

**ZEBRA**CAPTURE
YOUR EDGE

Zebra FulfillmentEdge™

Turbo-charge your warehouse productivity with dynamic workflows

The challenge: the need for even more speed in the warehouse

The new on-demand economy is placing pressure on warehouses all around the world — translating into more orders to fulfill, faster than ever. You're tasked with figuring out how to empower your workforce to handle the increased volume of work — while cutting costs to protect profit margins. You need to streamline your operations. But, while your Warehouse Management System (WMS) is the backbone of your warehouse operations, it is unable to take full advantage of today's mobile technologies — including your Android devices. While Terminal Emulation (TE) does run on your Android devices, the inflexible and out-of-date TE interface can't take advantage of the intuitive user experience your Android devices can support — or new technologies that could simplify processes, such as head-mounted displays. And while your WiFi network can track the WiFi devices in the hands of your workforce, you're unable to utilize that real-time location information to improve workflows.

But what if there was a way to transform your current WMS into a modern 21st century brainpower that enables your current workforce to pick 24% more orders — a system with an interface that's so simple that training and onboarding time are reduced by 90% — all without changing a thing in your WMS? With Zebra FulfillmentEdge, you can.

FACT SHEET

Zebra FulfillmentEdge™



The solution: a new approach to warehouse workflows

Zebra's FulfillmentEdge is a completely new and smart approach to warehousing that wraps around and modernizes your current WMS — without upgrades, backend changes or disrupting your current operations. FulfillmentEdge removes the constraints of your WMS and TE apps, allowing you to easily leverage new information to build better and more efficient workflows, fully utilize the features of your mobile devices and utilize any of today's latest technologies — all without risky WMS modifications. For example, with FulfillmentEdge, you can utilize the real-time location of your workers, inventory and assets that you already collect via your WiFi access points and RFID systems, allowing you to transition from linear to dynamic workflows that enable the picking of multiple orders by one worker, simultaneously. You can modify a work order in process, in real time. For example, when a rush order for same day shipping comes in, FulfillmentEdge can instantly identify any workers who are picking orders along a path that includes the location of items in that order — and automatically update the work order to enable fulfillment in record time. And while TE can't take advantage of the intuitive applications that your Android mobile devices can support, FulfillmentEdge removes that limitation, allowing you to present the data however needed to maximize efficiency and minimize steps, utilizing whatever technologies you want — including head-mounted displays. The result is the delivery of the ideal mobile user experience, allowing you to dramatically increase productivity and throughput in your warehouse — without adding workers. Leverage your WMS to make the most of every step your workers take with FulfillmentEdge — warehousing re-imagined.

FulfillmentEdge puts you in the driver's seat, giving you complete control over your operational productivity and efficiency. Real-time analytics provide visibility into how every worker is performing, right now. Instead of analyzing reports 'after the fact', now you can not only see who and where performance is falling short of expectations, but also why, allowing you to determine and make the real-time changes required to meet your key performance metrics.

Get the most out of every step that every worker takes to maximize productivity and throughput in your warehouse with FulfillmentEdge — warehousing re-imagined.

For more information, visit www.zebra.com/fulfillmentedge

KEY FEATURES

Boost picking productivity by 24% with dynamic workflows

FulfillmentEdge allows you to aggregate work orders that enable one worker to complete multiple work orders on one trip through the warehouse, delivering a dramatic increase in workforce productivity, business efficiency, and order fulfillment times.

Electronic work orders delivered to Zebra Android mobile computers can contain rich content, such as step-by-step directions to the next pick location and a photo of the item to ensure picking accuracy.

No modifications required to your current WMS or ERP systems

FulfillmentEdge adds a technology layer that integrates easily into your existing infrastructure and architecture. The Mobile Optimization Platform Server sits in between the mobile devices in the hands of your workers and your WMS/ERP system. It constantly accesses up-to-the-minute information in those backend systems, where it applies the intelligence required to aggregate, create and prioritize work orders that can be executed with maximum efficiency. As a result, the risk and costs associated with modifying your WMS/ERP systems are eliminated — along with long development cycles.

90% less onboarding and training time

Intuitive screens and clear, real-time step-by-step instructions reduce training time from weeks and months to just days, and enable near-instant onboarding — especially crucial for seasonal temporary workers. The end-user experience is improved, while training and onboarding costs are practically eliminated.

Device agnostic — choose the right device for every user

Utilize any Zebra mobile device, from the HD4000 head mounted display for 'vision picking' to wearable computers paired with ring scanners to handheld mobile computers and tablets, vehicle mount mobile computers and more.

Mobile technology agnostic — utilize all the available technologies on your Zebra mobile devices

Whatever technology is integrated into your enterprise and your Zebra mobile devices can be utilized in your FulfillmentEdge solution, including RFID, locationing and voice-enabled workflows.

Utilize the data in multiple business systems

It doesn't matter which business systems contain the data required to create the dynamic workflows that will best serve your business, or where those systems are located. With FulfillmentEdge, you can integrate them all.

Continually improve workflows and productivity with real-time analytics

Your WMS system provides information on how any specific worker is performing against defined metrics — but can't explain why. With FulfillmentEdge, you get real-time visibility into how each worker interacts with their Zebra mobile device — and how that interaction impacts productivity. This information enables the identification of process issues and the workflow adjustments that can address them.

ARCHITECTURE BENEFITS

Server

- Holistic architecture
- Maximum scalability
- Maximum flexibility
- Support comprehensive analytics
- Reduce cost and risk

'Thick' Android Client

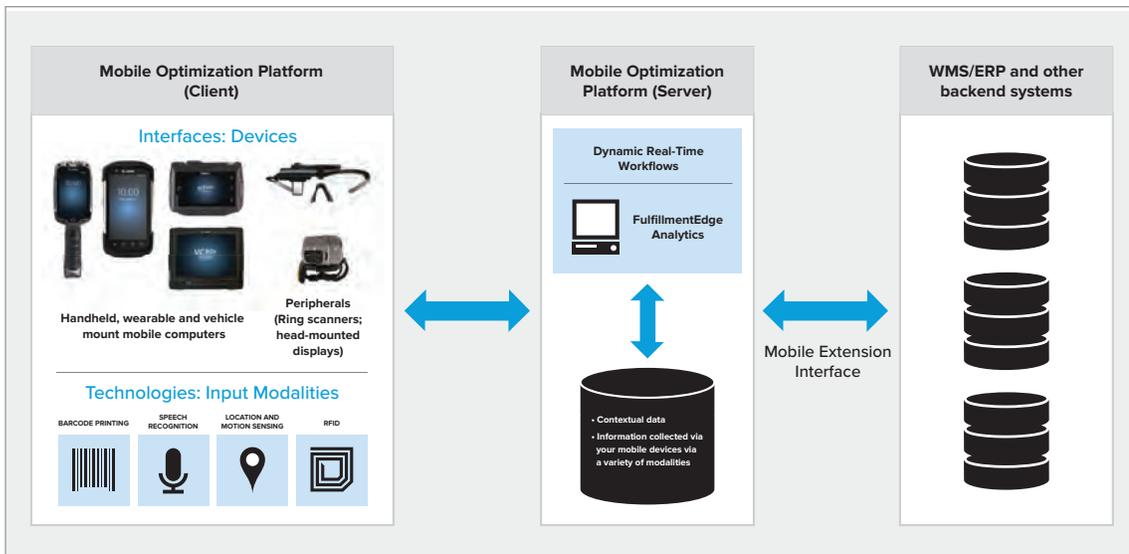
- Fully leverage device features
- Eliminate TE constraints
- Freedom to pick virtually any Zebra Android mobile device
- Integrate virtually any new technology
- Implement workflow optimization

Today's TE-Based Linear Workflows	Tomorrow's FulfillmentEdge Dynamic Workflows
Limited to information in your current warehouse management system (WMS) only	No limitation — aggregate data in any number of business systems
Inflexible linear static processes with no analytics	Completely flexible dynamic processes based on comprehensive real-time analytics
Requires workers to sequentially complete tasks, such as picking	Determine next steps for each worker based on tasks, task priority and real-time location of workers and assets
No ability to leverage new technologies	Ability to leverage virtually any new technology, including head-mounted display

FulfillmentEdge Architecture

The elegant architecture of FulfillmentEdge allows you to transform your WMS into a modern system that eliminates limitations that prevent you from utilizing today’s modern technologies to maximize productivity in your warehouse. Instead of a very time-intensive, costly and risky upgrade that could impact day-to-day operations during development, integration and deployment, FulfillmentEdge integrates with your existing WMS — zero changes are required. FulfillmentEdge seamlessly pulls and pushes information to and from your WMS, integrating locationing and other information that can be leveraged to improve process efficiency — and provides support for all of today’s mobile technologies. Now you can give your workers a Zebra Android device and deliver intuitive and interactive screens — no more TE text-based and code-driven aging green screens. You can use the latest devices, such as head-mounted displays. You can integrate information from technologies such as RFID and locationing. You can enable voice interaction, for example, for voice-directed picking. Re-imagine your warehouse and eliminate the limitations in your WMS with FulfillmentEdge.

How It Works



In any warehouse with a WMS, FulfillmentEdge allows you to re-imagine the ceiling for efficiency and productivity in key warehouse processes, including:

- Picking
- Put-away
- Replenishment
- Packing
- Shipping
- Receiving

1. All of the real-time data in your WMS/ERP and other backend systems, plus data collected by Zebra mobile devices and their accessories via numerous input modalities is aggregated in the Mobile Optimization Platform Server database.
2. The FulfillmentEdge Analytics Server analyzes this superset of data and creates dynamic real-time workflows that automatically adjust priorities based on real-time data. Workflows can aggregate tasks, such as picking and put-away, based on the real-time location of your inventory, your workers and your warehouse assets. As a result, the number of steps and time required to execute all tasks is minimized.
3. Business benefits include:
 - Improved labor and asset utilization
 - Increased operational efficiency and throughput — without additional staff or warehouse vehicles, or modification of WMS/ERP systems
 - Reduction in time spent training and onboarding

1. Pitney Bowes Parcel Shipping Index

2. Consumer Study: 63% Of Online Shoppers Expect Three-Day Delivery As Standard, Retail TouchPoints; Bryan Wassel; April 9, 2018



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