



New and Changed Information

This chapter provides release-specific information about all features.

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

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

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

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

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

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

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

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

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

Feature	Release & Platform
NETCONF and RESTCONF IPv6 Support	<p data-bbox="776 289 1065 319">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 367">• Cisco 4000 Series Integrated Services Routers <li data-bbox="813 388 1406 417">• Cisco ASR 1000 Series Aggregation Services Routers <li data-bbox="813 438 1393 468">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 489 1219 518">• Cisco Catalyst 3650 Series Switches <li data-bbox="813 539 1219 569">• Cisco Catalyst 3850 Series Switches <li data-bbox="813 590 1219 619">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 640 1219 669">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 690 1219 720">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 741 1292 770">• Cisco cBR-8 Converged Broadband Router <li data-bbox="813 791 1289 821">• Cisco Cloud Services Router 1000V Series <p data-bbox="776 863 1117 892">Cisco IOS XE Gibraltar 16.11.1</p> <ul data-bbox="813 911 1422 940" style="list-style-type: none"> <li data-bbox="813 911 1422 940">• Cisco Catalyst 9500-High Performance Series Switches
NETCONF Global Lock and Kill Session	<p data-bbox="776 987 1065 1016">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="813 1035 1406 1577" style="list-style-type: none"> <li data-bbox="813 1035 1321 1064">• Cisco 1100 Series Integrated Services Routers <li data-bbox="813 1085 1321 1115">• Cisco 4000 Series Integrated Services Routers <li data-bbox="813 1136 1406 1165">• Cisco ASR 1000 Series Aggregation Services Routers <li data-bbox="813 1186 1393 1215">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 1236 1219 1266">• Cisco Catalyst 3650 Series Switches <li data-bbox="813 1287 1219 1316">• Cisco Catalyst 3850 Series Switches <li data-bbox="813 1337 1219 1367">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 1388 1219 1417">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 1438 1219 1467">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 1488 1292 1518">• Cisco cBR-8 Converged Broadband Router <li data-bbox="813 1539 1289 1568">• Cisco Cloud Services Router 1000v Series

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

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

Feature	Release & Platform
RESTCONF Protocol	

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

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

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

Feature	Release & Platform
gNMI Protocol	<p>Cisco IOS XE Fuji 16.8.1a</p> <ul style="list-style-type: none"> • Cisco Catalyst 9300 Series Switches • Cisco Catalyst 9400 Series Switches • Cisco Catalyst 9500 Series Switches <p>Cisco IOS XE Gibraltar 16.10.1</p> <ul style="list-style-type: none"> • Cisco Catalyst 9500-High Performance Series Switches <p>Cisco IOS XE Gibraltar 16.11.1</p> <ul style="list-style-type: none"> • Cisco Catalyst 9600 Series Switches <p>Cisco IOS XE Gibraltar 16.12.1</p> <ul style="list-style-type: none"> • Cisco Catalyst 9200 and 9200L Series Switches • Cisco Catalyst 9300L SKUs • Cisco cBR-8 Converged Broadband Router <p>Cisco IOS XE Amsterdam 17.1.1</p> <ul style="list-style-type: none"> • Cisco ASR 900 Series Aggregation Services Routers • Cisco ASR 920 Series Aggregation Services Router • Cisco Network Convergence System 520 Series • Cisco Network Convergence System 4200 Series <p>Cisco IOS XE Amsterdam 17.2.1r</p> <ul style="list-style-type: none"> • Cisco ASR 1000 Series Aggregation Services Routers

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

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 data-bbox="850 388 1360 420">• Cisco 4000 Series Integrated Services Routers<li data-bbox="850 438 1446 470">• Cisco ASR 1000 Series Aggregation Services Routers<li data-bbox="850 489 1433 520">• Cisco ASR 900 Series Aggregation Services Routers<li data-bbox="850 539 1433 571">• Cisco ASR 920 Series Aggregation Services Routers<li data-bbox="850 590 1321 621">• Cisco Cloud Services Router 1000v Series<li data-bbox="850 640 1321 672">• Cisco Network Convergence System 4200 <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 data-bbox="850 808 1256 840">• Cisco Catalyst 3850 Series Switches<li data-bbox="850 858 1256 890">• Cisco Catalyst 9300 Series Switches<li data-bbox="850 909 1256 940">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 959 1256 991">• Cisco Catalyst 9500 Series Switches

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

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

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 659" style="list-style-type: none"> <li data-bbox="850 342 1377 367">• Cisco Catalyst 9200 and 9200L Series Switches <li data-bbox="850 390 1377 415">• Cisco Catalyst 9300 and 9300L Series Switches <li data-bbox="850 438 1256 464">• Cisco Catalyst 9400 Series Switches <li data-bbox="850 487 1463 552">• Cisco Catalyst 9500 and 9500-High Performance Series Switches <li data-bbox="850 575 1256 600">• Cisco Catalyst 9600 Series Switches <li data-bbox="850 623 1330 648">• Cisco cBR-8 Converged Broadband Router <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 data-bbox="850 785 1409 810">• Cisco ASR 920 Series Aggregated Services Router <li data-bbox="850 833 1377 858">• Cisco Network Convergence System 520 Series <li data-bbox="850 882 1390 907">• Cisco Network Convergence System 4200 Series <p data-bbox="816 957 1170 982">Cisco IOS XE Amsterdam 17.2.1</p> <ul data-bbox="850 1003 1446 1029" style="list-style-type: none"> <li data-bbox="850 1003 1446 1029">• Cisco ASR 1000 Series Aggregation Services Routers <p data-bbox="816 1058 1170 1083">Cisco IOS XE Amsterdam 17.3.1</p> <ul data-bbox="850 1104 1446 1129" style="list-style-type: none"> <li data-bbox="850 1104 1446 1129">• Cisco ASR 1000 Series Aggregation Services Routers

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

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

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

Feature	Release & Platform
Application Hosting: Front-Panel Network Port Access	Cisco IOS XE Gibraltar 16.12.1 <ul style="list-style-type: none"> • Cisco Catalyst 9300 Series Switches Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"> • Cisco Catalyst 9400 Series Switches Note 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"> • Cisco Catalyst 9300 Series Switches Cisco IOS XE Amsterdam 17.1.1 <ul style="list-style-type: none"> • Cisco Catalyst 9400 Series Switches Note 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"> • Cisco Catalyst 9300 Series Switches Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> • Cisco Catalyst 9410 Series Switches
Application Hosting: ThousandEyes Integration	Cisco IOS XE Amsterdam 17.3.3 <ul style="list-style-type: none"> • Cisco Catalyst 9300 and 9300L Series Switches Cisco IOS XE Bengaluru 17.5.1 <ul style="list-style-type: none"> • Cisco Catalyst 9400 Series Switches Cisco IOS XE Bengaluru 17.6.1 <ul style="list-style-type: none"> • Cisco Catalyst 9300X Series Switches
ThousandEyes BrowserBot	Cisco IOS XE Bengaluru 17.6.1 <ul style="list-style-type: none"> • Cisco Catalyst 9300, 9300L, and 9300X Series Switches • Cisco Catalyst 9400 Series Switches
OpenFlow	

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