

QUALITY OF service

**SwitchIP's Andrew Terry**

Andrew Terry describes a new way to achieve quality of service for VoIP.

It's your worst nightmare – you're alone in the office, it's intensely still and there's an ominous silence. The hairs on the back of your neck are bristling, but there's no shady character lurking in the background, just the foreboding that comes from knowing another call made on your IP network has been abruptly interrupted.

This is more than a bad dream for most businesses, as it can cost hundreds of thousands of pounds in reduced productivity, damaged reputations and lost customers. As a result, many IT departments have restricted the use of IP-based networks to carrying data, and continue to rely on traditional phone connections for their voice requirements – bad news for resellers that are looking to break into the IP convergence market.

Historically, the quality issues surrounding Voice over IP (VoIP) existed because of the way individual pieces of data were transmitted across the Internet. All but the most expensive leased-line-based VoIP solutions tended to use pure DSL-based broadband technology, which works well for data but cannot deliver the voice quality associated with analogue or ISDN circuit-switched connections.

The reason for this is simple: all Internet protocols split voice and data transmissions into cells of data before sending them over the Internet to be reassembled at their final destination. However, DSL technology sends these

data cells over different routes, which means they can arrive at their destination in any order, and have to be reorganised before the receiving device (IP phone, networked PC, etc.) can process them. Although this usually only takes a few nanoseconds, it is sufficient to create delays and pauses in conversations.

It's therefore unsurprising that phone companies are smugly confident about their circuit-switched technology, and that the European channel hasn't been able to make the amount of sales it would like from IP-based networking. But things have started to change. By offering an IP-based network that uses an ATM (Asynchronous Transfer Mode) broadband connection, resellers can provide their customers with access to the full potential offered by VoIP and help them move towards a converged network environment. This is because ATM transmits data cells so they arrive at the destination device in the same sequence that they left the transmitting device – this means they don't need to be reordered at their destination, and reach the recipients' ears without any delay.

In addition, quality of service standards can be guaranteed in an ATM environment, which provides businesses with the reassurance required to migrate to an IP-based solution, and puts resellers in a much stronger negotiating position when closing a deal. By utilising an ATM connection, resellers can provide the

same quality on offer from a leased or ISDN phone line, but at a fraction of the cost – thereby appealing to a whole range of companies that were discouraged by the high costs and perceived unreliability of broadband-based IP solutions.

Today, the possibilities for IP deployments are limited only by the kinds of hardware on offer. This means the shadowy days of unstable Internet-based voice networking are definitely drawing to a close, and separate voice and data networks will shortly be consigned for good to the IT graveyard.

DETAILS

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