

Making the Jump

Migrating to emerging platforms helps retailers make a splash

By John Burnell

Retailers could learn a lot from Olympic divers. Everybody starts from the same platform, execution must happen fast, and those who are most creative tend to win. The higher the platform, the more flexibility divers have to make different moves and differentiate from their competitors. Retailers are applying this lesson by building powerful, standardized IT platforms to set themselves apart.

Technology platform pieces like secure 802.11-standard wireless networks, Microsoft® .NET-enabled handheld computers running the Pocket PC or Windows Mobile™ operating system, and Web services are emerging as the new platform pieces. Together, they represent the high board for retailers who got their feet wet with older, slower, proprietary handheld computers and networks. These technologies enable companies to develop, deploy and integrate new applications quickly, and to strengthen connections with customers and trading partners.

“Retailers are continuing to become more consumer-focused. That’s why there are many projects going on to put more technology into operations,” said Brian Schulte, Intermec retail industry marketing director. “Retailers are investing in technology to enhance the customer experience in the store, either by putting more information in the hands of associates, or by giving technology to the customers themselves.”

Having standardized on 802.11b wireless technology, retailers are leveraging their networks to add new applications and devices, including displays, kiosks and portable POS. Web services is emerging as a platform technology to support real-time visibility and decision-making. Modern handheld computers that support the Microsoft .NET framework leverage Web services applications by bringing them right to the store aisles.

“Basic in-store handheld computing applications have not changed. Retailers have been doing receiving, ordering and inventory management for years,” said Mike Sitek, Intermec’s retail business development manager, who has more than 15 years of experience with retail mobile computing applications. “But the degree of sophistication for those applications has changed tremendously. Software can do so much more today, so users can make a lot more intelligent decisions.”

802.11b-innovation grows as technology matures

The migration from proprietary 900MHz wireless networks to standard 802.11b technology paved the way for many current innovations. With wireless receiving, shelf management, price auditing and inventory applications already in place, retailers are finding innovative new ways to leverage their network infrastructures with new applications. Portable point-of-sale systems, using wireless handheld computers and portable printers, are a proven way to cut lines and grow customer satisfaction.

Customer-facing applications like information kiosks and display screens, price verification stations and personal shopping assistants are also finding their way into stores to take advantage of wireless data access to serve customers.

METRO Group, the world’s fourth-largest retailer, is demonstrating multiple wireless kiosks, display screens mounted on shopping carts and other LAN-based applications at its heralded Extra Future Store in Germany, which is





better known for being an RFID proving ground. Some of these “future” applications are part of the present at Dierberg’s, a 21-store independent grocery chain in St. Louis, which proves you don’t have to be large to be a big innovator. Dierberg’s connects wireless voice-over-IP phones, plasma video displays, scales and Intermec® 720 handheld computers to its 802.11b network.

“If a device can run wireless, we can do the application,” said Robert Sanabria, director of IT at Dierberg’s. “We’re an independent grocer with tough, smart competition. We need to stay flexible and agile. Our wireless network is key, because we’re flexible enough so that when there are developments in wireless technology, we can exploit them very quickly.”

Other retailers have installed wireless kiosks that customers can use to scan merchandise, receive more information about it, and check the price. Kiosks also help comply with tough new price verification laws that states are enacting. And they can be set up throughout the store and access pricing files in real time to ensure that the price displayed at the kiosk is in synch with what is charged at the point of sale.

Traditional in-store wireless applications are also evolving and becoming more powerful. Store managers at Bass Pro Shops, a leading fishing and outdoors retailer, use their Intermec wireless handheld computers to get out of their offices and conduct inventory and sales analysis on the sales floor, where they can better oversee operations. Associates use wireless handhelds for traditional aisle management applications. If customers need assistance locating an item, associates use the handheld computer to access integrated applications to see if inventory is available in the back room, en route from a supplier, or in stock at another store. Store-to-store transfers can be ordered on the spot, with no paperwork required. If a new shipment of hot-selling items arrives, managers or associates can get wireless notification on their handhelds and even initiate print jobs for merchandise labels, so items can be quickly brought to the floor.

Auchan, a French hypermarket, has improved item availability with a similar application. Stock clerks previously checked and recorded shelf inventory on batch data collection terminals. The data was later downloaded and used to generate new orders, which took about nine hours a day. Now, clerks or store managers use Intermec wireless handhelds to manage orders right from the shelf location. Using a wireless interface to Auchan’s host IT applications, personnel can check inventory and recent orders, adjust

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orders in real-time after checking sales activity and delivery schedules, and send order changes directly to the warehouse. Replenishment is more responsive and accurate, and daily time required for order entry has been reduced from nine hours to two.

With a secure, scalable wireless infrastructure in place, retailers can take the next step and put wireless computers into the hands of consumers as personal shopping assistants. Applications help to locate merchandise, provide in-depth product information, communicate targeted real-time promotions, and suggest complementary merchandise or purchases based on the consumer’s own shopping history. Some retailers are using wireless “smart carts” with display screens mounted on shopping carts to help customers navigate aisles.

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Windows into the enterprise

Advanced customer and store associate applications like these require more than an updated wireless network; they also require innovative application software plus easy-to-use mobile computers with the processing power and memory to run it.

“Those things would be very difficult to do, if not impossible to do, with prior-generation computer systems,” said Schulte. Thousands of handheld computers running DOS and proprietary operating systems that have served retailers well for years are currently reaching their end-of-life. The proprietary era is dying with them. Pocket PC, and more recently, Windows Mobile, have clearly emerged as the next-generation operating systems for handheld computers. The new generation is well supported with application development and device management tools, which lets companies focus on creating value-added applications instead of spending their time maintaining and supporting proprietary products.

“When we replaced our old Telxon terminals with Intermec computers running Windows Mobile, we washed our hands of how we were doing things for the last 10 or 20 years,” said Jason Powless, lead system developer at Dierberg’s, the St. Louis grocery chain. “It’s refreshing to work in this environment.”

“This platform is very conducive to bringing applications to market quickly,” added Sanabria. “We can now create applications for the handheld ‘guns’ in an hour that used to take us weeks.”

Dierberg’s has started developing some applications using the Microsoft .NET Compact Framework and plans to start using Web services to create components and applications and deploy them remotely throughout the chain. The company is on the front line of the trend of the retail shift to Web services and service-oriented architectures (SOA). Recent research by Gartner found that approximately 52 percent of retailers are investing in Web services; a similar study by Aberdeen Consulting found that service-oriented architectures are a high priority for 48 percent of retailers and 52 percent of consumer packaged goods manufacturers. Besides enabling rapid application development, service-oriented architectures simplify the process of connecting in-store applications with enterprise and trading partner systems. Synchronized systems enable retailers and consumer goods suppliers to optimize inventory management, customer service and other operations.

Intermec’s Pocket PC mobile computers fully support .NET, so they can integrate easily with Web services applications. Intermec is also creating component libraries as part of its service-oriented architecture software initiative. Many partners are creating .NET applications optimized for Intermec devices. Hallmark Cards, the leader in the personal expressions industry, is using FieldWeb software developed in .NET by Intermec partner Field Performance Group, along with Intermec’s new CN1 ruggedized handheld computers, to reengineer its field sales and merchandising operations. The applications process and synchronize data from thousands of UPC scans each night, and give field sales personnel real-time information for merchandise display management, inventory control and reordering.

It’s no surprise that Hallmark would be an innovator in applications to help their retailers and customers get personal. Many retailers are taking advantage of the powerful platform tools available to them to dive in and create their own “Hallmark moments” to connect with customers. ■

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