



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 Cisco IOS XE Cupertino 17.8.1 <ul style="list-style-type: none"> • Cisco Catalyst 9800-L Wireless Controllers C9800L
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 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 data-bbox="813 390 1406 422">• Cisco ASR 1000 Series Aggregation Services Routers <li data-bbox="813 443 1393 474">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 495 1219 527">• Cisco Catalyst 3650 Series Switches <li data-bbox="813 548 1219 579">• Cisco Catalyst 3850 Series Switches <li data-bbox="813 600 1219 632">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 653 1219 684">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 705 1219 737">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 758 1292 789">• Cisco cBR-8 Converged Broadband Router <li data-bbox="813 810 1289 842">• Cisco Cloud Services Router 1000V Series <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
NETCONF Global Lock and Kill Session	<p data-bbox="776 987 1065 1018">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="813 1035 1406 1581" style="list-style-type: none"> <li data-bbox="813 1035 1321 1066">• Cisco 1100 Series Integrated Services Routers <li data-bbox="813 1087 1321 1119">• Cisco 4000 Series Integrated Services Routers <li data-bbox="813 1140 1406 1171">• Cisco ASR 1000 Series Aggregation Services Routers <li data-bbox="813 1192 1393 1224">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 1245 1219 1276">• Cisco Catalyst 3650 Series Switches <li data-bbox="813 1297 1219 1329">• Cisco Catalyst 3850 Series Switches <li data-bbox="813 1350 1219 1381">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 1402 1219 1434">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 1455 1219 1486">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 1507 1292 1539">• Cisco cBR-8 Converged Broadband Router <li data-bbox="813 1560 1289 1591">• Cisco Cloud Services Router 1000v Series

Feature	Release & Platform
NETCONF-YANG SSH Server Support	<p data-bbox="816 296 1154 321">Cisco IOS XE Gibraltar 16.12.1</p> <ul data-bbox="850 342 1433 1192" style="list-style-type: none"><li data-bbox="850 342 1360 367">• Cisco 1000 Series Integrated Services Routers<li data-bbox="850 390 1360 415">• Cisco 4000 Series Integrated Services Routers<li data-bbox="850 438 1433 464">• Cisco ASR 900 Series Aggregation Services Routers<li data-bbox="850 487 1433 512">• Cisco ASR 920 Series Aggregation Services Routers<li data-bbox="850 535 1373 560">• Cisco ASR 1000 Aggregation Services Routers<li data-bbox="850 583 1256 609">• Cisco Catalyst 3650 Series Switches<li data-bbox="850 632 1256 657">• Cisco Catalyst 3850 Series Switches<li data-bbox="850 680 1256 705">• Cisco Catalyst 9200 Series Switches<li data-bbox="850 728 1256 753">• Cisco Catalyst 9300 Series Switches<li data-bbox="850 777 1256 802">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 825 1256 850">• Cisco Catalyst 9500 Series Switches<li data-bbox="850 873 1256 898">• Cisco Catalyst 9600 Series Switches<li data-bbox="850 921 1382 947">• Cisco Catalyst 9800 Series Wireless Controllers<li data-bbox="850 970 1333 995">• Cisco cBR-8 Converged Broadband Router<li data-bbox="850 1018 1328 1043">• Cisco Cloud Services Router 1000V Series<li data-bbox="850 1066 1377 1092">• Cisco Network Convergence System 520 Series<li data-bbox="850 1115 1393 1140">• Cisco Network Convergence System 4200 Series

Feature	Release & Platform
Named Method List	Cisco IOS XE Cupertino 17.9.1 <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 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms • Cisco Catalyst 8500 Series and 8500L Series Edge Platforms • 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 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	<p data-bbox="816 296 1154 321">Cisco IOS XE Cupertino 17.7.1</p> <ul data-bbox="850 342 1466 1178" style="list-style-type: none"><li data-bbox="850 342 1360 367">• Cisco 1000 Series Integrated Services Routers<li data-bbox="850 390 1360 415">• Cisco 4000 Series Integrated Services Routers<li data-bbox="850 438 1360 464">• Cisco ASR 900 Aggregation Services Routers<li data-bbox="850 487 1360 512">• Cisco ASR 920 Aggregation Services Routers<li data-bbox="850 535 1373 560">• Cisco ASR 1000 Aggregation Services Routers<li data-bbox="850 583 1377 609">• Cisco Catalyst 9200 and 9200L Series Switches<li data-bbox="850 632 1377 657">• Cisco Catalyst 9300 and 9300L Series Switches<li data-bbox="850 680 1256 705">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 728 1466 808">• Cisco Catalyst 9500 and 9500-High Performance Series Switches<li data-bbox="850 831 1256 856">• Cisco Catalyst 9600 Series Switches<li data-bbox="850 879 1344 905">• Cisco Catalyst 9800-40 Wireless Controllers<li data-bbox="850 928 1344 953">• Cisco Catalyst 9800-80 Wireless Controllers<li data-bbox="850 976 1333 1001">• Cisco cBR-8 Converged Broadband Router<li data-bbox="850 1024 1328 1050">• Cisco Cloud Services Router 1000V Series<li data-bbox="850 1073 1377 1098">• Cisco Network Convergence System 520 Series<li data-bbox="850 1121 1393 1146">• Cisco Network Convergence System 4200 Series

Feature	Release & Platform
Upgrade YANG Models to YANG 1.1	Cisco IOS XE Dublin 17.10.1 <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 <p>Cisco IOS XE Cupertino 17.8.1</p> <ul style="list-style-type: none"> • Cisco 1000 Series Integrated Services Routers • Cisco 4000 Series Integrated Services Routers • Cisco Catalyst 8000V Edge Software • Cisco Catalyst 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms • Cisco Catalyst 9800-CL Wireless Controllers • Cisco Catalyst 9800-40 Wireless Controllers • Cisco Catalyst 9800-80 Wireless Controllers

Feature	Release & Platform
gNMI IPv6 support	Cisco IOS XE Dublin 17.10.1 <ul style="list-style-type: none"> • Cisco Catalyst 9200, 9200L Series Switches • Cisco Catalyst 9300, 9300L, 9300X Series Switches • Cisco Catalyst 9400 Series Switches • Cisco Catalyst 9500 and 9500-High Performance Series Switches • Cisco Catalyst 9600 Series Switches
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

Feature	Release & Platform
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
Model-Based AAA	Cisco IOS XE Fuji 16.8.1 <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 • Cisco Network Convergence System 4200 Cisco IOS XE Fuji 16.8.1a <ul style="list-style-type: none"> • Cisco Catalyst 3650 Series Switches • Cisco Catalyst 3850 Series Switches • Cisco Catalyst 9300 Series Switches • Cisco Catalyst 9400 Series Switches • 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="818 296 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 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 550">• Cisco Catalyst 9500 and 9500-High Performance Series Switches <li data-bbox="850 573 1256 598">• Cisco Catalyst 9600 Series Switches <li data-bbox="850 621 1330 646">• Cisco cBR-8 Converged Broadband Router <p data-bbox="818 690 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="818 951 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 <p data-bbox="818 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 <p data-bbox="818 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 data-bbox="850 1281 1360 1306">• Cisco 4000 Series Integrated Services Routers <li data-bbox="850 1329 1325 1354">• Cisco Catalyst 8200 Series Edge Platforms <li data-bbox="850 1377 1325 1402">• Cisco Catalyst 8300 Series Edge Platforms

Feature	Release & Platform
TLS for gRPC Dial-Out	<p data-bbox="776 289 1133 321">Cisco IOS XE Amsterdam 17.1.1</p> <ul style="list-style-type: none"> <li data-bbox="813 338 1325 369">• Cisco 1000 Series Integrated Services Routers <li data-bbox="813 388 1325 420">• Cisco 4000 Series Integrated Services Routers <li data-bbox="813 438 1393 470">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 489 1484 583">• Cisco ASR 1000 Series Aggregation Services Routers ASR1000-RP1, ASR1000-RP2, ASR1000-RP3, ASR1001-HX, ASR1001-X, ASR1002-HX, ASR1002-X) <li data-bbox="813 602 1219 634">• Cisco Catalyst 9200 Series Switches <li data-bbox="813 653 1219 684">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 703 1219 735">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 753 1425 827">• Cisco Catalyst 9500 and 9500-High Performance Series Switches <li data-bbox="813 846 1219 877">• Cisco Catalyst 9600 Series Switches <li data-bbox="813 896 1292 928">• Cisco cBR-8 Converged Broadband Router <li data-bbox="813 947 1289 978">• Cisco Cloud Services Router 1000V Series <li data-bbox="813 997 1230 1029">• Cisco Catalyst IE3200 Rugged Series <li data-bbox="813 1047 1230 1079">• Cisco Catalyst IE3300 Rugged Series <li data-bbox="813 1098 1230 1129">• Cisco Catalyst IE3400 Rugged Series <li data-bbox="813 1148 1357 1180">• Cisco IR1101 Integrated Services Router Rugged <li data-bbox="813 1199 1341 1230">• Cisco Network Convergence System 520 Series <li data-bbox="813 1249 1354 1281">• Cisco Network Convergence System 4200 Series
TLDP On-Change Notifications	<p data-bbox="776 1333 1133 1365">Cisco IOS XE Amsterdam 17.2.1</p> <ul style="list-style-type: none"> <li data-bbox="813 1381 1325 1413">• Cisco 4000 Series Integrated Services Routers <li data-bbox="813 1432 1219 1463">• Cisco Catalyst 9200 Series Switches <li data-bbox="813 1482 1219 1514">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 1533 1219 1564">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 1583 1219 1614">• 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
Mutual Authentication for gRPC Telemetry	Cisco IOS XE Cupertino 17.9.1 <ul style="list-style-type: none"> • Cisco Catalyst 9800-CL Series Wireless Controller • Cisco Catalyst 9800-40 Series Wireless Controller • Cisco Catalyst 9800-80 Series Wireless Controller
Pubd Restartability	Cisco IOS XE Cupertino 17.9.1 <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 Catalyst 9600 Series Switches • Cisco Catalyst 9800-CL Series Wireless Controller • Cisco Catalyst 9800-40 Series Wireless Controller • Cisco Catalyst 9800-80 Series Wireless Controller • Cisco cBR-8 Converged Broadband Router • Cisco Cloud Services Router 1000V Series • Cisco Network Convergence System 520 Series • Cisco Network Convergence System 4200 Series

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: ERSPAN Support on the AppGigabitEthernet Port	Cisco IOS XE Dublin 17.10.1 <ul style="list-style-type: none"> • Cisco Catalyst 9300, 9300L, 9300X Series Switches • Cisco Catalyst 9400 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

Feature	Release & Platform
OpenFlow	
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

