

Use Case

Powering Agile Inventory Decisions Across Retail Operations

Inventory agility allows retailers to serve customers seamlessly across stores, digital channels, and for returns by making fast, accurate decisions that protect revenue and margins. Yet most retailers struggle to achieve this because inventory data is fragmented across systems and locations, slowing response times and hampering execution, especially during peak demand.

The Challenge of Inventory Agility

Inventory agility sounds straightforward, but it's hard to achieve in practice. Most retailers struggle because inventory data is fragmented across locations, systems, and channels, making it difficult to act on changes quickly and confidently.

Top Challenges

- **Fragmented inventory visibility:** Inventory data lives across stores, distribution centers, and digital platforms, creating blind spots that lead to false out-of-stock signals and over-allocation.
- **Omnichannel complexity:** Supporting BOPIS, ship-from-store, and easy returns requires inventory systems to stay perfectly synchronized, something legacy architectures weren't built to handle in real time.
- **Returns and reverse logistics pressure:** Returns introduce constant inventory state changes, and delays in updating availability can quickly erode visibility, margin, and customer trust.
- **Margin optimization under volatility:** When inventory signals arrive late or inconsistently, retailers are forced into reactive discounting, excess safety stock, or missed sales opportunities.



"Edge computing in retail is expected to enable up to **50% faster data processing**, supporting near real-time operation decisions*"

Top Use Cases

- Near real-time shelf analytics with Edge Bare Metal
- Inventory resilience with Lumen Data Protect
- Omnichannel fulfillment coordination with Edge Private Cloud
- Inventory system resilience with Lumen Data Protect
- High-volume inventory synchronization across regions and clouds with Lumen Waves

The Foundation of Inventory Agility

Lumen enables retailers to act on inventory changes within minutes and maintain availability across channels with the following infrastructure solutions:

Lumen Edge Bare Metal

Dedicated, single-tenant compute at predefined metro edge locations, enabling deterministic, low-latency processing of near real-time inventory signals. This allows retailers to process POS data, smart shelf analytics, and exception detection locally, designed to reduce delays and improve inventory accuracy during peak traffic and seasonal surges.

Lumen Private Cloud

Managed private cloud infrastructure near stores and distribution centers, supporting regional inventory coordination and omnichannel fulfillment logic. Retailers can run OMS (order management system) extensions, BOPIS workflows, and allocation models with low latency, consistent governance, and operational control without pushing every workload to hyperscalers.

Lumen Wavelength Solutions

Dedicated, high-capacity optical transport between data centers, cloud regions, and regional edge environments. By moving large inventory datasets such as forecasting models, allocation updates, and returns reconciliation over predictable, private paths, wavelengths are designed to keep enterprise inventory systems synchronized during peak demand without congestion, variability, or public-internet risk.

RapidRoutes further enables retailers to scale quickly and easily, with predefined capacity on high-demand routes to accelerate turn-up and support peak-season growth without custom engineering or delays.

Lumen Network Storage

Acts as the inventory system of record at the edge, persisting current inventory state close to where it's generated and consumed. By enabling fast reads and writes without constant cloud round-trips, retailers can gain near real-time inventory visibility while reducing data movement costs and latency.

Lumen Data Protect

Safeguards inventory systems with immutable, encrypted backups and rapid recovery, helping retailers restore operations quickly and maintain inventory integrity and customer trust during disruptions.

Outcomes

Lumen Edge and Waves help retailers turn inventory data into faster, more accurate, and more resilient decisions across stores and channels.

Inventory visibility

Near real-time processing and persistence of inventory data improves on-hand accuracy across stores, distribution centers, and digital channels.

Reliable omnichannel fulfillment

Synchronized inventory state supports BOPIS, ship-from-store, and easy returns with greater confidence during peak demand.

Protect margins and operations

Faster exception detection and resilient inventory systems reduce stockouts, over-stocking, and revenue loss during disruptions.



Call to action

Ready to make, fast, smart inventory decisions and optimize your retail operations? Connect with Lumen's Edge team today to explore how our full infrastructure portfolio can help you drive operation efficiency, reduce stockouts, and delight your customers.

Why Lumen?

Lumen empowers your retail business with scalable, high-performance infrastructure that drives smart, near real-time decisions across your retail operations. Deliver agility, efficiency and exceptional customer experiences with the support of our secure global network and expert team.

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