Streamlining Service Provider Edge Deployments with Juniper Validated Designs

Deploy more quickly and confidently, improve outcomes, and save valuable time

Discover how Juniper Validated Designs (JVDs) for the service provider edge can help you design and deploy an optimal networking solution

Explore SP edge JVDs →

The challenge

Navigating the complex landscape of service provider edge deployments

Service providers today face unprecedented challenges in delivering secure, reliable, high-performance network services. As networks become more complex and digital demands intensify, they must manage soaring data traffic from connected devices, address pervasive security threats, and meet ultra-low latency and high bandwidth requirements. Additionally, providers are under pressure to reduce operational costs and time-to-market, push traditional architectures to their limits, and drive rapid service innovation and deployment.

The capabilities you need

Fully tested, well-documented network designs

Service providers are deploying advanced services that realize new revenues such as telco clouds, edge clouds, and 5G. JVDs make these clouds easy to design, deploy, and operate, enabling workload portability, economies of scale, and operational consistency among hybrid cloud and multicloud ecosystems.

JVDs are comprehensive, end-to-end blueprints for deploying Juniper solutions in your network

Scalability

Validated designs are built out based on customer input and requirements and are tailored to meet specific common use cases at maximum scale.

Reliability

Because JVDs are prescriptive designs used by multiple customers across various industries, all JVD customers benefit from lessons learned through lab testing and real-world deployments.

Velocity

JVDs have clearly defined performance profiles to help you make informed decisions about your network, resulting in up to 9x faster deployments.

Predictability

JVDs undergo a rigorous testing framework to achieve validation with ongoing, automated verification in each new release.

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JVDs for the service provider edge

JVDs for the service provider edge offer a transformative approach to secure network design, deployment, and operation by addressing service provider challenges while delivering substantial business value and lower risk.

Current JVDs for the service provider edge:

Scale-Out IPsec Solution for Mobile Service Providers

Integrate MX Series routers and SRX Series firewalls for flexibility and high availability

Juniper Scale-Out Stateful Firewall and CGNAT for SP Edge

Top-tier routing and security on Multiservice Edge and Broadband Edge deployments

Low Latency QoS Design for 5G Solution

Ensure unparalleled performance and reliability across diverse applications

Enterprise WAN Advanced Core and Edge Services

Secure connectivity across locations with EVPN & MPLS-backed validated design

Port Fan-Out

Achieve cost savings, port flexibility, and higher port density

Metro Ethernet Business Services

Optimize your network for maximum performance with sophisticated Metro Ethernet Business Services architecture

Enterprise WAN Core and Edge

Create a reliable network design for enterprise WAN edge and core network

5G CSR xHaul Seamless Segment Routing

Deploy 5G xHaul network with seamless segment routing design architecture

5G Fronthaul Class of Service

Simplify the transition from 4G to 5G networks while ensuring reliability and performance

5G Fronthaul Network Using Seamless MPLS Segment Routing

Implement 5G network with validated design for Mobile xHaul with MPLS-SR and Cell Site Routing

5G Mobile xHaul with Seamless MPLS Segment Routing

Optimize network performance with flexibility, low latency, and scalability

How it works

The transformative power of service provider edge JVDs

JVDs offer a robust solution to the challenges of service provider edge design and deployment, providing a clear pathway to enhanced operational efficiency, strategic alignment, and more secure platforms.

Typical enterprise network with EVPN as unified service protocol:
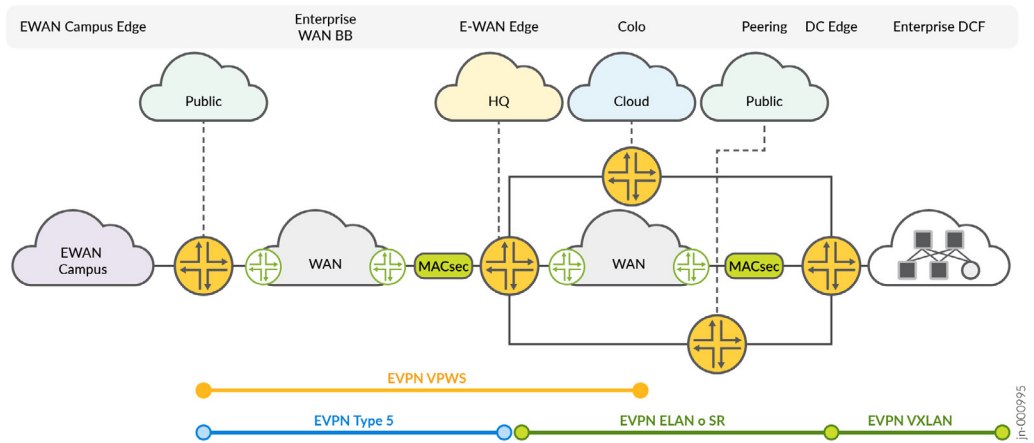
Juniper general architecture:
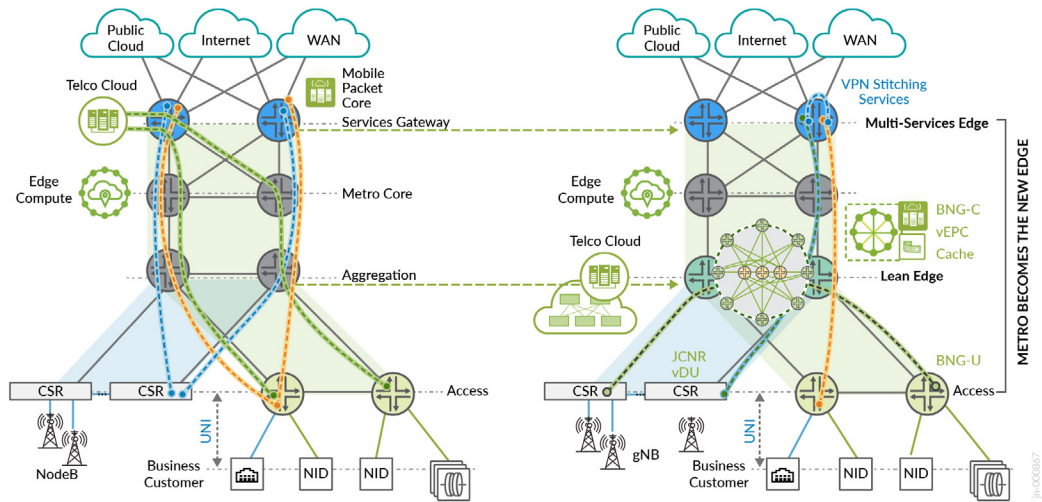
Technologies and solutions used and tested:

CGNAT (Carrier-grade NAT)	BFD (Bidirectional Fault Detection)
SR-MPLS/SRv6	EVPN VXLAN
IPSec	EVPN-MPLS / EVPN-VPWS
MNHA (Multi-Mode High Availability)	VPLS
5G O-RAN (Open Radio Access Network)	ECMP
QoS inc. CoS (5G QoS, Priority Queuing)	iBGP/eBGP
MACsec	And many more…
Juniper ACX / QFX / MX / SRX / vSRX	

Core capabilities

JVDs minimize operational costs while **reducing your IT burden and accelerating time to value**

Proven, pre-tested solutions	Minimize risk and accelerate deployment with thoroughly validated architectures.
Comprehensive coverage	From metro and edge to core and data center, JVDs address all critical network domains.
Cutting-edge security	Scale-out security services protect your infrastructure without compromising performance.
5G-ready architectures	Future-proof your network with designs optimized for next-generation mobile services.
Operational efficiency	Streamline operations and reduce costs with validated automation and management practices.
Flexible scalability	Adopt pay-as-you-grow models that align with your business needs and traffic patterns.

Our advantage

JVDs: faster, smarter, more secure

The JVD program develops solutions that reduce complexity for networking teams, helping them:

- **Qualify solutions faster** with tested architectures for building networks with well-documented capabilities and product/software release guidance

- **Reduce risk** with products, features, and topologies based on best practices and common use cases

- **Achieve predictable, repeatable results** with designs that have been validated at scale to ensure you will have faster, more reliable deployments

Why Juniper

The NOW Way to Network

Juniper Networks believes that connectivity is not the same as experiencing a great connection. Juniper's AI-Native Networking Platform is built from the ground up to leverage AI to deliver exceptional, highly secure, and sustainable user experiences from the edge to the data center and cloud. Additional information can be found at Juniper Networks (www.juniper.net) or connect with Juniper on X (Twitter), LinkedIn, and Facebook.

More information

Learn more about JVDs for service provider edge

To explore current JVDs for the service provider edge, visit https://www.juniper.net/documentation/validated-designs/us/en/service-provider-edge

Take the next step

Connect with us

Learn how we can build what's next.

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Explore solutions

Discover more about JVDs.

Explore solutions →

Read case studies

See how we help unlock growth.

Customer success →

More insights

Design and deploy optimal solutions.

Discover more →

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