



Edge in Retail: Powering Smart Stores and Seamless Experiences



What Is Edge Management in Retail?

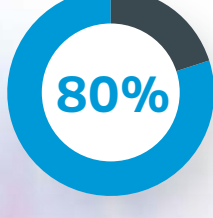
Edge management in retail means processing data locally, in real time, at the point of interaction. From POS systems and self-checkout kiosks to smart cameras, handheld scanners, digital signage, and IoT sensors—edge management shifts computing power closer to customers and store operations. This decentralization enables retailers to deliver faster experiences, real-time insights, and resilient operations even during network disruptions.

- Centralized cloud to in-store edge processing
- Real-time analytics for checkout, inventory, and customer experience
- Explosion of IoT data driving need for local compute¹

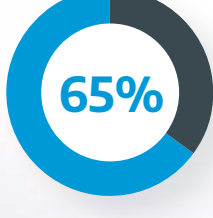


The Data Surge in Retail

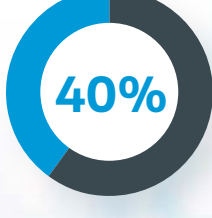
Retailers face a flood of transactional, inventory, and customer behavior data scattered across siloed systems. Without clear policies for retention, backup, or recovery, critical insights for store operations and customer engagement are lost.



of retailers report challenges managing data across in-store and online channels ²



of retailers struggle with real-time visibility into inventory³



of retailers cite customer experience disruptions due to outdated infrastructure⁴

Security Snapshot

Security is a top concern in retail edge environments, where sensitive customer and payment data are at risk.



POS breaches remain one of the most common retail cyberattacks⁵



Loyalty programs and stored payment systems are frequent targets⁶



60% of breaches involve human error or social engineering tactics⁷



Unpatched POS or IoT devices leave stores exposed⁸

How Edge Management Supports Retail IT

Common Challenges and Practical Solutions:

CHALLENGE

SOLUTION

Fragmented store systems across multiple devices

Implement centralized policy control and unified device management

POS and IoT device vulnerabilities

Use automated patching systems and vulnerability remediation

Limited real-time insights into store operations

Deploy AI-driven monitoring for inventory, loss prevention, and customer behavior

Bandwidth constraints for in-store video/IoT

Process data locally to reduce cloud dependency and improve performance⁹

Resource constraints for IT staff across locations

Utilize unified dashboards and remote management for multi-store oversight

Customer trust and privacy concerns

Secure in-store AI systems with strong encryption and compliance standards¹⁰



AI and the Future of Retail

- Frictionless checkout with computer vision and smart sensors¹¹
- Personalized customer engagement via real-time insights¹²
- Loss prevention AI monitoring patterns across video feeds¹³
- Supply chain optimization through predictive analytics at distribution centers¹⁴



Why Connection

- 30+ years of retail IT expertise
- Trusted partner to national retailers and store brands
- Proven success in deploying POS, IoT, and edge infrastructure
- Partnerships with leading technology providers, including Dell, Zebra, and NVIDIA, to enable modern retail environments

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[Modern Infrastructure](#)

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Contact an Expert

1.800.998.0067

Sources:

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¹⁴<https://blogs.vmware.com/sase/2024/10/31/edge-ai-success-demands-technology-curated-for-the-edge/>