

Removing the Invisible Barrier to Productivity

Mobile Performance Management in Warehouse Operations

Managers in warehouses and distribution centers are scrutinizing individual workflows, to squeeze every iota of efficiency out of their processes. In high volume operations, a few steps or seconds here and there can add up to big gains in cost reductions and productivity. Mobile computers have long been used in these environments for tracking the movement of inventory through the facility and ensuring accuracy. These devices depend on real-time connectivity to deliver the expected benefits. However, even the most carefully planned wireless system rarely delivers 100% coverage throughout the facility. When workers have to stop what they are doing to manage their connections, it interrupts these carefully orchestrated workflows.

Enter Mobile Performance Management

Mobile Performance Management software accelerates, optimizes and secures mobile-device traffic. In turn, it allows the facility to maximize the efficiencies gained through its investment in bar code labels and RFID tags, wireless devices and the WMS or ERP system. When a worker is scanning shelf tags to record that items are being picked and loses the connection, the software pauses the connection, then resumes the session and sends the data when the signal becomes available again. A forklift operator can keep working through connection drops, focusing on moving pallets rather than managing wireless connections.

These are just a few examples of the multiple interdependent tasks that take place within a modern, automated warehouse facility. All rely on technology to accomplish a smooth and efficient flow of goods throughout shipping, receiving, picking, packing, putaway, replenishment, cycle counting and yard management. In the same way that organizations have adopted Mobile Device Management and Enterprise Mobility Management solutions to manage devices, Mobile Performance Management exercises control over the connections that the devices depend on. It ensures that the tracking of movements is continuous, and connection problems don't stop workers from keeping the goods moving.

Industry Trends

Recent developments in the industry make the use of Mobile Performance Management even more attractive.

Larger Warehouses

Warehouse facilities are getting larger, denser and more dynamic. Not only size but the rate of growth are increasing. The median size of a warehouse facility grew 13% from 2013-2014, and then 26% from 2014-2015. Despite the growth, at 43% of facilities the leading challenge was deemed to be insufficient space. That's no wonder, with more warehouses serving multiple channels and the average number of SKUs increasing by 18%.

A Key Enabling Technology for Wireless Warehouses

Mobile Performance Management software handles the complexities of delivering reliable, secure connectivity in dynamic industrial environments. It supports any application that runs in a wired environment, including warehouse management, ERP and other systems. This allows warehouses and distribution centers to quickly optimize, accelerate and secure existing mobile environments, as well as implement new initiatives.

Traffic Optimization ensures applications and resources are optimized for weak and intermittent network coverage, and workers can roam freely between networks as conditions and availability change.

Adaptive Policies fine tune the mobile user experience, prioritizing applications and network access based on network, situation and location parameters specified by IT.

Performance Analytics and Diagnostics deliver constantly updated analytics on data use by devices, applications and networks, so IT can fine-tune the user experience. Root-cause detection quickly pinpoints problems for fastest troubleshooting to get workers productive again.

Security through Software-Defined Mobility supports highly flexible and programmable secure access capabilities. IT can configure secure tunnels per-app or device-wide, securing access to enterprise applications and resources.

As more products are pushed into tighter spaces and higher on the racks, and inventory topping an average of nine turns, those who are responsible for wireless coverage are facing challenges they haven't seen before. Dead spots or poor-coverage areas are almost inevitable, and new ones emerge when dense pallets are put in new locations.

When fast-moving workers or a forklift in motion enters a poor-coverage area, they are often forced to reconnect, and pinpointing the exact cause of the connection drop requires painstakingly retracing the route. With Mobile Performance Management, administrators no longer have to constantly troubleshoot coverage problems and adjust access point locations - the wireless coverage simply works.

Tech-Savvy Workers

Naturally, larger warehouses require more workers. However, those workers are difficult to find. Attracting and retaining a qualified workforce is identified as the biggest challenge by 39% of the industry. With the prevalence of mobile technologies in everyday life, the generation entering the workforce expects the equipment they operate to provide a similar experience to what they experience with their smartphones. They expect their technology to work. Mobile Performance Management provides them with an always-on, always connected experience.

Yet at the same time, these tech-savvy workers are more inclined to tinker with their devices. Adaptive policies enforced through Mobile Performance Management extend IT control over where and how the devices can connect, and the applications that may be used. Such policies can also give priority to key applications, giving higher priority to applications that need to work in real time, such as pick-to-voice systems.

New Classes of Workers on Mobile Technologies

Software developers are beginning to adopt a "mobile-first" approach to application development, as increased use of mobile devices in personal life is making them the preferred choice in the workplace. Technicians who service forklifts and other material-handling equipment are turning to tablets for accessing service data and work orders, and management personnel are beginning to use them to access, report and deliver information. These workers all benefit from the optimized connections delivered by Mobile Performance Management.

Growing Automation in Smaller Facilities

Whether a warehouse management system is from a best-of-breed vendor, part of an ERP suite or a self-maintained legacy system, use of these systems has steadily increased. While four years ago, one in four facilities reported no or minimal use of a WMS, in 2015 the number shrank to one in ten. Thanks to the emergence of SaaS providers, the high capital expense of an automated system is less of a factor than in the past. For the remaining warehouses making the plunge and migrating off their paper-based, manual processes, there is still the hurdle of investing in handheld devices and automated ID technology and installing a wireless network. Mobile Performance Management simplifies the task of providing adequate coverage. Fewer access points are required and planning is easier because it is not necessary to blanket every square foot of floor space.

Mobile Performance Management in Total Supply Chain Execution

Inside the warehouse or distribution center, IT has control over its own internal wireless network. Outside, keeping track of goods requires using third-party networks, such as cellular data services, that are outside of IT's direct control. Mobile Performance Management secures and optimizes connections over any combination of wireless networks both public and private, so they function as a single, seamless network. This makes it a key enabling technology for full supply-chain visibility and execution.

In-transit visibility can make dock operations more efficient by alerting when a specific truck and shipment are nearing the facility, and improve customer service with more-accurate delivery time estimates. Mobile devices in the trucks make the entire supply chain more efficient through navigation systems, route optimization, track-and-trace systems, asset management, proof-of-delivery, and overage/shortage/damage management. Sales personnel and others in the field have the same access to data outside the office that they could only have had previously via a desktop computer. Full order and shipment-status visibility from anywhere, made possible through Mobile Performance Management, paves the way for streamlining operations, improving profitability and delivering the ultimate in customer service.

All statistics in this brief are from the 2015 Warehouses and Distribution Centers Operations Survey