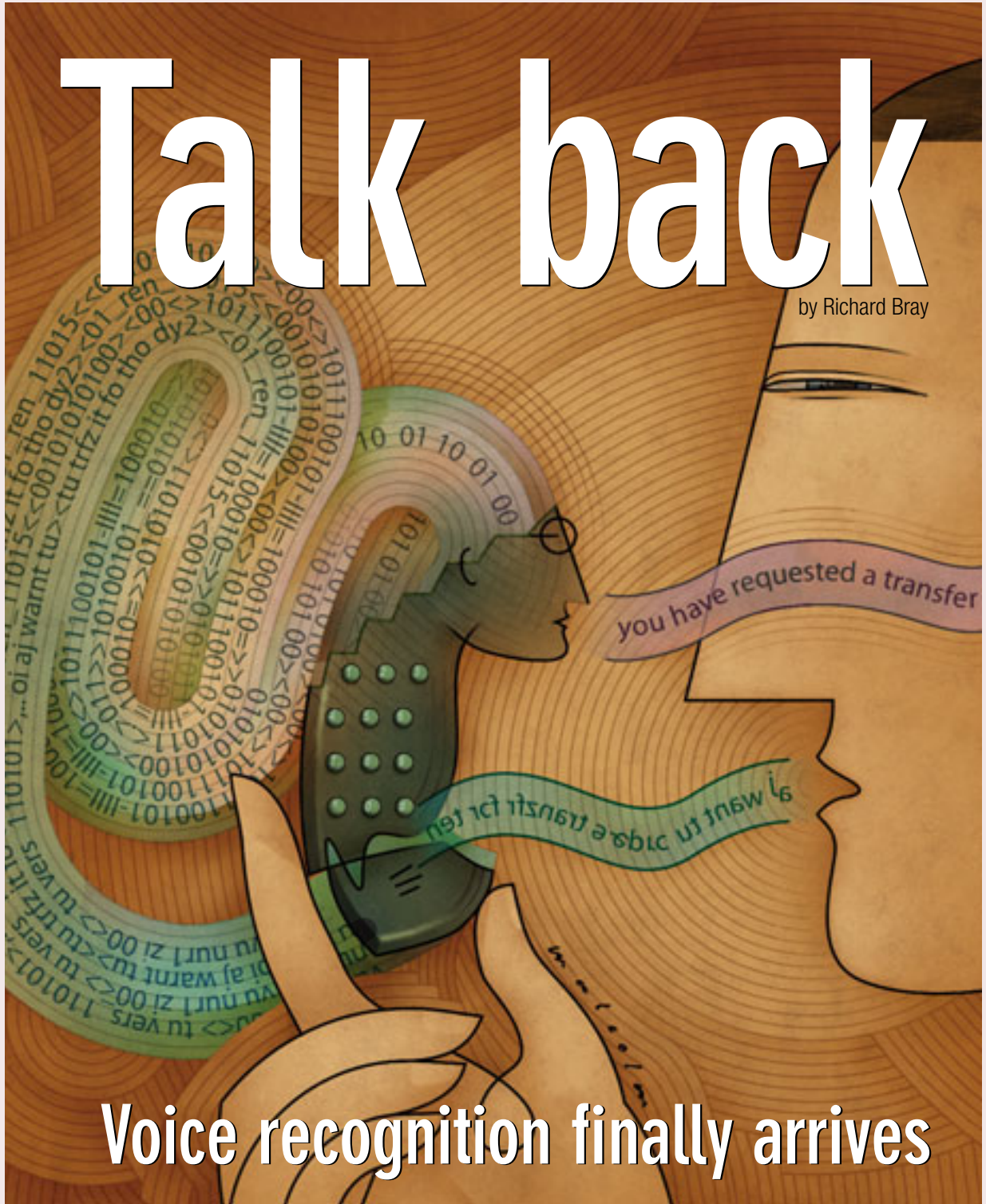


# Talk back

by Richard Bray



Malcolm Jones

## Voice recognition finally arrives

The next phase of the computing revolution goes back to the roots of human communication – the spoken word. At its foundation is a device that reaches almost everyone – the telephone.

Building on faster chips, smarter software, cheaper storage and expanded networks, voice recognition has become a via-

ble delivery channel for a wide range of government services. The difference between speech-enabled applications and conventional Interactive Voice Response (IVR) applications with their endless, numerical menus is like the difference between black and white photography and full-motion sound and video.

Jean Grant is network solutions director for Mitel Corp., managing that company's custom IVR integration and professional services.

“Speech has been traditionally very expensive, both from the amount of resources required for speech processing, that is the hardware required to support speech-based

applications, and also the licensing of speech technology itself,” Grant said. Now, with performance improvements and cost reductions, managers can begin planning to use speech-enabled technologies for their service delivery requirements.

“As a matter of fact, from a demand perspective, I don’t think we have seen an RFP [Request for Proposal] in the last year or two that has not had speech as a required capability,” said Grant. “Whether they deploy speech or not, depends on the cost implications and the nature of the application.”

### How good is voice recognition technology?

The chief executive officer of Ottawa-based Time iCR Inc., Botho von Hampeln, says a speech enabled application only needs one phrase to begin a complete customer interaction: “How may I help you?”

From there, he explained, the company’s hardware and software can eliminate noise on the telephone line, make allowance for different accents, and use artificial intelligence to dig keywords out of garbled phrases to make educated guesses about

“With speech applications you are providing a level of self-service, you are automating self-service, you are using speech and the telephone which are the most basic and friendly form of user interface you can think of, and you are allowing customers or callers to serve themselves with real-time services without requiring keystrokes,” she said. “You can go directly to the destination you are seeking. If you want to talk to the customer service desk, it takes you right there. You don’t have to sit through a menu choice, asking which department you want: A, B, C or D.”

However, she said, most organizations are not yet wringing the real potential out of speech enabled technologies.

“Creatively? I think we should just say, ‘who is using it?’” she said. “The applications that don’t have sizzle are simply mirrored IVR applications, and I think it is a waste of time to say ‘one’ instead of touch ‘one.’ Why did they waste their money? The ones that are using it creatively are the ones that have flattened out the menus, and are using it for more than choice applications but for things like information gathering, so that if a call is taken by a live agent, the

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where the customer wants to go. The system ‘learns’ as it goes along, quickly deciding that calls for the French-accented ‘Dahveed’ should be put through to the English-accented ‘David’. Time iCR says its voice recognition technology can handle 98 percent of the telephone calls the company itself receives.

The earliest adopters of voice recognition technology have been financial institutions, deploying programs that can identify and verify callers on a one-to-one basis to gather information and complete transactions. Major airlines in the United States have not been far behind, installing voice recognition systems to allow passengers to book their travel without human intervention.

Elizabeth Herrell is a vice president at Giga Information Group, with responsibility for Speech Recognition and Voice Systems.

information has already been filled out by the speech engine, and it is immediately populated on the agent’s screen.”

Even though the range of applications is still not very wide, a great deal of effort has gone into “humanizing” the ones that are already in use. Because speech-enabling technologies strive for the human touch, companies make a great effort to personalize their online voices.

Ken Redekop, director of Contact Centre Solutions for Telus Inc. said, “The speech recognition community has done a real service to what was formerly an impersonal approach to IVR, by adding personas and giving them fictitious names and giving them personalities. You have probably heard of ‘Emily’ at Bell Canada and ‘Claire’ at Sprint – these types of things,” Redekop said. “You can do more applications with speech. You can do IVR applications quicker, so you can more quickly say ‘transfer

ten dollars from chequing to savings' than you can do it on touchtone. You can also get more people, it's been proven, to use the IVR speech because you attach more of a personable interface to the transaction."

A mix of pre-recorded and artificial speech can help solutions providers make their personalities seem as real as possible. An airline, for example, might have their voice talent pre-record the phrase, "Most flights from Calgary are running on time," while the phrase "Flight 99 will be 15 minutes late arriving" would be generated from a database using stored words and sounds to create 'text-to-speech' (TTS) sentences.

As Mitel's Jean Grant points out, in either case, the information is coming from a database. "If the information is unpredictable, then text-to-speech is certainly a good means: for example, the contents of an email. You can't predict ahead of time what the content will be, so that is a good use of text-to-speech but for most other uses, pre-recorded scripts are certainly suitable."

Within government, with its vast amounts of information in digital form, text-to-speech can help make it more widely and easily available. As TimeiCR's Doug Shore noted, text-to-speech has made a leap in quality over the last year alone, becoming almost indistinguishable from the human voice.

## "It's like you spoke to a person."

"Some companies are using the TTS engine instead of the pre-recording of scripts by professional voices," Shore explained. "In simple words, TTS is finally now street ready in both official languages."

Don Masters, the president and creative director at Mediaplus Advertising, has worked with Mitel to bring its telephony solutions to the marketplace. He believes in the power of speech recognition.

"There's nothing like talking to a machine and having it do something for you." Early applications are as simple as hotel wake-up calls that allow you to tell an 'operator' the time you want to get up. "It's like you spoke to a person," Masters said.

He believes that voice recognition technology is best suited to customer-initiated transactions. "It is definitely on the delivery



end of things," Masters said, offering services rather than broadcasting promotional campaigns. However, speech-enabled programs may soon be able to send telephone warnings to people in the path of a tornado, for example, tailoring its expected arrival time and other information to specific locations.

For solutions providers, one major challenge remains. "It is educating managers," said Time iCR's von Hampeln. In fact, managers with a strong technology background and an experimental nature may be harder to reach, because the applica-

providing information they are pulling off a database, you can probably automate that."

She says once an organization has gotten started with speech technology, the trend will be to, "look for different areas to start automating, application by application, so it could be HR, it could be service, sales, any transaction that happens over the phone."

That said, she also thinks speech enabled applications are complex and require careful design and development to do right. "Do not assume that because it is gaining in popularity, it is 'out of the box.' The words 'plug and play' don't come to mind," she said. "It is an evolving technology so once you put it in, you need to work with it and refine it."

Managers who enjoy working on publications or Web content will probably love speech-enabled applications. Trevor Fowler of Ottawa-based Applied Computer Telephony Ltd., believes there are many unexpected opportunities in voice response capabilities.

"Don't be restricted," he said. Managers should look closely at their biggest communications challenges and consider even the most extraordinary solutions. "Whatever you can imagine, write that down." If you can explain the process on paper, he said, you can probably make it work in a speech application. *MM*

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