

Voice Of The Future

W

hen Kuna Foodservice implemented a voice-directed system for picking, replenishment, receiving and putaway inside its warehouse about eight months ago, company officials feared that they would have to rework all their existing business practices and computer systems to accommodate it. They were pleasantly surprised.

"We didn't have to recreate the world," says John Schuler, senior vice president and general manager of the St. Louis-based wholesaler that supplies about 2,500 independent and small chain restaurants in the Midwest. "After just a little testing, we were good to go."

Kuna uses its voice system to push out 8,000-9,000 cases of product a night, to receive about the same amount each day, and to handle about 4,200 SKUs it has in inventory. To implement the system, it needed to outfit its warehouse with new printers, servers and a wireless network, and to purchase the hardware and software. "For a company of our size, this has been a fairly big expense, but it could have been a lot worse," says Schuler.

Kuna's voice system is powered by Lucasware from Lucas Systems, Sewickley, PA, and runs on Talkman headsets from Pittsburgh-based Vocollect. Both operate seamlessly with the company's host WMS and ERP systems from Target Data Systems, New London, CT.

"Integration was not very hard. The interface that Lucas created is very flexible and was compatible with the systems we already had," says Schuler. "Lucas went directly into our software and saved us a huge amount of money, around \$100,000, because we didn't have to buy anything else for our WMS."

That same scenario was what led grocery wholesaler Mitchell Grocery to select VoiceLogistics from Voxware, Lawrenceville, NJ, to voice-enable its warehouse operations. The company, which supplies more than 250 independent supermarkets in the Southeast, uses VoiceLogistics for picking, loading and replenishment.

"What it came down to was Voxware's flexibility and consultative approach, which ensured that their system fit our processes," says David Mitchell, president of Mitchell Grocery, Albertville, AL. "We did not have to change what we were doing to accommodate VoiceLogistics."

Making their systems "good to go" without a lot of effort by

New solutions eliminate technological hurdles for voice in distribution.

By **LEONARD KLIE**

Speaking Of Standards...Open Vs. Proprietary

Open:

- Uses non-proprietary operating system (like Windows CE).
- Is available on different devices for different situations.
- Lower dependency on a single solution provider.
- Lower cost for changes, upgrades and customization.
- Easier integration with existing systems and software applications.

Proprietary:

- Only works with one operating system.
- Only works on proprietary hardware.
- A single vendor means higher prices and fewer choices.
- Higher costs for changes, upgrades and customization.
- Typically requires additional software to integrate with existing systems and software applications.

their customers is the new mantra for voice solutions providers, who have gone to great lengths in the last few months to eliminate many of the technological hurdles that have prevented more widespread adoption of their products. The results:

- Voice-directed distribution solutions have become easier, cheaper and faster to implement, maintain and upgrade;
- The elimination of complicated and often expensive middleware required for systems to interact with host warehouse and enterprise management systems; and
- New software applications that take voice beyond the headsets to things like handheld wireless computers, scanners and pocket PCs.

The bottom line, according to Aaron Miller, a principal with Tompkins Associates, Mission Viejo, CA, is that "voice technology inside the distribution center has seen tremendous advances. The combination of robust hardware and upgraded software functionality has contributed to its overall success."

Voice has been so successful, in fact, that in the 10 years since its first major U.S. warehouse installation—Wal-Mart first rolled out the technology in a warehouse in Clarksville, AR, in 1996—it has grown to the point that more than 550 distribution centers in 22 countries use voice today, with the highest adoption in grocery and cold temperature distribution.

Kroger, Ahold, Publix, Supervalu, Price Chopper, Winn-Dixie, Safeway, Associated Wholesale Grocers, Roundy's, C&S Wholesale Grocers, Wegmans and 7-Eleven are just a few of the dozens of food retailers and wholesalers using voice applications. Also included in the list are food manufacturers like Campbell's, Kellogg, Edy's and Dunkin' Donuts.

Even these early adopters could not have anticipated where voice has gone in just the last few months. These new systems "will expand the availability of voice and force hardware and software costs to come down," predicts Patrick Drolet, senior product manager at LXE, based in Atlanta. "And, with the ease of integration, we can have systems up and running with voice in no time."

In the cases of both Kuna Foodservice and Mitchell Grocery, full implementation of the voice systems was completed in about six weeks, though some other implementations have been completed in as little as three or four weeks.

Open Standards Expand Capabilities

Central to voice's expanded capability and ease of implementation was the creation of the Voice Extensible Markup Language (VoiceXML), an open standard that relies on automatic speech recognition and text-to-speech synthesis to create voice user interfaces.

Using VoiceXML, workers can turn any mobile computing device into a voice-enabled warehouse workhorse simply by downloading their voice files to the devices. Once that's done, workers can move between multiple warehouse functions without having to switch devices.

"A few years ago, each voice provider had its own proprietary hardware that you had to run their systems on," recalls Ken Ackerman of supply chain management consulting firm K.B. Ackerman Co., Columbus, OH. "The newest voice systems are designed to work in conjunction with scanning, keyboard entry and RFID capabilities. Now you can run the systems on any device."

Dan Keller, director of sales and marketing at Lucas Systems, agrees. "The open standards will allow you to take advantage of changes in technology as they come along because you're not relying on a single piece of technology or a single provider. It allows you to look for the best piece of technology and change it out as something better comes along."

"Many of our customers are looking to move voice onto standard hardware," notes Mark Wheeler, principal of the Warehouse Mobility Solutions unit at Symbol Technologies, Holtsville, NY. "They're companies that do receiving on one shift and picking on the next and do not want to switch out devices all the time. Companies today do not want to have to go to multiple IT providers as they move from one application to another. Having a single vendor relationship is key for customers."

These open standards have been in existence for years in Japan and only started to hit the U.S. market in the last year or two. Voxware was the first U.S. voice solutions provider to capitalize on the VoiceXML standard. Late last year, it launched its own Web browser, called VoxBrowser, which uses VoiceXML to voice-enable pocket PCs equipped with the Windows-CE operating system. Voxware supports VoxBrowser with its proprietary Voxware Integrated Speech Engine (VISE), a speech recognition program, and VoxManager, a Web application that allows warehouse managers to control, monitor and configure all



BETTER, FASTER, CHEAPER: Voice solutions have become easier, cheaper and faster to use.

voice-enabled devices in the system right from their offices.

"The days of expensive and proprietary solutions are over," says Tom Drury, Voxware's CEO. "By eliminating the barriers to entry, VoxBrowser will allow any solution provider to deliver high-quality, robust, thin-client voice solutions. In addition, the technology will reduce the total cost of ownership for the end user and allow portability and flexibility for the future. At the same time, it allows companies to leverage, in a very short timeframe, the quantum leaps in accuracy and productivity that voice delivers."

Adds Jefferson Barr, Voxware's director of marketing communications, "With these open-standards-based platforms, you're not locked into proprietary systems, software or middleware. The industry is going away from these voice-only devices, putting scanning, voice and RF onto one device."

So far, both Symbol and LXE have certified VoxBrowser for use on their mobile computers. "Increasingly, Symbol customers and solution partners are choosing to implement voice-based solutions on our mobile computing devices," says Pat McCullough, vice president and general manager of Symbol's Solutions Division.

Jim Childress, LXE's president and general manager, also notes that VoxBrowser will allow LXE to "easily add voice capabilities to the full range of our current and future wireless computers" and to "leverage open systems, industry standards and thin-client technology in voice-enabled Windows-CE devices."

Another voice provider, Genesta, based in Rockwall, TX, developed the SyVox Speech Interface Development Kit, a speech recognition program for use on wireless handheld devices. SyVox is a multi-modal data

How Much Does It Cost?

Voice technology: Capital investment requirement

	Small Project	Large Project
Voice users	0 - 50	50+
Square feet (<i>approximately</i>)	0 - 100,000	100,000+
Radio frequency network 802.11	\$40,000 - \$50,000	\$70,000 - \$100,000
Hardware server, database, voice software application, chargers and accessories (<i>cost per site</i>)	\$15,000 - \$30,000	\$30,000 - \$40,000
Professional services (<i>per site</i>)	\$20,000 - \$40,000	\$20,000 - \$40,000
Wireless mobile computer hardware bundle and software user application per concurrent user	\$5,200 - \$6,200	\$4,800 - \$5,200
Example: Small project (25 voice users in a warehouse with 100,000 square feet) = \$50,000 + \$70,000 + (25 x \$6,000) = \$270,000		
Example: Large project (75 voice users in a warehouse with 400,000 square feet) = \$100,000 + \$80,000 + (75 x \$5,000) = \$555,000		
Average cost per voice user:	\$11,000	\$7,400

Source: KOM International Inc., Montreal

collection offering of speech, barcode scanning, key entry and radio frequency identification through an easy-to-use XML interface. The solution has already been certified for use on pocket PCs from Intermec Technologies Corp., Everett, WA.

Why Limit Your Choices in Voice-Enabled Applications?



Voxware's new open system, standards-based **VoxBrowser™** and **VoxManager™** software is now available to deliver the proven benefits of Voxware's voice solution on more mobile devices to more places in the logistics supply chain than ever before.

Let Voxware take you beyond the limits of closed, proprietary voice solutions.

Find out how the leading voice-driven logistics solution just got better.

VOXWARE
people | power | performance

Talk to Voxware today.

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