



# Time is Money

Old Dominion Freight Lines Saves Both  
with Intermec Mobile and  
Wireless Technology

By John Burnell

## Nothing stops a 35-ton tractor-trailer faster than paperwork.

To keep paperwork processing delays from jamming on the brakes of its fleet of 2,600 trucks, Old Dominion Freight Line has developed a series of wireless, automated dock and yard management procedures for its 117 service centers across the U.S. that rely on mobile computers and wireless technology from Intermec Technologies. The systems, now being rolled out nationwide, are paying for themselves even faster than expected.

Old Dominion, based in Thomasville, North Carolina, is a leading less-than-truckload inter-regional and multi-regional motor carrier that specializes in shipments of general commodities such as consumer goods, textiles and capital goods. Old Dominion has next-day and second-day service to 38 states in the continental U.S. and reaches Canada, Mexico, Alaska, Hawaii, the Caribbean and eight intermodal ocean ports through its Transline service.

The process changes to receiving, yard management and outgoing shipment preparation are driving delays and costs from many points of its operations.

"We're really investing in IT," said Old Dominion Vice President Chip Overbey. "We don't look at it as an expense. We look at it as an investment. It is spending that makes better, it's spending you can get a return on investment on, and it lets you position yourself better with your customers."

## Incoming Shipment Processing

The Old Dominion system starts saving time even before incoming tractor-trailers put on the brakes at the service centers. Radio frequency identification (RFID) tags have been applied to all the trucks in Old Dominion's fleet. As trucks arrive at service centers, they are automatically identified by an RFID reader. The information is relayed to Old Dominion's Dock and Yard Management software application, which resides on an IBM AS/400 midrange computer. The system, which was developed in-house, looks up the shipment information and determines how the load should be handled.

Handling instructions are immediately relayed to "switchers," who operate tractors in the yard to receive trailers from the over-the-road drivers. Switchers receive their pick-up and handling instructions by a wireless transmission to an Intermec 2455 computer mounted in the cab. Supervisors also receive notification of arrivals in real time on their handheld Intermec 2425 wireless computers. Supervisors use the computers to view all work activity, redi-

rect resources and make updates as necessary.

Before the wireless systems were installed, arriving drivers had to park their rigs and report in at the office. Loaded trailers sat idle in the yard as the shipment information was located and processed.

"Now our switchers are making a lot more moves per hour," said Mike Nagle, Old Dominion director of field service. "Productivity has really improved." At some locations Old Dominion has been able to eliminate switcher labor positions and re-deploy tractors used for the operation. "That's been a big savings in equipment and maintenance cost," Nagle said.

## Beating the Clock at the Dock

Switchers deliver trailers to the designated dock door for handling. Workers then use an Intermec ScanPlus 1800 CCD reader tethered to a 2486 wireless computer mounted near the dock door to scan a bar-coded number label that is applied to each item in the shipment. "By scanning, we get real-time information. That's been a huge plus for us," Nagle said.

The scan triggers an inquiry on the dock and yard management system that matches the number with the manifest records. Dock door workers then receive handling instructions without having to read through pages of manifest and customer information. The scan also saves significant time previously required to enter data into the AS/400 host system. Once information is in the host system, it quickly becomes available to customers through a series of Web-based applications.

"In many ways, information is becoming more important than the freight," Overbey said. "Customers are trying to do their own planning based on what we're carrying. Our customers always want more information. We've won accounts in the past year with our Web capabilities. Other carriers couldn't provide the customers what they needed."

A single wireless network featuring Intermec MobileLAN™ 2100 access points provides full coverage for dock door and yard management operations. Old Dominion previously only used wireless terminals at larger facilities and used cabled Intermec 2481 computers at other locations. The company now is aggressively installing wireless equipment at all facilities for yard management and is converting all dock door computers to wireless units so it can take full advantage of the real-time information system.

"One of our key requirements for mobile computers was to find something that could grow with us and not be

outdated six months down the road," Nagle said. "We wanted something that would be rugged and reliable, with a screen large enough for the applications we planned to run. And we wanted it all at a good price. Intermec was the best we found."

## Outgoing Shipments

The dock-door computers and scanners help get trucks loaded and back on the road quickly. Every number label is scanned as the item is loaded onto the truck. The scans automatically build a shipment manifest record, which eliminates the time and labor required to key enter the information. System software verifies that each scanned item is part of the shipment and sends an instant wireless alert if there is a mistake.

The verification feature has proved to be particularly valuable and has lowered the return-on-investment period for the system. "The system prevents misloads. If we've been surprised by anything with the whole project, it is the number of misloads that we catch," Nagle said. "One shipment going cross country can cost a lot of money if you put it on the wrong trailer."

Before the scanning and wireless computing procedures were in place, teams of workers would spot-check the trailers, and supervisors would check four copies of paperwork prior to release. The automated system allows automated, paperless data entry and is extremely accurate. It now takes one worker instead of seven to check all loads at one facility.

Supervisors monitor loading activity on their handheld computers and direct workers as necessary. After trucks are loaded, they are inspected and either released for storage in the yard or for delivery. Exiting trucks are automatically identified and logged out by the RFID system.

## Fast Rollout Accelerates Payback

Old Dominion has been deploying the system around the country for about the last two years. As news of early results spread through the company's national distribution network, dock managers began clamoring for the system to be

### Resources:

Old Dominion Freight Lines: [www.odfl.com](http://www.odfl.com) | Intermec 2425, 2455, 2481 and 2486 computers, MobileLAN 2100 access points and ScanPlus 1800 CCD readers: [www.intermec.com](http://www.intermec.com)

installed at their facilities. Old Dominion engaged Intermec's Professional Services Group and has been able to maintain its aggressive rollout schedule of more than 40 facilities per year.

Intermec first earned Old Dominion's confidence with its performance and support during the initial pilot in Charlotte, North Carolina. "We only had four months to design the pilot," Nagle said. He credited the Intermec team for following the project right through to completion.

The smooth rollout is one reason the system is providing better-than-expected payback. The availability of more real-time data has improved overall management, return on assets and customer service throughout the company. Old Dominion calculated that the new systems would save 50 cents for every freight bill processed and provide full return-on-investment payback in 14 months at each facility. The company is beating its estimates on both measures of performance.

"We thought we would save 50 cents per bill, and we're doing better than that," Nagle said. "These systems typically pay for themselves within eight to 11 months after they're installed."

The systems also are providing all the company-wide soft benefits that Old Dominion expected and planned for but can't measure, including better management information, lower overall delivery times, higher labor productivity and improved customer service.

"Having real-time information helps us in many ways," Overbey said. "If we can cut our transit time and improve visibility, that's where we start providing real value-add for our customers. If they can go from holding five days of inventory to two days, it lowers their inventory costs, improves their cash, and starts to lower their overall cost of goods."

Old Dominion plans to introduce new features and applications once the wireless systems have been installed at all facilities. The company believes the powerful mobile computers and wireless networking equipment used today will to meet its future hardware needs, but will continue to work with Intermec to drive away the barriers to its business. "Intermec is always looking to better our company," Nagle said. "What more can you ask for than that?" ■

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#### CALLOUTS:

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