



# Cisco Application Policy Infrastructure Controller Release Notes, Release 6.0(3)

## Introduction

The Cisco Application Centric Infrastructure (ACI) is an architecture that allows the application to define the networking requirements in a programmatic way. This architecture simplifies, optimizes, and accelerates the entire application deployment lifecycle. Cisco Application Policy Infrastructure Controller (APIC) is the software, or operating system, that acts as the controller.

This document describes the features, issues, and limitations for the Cisco APIC software. For the features, issues, and limitations for the Cisco NX-OS software for the Cisco Nexus 9000 series switches, see the [Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0\(3\)](#).

For more information about this product, see "Related Content."

Date	Description
May 24, 2024	Release 6.0(3g) became available there are no changes to this document for this release. See the <a href="#">Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0(3)</a> for the changes in this release.
May 1, 2024	In the Miscellaneous Compatibility Information section, added: <ul style="list-style-type: none"><li>4.3.2.240009 CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3) and UCS C225 M6 (APIC-L4/M4)</li></ul>
April 8, 2024	In the Miscellaneous Compatibility Information section, added: <ul style="list-style-type: none"><li>If you are using Cisco Nexus 9500 switches in the ACI-mode with the N9K-SUP-A or N9K-SUP-A+ supervisor, because of increased memory usage associated with scalability enhancements in the Cisco ACI 6.0(3d) and 6.0(3e) releases, do not install Cisco ACI 6.0(3d) or 6.0(3e) in your Cisco ACI fabrics. We are working on an optimization in a near-future Cisco ACI 6.0 maintenance release that will allow the N9K-SUP-A and N9K-SUP-A+ supervisors to operate in a normal memory condition. Contact your Cisco account team for additional information.</li></ul>
August 28, 2023	Release 6.0(3e) became available; there are no changes to this document for this release. See the <a href="#">Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0(3)</a> for the changes in this release.
August 9, 2023	Release 6.0(3d) became available.

## New Software Features

Product Impact	Feature	Description
Base Functionality	Rogue endpoint exception list support for bridge domains and L3Outs	You can create a global rogue/COOP exception list, which excludes a MAC address from rogue endpoint control on all the bridge domains on which the MAC address is discovered, and you can create a rogue/COOP exception list for L3Outs. You can also exclude all MAC addresses for a bridge domain or L3Out. This simplifies creating the exception list when you want to make an exception for every MAC address; you do not need to enter each address individually.  For more information, see the <a href="#">Cisco APIC Basic Configuration Guide, Release 6.0(x)</a> .
Reliability	TCP MSS adjustment	You can adjust the transmission control protocol (TCP) maximum segment size (MSS) to avoid packet fragmentation or drops.  For more information, see the <a href="#">Cisco APIC System Management Configuration Guide, Release 6.0(x)</a> .
Upgrade/Downgrade	Faster database	The wait time for the database conversion process is shorter when

Product Impact	Feature	Description
	conversion	<p>compared to the previous releases.</p> <p>For more information, see the <a href="#">Cisco APIC Installation and ACI Upgrade and Downgrade Guide</a>.</p>
	Memory-based switch image installation	<p>A switch installs either the 32-bit or 64-bit image based on the switch's amount of memory instead of based on a static mapping.</p> <p>For more information, see the <a href="#">Cisco APIC Installation and ACI Upgrade and Downgrade Guide</a>.</p>
Interoperability	New TLVs for Azure Stack HCI	<p>You can select new Time, Length, and Values (TLVs) for Azure Stack HCI.</p> <p>For more information, see the <a href="#">Cisco APIC Support for CDP and LLDP</a> document.</p>
	Policy mode for Cisco ACI and VMware NSX-T integration	<p>You can now use the NSX-T Policy API mode, which uses the new Segment object.</p> <p>For more information, see the <a href="#">Cisco ACI and VMware NSX-T Data Center Integration</a> document and the VMware NSX-T Data Center documentation.</p>
	VMware vSphere 8.0	<p>VMM domains now support VMware vSphere 8.0.</p> <p>For more information, see the <a href="#">Cisco ACI vCenter Plug-in chapter in the Cisco ACI Virtualization Guide, 6.0(x)</a> and <a href="#">Cisco ACI Virtual Edge Release Notes, Release 3.2(4)</a>.</p>
	Cisco ACI VMM Integration with Nutanix AHV	<p>You can now integrate the Nutanix Acropolis Hypervisor (AHV) with Cisco Application Centric Infrastructure (ACI). The Cisco APIC integrates with Nutanix AHV and enhances the network management capabilities. The integration provides virtual and physical network automation and VM endpoints visibility in Cisco ACI.</p> <p>For more information, see the <a href="#">Cisco ACI and Nutanix AHV Integration</a> document.</p>
Performance and Scalability	Scale enhancements	<p>SR-MPLS</p> <ul style="list-style-type: none"> <li>• VRFs (including remote leaf and multi-pod), per leaf scale: 800</li> </ul> <p>VRFs (Contexts)</p> <ul style="list-style-type: none"> <li>• Number of Contexts (VRFs), per leaf scale <ul style="list-style-type: none"> <li>◦ Default (Dual Stack) scale profile: <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 2,000</li> <li>◦ Other switches: 800</li> </ul> </li> <li>◦ High Dual Stack, High LPM, High Policy scale profiles: <ul style="list-style-type: none"> <li>◦ LSE2 switches with 32GB of RAM: 2,000</li> <li>◦ Other switches: 800</li> </ul> </li> <li>◦ Maximum LPM scale profile: <ul style="list-style-type: none"> <li>◦ LSE2 switches with 32GB of RAM: 250</li> <li>◦ Other switches: not supported</li> </ul> </li> <li>◦ Multicast heavy, IPv4 and High IPv4 EP scale: <ul style="list-style-type: none"> <li>◦ All switch models: 800</li> </ul> </li> </ul> </li> <li>• Number of L3Outs: 2,000</li> </ul> <p>External EPGs</p> <ul style="list-style-type: none"> <li>• Number of External EPGs, per leaf scale <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 2,000</li> </ul> </li> </ul>

Product Impact	Feature	Description
		<ul style="list-style-type: none"> <li>◦ Other switches: 800</li> </ul> <p>Contracts</p> <ul style="list-style-type: none"> <li>● Security TCAM size, per leaf scale <ul style="list-style-type: none"> <li>◦ High LPM scale profile: <ul style="list-style-type: none"> <li>◦ LSE2 switches with 32GB of RAM: 32,000</li> <li>◦ Other switches: 8,000</li> </ul> </li> </ul> </li> </ul> <p>NetFlow</p> <ul style="list-style-type: none"> <li>● NetFlow monitor policies under bridge domains per leaf switch <ul style="list-style-type: none"> <li>◦ EX switches: 100</li> <li>◦ All other models: 350*</li> </ul> </li> <li>● NetFlow monitor policies under L3Outs per leaf switch <ul style="list-style-type: none"> <li>◦ EX switches: 100</li> <li>◦ All other models: 350*</li> </ul> </li> <li>● Number of records per collect interval <ul style="list-style-type: none"> <li>◦ EX switches: 100</li> <li>◦ All other models: 1,000,000**</li> </ul> </li> </ul> <p>* The total NetFlow policies under a bridge domain or L3Out must be less than 350 (100 for EX switches).</p> <p>** For more information, see <a href="#">Cisco APIC and NetFlow</a>.</p> <p>Forwarding Scale Profiles Supported Platforms</p> <ul style="list-style-type: none"> <li>● Maximum LPM <ul style="list-style-type: none"> <li>◦ N9K-C93180YC-FX with 32GB of RAM</li> <li>◦ N9K-C93180YC-FX3 with 32GB of RAM</li> <li>◦ N9K-C93108TC-FX3P with 32GB of RAM</li> </ul> </li> </ul> <p>Forwarding Scale Profiles Scalability</p> <ul style="list-style-type: none"> <li>● Dual Stack <ul style="list-style-type: none"> <li>◦ VRFs (EX, FX2, FX2-E, and GX2A switches): <ul style="list-style-type: none"> <li>◦ GX2A switch models: 2,000</li> <li>◦ Other switch models: 800</li> </ul> </li> <li>◦ VRFs (FX, FX3, FXP, GX, and GX2B switches): <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 2,000</li> <li>◦ Other switch models: 800</li> </ul> </li> </ul> </li> <li>● High Dual Stack <ul style="list-style-type: none"> <li>◦ VRFs (FX, FX3, FXP, GX, and GX2B switches): <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 2,000</li> <li>◦ Other switch models: 800</li> </ul> </li> </ul> </li> <li>● High LPM <ul style="list-style-type: none"> <li>◦ Policy (FX, FX3, FXP, GX, and GX2B switches): <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 32,000</li> <li>◦ Other switches: 8,000</li> </ul> </li> <li>◦ VRFs (FX, FX3, FXP, GX, and GX2B switches): <ul style="list-style-type: none"> <li>◦ Switches with 32GB of RAM: 2,000</li> <li>◦ Other switches: 800</li> </ul> </li> </ul> </li> <li>● High Policy <ul style="list-style-type: none"> <li>◦ VRFs (FX, FX3, FXP, GX, and GX2B switches):</li> </ul> </li> </ul>

Product Impact	Feature	Description
		<ul style="list-style-type: none"> <li>Switches with 32GB of RAM: 2,000</li> <li>Other switches: 800</li> </ul>

## New Hardware Features

For the new hardware features, see the [Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0\(3\)](#).

## Changes in Behavior

For the changes in behavior, see [Cisco ACI Releases Changes in Behavior](#).

## Open Issues

Click the bug ID to access the Bug Search tool and see additional information about the bug. The "Exists In" column of the table specifies the 6.0(3) releases in which the bug exists. A bug might also exist in releases other than the 6.0(3) releases.

Bug ID	Description	Exists in
<a href="#">CSCwh68103</a>	The property tDn (Target Dn) of class ID, such as infraRsHPathAtt and fabricRsOosPath, does not have any validation in place. A user can enter by mistake the wrong target Dn, for example because of a typo, and the APIC accepts the configuration without any warnings.	6.0(3e) and later
<a href="#">CSCwh81878</a>	Flow telemetry information is not displayed for some nodes, and telemetry records are getting dropped in the NDI collector because the exporter ID does not match the value for the managed object collector ID.	6.0(3e) and later
<a href="#">CSCvg81020</a>	For strict security requirements, customers require custom certificates that have RSA key lengths of 3072 and 4096.	6.0(3d) and later
<a href="#">CSCvm56946</a>	Support for local user (admin) maximum tries and login delay configuration.	6.0(3d) and later
<a href="#">CSCvt99966</a>	A SPAN session with the source type set to "Routed-Outside" goes down. The SPAN configuration is pushed to the anchor or non-anchor nodes, but the interfaces are not pushed due to the following fault: "Failed to configure SPAN with source SpanFL3out due to Source fvIfConn not available" .	6.0(3d) and later
<a href="#">CSCvy40511</a>	Traffic from an endpoint under a remote leaf switch to an external node and its attached external networks is dropped. This occurs if the external node is attached to an L3Out with a vPC and there is a redistribution configuration on the L3Out to advertise the reachability of the external nodes as direct-attached hosts.	6.0(3d) and later
<a href="#">CSCwa58709</a>	The GIPo address is only visible on APIC 1 when using the command " cat /data/data_admin/sam_exported.config" . The command output from the other APICs outputs do not show the GIPo address.	6.0(3d) and later

Bug ID	Description	Exists in
<a href="#">CSCwa90084</a>	<ul style="list-style-type: none"> <li>- Traffic gets disrupted across a vPC pair on a given encapsulation.</li> <li>OR</li> <li>- EPG flood in encapsulation gets blackholed on a given encapsulation.</li> <li>OR</li> <li>- STP packets received on an encapsulation on a given port are not forwarded on all the leaf switches where the same EPG/same encapsulation is deployed.</li> </ul>	6.0(3d) and later
<a href="#">CSCwd26277</a>	When deploying a service graph, the dialog does not list all bridge domains for the provider connector. This issue is observed when you enter or edit the bridge domain name in the consumer connector field. After this, the provider connector will only list the bridge domain that is selected by the consumer connector field.	6.0(3d) and later
<a href="#">CSCwd81562</a>	A Cisco APIC that was previously part of the Cisco APIC cluster will not rejoin the cluster after the reload, decommission, and commission process.	6.0(3d) and later
<a href="#">CSCwe47517</a>	Initially, a switch node upgrade fails with the error "The requested URL returned error: 404 Not Found." After a few minutes, the switch downloads the image from the Cisco APIC.	6.0(3d) and later
<a href="#">CSCwe52465</a>	The NICC app image fails to load.	6.0(3d) and later
<a href="#">CSCwe92155</a>	After configuring syslog using TCP on port 59500, the logit was sent out normally and netstat showed that it was established. However, after aborting the connection from the syslog server side, the TCP connection went from ESTABLISHED to CLOSE_WAIT and disappeared from the APIC side.	6.0(3d) and later
<a href="#">CSCwf16927</a>	The system time does not reflect the daylight saving adjustments done in Egypt for releases prior to 5.3.1 and 6.0.4	6.0(3d) and later
<a href="#">CSCwf20254</a>	There is a delay in the download and programming of policies on a node.	6.0(3d) and later
<a href="#">CSCwf48875</a>	When using two different host profiles (for example UCS C-Series and UCS B-Series) to deploy NSX, the uplink policy will be different for the host profiles. In this case, using one uplink profile with two policies might cause traffic disruption for a non-default teaming policy.	6.0(3d) and later
<a href="#">CSCwf50517</a>	When using the "add controllers" API with 3 or more nodes in the payload, the API can timeout in some cases.	6.0(3d) and later
<a href="#">CSCwf59938</a>	Fault code F1414 is triggered and cleared manually. After certain time, the fault is triggered again. This issue occurs when using the syslog server FQDN.	6.0(3d) and later
<a href="#">CSCwf94095</a>	When attempting to authenticate using the CLI or HTTPS to an APIC running release 6.0(2h), any of the APICs in the cluster will randomly fail authentication one out of three times, and sometimes two out of three times. The CLI or GUI presents an "access denied" error, causing the user to believe a password may have been entered incorrectly. However, when this error occurs, a packet capture reveals that the APIC never sources an authentication request to the TACACS server.	6.0(3d) and later
<a href="#">CSCwf94748</a>	Ingress and egress packet statistics can be viewed for VM and host in a Nutanix domain. For certain time stamps, the "MAX" packet count for the ingress and egress packet is shown incorrectly.	6.0(3d) and later

Bug ID	Description	Exists in
<a href="#">CSCwf99067</a>	Deleting and re-adding RedirectDest with a different IP address, but the same MAC address, generates the following error: " Same virtual MAC is provided for different RedirectDest" .	6.0(3d) and later
<a href="#">CSCwh03912</a>	Disabling resilient hashing removes the backup PBR policy selection drop-down list. Upon clicking the Submit button, the following error displays: "Error: 400 - RsBackupPol can be created only if resilient hash is enabled"	6.0(3d) and later
<a href="#">CSCwh05135</a>	Override vpc interface policy doesnot consistently take precedence over regular vpc interface policy.Upon a leaf reload, its quite random which policy takes precedence, and accordingly the vlans get programmed.If the override or regular AEP is missing the relevant domain association/vlans, then those vlans are not programmed causing outages.	6.0(3d) and later
<a href="#">CSCwh06326</a>	Even after logging out from the Cisco APIC, the JSON Web Token (JWT) remains valid for about 10 minutes.	6.0(3d) and later
<a href="#">CSCwh07037</a>	An outage occurred because traffic coming from the TEPs was dropped by the receiving leaf switches with INFRA_ENCAP_SRC_TEP_MISS.	6.0(3d) and later
<a href="#">CSCwh17898</a>	The "panic: runtime error: invalid memory address or nil pointer dereference." Error occurred and then F1419 (Service kron failed on apic) was raised.	6.0(3d) and later
<a href="#">CSCwh18649</a>	Inter-pod/Inter-site BGP peer is incorrectly marked as " manual,wan" under the BGP for the peer managed object of a spine switch.	6.0(3d) and later
<a href="#">CSCwh19753</a>	SMU switch image download can get stuck.	6.0(3d) and later
<a href="#">CSCwh28834</a>	The " show running config" command does not work in the APIC CLI and generates the following errors: Error while processing mode: interface Error while processing mode: leaf Error while processing mode: configure Error: ERROR occurred: <class 'xml.etree.ElementTree.ParseError'>, not well-formed (invalid token): line 1, column 51242, File "/mgmt/opt/controller/yaci/yaci/_cfg.py" , line 18, in _execute_func subCmd.runningConfig(ctx, **kwargs)	6.0(3d) and later
<a href="#">CSCwh41865</a>	When upgrading an APIC, the " from" version is displayed as " to" version in the event record.	6.0(3d) and later
<a href="#">CSCwh44987</a>	When a non-default OOB management EPG is configured and a default one is removed from the configuration, the default EPG will be recreated automatically after a fabric upgrade. This is causes fault F0523 " Configuration failed for EPG default due to Not Associated With Management Zone" .	6.0(3d) and later
<a href="#">CSCwh47794</a>	The ACI VMM Tags tab returns " the server returned unintelligible response" message even though the tag is retrievable using the CLI.	6.0(3d) and later
<a href="#">CSCwh53706</a>	In scale setups, when there are more than the usual number of objects and if the user tries to load the Capacity Dashboard page, the page times out. A few queries that are hit from the browser and the page become stuck for few seconds.	6.0(3d) and later
<a href="#">CSCwh53727</a>	The API call /mqapi2/deployment.query.json?mode=getvmmCapInfo that is done	6.0(3d) and

Bug ID	Description	Exists in
	against the Cisco APICs by an external management system takes too long to process.	later
<a href="#">CSCwh56716</a>	When the Cisco APICs use Direct Connect to CSSM, running the "show license usage" command on APIC 1, 2, or 3 shows ACI_LEAF_ESS_10G 6 in use. When APICs 2 and 3 are restarted, this output is unchanged. When APIC 1 is restarted, the output becomes "No Licenses in use" on APICs 1, 2, and 3. The "Registering for Smart Licensing with Direct Connect to CSSM Using the GUI" process has to be done again. This was tested in the lab with Cisco APIC releases 5.2(6g), 5.2(7g), and 6.0(2j)	6.0(3d) and later
<a href="#">CSCwh61315</a>	After issuing the APIC CLI "replace-controller reset x" commands, the failover status of the active controller does not change to default when checking using the 'show controller' commands.	6.0(3d) and later
<a href="#">CSCwh67428</a>	The GUI does not display maxSpeed and direction information in the equipment view.	6.0(3d) and later
<a href="#">CSCwh71724</a>	F1419 gets raised for the kron service.	6.0(3d) and later
<a href="#">CSCwh74484</a>	ACI pushes the VLANs from the old VLAN pool after changing the vNIC template in the UCSM	6.0(3d) and later
<a href="#">CSCwh75348</a>	Decommission an APIC causes the message "the node configuration will be wiped out from controller" to display even though the controllers still retain the user configuration.	6.0(3d) and later
<a href="#">CSCwh75539</a>	1. A spine switch consumes a ACI_LEAF_ESS_XF2 license, which results in the user having a negative count. However, a spine switch does not need license if the user bought it before 01/2024. 2. There is a discrepancy in the number of consumed licenses and the actual number of spine switches in a fabric.	6.0(3d) and later
<a href="#">CSCwh76879</a>	Following the RMA workflow for replacing an APIC results in the APIC always having ID 1. A user should instead use the Add node workflow from the existing cluster to add the RMAed node.	6.0(3d) and later
<a href="#">CSCwh76885</a>	If the CIMC is not available, out-of-band management cannot be used for BootX workflows for cluster bringup. The CIMC field should be optional so that if only OOB is configured, cluster bringup will still work.	6.0(3d) and later
<a href="#">CSCwh77285</a>	OpFlex OOM crashes in leaf switches.	6.0(3d) and later
<a href="#">CSCwh78409</a>	The SNMPD service failed on all Cisco APICs after configuring SNMPv3.	6.0(3d) and later
<a href="#">CSCwh81272</a>	The system resets due to a policyelem high availability policy reset.	6.0(3d) and later
<a href="#">CSCwh83273</a>	A Cisco APIC cannot be added to the cluster because the GUI rejects the ID if is not within the range of 1-7. The Initial Setup Configuration states that the fabric ID valid range is 1-128.	6.0(3d) and later
<a href="#">CSCwh87245</a>	An edmManagedNic or compManagedNic object may be mapped to the wrong server (compHv).	6.0(3d) and later
<a href="#">CSCwh87458</a>	Search Filters in Endpoint - Operational - Client Endpoints do not show up in the endpoint learning filter.	6.0(3d) and later



Bug ID	Description	Exists in
<a href="#">CSCwh95573</a>	Fault " F4142" is raised when there is inconsistency in FNV and the idmgr database. Even though the addrAssigner in FNV is set to 0 and the corresponding " identContextElement" managed object is missing from the idmgr database, the fault gets raised.	6.0(3d) and later
<a href="#">CSCwh98712</a>	When running " show running-config" from API CLI, the command takes several minutes to complete. Several thousand API requests are seen in access.log querying ptpRsProfile on every static path.	6.0(3d) and later
<a href="#">CSCwi01316</a>	In the following topology: Tenant 1: VRF 1 > EPG A, EPG B. There is an any-to-any Intra VRF instance contract and EPG A and B are providers for an inter-VRF instance contract. VRF 2 > L3Out or EPG. The VRF instance consumes the inter-VRF instance contract. Traffic will unexpectedly get sent to the wrong rule when inter-VRF instance traffic is flowing.	6.0(3d) and later
<a href="#">CSCwi03663</a>	Recent upgraded versions of SCP servers do not support some of the old ciphers or host key algorithms causing SCP to/from APIC to break.	6.0(3d) and later
<a href="#">CSCwi06427</a>	Navigating to FABRIC -> Inventory -> Pod1 -> Operational -> Routes -> IPv6 learned routes results in the following error message:Value is not specified for the argument 'undefined'	6.0(3d) and later
<a href="#">CSCwi09894</a>	In a mini ACI fabric, the physical APIC does not join the cluster after power cycling the entire setup.	6.0(3d) and later
<a href="#">CSCwi12992</a>	After upgrade to ACI 5.2(8), the custom SSL certificate is not installed in the Cisco APICs and the default self-signed SSL certificate is used instead.	6.0(3d) and later
<a href="#">CSCwi24526</a>	The Tech Support 2of3 was not getting collected for vAPIC properly which is the reason you see the size difference for 2of3 bw APIC and vAPIC. The other TS 1of3 and 3of3 are properly collected for vAPIC.	6.0(3d) and later
<a href="#">CSCwi27591</a>	The port channel connected to the APIC-hosted ESXi will be in a " FAIL" state, and the cluster will become diverged and the fault F0467 will be raised.	6.0(3d) and later
<a href="#">CSCwi40671</a>	In a remote leaf switch, when the initial policy download happens, nginx generates a core. The process recovers by itself after a restart. This issue does not have any major functionality impact.	6.0(3d) and later

## Resolved Issues

Click the bug ID to access the Bug Search tool and see additional information about the bug. The " Fixed In" column of the table specifies the 6.0(3) release in which the bug was first fixed.

Bug ID	Description	Fixed in
<a href="#">CSCwd82212</a>	There is a login denied error while importing or exporting a configuration.	6.0(3d)
<a href="#">CSCwe01680</a>	User is not allowed to configure static route for an inband EPG which is not deployed on the current APIC.	6.0(3d)

Bug ID	Description	Fixed in
<a href="#">CSCwe03646</a>	After moving a port from one selector/profile to another profile in the same transaction (only possible using the REST API), the port might stop working. This is non-deterministic.	6.0(3d)
<a href="#">CSCwe13941</a>	Following are some of the symptoms seen because of this issue : <ol style="list-style-type: none"> <li>1. Failure to verify APIC's CIMC credentials.</li> <li>2. Failure to verify the power status.</li> <li>3. Failure to verify the serial number of the APIC as seen in CIMC.</li> </ol> These symptoms can be seen during the following workflows: <ol style="list-style-type: none"> <li>1. APIC Cluster Initial Bootstrap.</li> <li>2. Adding a new APIC to the cluster - Expansion.</li> <li>3. Replacing an APIC in the cluster - RMA operation.</li> <li>4. Recommission of APIC following a decommission.</li> </ol>	6.0(3d)
<a href="#">CSCwe39842</a>	PXE boot for vmedia installation of the Cisco APIC 6.0(3) release does not work on APIC-SERVER-M2/M3/L2/L3.	6.0(3d)
<a href="#">CSCwe41446</a>	When APICs are upgraded to the 6.0(3) release and switches are still on older releases, the upgraded standby Cisco APIC cannot join the cluster.	6.0(3d)
<a href="#">CSCwe46071</a>	A leaf node gets stuck in bootstrap. Although bootstrap eventually gets forced completed, the node might not download the entire expected configuration, resulting in a node that is not fully functional.	6.0(3d)
<a href="#">CSCwe47966</a>	SMU installation fails in the 6.0(3) release due to collecting the techsupport files prior to installing the SMU.	6.0(3d)
<a href="#">CSCwf54771</a>	User configuration is missing on APICs and switches following an ungraceful reload or power outage.	6.0(3d)
<a href="#">CSCwf72015</a>	vAPICs hosted on ESXi hosts directly connected to the fabric must see the leaf switch using LLDP. Hosts cannot be connected by an intermediate switch, including UCS Fabric Interconnects. This applies to vAPIC clusters and vAPICs used in ACI mini deployments.	6.0(3d)

## Known Issues

Click the bug ID to access the Bug Search tool and see additional information about the bug. The "Exists In" column of the table specifies the 6.0(3) releases in which the bug exists. A bug might also exist in releases other than the 6.0(3) releases.

Bug ID	Description	Exists in
<a href="#">CSCvj26666</a>	The "show run leaf spine <nodeld>" command might produce an error for scaled up configurations.	6.0(3d) and later
<a href="#">CSCvj90385</a>	With a uniform distribution of EPs and traffic flows, a fabric module in slot 25 sometimes reports far less than 50% of the traffic compared to the traffic on fabric modules in non-FM25 slots.	6.0(3d) and later

Bug ID	Description	Exists in
<a href="#">CSCvq39764</a>	When you click Restart for the Microsoft System Center Virtual Machine Manager (SCVMM) agent on a scaled-out setup, the service may stop. You can restart the agent by clicking Start.	6.0(3d) and later
<a href="#">CSCvq58953</a>	One of the following symptoms occurs: App installation/enable/disable takes a long time and does not complete. Nomad leadership is lost. The output of the acidiag scheduler logs members command contains the following error: Error querying node status: Unexpected response code: 500 (rpc error: No cluster leader)	6.0(3d) and later
<a href="#">CSCvr89603</a>	The CRC and stomped CRC error values do not match when seen from the APIC CLI compared to the APIC GUI. This is expected behavior. The GUI values are from the history data, whereas the CLI values are from the current data.	6.0(3d) and later
<a href="#">CSCvs19322</a>	Upgrading Cisco APIC from a 3.x release to a 4.x release causes Smart Licensing to lose its registration. Registering Smart Licensing again will clear the fault.	6.0(3d) and later
<a href="#">CSCvs77929</a>	In the 4.x and later releases, if a firmware policy is created with different name than the maintenance policy, the firmware policy will be deleted and a new firmware policy gets created with the same name, which causes the upgrade process to fail.	6.0(3d) and later
<a href="#">CSCvx75380</a>	svcredirDestmon objects get programmed in all of the leaf switches where the service L3Out is deployed, even though the service node may not be connected to some of the leaf switch.  There is no impact to traffic.	6.0(3d) and later
<a href="#">CSCvx78018</a>	A remote leaf switch has momentary traffic loss for flushed endpoints as the traffic goes through the tglean path and does not directly go through the spine switch proxy path.	6.0(3d) and later
<a href="#">CSCvy07935</a>	xR IP flush for all endpoints under the bridge domain subnets of the EPG being migrated to ESG. This will lead to a temporary traffic loss on remote leaf switch for all EPGs in the bridge domain. Traffic is expected to recover.	6.0(3d) and later
<a href="#">CSCvy10946</a>	With the floating L3Out multipath recursive feature, if a static route with multipath is configured, not all paths are installed at the non-border leaf switch/non-anchor nodes.	6.0(3d) and later
<a href="#">CSCvy34357</a>	Starting with the 6.0(3) release, the following apps built with the following non-compliant Docker versions cannot be installed nor run: <ul style="list-style-type: none"> <li>ConnectivityCompliance 1.2</li> <li>SevOneAciMonitor 1.0</li> </ul>	6.0(3d) and later
<a href="#">CSCvy45358</a>	The file size mentioned in the status managed object for techsupport "dbgexpTechSupStatus" is wrong if the file size is larger than 4GB.	6.0(3d) and later
<a href="#">CSCvz06118</a>	In the "Visibility and Troubleshooting Wizard," ERSPAN support for IPv6 traffic is not available.	6.0(3d) and later
<a href="#">CSCvz84444</a>	While navigating to the last records in the various History sub tabs, it is possible to not see any results. The first, previous, next, and last buttons will then stop working too.	6.0(3d) and later

Bug ID	Description	Exists in
<a href="#">CSCvz85579</a>	<p>VMMmgr process experiences a very high load for an extended period of time that impacts other operations that involve it.</p> <p>The process may consume excessive amount of memory and get aborted. This can be confirmed with the command "dmesg -T   grep oom_reaper" if messages such as the following are reported:</p> <p style="padding-left: 40px;">oom_reaper: reaped process 5578 (svc_ifc_vmmmgr.)</p>	6.0(3d) and later
<a href="#">CSCwa78573</a>	<p>When the "BGP" branch is expanded in the Fabric &gt; Inventory &gt; POD 1 &gt; Leaf &gt; Protocols &gt; BGP navigation path, the GUI freezes and you cannot navigate to any other page.</p> <p>This occurs because the APIC gets large set of data in response, which cannot be handled by the browser for parts of the GUI that do not have the pagination.</p>	6.0(3d) and later
<a href="#">CSCwe18213</a>	The logical switch created for the EPG remains in the NSX-T manager after the EPG is disassociated from the domain, or the logical switch does not get created when the EPG is associated with the domain.	6.0(3d) and later
<a href="#">CSCwf71934</a>	Multiple duplicate subnets are created on Nutanix for the same EPG.	6.0(3d) and later
<a href="#">CSCwh63412</a>	Audit logs under System > History > Audit Logs are limited to the current logged in user. Only the user with the username admin can see the audit logs from all users, but other users despite having admin privileges cannot see the audit logs from other users. The audit logs under Tenants are visible to every user.	6.0(3d) and later
<a href="#">CSCwh92539</a>	After upgrading a Cisco APIC from a release before 5.2(8) to release 6.0(3) or later, there is a loss of out-of-band management connectivity over IPv6 if the APIC has dual stack out-of-band management. However, IPv4 connectivity remains intact. This issue does not occur if the out-of-band management is only IPv4 or only IPv6.	6.0(3d) and later
N/A	<p>Beginning in Cisco APIC release 4.1(1), the IP SLA monitor policy validates the IP SLA port value. Because of the validation, when TCP is configured as the IP SLA type, Cisco APIC no longer accepts an IP SLA port value of 0, which was allowed in previous releases. An IP SLA monitor policy from a previous release that has an IP SLA port value of 0 becomes invalid if the Cisco APIC is upgraded to release 4.1(1) or later. This results in a failure for the configuration import or snapshot rollback.</p> <p>The workaround is to configure a non-zero IP SLA port value before upgrading the Cisco APIC, and use the snapshot and configuration export that was taken after the IP SLA port change.</p>	6.0(3d) and later
N/A	If you use the REST API to upgrade an app, you must create a new firmware.OSource to be able to download a new app image.	6.0(3d) and later
N/A	In a multipod configuration, before you make any changes to a spine switch, ensure that there is at least one operationally "up" external link that is participating in the multipod topology. Failure to do so could bring down the multipod connectivity. For more information about multipod, see the Cisco Application Centric Infrastructure Fundamentals document and the Cisco APIC Getting Started Guide.	6.0(3d) and later

Bug ID	Description	Exists in
N/A	With a non-english SCVMM 2012 R2 or SCVMM 2016 setup and where the virtual machine names are specified in non-english characters, if the host is removed and re-added to the host group, the GUID for all the virtual machines under that host changes. Therefore, if a user has created a micro segmentation endpoint group using "VM name" attribute specifying the GUID of respective virtual machine, then that micro segmentation endpoint group will not work if the host (hosting the virtual machines) is removed and re-added to the host group, as the GUID for all the virtual machines would have changed. This does not happen if the virtual name has name specified in all english characters.	6.0(3d) and later
N/A	A query of a configurable policy that does not have a subscription goes to the policy distributor. However, a query of a configurable policy that has a subscription goes to the policy manager. As a result, if the policy propagation from the policy distributor to the policy manager takes a prolonged amount of time, then in such cases the query with the subscription might not return the policy simply because it has not reached policy manager yet.	6.0(3d) and later
N/A	When there are silent hosts across sites, ARP glean messages might not be forwarded to remote sites if a leaf switch without -EX or a later designation in the product ID happens to be in the transit path and the VRF is deployed on that leaf switch, the switch does not forward the ARP glean packet back into the fabric to reach the remote site. This issue is specific to transit leaf switches without -EX or a later designation in the product ID and does not affect leaf switches that have -EX or a later designation in the product ID. This issue breaks the capability of discovering silent hosts.	6.0(3d) and later
N/A	Typically, faults are generally raised based on the presence of the BGP route target profile under the VRF table. However, if a BGP route target profile is configured without actual route targets (that is, the profile has empty policies), a fault will not be raised in this situation.	6.0(3d) and later
N/A	MPLS interface statistics shown in a switch's CLI get cleared after an admin or operational down event.	6.0(3d) and later
N/A	MPLS interface statistics in a switch's CLI are reported every 10 seconds. If, for example, an interface goes down 3 seconds after the collection of the statistics, the CLI reports only 3 seconds of the statistics and clears all of the other statistics.	6.0(3d) and later

## Virtualization Compatibility Information

This section lists virtualization compatibility information for the Cisco APIC software.

- For a table that shows the supported virtualization products, see the [ACI Virtualization Compatibility Matrix](#).
- For information about Cisco APIC compatibility with Cisco UCS Director, see the appropriate [Cisco UCS Director Compatibility Matrix](#) document.
- This release supports the following additional virtualization products:

Product	Supported Release	Information Location
Microsoft Hyper-V	<ul style="list-style-type: none"> <li>• SCVMM 2019 RTM (Build 10.19.1013.0) or newer</li> <li>• SCVMM 2016 RTM (Build 4.0.1662.0) or newer</li> <li>• SCVMM 2012 R2 with Update Rollup 9 (Build 3.2.8145.0) or newer</li> </ul>	N/A

Product	Supported Release	Information Location
VMM Integration and VMware Distributed Virtual Switch (DVS)	6.5, 6.7, and 7.0	<a href="#">Cisco ACI Virtualization Guide, Release 6.0(x)</a>

## Hardware Compatibility Information

This release supports the following Cisco APIC servers:

Product ID	Description
APIC-L2	Cisco APIC with large CPU, hard drive, and memory configurations (more than 1000 edge ports)
APIC-L3	Cisco APIC with large CPU, hard drive, and memory configurations (more than 1200 edge ports)
APIC-L4	Cisco APIC with large CPU, hard drive, and memory configurations (more than 1200 edge ports)
APIC-M2	Cisco APIC with medium-size CPU, hard drive, and memory configurations (up to 1000 edge ports)
APIC-M3	Cisco APIC with medium-size CPU, hard drive, and memory configurations (up to 1200 edge ports)
APIC-M4	Cisco APIC with medium-size CPU, hard drive, and memory configurations (up to 1200 edge ports)

The following list includes general hardware compatibility information:

- For the supported hardware, see the [Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0\(3\)](#).
- Contracts using matchDscp filters are only supported on switches with "EX" on the end of the switch name. For example, N9K-93108TC-EX.
- When the fabric node switch (spine or leaf) is out-of-fabric, the environmental sensor values, such as Current Temperature, Power Draw, and Power Consumption, might be reported as "N/A." A status might be reported as "Normal" even when the Current Temperature is "N/A."
- First generation switches (switches without -EX, -FX, -GX, or a later suffix in the product ID) do not support Contract filters with match type "IPv4" or "IPv6." Only match type "IP" is supported. Because of this, a contract will match both IPv4 and IPv6 traffic when the match type of "IP" is used.

The following table provides compatibility information for specific hardware:

Product ID	Description
Cisco UCS M4-based Cisco APIC	The Cisco UCS M4-based Cisco APIC and previous versions support only the 10G interface. Connecting the Cisco APIC to the Cisco ACI fabric requires a same speed interface on the Cisco ACI leaf switch. You cannot connect the Cisco APIC directly to the Cisco N9332PQ ACI leaf switch, unless you use a 40G to 10G converter (part number CVR-QSFP-SFP10G), in which case the port on the Cisco N9332PQ switch auto-negotiates to 10G without requiring

Product ID	Description
	any manual configuration.
Cisco UCS M5-based Cisco APIC	The Cisco UCS M5-based Cisco APIC supports dual speed 10G and 25G interfaces. Connecting the Cisco APIC to the Cisco ACI fabric requires a same speed interface on the Cisco ACI leaf switch. You cannot connect the Cisco APIC directly to the Cisco N9332PQ ACI leaf switch, unless you use a 40G to 10G converter (part number CVR-QSFP-SFP10G), in which case the port on the Cisco N9332PQ switch auto-negotiates to 10G without requiring any manual configuration.
N2348UPQ	To connect the N2348UPQ to Cisco ACI leaf switches, the following options are available:  Directly connect the 40G FEX ports on the N2348UPQ to the 40G switch ports on the Cisco ACI leaf switches  Break out the 40G FEX ports on the N2348UPQ to 4x10G ports and connect to the 10G ports on all other Cisco ACI leaf switches.  <b>Note:</b> A fabric uplink port cannot be used as a FEX fabric port.
N9K-C9348GC-FXP	This switch does not read SPROM information if the PSU is in a shut state. You might see an empty string in the Cisco APIC output.
N9K-C9364C-FX	Ports 49-64 do not support 1G SFPs with QSA.
N9K-C9508-FM-E	The Cisco N9K-C9508-FM-E2 and N9K-C9508-FM-E fabric modules in the mixed mode configuration are not supported on the same spine switch.
N9K-C9508-FM-E2	The Cisco N9K-C9508-FM-E2 and N9K-C9508-FM-E fabric modules in the mixed mode configuration are not supported on the same spine switch.  The locator LED enable/disable feature is supported in the GUI and not supported in the Cisco ACI NX-OS switch CLI.
N9K-C9508-FM-E2	This fabric module must be physically removed before downgrading to releases earlier than Cisco APIC 3.0(1).
N9K-X9736C-FX	The locator LED enable/disable feature is supported in the GUI and not supported in the Cisco ACI NX-OS Switch CLI.
N9K-X9736C-FX	Ports 29 to 36 do not support 1G SFPs with QSA.

## Miscellaneous Compatibility Information

This release supports the following products:

Product	Supported Release
Cisco NX-OS	16.0(3)
Cisco UCS Manager	2.2(1c) or later is required for the Cisco UCS Fabric Interconnect and other components, including the BIOS, CIMC, and the adapter.
CIMC HUU ISO	<ul style="list-style-type: none"> <li>4.3.2.240009 CIMC HUU ISO (recommended) for UCS C220/C240 M5 (APIC-L3/M3) and UCS C225 M6 (APIC-L4/M4)</li> <li>4.3.2.230207 CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3) and UCS C225 M6 (APIC-L4/M4)</li> <li>4.2(3e) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3) and UCS C225 M6 (APIC-L4/M4)</li> <li>4.2(3b) CIMC HUU ISO for UCS C225 M6 (APIC-L4/M4)</li> <li>4.2(3b) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> </ul>

Product	Supported Release
	<ul style="list-style-type: none"> <li>• 4.2(2a) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> <li>• 4.1(3m) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> <li>• 4.1(3f) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> <li>• 4.1(3d) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> <li>• 4.1(3c) CIMC HUU ISO for UCS C220/C240 M5 (APIC-L3/M3)</li> <li>• 4.1(2m) CIMC HUU ISO (recommended) for UCS C220/C240 M4 (APIC-L2/M2)</li> <li>• 4.1(2k) CIMC HUU ISO for UCS C220/C240 M4 (APIC-L2/M2)</li> <li>• 4.1(2g) CIMC HUU ISO for UCS C220/C240 M4 (APIC-L2/M2)</li> <li>• 4.1(2b) CIMC HUU ISO for UCS C220/C240 M4 (APIC-L2/M2)</li> <li>• 4.1(1g) CIMC HUU ISO for UCS C220/C240 M4 (APIC-L2/M2) and M5 (APIC-L3/M3)</li> <li>• 4.1(1f) CIMC HUU ISO for UCS C220 M4 (APIC-L2/M2) (deferred release)</li> <li>• 4.1(1d) CIMC HUU ISO for UCS C220 M5 (APIC-L3/M3)</li> <li>• 4.1(1c) CIMC HUU ISO for UCS C220 M4 (APIC-L2/M2)</li> <li>• 4.0(4e) CIMC HUU ISO for UCS C220 M5 (APIC-L3/M3)</li> <li>• 4.0(2g) CIMC HUU ISO for UCS C220/C240 M4 and M5 (APIC-L2/M2 and APIC-L3/M3)</li> <li>• 4.0(1a) CIMC HUU ISO for UCS C220 M5 (APIC-L3/M3)</li> <li>• 3.0(4d) CIMC HUU ISO for UCS C220/C240 M3 and M4 (APIC-L2/M2)</li> <li>• 3.0(3f) CIMC HUU ISO for UCS C220/C240 M4 (APIC-L2/M2)</li> <li>• 2.0(13i) CIMC HUU ISO</li> <li>• 2.0(9c) CIMC HUU ISO</li> <li>• 2.0(3i) CIMC HUU ISO</li> </ul>
Network Insights Base, Network Insights Advisor, and Network Insights for Resources	<p>For the release information, documentation, and download links, see the <a href="#">Cisco Network Insights for Data Center</a> page.</p> <p>For the supported releases, see the <a href="#">Cisco Data Center Networking Applications Compatibility Matrix</a>.</p>

- This release supports the partner packages specified in the [L4-L7 Compatibility List Solution Overview](#) document.
- A known issue exists with the Safari browser and unsigned certificates, which applies when connecting to the Cisco APIC GUI. For more information, see the [Cisco APIC Getting Started Guide, Release 6.0\(x\)](#).
- For compatibility with Day-2 Operations apps, see the [Cisco Data Center Networking Applications Compatibility Matrix](#).
- Cisco Nexus Dashboard Insights creates a user in Cisco APIC called cisco\_SN\_NI. This user is used when Nexus Dashboard Insights needs to make any changes or query any information from the Cisco APIC. In the Cisco APIC, navigate to the **Audit Logs** tab of the **System > History** page. The cisco\_SN\_NI user is displayed in the User column.
- If you are using Cisco Nexus 9500 switches in the ACI-mode with the N9K-SUP-A or N9K-SUP-A+ supervisor, because of increased memory usage associated with scalability enhancements in the Cisco ACI 6.0(3d) and 6.0(3e) releases, do not install Cisco ACI 6.0(3d) or 6.0(3e) in your Cisco ACI fabrics. We are working on an optimization in a near-future Cisco ACI 6.0 maintenance release that will allow the N9K-SUP-A and N9K-SUP-A+ supervisors to operate in a normal memory condition. Contact your Cisco account team for additional information.



## Related Content

See the [Cisco Application Policy Infrastructure Controller \(APIC\)](#) page for the documentation.

The documentation includes installation, upgrade, configuration, programming, and troubleshooting guides, technical references, release notes, and knowledge base (KB) articles, as well as other documentation. KB articles provide information about a specific use case or a specific topic.

By using the "Choose a topic" and "Choose a document type" fields of the APIC documentation website, you can narrow down the displayed documentation list to make it easier to find the desired document.

You can watch videos that demonstrate how to perform specific tasks in the Cisco APIC on the [Cisco Cloud Networking](#) YouTube channel.

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The following table provides links to the release notes, verified scalability documentation, and new documentation:

Document	Description
<a href="#">Cisco Nexus 9000 ACI-Mode Switches Release Notes, Release 16.0(3)</a>	The release notes for Cisco NX-OS for Cisco Nexus 9000 Series ACI-Mode Switches.
<a href="#">Verified Scalability Guide for Cisco APIC, Release 6.0(3) and Cisco Nexus 9000 Series ACI-Mode Switches, Release 16.0(3)</a>	This guide contains the maximum verified scalability limits for Cisco Application Centric Infrastructure (ACI) parameters for Cisco APIC and Cisco Nexus 9000 Series ACI-Mode Switches.
<a href="#">APIC REST API Configuration Procedures</a>	This document resides on <a href="#">developer.cisco.com</a> and provides information about and procedures for using the Cisco APIC REST APIs. The new REST API procedures for this release reside only here and not in the configuration guides. However, older REST API procedures are still in the relevant configuration guides.

## Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, send your comments to [apic-docfeedback@cisco.com](mailto:apic-docfeedback@cisco.com). We appreciate your feedback.

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