Cisco Catalyst SD-WAN with AWS



Introduction

Accelerate cloud transformation

The journey to cloud networking can be challenging. Managing multiple clouds and ensuring secure access to your applications can be difficult. Today's networks are complex, with users, data, and applications spread across different locations, both on-premises and in the cloud. Balancing connectivity, performance, and security in these distributed networks adds even more complexity.

Cisco and AWS have partnered to simplify IT teams' journey to the cloud. Cisco Catalyst™ SD-WAN with AWS aids by extending consistent policy and security across WAN environments at scale and automating access to workloads throughout the AWS global cloud network by interconnecting on-premises and cloud regions.

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Solution overview

Automate a global network and extend SD-WAN fabric across the AWS Cloud with Cisco Catalyst SD-WAN

Cisco Catalyst SD-WAN, through its Cloud OnRamp portfolio, automates the extension of enterprise WANs to public clouds, simplifying the setup of SD-WAN gateways and the discovery of cloud resources like VPCs/VNETs, along with customer VPN segmentation. In partnership with AWS, Cisco has integrated AWS Transit Gateway and AWS Cloud WAN services to facilitate secure infrastructure connectivity across AWS regions and enable dynamic global network creation with intuitive network management and a centralized policy framework for enhanced security. With Cloud WAN, the two organizations have co-innovated to create unique, dynamic WAN service built on AWS Tunnel-less Connect. This collaboration leverages AWS's global backbone, providing access to workloads, site-to-site communication, and interregional connectivity, delivering a secure, flexible, and highly available middle-mile solution. The joint networking approach promotes simplified management, on-demand deployment, and optimized performance, making it ideal for enterprises seeking efficient and secure cloud integration.

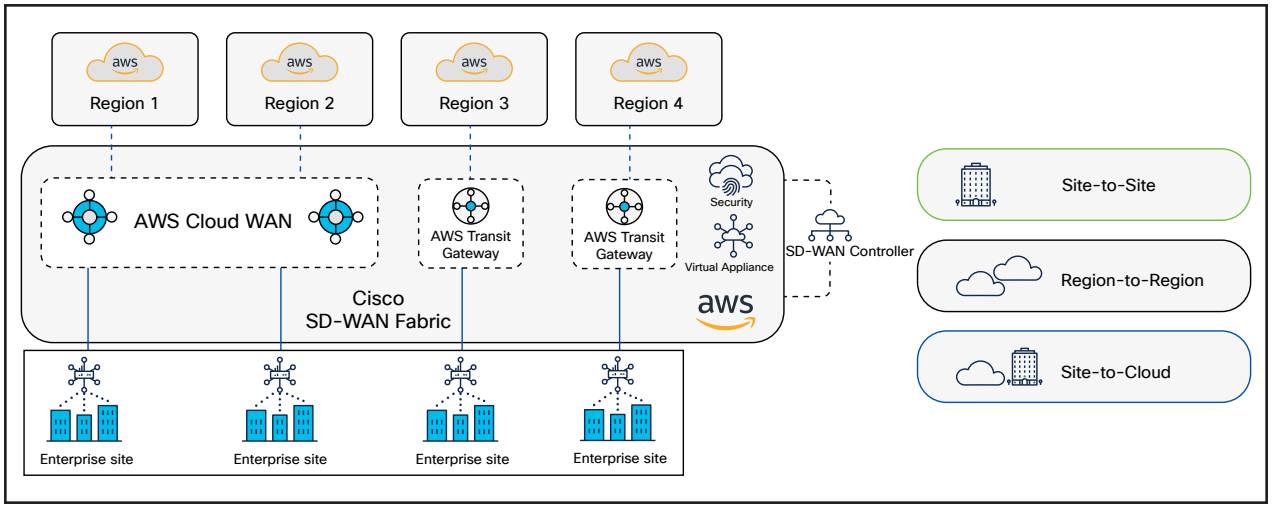


Figure 1. Cisco SD-WAN with AWS

Key benefits

Cisco Catalyst SD-WAN with AWS offers enterprise customers several benefits, including:

- **Secure and resilient cloud access:** Ensures secure cloud and middle-mile networking with end-to-end encryption over AWS cloud routers and private backbone, applying consistent segmentation across global site-to-site, site-to-cloud, and cloud-to-cloud environments.
- **Simplified IT operations:** Reduces operational complexity by enabling on-demand global network deployment within minutes. This joint solution enhances management and operations through full network stack automation, centralized provisioning, and orchestration via Cisco Catalyst SD-WAN Manager.
- **Increased performance and visibility:** Integrates with AWS Cloud WAN to provide a high-performance, dynamic SD-WAN fabric, improving application performance with a guaranteed service-level agreement and consistent uptime of 99.99%*, alongside monitoring capabilities for both underlay and overlay networks.

* For multi-availability zone (multi-AZ) deployments – AWS Cloud WAN Service Level Agreement.

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Cisco Catalyst SD-WAN's Cloud OnRamp

The Cisco Catalyst SD-WAN Manager, the management portal for Cisco Catalyst SD-WAN, utilizes Cloud OnRamp's straightforward workflow to:

1. Orchestrate the AWS Cloud WAN or AWS Transit Gateway infrastructure and the on-ramp into local AWS points of presence. Alternately, discover existing Transit Gateways and build on-ramp gateways to connect into them.
2. Extend SD-WAN tunnels to the Core Network Edge/Transit Gateway, and over the AWS core network.
3. Manage the Cloud WAN core network policy, or the Transit Gateway routing tables, to build connectivity to cloud

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AWS Transit Gateway

Cisco Catalyst SD-WAN and AWS Transit Gateway enhance flexibility, security, and efficiency for hybrid networks, benefiting organizations migrating to the cloud or already using AWS and Cisco technologies. This integrated solution enables seamless connectivity between branch offices and AWS Transit Gateway, allowing customers to connect their Amazon VPCs and on-premises networks via Cisco Catalyst SD-WAN Manager. It facilitates end-to-end connectivity between users and cloud applications while implementing network segmentation and security policies. Additionally, Cisco and AWS share network management data, offering a unified view through the Cisco Catalyst SD-WAN Manager. This collaboration helps customers reduce operational costs by utilizing Cisco Catalyst SD-WAN on AWS.

AWS Cloud WAN

Cisco SD-WAN with AWS Cloud WAN powers a seamless and unified connectivity experience for organizations to interconnect their sites and use as an on-ramp to AWS Cloud workloads and services. This fully orchestrated solution uses the simple Cisco SD-WAN Cloud OnRamp workflow to optimize the middle-mile using the AWS global backbone, extending the SD-WAN fabric on demand to interconnect enterprise sites and AWS Cloud workloads. AWS Cloud WAN offers a global WAN service across AWS cloud regions and the Cisco SD-WAN intuitive interface captures user intent before automating the extension of the SD-WAN fabric to their AWS workloads.



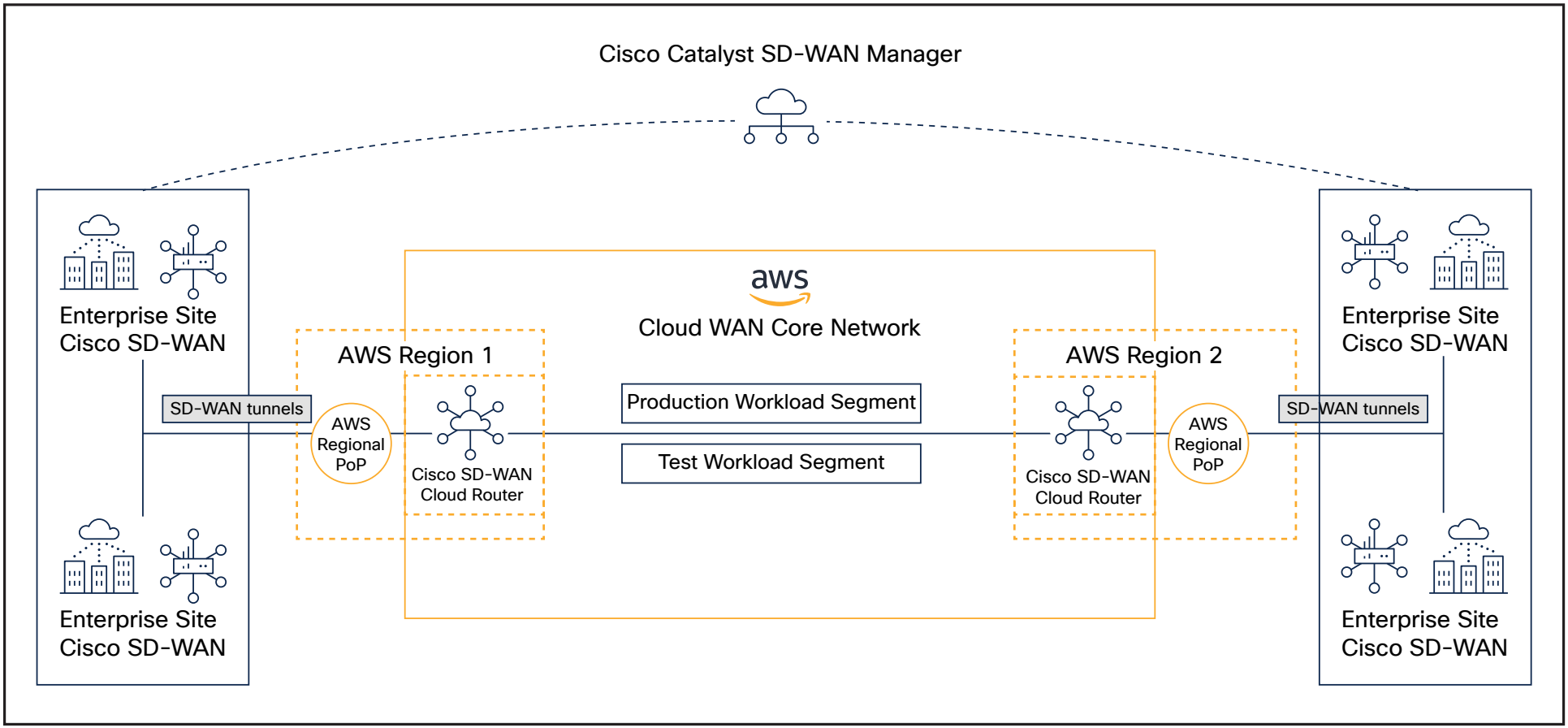


Figure 2. Cisco Catalyst SD-WAN and AWS Cloud WAN

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Learn more

- Cisco Catalyst SD-WAN with AWS FAQ
- Cisco Catalyst SD-WAN with AWS Cloud WAN webinar
- Cisco Catalyst SD-WAN with AWS Cloud WAN podcast
- Cisco SD-WAN Cloud OnRamp
- AWS Cloud WAN

Cisco SD-WAN and AWS use cases

Cisco Catalyst SD-WAN with AWS supports a variety of site-to-site, site-to-cloud, and interregional cloud use cases to enhance network performance and security:

- **Global network expansion:** Seamlessly extend your enterprise WAN to AWS regions worldwide, ensuring secure and efficient connectivity between sites, clouds, and regions.
- **Interregional workload connectivity:** Facilitate smooth communication and data exchange across different AWS regions, optimizing application performance and resource utilization.
- **Simplified cloud management:** Automate the deployment and management of cloud resources, reducing operational complexity and enhancing visibility through centralized controls.
- **Enhanced security and segmentation:** Implement robust security measures with native segmentation and unified global policies to protect data across SD-WAN and cloud environments.
- **Dynamic and high-performance networking:** Leverage AWS's global backbone to create a resilient and responsive network infrastructure, ensuring consistent uptime and performance.

Deployment

How do you deploy Cisco Catalyst SD-WAN with AWS Transit Gateway or AWS Cloud WAN?

This solution can be deployed using the Cisco SD-WAN Cloud OnRamp for Multicloud feature in Cisco Catalyst SD-WAN Manager. AWS Transit Gateway can be either created by the Cloud OnRamp automation or an existing Transit Gateway can be discovered and connected to. AWS Cloud WAN core network and network edges are created by the Cloud OnRamp automation and managed through the core network policy, which can also be managed by Cloud OnRamp.

- Cisco Catalyst SD-WAN Cloud OnRamp Configuration Guide
- Watch AWS Cloud WAN overview video

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