

# Case Study

## Custom BlackBerry Application Benefits Auto Glass Repair Leader



**Company:** Safelite AutoGlass employs 2,080 technicians to repair and replace automobile glass for more than two million customers throughout the United States.

**Industry:** Other-Service

**Region:** Americas

**Company Size:** Large Enterprise

**Email Environment:** Microsoft® Exchange

**Type of Solution:** Field Service, CRM & Dispatch Operations

**BlackBerry Solution:** Mobile Resource Management – Custom Application developed in-house

**Challenge:** Safelite AutoGlass wanted to improve customer service and streamline administrative systems. They planned to replace a phone and paper-based dispatching system with one that uses the advantages of wireless technology.

**Solution:** They chose the BlackBerry® Enterprise Solution because the industry-leading technology gave them the flexibility to deploy a custom application on BlackBerry® smartphones that includes dispatching, GPS tracking, mobile printing and onsite signature capture.

**Results:**

- Quick, centralized deployment
- Cost-effective way to meet business requirements
- Technology helped realign business process
- User acceptance



## The Challenge: Build a Custom Dispatching System to Improve Field Performance

Safelite AutoGlass had been dispatching technicians and doing administrative reporting manually. Work orders had to be picked up by technicians every morning. Jobs were dispatched one by one. Phone calls back and forth between technicians and the Call Center tied up phone lines. It took numerous steps to invoice, accept payment, bill back claims to insurance companies and keep track of the billing cycle at the home office.

The IT department knew they had the expertise to build a custom application that could handle most of these field tasks wirelessly – without all the phone calls, steps and paperwork.

“We decided to build our solution in-house because we wanted to maintain control of the development internally,” says Rod Ghani, Vice President of IT. “We knew what we wanted and we had the expertise to achieve it. It also pushed us to be responsible for finding solutions.”

After looking at other technologies, the BlackBerry Enterprise Solution became the foundation for building a wireless application called Mobile Resource Management. The new field force solution would:

- Track time on each work order with clock in/clock out functionality
- Dispatch work orders wirelessly and continuously monitor job status
- Cut down on phone traffic between dispatchers and technicians
- Improve routing for technicians with GPS mapping
- Reduce paperwork at job sites and the home office
- Offer mobile invoice printing, credit card capture and signature capture at the customer site

## Why BlackBerry?

“We looked at Windows Mobile technology, but felt the BlackBerry approach better matched what we were looking for,” says Ghani. “It met all our business requirements for Bluetooth, push email and GPS technology – at a highly affordable price.”

Many organizations choose the BlackBerry Enterprise Solution for exactly this kind of flexibility in one complete package. The fully integrated enterprise solution includes innovative, secure server software that can be extended to include mobile applications, advanced wireless devices and essential support programs and services.

Other solutions often require numerous additional investments in technology. For example, to achieve Direct Push™, Windows Mobile® can require up to five additional layers of technology to manage security and servers. These middleware products are often a costly way to try and match the capabilities supplied out-of-the-box by the BlackBerry® Enterprise Server.

“We felt the BlackBerry Enterprise Solution was more secure than Windows Mobile,” says Ghani. “With the BlackBerry Enterprise Server, the authentication method is more closed from the outside world. It’s less prone to being hacked than Windows® technology, which was important to us because we were planning to transmit credit card information.”

For Ghani, push technology – unique to the BlackBerry Enterprise Solution – puts the solution ahead of Windows Mobile. “We process six to seven work orders per technician per day and we have 2,000 technicians,” says Ghani. “That means all kinds of changes are being sent all the time. We want the dispatcher to push those out and have them automatically arrive on the technician’s BlackBerry smartphone. We can’t ask a technician to remember to request updates from a device all day long.”

***“It’s more economical to go with the architecture of the BlackBerry Enterprise Server because it offers security and management in one place. Everything is in one spot, data is centralized, which means we can get at it more easily.”***

~ROD GHANI, Vice President of IT

## Impact on the Business

Ghani is quick to point out that technology is only one challenge an IT team faces when deploying a new way of doing things. "When you're asking someone to go from a four-part paper work order, and carrying armfuls of paperwork at night, to a BlackBerry smartphone, it's a cultural shift," says Ghani. "You have to really work with the business to realign the processes and thinking first."

Ghani's team spent time with technician's in the field to learn about the challenges of their jobs. This up front time made a big difference to how well the final solution was accepted by users in the field; users knew the IT team had invested the effort into understanding their process and challenges and that the solution would reflect their main concerns. The three-month experience, and regular reporting on progress, kept the project on track and delivered results that now drive user and business acceptance.

Because of the GPS tracking, overall productivity has improved by 7%. They are also communicating more with customers which has meant a drop of almost 23% in the number of jobs that have to be cancelled or rescheduled.

Ghani estimates there were up to four phone calls needed to complete one work order with the old dispatching system. And each dispatcher handles 20 technicians. This time-consuming process has all but been eliminated by using the BlackBerry Enterprise Solution – not just freeing up dispatchers, but influencing the workload a technician can handle.

"BlackBerry smartphones are making us more productive. Technicians are gaining an extra hour per day so we can assign them to help additional customers. That works out to almost one extra job that can be completed per day per technician."

## BlackBerry Architecture Helps with Quick Deployment

"Being able to rely on strong IT team is one of the key variables in making a project like this successful," says Ghani. The flexibility of the BlackBerry Enterprise Solution architecture also meant that Ghani's three developers were able to deploy the application within six months. The BlackBerry® Mobile Data System (MDS) a feature of the BlackBerry Enterprise Server that optimizes application development, was particularly important.

"The layered architecture of the BlackBerry Enterprise Server makes it easier to implement an application," says Ghani. "We know that it's going to go through when we send something through BlackBerry MDS. If there's an issue, we know we can hone in on that piece to fix it – it's not part of the actual application."

Mobile Resource Management uses Java™ on the BlackBerry smartphone and C++ on the back end. Information is routed from the smartphone through a third party, middleware engine that Safelite purchased, to an Oracle database. To support many of the specialized components needed for the application, Ghani's team relied on APIs – some of which they wrote themselves, and others supplied by RIM technical teams.

Safelite's technical team built their own APIs to provide the status of work orders. Once a technician signs in with their ID and password, he is immediately clocked in and work orders are pushed out. Logic is built in to prioritize the work orders. When a job is closed out, the internal clock registers the time spent on the job. This way, Safelite has an accurate record of time spent on every job.

Safelite received support from Research In Motion, maker of BlackBerry smartphones, on a key aspect of the project when they were given an API that supported GPS functionality on the BlackBerry smartphone. That let Mobile Resource Management geo-code longitude and latitude coordinates on each work order. Allowing dispatchers to have better knowledge of the load balance of the field.

They also embedded a GPS link in the work order to provide technician's with dynamic maps and directions that made them more efficient to get to the job. Safelite wrote an algorithm to connect to a third party mapping solution they purchased off-the-shelf.

## Mobile Printing, Payment and Signature Capture



"In a project like this, don't go for devices with all the colors, bells and whistles. Start with one mobile device, like the BlackBerry smartphone, that cost-effectively meets all the business requirements. Then move ahead in small steps and put a timeline on every feature you're trying to deploy on that technology."

Rod Ghani  
Vice President of IT

Mobilizing the ability to print and receive customer payment on location has been one of the greatest benefits of this solution. Before, technicians had to manually fill out forms with the customer, call the dispatcher to obtain credit card approval, and bring back paperwork to input into Safelite's accounting systems.

Ghani's team solved the problem by using mobile printers that include a built-in credit card swipe. Bluetooth® technology between the mobile printer and the BlackBerry smartphone sends invoicing information back to the home office administrative systems. When the credit card is swiped for approval, Bluetooth is again used to register it and assign a confirmation number.

"I'm not saying that there weren't challenges with this," says Ghani. "You have to be able to think about what would happen if you were in the middle of processing a payment and you received a phone call. Would you get confirmation or not? We worked through it and solved the challenges with this feature. When you're doing something new, it's not always going to be easy."

Safelite is also testing various electronic key pads that will capture X and Y coordinates of a customer's signature on a signature pad. Their plan is to write an API that sends that image to the BlackBerry smartphone and attaches it to the completed work order that will be sent back to a central image server. Just one more way they hope to eliminate paperwork.

"Bluetooth technology has made the BlackBerry smartphone even more flexible and cost effective than Windows Mobile or other technologies," says Ghani. "It was more economical to add this functionality to the BlackBerry smartphone than to invest in expensive point of purchase smartphones."

***"We felt the BlackBerry Enterprise Solution was more secure than Windows Mobile. With the BlackBerry Enterprise Server, the authentication method is more closed from the outside world. It's less prone to being hacked than Windows® technology, which was important to us because we were planning to transmit credit card information."***

~ROD GHANI, Vice President of IT

Feature/Function	Other mobile solutions	BlackBerry Solution
Integration of features	Often require numerous additional investments in technology and middleware (i.e. Direct Push)	Fully integrated enterprise solution includes innovative, secure server software that can be extended to include mobile applications, advanced wireless devices and essential support programs and services. Comes out of the box without need for additional middleware.
Security	Traditional email systems use secure pipes, but unencrypted data.	With BlackBerry Enterprise Server, the authentication method is closed from the outside world making it less prone to being hacked.
Push technology	Users would have to physically request to pull information – something that is unlikely for technicians to do as regularly and requires extra work from them	Technicians do not have to request updates from their device. The information is pushed to them without any interaction on their part.
Application Readiness	Wireless applications often require third party servers and software and rely on a completely separate architecture than is used for email	The layered architecture of the BlackBerry Enterprise Server and the BlackBerry MDS feature makes it faster to build, test and deploy custom applications created by in-house teams.
IT Control and Manageability	Many supply only basic and limited IT features such as password enforcement, over-the-air data wipe and activity time out.	The BlackBerry Solution includes 160 security policies and IT features that centralize management tasks for IT managers, lightening the load on their teams and technologies.

## Results

**Quick, Centralized Deployment:** The BlackBerry Enterprise Solution helped get this solution field-ready in six months because of architecture, such as BlackBerry MDS, that supports centralized control and an optimized development framework.

**Cost-effective Way to Meet Business Requirements:** BlackBerry smartphones did everything Safelite needed them to do in a cost-effective, all-in-one package – without having to invest in more extensive hardware or software.

**Technology Helped Realign Business Process:** Field processes were investigated and improved during the deployment of a wireless approach.

**User Acceptance:** Both technicians and business leaders are seeing value in the solution, improving efficiency, administration and customer service.

**For more information on solutions for BlackBerry, visit [www.blackberry.com/go/success](http://www.blackberry.com/go/success)**

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