

Has VOIP's time arrived?

Maturing of technology may finally have readied Internet telephony for takeoff

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Author and management consultant Jim Harris spends up to 150 days of the year on the road and he doesn't want to be held hostage to what he calls "the usurious rates" that hotels charge for long-distance phone calls.

So when he wants to make a call, Mr. Harris opens up his laptop, plugs a headset and microphone into it, then logs on to a service that will connect him via the Internet with any phone in the world.

He says the voice quality is not always perfect -- more like a cell phone than a regular land line -- but it is good enough. And the 3.7 cents (U.S.) a minute that he pays to use the service from Newark, N.J.-based **Net2Phone Inc.** is way better than hotel rates, saving him money even after he has paid the hotel's Internet access fee.

The technology he is using is widely regarded as representing the future of telecommunications. In fact, some analysts and industry representatives are now saying that Internet telephony, or voice over Internet protocol (VOIP), is a killer application about to take off.

But many others may view such predictions with a sense of déjà vu.



In fact, VOIP was being touted as the next big thing as long ago as 1995. At that time, there were an estimated 600,000 early adopters, like Mr. Harris, using the Internet as an alternative to regular long distance services. Recent estimates put the current number of users in North America at about 300,000.

The reality is that VOIP was not ready for prime time when it was hyped in the mid-1990s. Consumers who tried it were quickly disillusioned, according to Jon Arnold, the Toronto-based program leader of VOIP equipment at the consulting firm Frost & Sullivan.

"The killer was the voice quality. It sounded like you were underwater," he says.

But over the years, the technology has matured so that it is now at the point of being what the industry refers to as "carrier grade" and 99.999-per-cent reliable, Mr. Arnold says.

He points to improvements such as the growth of high-speed Internet access and computers and software designed to handle broadband multimedia, and better

ways of compressing voice to send it over digital networks.

Mr. Harris is the author of a book called *Blindsided*, which describes how various businesses have been undermined by technologies they underestimated. He believes that VOIP is just that kind of technology and that phone companies should be looking over their shoulders.

In fact, telecommunications companies are now using VOIP in parts of their own networks to cut down the costs of long-distance calls so subscribers are using VOIP every day without realizing it.

But established phone companies are not ready to give up on their investment in the old technology of copper wires and are therefore not in a hurry to move to full-scale deployment of Internet telephony, says Mr. Arnold, one of the founding members of the International VOIP Council, a new body trying to counteract the bad reputation that Internet telephony acquired in its early days.

Where Internet telephony is beginning to prove its worth most convincingly is in the world of business and institutional phone systems, where many organizations are saving money and realizing numerous productivity benefits in moving all their voice traffic from an old-fashioned switched telephone network onto the same digital network that carries all their data and broadband multimedia, Mr. Arnold says.

The Scottsdale, Ariz.-based technology market research firm In-Stat/MDR reports that VOIP equipment accounted for 46 per cent of enterprise telephone systems sold last year in the United States, up from 23.7 per cent in 2001. This will be the cross-over year, when VOIP sales overtake the declining market for traditional phone services, In-Stat analysts predict.

In Canada, 14 per cent of business phone lines now use VOIP and many companies are likely to stay with their old copper phone lines

until 2005 or 2006, by which time the Y2K-compliant systems installed in the late-1990s will be due to be replaced, according to a recent Frost & Sullivan report.

Brantz Myers, national manager of enterprise marketing at Toronto-based **Cisco Systems Canada Co.**, one of many major vendors of VOIP business systems, says cost savings are what first motivate companies to switch to VOIP. Not only can companies with several different locations save long-distance charges by sending voice calls through their data network, they also realize large savings and improve productivity because of the greater flexibility that VOIP brings.

Whenever employees move from one office to another or simply change desks, the company no longer has to pay about \$200 to have someone reconfigure their phone connection. People can take their phone number and all of their personal phone settings with them by simply plugging their handset into the network and logging on, in exactly the same way as they can log on to the Internet from any location, Mr. Myers says.

"But cost savings are just the tip of the iceberg," he adds.

Internet telephony makes its impact felt most when it is used as a platform for deploying applications, so that the expensive computer on many employees' desks can be replaced with a far cheaper Internet phone, says Mr. Myers. For example, in the retail industry, Internet phones can be used for back order and inventory management, time and attendance, customer relations management and reward programs.

"Every customer we've dealt with in the last year-and-a-half is saying IP telephony is definitely on the agenda," says Tracy Fleming, senior technical consultant at

Markham, Ont.-based **Avaya Canada Corp.**, another major VOIP vendor. "They're saying, 'Where is it? Where does it make sense? What the fastest way we can get into the technology?' "

Dave Boroevich, vice-president of product management at **Telus Corp.**, says his company already has a national Internet protocol-based network and he believes that customers will adopt VOIP technologies gradually, as they see the benefits and become satisfied with the quality of their service.

What will really persuade people to move to Internet telephony is the development of a host of new applications that take advantage of the new technology, says Mr. Boroevich, who is anticipating an explosion of new applications similar to the proliferation of software over the past decade.

In addition to the new messaging, collaboration and call-centre applications, he says, "we will likely see real breakthrough technologies that we haven't anticipated. We want to make sure that we have the right infrastructure in place that we can take advantage."