

Versa Universal CPE

Simplifying Branch Infrastructure with Unified Networking, Security, and Edge Compute

Branch locations are taking on more digital responsibilities. Application hosting, telemetry collection, local service continuity, and secure connectivity are just some of the services branches must now support. To support this, infrastructure teams have traditionally required a mix of routers, firewalls, servers, and specialized DevOps tools, leading to unnecessary complexity, costs, and operational inefficiencies.

Traditional branch architectures are weighed down by hardware sprawl, siloed service management, and fragmented security postures. Every layer—from WAN routers to container ecosystems—introduces its own operational overhead and security blind spots. Versa eliminates this fragmentation by integrating all critical networking, security, and edge compute services into a unified and service-chained platform, built for simplicity, scale, and secure application delivery at the edge.

Versa Universal CPE (uCPE) delivers a streamlined alternative. It consolidates SD-WAN, advanced security, and edge computing apps and workloads into a single platform. Branch locations enjoy reduced hardware sprawl with centralized deployment, monitoring, and policy enforcement without the burden of managing separate infrastructure stacks or specialized DevOps processes.

Versa uCPE Offerings

Versa uCPE is an all-in-one customer premises equipment (CPE) solution powered by the [Versa Operating System \(VOS\)](#). Deployed at the branch, it supports integrated networking, security, and a wide range of distributed edge workloads and services. Versa uCPE can host lightweight VMs or containers to run customer-specific apps and services, reducing the need for extra hardware at branch sites.

Versa uCPE capabilities

Centralized Deployment	Deploy locally-run applications in secure VMs or containers from a centralized management portal.
Dynamic Resource Allocation	Allocate memory and computing resources based on per-service or per-app needs.
Integrated Service Chaining	Seamlessly route traffic between applications, security functions, and WAN interfaces.
Centralized Monitoring and Maintenance	Monitor and update edge workloads and policies remotely.
Built-in Security	Get native NGFW and advanced security functions at the edge

Architecture Overview

Versa uCPE runs on a single physical or virtual appliance deployed at each distributed site. It connects to WAN uplinks (such as broadband, LTE, or private MPLS), internal user devices, local sensors, and hosted workloads.

Versa uCPE is a performance-optimized architecture that avoids the processing inefficiencies of traditional uCPE stacks. Its native service chaining allows traffic to flow through integrated and third-party services with minimal latency and no unnecessary packet copies. Security is enforced between workloads — including east-west traffic between VMs and containers — through built-in Zero Trust policies, eliminating the need for additional microsegmentation tools. Operationally, Versa simplifies deployment and lifecycle management with centralized orchestration for both Versa-native and third-party applications. And with support for Versa-designed or certified appliances, customers retain the flexibility to meet cost, compliance, or supply chain requirements without vendor lock-in.

Versa's native service chaining architecture minimizes processing overhead by avoiding unnecessary packet copies and leveraging fast path optimizations. This ensures deterministic performance and low latency for security, routing, and third-party services — even under high-throughput conditions. It also enables dynamic traffic steering, per-flow control, and multi-tenant service chains across internal and external workloads without introducing complexity or degradation in service.

Key components include

Versa SD-WAN	Intelligent, application-aware traffic routing and WAN optimization with enhanced performance and reliability
Versa NGFW	Advanced, inline security with application control, intrusion prevention, URL filtering, and threat detection at the network edge
Versa VOS	Unified multi-service software stack that powers Versa's networking, security, and edge compute services across all deployment models.
Unified control plane	Enables remote provisioning, monitoring, updates, and lifecycle orchestration of both network functions and hosted applications.
Application execution layer	Runs customer-deployed containers and virtual machines in a secure, resource-constrained runtime with CPU/RAM controls and optional segmentation.

Versa uCPE also includes multi-tenant capabilities to separate and segment data from different sources.

Most branch environments rely on a patchwork of hardware appliances and loosely integrated service chains that are difficult to orchestrate, monitor, and secure. Critical services like WAN routing, firewalling, application hosting, and monitoring often operate in silos, each requiring separate management interfaces and hardware dependencies. The result is increased CAPEX, higher power and cooling costs, and greater security risk due to lack of coordinated visibility or policy enforcement between functions. Versa addresses these issues head-on with an integrated, performance-optimized service chaining architecture that can steer traffic seamlessly between native and third-party VNFs, enforce Zero Trust policies between containers and VMs, and minimize processing overhead through intelligent flow handling.

Why Versa uCPE?

Versa uCPE helps organizations modernize branch infrastructure by reducing complexity, reduce costs, and accelerating service delivery. Key benefits for IT and operations teams include:

Lower TCO and Reduced Hardware Sprawl

Consolidates networking, security, and application hosting into a single device, eliminating the need for multiple appliances at the branch and reducing the number of required orchestration platforms.

Integrated Security

Delivers inline firewall, intrusion prevention, URL filtering, and other protections directly at the edge. Unlike traditional architectures where intra-host traffic remains uninspected, Versa uCPE enforces Zero Trust policies across all traffic flows — including east-west traffic between virtualized applications on the same appliance. This prevents lateral movement and ensures consistent policy enforcement between guest VMs and containers.

Centralized Deployment and Operational Efficiency

Enables remote provisioning and standardized rollout across distributed locations through a central management portal. Offers zero-touch provisioning and template-based workflows. Unified lifecycle management simplifies onboarding, scaling, and updating applications. Versa's built-in orchestration tools automate VM and container deployment, tag-based traffic steering, and application health monitoring — reducing time-to-service and day-2 operations.

Integrated Monitoring and Maintenance

Provides built-in tools via a centralized portal to monitor system health, reboot or reload services, and manage performance.

Plug-and-Play Deployments

Pre-packaged and standardized applications, security, and networking for repeatable deployments at scale.

Resilient Edge Services

Applications continue to function even when connection to WAN is lost.

Common Use Cases

Customers use Versa uCPE to run a variety of infrastructure and industry-specific workloads, with the most common being firewalls, session border controllers (SBCs), monitoring and telemetry agents, local encryption services, and Windows or Ubuntu-based business applications. Popular use cases for Versa uCPE often include the following.

Quick-Serve Restaurants (QSR)

Run customer-facing kiosk apps or restaurant-specific systems directly on Versa uCPE. Daily log transfers to HQ reduce bandwidth usage and simplify compliance monitoring.

Local IP Camera Processing

Edge processing handles high-volume video streams locally, sending only flagged events (e.g., accidents, suspicious behavior) to central systems—saving bandwidth and enabling faster incident response.

Multi-Tenant Branch Environments

Support separate user groups or downstream customers on shared hardware using Versa's native segmentation and multi-tenancy.

Conclusion

Versa uCPE transforms the branch by unifying networking, security, and local application execution into a single platform. It empowers infrastructure teams to deploy and scale edge services including customer-specific apps quickly, securely, and cost-effectively.

To learn more or request a demo, contact your Versa sales representative.

About Versa

Versa is a trusted leader in Secure SD-WAN, SSE, and SASE, delivering integrated networking and security to federal, defense, and public sector agencies. Our VersaONE platform – validated in the DISA Thunderdome initiative for ZTNA, SWG, NGFW, and CASB – is aligned with DoD Zero Trust architecture and proven across both enterprise and tactical environments. It's built to help you modernize with confidence, reduce risk, and achieve your goals with efficiency and clarity.



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