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## When Will VoIP Be 'Open'?

By Haim Melamed, Director, Channel Marketing, AudioCodes

*Twenty-five years ago, the IT industry was controlled by two vendors: IBM and Digital. The introduction of client server architecture has gradually changed this situation. Today, the computer world is almost completely open: you can buy components from different vendors allowing them to be connected transparently via one common language: TCP/IP.*

*By reviewing the same phenomenon in the telephony world, it is noticeable that the first steps of the process have been initiated, however have not yet attained the level achieved in the IT mode.*

The first IP Telephony systems were introduced to the world in 1998, giving customers the ability to break the traditional PBX into different components. This allowed customers to buy each of the components from a different vendor, while combining all components via standard-based IP protocols.

Seven years later, IP Telephony exhibits a sense of permanence however it is apparent that most enterprise IP Telephony systems are being bought from a single vendor. Many of these systems are still based on proprietary protocols, meaning that buying an IP-based PBX system is still as expensive as a traditional TDM system from a given vendor.

An IP-PBX system will always include a number of basic components:

- Call manager software, which controls the calls between the different end-systems
- A media gateway, that will connect the system to existing analog phones and faxes, existing PBXs and the PSTN
- IP phones and IP soft-phones
- Media servers (software or hardware based) for announcements, conferencing, IVR etc.
- Application servers for voice mail, unified messaging, call centers, etc.
- IP & Ethernet infrastructure – to connect all of these together.

In an ideal, open world of IP Telephony, components can be supplied by different vendors. The key to make that happen is interoperability by standard protocols.

Reviewing the different protocols that exist for VoIP implementations, many different options are available for each interface between the different components of the system. A few examples are: the different VoIP coders for VoIP compression (G.711, G.723, G.726, G.728, G.729 etc.); the different options for media gateway signaling and control protocols (H.323, SIP, MGCP, MEGACO, SIP etc.), the alternatives for QoS management, and many more.

Vendors are driving customers to purchase IP telephony systems from a single vendor. It is in the interest of the big telephony and networking vendors to create proprietary protocols and proprietary extensions to standard protocols. Due to these facts, customers are locked in to a single supplier, who will provide an end-to-end solution, increasing its vendor margin and price to the customer.

It is assumed that by selecting a single end-to-end vendor for the entire telephony and networking system cost of ownership for the end user will be reduced. Although the integration of such a system can be easier and faster, the cost of permanently buying from one vendor can be much higher than the integration issues which can escalate in relation to the size of the organization. Service providers, the biggest customers of VoIP systems, have already taken this into account. Most service providers are implementing a best-of-breed solution strategy where all system components will be standardized, selecting the best product for each function, while ensuring interoperability and functionality. This approach results in a greater ROI by means of flexibility and healthy competition between vendors which will, save money for the customer.

A further force is driving change in the SMB and enterprise space. Open-source IP PBX vendors are now offering IP-PBX systems based on Linux, using SIP as a standard signaling protocol, allowing easy integration with third party media gateways, phones, and applications. These software vendors do not carry the legacy of the old world telephony companies, or the interests of selling end-to-end systems of the big networking giants. Those companies make their money out of integration and maintenance of open-source software packages, and interoperability is the name of the game. Two software packages that are providing such a solution are Pingtel's SIPxchange PBX and Digium's Asterisk Business Edition™ PBX.

The media gateway and media server are two additional key components in the new world of open IP-telephony. Independent media gateway and media server vendors such as AudioCodes provide standard based solutions, that can interface and interoperate with a large number of IP-PBXs and soft switches, application servers, IP phones, and legacy TDM PBXs. In order to do that, there is a great investment in supporting hundreds of different protocols and protocol variants together, while preserving the high voice

quality required for business systems.

Although the barrier has not yet been fully removed, things are getting easier on a daily basis. SIP is opportune for becoming a standard signaling protocol that will create easier interoperability. Open-source IP PBX systems will allow a free choice for selecting IP PBX hardware platforms, phones and applications. Service Providers are implementing systems that integrate best-of-breed components from different vendors. Based on the strength of these changes, prices will decrease and some key components will commoditize.

In the future, telephony will look like computer systems, which will allow customers to have an entire freedom of choice.

*More expertise from AudioCodes is available at TMC's [Internet Telephony Conference and Expo](#), Oct. 24-27, 2005, in Los Angeles. AudioCodes' Alan Percy will be speaking on "[The Role of Standards in Open Source](#)" on Monday, Oct. 24 at 12:00.*

#### ***About AudioCodes***

*AudioCodes Ltd. (NASDAQ: AUDC) enables the new voice infrastructure by providing innovative, reliable and cost-effective Voice over Packet technology and Voice Network products to OEMs, network equipment providers and system integrators. AudioCodes provides its customers and partners with a diverse range of flexible, comprehensive media gateway and media processing technologies, based on VoIPerfect™ – AudioCodes' underlying, best-of-breed, core media gateway architecture. The company is a market leader in voice compression technology and is a key originator of the ITU G.723.1 standard for the emerging Voice over IP market.*

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