



Interview with Michael Jacks, Coca-Cola Enterprises

Innovation in the warehouse—but targeting an “enterprise-wide voice resource”

Coca-Cola Enterprises (CCE) has recently deployed a speech-enabled warehouse solution developed by Datria (SSN, September 2007, p. 12) that allows workers to keep their hands and eyes free when picking stock for an order and moving around a warehouse. The solution is based on standard Cisco IP-phones in an 802.11 internal wireless network using standard network-based telephone speech technology from Nuance. To date, CCE has deployed the solution at 25 warehouse locations. Ultimately, the speech-based warehousing solution may cover hundreds of CCE warehouse locations. Bill Meisel interviewed Michael Jacks, a Senior Manager and CCE’s IT project manager, in late November.

Meisel: What is CCE’s business focus?

Jacks: CCE is the largest non-alcoholic bottler in the world and sells and delivers 80% of the US volume and 19% of The Coca-Cola Companies total global volume. CCE has 74,000 employees and annual revenues in excess of \$20 billion.

What drove Coca-Cola Enterprises (CCE) to bypass traditional voice picking approaches?

Many traditional hand-held computer solutions exist in the voice picking market, and all can meet a specific warehousing requirement. Our needs go further. We have a vision for a very scalable enterprise-wide voice resource to be used across a broad range of process automation needs—for all of our mobile workers (whether inside or outside the four walls), customers, and vendors—and accessible via mobile, VoIP, or conventional telephones. Point solutions (common in today’s market) don’t do this, so we saw the need to explore something new—a flexible voice application capability aligned with our strategic commitment to SAP’s enterprise SOA (Service Oriented Architecture) that also leverages our converged Cisco VoIP infrastructure. Such a solution would take advantage of existing IT investments, reducing capital requirements and overall TCO.

With whom did you collaborate to create this solution?

We had the notion that we could use Cisco wireless IP-phones as the lightweight device each worker wears and our existing converged Cisco infrastructure, but we did not know who could provide a solution that would be compliant with SAP’s enterprise SOA. SAP introduced us to Datria, an established provider of packaged voice-enabled enterprise mobility solutions certified as *Powered by SAP NetWeaver*. Datria was able to provide a solution leveraging network-based Nuance speech technologies within standard Cisco network components, while meeting our requirement for an SAP enterprise SOA-compliant solution.

Did you know that the new technical approach would work?

No. Most existing suppliers told us that warehouses require special kinds of speech recognition—even proprietary technology—given noisy forklifts in the environment. None thought that network-based speech recognition would work, especially over a VoIP topology. But they were wrong. My guess is that they’ve been very focused for far too long on how to create solutions that work within the limitations of hand-held computers—with many constraints in CPU processing power, available memory and battery life.

In reality, there is an alternative to this traditional “client-side” approach (which requires investment in expensive ruggedized hand-held computers). As we have now shown, it is possible to build a solution around powerful *network-centric* resources, without historic constraints. We used this concept to create something totally new: a telephone-based approach using inexpensive IP-phones and leveraging off-the-shelf speech technologies. A network-centric solution eliminates computing restrictions, enabling use of the latest and greatest in network-based speech recognition algorithms, achieving great performance in our noisy warehouses.

What were the business expectations for voice picking?

While we had some long-range architectural visions, we also had some very tangible goals for 2007. We wanted to increase our order fulfillment accuracy, which would enhance customer satisfaction while reducing operational costs. We also needed the first 25 warehouses deployed within six months, which meant very rapid movement from concept to prototyping to piloting to deployment. So innovation would encompass

more than just technology; it would need to extend to our solution launch processes in order to achieve rapid and successful deployment.

Were you successful in creating a solution that met your vision?

Yes. First, we were able to quickly and successfully deploy a voice picking solution that improved order fulfillment accuracy by more than 90% (to >99.8% accuracy). We were able to accomplish this while eliminating redundant quality assurance steps. Second, we established a highly scalable, real-time voice resource available at an enterprise SOA level, capable of automating additional employee, consumer, and vendor processes. Lastly, we were very pleased in the reduction in capital expense for the project (75% lower cost per user device) and the simple architecture that would reduce ongoing operating costs.

We'll continue rolling out the Datria *Voice Pick 'n Pack* solution to an increasing number of warehouse locations in 2008 while we evaluate additional enterprise mobility opportunities for voice solutions. We are already conceptualizing voice-enabled solutions for merchandisers, route drivers, plant and fleet maintenance, field service, and human capital management. We also foresee voice solutions that automate customer and vendor processes.

Do the warehouse workers like the new voice-picking solution?

We gave workers at two warehouses the opportunity to try a traditional hand-held computer solution and the new VoIP one, and they strongly preferred the IP-phone solution. We had many positive comments about the light weight of the device, the familiarity of the interface (they all know how to use phones) and how easy the Datria application is to understand. The workers were also pleased that they did not need to record voice samples, cutting user training time by 80%. Given the high churn rate in a warehouse workforce, the reduced training is also valuable to our supply chain operations team. Overall, warehouse workers feel that the new voice picking solution has made it easier to perform their work with quality and speed, while improving safety and job satisfaction.

In summary, do you feel the project meet management's strategic expectations?

At CCE we have a strong desire to be innovators, to improve our services to our customers and achieve operational excellence. This is why we've made strong strategic commitments to visionary concepts such as SAP enterprise SOA and Cisco's Service Oriented Network Architecture. This voice-picking project is a wonderful proof point for us—that strategic architecture investments enable innovative solutions. We were able to create a groundbreaking solution that more than met our warehousing needs while establishing the foundation for many other valuable voice applications. And we were able to do it very quickly—deploying a brand new technology in 25 locations in under four months.
