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BusinessWeek
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VoIP

Now a serious business tool

It has long been a mystery to those outside the telecoms industry why voice and data traffic need to be separated. At home, you had a different line for access to the Internet and for voice calls. Even for many businesses, there were still separate voice and data networks. One of the key reasons for this was the differing needs of voice and data traffic - you need high quality and no pauses or breaks for a voice call.



The unstoppable rise of the public Internet started the trend. New startups realized that voice calls could be put over the Internet, bypassing the costs and processes associated with traditional telephone calls. Companies such as Skype, which launched offering calls only between Skype users but now allows calls to normal telephone lines as well, have over 35 million users around the world.

But Voice over IP is about far more than switching calls over the public Internet. The telecoms operators are replacing their traditional voice and data networks with new infrastructure based on the Internet Protocol. This is the basis of what BT calls its 21st Century Network, where all voice, data and video will be carried on the one network.

The impact on businesses

Large business users have traditionally needed a telecoms department to deal with voice calls, and data networking being handled by the IT department. New equipment and services based around VoIP is enabling these two departments to be merged.

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A good example is the office switchboard or PBX. These are now being replaced by IP-based systems. The key benefit for the business is cost. They can use IP-based systems to avoid expensive traditional networks and reduce cabling and operational costs. These new systems can also provide additional functionality that is particularly important in an area such as call centers where data, and even video, communications can easily be integrated with voice calls.

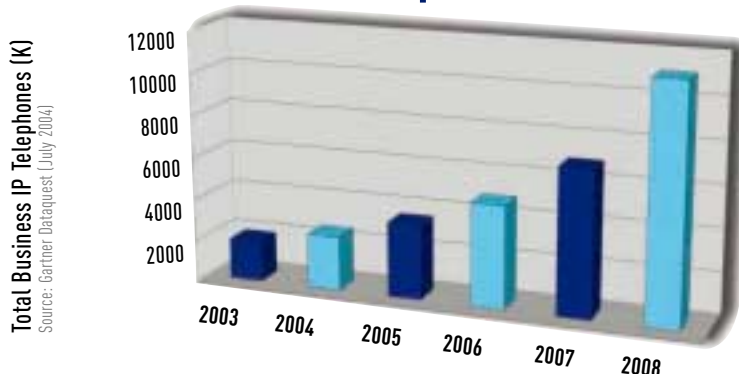
As ever with new technologies, there have been a number of initial challenges. Using the office switchboard as an example, many businesses replaced their system when another of IT's great challenges came up, the year 2000 problem. Given many businesses expect their switchboards to last anything up to 10 years, there is no great desire to replace them with new IP-

based systems. The line chart below shows the uptake of business IP telephones, with growth accelerating in 2008.

There were also teething problems with the quality and reliability of VoIP. No matter how much money you can save on telephone calls, few businesses are prepared to accept dropped calls or interference. These quality issues have generally been resolved, although the perception remains with some users that quality of service is still a major challenge.

There have also been some cultural issues, with the telecoms department unsurprisingly concerned about been integrated into the IT group. Such concerns tend to be denying the inevitable move towards new IP-based networks.

Total Business IP Telephones (K)





Voice over Wireless IP

Cicero Networks is a leading developer of Voice over Wireless IP solutions for the operator and service provider market. Cicero, the company's award winning VoWi-Fi solution enables service providers to offer high-quality mobile voice services at a significantly lower cost than traditional cellular networks.

Cicero is an open, SIP based solution which emulates the traditional telephony model supporting both outbound and inbound calls. Cicero is a key enabler of fixed-mobile convergence delivering significant benefits to operators including increased revenues, reduced interconnect costs whilst improving customer satisfaction and reducing churn.

Cicero users can make and receive calls in any Wi-Fi enabled location – in the office, at home or in public hotspots – thereby availing of cheaper calls without compromising on mobility and flexibility.



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Impact of Voice over Broadband (VoBB)

Growth Phase	Quantitative Measure	Implication
Early Adopters: Second Line	VoBB available in the market	Little revenue impact for incumbents
Early Adopters: Primary Line	Less than 3 percent of PSTN base	PSTN pricing cut to counter VoBB
Inflection Point: Rapid Adoption	Surpasses 10 percent	Incumbents push VoBB
Early Mass Market	15 percent to 30 percent	Big revenue impact
Mass-Market VoBB	More than 30 percent	Progressively replaces PSTN voice

Source: Gartner Dataquest (March 2005)

The impact on small businesses and consumers

Broadband has been the agent of change for small businesses and consumers. Voice over broadband allows alternative carriers to deliver heavily discounted voice services direct to consumers over the broadband connection, bypassing the traditional fixed telecoms operator. This last mile connection, the local exchange line, has been the one area in which the large incumbent telecom operators, such as Deutsche Telekom, BT and France Telekom, have pretty much had a monopoly and been able to maintain high charges.

Broadband users, a rapidly increasing number, will increasingly be overwhelmed by choices. These will include offers from the cable operators, alternative operators and new operators specializing in the VoIP market such as Vonage. It will also include the likes of Deutsche Telekom who will soon be carrying all their voice and data traffic on an IP network, and will have to offer VoIP services rather than lose their traditional business to competitors.

The eventual impact of this activity could be that over 30% of the traditional telephone market migrates to voice over broadband services.

There will be a number of obstacles for small businesses and consumers in using VoIP. A key challenge is awareness and lack of knowledge. Small businesses are often risk-averse, and there is a general association between VoIP and lower voice quality. A less obvious concern among users is that many

VoIP services do not yet have emergency services functionality - so users would not be able to dial 112 in a crisis.

The mobile marketplace will also be greatly affected by the rise of IP technologies. Mobile operators, such as Vodafone, are also migrating their networks onto IP.

Mobile operators may also face increasing pressure

from fixed operators who are looking to use VoIP in WiFi networks to offer an integrated fixed/mobile service. One of the enabling companies in this arena is Irish-based Cicero Networks. Cicero's solutions enable operators to allow users to make Voice over WiFi calls when in a wireless hotspot, and GSM calls elsewhere, using a dual mode WiFi/GSM phone.

“The eventual impact of voice over broadband could be that over 30% of the traditional telephone line market migrates to the technology.”

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