Cisco ACI Virtual Edge Release Notes, Release 1.2(9b)

This document describes the features, bugs, and limitations for the Cisco Application Centric Infrastructure (ACI) Virtual Edge Switch software.

Note: Use this document in combination with the Cisco Application Policy Infrastructure Controller (APIC) Release Notes, which you can view at the following location:

http://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html

Release notes are sometimes updated with new information about restrictions and bugs. See this website for the most recent version of this document.

Table 1 shows the online change history for this document.

Table 1 Online History Change

Date	Description
2019-12-13	Cisco ACI Virtual Edge Release 1.2(9b) became available.

Contents

This document includes the following sections:

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About Cisco ACI Virtual Edge

Cisco ACI Virtual Edge is a hypervisor-independent distributed service virtual machine (VM) that is specifically designed for Cisco ACI. It leverages the native distributed virtual switch that belongs to the hypervisor. Cisco ACI Virtual Edge runs in the user space, operates as a virtual leaf, and is managed by Cisco APIC. If you use Cisco AVS, you can migrate to Cisco ACI Virtual Edge; if you use VMware VDS, you can run Cisco ACI Virtual Edge on top of it.

Cisco ACI Virtual Edge supports two modes of traffic forwarding: local switching and no local switching. The forwarding mode is selected during Cisco ACI Virtual Edge installation.

Cisco ACI Virtual Edge is supported as a vLeaf for Cisco APIC with the VMware ESXi hypervisor. It manages a data center defined by the VMware vCenter Server.

Cisco ACI Virtual Edge is compatible with any upstream physical access layer switch that complies with the Ethernet standard, including Cisco Nexus switches. Cisco ACI Virtual Edge is compatible with any server hardware listed in the *VMware Hardware Compatibility Guide* on the VMware website.

Cisco ACI Virtual Edge Software Compatibility

Hypervisor Compatibility

Cisco ACI Virtual Edge Release 1.2(9b) is supported as a vLeaf for Cisco APIC with releases 6.0 and later versions of the VMware ESXi hypervisor.

Cisco ACI Virtual Edge and Cisco APIC Compatibility

Cisco ACI Virtual Edge Release 1.2(9b) is compatible with Cisco APIC 3.2(9b) and later versions.

See the Cisco APIC and ACI Virtual Edge Support Matrix for details.

Virtualization Compatibility Information

The Cisco ACI Virtualization Compatibility Matrix provides interoperability information for Cisco ACI components and configurations that have been tested and validated by Cisco, by Cisco partners, or both.

Compatibility and Upgrade/Downgrade Considerations

Support Matrix

The Cisco APIC Versus ACI Virtual Edge Support Matrix is an interactive tool that enables you to choose an APIC version and view the compatible Cisco ACI Virtual Edge, vSphere, and compatible Cisco APIC versions.

ACI Virtual Edge Upgrade Method

You must use the Cisco ACI vCenter plug-in to upgrade Cisco ACI Virtual Edge. See the chapter "Cisco ACI Virtual Edge Upgrade" in the Cisco ACI Virtual Edge Installation Guide on Cisco.com for upgrade instructions.

Number of IP Addresses when Upgrading Cisco ACI Virtual Edge

If you use static or DHCP IP pools and want to upgrade Cisco ACI Virtual Edge, ensure that you have enough IP addresses. There must be more IP addresses in the static or DHCP pools than there are the in the Cisco ACI Virtual Edge service VMs in the data center in VMware vCenter. Otherwise, the upgrade of the new Cisco ACI Virtual Edge will fail.

New Information

Cisco ACI Virtual Edge provides most of the functionality of the Cisco AVS solution, including support VLAN and VXLAN encapsulation, Microsegmentation with Cisco ACI, and Distributed Firewall. Cisco ACI Virtual Edge also provides near-seamless migration from Cisco AVS and VMware VDS.

Note: When you install or configure Cisco ACI Virtual Edge, you may see Cisco ACI Virtual Edge options labeled Cisco AVE or AVE.

This section describes new of changed features in the Cisco ACI Virtual Edge Release 1.2(7a) and Cisco APIC 3.2(2) and later. There are no new features in Cisco ACI Virtual Edge Release 1.2(9b).

VXLAN Load-Balancing

In Cisco APIC Release 3.2(7f), Cisco ACI Virtual Edge supports VXLAN load balancing. VXLAN load balancing is a built-in feature; no configuration is necessary to enable it. It is not available for Cisco ACI Virtual Edge when it is part of Cisco ACI vPod.

Extra interfaces have been added to accommodate VXLAN load balancing and improve performance. In VMware vCenter. New portgroups in VMware vCenter are assigned to the new uplinks.

For more information, see the section "VXLAN Load Balancing" in the *Cisco ACI Virtual Edge Configuration Guide*.

Support for Enhanced LACP

In Cisco APIC Release 3.2(7f), you can create multiple link aggregation (LAG) policies and determine which VMware vCenter portgroup uses which LAG policy. You can choose from 20 different load-balancing techniques when you create LAG policies. You can configure the enhanced LAG policy as a vSwitch policy only for Link Aggregation Control Protocol (LACP) passive or LACP active.

Note: If you want to use a Link Aggregation Control Protocol port channel with VMware DVS 6.6 and later, you must configure Enhanced LACP.

For more information, see the *Cisco ACI Virtual Edge Configuration Guide*.

VMware vSphere 6.7

Beginning with the Cisco APIC Release 3.2(2), VMware vSphere version 6.7 supports Cisco ACI Virtual Edge. VMware vSphere version 6.7 includes vCenter 6.7, ESXi 6.7, and DVS 6.6.

Limitations and Restrictions

For Cisco ACI Virtual Edge scalability information, see the *Verified Scalability Guide for Cisco ACI* for the relevant Cisco APIC release.

General

L3 Multicast is not supported on bridge domains with endpoints after AVE.

Hypervisor Availability

Cisco ACI Virtual Edge is available only on the VMware hypervisor at initial release.

VMware vSphere Support

Cisco ACI Virtual Edge is supported only on VMware vSphere 6.0 and later versions.

Cisco ACI Multi-Site Support

Cisco ACI Virtual Edge is not supported for Cisco ACI Multi-Site environments.

Cisco ACI Virtual Edge Deployment

- The server where you install Cisco ACI Virtual Edge must have an Intel Nehalem CPU or later. You also must set the cluster Enhanced vMotion Compatibility (EVC) to a Nehalem CPU or later. See the knowledge base article Enhanced vMotion Compatibility (EVC) processor support (1003212) on the VMware web site.
- We recommend that you install only one Cisco ACI Virtual Edge virtual machine (VM) on each host.
- Removing Cisco ACI Virtual Edge or the ESXi host from the VMware vCenter and then adding it back in is not supported. If you do that, Cisco ACI Virtual Edge loses password, infra VLAN, IP address, and other key configurations. You should instead delete the original Cisco ACI Virtual Edge and deploy a new one.
- After you deploy Cisco ACI Virtual Edge, if the Cisco ACI Virtual Edge VM is moved across VMware vCenter, all the configurations that you made during deployment are lost.

Management Interface IP Address

The Cisco ACI Virtual Edge management interface must have an IPv4 address. It can have an additional IPv6 address, but you cannot configure it with only an IPv6 address.

vMotion Support

vMotion is supported for endpoints but not supported for Cisco ACI Virtual Edge itself.

Note: After you migrate VMs using cross-data center VMware vMotion in the same VMware vCenter, you may find a stale VM entry under the source DVS. This stale entry can cause problems, such as host removal failure. The workaround for this problem is to enable "Start monitoring port state" on the vNetwork DVS. See the KB topic "Refreshing port state information for a vNetwork Distributed Virtual Switch" on the VMware Web site for instructions.

Features not Supported for Cisco ACI Virtual Edge with Multipod

The following features are not supported for Cisco ACI Virtual Edge with multipod in the Cisco APIC 1.2(9b) release:

- Storage vMotion with two separate NFS in two separate PODs

- ERSPAN destination in different PODs
- Distributed Firewall syslog server in different PODs

Pre-provisioning not Supported for EPG Resolution Immediacy

When you set EPG resolution immediacy, Cisco ACI Virtual Edge does not support pre-provisioning, which downloads a policy to a switch before the switch is installed.

Permission Denied for some Files on `vem-support` with Admin Login

When you log in as an administrator, you may be denied some files when you enter a `vem-support` command. However, you can get permission if you log in as root.

Brief Delay Possible When Switching EPG from Native to AVE Mode

Changing the switching mode from Native to AVE (Cisco ACI Virtual Edge) on an EPG requires changing the underlying switching platform from regular VMware DVS to Cisco ACI Virtual Edge. It also requires moving all the associated ports from DVS to Cisco ACI Virtual Edge.

This operation requires reprogramming of the port group associated with that EPG. That in turn requires a VMware vCenter operation. This operation may take a few seconds to complete and for ports to show up in forwarding state on the Cisco ACI Virtual Edge switching platform. The length of time depends on the VMware vCenter load as well as the number of endpoints that reside on the EPG that is being moved from Native to AVE mode.

Bugs

Using the Bug Search Tool

Use the Bug Search tool to search for a specific bug or to search for all bugs in a release.

1. Go to http://tools.cisco.com/bugsearch.
2. At the Log In screen, enter your registered Cisco.com username and password; then, click Log In. The Bug Search page opens.
   Note: If you do not have a Cisco.com username and password, you can register for them at http://tools.cisco.com/RPF/register/register.do.
3. To search for a specific bug, enter the bug ID in the Search For field and press Return.
4. To search for bugs in the current release:
   a. In the Search For field, enter a problem, feature, or a product name and press Return. (Leave the other fields empty.)
   b. When the search results are displayed, use the filter tools to find the types of bugs you are looking for. You can search for bugs by modified date, status, severity, and so forth.
5. To export the results to a spreadsheet, click the Export Results to Excel link.

Open Bugs

Table 2 lists the open bugs in Cisco ACI Virtual Edge Release 1.2(9b):

Table 2 – Open Cisco ACI Virtual Edge bugs

Bug ID	Headline
CSCvj58344	Stale endpoint: VM moves in and out of Cisco ACI Virtual Edge when OpFlex is down

The compatible Cisco APIC version contains bug fixes; see the Cisco APIC *Release Notes*.

Resolved Bugs

Table 3 lists the resolved bugs in the Cisco ACI Virtual Edge Release 1.2(9b):

Table 3 – Resolved Cisco ACI Virtual Edge bugs

Bug ID	Headline
CSCvg31917	Cisco ACI Virtual Edge: Latency is high on regular traffic when send broadcast in the network
CSCvh13297	Ports not freed and gets exhausted on continuous vMotion while moving between microsegments
CSCvi11265	Headless vMotion: Fails to attach EPs while existing EPs wait for inventory
CSCvi96625	Cisco ACI Virtual Edge is not correctly handling less than 60-byte Ethernet frame
CSCvj04695	Cisco ACI Virtual Edge fails to send epp igmp joins for more than 20 groups
CSCvj43931	Cisco ACI Virtual Edge has a stale endpoint when vMotion is done when TOR is down
CSCvj77484	Cisco ACI Virtual Edge domain not getting deployed on VMware vCenter
CSCvj89771	Cisco APIC shows vmmmgr core with proactive HA feature when VMware vCenter is disconnected
CSCvj96267	169.x.x.x vmk IP address causes F606392 fault to be raised
CSCvk07804	Cisco ACI Virtual Edge deployment with PowerCLI not putting the host back in maintenance mode
CSCvk15477	Cisco ACI Virtual Edge moves to different host when we power off to enter host in maintenance mode
CSCvk24509	Stale compPendEp object after lsnode switchover
CSCvp28418	Cisco AVS to Cisco ACI Virtual Edge migration wizard failed to deploy the Cisco ACI Virtual Edge VM using the VMware vCenter plug-in
CSCvp70455	Need to block VLAN traffic coming from uplink to internal port groups
CSCvp89562	Cisco ACI Virtual Edge goes into a bad state so that even the console or SSH doesn't work.
CSCvp97666	Cisco ACI 3.2.3n : vmmmgr cored
CSCvq04476	Cisco ACI vCenter plug-in: Uninstall not working; plug-in remains present in the GUI
CSCvq34172	Cisco ACI Virtual Edge: Jumbo frames fail with VMware ESXi 6.7U2
CSCvq38562	Rogue LLC packets generated within ESXi host cause Cisco ACI Virtual Edge control plane instability
CSCvq51338	Stale IDEps remain after EPs moved after Cisco ACI Virtual Edge shutdown in the Src Host
CSCvq99246	VMware 6.7.0.3 vmm process cores while attempting to VMM Integration
CSCvr41750	vmmmgr not ignoring past resync request causing constant inventory sync
CSCvr05720	Cisco ACI Virtual Edge // serverports stuck in WAIT_ATTACH_ACK after vMmotion
CSCvs19462	New sessions are not established from VM behind Cisco ACI Virtual Edge

Known Behaviors

vMotion Failure Causes Silent Host to Stay Detached

When you move a port with vMotion, and an external problem, such as a networking or storage failure, occurs, the port is detached on the source host. If the port is sending packets, it will be re-attach immediately; however, for a silent host, the port remains detached until it sends some traffic.

You can bring back the silent port by detaching and reattaching it in VMware vCenter. Or you can bring the silent host back by sending some token traffic.

Bulk vMotion of Ports Incurs Port Delays

When you do a bulk vMotion of 50 or more ports, the ports take additional time to come up and start forwarding traffic. You may see delays of 30 seconds to 2 minutes for the last port to come up when you move 300 ports. However, some ports at the front of the vMotion queue begin forwarding traffic much earlier.

You can avoid this problem by limiting the number of ports that you vMotion at a time to 50.

vMotion Across Policy Groups Can Cause Multicast Traffic Loss

You may experience traffic loss up to the querier interval when you migrate a VM to a host where the other endpoints are not subscribed to the multicast group or groups that the migrated VM subscribed to.

You can avoid this problem by configuring bridge domains with multicast flooding.

Cisco ACI Virtual Edge Can Become Unusable if NFS Connectivity is Lost and Then Restored

If Cisco ACI Virtual Edge is deployed in NFS, and connectivity to the host is lost and then restored, Cisco ACI Virtual Edge might be in read-only mode. Reboot Cisco ACI Virtual Edge to make it work again.

Documentation

Related Documentation for Cisco ACI Virtual Edge

Cisco ACI Virtual Edge documentation is available at the following URL:

https://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html

Related Documentation for Cisco APIC

Cisco APIC documentation is available at the following URL:

http://www.cisco.com/c/en/us/support/cloud-systems-management/application-policy-infrastructure-controller-apic/tsd-products-support-series-home.html

Cisco APIC documentation includes the *Cisco ACI Virtualization Guide*, which provides detailed information about Distributed Firewall and Microsegmentation with Cisco AVS.

Documentation Feedback

To provide technical feedback on this document or report an error or omission, please send your comments to avs-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

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