



Approaching multi-cloud
operations through the
lens of SD-WAN



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Juniper Contrail SD-WAN transforms your branch with unified, automated and AI-driven management

Business applications, information, processes, and even retail storefronts are moving to the cloud, driving greater business dependency on WAN resources and aligning enterprise operations with business needs. This growing dependence on multi-cloud infrastructure means that the modern campus and branch, including WAN, LAN, and Wi-Fi, must be secure, agile, and application-aware.



The challenge

Enterprise branches with insufficient staff require centralised remote management capabilities. Even beyond SD-WAN solutions, enterprise network operations need to simplify and unify orchestration, analytics, and security across the enterprise – cloud, data center, WAN, campus, and branch – while abstracting control and automating workflows.

The Juniper solution

Juniper enables the AI-driven enterprise, delivering secure SD-WAN as a service or for on-premises deployment. The Contrail SD-WAN solution spans dynamic hybrid WAN routing, security, and threat protection, providing intelligence and simplicity aligned with business-, user- and application-oriented policy.



A photograph of two IT professionals in a server room. One man is holding a laptop and pointing at the server racks, while the other man stands beside him, looking at the equipment. The room is filled with rows of server racks, and the lighting is dim with a greenish tint.

Benefits

Quick, agile, automated deployment of SD-WAN and SD-branch with zero-touch connectivity ensures easy deployment and centralized orchestration.

Software-defined and AI-driven control of LAN, Wi-Fi and security allows you to manage campus and branches consistently and in sync with SD-WAN policy and analytics.

Dynamic and application-aware routing improves WAN economics and performance.

Solution Components

Contrail Service Orchestration

Juniper Contrail Service Orchestration includes a web-based management interface for defining policies, managing locations, and visualizing performance behavior, automating the provisioning and management of devices running SD-WAN, SD-branch, and SD-LAN services.

With the Juniper cloud-managed Contrail SD-WAN solution, customers do not need to run or maintain the Contrail Service Orchestration component of the SD-WAN solution.

NFX Series Network Services Platform

The NFX Series Network Services Platform includes powerful on-premises devices for SD-WAN and SD-branch that consolidate notorious cable-chained branch appliances, replacing them with VNFs running on a universal CPE to deliver security driven by an embedded vSRX Virtual Firewall. Two NFX Series devices at a single branch site can be paired in an active/active arrangement, doubling traffic throughput and delivering twice the availability of the branch's WAN. NFX Series devices also support a variety of mini physical interface cards for LAN MACsec and PoE+ ports, various WAN ports, and WAN wireless LTE connectivity.

SRX Series Services Gateways

For use cases not requiring universal CPE platforms, SRX Series Services Gateways—up to and including the high-end SRX4000 line—can act as secure CPE platforms for intrinsically secure SD-WAN. These physical devices combine SD-WAN, NGFW, and UTM services with routing and switching in a single, high-performance, cost-effective device. Two SRX Series firewalls at a single branch site can be paired in an active/active arrangement, doubling traffic throughput and delivering twice the availability of the branch's WAN. Branch SRX Series devices also support a variety of mini physical interface cards for Wi-Fi, LAN MACsec and PoE+ ports, various WAN ports, and WAN wireless LTE connectivity.

vSRX Virtual Firewall

The vSRX Virtual Firewall delivers the same features as its physical SRX Series counterparts, providing the comprehensive security required by SD-WAN in a virtualized form factor. The vSRX can run on a branch-based virtualization platform or public cloud Infrastructure as a Service (IaaS); on AWS, it can be fully life-cycle managed with automation. Performance is optimized to maximize throughput in a virtualized environment by leveraging single-root I/O virtualization (SR-IOV) and a Data Plane Development Kit (DPDK).

SD-WAN Gateways and Hubs

To scale large SD-WAN topologies, gateways may reside in the network to aggregate iBGP routes over IPsec and generic routing encapsulation (GRE) tunnels. The SD-WAN gateway is supported on the vSRX Virtual Firewall, SRX1500 and SRX4000 Services Gateways, and MX Series 5G Universal Routing Platforms. With Contrail SD-WAN, ZScaler and Internet breakout can happen from these hubs as well as the spoke sites.

EX Series Ethernet Switches

The EX Series Ethernet Switches with Virtual Chassis technology combine reliability of modular systems with the economics and flexibility of stackable switches, delivering a high-performance, scalable solution for campus, remote and branch office environments. In a Virtual Chassis configuration, multiple EX Series switches can be interconnected to operate as a single, logical device, dramatically simplifying management and support. In an open, standards-based ESI LAG configuration, switches are managed individually and easily via Contrail Service Orchestration. With multi-gig port speeds and up to 95 W Power over Ethernet (PoE++) support, enterprises can deploy an evolvable EX Series-based wired network infrastructure that can address a future that includes IoT and Wi-Fi 6.

Mist Cloud and Wi-Fi Access Points

The Mist platform can be fully operated and managed through a programmable cloud that includes microservices and an inline AI engine to deliver superior scalability, agility, resiliency, and insights. Mist offers a range of Wi-Fi access points and a variety of cloud-based services, such as asset tracking, location capabilities using virtual Bluetooth Low Energy (vBLE), wired and wireless assurance, and the Marvis AI-Driven Virtual Network Assistant. Contrail Service Orchestration's web portal provides visibility into Mist Access Points by enterprise site and context-aware pass-through to the Mist portal.

Professional Services

Juniper offers advisory, implementation, and testing services that help customers and partners evaluate technology choices and develop a plan to integrate them into existing network infrastructures. Schedule a consultation with Juniper Professional Services to build a strategic plan and tailor a solution for your business. Leveraging the deep experience of Juniper's industry-leading service and support experts will minimize risk, speed time to deployment, and deliver the desired business outcome.



Our partnership in practice

Technical enablement:

We keep you up to speed with tailored training, sales enablement and one-to-one bootcamps.

Lead generation:

Dedicated business development managers help you grow and develop a Juniper pipeline.

Proof of concept:

Offer customers a try-before-you-buy programme with best-in-class demo units and facilities.

Winning team:

We are Juniper's Distributor Partner of the Year for providing the best possible outcomes for its customers.

Upsell, cross-sell or net new – grow your Juniper business with Westcon

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