BRIEFING: Telecom Services

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The real boom in voice-activated services will be in the wireless industry.

By Martin LaMonica
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Telecom companies are sobering up to market realities and getting back to the basics. They're balancing the books and selling traditional voice and data services. They're also more grounded, less deluded with the belief that a killer application will rescue them any time soon.

And yet one technology is showing signs of life--speech recognition. Although applications that capture the spoken word and compare the digitized sounds with complex statistical models have been around for years, they were too processor-intensive for most chips, limiting the technology's applicability and quality of service. But with cheaper and more powerful CPUs, the technology is getting some renewed interest.

New uses are also helping. For mobile phone users, speech-recognition technology offers a hands-free way to access and search data in cell phones and personal digital assistants. For carriers, it is a tool with which to build advanced voice-activated services for businesses, which are constantly looking for ways to improve efficiency and reduce costs.

Speech recognition's advocates argue that the new technology is an improvement over older interactive voice recognition (IVR) systems. Whereas IVR forces the caller to punch numbers into a touch-tone phone after listening to a list of options, speech recognition offers a voice interface. This ease of use is imperative for companies serving customers over the phone, as abandon rates with IVR systems are as high as 40 percent.

The savings can be dramatic. By switching from IVR systems to speech-recognition systems, per-call costs at companies like United Airlines and Charles Schwab have been slashed from as much as $5 per call to less than 25 cents. The big question is whether telephone companies will enjoy the spoils of speech-recognition services. "It's no slam dunk," says John Petrillo, AT&T's executive vice president of corporate strategy and business development.

SPEAKING FROM THE HEART

The heart of the system is the speech-recognition engine, which does the actual conversion of speech to text and vice versa. There are a few core speech-recognition engines on the market today, from companies like Nuance Communications, SpeechWorks, and Philips Electronics.

Speech-recognition technology may have matured, but the industry's business models are still murky. First, there aren't many strong alliances between service providers and speech-equipment vendors. That leaves carriers with the complex task of bundling technologies from multiple partners.

However, several analysts see significant numbers of speech-recognition systems being sold over the next two years. There are only about 100 voice- recognition systems currently deployed on telecom networks worldwide. Still, those systems serve 32 million people, which is a 60 percent jump from last year, according to the Kelsey Group, a market consultancy.

Speech recognition presents service providers with two sizeable opportunities. First, the telephone companies can build consumer loyalty with features like voice-activated dialing and information services. Second, these systems can supply carriers with the necessary technology to deliver new customer-service applications to replace IVR systems.

According to BellSouth, the current climate of lean budgets in enterprise IT will favor outsourcing of these services to speech application service providers (ASPs). "When you have scarce resources and capital dollars are tight, a hosted solution is quite compelling," says Kelly Hopkins, director of business application services at BellSouth, which is investing in speech automation for internal processes. "And enterprises don't have to take on the capital risk as the platforms evolve."

An early application will be customer care, because it can show a return on investment within a year. Thereafter, as IT purse strings loosen, there will be applications that help improve employee productivity, like sales-force automation or voice-read email. "Think of a telecom [carrier] as an enterprise," says Prem Uppaluru, president and CEO of Telera, a voice-software vendor that was bought by the French telecom equipment giant Alcatel in May. "It talks to its customers all the time." Sprint, for example, last year introduced Claire, a customer- service application that lets consumers activate wireless services or access account balances with voice commands, rather than having them punch keys on a touch-tone phone.

Voice-activated services are one of the few tools, apart from price, that telecom companies can use to differentiate service, particularly in wireless, where subscriber churn is high. The wireless operator Cingular Wireless launched automated voice-dialing and information services in November to gauge consumer interest. "The thing that's uncertain right now is how widely it's going to be adopted," says Rob Hyatt, Cingular's executive director of consumer product marketing, who sees potential for advanced services like unified messaging, by which voice, email, and other messages could be accessed and stored in one place.

Simply put, telcos and speech-software companies are trying to pull together their own version of the PC revolution: rather than sell proprietary boxes with bundled applications, they're aiming to sell standards-based products. Getting rival companies to adopt a common set of standards--like voice extensible markup language (XML) for developing applications, and a session initiation protocol (SIP) for establishing messaging sessions over the Internet--is sure to be a challenge. But this is necessary to ensure that applications from different software firms will work with one another. The prospects for standardization are complicated, though, by a rival to voice XML called speech application language tips, or SALT, which Microsoft is spearheading.

There is also uncertainty in the industry. In the short term, there's a growing concern that carriers risk being outmaneuvered by speech ASPs. And there's the likelihood that IBM, Microsoft, and Electronic Data Systems could provide speech services directly to customers through their Web-services initiatives.

SOUNDS FAMILIAR

Speech-recognition startups like Telera and BeVocal initially sought to host voice-portal applications that give consumers Web-based information services, like driving directions or traffic reports, on a mobile phone. But a lack of advertising revenue and the cost of operating these custom networks and data centers have forced them to focus on selling voice-recognition software to enterprises and telcos. And these customers, in turn, would sell these systems to consumers and employees at all types of businesses.

But the industry's capital expenditure crunch is keeping speech ASPs alive. "The outsourcing model is clearly taking hold," argues Terry Saeger, vice president of marketing for speech solutions at iBasis, which offers speech services to carriers and enterprises. "It doesn't make sense to buy a bunch of hardware and assume the technology risk associated with speech, which is significant because the technology is developing so fast."

Although many telcos are outsourcing their voice-activated services now, they expect to pull that service in-house eventually. Mr. Uppaluru of Telera, which sold its voice-hosting business to Qwest Communications last year, says speech-service providers that cater to carriers cannot survive long-term, because carriers have the size and better access to capital.

With more people on the run and wanting access to data over their wireless devices, there's ample opportunity for speech-recognition technology. This is especially relevant to cell phone manufacturers, as more states are establishing laws restricting cell phone usage in cars. With a PDA, verbal commands, rather than a stylus, could be used to access specific data. Even more compelling is the combination of both speech recognition and an input device, which provides a more efficient way to search and select data.

And speech-recognition companies and labs are developing next-generation technologies, like distributed voice recognition and device-embedded speech-recognition engines. These could be placed in consumer products to make them voice-activated personal assistants.

In the meantime, software players are closely watching telcos as they adopt speech systems and sell them as services to customers. If they're able to deliver compelling applications, there's hope for everyone else.

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