-enterprise SIP service. These two connections show how SIP-based VoIP networks from different enterprises can be linked to the PSTN and to each other over the Internet.

Within the network, each SIP server has between four and eight wired and wireless "hard phones" (SIP phones which incorporate a telephone and SIP client in one package), "soft phones" (software loaded on Windows or Macintosh laptops), and analog gateways (devices that convert between traditional analog telephones and the VoIP network) connected to it.

In this iLabs demonstration, every phone can connect to every other phone in the entire network by dialing a four-digit extension. Our interoperability testing demonstrated 100% capability to make calls between the devices in the network. Testing on the

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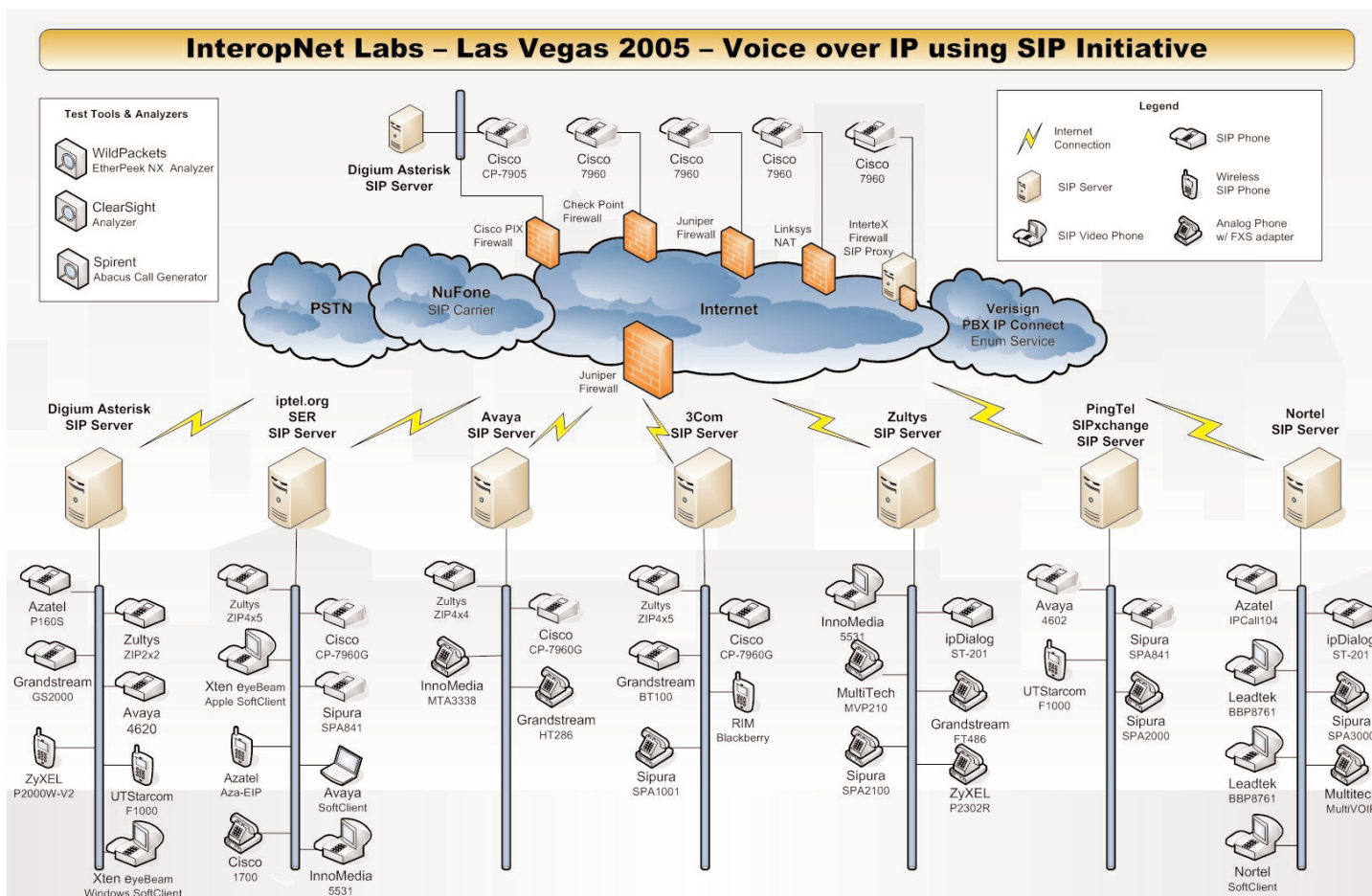
interoperability of enterprise-class telephony features, such as call transfer, showed an 80% success rate. More details on the tests and results are available in the iLabs area on the show floor.

To prove secure operation of SIP across the Internet, a separate demonstration shows a SIP proxy server with four different firewalls and broadband routers, each protecting a VoIP phone.

NetWorld+Interop attendees can see this network in action and examine configuration files on proxy servers and phones to see how easy SIP configuration can be. The SIP area also has running in it protocol analyzers and tapping tools from ClearSight, Fluke, Gigamon, and WildPackets, which are ready to show the details of VoIP calling and data transfer, for attendees interested in a more technical view of things.

Brief white papers on various aspects of SIP implementation, including definitions, a cookbook for learning more about SIP, and security issues within VoIP are all available in the iLabs area. ∎

iLabs Voice over IP using
SIP Initiative Team

Craig Watkins, SIP Team Lead, Transcend, Inc.
Jan Trumbo, SIP Instructor, Opus One, Inc.
Joel M. Snyder, SIP Engineer, Opus One, Inc.
Allen Gwinn, SIP Engineer, SMU Cox School of Business
Doug Moeller, SIP Engineer, VSL Networks
Dustin Goodwin, SIP Engineer, Cisco Systems, Inc.
Helen Garey, SIP Engineer, Serious Stuff, Inc.
Jed Daniels, SIP Engineer, Nokia, Inc.
Jeremy McNamara, SIP Engineer, NuFone Network
Jim Martin, SIP Engineer, Netzwert AG

With support from:

John Balogh, The Pennsylvania State University
Gerard Goubert, UNH InterOperability Laboratory

ILabs Voice over IP Using SIP Participating Vendors

3Com
Avaya
AzaTel
Check Point Software Technologies Ltd.
Cisco Systems
Digium
Grandstream
InnoMedia
Intertex
ipDialog, Inc.
iptel.org
Juniper Networks
Leadtek Research
Multi-Tech Systems
Nortel
Pangean Technologies
Pingtel
Sipura Technology
UTStarcom, Inc.
Xten Networks
Zultys Technologies
ZyXEL

Supporting Infrastructure Vendors:

ADC
APC
Aruba Networks
Avocent
ClearSight Networks
Extreme Networks
Gigamon Systems
NuFone Network
Spirent Communications
VeriSign
WildPackets
1HotWebServer

iLabs Education Classes

All classes take place in the Breakers J Room of the Mandalay Bay Convention Center.

Tuesday , May 3
10:15 a.m. — 11:15 a.m. Full Spectrum Security
11:30 a.m. — 12:30 p.m. VoIP using SIP
12:45 p.m. — 1:45 p.m. Open Source Software
2:00 p.m. — 3:00 p.m. Network World Testing Track: Testing End Point Security Options

Wednesday, May 4
10:15 a.m. — 11:15 a.m. Full Spectrum Security
11:30 a.m. — 12:30 p.m. VoIP using SIP
12:45 p.m. — 1:45 p.m. Open Source Software
2:00 p.m. — 3:00 p.m. Network World Testing Track: Testing End Point Security Options

Thursday, May 5
9:00 a.m. — 10:00 a.m. Network World Testing Track: Testing Anti-Spam Products
10:15 a.m. — 11:15 a.m. Full Spectrum Security
11:30 a.m. — 12:30 p.m. VoIP using SIP
12:45 p.m. — 1:45 p.m. Open Source Software