



Optimizing Your Retail Edge

Retailers are grappling with IT modernization on all fronts — from e-commerce to logistics and distribution center upgrades, to in-store implementations — with two common denominators: it's all about the customer experience, and it's all happening at the edge.

Even before a global pandemic made curbside pickup and contactless checkout mandatory options for supermarkets, restaurants, and most of the retail world, the modern retail model was changing. The [Amazon effect](#) is real, and it's driving unprecedented investments in computing resources to support click-and-go technologies, streamlined point-of-sale interactions, intelligent inventory management, and other IT-powered applications designed to improve the customer experience.

Edge computing makes it all possible, bringing the necessary computing closer to the consumer to reduce latency and deliver a seamless experience to customers whether they're checking out, checking product reviews, or checking their checking account. But as these applications become more common, consumer expectations rise, and IT failures become more damaging. What was once considered a little nuisance in retail outlets can now become a reputation-shattering event that pushes frustrated customers out the door.

Today's retailers must ensure the availability of their networks, especially the edge resources supporting most customer experience applications.

Retail Critical Infrastructure

E-commerce Data Center

- High-density equipment racks
- Modular three-phase UPS systems
- Floor and rackmount power distribution
- Packaged, water-free economizer systems
- Infrastructure monitoring and management

Distribution Center

- Modular data center platform
- Integrated, self-contained, row-based data center
- Building and room-scale UPS systems
- Perimeter and row-based cooling systems

Superstore

- Edge-ready micro data center
- Rackmount UPS system
- Remote monitoring
- Row and rack-based cooling

Restaurant

- Edge-ready micro data center to reduce latency
- Rackmount UPS system
- Remote monitoring
- Rack-based cooling



Five Keys to Optimizing the Customer Experience

1. Treat everything as mission critical:

There was a time when retail IT was more mission-convenient than mission-critical, but those days are gone. Customers expect an Amazon-like seamlessness in their interactions, even in stores. Couple those expectations with the need to protect customer data and privacy, and any suggestion that retailers could work around routine outages is hopelessly out of touch.

2. Ensure the Edge is the center of your retail world:

The computing that supports in-store point-of-sale platforms, click-and-go technologies, self-checkout, data collection and security, and even in-store security systems is housed at the edge of your network to reduce latency. Distribution centers are home to edge computing deployments supporting logistics and inventory management.

Whether you realize it or not, the most important IT systems in your company are located at the edge; treat them with the respect they deserve.

3. Know that visibility is vital: The proliferation of edge deployments puts a premium on maintaining visibility into those systems. It's not uncommon to maintain hundreds or even thousands of edge sites across your network, most of which do not have on-site IT support staff. Ensuring these sites function as reliably and efficiently as needed requires sophisticated remote monitoring and management tools.

4. Understand that small spaces can create big problems: Many of today's retail edge deployments exist in small spaces, often tucked away in places that weren't built to house sensitive IT equipment. The dust, particulates, and humidity present in a typical distribution center can wreak havoc with modern servers.

Those same servers produce considerable heat – difficult enough to manage in the data center, but especially challenging in cramped closets and converted storage rooms. Effective thermal management and frequent filter replacement is imperative to ensure systems function as needed.

5. Work with the right partner: Retailers are racing to catch up to the IT wave in all aspects of their operations, but you can't be expected to build an IT team to support all these edge deployments overnight. Vertiv can help. Along with the industry's leading edge infrastructure portfolio, we have the industry's best and largest services team, ready to support your needs at the edge and across your network. You don't need to be an expert in edge computing to operate a best-in-class retail IT network. You just need to trust the experts.

Vertiv Solutions:

Vertiv offers a variety of solutions to meet the needs of the modern retailer.

Simplicity and Reliability

Fully integrated computing modules provide physical security for IT equipment. They include dedicated cooling systems, UPS systems for power conditioning and continuity, and rack power distribution units (rPDUs). These modules can be as small as a single cabinet or as large as an integrated row, aisle, or containerized solution. Our [integrated modular solutions](#) include the Vertiv™ SmartCabinet™, Vertiv™ SmartRow™, Vertiv™ SmartAisle™, Vertiv™ SmartMod™, environmental monitoring and thermal management systems, [Vertiv™ Liebert® UPS systems](#), and [Vertiv™ Geist™ rPDUs](#).

Work Within Your Small Spaces

Vertiv's full portfolio of small UPS systems include the best-in-class [Vertiv™ Liebert® GXT5](#) and [Vertiv™ Liebert® PSI5](#). The Liebert PSI5 and GXT5 are available with [lithium-ion batteries](#) that can operate at high temperatures and are smaller than traditional batteries, making them ideal for the limited floor space in most retail environments.

Prevent Server Failure

Tailoring a cooling solution to the environment and computing needs, allows you to deliver clean, cold air straight to the rack or row as needed. This precision cooling using solutions such as [Vertiv™ Liebert® CRV](#), [Vertiv™ Liebert® VRC](#), and [Vertiv™ Geist™ SwitchAir®](#) prevents server failure and ensures the computing systems stay up and running.

Empower Your Staff

Remote visibility and control helps meet the needs of understaffed retail locations and overextended IT personnel. Vertiv can ensure efficient operations and help organizations identify and resolve potential issues before they create problems with comprehensive monitoring and management solutions like turnkey installation and startup, [Vertiv™ Environet™ Alert](#), [Vertiv™ LIFE™ Services](#), and [Vertiv™ Power Assurance Package](#).

Vertiv also offers unmatched expertise and a qualified team of channel partners who are fully empowered to meet the needs of our retail customers. Whether in the United States or abroad, Vertiv makes solving your critical infrastructure challenges easier than ever.

[Contact a Vertiv partner today for a solution that is right for your retail edge.](#)