

Breaking tradition

By Darren Greenwood
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More businesses are checking out, and even switching to, peer-to-peer telephony application Skype. Darren Greenwood finds out why.

Imagine having limitless free phone calls for your business - no longer will your company be tied to the toll rates of the incumbent telcos.

Internet telephony has arrived, with one system claiming around 50,000 registered users in New Zealand alone. Skype, created by the inventors of the controversial kaZaA music filesharing on, is gaining an enthusiastic following among users. Increasingly, New Zealand IT executives are waking up to its possible potential.

Typically, for something that presents a threat to their revenues, the telcos dismiss Skype, claiming security risks and poor sound quality; something admitted by some security experts and Skype users, and denied by others.

Nonetheless, Skype, which uses peer-to-peer technology, looks set to join the more 'traditional' VOIP in changing the way businesses communicate with internal and external partners, and how traditional telcos operate.

The end of an era

"I knew it was over when I downloaded Skype," Michael Powell, chairman of the US Federal Communications Commission, told Fortune magazine last year. "When the inventors of KaZaA are distributing for free a little program that you use to talk to anybody else, and the quality is fantastic, and it's free - it's over. The world will change now inevitably."

Niklas Zennstrom, the CEO and co-founder of Skype, posts in the company website: "The idea of charging for calls belongs to the last century. Skype software gives people new power to affordably stay in touch with their friends and family by taking advantage of their technology and connectivity investments.

In just 18 months following its launch in August 2003, Skype claims more than 40 million users globally, with versions of the software suitable for Windows 2000, XP, Pocket PC, Mac OS X, and Linux.

A business version is scheduled to be launched later this year, though already Luxembourg-based Skype says many SMEs are already using the technology to save on phone bills.

Among them is Reach Wireless, whose general manager Steve Sims, sees himself not just as a convert but a preacher for its potential. Since adopting Skype in May 2004, Sims says his company in Auckland has been saving \$500 a month in international calls. "It's secure for us. It gives us visibility with staff. I can see who is online and talk to them without giving Vodafone 60 cents a minute. You talk to staff for longer. With a normal call, you are cognisant of the cost. You have longer conversations and thinking time."

Sims says sound quality is fine and is not aware of security or any other problems. "Other VOIP applications are not as good and I rave about Skype at presentations," he says.

Indeed he does, adding to similar endorsements from Martyn Levy, vice president business development for RoamAD, who sees voice over IP as the "killer application" for city-based hotzones like Auckland City's Reach network.

"Some residents have no Telecom landline, just a Vodafone wireless connection. Many people will get rid of their telecom landline for Skype, etc," says Levy, who spoke during the recent Wireless NZ Summit in Auckland.

In Asia, he adds, people use Skype on their mobile phones to ring people for a few cents a minute. For his six-employee firm, Skype saves \$1500 a month. "You can imagine the cost savings to a large company that implements Skype. This will be a key driver to accelerating VOIP over wireless networks."

Another Skype fan is Mike Johnstone, CTO of billing company Argent Networks, who uses Skype to 'ring' New Zealand from Africa, where roaming cell phone coverage is not possible.

"The benefit to business is cheap phone calls. But there is also availability of coverage. There are some areas where you cannot use a phone but you can Skype. I use it myself in countries where there is no roaming agreement with New Zealand."

Johnstone admits there can be problems with sound quality but says these are caused mainly by internet bandwidth bottlenecks than problems with the Skype software.

"We recommend it to other people and we really haven't come across any issues. It is easy to use and straightforward to download. Why pay \$3 a minute when you can call for three cents?"

Greg Woolley, managing director of IT consulting company Certus, says Skype is "fantastic", and adds 70 per cent of his company's 45 staff also use it. "We did some evaluation before we bought the headsets and worked out a payback in under six months just on national toll calls. This is even quicker including international calls to our Singapore office.

"We have virtually eliminated toll calls within our business, we are saving thousands. But the missing link with Skype is the ability to roam between wireless LANS." Certus, too, has no security concerns, adding, "If you pay for toll calls within your business, you are a mug.

So, outside a self-confessed Skype supporters club, what do leading New Zealand IT directors say about Skype?

Some, surprisingly, confessed to not having heard of Skype, which was also the comment of a spokesman from one of the leading telcos. However, Skype is already used by some major corporates and in person by other IT executives.

Steve Johansen, chief information officer of the Port of Napier, uses Skype himself, though not as much as his IT team and members of the port's cargo operations departments.

"The big thing we have noticed was the ease of use and how readily non-IT staff are adapting to it. It allows a much easier way of seeing if the people we want to talk to internationally are available before we talk to them," he says.

Port of Napier, he says, is careful with security and all installations are monitored, but because of its simplicity, port staff are looking at Skype without any push from IT.

Neil James, assistant director of IT Policy at Otago University, is also a registered Skype user. The university has yet to adopt it formally, but James believes the software's "ease of set up and use" and "lower cost, little risk" will ensure its eventual adoption.

Nonetheless, James wonders if a rapid uptake of Skype might temporarily create "clogged connections leading to poor performance." He notes, however, "These things are all part of the continual balancing of services in the market.

Land Information New Zealand chief information officer Tony Lester has yet to form a view on Skype as the agency rationalises its systems. But once rationalisation has occurred, he believes such emerging technologies could offer "value".

The Inland Revenue Department is evaluating its current and future telephony and data network service requirements and business needs. But, says Don Burns, national manager IT, IRD is not currently investigating utilising Skype as part of its future telephony environment.

While VOIP and Skype systems are being trialled for several hundred thousand users across Australasia, Sydney-based telecommunications analyst Paul Budde says Skype on its own is not enough to shake-up the incumbent telcos.

"Skype is mainly used by people in the IT sector, people with an affinity for technology, the technocrats. It is not mainstream at all," Budde continues.

Only now are the telcos becoming involved in VOIP but not much is happening, as internet telephony will cannibalise their existing businesses. "All of these businesses have a vested interest in their existing volume market. The push is coming from the broadband people."

Budde believes the lack of local loop unbundling, and its impact on the reselling of broadband, is hampering the growth of broadband in New Zealand. This lack of government support could mean it will be two to three years before broadband use takes off locally.

While the SME market is huge in New Zealand, these firms do not have the power of the corporations to secure better deals from the telcos. Instead, the bigger threat to incumbent telco revenues, Budde believes, will be mobile phone charges.

"Vodafone will have all-you-can-eat pricing plans (as in Australia) and that will eat into the residential and small business market," he says.

Budde also says New Zealand business people are apathetic over the broadband issue.

"They have failed to have a good understanding as to what broadband can do. It is much more than internet. If you have VOIP, you can automate call centres, change business processes." Learn: How enterprises determine whether Skype is more beneficial than traditional phone partners. Why Skype is banned in some organisations. What are the security implications of switching to P2P telephony applications.

Threat or opportunity?

Skype, says its UK-based spokesperson Kat James, lets users wearing handsets make unlimited, free, high-quality calls over the internet from their PC to any other PC or internet-enabled device. Potentially, this could help New Zealand businesses reduce their traditional phone bills.

Skype offers extra free features like instant messaging (including group chat for up to 50 people), conference calling for up to five people, and SkypeOut - a service to call landlines and mobiles anywhere in the world for "a competitive local price".

Skype also offers a global directory, online presence, file transfer, call tracking and mobility, by being accessible from any PC.

Skype says its own P2P technology offers better sound quality and a smaller required processing power makes it better than traditional VOIP. P2P internet telephony is also more efficient than traditional telco networks or VOIP providers, James continues, because it doesn't need central servers to route the calls.

"With P2P internet telephony, the Skype-to-Skype calls are routed between the PCs of people on the Skype network by a system of nodes and supernodes and the power of P2P grows with the number of users. Therefore, Skype doesn't need to maintain costly servers, nor do businesses using Skype need to run and maintain expensive servers to run Skype.

"The P2P network operates by using a small amount of processing power from computers on the network and is not limited by the size of the server running VOIP, the capacity of the popper wires or the number of users."

Furthermore, Skype applications to be better than rival Net2phone, ICQ, Aim and MSN systems because most VOIP applications don't work behind firewalls and NAT (Network Address Translation) devices. Nearly all broadband users are behind a NAT or firewall, so they cannot use VOIP applications.

With its P2P telephony, Skype can thus work behind any firewall and NAT device, promising a high call completion rate exceeding others, with better sound quality, ease-of-use and 'totally secure communications' using end-to-end encryption.

"Services like Skype are helping to drive the demand for broadband and we offer traditional telcos the opportunity to sell more broadband," James says. "Disruptive technologies such as Skype is good for business, good for the consumer, and ultimately good for the economy. It makes business more competitive and efficient."

Unsurprisingly, New Zealand's telcos are unconvinced. Vodafone claims challenges with the reliability, functionality and security of Skype place its viability in question. Vodafone promises 99.99999 per cent reliability over its circuit-switched voice network. Skype is also limited in that users can only be connected when they are logged on to the internet and are members of the Skype community.

TelstraClear likewise airs security warnings, claiming, "Someone can listen to your calls and because calls can trombone around the world, the quality and latency of voice can be an issue."

There is also the potential for fraud, as has been seen with internet diallers. In addition, when there is internet congestion, "the performance of Skype can deteriorate," says a TelstraClear spokesperson.

Such concerns have been raised by global security expert Dennis Bergstrom. He claims the supermode-based technology would be hard to block in a corporate environment, placing users at risk from viruses and worms. Bergstrom has concerns over user privacy, and believes the Skype software code may contain spyware, a claim Skype's creators deny.

Nick von Dadelszen, lead consultant of Security-Assessment.com, echoes these concerns. He quotes Dmitry Goroshevsky, founder CEO of Popular Telephony, which has developed a server-less P2P VOIP software called Peerio.

Goroshevsky says Skype's ability to pass through firewalls means hackers can use the voice stream (which is nothing but data) to "break the whole corporate network in a matter of minutes".

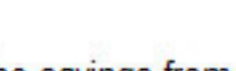
However, Skype CEO Niklas Zennstrom says this is not possible because recipients of Skype calls are told there is a call for them and they are asked to call out to meet them.

Bypassing firewalls and the Skype policy of sometimes turning the Skype user's computer into a supernode to help other Skype users communicate, has led the European Organization for Nuclear Research (CERN), to ban Skype on its networks.

"Companies need to evaluate the risk of any new technology. They may find that the savings from using Skype outweigh the security risk, but it should be an informed decision rather than one based on assumptions. The same goes for any security discussion. Also, there are other free VOIP solutions that do not rely on P2P technologies, and are a lot easier to control," says Dadelszen

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