Product Highlights

Arista vEOS

- EOS for Virtual Machines
- Enable flexible network designs with virtual devices
- Fine-grained truly modular network OS
- Full Access to Linux shell and tools
- Extensible platform - bash, python, C++

Hypervisor Support

- VMware ESX
- KVM
- Oracle Virtual box

Feature Support

- Layer-2 bridging
- Layer-3 routing
- Advanced Layer-2/3 features
- Multicast
- VXLAN bridging and gateway
- Bash access
- Linux tools
- eAPI
- OpenStack
- Programmatic access to system state
- SNMP

Advanced Provisioning & Monitoring

- Zero Touch Provisioning (ZTP)
- Port Mirroring
- Event Monitoring
- Packet Capture Analysis

Overview

Arista EOS is a software platform designed to provide a foundation for the business needs of next-generation data centers and cloud networks. Arista EOS is a modular switch operating system with a unique state sharing architecture that cleanly separates switch state from protocol processing and application logic. Built on top of a standard Linux kernel, all EOS processes run in their own protected memory space and exchange state through an in-memory database. This multi-process state sharing architecture provides extremely robust and reliable data center communication services while delivering security, stability, openness, modularity and extensibility.

The vEOS extends same the EOS platform from Arista's award winning physical switching product line to the VM-based hypervisor platforms. With vEOS, Arista goes beyond APIs and development environments to make a programmable network accessible for any organization in a virtual environment. Customers can use vEOS for network design and validation of EOS images, rapid development and testing of EOS, and as a tool for training initiatives.

Network Design and Validation

vEOS enables you to create and run replicas of physical networks within the risk-free virtual environment. Virtual networks created with vEOS can be used for network modeling, planning for new services, or validating new features and functionality for the installed network. vEOS is not a network simulator but the exact EOS implementation that runs on the hardware platforms. As such, vEOS enables virtual networks to interoperate with real world network elements. vEOS provides flexibility and agility by allowing customers to easily scale up or down the size of their virtual network and simplifies configuration changes.

Rapid Development and Testing with vEOS

With vEOS, customers can develop applications and certify EOS in a virtual network environment and diminish the need for physical switches for test and certification. Virtual networks created through vEOS can be used to simulate network events, validate control plane behavior and qualify third party tools and partners. This is a speedier and more cost effective alternative to legacy approach, which often spans many month and involves costly lab expenses.

Training

vEOS can be used as a cost effective, easy to deploy tool for training with the EOS platform.   It can scale from a single system to gain basic understanding up to complete lab ecosystem with access to variety of partner tools in addition to EOS network elements. The simplicity and flexibility of a VM-based image provides an easy approach to learn the various EOS features and troubleshooting techniques.

Since vEOS is EOS designed for Virtual Machine, it offers the same capabilities and benefits like software fault containment and Stateful Fault Repair of EOS. Every EOS software image is released along with corresponding vEOS image. vEOS image retains all platform independent features of EOS within a software release and has additional ASIC and driver software simulators that along with the kernel enables software forwarding of packets. While vEOS is designed to run on all hypervisors, it is recommended to run it on VMware ESX, KVM and Oracle Virtualbox.
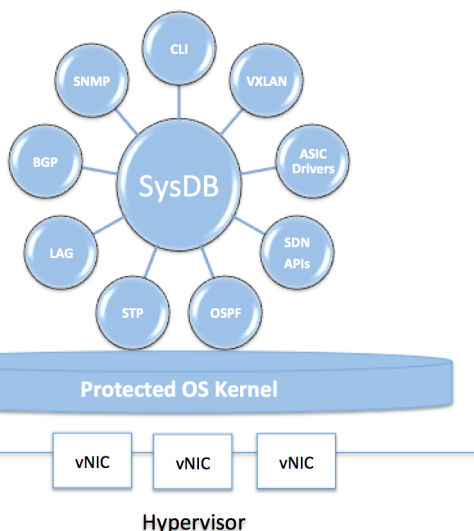
Layer 2 Features

- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- Rapid Per Vlan Spanning Tree (RPVST+)
- VLANs
- 802.3ad Link Aggregation/LACP
- MLAG (Multi-Chassis Link Aggregation)
- 802.1Q VLANs/Trunking
- 802.1AB Link Layer Discovery Protocol
- Jumbo Frames (9216 Bytes)
- IGMP v1/v2/v3 snooping
- Storm Control *

Layer 3 Features

- Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and RIPv2
- Equal Cost Multipath Routing (ECMP)
- IGMP v2/v3
- PIM-SM / PIM-SSM
- Anycast RP (RFC 4610)
- MSDP
- VRRP
- Virtual ARP (VARP)
- Policy Based Routing (PBR)
- Route Maps
- MPLS *

Advanced Monitoring and Provisioning

- Zero Touch Provisioning (ZTP)
- Port Mirroring
- Enhanced Remote Port Mirroring *
- SPAN/TAP M:N Aggregation *
- L2/3/4 Filtering *
- Advanced Event Management suite (AEM)
- CLI Scheduler
- Event Manager
- Event Monitor
- Linux tools
- Integrated packet capture/analysis with TCPDump
- RFC 3176 sFlow
- IEEE 1588 PTP
- OpenFlow

Virtualization Support

- VXLAN Gateway (draft-mahalingam-dutt-dcops-vxlan-01)
- VXLAN Routing *
- VXLAN Bridging
- VXLAN Tunnel Endpoint
- VM Tracer VMware Integration
    - VMware vSphere support
    - VM Auto Discovery
    - VM Adaptive Segmentation
    - VM Host View

Extensibility

- Linux Tools
    - Bash shell access and scripting
    - RPM support
    - Custom kernel modules
- Programmatic access to system state
    - Python
    - C++
- Native KVM/QEMU support

Standards Compliance

- 802.1D Bridging and Spanning Tree
- 802.1p QOS/COS
- 802.1Q VLAN Tagging
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree Protocol
- 802.1AB Link Layer Discovery Protocol
- 802.3ad Link Aggregation with LACP
- 802.3ab 1000BASE-T
- 802.3z Gigabit Ethernet
- 802.3ae 10 Gigabit Ethernet
- 802.3ba 40 Gigabit Ethernet
- RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
- RFC 4861 Neighbor Discovery for IP Version 6 (IPv6)
- RFC 4862 IPv6 Stateless Address Autoconfiguration
- RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification

SNMP MIBS

- RFC 3635 EtherLike-MIB
- RFC 3418 SNMPv2-MIB
- RFC 2863 IF-MIB
- RFC 2864 IF-INVERTED-STACK-MIB
- RFC 2096 IP-FORWARD-MIB
- RFC 4363 Q-BRIDGE-MIB
- RFC 4188 BRIDGE-MIB
- RFC 2013 UDP-MIB
- RFC 2012 TCP-MIB
- RFC 2011 IP-MIB
- RFC 2790 HOST-RESOURCES-MIB
- RFC 3636 MAU-MIB
- LLDP-MIB
- LLDP-EXT-DOT1/3-MIB
- ARISTA-QUEUE-MIB
- RFC 4273 BGP4-MIB
- RFC 4750 OSPF-MIB
- ARISTA-CONFIG-MAN-MIB
- RFC 2787 VRRPv2MIB
- MSDP-MIB
- PIM-MIB
- IGMP-MIB
- IPMROUTE-STD-MIB
- SNMP Authentication Failure trap
- User configurable custom OIDs

* Not currently supported in vEOS

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