Cisco Application Centric Infrastructure Virtual Edge

Cisco® Application Centric Infrastructure Virtual Edge is a hypervisor-agnostic node that handles switching and policy enforcement for the Cisco Application Centric Infrastructure (Cisco ACI™) solution. Virtual Edge is architected to run on any hypervisor and offers a consistent feature set with no dependency on proprietary vendor APIs.

Cisco ACI Virtual Edge is virtual network edge offering of the Cisco ACI portfolio and the next generation of Cisco Application Virtual Switch software. Virtual Edge extends the Cisco ACI policy model, security, and visibility to virtual infrastructure and provides policy consistency for the virtual domain.

Virtual Edge extends the Cisco ACI policy model to existing infrastructure, providing investment protection. It eliminates the VLAN configuration burden in blade and Fabric Interconnect deployments, reducing OpEx and time to value. Virtual Edge also enables Cisco ACI to be extended to bare metal clouds and offers consistent policies across on-premises and cloud applications.

Cisco ACI Virtual Edge is feature rich to meet virtual networking requirements of on-premises and cloud deployments. Table 1 describes some of the highlights.

Table 1. Cisco ACI Virtual Edge features

Feature	Description
Systemwide application visibility and troubleshooting	• Cisco Switched Port Analyzer (SPAN) and Encapsulated Remote SPAN (ERSPAN) support • Bridge Protocol Data Unit (BPDU) guard • BPDU filter
Application network profiles	Logical representation of all components of the application and their interdependencies in the application fabric
Policy	Policy and contract enforcement using ACI leaf switch
Monitoring	• virtual Network Interface Cards (vNICs) • Received and transmitted ingress and egress packets • Broadcast, multicast, and dropped packets • Packets and bytes • VLAN and bridge domain statistics • Uplink and virtual Ethernet statistics • Ingress and egress counters
Virtualization integration	• VMware ESXi and vSphere • Automated creation of port groups for VLAN and Virtual Extensible LAN (VXLAN) mapped to Endpoint Groups (EPGs) • VMware vMotion movement between fabric-connected hosts

Feature	Description
Secure east-west traffic	• Provides microsegmentation and distributed firewall functionality to secure east-west traffic
Upgrade	Upgrade using Cisco ACI Fabric vCenter plug-in
Centralized management	Use of Cisco APIC to configure, manage, and troubleshoot system
Security	• Permit, deny, and taboo (blacklist) lists and application-centric whitelist policy model for securing virtual applications • EPG policy filtering (source EPG, destination EPG, and Layer 4 ports) at the physical fabric • Secure multitenancy at scale built into Cisco ACI fabric • Built-in distributed Layer 4 security integrated into Cisco ACI fabric to secure east-west traffic • Security policies automated to move as workloads are moved in the data center
Layer 2 features	• Layer 2 switch ports and VLAN trunks • IEEE 802.1q VLAN encapsulation • Jumbo-frame support, up to 9216 bytes
VXLAN	• Scalable network isolation • Port statistics • Port security
Services	L4 –L 4 services support with service graphs
Cisco ACI Fabric vCenter plug-in	Cisco ACI Fabric web client plug-in for ease of installation and upgrade
VMware vSphere feature compatibility	• VMware vMotion • VMware Distributed Resource Scheduler (DRS) • VMware High Availability (HA) • VMware Storage vMotion • VMware Update Manager

Scale

Please refer to the ACI scalability guide

Compatibility and system requirements

Cisco ACI Virtual Edge is compatible with any server hardware listed in the VMware Hardware Compatibility List.

Virtual Edge requires:

- 2 virtual CPUs
- 4 GB of RAM
- 8-GB hard drive

Cisco ACI Virtual Edge is supported with VMware ESXi Hypervisor release 6.0 and later.

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