TECHNICAL POV

Inventory Availability Data

Stop Losing Online Sales to Out of Stocks & Canceled Orders

“An OMS (Order Management System) is one of the single most important tools. You can have the best website, but if you can’t get inventory right, it’s useless. If you have 100 units but can only sell 10, what’s the point? Marketing spend gets wasted when your inventory is off,”

- Joshua Rich, Digital Fulfillment Team Leader, Freedom

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How is inventory availability data used in ecommerce? Why is it important?

What’s the most important data in ecommerce? Two things that could impact conversions more than anything else? It’s the data that answers these two questions for your customers:

“Do you have what I want / will it meet my needs?”
“When can I get it?”

In short, customers expect **detailed product information**, and **accurate inventory availability data**. This document looks at the latter. Why? Two reasons.

1. Accurate inventory drives results

Firstly, want to:

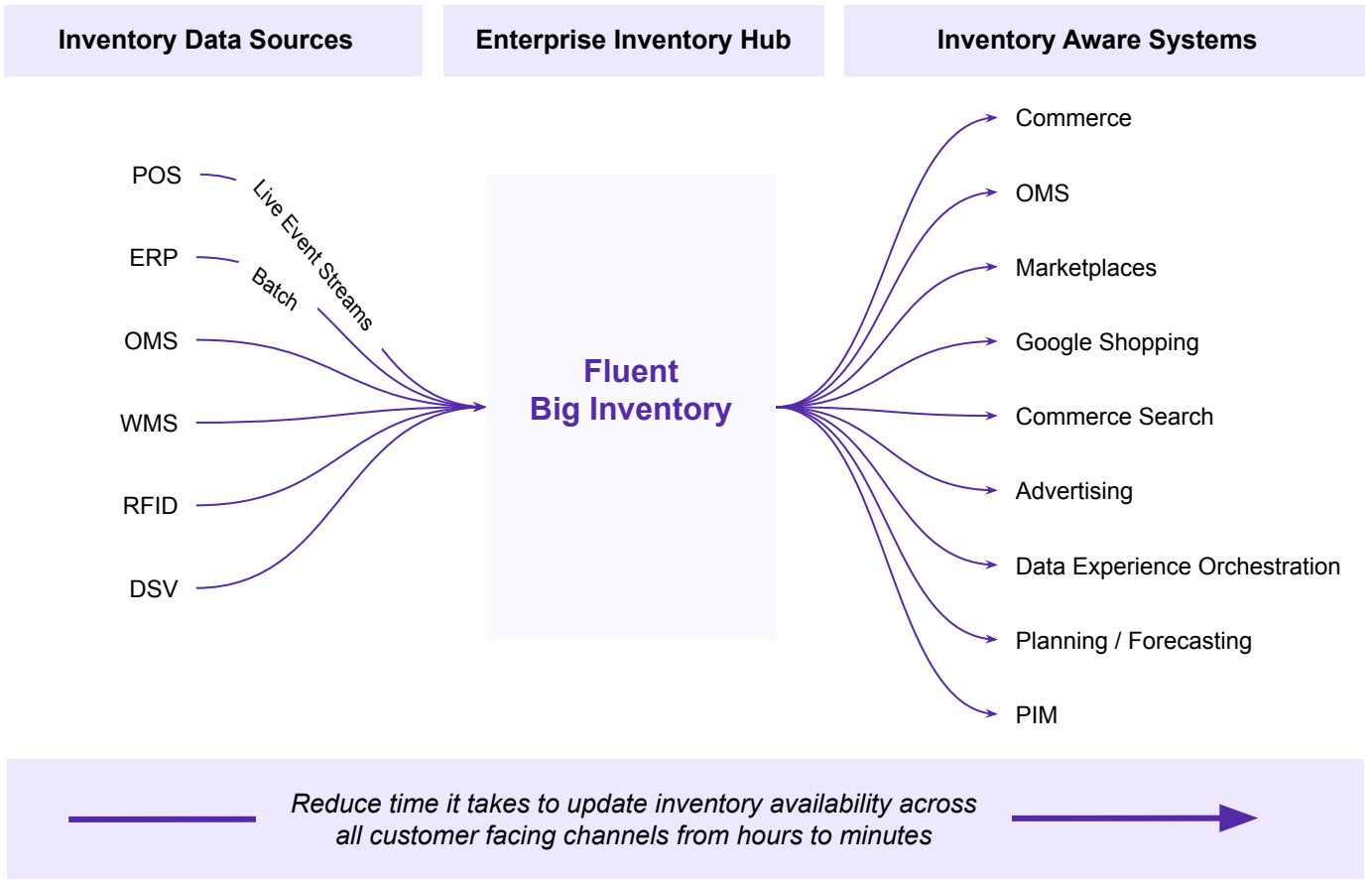
- Increase your add to cart rate?
- Reduce your cart abandonment rate?
- Reduce your canceled order rate?

If so, it’s essential that you have accurate inventory availability data so you can show customers what’s in stock, and when and how they can get an item. The earlier in the buying journey the better. It also helps you deliver on time so you can build their trust. Research shows “an e-commerce site can gain a 35.26% increase in conversion rate through better checkout design.”

2. Accurate inventory is hard OR Accurate inventory data fuels AI/ML

Secondly, because getting inventory availability data right is hard. Really hard. And hard problems are fun to solve. It’s also critical data if you want to take advantage of AI/ML in the future.

Let’s dive in.



Why is it getting inventory availability data right so hard and complex?

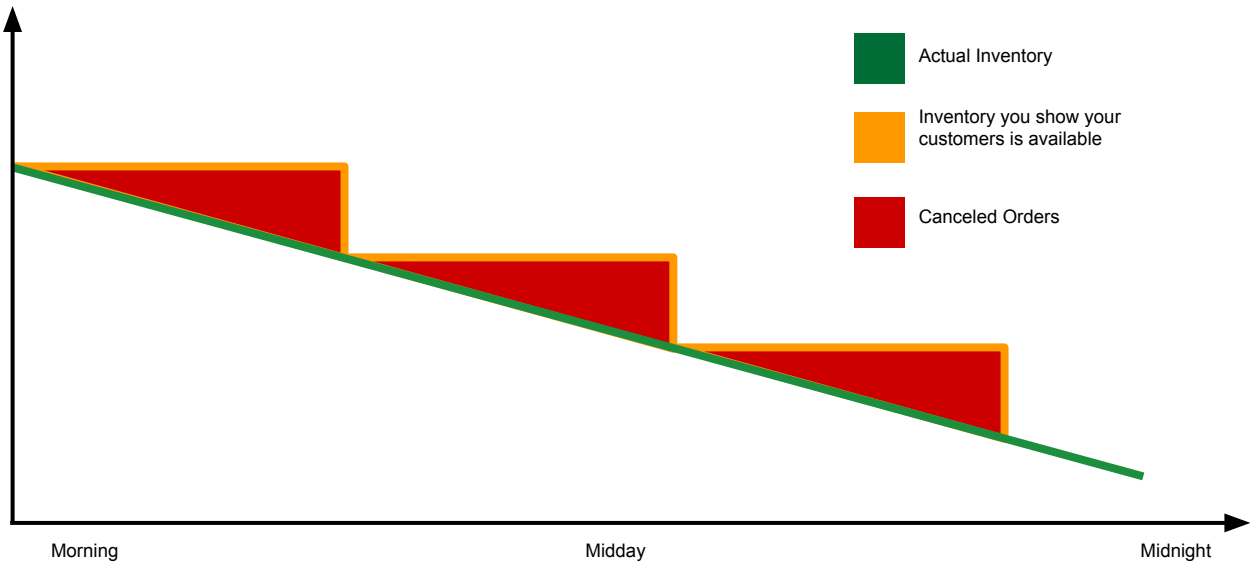
How can solving a problem that everyone has, be so hard? To answer this we need to first look at the ecommerce tech stack and how each component communicates.

In any organization, the information closest to the source is the most accurate. The same holds true for inventory availability data.

- **Store inventory** - The individual store's Point of Sale (POS) system (it could also be RFID data)
- **Warehouse / Distribution Center inventory** - The warehouse management system, which might be networked, or siloed by warehouse
- **Future / Inbound Inventory** - The ERP where Advanced Shipping Notifications (ASNs) are received via EDI.

Daily batch updates are no longer good enough

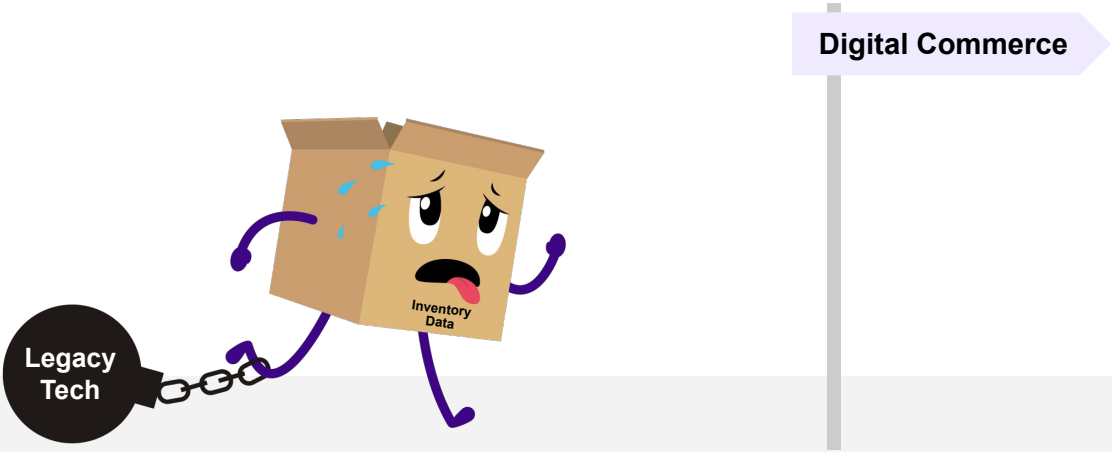
However, in many organizations, inventory data is consolidated in the ERP. Not because it's the best system to serve inventory availability to online channels, but because it made sense at the time. ERPs are the inventory master (as they should be). They already receive all POS transactions and WMS inventory position updates. Sometimes only once a day.



Even if you update inventory three times a day, it's still only accurate three times a day, which can lead to overselling.

Which was 'good enough' when ecommerce volumes were low. But if you only update inventory once a day, it's only accurate once a day. It gets more out of date every hour that passes. Why does that matter? This gap equals lost revenue and unhappy customers.

Enter the distributed order management system (OMS). A system designed to distribute online orders across a network of locations. It uses rules driven sourcing logic to help optimize order routing. Which is great for reducing delivery costs, and ensuring fast delivery. But the traditional OMS was primarily designed for processing orders, not inventory data.



Legacy systems are poor communicators

The challenge is that legacy ERPs and OMSs have very basic data sharing capabilities when it comes to inventory. Think batch files and queues. What's more, most ERPs can only send a full refresh of all inventory positions (not just the records that had changed). Which means receiving systems have to process much more than they should. Is that fast and efficient? No. Which, once again, might be OK if your ecommerce volumes are low and you only sell in one ecommerce channel. But modern digital commerce is different. Your inventory availability data needs to keep up with digital commerce.

Today, organizations sell in more digital channels than ever before. They fulfill from more locations. And ecommerce volumes have exploded. Meanwhile, customers expect online stores to show them accurate inventory availability data. To show them when and how they can get an item. And not have their order canceled. But if you don't have live inventory availability data, that's really hard. So what do organizations do? They hide it.

Are you hiding ‘Dead Inventory’?

Not literally, but digitally. They’ll set high safety stock buffers to protect themselves. The worse their inventory availability data accuracy, the higher the safety stock levels. Which is effectively ‘dead inventory’. The result:

- Lower inventory turns
- Reduced online conversions
- Lost sales
- Disappointed customers

The good thing is, you don’t have to just ‘live with this problem’ anymore.

Break the batch & scheduled task habit

System architecture has evolved. That means the way you think about middleware processes and how data flows between systems needs to evolve too. To handle massive quantities of data, you'll want to take advantage of both batches and event streaming so you can balance latency, throughput, and fault-tolerance.

Think async batches for full data loads combined with a real-time "speed layer", so you have the best of both worlds.

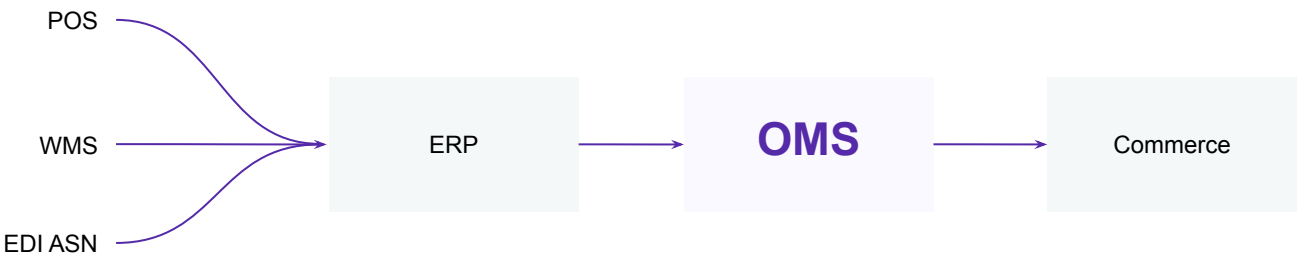
The next-gen inventory hub

Fluent Big Inventory, a module of Fluent Order Management, is an enterprise inventory hub for future

forward organizations. Unlike legacy systems, it's an event based system that can consume POS transactions as live streaming data. Take a batch file that contains a full refresh of inventory positions and process it in a fraction of the time by automatically

identifying what's changed. Or consume updates from third party vendors. And process them fast and efficiently. Which means you don't have to live with

The typical inventory data flows



antiquated data flows anymore. But it's not only good at consuming data——it also shares nicely with others. At scale.

Think search engines. Commerce search. Product Information Management. Demand planning solutions. Ad platforms. Fluent Big Inventory was designed to keep them all up to date. But not all systems have the same data needs.

For use cases early in the buyer journey, like search engines and ads, cached data may be the best option. Because it's super low latency. But not once a day. Think fresh data every few minutes. However, for more critical parts of the buyer journey, like the Product Details Page (PDP) and Checkout, think live calls. That way you can find the right balance between performance and accuracy.

Not only that, with Fluent Big Inventory, you can bring your inventory 'back to life' with optimized safety stock buffers. Set safety stock at the SKU location level, and optimize them over time based on demand across your network. Never miss a sale to 'dead inventory' again.

When all your digital channels are fueled by accurate inventory availability data, you'll convert more sales, increase inventory turns, and have happier customers. Sound interesting?

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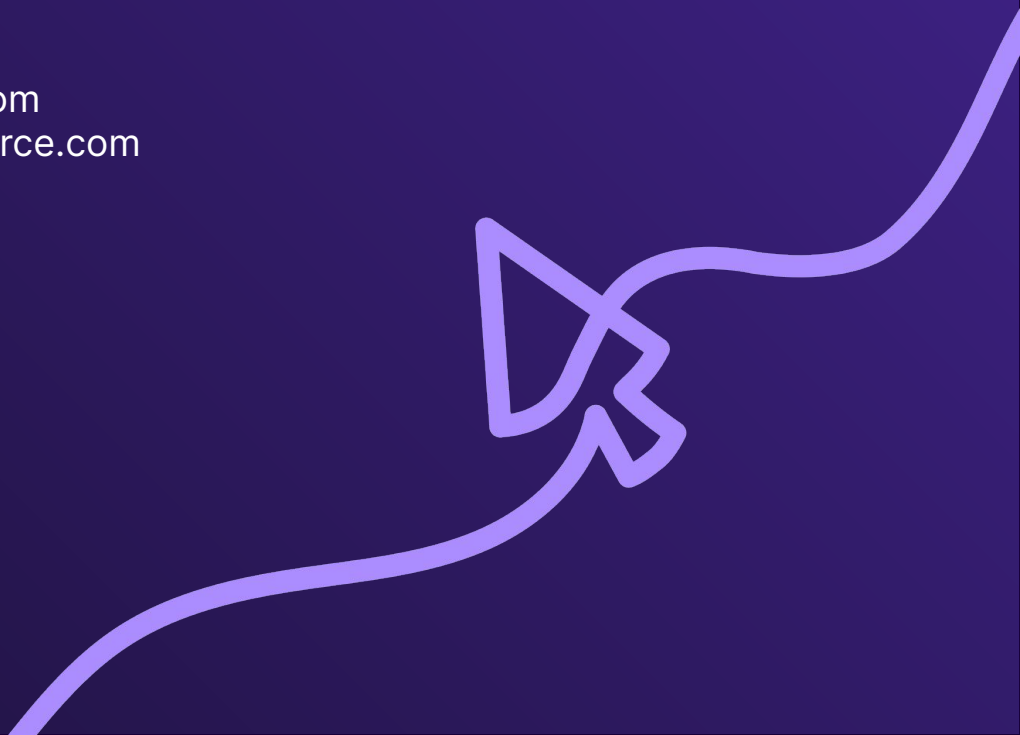
How can you prepare for the inventory data needs of tomorrow?

See it in action!

To learn more about the Fluent Big Inventory, schedule a demo today.

Get a Demo

fluentcommerce.com
info@fluentcommerce.com



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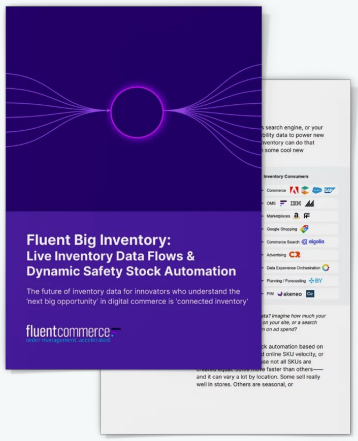

Fluent Big Inventory

Live Inventory Data Flows & Dynamic Safety Stock Automation

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Digital Commerce CX: The critical role of accurate inventory data

Why it matters more than you think

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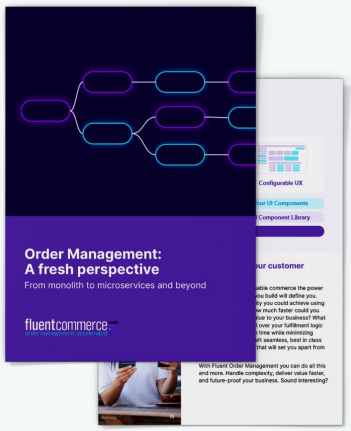

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