

From Legacy to Modern Resiliency: A Retailer's Connectivity Turnaround

Delivering Reliable, Flexible Access Across 2,200+ Locations

Providing resilient connectivity for multi-site operations

A national off-price retail chain with thousands of U.S. stores aimed to modernize operations and support rapid expansion, but its existing connectivity model was slowing progress. Heavy reliance on legacy T1 circuits created a cycle of recurring rate changes, contract churn, and numerous contract renegotiations. These outdated circuits also introduced operational risk and cost unpredictability at a time when the business needed stronger controls and greater agility. Compounding these issues were significant access limitations, including inconsistent carrier availability across regions, variable last-mile options at different stores, and distribution centers located in outage-prone areas.

At the same time, the retailer was accelerating its use of digital tools—from AI-driven capabilities to advanced loyalty applications—all requiring highly reliable, flexible, and scalable connectivity. As these initiatives became core to the company's strategy, it became clear that the current network architecture could no longer deliver the performance, uptime, or cost structure needed to support thousands of distributed locations. The retailer required a connectivity framework that balanced predictable cost-per-store economics with operational efficiency while delivering the resiliency necessary to keep pace with modern retail demands.

Creating a tiered access strategy

To overcome these challenges, the retailer adopted a tiered access strategy designed to deliver cost efficiency, resiliency, and broad coverage while accommodating the diverse infrastructure conditions across locations. At the core of this strategy, on-net dedicated internet access (DIA) served as the primary connectivity layer, establishing a high-performance foundation for critical store systems. Broadband (EBAS) functioned as the secondary layer to expand reach and maintain predictable cost-per-store, while Enterprise Wireless Access Service (EWAS) functioned as the tertiary access layer - providing high-availability wireless connectivity and additional endlinks to support bandwidth-intensive applications when wired

options were limited or unavailable. To further strengthen uptime in geographically challenging or outage-prone regions, low-earth orbit (LEO) satellite service acted as the final layer of resiliency.

Challenges

- Maintaining predictable cost-per-store across a large and growing national footprint.
- Legacy T1 circuits rising re-rates and long-term cost instability.
- Inconsistent carrier availability in store environments and potential high construction pass-through charges.
- Increasing demand for symmetric bandwidth to support AI, video, and loyalty applications.

Solutions

- A tiered access strategy that prioritizes availability and cost efficiency.
- Broadband deployment, then off-net, to achieve footprint-wide scalability with minimal build delays.
- EWAS deployments with ongoing monitoring and carrier optimization.
- LEO satellite deployed as a last-line resiliency for outage-prone regions.

Results

- Consistent connectivity strategy scalable to thousands of locations.
- Significant reduction in re-rate-related churn and cost unpredictability.
- Reliable failover options providing continuity for distribution centers and surrounding stores.
- Infrastructure aligned with 50 Mbps symmetric requirements to support emerging digital initiatives.

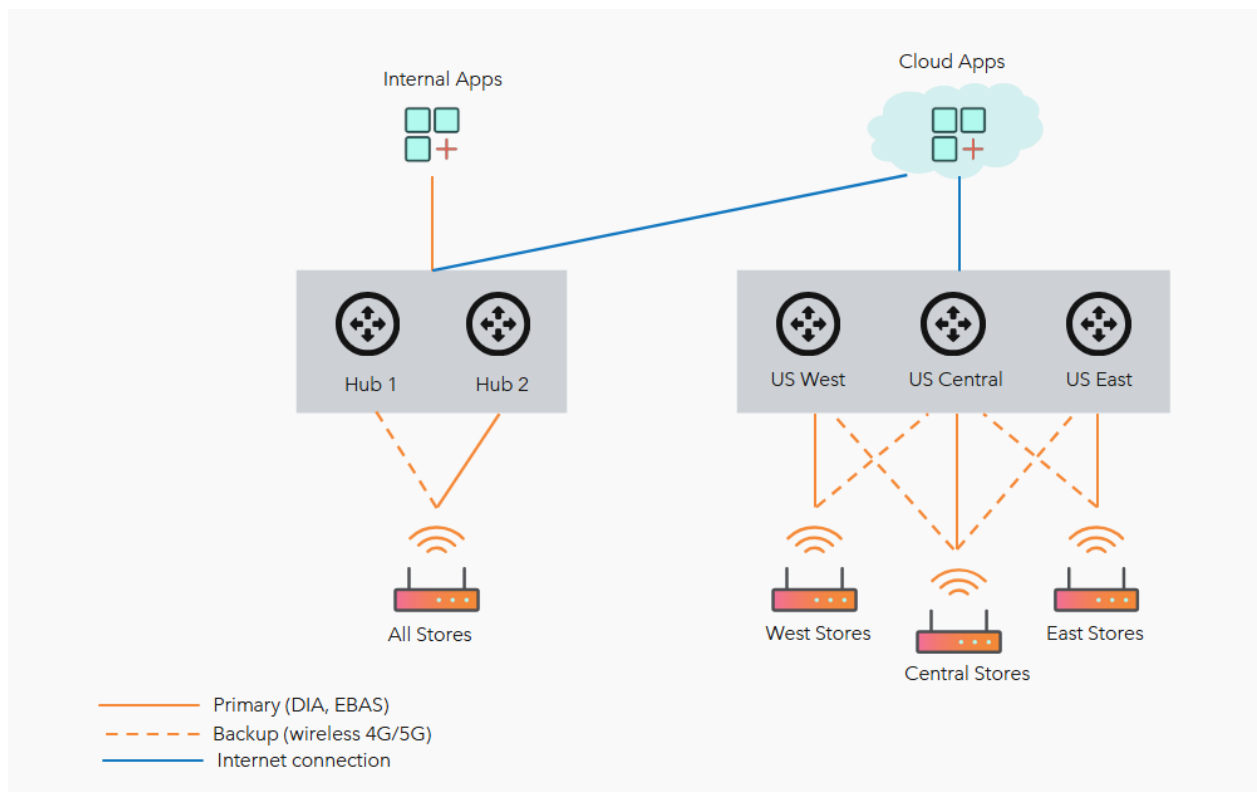
Creating a tiered access strategy (cont.)

This multi-tier architecture streamlined new store onboarding, accelerated quote evaluation, and enabled structured fallback decisioning tailored to each site's access constraints. Operationally, the retailer strengthened this approach through consistent, high-quality execution: a dedicated deployment partner handled installations across all locations to help ensure uniform standards and a single point of accountability. The team also optimized wireless tower utilization to maintain predictable throughput for mission-critical workloads such as point-of-sale transactions, loyalty programs, and video-based applications.

Historically, the retailer struggled with frequent rate changes, including unexpected increases and uneven pricing across stores, which created cost instability and required substantial legal oversight. Through proactive contract and rate mitigation, the program stabilized these recurring expenses and improved long-term forecasting, allowing the retailer to confidently scale its digital initiatives on a resilient, flexible, and financially predictable connectivity foundation.

“ National retailers choose Lumen because we deliver what their footprint demands at scale—resilient, predictable, and rapidly deployable connectivity for thousands of distributed locations. When legacy networks create cost volatility or limit access options, Lumen's tiered architecture provides the flexibility to reach their store and the reliability to keep transactions moving.”

— **Rusty Corne**
Senior Director of Product Management, Lumen



Resilience that fuels growth

Tiered access, tiered advantage

The tiered strategy enabled the retailer to maintain cost-per-store targets through a broadband-first approach while adding targeted resiliency where it mattered most. With LEO serving as a backup in outage-prone regions, stores avoided disruptions that previously threatened orders and revenue.

This stability now supports continued expansion, allowing the retailer to open multiple new stores per quarter with far less operational friction. The strengthened network also enables growing application demands, including AI, video security streaming, and next-generation loyalty platforms.

Reliability across revenue-critical operations has improved as distribution centers and nearby satellite offices gain protection from recurring carrier failures. In turn, this increased consistency deepens customer confidence and strengthens the retailer's long-term partnership with Lumen.

Lumen Solution Set

- Lumen® Dedicated Internet Access
- Lumen® Enterprise Broadband Access Service
- Lumen® Enterprise Wireless Service
- LEO Satellite Access

Why Lumen?

Lumen delivers enterprise broadband at the scale, consistency, and flexibility national retailers require to support thousands of distributed locations. Through a tiered access strategy Lumen enables predictable costs, rapid deployment, and resilient connectivity, even in challenging store environments. The result is a scalable, future-ready foundation that keeps revenue-critical operations connected and growth plans on track.

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