EVEREST Technologies

Supply Chain

3PL warehouse execution · Offline-first WMS

3PL Warehouse Execution Platform Enables Offline-First, Scalable Operations Across Distributed Warehouse Network

- Enabled warehouse execution across 60+ 3PL distribution centers
- Supported offline-first execution for critical workflows including receiving, scanning, and shipping
- Improved data accuracy through synchronized data capture

AT A GLANCE

Engagement Snapshot

Industry
Logistics & 3PL

Practice area
Supply Chain

Outcomes tracked
6

The challenge

The client operates a distributed warehouse network across 60+ 3PL centers handling high-volume inbound and outbound logistics operations. Prior to Everest's involvement, warehouse execution relied on fragmented systems and continuous network dependency, resulting in inconsistent data capture, delayed synchronization, and limited visibility across locations.

Frequent connectivity issues in warehouse environments disrupted critical workflows such as receiving, scanning, and shipment processing. This led to operational inefficiencies, reconciliation challenges, and increased dependency on manual processes. Additionally, there were risks of data discrepancies between devices and backend systems, along with scalability challenges in managing operations across multiple warehouse locations.

What Everest delivered

Everest Technologies designed and developed a scalable warehouse execution platform with offline-first functionality to support high-volume operations across distributed 3PL environments.

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Solution components

- **Offline-first warehouse execution platform**
  Enabled uninterrupted execution of inbound and outbound workflows
  Supported operations across 60+ distribution centers

- **Handheld-based warehouse workflows**
  Enabled receiving, scanning, and shipment processing using React Native mobile application
  Supported precise pallet and carton tracking

- **Data synchronization framework**
  Enabled bi-directional real-time and batch synchronization between devices and backend systems
  Ensured data consistency across distributed environments

- **Centralized dashboards and reporting**
  Delivered web-based dashboards for operational visibility
  Enabled live reporting for inventory reconciliation, exception tracking, and performance monitoring

- **Execution capabilities**
  Supported inbound BOL ingestion
  Enabled outbound shipment tracking and processing for store fulfillment

Approach

The project followed a product-driven, iterative development approach with continuous enhancements based on operational feedback from warehouse environments.

The architecture was designed to support offline-first execution, ensuring reliable data persistence on devices and seamless synchronization with backend systems. Extensive testing was conducted across online and offline scenarios to validate data consistency, conflict resolution, and system stability.

The solution was progressively rolled out across multiple 3PL centers, ensuring minimal disruption to ongoing operations and enabling scalable adoption.

Quantified impact

60+
Warehouse execution across 3PL distribution centers

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Impact & outcomes

- Enabled warehouse execution across 60+ 3PL distribution centers
- Supported offline-first execution for critical workflows including receiving, scanning, and shipping
- Improved data accuracy through synchronized data capture
- Reduced manual reconciliation effort through automated reporting
- Provided centralized visibility across all warehouse locations
- Supported high-volume operations with stable and scalable performance

Post go-live impact

Post go-live, the platform demonstrated strong stability and reliability across distributed warehouse environments. Warehouse users adopted the system quickly due to intuitive handheld workflows and improved execution efficiency.

Operational teams benefited from enhanced visibility, faster reconciliation, and reduced dependency on manual processes. The platform successfully supported ongoing operations across multiple 3PL centers, proving scalability and resilience in real-world conditions.

Tools & platforms

- Mobile Application: React Native
- Web Application: Angular
- Backend: API-driven services
- Data Layer: Persistent storage supporting offline-first architecture
- Integration: Real-time and batch synchronization frameworks
- Reporting: Web-based dashboards and analytics

Client perspective

> The platform has significantly improved the reliability and efficiency of our warehouse operations across multiple 3PL centers. Its offline capability ensures uninterrupted execution, while real-time synchronization provides the visibility we need to manage operations effectively.

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