



## New and Changed Information

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This chapter provides release-specific information about all features.

- [New and Changed Information, on page 1](#)

## New and Changed Information

This table summarizes the new and changed features, the supported platforms, and links to features.

*Table 1: New and Changed Feature Information*

Feature	Release & Platform
Provisioning	

Feature	Release & Platform
Zero-Touch Provisioning	

Feature	Release & Platform
	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.8.2</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Series Aggregation Services Routers (ASR1004, ASR1006, ASR1006-X, ASR1009-X, ASR1013)</li> </ul> <p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> </ul> <p><b>Note</b> This feature is not supported on C9200L SKUs.</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300L SKUs</li> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> </ul> <p>Cisco IOS XE Amsterdam 17.2.1</p> <ul style="list-style-type: none"> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco C1100 Terminal Services Gateway (Supported only on C1100TGX-1N24P32A)</li> </ul> <p>Cisco IOS XE Amsterdam 17.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> </ul>

Feature	Release & Platform
	<ul style="list-style-type: none"> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> </ul> Cisco IOS XE Bengaluru 17.4.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 8000V Edge Software</li> </ul> Cisco IOS XE Cupertino 17.8.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9800-L Wireless Controllers</li> </ul> C9800L
Zero Touch Provisioning: HTTP Download	Cisco IOS XE Fuji 16.8.1 <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> Cisco IOS XE Fuji 16.8.1a <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul>
DHCPv6 Support for Zero-Touch Provisioning	Cisco IOS XE Fuji 16.9.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> Cisco IOS XE Amsterdam 17.3.2a <ul style="list-style-type: none"> <li>• Cisco Catalyst 9800-40 Series Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Series Wireless Controllers</li> </ul>
Zero-Touch Provisioning Through YANG Models	Cisco IOS XE Cupertino 17.7.1 <ul style="list-style-type: none"> <li>• This feature is supported on all platforms that support NETCONF-YANG.</li> </ul>

Feature	Release & Platform
iPXE	<p>Cisco IOS XE Denali 16.3.2 and Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 3650 Series Switches</li><li>• Cisco Catalyst 3650 Series Switches</li></ul> <p>Cisco IOS XE Everest 16.6.1</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 9300 Series Switches</li><li>• Cisco Catalyst 9500 Series Switches</li></ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 9400 Series Switches</li></ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 9500-High Performance Series Switches</li></ul> <p>Cisco IOS XE Fuji 16.9.2</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 9200 Series Switches</li></ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"><li>• Cisco Catalyst 9600 Series Switches</li></ul>
Shells and Scripting	

Feature	Release & Platform
Guest Shell	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul> <p>Cisco IOS XE Fuji 16.8.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.9.1</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1b</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> </ul> <p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> </ul> <p><b>Note</b> This feature is not supported on C9200L SKUs.</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300L SKUs</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul> <p>Cisco IOS XE Amsterdam 17.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> </ul>

Feature	Release & Platform
Python 3 Support in Guest Shell	Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"><li>• Cisco 1000 Series Integrated Services Routers</li><li>• Cisco ASR 1000 Aggregation Services Routers (ASR1000-RP1, ASR1000-RP2, ASR1000-RP3, ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li><li>• Cisco Catalyst 9300 Series Switches</li><li>• Cisco Catalyst 9400 Series Switches</li><li>• Cisco Catalyst 9500 Series Switches</li><li>• Cisco Catalyst 9600 Series Switches</li><li>• Cisco ISR 4000 Series Integrated Services Routers</li></ul>
NETCONF Access from Guest Shell	Cisco IOS XE Bengaluru 17.6.1 <ul style="list-style-type: none"><li>• Cisco Catalyst 9200 Series Switches</li><li>• Cisco Catalyst 9300 and 9300L Series Switches</li><li>• Cisco Catalyst 9400 Series Switches</li><li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li><li>• Cisco Catalyst 9600 Series Switches</li></ul>

Feature	Release & Platform
Python APIs	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul>



Feature	Release & Platform
Python CLI Module	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul> <p>Cisco IOS XE Fuji 16.8.1</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Router models with a minimum of 4 GB RAM.</li> <li>• Cisco ASR 1000 Series Aggregation Services Routers (ASR1004, ASR1006, ASR1006-X, ASR1009-X, ASR1013)</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul>

Feature	Release & Platform
EEM Python Module	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.2.</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul>
Model-Driven Programmability	

Feature	Release & Platform
NETCONF Protocol	<p>Cisco IOS XE Denali 16.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul> <p>Cisco IOS XE Fuji 16.9.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> </ul> <p>Cisco IOS XE Gibraltar 16.10.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9800 Series Wireless Controllers</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco IR1101 Integrated Services Router Rugged</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst IE 3200, 3300, 3400 Rugged Series</li> <li>• Cisco Embedded Service 3300 Series Switches</li> </ul>

Feature	Release & Platform
NETCONF and RESTCONF IPv6 Support	<p data-bbox="776 289 1065 321">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="813 338 1406 831" style="list-style-type: none"> <li data-bbox="813 338 1321 369">• Cisco 4000 Series Integrated Services Routers</li> <li data-bbox="813 390 1406 422">• Cisco ASR 1000 Series Aggregation Services Routers</li> <li data-bbox="813 443 1393 474">• Cisco ASR 900 Series Aggregation Services Routers</li> <li data-bbox="813 495 1219 527">• Cisco Catalyst 3650 Series Switches</li> <li data-bbox="813 548 1219 579">• Cisco Catalyst 3850 Series Switches</li> <li data-bbox="813 600 1219 632">• Cisco Catalyst 9300 Series Switches</li> <li data-bbox="813 653 1219 684">• Cisco Catalyst 9400 Series Switches</li> <li data-bbox="813 705 1219 737">• Cisco Catalyst 9500 Series Switches</li> <li data-bbox="813 758 1292 789">• Cisco cBR-8 Converged Broadband Router</li> <li data-bbox="813 810 1289 842">• Cisco Cloud Services Router 1000V Series</li> </ul> <p data-bbox="776 863 1117 894">Cisco IOS XE Gibraltar 16.11.1</p> <ul data-bbox="813 915 1422 947" style="list-style-type: none"> <li data-bbox="813 915 1422 947">• Cisco Catalyst 9500-High Performance Series Switches</li> </ul>
NETCONF Global Lock and Kill Session	<p data-bbox="776 989 1065 1020">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="813 1037 1406 1581" style="list-style-type: none"> <li data-bbox="813 1037 1321 1068">• Cisco 1100 Series Integrated Services Routers</li> <li data-bbox="813 1089 1321 1121">• Cisco 4000 Series Integrated Services Routers</li> <li data-bbox="813 1142 1406 1173">• Cisco ASR 1000 Series Aggregation Services Routers</li> <li data-bbox="813 1194 1393 1226">• Cisco ASR 900 Series Aggregation Services Routers</li> <li data-bbox="813 1247 1219 1278">• Cisco Catalyst 3650 Series Switches</li> <li data-bbox="813 1299 1219 1331">• Cisco Catalyst 3850 Series Switches</li> <li data-bbox="813 1352 1219 1383">• Cisco Catalyst 9300 Series Switches</li> <li data-bbox="813 1404 1219 1436">• Cisco Catalyst 9400 Series Switches</li> <li data-bbox="813 1457 1219 1488">• Cisco Catalyst 9500 Series Switches</li> <li data-bbox="813 1509 1292 1541">• Cisco cBR-8 Converged Broadband Router</li> <li data-bbox="813 1562 1289 1593">• Cisco Cloud Services Router 1000v Series</li> </ul>

Feature	Release & Platform
NETCONF-YANG SSH Server Support	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregation Services Routers</li> <li>• Cisco ASR 1000 Aggregation Services Routers</li> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco Catalyst 9800 Series Wireless Controllers</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul>
Side-Effect Synchronization of the Configuration Database	Cisco IOS XE Bengaluru 17.4.1 <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Series Aggregated Services Routers</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul>

Feature	Release & Platform
YANG Model Version 1.1	Cisco IOS XE Cupertino 17.7.1 <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 900 Aggregation Services Routers</li> <li>• Cisco ASR 920 Aggregation Services Routers</li> <li>• Cisco ASR 1000 Aggregation Services Routers</li> <li>• Cisco Catalyst 9200 and 9200L Series Switches</li> <li>• Cisco Catalyst 9300 and 9300L Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul>
Converting IOS Commands to XML	Cisco IOS XE Cupertino 17.7.1 <ul style="list-style-type: none"> <li>• This feature is supported on all platforms that support NETCONF-YANG.</li> </ul>

Feature	Release & Platform
RESTCONF Protocol	

Feature	Release & Platform
	<p>Cisco IOS XE Everest 16.6.1</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Router</li> <li>• Cisco ASR 1000 Aggregation Services Routers</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregation Services Router</li> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul> <p>Cisco IOS XE Fuji 16.9.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco Catalyst 9800-CL Wireless Controllers</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> <li>• Cisco Network Convergence System 520 Series</li> </ul> <p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9800-L Wireless Controllers</li> </ul> <p>Cisco IOS XE Amsterdam 17.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> </ul> <p>Cisco IOS XE Bengaluru 17.4.1</p>



Feature	Release & Platform
	<ul style="list-style-type: none"> <li>• Cisco Catalyst 8000V Edge Software</li> </ul>
RESTCONF YANG-Patch Support	<p>Cisco IOS XE Amsterdam 17.1.1</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1000-RP2, ASR1000-RP3, ASR1001-HX, ASR1001-X, ASR1002-HX, ASR1002-X)</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco Catalyst IE3200 Rugged Series</li> <li>• Cisco Catalyst IE3300 Rugged Series</li> <li>• Cisco Catalyst IE3400 Rugged Series</li> <li>• Cisco IR1101 Integrated Services Router Rugged</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul>

Feature	Release & Platform
NETCONF and RESTCONF Service-Level ACLs	Cisco IOS XE Gibraltar 16.11.1 <ul style="list-style-type: none"><li>• Cisco ASR 900 Series Aggregation Services Routers</li><li>• Cisco ASR 920 Series Aggregated Services Routers</li><li>• Cisco Catalyst 3650 Series Switches</li><li>• Cisco Catalyst 3850 Series Switches</li><li>• Cisco Catalyst 9200 Series Switches</li><li>• Cisco Catalyst 9300 Series Switches</li><li>• Cisco Catalyst 9400 Series Switches</li><li>• Cisco Catalyst 9500 Series Switches</li><li>• Cisco Catalyst IE3200 Rugged Series</li><li>• Cisco Catalyst IE3300 Rugged Series</li><li>• Cisco Catalyst IE3400 Rugged Series</li><li>• Cisco Embedded Services 3300 Series Switches</li><li>• Cisco IR1101 Integrated Services Router Rugged</li><li>• Cisco Network Convergence System 4200 Series</li><li>• Cisco Network Convergence System 520 Series</li></ul>

Feature	Release & Platform
gNMI Protocol	<p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Gibraltar 16.10.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9600 Series Switches</li> </ul> <p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 and 9200L Series Switches</li> <li>• Cisco Catalyst 9300L SKUs</li> <li>• Cisco cBR-8 Converged Broadband Router</li> </ul> <p>Cisco IOS XE Amsterdam 17.1.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregation Services Router</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul> <p>Cisco IOS XE Amsterdam 17.2.1r</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Series Aggregation Services Routers</li> </ul> <p>Cisco IOS XE Cupertino 17.8.1</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco Catalyst 8000V Edge Software</li> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> <li>• Cisco Catalyst 9800-CL Wireless Controllers</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> </ul>

Feature	Release & Platform
gNMI Username and Password Authentication	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco Catalyst IE3200 Rugged Series</li> <li>• Cisco Catalyst IE3200 Rugged Series</li> <li>• Cisco Catalyst IE3300 Rugged Series</li> <li>• Cisco Catalyst IE3400 Rugged Series</li> <li>• Cisco Embedded Service 3300 Series Switches</li> </ul>
gRPC Network Operations Interface: gNOI Certificate Management & gNOI Bootstrapping with Certificate Service	Cisco IOS XE Amsterdam 17.3.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul>
gNOI OS Installation Service	Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul>
gNOI Factory Reset Service	Cisco IOS XE Cupertino 17.7.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> </ul>

Feature	Release & Platform
Model-Based AAA	<p data-bbox="816 289 1089 321">Cisco IOS XE Fuji 16.8.1</p> <ul data-bbox="850 338 1446 678" style="list-style-type: none"><li data-bbox="850 338 1360 369">• Cisco 1000 Series Integrated Services Routers</li><li data-bbox="850 388 1360 420">• Cisco 4000 Series Integrated Services Routers</li><li data-bbox="850 438 1446 470">• Cisco ASR 1000 Series Aggregation Services Routers</li><li data-bbox="850 489 1433 520">• Cisco ASR 900 Series Aggregation Services Routers</li><li data-bbox="850 539 1433 571">• Cisco ASR 920 Series Aggregation Services Routers</li><li data-bbox="850 590 1321 621">• Cisco Cloud Services Router 1000v Series</li><li data-bbox="850 640 1321 672">• Cisco Network Convergence System 4200</li></ul> <p data-bbox="816 709 1102 741">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="850 758 1256 993" style="list-style-type: none"><li data-bbox="850 758 1256 789">• Cisco Catalyst 3650 Series Switches</li><li data-bbox="850 808 1256 840">• Cisco Catalyst 3850 Series Switches</li><li data-bbox="850 858 1256 890">• Cisco Catalyst 9300 Series Switches</li><li data-bbox="850 909 1256 940">• Cisco Catalyst 9400 Series Switches</li><li data-bbox="850 959 1256 991">• Cisco Catalyst 9500 Series Switches</li></ul>

Feature	Release & Platform
Model-Driven Telemetry NETCONF Dial-In	

Feature	Release & Platform
	<p>Cisco IOS XE Everest 16.6.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 1000 Aggregation Services Routers (ASR1001-HX, ASR1001-X, ASR1002-HX, ASR1002-X)</li> </ul> <p>Cisco IOS XE Fuji 16.8.1</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco ASR 1000 RP2 and RP3 Series Aggregation Services Routers</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.9.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregation Services Router</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul> <p>Cisco IOS XE Fuji 16.9.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9200 and 9200L Series Switches</li> <li>• Cisco Catalyst 9300L SKUs</li> </ul> <p>Cisco IOS XE Gibraltar 16.10.1</p> <ul style="list-style-type: none"> <li>• Cisco Cloud Services Router 1000v</li> <li>• Cisco Network Convergence System 520 Series</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9600 Series Switches</li> </ul>

Feature	Release & Platform
	<p>Cisco IOS XE Amsterdam 17.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> </ul> <p>Cisco IOS XE Bengaluru 17.4.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8000V Edge Software</li> </ul>
<p>Model-Driven Telemetry gRPC Dial-out</p>	<p>Cisco IOS XE Gibraltar 16.10.1</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 1000 Series Aggregation Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregated Services Router</li> <li>• Cisco Catalyst 9200 and 9200L Series Switches</li> <li>• Cisco Catalyst 9300 and 9300L Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9600 Series Switches</li> </ul> <p>Cisco IOS XE Amsterdam 17.3.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8200 Series Edge Platforms</li> <li>• Cisco Catalyst 8300 Series Edge Platforms</li> </ul> <p>Cisco IOS XE Bengaluru 17.4.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 8000V Edge Software</li> </ul>



Feature	Release & Platform
Model-Driven Telemetry gNMI Dial-In	<p data-bbox="816 296 1154 321">Cisco IOS XE Gibraltar 16.12.1</p> <ul data-bbox="850 342 1463 657" style="list-style-type: none"> <li data-bbox="850 342 1377 367">• Cisco Catalyst 9200 and 9200L Series Switches</li> <li data-bbox="850 390 1377 415">• Cisco Catalyst 9300 and 9300L Series Switches</li> <li data-bbox="850 438 1256 464">• Cisco Catalyst 9400 Series Switches</li> <li data-bbox="850 487 1463 550">• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li data-bbox="850 573 1256 598">• Cisco Catalyst 9600 Series Switches</li> <li data-bbox="850 621 1330 646">• Cisco cBR-8 Converged Broadband Router</li> </ul> <p data-bbox="816 690 1170 716">Cisco IOS XE Amsterdam 17.1.1</p> <ul data-bbox="850 737 1430 926" style="list-style-type: none"> <li data-bbox="850 737 1430 762">• Cisco ASR 900 Series Aggregation Services Routers</li> <li data-bbox="850 785 1409 810">• Cisco ASR 920 Series Aggregated Services Router</li> <li data-bbox="850 833 1377 858">• Cisco Network Convergence System 520 Series</li> <li data-bbox="850 882 1390 907">• Cisco Network Convergence System 4200 Series</li> </ul> <p data-bbox="816 951 1170 976">Cisco IOS XE Amsterdam 17.2.1</p> <ul data-bbox="850 997 1446 1022" style="list-style-type: none"> <li data-bbox="850 997 1446 1022">• Cisco ASR 1000 Series Aggregation Services Routers</li> </ul> <p data-bbox="816 1068 1170 1094">Cisco IOS XE Amsterdam 17.3.1</p> <ul data-bbox="850 1115 1446 1140" style="list-style-type: none"> <li data-bbox="850 1115 1446 1140">• Cisco ASR 1000 Series Aggregation Services Routers</li> </ul> <p data-bbox="816 1186 1154 1211">Cisco IOS XE Cupertino 17.8.1</p> <ul data-bbox="850 1232 1360 1421" style="list-style-type: none"> <li data-bbox="850 1232 1360 1257">• Cisco 1000 Series Integrated Services Routers</li> <li data-bbox="850 1281 1360 1306">• Cisco 4000 Series Integrated Services Routers</li> <li data-bbox="850 1329 1325 1354">• Cisco Catalyst 8200 Series Edge Platforms</li> <li data-bbox="850 1377 1325 1402">• Cisco Catalyst 8300 Series Edge Platforms</li> </ul>

Feature	Release & Platform
TLS for gRPC Dial-Out	Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 1000 Series Aggregation Services Routers ASR1000-RP1, ASR1000-RP2, ASR1000-RP3, ASR1001-HX, ASR1001-X, ASR1002-HX, ASR1002-X)</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> <li>• Cisco cBR-8 Converged Broadband Router</li> <li>• Cisco Cloud Services Router 1000V Series</li> <li>• Cisco Catalyst IE3200 Rugged Series</li> <li>• Cisco Catalyst IE3300 Rugged Series</li> <li>• Cisco Catalyst IE3400 Rugged Series</li> <li>• Cisco IR1101 Integrated Services Router Rugged</li> <li>• Cisco Network Convergence System 520 Series</li> <li>• Cisco Network Convergence System 4200 Series</li> </ul>
TLDP On-Change Notifications	Cisco IOS XE Amsterdam 17.2.1 <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul>

Feature	Release & Platform
Kill Telemetry Subscription	<p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregated Services Routers</li> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> <li>• Cisco IR1101 Integrated Services Router Rugged</li> <li>• Cisco Network Convergence System 4200 Series</li> <li>• Cisco Network Convergence System 520 Series</li> </ul> <p>Cisco IOS XE Gibraltar 16.11.1a</p> <ul style="list-style-type: none"> <li>• Cisco 1000 Series Integrated Services Routers</li> <li>• Cisco 4000 Series Integrated Services Routers</li> <li>• Cisco ASR 1000 Series Aggregation Services Routers</li> <li>• Cisco ASR 900 Series Aggregation Services Routers</li> <li>• Cisco ASR 920 Series Aggregation Services Routers</li> <li>• Cisco Cloud Services Router 1000V Series</li> </ul>
FQDN Support for gRPC Subscriptions	<p>Cisco IOS XE Bengaluru 17.6.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 900 Series Aggregation Services Routers (RSP2)</li> <li>• Cisco Catalyst 9200 Series Switches</li> <li>• Cisco Catalyst 9800-40 Wireless Controllers</li> <li>• Cisco Catalyst 9800-80 Wireless Controllers</li> </ul>
Leaf-Level Filtering	<p>Cisco IOS XE Cupertino 17.7.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 and 9300L Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 and 9500-High Performance Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul>

Feature	Release & Platform
In-Service Model Updates	<p>Cisco IOS XE Everest 16.5.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.5.1b</p> <ul style="list-style-type: none"> <li>• Cisco 4000 Series Integrated Services Routers</li> </ul> <p>Cisco IOS XE Everest 16.6.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 3650 Series Switches</li> <li>• Cisco Catalyst 3850 Series Switches</li> </ul> <p>Cisco IOS XE Everest 16.6.2</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Fuji 16.7.1</p> <ul style="list-style-type: none"> <li>• Cisco ASR 1000 Aggregation Services Routers</li> </ul> <p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches.</li> </ul>
Application Hosting	
Application Hosting	<p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> </ul> <p>Cisco IOS XE Amsterdam 17.1.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <p>Cisco IOS XE Amsterdam 17.2.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-High Performance Series Switches</li> <li>• Cisco Catalyst 9600 Series Switches</li> </ul> <p>Cisco IOS XE Bengaluru 17.5.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9410 Series Switches</li> </ul> <p>Cisco IOS XE Cupertino 17.7.1</p> <ul style="list-style-type: none"> <li>• Cisco Catalyst 9500-X Series Switches</li> </ul>

Feature	Release & Platform
Application Hosting: Front-Panel Network Port Access	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> </ul> Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <b>Note</b> Cisco Catalyst 9410R Switch does not support front-panel application-hosting.
Application Hosting: Front-Panel USB Port Access	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> </ul> Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> <b>Note</b> Cisco Catalyst 9410R Switch does not support front-panel application-hosting.
Native Docker Container: Application Auto-Restart	Cisco IOS XE Amsterdam 17.2.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> </ul> Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9410 Series Switches</li> </ul>
Application Hosting: ThousandEyes Integration	Cisco IOS XE Amsterdam 17.3.3 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 and 9300L Series Switches</li> </ul> Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul> Cisco IOS XE Bengaluru 17.6.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300X Series Switches</li> </ul>
ThousandEyes BrowserBot	Cisco IOS XE Bengaluru 17.6.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300, 9300L, and 9300X Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> </ul>
<b>OpenFlow</b>	

Feature	Release & Platform
OpenFlow	Cisco IOS XE Fuji 16.9.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches and Cisco Catalyst 9500-High Performance Series Switches</li> </ul>
OpenFlow Power over Ethernet	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> <li>• Catalyst 9300 Series Switches</li> <li>• Catalyst 9400 Series Switches</li> </ul>
OpenFlow Rewrite Fields	Cisco IOS XE Bengaluru 17.4.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9300 Series Switches</li> <li>• Cisco Catalyst 9400 Series Switches</li> <li>• Cisco Catalyst 9500 Series Switches and Cisco Catalyst 9500-High Performance Series Switches</li> </ul>
High Availability in OpenFlow Mode	Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> <li>• Cisco Catalyst 9400 Series Switches</li> </ul>