

## Product Highlights

### Arista CloudEOS Router - VM

- Cloud-grade routing optimized for Enterprise WAN and MultiCloud
- Brings Infrastructure as Code to the cloud network
- Multi-Cloud Segmentation with Cloud Network Private Segments
- Pay as You Go (PAYG) Cloud Consumption via Cloud Marketplace
- High Performance Data Plane with Intel Data Plane Developer Kit
- Industry-leading programmability and automation features
- Full Access to Linux shell and tools, including cloud-native APIs

### Hypervisors Supported

- VMware ESXi
- KVM

### Cloud Provider Platforms

- Equinix Network Edge
- Equinix Bare Metal
- Amazon Web Services
- Microsoft Azure
- Google Cloud Platform

### Routing Highlights

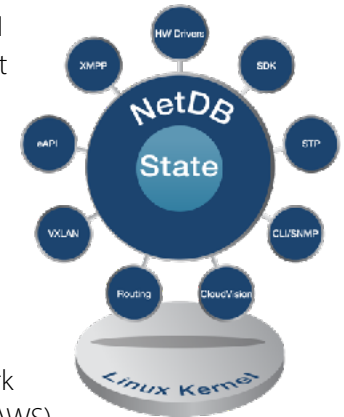
- Layer-3 routing
- Dynamic Path Selection and Inband Path Telemetry
- AutoVPN / IPsec VPN
- Network Address Translation (NAT)
- Cloud High Availability (HA)
- EOS API (eAPI) and SDK
- SNMP and IPFIX

### Provisioning & Monitoring

- Terraform Template Deployment
- Multi-Cloud Network Visualization
- Event monitoring & management
- State Streaming Telemetry and Cloud Tracer™
- GREenSPAN Port Mirroring

## Overview

The Arista CloudEOS Router VM is a cloud-grade, feature-rich, multi-cloud and multi-hypervisor virtual router that empowers enterprises to build consistent, highly secure and scalable enterprise WAN and multi-cloud networks. Already proven in the most demanding public cloud infrastructures, Arista CloudEOS Router extends the Arista EOS platform into the virtualized environment, including Transit Hub to accelerate site to site, and site to cloud connectivity, as well as connecting into a multi cloud environment.



Arista CloudEOS Router is featured on Equinix Network Edge and Bare Metal Services, Amazon Web Service (AWS), Microsoft Azure, Google Cloud Platform and other public clouds. It is also supported on customer equipment running Linux and VMware hypervisors. Arista CloudEOS Router fully integrates with Arista CloudVision to simplify the experience of interconnecting and managing enterprise WAN and multi-cloud networks. Leveraging a network-wide approach for workload orchestration and workflow automation together with advanced network telemetry and Auto VPN, it provides a consistent, secure and universal approach to multi-cloud networking.

Arista CloudEOS Router provides the following features and benefits:

**AutoVPN and Dynamic Path Selection (DPS):** CloudEOS Router can auto-discover its peers in the network and automatically establishes the DPS tunnel across any transport circuits. The DPS tunnel can be secured with IPsec encryption. CloudEOS measures each DPS tunnel with network latency, jitter, bandwidth, drop rate and MTU to determine the best path(s) for customer's different applications. If multiple best paths exist, traffic will be load balanced on a per flow basis. This allows customers to scale the network capacity up and down to meet application needs.

**Declarative Provisioning and Deployment:** Arista CloudEOS enables declarative provisioning and deployment of cloud networks through Terraform. Customers choose desired network architectures from Terraform templates repository, which is built and maintained by Arista, or customize the templates to best suit the customer's environment. The provisioned cloud networks automatically join customers existing network via a secure channel, ready to take on traffic.

**High Available Architecture:** Architected for resiliency, CloudEOS Router cloud API integration ensures automated resiliency and path recovery using industry-standard Bidirectional Forwarding Detection (BFD) with standard BGP or OSPF routing to detect and mitigate failures.

**Simplified Management, Monitoring and Reporting:** CloudEOS Router is managed through a Command Line Interface (CLI), APIs or CloudVision. It also presents comprehensive real-time telemetry information.

## CloudEOS Router - VM Use Cases

Whether on premises or in the cloud, the Arista CloudEOS Router helps enterprises and service providers build the best possible multi-cloud networks without compromising on security, reliability, and performance. Customers can use Arista CloudEOS Router and CloudVision for a myriad of use cases including but not limited to:

### Transit Hub to Accelerate Enterprise WAN

Arista introduces the transit hub concept that utilizes the cloud-neutral facilities' network backbone (like Equinix) to deliver superior performance for the enterprise application, especially across different geographic locations. The Transit Hub includes the Arista CloudEOS Router deployed within the Equinix's Network Edge and Bare Metal platforms to terminate the connections from on-premises environments such as data center, campus, branch, as well as connectivities into the public cloud. Equinix Fabric is used to connect different Arista Transit Hubs for high performance hub to hub communications. The Arista Transit Hub constantly monitors the application performance using Inband Network Telemetry (INT) and decide which path the traffic should go to in order to deliver the application experience.

### Secure Cloud Edge with AWS Transit Gateway (TGW)

Arista CloudEOS Edge integrates with the native networking service from the cloud provider, like AWS Transit Gateway (TGW). It allows customers to standardize the AWS edge connectivity, use Arista built Terraform template and CloudVision to automate the deployment of GRE tunnel and dynamic routing between TGW Connect attachment and CloudEOS Edge instances. It also extends AWS segmentation (route domain) into enterprise network that Dev VPC can only reach the Dev VNET in Azure, but not Prod VNET so that end to end isolation is in place. Customer could use CloudVision Multi Cloud Dashboard to visualize and manage the TGW network including monitoring traffic statistics, GRE tunnel status and etc.

### Multi Cloud Path Optimization

As enterprise customers are accelerating the multi-cloud journey, it requires a faster, robust and elastic network between multiple clouds to keep up with the business needs. Dedicated circuits like AWS Direct Connect, Azure Express Route, Google Cloud Interconnect and Equinix Cloud Exchange could bring stable transport into the cloud, but oftentimes it lacks flexible network policy and has incomplete network visibility, which takes longer time to set up and makes troubleshooting harder. The situation could be more complex when more customers want to leverage the Internet to serve best-effort, non-business critical applications. Arista CloudEOS, with Dynamic Path Selection and Inband Network Telemetry, allows customers to deliver business SLAs continuously in case of circuit outage, and scale the network capacity up and down to meet application needs with low OpEx.


### Consistent Multi Cloud Segmentation

Arista CloudEOS allows customers to extend existing network segments from the campus, data center to the public cloud. Customers can map cloud networks to one or multiple network segments during resource creation. Data come in and out of a cloud network will be tagged with a segment identifier, which will be carried throughout the customer's network. Intra-segment communication is allowed by default, inter-segment communication can be centrally terminated and inspected on a cluster of virtual next-generation firewalls.

## System Requirements:

Arista CloudEOS Router can be deployed on Arista physical appliance, standard x86 servers with below minimum requirements and public clouds (AWS, Azure, GCP).

Attributes	Requirements
Minimum Server Requirements	<ul style="list-style-type: none"> <li>Intel x86</li> <li>4 cores running at 2.4GHz or greater</li> <li>16 GB memory</li> <li>Intel VT-d support</li> </ul>
Network Card Support	<ul style="list-style-type: none"> <li>Intel X710, X520 and 82599</li> </ul>
Hypervisor Support	<ul style="list-style-type: none"> <li>KVM (RedHat Enterprise Linux version 7.0-7.4)</li> <li>VMware (ESXi version 5.5, 6.0 and 6.5)</li> </ul>
Cloud Platforms support	<ul style="list-style-type: none"> <li>Equinix Network Edge (4 cores and 8 cores)</li> <li>Equinix Bare Metal</li> <li>Amazon Web Services (C5 instance types, Enhanced Networking)</li> <li>Microsoft Azure Public Cloud (Dv2 series, Accelerated Networking)</li> <li>Google Cloud Platform (N1-Standard VMs)</li> </ul>
Virtual Machine	<ul style="list-style-type: none"> <li>2 vCPUs</li> <li>8 GB memory</li> </ul>

CloudEOS Router Appliance	Descriptions
Physical Appliance Platform Specifications for DCA-200-VEOS 	<ul style="list-style-type: none"> <li>CPU: Two Intel Xeon 10 Core, 2.2GHz</li> <li>DRAM: 64GB (Two 32GB)</li> <li>Hard Drives: 3.2TB (Four 2TB SATA)</li> <li>Network Interfaces: 4x1G, 4x10G (2x Dual port 10G NIC with PCI-Passthrough and SR-IOV), Dedicated IPMI port</li> <li>Power Supply: Dual, Hot-plug, Redundant Power Supplies (1+1), 550W</li> <li>Power Cord: C13 to C14, PDU Style, 12A, 2 Feet (North America)</li> <li>Dimensions (HxWxD): 1.75"x19"x24" (4.45cm x 48.26cm x 60.96cm)</li> <li>Weight: 46.5 lbs (21.1 kg)</li> <li>Remote management: iDRAC controller (with web UI) and IPMI</li> </ul>
Physical Appliance Software	The DCA-200-VEOS ships with supported operating system and CloudEOS Router image.

## Layer-3 Routing Features

- Routing Protocols: OSPFv2, BGPv4, IS-IS, and RIPv2
- Dynamic Path Selection
- Inband Path Telemetry
- Equal-Cost Multi-Path Routing (ECMP)
- Virtual Router Redundancy Protocol (VRRP)
- Route Reflector (BGP RR AF IPv4)
- Network Address Translation (NAT)
- Generic Routing Encapsulation (GRE)
- Bidirectional Forwarding Detection (BFD)
- 802.1AB Link Layer Discovery Protocol
- Quality of Service (QoS)
- DHCP Server

## Security Features

- Auto-VPN
- IPSec VPN
- Ingress/Egress ACLs using L3, L4 fields
- ACL Logging and Counters
- Port-based DOS Protection (PDP)
- Role Based Access Control (RBAC)
- TACACS+, RADIUS Auth., Authorization and Accounting
- AWS Key Authentication for Management Interface

## VXLAN Features

- VXLAN Routing
- BGP L3 EVPN (Type 5) v4

## Advanced Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- Integrated packet capture/analysis (tcpdump/libpcap)
- GREenSPAN (GRE SPAN)
- IPFIX

## Extensibility

- Advanced Event Management (AEM)
  - CLI Scheduler
  - Event Manager
  - Event Monitor
- Linux Tools
  - Bash shell access and scripting
  - RPM support
- DevOps/NetOps Tool Support
  - CloudVision
  - Ansible/Chef/Puppet/Salt
  - ServiceNow
- Programmatic access to network-wide state
  - Python, C++, Go

## SNMP MIBs

- RFC 4750 OSPF-MIB
- RFC 4273 BGP4-MIB
- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 2863 IF-MIB
- RFC 2790 HOST-RESOURCES-MIB
- RFC 2096 IP-FORWARD-MIB
- RFC 2013 UDP-MIB
- RFC 2012 TCP-MIB
- RFC 2011 IP-MIB
- RFC 6353 SNMP-TLS-TM-MIB
- RFC 5591 SNMP-TSM-MIB
- VRRPV2-MIB
- RFC 2787 VRRPv2MIB
- LLDP-MIB
- LLDP-EXT-DOT1/3-MIB
- HOST-RESOURCES-MIB
- ENTITY-STATE-MIB
- ENTITY-MIB
- ARISTA-VRF-MIB
- ARISTA-SW-IP-FORWARD-MIB
- ARISTA-SNMP-TRANSPORTS-MIB
- ARISTA-SMI-MIB
- ARISTA-QUEUE-MIB
- ARISTA-PRODUCTS-MIB
- ARISTA-PFC-MIB
- ARISTA-IF-MIB
- ARISTA-DAEMON-MIB
- ARISTA-CONFIG-MAN-MIB
- ARISTA-CONFIG-COPY-MIB
- ARISTA-BGPV4V2-MIB
- ARISTA-ACL-MIB
- User configurable custom OIDs

## SNMP TRAPS

- Authentication Failure trap, linkUp, LinkDown, coldStart, nsNotifyRestart, entConfigChange, entStateOperEnabled, entStateOperDisabled, VRRP, OSPF, and BGP supported.
- Additional event traps and log messages can be generated through AEM and eAPI scripting.

\*Contact Arista to verify availability of these features on your cloud platform.

Please note that system requirements and features supported on CloudEOS Router are different than on vEOS-lab, which is a software product intended only for simulation and testing purposes.

## Arista CloudEOS Router - VM Ordering Information

Product Number	Product Description
SS-CLOUDEOS-VR-CV-1G-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month for up to 1G throughput, includes routing, IPSec, A-care Support, and 1-Month CloudVision for single instance
SS-CLOUDEOS-VR-CVS-1G-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month up to 1G throughput, includes routing, IPSec, and Support, 1-Month CloudVision as-a-Service for single instance
SS-CLOUDEOS-VR-CV-10G-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month for up to 10G throughput, includes routing, IPSec, A-care Support, and 1-Month CloudVision for single instance
SS-CLOUDEOS-VR-CVS-10G-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month up to 10G throughput, includes routing, IPSec, and Support, 1-Month CloudVision as-a-Service for single instance
SS-CLOUDEOS-RR-CV-10M-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month, up to 10M routes with virtual route reflector feature, A-care Support, and 1-Month CloudVision for single instance
SS-CLOUDEOS-RR-CVS-10M-B-1M	CloudEOS Router for VM/Cloud SW Sub Lic for 1-Month, up to 10M routes with virtual route reflector feature, A-care Support, and 1-Month CloudVision as-a-Service for single instance

CloudEOS Router Physical Appliance is available via the following offerings:

Product Number	Product Description
DCA-200-VEOS	1 unit vEOS/CloudEOS Physical Appliance, Model 200. vEOS/CloudEOS subscription license not included.
SVC-DCA-200-VEOS-NBD	1 Month A-Care Software & NBD Hardware Replacement/Same Day Ship for DCA-200-VEOS Appliance

## Service and Support

Arista A-Care service offerings are available to provide you with world-class support when you need it. A-Care service offerings provide coverage for all Arista products including CloudVision. For more details see: <http://www.arista.com/en/service>

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