

Intercontinental 3PL resolves WMS issues following Performance Testing using Patented Cycle[®]

CHALLENGE

A 3PL organization providing logistics services such as freight forwarding, intercontinental ocean and air freight, and associated supply chain management was experiencing issues with freight forwarding at a newly deployed warehouse about to go live in the northeastern United States while cross docking international goods.

At this location, international goods are received, staged to be processed by customs, processed by customs, optionally packed, staged for shipment, and then subsequently shipped.

On any given business day, this site was expected to handle a daily volume of 4,000 cartons.

At this scale, this 3PL organization was experiencing a variety of inconsistent and impactful issues and were unable to identify and resolve the root causes, leading to significant delays in their deployment timeline.

SOLUTION

The client engaged the Cycle Labs team for a one-week assessment to help resolve these issues using Cycle's patented performance testing capabilities.

Within five business days, Cycle Labs developed and executed a 30-45 minute automated performance test that did the following:

- Dynamically generated Advanced Shipment Notices (ASNs) and injected them into the system under test
- Emulated 20 concurrent terminal device sessions to receive 2,000 cartons into a receiving staging location and then perform a full inventory move to the next system-calculated location

In order to identify measurable results, Cycle Labs worked closely with the on-site deployment team to construct unique SQL queries to identify whether the data processed by the performance test was in the appropriate state.

The first execution of this automated performance test uncovered a variety of quantitative and qualitative issues. The most significant issues included the following:

- 3.5-20% of received cartons were sporadically directed towards an incorrect location instead of the appropriate conveyer location.
- At best, 3.5% of their daily volume of 4,000 cartons could represent 140 cartons per day that would require human intervention to troubleshoot, constituting a whole additional staff member.
- 100% of cartons intended to put towards stock were directed towards a conveyor location instead.
- We observed latency on a specific screen when receiving cartons that ranged anywhere from 15-60 seconds on average.

An on-site systems administrator was able to trace these issues to a Java Heap setting. After that setting was tweaked, a second execution of the performance test was performed.

We found that each significant issue was addressed:

- Received cartons were no longer sporadically directed towards incorrect locations.
- Cartons intended to put towards stock were directed towards the appropriate locations.
- We no longer observed significant latency when receiving cartons.

While we uncovered and reported additional information about remaining issues, this set of improvements significantly reduced the risk for when the warehouse would go live.

RESULTS

Despite the remaining issues, the 3PL organization was able to make a strategic decision on what represented cost-effective risk mitigation and reasonable issue resolution for their deployment.

If you are concerned about experiencing performance issues with your deployment or upgrade, a tactical deployment of Cycle can mean the difference between success and failure.