

# 0 + 1 = talk

by Richard Bray

## Digital communications tools converge

## Digital communications

For every tech-savvy person using the latest and hippest technology, there is an equally dedicated employee struggling to get their voicemail, let alone master the ever-multiplying mysteries of the Internet. For both these types, and everyone in between, the next generation of communications networks will make working life easier and more productive. The gadget freak will have lots more toys to play with, or tools to work with, depending on point of view, while the technophobe will find the technology much easier to use.

Whether it is called VoIP (Voice over Internet Protocol), IP telephony or the “converged network,” the idea is simple – why have data, voice and even video networks installed in an office when only one is necessary? Because the signals from a telephone handset, computer workstation and a video camera are all converted into the zeros and ones that make up digital communications, they can all run on the same wire, fibre or radio waves of an institutional network.

The technology, properly implemented, allows people to manage and exchange all their information and messages more easily and efficiently. Whenever organizations come

up with new applications and features to make better use of their messaging, they will be able to implement most of them with relatively inexpensive changes to software rather than buying and installing new equipment.

A simple example: because telephones and computers will effectively be the same device, the names and telephone numbers on both can always be the same. Clicking on a name in a word-processing document could bring up a “clickable” telephone icon to dial the number, or set up an email message. When someone called or sent us an email, our PCs could be programmed to bring up all the relevant information we needed for the conversation right away, while databases and documents could be viewed and shared at each end during the conversation.

While there is little doubt that in the future, most major new installations will be single, converged networks, John Kealey of Government Telecommunications and Informatics Services (GTIS) at Public Works and Government Services Canada has been giving a lot of thought to the transition.

As manager of Applications and Convergence Engineering, Kealey sees a variety of “green light” situations that can tell mana-

gers whether they should look at retrofitting systems to their existing networks, or make a major investment in a completely new system.

“Where you are talking about a “green field” – a new building where there is new infrastructure – that at is a clear one,” Kealey said, “or a major retrofit or renovation.” LAN (Local Area Network) infrastructures typically last three to five years, he said, so managers may need to revise the “rust-out” programs designed to replace them to take advantage of IP telephony equipment becoming available.

The flexibility of IP telephony may prompt some organizations to take a second look at allowing employees to work at home or in satellite locations. With high-speed Internet connections, they will be able to work almost as if there were physically present in the office.

“There are certainly a lot of advantages that IP telephony can offer there,” Kealey said, “to make the tele-worker really feel like they are part of the total corporation, so there are a variety of indicators that people should be looking at this seriously and moving towards adoption of it.”

While most users will welcome any change that helps them manage email and telephone messages more efficiently, it be-

came clear early in the evolution of IP telephony that people will not tolerate poor voice quality. More than a century of telephone development has led us to expect a dial tone every time we lift the receiver and a good, clear connection.

An IP telephony specialist with Avaya Canada, Tom Shirk works to make voice quality meet those high expectations. “You have to make sure that when you put voice on a network, you have the ability to prioritize voice,” Shirk said. “It is not like data where if you send data out over a network, in the form of packets and one of them happens to drop, it’s delayed. That is not as significant an issue as when I am having a voice conversation and the voice gets delayed.”

At its best, IP telephony means public sector organizations will be able to create, manage and move information in new and different ways. Creative managers are already looking at ways to accomplish more tasks with fewer networks. ♪

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## IDing the dollar savings

The benefits of integrating voice and data within one network almost speak for themselves: lower equipment costs, better access to all kinds of information within the organization and lower total cost of ownership, but managers need dollar figures. David Dunphy, associate director of Business Development Planning with Bell Canada says public sector organizations have all heard the buzz IP telephony but, “They are really trying to build business cases that will cost justify it.”

Dunphy says Bell Canada has worked on estimating savings from IP telephony, ranging from networks and equipment, where costs are quite visible, to the benefits from less tangible items, like convenience, user-friendliness and futuristic applications. “What we really discovered was that by unifying the network to one platform voice and data combined on an IP fabric, there is about 10 percent cost savings on the maintenance side. That’s not a lot of money.”

‘Cost in use’ measures long-distance savings between an organization’s own office. “If you’ve got a Wide Area Network, multi-branch location, the saving is only about 23 percent of your toll, because everybody knows your major business isn’t between your own offices, it is with people outside and you still need the PSTN [Public Switched Telephone Network] to get to them today,” Dunphy explains.

The area where change is dramatic, he says, is ‘moves, adds and changes,’ where telephone handsets are moved from one desk to another, or new ones are added because IP addressing allows all the functionality and features of your computer and telephone to follow wherever you go.

“So when we got to there,” says Dunphy, “we found there was about a 30 percent cost reduction, so that was some nice dollars to look at.” He readily concedes that staff reductions are unpleasant, “but every time we build business cases when we’re not in an economic bubble environment, we look at head count reduction savings, and we found there that you could reduce your IT and telephony staff by about 30 percent combined.”