Empowering the Retail Edge

VMware Edge Compute Stack removes edge complexity so you can:

- Accelerate AI adoption while maximizing ROI
- Drive brand sentiment, customer retention, and operational efficiency initiatives all from one platform
- Support today's needs and evolve to meet tomorrow's

Consumers expect personalized service and a fast, convenient experience at physical retail stores, similar to when they shop online. They want personalized recommendations, easy to find products, and unique experiences. AI and other technologies can not only provide an improved customer experience for increased store sales, but also help retailers improve store operations to reduce costs. Because these applications consume large amounts of data like video and they need to be available even if the network hiccups, it makes sense to run them locally.

Pilots of new technologies show promising results in flagship stores. The challenge comes in scaling applications across hundreds or thousands of stores. These applications must be efficiently deployed and managed as updates are needed. But there are limited IT personnel available to support geographically dispersed stores. Security vulnerabilities in edge applications need to be patched quickly to reduce the risk of compliance violations or brand damage if there is an attack or breach of customer data. More data is flowing into these applications on hardware which may be in more exposed areas, requiring special attention to data and device protection.

Retailers need an edge platform that supports all store applications, grows with their needs, and removes the complexity of deploying and managing apps across many edge sites with limited resources.

Retail edge platform: VMware Edge Compute Stack

VMware Edge Compute Stack is an edge-optimized run time and orchestration platform for frictionless management of edge apps and infrastructure across many sites with limited resources. It expertly runs AI workloads, including real-time decision-making apps such as using computer vision for loss prevention.

Zero touch deployment and lifecycle management of store applications and compute reduces the complexity of supporting new technology. The software-defined edge management platform, **VMware Edge Cloud Orchestrator**, features a pull-based architecture which works best with many edge sites with varying levels of connectivity (similar to how a smartphone updates itself). Integrated telemetry in VMware Edge Cloud Orchestrator provides visibility into applications and traffic at the edge.

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VMware Edge Compute Stack is built for flexibility. With support for containers and virtual machines, retailers can modernize their applications at their own pace. Needs can change quickly as technology evolves. VMware Edge Compute Stack is expandable and shares resources like GPUs to support multiple computer vision applications.

VMware robustness and security is trusted to run 7 million edge workloads worldwide.

VMware Edge Compute Stack powers key edge use cases for the smart retailer

Provide an outstanding customer experience

• Interactive mirrors entice customers to purchase

• Customer profiling and suggestions engage customers

Improve the efficiency of store operations

• Shelf provisioning optimized with customer heat maps

• Loss prevention detects fraud using computer vision

Consolidate hardware to reduce cost and complexity

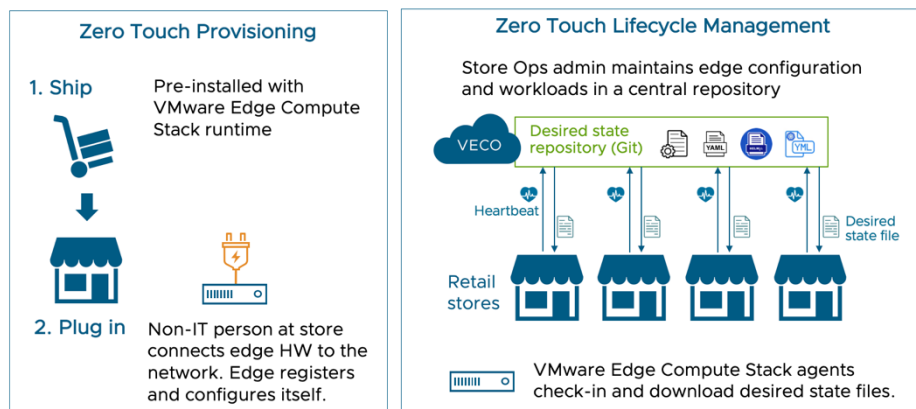• Run new AI workloads together with existing applications on the same platform

Figure 1: Easily manage many sites with limited resources. The included management platform, VMware Edge Cloud Orchestrator, uses a GitOps methodology to enable zero touch provisioning and lifecycle management of edge infrastructure and applications.

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