

# CREATING NEW BUSINESS ADVANTAGE AT THE EDGE

Smarter, faster operations start with  
edge-ready infrastructure

Edge computing is reshaping how businesses process and act on data. In industries like retail and manufacturing, where every second counts and decisions ripple across operations, its impact is profound.

Picture a factory floor equipped with sensors that feed real-time data into AI-powered systems that predict maintenance needs before problems arise. Or a retail store optimizing layout and pricing based on past shopper behavior to prepare for peak holiday traffic. These are the kinds of fast-paced, data-intensive scenarios where edge computing excels.

By processing data locally, at the edge of the network, businesses reduce latency, improve efficiency, and strengthen security. And with the right infrastructure in place, you're ready to power new levels of insight.

## Why edge computing is different

Traditional IT systems that rely on centralized data centers or the cloud are not always fast or flexible enough to meet today's operational demands. In environments that rely on factory automation or point-of-sale transactions, where real-time decisions are critical, waiting for data to travel across the network and back can introduce unacceptable delays.

Edge computing changes that model. By bringing processing closer to where data is generated, it improves responsiveness and enables more informed decision-making. From detecting fraud at checkout to optimizing energy use on a production floor, edge computing helps you act faster and more efficiently.

Security is also a key advantage. By keeping sensitive data local, edge computing reduces exposure to external threats. It's an advantage that's especially critical in industries handling proprietary designs, regulated data, or customer information.

## Transforming industries, one edge at a time

The real power of edge computing shows when it's applied to real-world challenges. In manufacturing, it shifts the focus from simply preventing downtime to reimagining the production process. Machines equipped with sensors feed real-time data into AI-powered systems that uncover inefficiencies and suggest improvements. Tasks like quality control that were manual and time-consuming can now be performed almost instantly.

Similarly, edge computing enables more intelligent, responsive experiences in retail. Real-time inventory tracking helps keep shelves stocked with the right products, while AI insights help retailers personalize promotions, optimize store layouts, and even detect theft as it happens.

These innovations are already in motion. Businesses deploying edge computing are improving operations, reducing costs, and gaining a competitive edge.

## Cutting costs and boosting sustainability

Edge computing isn't just about speed and responsiveness. It also helps reduce costs and improve efficiency overall. By processing data locally, you can minimize dependence on centralized cloud services, reducing bandwidth usage and associated expenses. Fewer round trips to distant data centers means lower costs tied to data transfer, storage, and connectivity.

Modern infrastructure further amplifies these gains. HPE ProLiant Gen11 servers, for example, can cut energy costs by up to 81% compared to aging equipment, making a measurable impact on both operating expenses and environmental goals.<sup>1</sup>

These improvements extend across sectors. In manufacturing, energy efficiency is a critical advantage, helping reduce the cost burden of large-scale production. In retail, businesses benefit from the ability to monitor and adjust operations in real time, whether it's optimizing HVAC use based on foot traffic or streamlining supply chains to limit overstocking.

Built-in management tools like HPE iLO support these goals by enabling you to monitor compute usage patterns, automate power settings, and fine-tune system performance. Combined with edge computing, these innovations offer a smarter, more sustainable way to operate at scale.

<sup>1</sup> "Validating the Sustainability Impact of HPE ProLiant Compute Gen11 Servers," Hewlett Packard Enterprise, January 2024

## Connecting the dots with remote management

Adopting edge computing brings significant advantages. But it also introduces new operational complexities. Managing infrastructure across multiple remote sites can strain IT resources, especially for teams accustomed to centralized systems.

Modern software tools like HPE Compute Ops Management are changing the equation. This cloud-native application provides a centralized view of your entire compute environment, allowing IT to monitor performance, deploy updates, and manage security from anywhere.

These capabilities bring the simplicity of cloud operations to the edge. Features such as low-touch provisioning, automated software updates, and policy-based management help reduce manual effort and improve consistency. When combined with the embedded HPE iLO, organizations gain deeper insight and control across the server lifecycle. Together, these capabilities support a more secure, consistent edge environment while easing the load on IT teams.

For businesses managing hundreds of edge servers, these capabilities are critical for scaling operations without overwhelming IT teams.

## Built for the edge: HPE ProLiant DL145 Gen11

Edge computing is only as effective as the infrastructure behind it. Businesses running real-time analytics and mission-critical workloads in unpredictable settings need server technology that's rugged, reliable, and ready to adapt. That's where the HPE ProLiant DL145 Gen11 comes in.

Designed specifically for challenging edge environments, this compact server delivers enterprise-grade performance in places where traditional data center hardware can't go. Whether it's a factory floor with extreme temperatures or a retail space where dust, space constraints, and nonstop operations are a reality, the HPE ProLiant DL145 Gen11 is engineered to thrive.

With AMD EPYC™ 8004 Series processors offering up to 64 cores and support for advanced GPU acceleration, it delivers the compute power needed to run modern edge workloads — from AI inference and predictive maintenance to fraud detection and real-time personalization.

Its robust, space-efficient design operates reliably in harsh conditions, including temperatures ranging from -5°C to 55°C. Combined with built-in security and management capabilities, the HPE ProLiant DL145 Gen11 offers the flexibility and dependability needed to scale edge operations with confidence.



## The edge advantage

Edge computing isn't just solving today's challenges. It's also laying the groundwork for long-term transformation in industries like manufacturing and retail. As the demand for speed, agility, and AI-driven insights accelerates, organizations need infrastructure that delivers now and adapts for what's next.

By processing data closer to where it's generated, edge computing helps businesses respond to real-time needs while uncovering new opportunities for efficiency and innovation.

When paired with modern infrastructure like HPE ProLiant DL145 Gen11 and server management tools such as HPE iLO and HPE Compute Ops Management, edge computing empowers organizations to move faster, operate more securely, and build greater resilience across their operations.

## Learn more at

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