



## Regional Parcel Carrier Automates, Saves Millions, Boosts Customer Service

### Overview

**Country or Region:** United States  
**Industry:** Transportation and logistics

### Customer Profile

Eastern Connection is the largest regional parcel delivery company in the eastern United States. It employs 500, has revenues of U.S.\$35 million, and delivers more than 8,000 packages a day.

### Business Situation

Eastern Connection wanted to completely automate its order-entry process and eliminate the need to transfer data manually from driver scanners into the company's central tracking system.

### Solution

The company used Microsoft® BizTalk® Server 2004, Microsoft SQL Server™ 2000, and Windows Server™ 2003 to create a message processor that bridges previously disconnected systems.

### Benefits

- Millions of dollars in efficiency savings
- Higher accuracy and satisfaction
- Web-based self-service
- Better view of business
- Easy integration with other systems

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James Berluti, President and Chief Executive Officer, Eastern Connection

Eastern Connection is the largest regional express parcel carrier on the east coast of the United States. When big competitors began to spend billions of dollars to automate and Web-enable their operations, Eastern Connection looked for ways to replace paper-based and phone-based processes with similar automated technologies—at a price it could afford. Eastern Connection worked with Greystone Solutions, a Microsoft® Gold Certified Partner, to create an automated message-processing system using Microsoft BizTalk® Server 2004, Microsoft SQL Server™ 2000, Microsoft Windows Server™ 2003, and the Microsoft Visual Studio® .NET 2003 development system. The new system is saving millions of dollars by eliminating manual data entry, creating higher customer satisfaction with Web-based package tracking, and generating detailed data that managers use to better guide the business.



## Situation

Founded in 1983, Eastern Connection delivers more than 8,000 parcels each day throughout the northeastern United States, from Maine to Virginia. The Woburn, Massachusetts, company boasts the latest pickups and earliest deliveries in these areas and backs up the boast with a 98 percent on-time record. The company has a staff of 500 and annual revenues of U.S.\$35 million.

In the late 1990s, customers took notice when big international delivery companies such as Federal Express and UPS began spending billions of dollars to automate their operations with wireless and Web-enabled technologies—and they began demanding similar services from their longtime regional carriers. “We realized that we needed to become an information company to maintain our competitiveness as a package delivery company,” says James Berluti, President and Chief Executive Officer of Eastern Connection.

Until then, the company’s delivery process traveled on an often gridlocked highway of paper and phone calls. Each package was assigned a unique bill of lading (BOL) that identified the sender, receiver, origin, and destination of the package. But every paper BOL had to be entered manually into an old UNIX-based application called ECData (running on an RS/6000 server) that served as the company’s backbone shipping, tracking, and tracing system. At each point of delivery, drivers called the home office with updated BOL information. As the company grew, more and more data entry clerks were needed to key data into ECData, bringing with them more opportunities for error.

“Eastern Connection performed tens of thousands of deliveries each week, which meant we received thousands of phone calls from drivers each day,” says Dennis Villano, Director of Information Technology for Eastern Connection. To gain control of

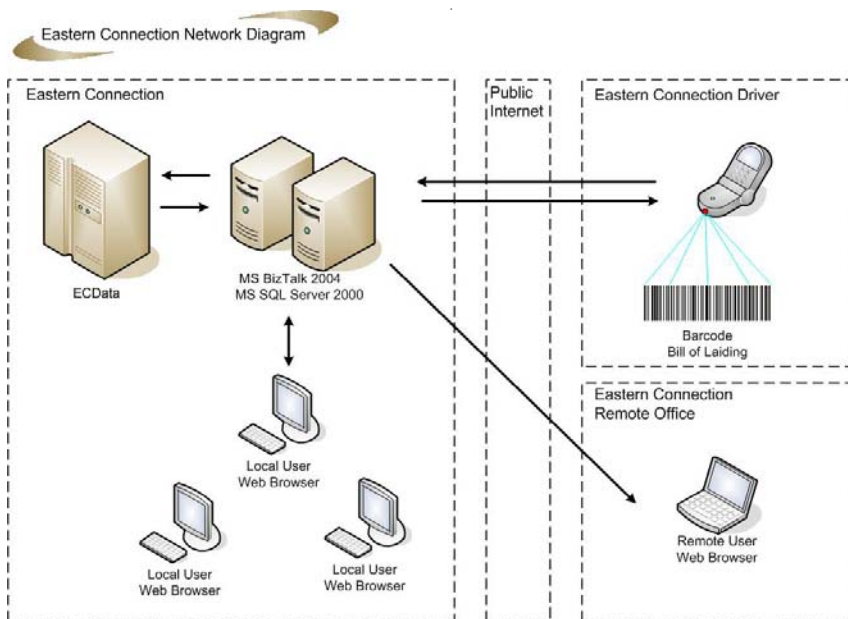
escalating operational costs and modernize its process to stay competitive, Villano’s team launched a multiphase upgrade to the company’s delivery systems.

First, Eastern Connection armed its drivers with cell phones equipped with handheld scanners. At each delivery, the driver scanned the BOL information and sent the data directly to a central messaging server maintained by the company’s wireless carrier. However, the information still had to be entered into ECData manually, because the old UNIX application was never designed to communicate with other systems. “Although we stopped the flood of phone calls, every delivery still had to be reconciled with ECData, which required about a minute per delivery,” Villano says. “You can imagine the overwhelming amount of time we had to dedicate to data reconciliation.”

The search continued for a way to eliminate manual data entry from the package tracking process, which was not only expensive but error-laden. This time-intensive step also prevented Eastern Connection managers from having real-time information for making business decisions, including updating drivers and routes.

## Solution

Eager to quickly come up with a bridge between the messaging server and ECData, Eastern Connection first tried a Linux/MySQL-based solution (MySQL is a popular open source database). Problems with the open source solution soon became apparent, however, as the business grew. “MySQL was not what I’d call a business-hardened database,” Villano says. “It just couldn’t handle the volume of BOL scans we were running through it. Querying the 6 million records in the ECData historical database took 22 hours, which was simply unacceptable.” Three weeks into the region-by-region rollout (mid-2003), MySQL failed



Microsoft BizTalk Server 2004 acts as the clearinghouse for parcel delivery information being passed from drivers to the mobile messaging server and the UNIX-based shipping, tracking, and tracing system.

altogether, taking with it two days worth of delivery data.

The company urgently turned to Greystone Solutions, a Microsoft® Gold Certified Partner located in Boston, which had previously created a Microsoft-based package-weighting application that was helping Eastern Connection capture thousands of dollars in lost revenue. Greystone proposed a Web-based message processing system based on Microsoft BizTalk® Server 2004, Microsoft SQL Server™ 2000, and Microsoft Windows Server™ 2003 operating system—all part of Microsoft Windows Server System™ integrated server software.

In just six weeks, Greystone had designed a message processor to facilitate information exchange between the messaging server and ECData. "Microsoft Windows Server System products are production-grade and easy to work with," says Bob Shear, President and Chief Technology Officer of Greystone Solutions. "A Microsoft foundation provides cost and time savings because there's plenty

of support for developers from a broad ecosystem. Microsoft gives us the ability to provide our customers with high-quality, resilient, affordable business systems. Creating similar Linux-based systems requires a more technically adept IT staff, which many companies don't have. Smaller companies are better off putting their money on employees who can craft winning business strategy rather than on creating and maintaining complex IT systems."

The new BizTalk Server 2004–SQL Server 2000 solution works like this: When a driver moves a package from one point to another, he or she scans the package barcode, which transmits the latest location information to the mobile carrier's messaging server. The messaging server communicates delivery data in real time to the BizTalk Server–based message processor using Web services. After BizTalk Server receives updates from the messaging server, it stores the information in a SQL Server 2000 database and simultaneously updates ECData with the latest tracking information. Eastern Connection employees and customers are able to view up-to-the-minute package status information from the SQL Server database over the Web.

As soon as ECData receives the message that a parcel has reached its final destination, it sends a message back through BizTalk Server to the Eastern Connection accounts payable server, triggering billing.

### Benefits

By using BizTalk Server and SQL Server to replace error-prone manual data entry and reconciliation, Eastern Connection has saved millions of dollars through more efficient operations and increased accuracy. By making all steps of the delivery process digital rather than paper-based, customers as well as employees have instant access to delivery status information from any Web

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James Berluti, President and Chief Executive Officer, Eastern Connection

browser, which reduces customer support costs, increases customer satisfaction, and gives Eastern Connection managers rich operational data with which to make better business decisions.

**Millions of Dollars in Efficiency Savings**  
Eastern Connection no longer needs a small army of clerks to enter and reconcile delivery data from the mobile-messaging server and ECData. Instead, the BizTalk Server message processor speeds updated information directly from the field into a centralized data warehouse at the company's home office.

“Information transfer is all automated now,” Villano says. “We've squeezed all wait times out of the process; everything is transmitted instantaneously.” By eliminating manual data entry, the BizTalk Server message processor drastically reduces the amount of time spent on unnecessary paperwork. “We save hundreds of hours of data checking each week, which directly affects our bottom line,” Berluti adds. “These operational efficiencies have allowed us to eliminate approximately \$2 million in salaries in the last two years.”

Related savings include improved billing and accounting. Because BizTalk Server is able to pick up final-delivery notices from ECData and forward them to the company's billing system, Eastern Connection can capture billing for every delivery, which didn't always happen in the past. If a paper record such as a driver phone message or paper BOL was lost along the way, Eastern Connection also lost the opportunity to bill the customer. In addition, the automated process has reduced by one-third the customer credits that the company has to issue in compensation for delivery errors or missed deadlines.

**Higher Accuracy and Customer Satisfaction**

Not only has the automated package tracking system squeezed out operational

inefficiencies but it has dramatically increased accuracy by eliminating manual touchpoints. “The new message processor eliminates the possibility of human data entry errors as well as system slowdowns due to staffing issues,” Berluti says. “Increased accuracy means more packages delivered to the correct locations on time, which increases customer satisfaction and leads to more business and higher revenues.”

Using the Microsoft Visual Studio® .NET 2003 development system, Eastern Connection was able to integrate an inexpensive third-party barcode-reading application into the BizTalk Server message processor. Customer-provided package identification barcodes were often illegible, so Eastern Connection now assigns its own BOL barcode to each package, a step that has increased tracking accuracy by about 500 percent.

**Web-Based Self-Service**

Best of all is how the BizTalk Server-SQL Server system improves the customer experience. Eastern Connection now provides instantaneous package status information over any Web browser. “Everyone wants to know where their packages are every minute of every day,” Villano says. “A customer can go to our Web site and track a package to within a few seconds' accuracy. He or she can find out exactly when the package was picked up, when it was delivered, who signed for it, and so forth. This not only gives the sender greater peace of mind but reduces our customer support call center needs.”

Soon, customers will be able to initiate a package pickup themselves over the Eastern Connection Web site using a Web-based auto-entry system. A customer will enter a package pickup request through a third-party service, which will send the order to Eastern Connection as an XML file. BizTalk Server will pick up the file and route it simultaneously to an SMTP server (which will provide the

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customer with an e-mail status notification), a SQL Server 2003 orders database, the proof-of-delivery server, and the ECData system for order-entry and pickup instructions.

Eastern Connection anticipates upgrading to Microsoft BizTalk Server 2006 for this new capability. "As we launch new services, our data volumes will really grow," Villano says. "BizTalk Server 2006 will be able to handle a lot more package scans and thus be a solid platform for our business as we grow from a \$35 million company to what we anticipate will be a \$100 million company in the next three to four years."

"We've automated our operation in stages," Berluti adds. "First came package scanning, then weighing, and we're now attacking the order entry process. None of this would have been possible without the BizTalk Server-based order-entry process we have now. We look forward to eliminating all the errors that come with a manual order entry process."

#### Better View of Business

The BizTalk Server 2004 message processor makes it easier to create and analyze reports that Eastern Connection managers can use to spot trends and better guide the business. Such detailed, real-time, accurate data helps the company do better sales and marketing as well as more accurate driver staffing and route planning. ECData order information and delivery records are easily retrieved from the SQL Server 2000 database, so now data can be searched, manipulated, and analyzed using a friendly Web-based interface. The easy accessibility of this information allows management to view all steps in the delivery chain, so they can diagnose existing and potential problems quickly.

In addition, the speed of SQL Server gives Eastern Connection the power to process the significant amounts of data required for such decisions. "Querying the 6 million records in

ECData took Open Database Connectivity 22 hours; it takes just 6 minutes with SQL Server 2000," Villano says.

#### Easy Integration with Other Systems

The Microsoft foundation enables Eastern Connection to interact with other systems more easily and affordably. For example, the company uses a Pitney-Bowes Web order-entry system, and integrating the BizTalk Server-based message processor with this software was elementary.

"Many of our customers have purchased specialized technology for doing package processing," Villano says. "They send their package data to us, where it used to dead-end in ECData. Because ECData is a specialized dispatch/billing system that was not set up to communicate with other systems, we could not transfer customer-provided information to our internal systems. Now, we route this customer data through BizTalk Server and it sends the information to a number of SQL Server operational databases. Plus, we can now talk back to customers, to communicate confirmations or missing data. BizTalk Server gives us a level of technology fluency and interoperability that we just didn't have before."

#### Platform for Competitive Advantage

Eastern Connection has more big projects on the way, including an automated freight payment system. The company contracts with more than 300 independent delivery agents, and calculating payment for these agents is currently a manual process. Eastern Connection plans to use Microsoft BizTalk Server 2006 and SQL Server 2005 to automate this process, improving accuracy and reducing manual data entry expenses. SQL Server 2005 will provide the sophisticated reporting required for such a large, complex system, and BizTalk Server 2006 will provide the scalability needed to handle business growth.

## For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to: [www.microsoft.com](http://www.microsoft.com)

For more information about Greystone Solutions products and services, call (617) 832-9200 or visit the Web site at: [www.greystone.com](http://www.greystone.com)

For more information about Eastern Connection products and services, call (800) 795-2872 or visit the Web site at: [www.easternconnection.com](http://www.easternconnection.com)

"Microsoft technologies give us an edge over other local carriers, allowing us to do things faster and more accurately," Berluti says. "Thanks to products such as BizTalk Server, we're even able to compete head-on with national services, which was unheard of before. They have thousands of people and billions of dollars with which to create technology solutions. But by using Microsoft products and low-cost technologies such as mobile phones, we can create comparable solutions much more affordably. Most regional carriers have not reached our level of sophistication, and it's a real selling point for us."

## Microsoft Windows Server System

Microsoft Windows Server System integrated server infrastructure software is designed to support end-to-end solutions built on Windows Server 2003. It creates an infrastructure based on integrated innovation, Microsoft's holistic approach to building products and solutions that are intrinsically designed to work together and interact seamlessly with other data and applications across your IT environment. This helps you reduce the costs of ongoing operations, deliver a more secure and reliable IT infrastructure, and drive valuable new capabilities for the future growth of your business.

For more information about Windows Server System, go to: [www.microsoft.com/windowsserversystem](http://www.microsoft.com/windowsserversystem)

### Software and Services

- Microsoft Windows Server System
  - Microsoft Windows Server 2003
  - Microsoft BizTalk Server 2004
  - Microsoft SQL Server 2000
- Microsoft Visual Studio .NET 2003

### Partner

- Greystone Solutions