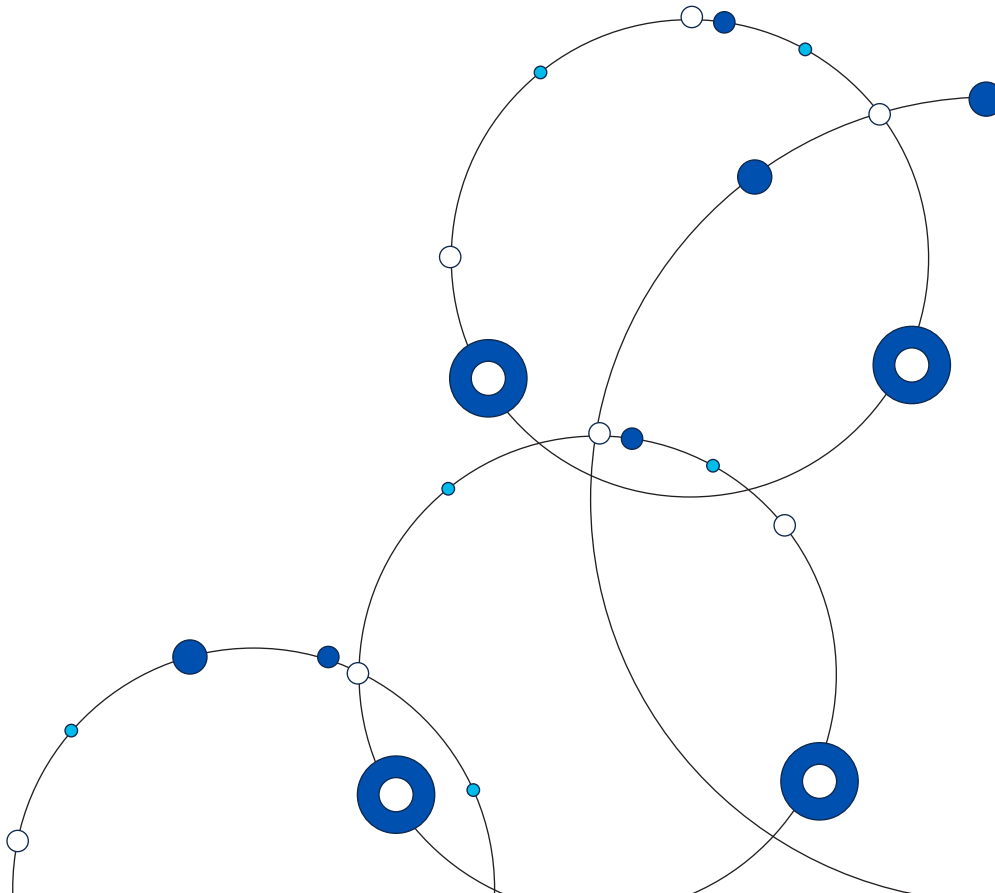
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Cisco SD-WAN Cloud Interconnect with Equinix



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Overview

Q: What is Cisco® SD-WAN Cloud Interconnect with Equinix?

A: Cisco Catalyst SD-WAN's integration with Equinix allows you to provision on-demand branch connectivity to multiple sites and to the world's leading cloud provider networks, like AWS, Google Cloud, and Microsoft Azure, directly from your SD-WAN controller. Part of Cisco SD-WAN Cloud OnRamp, Cloud Interconnect is integrated with Equinix Network Edge, a network service that deploys network devices virtually and interconnects to the cloud in minutes using Equinix Fabric. The joint solution simplifies provisioning, delivers reliable network performance, and decreases the cost and complexity of operating your network.

Through the automation capabilities of the Cisco Catalyst SD-WAN Manager, you can deploy your Catalyst SD-WAN overlay while integrating the dynamic and highly reliable underlay of the Equinix network, and take advantage of both a cloud consumption model and dynamic provisioning of your WAN connectivity. Catalyst SD-WAN provides a single, easy-to-use console to automate deployment of connections from site to site and from site to cloud, reducing provisioning from weeks to minutes. Equinix provides secure, reliable connectivity to Equinix's global ecosystem via 240+ colocation data centers in 70 markets across 31 countries and 6 continents. Please check out Equinix Network Edge for the latest features, partner lists and available sites.

Q: How is Cisco SD-WAN Cloud Interconnect different from previous connectivity options through the Equinix Network Edge portal?

A: Previously, cloud interconnect was done separately using Catalyst SD-WAN Manager and the Equinix portal. With Cloud Interconnect, all the end-to-end connectivity is provisioned through Cisco Catalyst SD-WAN Controller using API calls to Equinix, providing multiple benefits and time savings to customers. In addition, Cisco automates discovery and deployment of cloud resources such as AWS Transit Gateways, AWS Direct Connect gateways, Azure Virtual Hub, Google Cloud routers, etc, so that customers can truly take advantage of a single pane of glass approach for all their network connections to the cloud. Cisco also ensures that traffic traversing the private backbone of Equinix is encrypted end-to-end. Cisco extends the SD-WAN fabric over the private underlay all the way into the cloud service provider by hosting virtual SD-WAN routers in transit VPCs/VNETs. This not only allows for end-to-end encryption for branch to cloud traffic, but also overcomes any failures of the underlay by automatically steering traffic from the branch to cloud over the internet.

Benefits

Q: What are the benefits of this solution?

A: **Full stack automation:** Orchestrate both Catalyst SD-WAN overlay and Equinix underlay with Cisco SD-WAN Cloud Interconnect via the Catalyst SD-WAN Manager.

Normalized experience: Bring any cloud with any carrier. No domain expertise is needed.

Multipath optimization: Implement policy to segment and select any path through any carrier.

Centralize visibility: Enable Catalyst SD-WAN multicloud monitoring for end-to-end visibility.

Single vendor experience: Ordering, onboarding, provisioning, and support are all from Cisco.

Cloudlike consumption: Benefit from significant cost savings over traditional routes, and pay only for what you need.

Encrypted Multicloud Interconnects: SD-WAN tunnels created between interconnect gateway (Equinix Network Edge) and the cloud service provider allow for branch to cloud traffic to be completely encrypted through the Equinix Fabric.

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Q: What types of enterprises benefit from this solution?

A: Any organization that wants to connect to cloud applications quickly, securely, and reliably would benefit from this solution. For example, an organization deploying a new office location no longer needs to wait for direct connect links (with letters of authority taking days or even weeks) or for Multiprotocol Label Switching (MPLS) links to be deployed (usually taking months). Instead, they can deploy an Equinix connection in a matter of minutes. Once deployed, the organization has the same policy, security, and access throughout the whole network, including the cloud, extending Catalyst SD-WAN over the Equinix cloud-agnostic, private interconnection platform.

Q: How does Cisco ensure that the data traversing the Equinix Fabric is secure?

A: Cisco ensures that the traffic traversing the private backbone of Equinix is encrypted end-to-end. Extending the SD-WAN fabric over the private underlay all the way into the cloud service provider, not only allows for end-to-end encryption for Branch to Cloud traffic, but also overcomes any failures of the underlay by automatically steering traffic from the branch to cloud over the internet.

Q: Does Cisco SD-WAN Cloud Interconnect ensure that the intent captured during configuration of the services is the same as the final state of various resources at Equinix and at the cloud service provider? What happens if any out of band operations are performed using Equinix or CSP portals?

A: Yes, Cloud Interconnect audits your infrastructure in the cloud and with Equinix to check for discrepancies. It's possible for Catalyst SD-WAN Manager and Equinix to show contrasting data because errors may arise when creating or deleting resources or if any out of band operation was performed on the Equinix or CSP portal. The audit Infrastructure feature reports and/or fixes any errors by automatically correcting discrepancies between your infrastructure in the cloud and in your Equinix infrastructure.

Use cases

Q: What are the use cases for Cisco SD-WAN Cloud Interconnect with Equinix?

A: The Equinix underlay can connect branches to cloud workloads in two use cases:

Site to site

Site to cloud

Cloud to cloud

Deployment and platform support

Q: How do I deploy and manage the Cisco SD-WAN Cloud Interconnect with Equinix solution?

A: Users have the convenience of managing their SD-WAN fabric and connectivity to clouds and other branches through a single orchestrator, Cisco Catalyst SD-WAN Manager. All policy administration, connections, and virtual router instances are API driven. Users select the bandwidth of the connections needed and the locations where they want to connect.

Q: Which Cisco platforms are supported with this solution?

A: This solution is available on the Catalyst SD-WAN platform.

Q: When is the solution available?

A: Now. Cisco SD-WAN Cloud Interconnect with Equinix is available beginning with Catalyst SD-WAN Release 17.6: https://www.cisco.com/c/en/us/td/docs/routers/sdwan/configuration/cloudonramp/ios-xe-17/cloud-onramp-book-xe/m-cloud-onramp-sdci.html#sdci-equinix.

The 17.6 to 17.9 version of Catalyst SD-WAN use the CSR 1000V version of the Catalyst router. Starting with the 17.12 and 17.9.5 release, the solution uses the Catalyst 8000V version.

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Q: What are the components of the solution?

A: There is a Cisco component and an Equinix component. Customers need to purchase the following as part of the solution:

Cisco Catalyst 8000V Edge Software (Catalyst 8000V)

Equinix Network Edge: Compute instance on which the Catalyst 8000V.

Virtual Connection via Equinix (priced by bandwidth and region).

Device Link Group (Priced by bandwidth and region)

IP Transit (Priced by country and bandwidth)

Ordering and billing

Q: How is the Cisco SD-WAN Cloud Interconnect with Equinix solution ordered and billed?

A: Users may order the solution via Cisco partners, who will have the capability to order all components of the solution through Cisco Commerce Workspace (CCW) on behalf of the user. Users will be able to purchase Cisco Catalyst 8000V Edge Software licenses along with the Cisco SD-WAN Cloud Interconnect gateway (Equinix Network Edge), Virtual Connections (Equinix Fabric), and Device Link Group through CCW. Licensing is available as a Pay-As-You-Go (PAYG) billing model (launching in April 2024). Please refer to the Equinix ordering guide for additional details on ordering various SKUs.

Starting with Catalyst SD-WAN 20.9.5 and 20.12.x releases, in order to maintain flexibility in billing motions, Cisco allows customers to be billed directly by Equinix as well. The joint billing model ensures that if customers have purchased the PAYG SKUs through Cisco, then any services being brought up using Catalyst SD-WAN Manager will be billed by Cisco. Also, if customers have not purchased through Cisco or if they use the Equinix portal to provision services, then they will continue to be billed by Equinix directly.

Q: How are the different Cisco and Equinix components deployed together?

A: Complete end-to-end connectivity is configured through Cisco Catalyst SD-WAN:

- Provision Network Edge at Equinix, and apply the Catalyst 8000V license on the Network Edge.
- Create the connections at Equinix with the required bandwidth and choice of regions.
- Establish connections to cloud service providers, like AWS, Google Cloud, and Microsoft Azure, as needed.

Q: What are the licensing options available?

A: The PAYG licensing mechanism will require users to purchase PAYG ($0 licenses) SKUs from CCW through their partners. These PAYG license SKUs entitle users to bring up any Equinix services without requiring any term commitments upfront. This also allows users to dynamically expand or contract their network based on their day-to-day bandwidth requirements and be billed at the end of the month. A true consumption-based billing model enables you to pay only if you use the Equinix services, so there is no wastage, no overages, and truly dynamic access to your network. With no upfront commitments, the guesswork is taken out of determining the amount of bandwidth you need for the next year. Users are billed based on publicly available rates, for compute and bandwidth reserved on a daily basis. Pricing varies based on the region where the services are located and the size of compute and bandwidth of the Equinix Network Edges and Virtual Cross Connections, respectively. Users can also easily track their usage/consumption on their Subscription Billing Platform (SBP) portal.

Resources

Q: Where can I find more information on Cisco SD-WAN Cloud Interconnect with Equinix?

A: Cisco SD-WAN Cloud Interconnect with Equinix AAG.

Cisco SD-WAN and Equinix White Paper.

Cisco SD-WAN Cloud OnRamp.

Equinix Network Edge.

What is SDCI? webpage.

Cisco and Equinix partnership page.

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