



Cisco Catalyst 8000V Edge Software



Delivering cloud routing with rapid deployment and flexibility

The Cisco Catalyst™ 8000V Edge Software (Catalyst 8000V) is a cloud router providing network services in a virtualized form factor, built for deployment across a multicloud domain.

Optimized to serve as a single-tenant or multitenant WAN gateway, the Catalyst 8000V uses proven, industry-leading Cisco IOS® XE Software and SD-WAN networking and security features. The Catalyst 8000V enables enterprises to transparently extend their WANs into cloud service providers and external provider-hosted clouds.

Benefits

- **Rapid deployment and service automation:** Virtual form factor accelerates deployment and eliminates hardware costs such as complete equipment upgrades and Return Materials Authorizations (RMAs).
- **Single-tenant use:** Cloud service providers can provision a routing instance per tenant, simplifying service delivery and tenant management. It also helps the provider overcome VLAN scale limits, increasing tenant scale.

- **Enterprise network extension to the cloud:** Provides enterprises highly secure direct connections from their distributed sites to their cloud-hosted applications, improving application response time and user experience.
- **Network consistency:** Uses familiar enterprise-class Cisco IOS Software features for consistent network operation across premises and cloud, allowing the enterprise to view the cloud as just another node in its network.
- **Network scalability:** Enables scale beyond the limitations of 802.1q VLAN tagging by building a Virtual Extensible LAN (VXLAN) network or extending Layer 3 routing deeper into the cloud environment.
- **Consolidation of network functions:** Eliminates the facility requirements and complexity of physical network devices by consolidating multiple network functions onto a single piece of server hardware.
- **Highly secure VPN gateway:** Route-based IP Security (IPsec) VPNs, Dynamic Multipoint VPN (DMVPN), Secure Sockets Layer (SSL) VPN, and FlexVPN, along with the Cisco IOS Zone-Based Firewall and access control, enable an enterprise to connect distributed sites directly to its cloud deployment.
- **Multiprotocol Label Switching (MPLS) extension:** This MPLS customer-edge or provider-edge router enables a service provider to offer a customer end-to-end managed connectivity. Also, by extending the MPLS WAN deeper into the cloud, the provider can increase tenant scale.
- **IP mobility and virtual-machine migration:** Locator/ID Separation Protocol (LISP) enables an enterprise to maintain addressing consistency when moving applications into the cloud. Overlay Transport Virtualization (OTV) enables an enterprise to extend Layer 2 VLANs from data center to cloud.
- **Traffic control and redirection:** The Cisco Catalyst 8000V includes networking services such as Hot Standby Router Protocol (HSRP) and Cisco Application Visibility and Control (AVC), enabling a cloud tenant to receive a comprehensive networking experience.
- **VXLAN gateway:** You can expand network scalability by using VXLAN isolation instead of 802.1q VLANs.

Use cases

The Cisco Catalyst 8000V is a software router that an enterprise or cloud provider, including public, private, and hybrid cloud, can deploy as a Virtual Machine (VM) in a provider-hosted cloud (Figures 1 and 2) for the following uses:

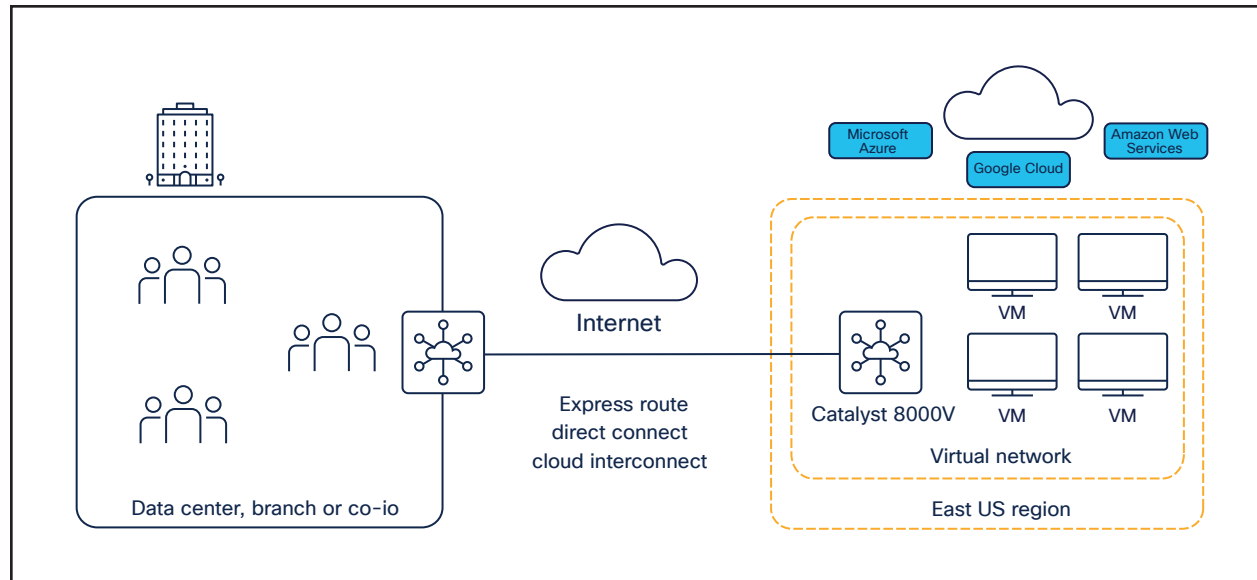


Figure 1. Cisco Catalyst 8000V positioned as a secure gateway in a cloud provider

Features

- **Routing:** Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Policy-Based Routing, IPv6, Virtual Route Forwarding Lite (VRF-Lite), Multicast, LISP, and Generic Routing Encapsulation (GRE).
- **SD-WAN:** The Catalyst 8000V is optimized for Cisco Catalyst SD-WAN, a set of intelligent software services that allows you to connect users, devices, branch office locations, and cloud deployments reliably and securely across a diverse set of WAN transport links.
- **Addressing:** Dynamic Host Configuration Protocol (DHCP), DNS, Network Address Translation (NAT), 802.1Q VLAN, Ethernet Virtual Connection (EVC), and VXLAN.
- **VPN:** IPsec VPN, DMVPN, SSL VPN, and FlexVPN.
- **MPLS:** MPLS VPN, VRF, and Bidirectional Forwarding Detection (BFD).
- **Security:** Cisco IOS Zone-Based Firewall (ZBFW); Access Control List (ACL); Authentication, Authorization, and Accounting (AAA); RADIUS; TACACS+; Snort IDS/IPS; and URL filtering.
- **High availability:** HSRP, Virtual Router Redundancy Protocol (VRRP), Gateway Load Balancing Protocol (GLBP), and box-to-box high availability for ZBFW and NAT.
- **Traffic redirection:** Application visibility, performance monitoring, and control: Quality of Service (QoS), AVC, and IP Service-Level Agreement (SLA).
- **Hybrid cloud connectivity:** OTV, Virtual Private LAN Service (VPLS), and Ethernet over MPLS (EoMPLS).
- **Management:** Command-Line Interface (CLI), Secure Shell (SSH) Protocol, Cisco Catalyst SD-WAN Manager, NetFlow, Simple Network Management Protocol (SNMP), Embedded Event Manager (EEM), and NETCONF/RESTCONF programming interfaces.
- **NFV:** Virtual Route Reflector (vRR).
- **Multicloud domain:** The Catalyst 8000V can run on Cisco Unified Computing System™ (Cisco UCS®) servers or servers from leading vendors that support VMware ESXi or Red Hat KVM. The Catalyst 8000V is also offered on the Amazon Web Services cloud, Microsoft Azure cloud, and Google Cloud.

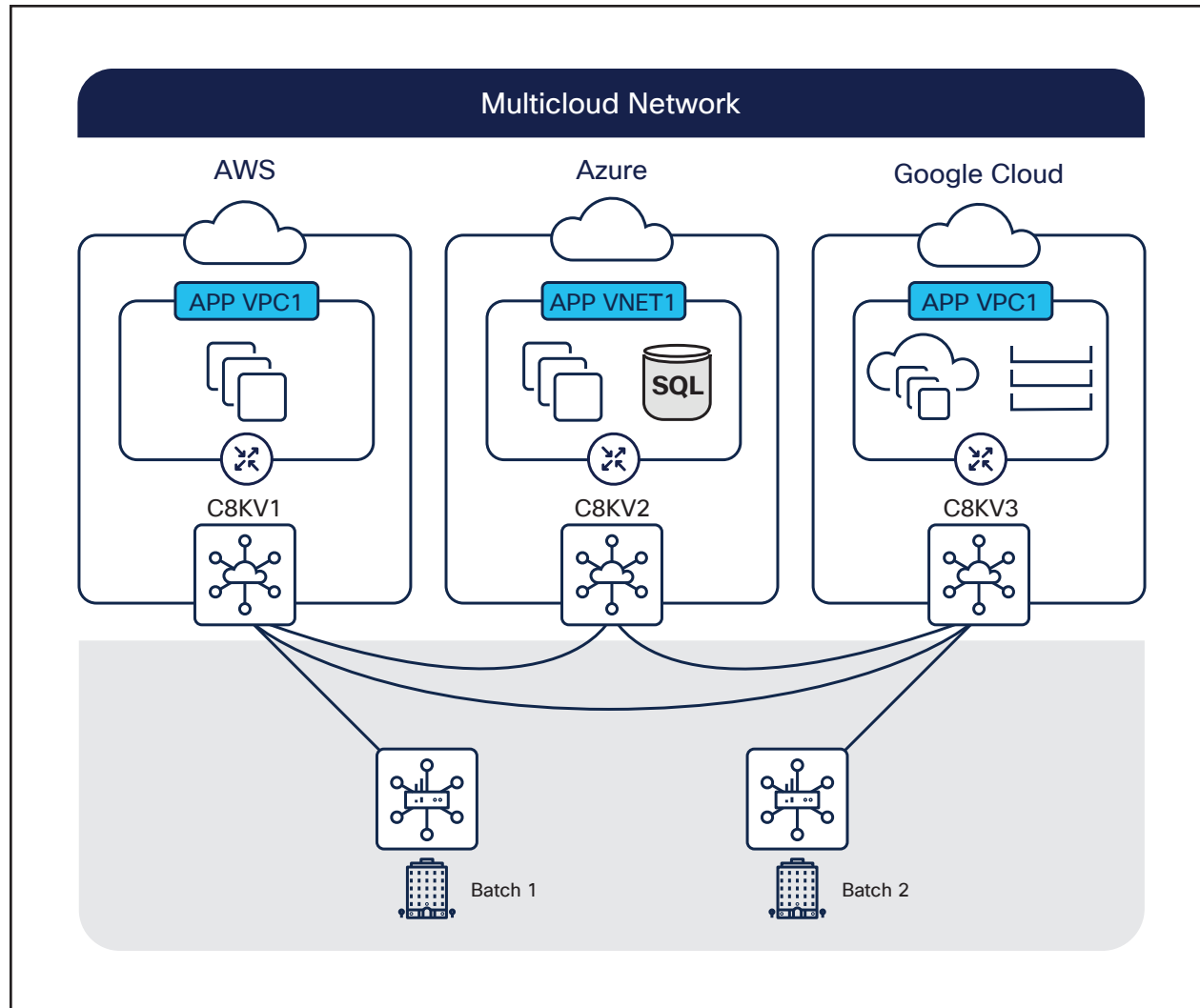


Figure 2. Cisco Catalyst 8000V positioned as a cloud router in multicloud domain

Cisco DNA Software

Get licensing and support for the Cisco Catalyst 8000V and Cisco Catalyst SD-WAN with flexible subscriptions. <https://www.cisco.com/site/us/en/products/networking/wan-software/dna-subscription-wan/index.html>.

Cisco CX

Accelerate your success with services from Cisco Customer Experience (CX). Now you can adopt SD-WAN with ease and confidence, thanks to our trusted expert resources. <https://www.cisco.com/c/en/us/products/routers/service-listing.html>.

Next steps

For more information about the Cisco Catalyst 8000V, visit: <https://www.cisco.com/c/en/us/products/routers/catalyst-8000v-edge-software/index.html>.

Try it free for 30 days: <https://www.cisco.com/c/en/us/solutions/enterprise-networks/promotions-free-trials/catalyst-8000v-free-trial.html>.

To view buying options and speak with a Cisco sales representative, visit: <https://www.cisco.com/c/en/us/buy.html>.