

Juniper® Validated Design

JVD Solution Overview: WAN Edge with the Session Smart Router

JVD-ENTWAN-EDGESSR-01-01

Executive Summary

Juniper Mist cloud services are transforming IT operations towards intelligent self-driving networks in the era of the AI-driven enterprise. Juniper Mist WAN Assurance delivers simpler operations, shorter mean time to repair, and better visibility into end-user experiences.

This Juniper Validated Design (JVD) describes various approaches to build a VPN as an overlay by integrating WAN routers into a branch design. We describe four major networking topologies and how these topologies are implemented. All four described topologies are validated, including additional features that are topology independent. Furthermore, complete configuration examples using the Mist portal are provided in the appendix section of the full JVD document for reference.

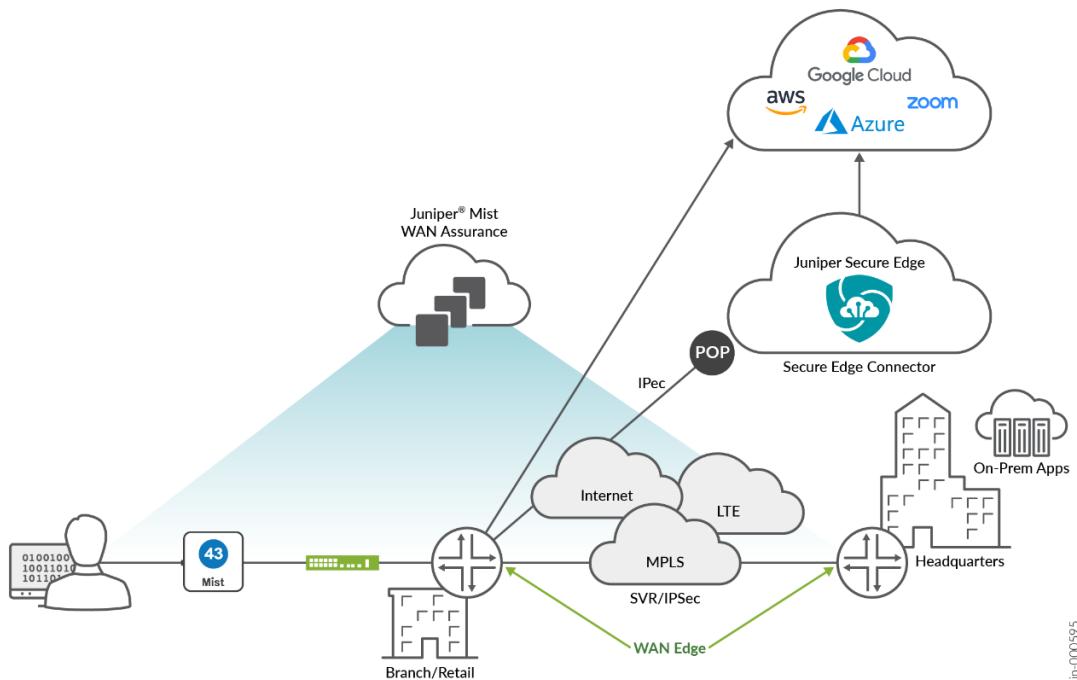
Solution Overview

WAN edge references the demarcation point for your enterprise network to reach the outside world. This boundary is a crucial security and troubleshooting hotspot. The WAN edge is a simple border between your enterprise network and the outside world. The WAN edge can also be a Juniper SD-WAN driven by Mist AI™ device such as Juniper Networks® Session Smart® Router, a Juniper Networks® SRX Series Firewall, or a cloud solution—a Juniper® Secure Edge.

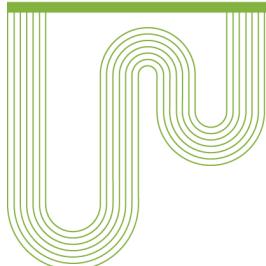
This JVD is intended to test and document the major topologies and WAN edge features for Session Smart Routers that provide and allow customers to make the right choices when designing an implementation. As part of this JVD, we will share the following information:

- Discuss the various transport technologies and how you can leverage them to build your own overlay VPN.
- Describe and test the suggested five major foundational topologies:
 - Basic SD-WAN topology with 3 spokes and 2 hubs.
 - Extended topology with hub-overlay and BGP peering at the hub.
 - Topology with clustered Session Smart Routers to deliver hub and spoke with high availability.
 - Full stack topology with Juniper EX Series Switch and Mist Access Point (AP).
 - Extended full stack topology with Juniper Networks® EX Series Switches in Virtual Chassis and Session Smart Routers in high availability cluster with 802.3ad LAG activated.
- Describe and test the various ways that the applications are detected and steered through different paths of the network topology.
- Describe and test how the customers leverage site variables and templates to build easily reproducible configurations on newly installed devices added to the network.
- Describe and test the security features that the Session Smart Router provides locally on each system.
- Application detection by deep packet inspection (DPI) engine.
 - Intrusion detection engine.
 - Web filter with category selection.

- Ability to build tunnels for user traffic towards cloud-breakout services such as Zscaler or Juniper Secure Edge.
- Discuss integration of EX Series Switches and Juniper® Series of High-Performance Access Points at the branch managed and controlled by the same Mist portal.
- Discuss and show the monitoring and troubleshooting that are critical to network administrators for Day 2+ operations.
- Provide recommendations and best practices when implementing WAN edge for Session Smart Routers.



jn000595



Corporate and Sales Headquarters
 Juniper Networks, Inc.
 1133 Innovation Way
 Sunnyvale, CA 94089 USA
 Phone: 888.JUNIPER (888.586.4737)
 or +1.408.745.2000
 Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters
 Juniper Networks International B.V.
 Boeing Avenue 240
 1119 PZ Schiphol-Rijk
 Amsterdam, The Netherlands
 Phone: +31.207.125.700
 Fax: +31.207.125.701

Copyright 2024 Juniper Networks, Inc. All rights reserved. Juniper Networks, the Juniper Networks logo, Juniper, Junos, and other trademarks are registered trademarks of Juniper Networks, Inc. and/or its affiliates in the United States and other countries. Other names may be trademarks of their respective owners. Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.