How to Assess the Case for Voice Over IP Services

European carriers now offer voice services using Internet Protocol. Organizations should consider the savings, features and call quality that these services bring, rather than focusing on the technology.

European network service providers started offering commercial voice over Internet Protocol (VoIP) services in 2001 (see Note 1). Organizations with a strong business case for changing the telecommunications services they use, and how they use them, now have more options.

As always, there needs to be a catalyst for change, and a business rationale. It does not matter to clients if you use a circuit-switched or a packet-switched voice service. Organizations should focus on a service and the value that voice service can bring in terms of cost savings or increased productivity, rather than choosing a technology for voice solutions. VoIP technology is sufficiently robust in most situations, but the quality and reliability is not yet on a par with traditional circuit-switched voice.

The suitability of voice services should not be judged on whether they are circuit-switched or VoIP, but on:

- Functionality required and delivered
- Quality of voice services
- Price

These factors apply to all businesses, though their relative rankings will be determined by the type of business.

Once these are established, organizations looking at VoIP services need to consider internal issues:

- Technical infrastructure. Does the established communications infrastructure need upgrading to make it suitable to handle voice?
• Organizational structure. Are voice and data services handled by different departments or have they been combined?

• Financial responsibility. Do regional offices purchase voice services locally or centrally and what are the terms of those contracts?

• Outsourcing philosophy. Does the organization prefer to build and own telecommunications assets or is it open to outsourcing?

• Attitude to service providers. Is the service provider proven robust and skilled enough to let them take responsibility for all of the organization’s communications needs, which is likely to happen if VoIP is added?

• Cost control. Have voice costs been reviewed recently? Do you know how costs are distributed over the elements of the service? For example, by type of call, hardware used, additions, moves and changes.

The responses to these questions will indicate whether VoIP should be considered. Regardless of the status of your voice communications, you must have a strategy for VoIP, even if that strategy is to revisit in six months. Not to have a strategy is no longer an option.

Two Types of Service

Public VoIP services for corporate use can be implemented:

• As a stand-alone service simply replacing a circuit-switched service

• As an add-on to a virtual private network (VPN) data service

To date, the add-on solution has been the main catalyst for the adoption of VoIP services in Europe.

Stand-Alone Service

In its most basic form, a stand-alone service could be viewed as an entry-level VoIP offering. Companies keep their established private branch exchanges and use IP as a transport mechanism between them. Organizations could adopt this approach if they are looking to replace or enhance their current service. They can treat it as a step in a gradual migration to VoIP. Enterprises that start with a stand-alone voice service can extend it to include data. There are no major obstacles to migrating to an IP-based VPN and it may require only minor changes, like a reconfiguration in the network edge router.
In this scenario, the price structure for voice will generally remain unchanged following an upgrade to a fully-fledged VPN. The data component is added on, and pricing is related to the speeds needed for each class of service.

European service providers include Equant and Infonet.

**Service As Add-on to IP-Based Virtual Private Network**

Organizations with a data network using IP can add voice traffic, provided the VPN service is supported by Multiprotocol Label Switching (MPLS), which allows the real-time class of service that voice requires. As organizations become more comfortable with VoIP services, they can move their voice services to the VPN as a premium class application. Organizations that decide to simultaneously replace their networks and services for data and voice can also take this course.

European service providers include AT&T Europe, BT Group, Equant and Infonet.

**Implementation**

For both of these migration scenarios it is possible to implement VoIP all at once, or in phases. Enterprises often prefer staged phases as they can continue using equipment until it reaches the end of its life. It also lets them overcome any skepticism about the provider and the quality of the service before complete rollout. Many implementation projects start by simply linking two international sites, to capture as many of the benefits as possible.

**Cost Savings Are Not the Only Benefit**

Cost savings on basic telephony will normally provide the business case for implementing VoIP. Several factors support the case to adopt VoIP:

- The number and locations of sites
- The overall pattern of voice traffic
- The mix of calls on and off the network

Both stand-alone and add-on VoIP services will incur a fixed price per location. When using a stand-alone option there are no additional charges for calls within the network. For calls outside the network, prices should not be higher than current circuit-switched rates.

Voice calls on the network in the add-on VoIP service are not metered either, but the premium class of service that voice
requires can be up to 30 percent more than rates for a VPN service that simply replaces frame relay. Calls off the network should still be at circuit-switched rates or lower.

A business case may be made for calls that occur only on or off the network. But it is more common for the business case to look at the combined pattern of voice calls on and off the network.

Organizations can check whether they have a business case by calculating the annual fixed and variable costs of VoIP and subtracting the migration cost. If this is less than the annual costs of the alternative, then the case is made.

Additional services such as unified messaging and the use of VoIP and IP phones to broadcast internal messages or to function as clocks, may bring both hard and soft benefits. They can save and earn money and generate soft benefits such as increased productivity.

**Bottom Line:** Voice over IP (VoIP) has become a viable option for voice services. Technology improvements are reducing the gap in quality between traditional voice services and VoIP. Voice services should be chosen because of price, quality and required features and functionality, not for the sake of the technology. The main benefit of VoIP is lower costs and enterprises can quickly calculate the business case on that basis.