



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 Cupertino 17.8.1 <ul style="list-style-type: none"> • Cisco Catalyst 9800-L Wireless Controllers
Secure Zero-Touch Provisioning	Cisco IOS XE Dublin 17.11.1 <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
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 data-bbox="776 289 1101 321">Cisco IOS XE Everest 16.5.1a</p> <ul data-bbox="813 338 1219 527" style="list-style-type: none"> <li data-bbox="813 338 1219 369">• Cisco Catalyst 3650 Series Switches <li data-bbox="813 386 1219 417">• Cisco Catalyst 3850 Series Switches <li data-bbox="813 434 1219 466">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 483 1219 514">• Cisco Catalyst 9500 Series Switches <p data-bbox="776 556 1101 588">Cisco IOS XE Everest 16.5.1b</p> <ul data-bbox="813 604 1325 636" style="list-style-type: none"> <li data-bbox="813 604 1325 636">• Cisco 4000 Series Integrated Services Routers <p data-bbox="776 667 1089 699">Cisco IOS XE Everest 16.6.2</p> <ul data-bbox="813 716 1219 747" style="list-style-type: none"> <li data-bbox="813 716 1219 747">• Cisco Catalyst 9400 Series Switches <p data-bbox="776 779 1052 810">Cisco IOS XE Fuji 16.7.1</p> <ul data-bbox="813 827 1481 940" style="list-style-type: none"> <li data-bbox="813 827 1481 890">• Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX) <li data-bbox="813 907 1289 938">• Cisco Cloud Services Router 1000V Series <p data-bbox="776 972 1065 1003">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="813 1020 1422 1052" style="list-style-type: none"> <li data-bbox="813 1020 1422 1052">• 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="816 291 1156 321">Cisco IOS XE Gibraltar 16.12.1</p> <ul data-bbox="850 338 1433 1192" style="list-style-type: none"><li data-bbox="850 338 1360 367">• Cisco 1000 Series Integrated Services Routers<li data-bbox="850 390 1360 420">• Cisco 4000 Series Integrated Services Routers<li data-bbox="850 443 1433 472">• Cisco ASR 900 Series Aggregation Services Routers<li data-bbox="850 495 1433 525">• Cisco ASR 920 Series Aggregation Services Routers<li data-bbox="850 548 1373 577">• Cisco ASR 1000 Aggregation Services Routers<li data-bbox="850 600 1256 630">• Cisco Catalyst 3650 Series Switches<li data-bbox="850 653 1256 682">• Cisco Catalyst 3850 Series Switches<li data-bbox="850 705 1256 735">• Cisco Catalyst 9200 Series Switches<li data-bbox="850 758 1256 787">• Cisco Catalyst 9300 Series Switches<li data-bbox="850 810 1256 840">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 863 1256 892">• Cisco Catalyst 9500 Series Switches<li data-bbox="850 915 1256 945">• Cisco Catalyst 9600 Series Switches<li data-bbox="850 968 1382 997">• Cisco Catalyst 9800 Series Wireless Controllers<li data-bbox="850 1020 1333 1050">• Cisco cBR-8 Converged Broadband Router<li data-bbox="850 1073 1328 1102">• Cisco Cloud Services Router 1000V Series<li data-bbox="850 1125 1377 1155">• Cisco Network Convergence System 520 Series<li data-bbox="850 1178 1393 1207">• Cisco Network Convergence System 4200 Series

Feature	Release & Platform
Named Method List	<p data-bbox="776 289 1117 321">Cisco IOS XE Cupertino 17.9.1</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 1395 470">• Cisco ASR 900 Series Aggregation Services Routers <li data-bbox="813 489 1395 520">• Cisco ASR 920 Series Aggregation Services Routers <li data-bbox="813 539 1336 571">• Cisco ASR 1000 Aggregation Services Routers <li data-bbox="813 590 1289 621">• Cisco Catalyst 8200 Series Edge Platforms <li data-bbox="813 640 1289 672">• Cisco Catalyst 8300 Series Edge Platforms <li data-bbox="813 690 1479 722">• Cisco Catalyst 8500 Series and 8500L Series Edge Platforms <li data-bbox="813 741 1219 772">• Cisco Catalyst 9200 Series Switches <li data-bbox="813 791 1219 823">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 842 1219 873">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 892 1219 924">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 942 1219 974">• Cisco Catalyst 9600 Series Switches <li data-bbox="813 993 1341 1024">• Cisco Catalyst 9800 Series Wireless Controllers <li data-bbox="813 1043 1289 1075">• Cisco Cloud Services Router 1000V Series <li data-bbox="813 1094 1341 1125">• Cisco Network Convergence System 520 Series <li data-bbox="813 1144 1354 1176">• Cisco Network Convergence System 4200 Series
Side-Effect Synchronization of the Configuration Database	<p data-bbox="776 1236 1117 1268">Cisco IOS XE Bengaluru 17.4.1</p> <ul style="list-style-type: none"> <li data-bbox="813 1285 1398 1316">• Cisco ASR 1000 Series Aggregated Services Routers <li data-bbox="813 1335 1219 1367">• Cisco Catalyst 9300 Series Switches <li data-bbox="813 1386 1219 1417">• Cisco Catalyst 9400 Series Switches <li data-bbox="813 1436 1219 1467">• Cisco Catalyst 9500 Series Switches <li data-bbox="813 1486 1219 1518">• Cisco Catalyst 9600 Series Switches

Feature	Release & Platform
YANG Model Version 1.1	<p data-bbox="816 291 1154 321">Cisco IOS XE Cupertino 17.7.1</p> <ul data-bbox="850 338 1466 1178" style="list-style-type: none"><li data-bbox="850 338 1360 367">• Cisco 1000 Series Integrated Services Routers<li data-bbox="850 390 1360 420">• Cisco 4000 Series Integrated Services Routers<li data-bbox="850 443 1360 472">• Cisco ASR 900 Aggregation Services Routers<li data-bbox="850 495 1360 525">• Cisco ASR 920 Aggregation Services Routers<li data-bbox="850 548 1373 577">• Cisco ASR 1000 Aggregation Services Routers<li data-bbox="850 600 1378 630">• Cisco Catalyst 9200 and 9200L Series Switches<li data-bbox="850 653 1378 682">• Cisco Catalyst 9300 and 9300L Series Switches<li data-bbox="850 705 1256 735">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 758 1466 816">• Cisco Catalyst 9500 and 9500-High Performance Series Switches<li data-bbox="850 840 1256 869">• Cisco Catalyst 9600 Series Switches<li data-bbox="850 892 1344 921">• Cisco Catalyst 9800-40 Wireless Controllers<li data-bbox="850 945 1344 974">• Cisco Catalyst 9800-80 Wireless Controllers<li data-bbox="850 997 1333 1026">• Cisco cBR-8 Converged Broadband Router<li data-bbox="850 1050 1328 1079">• Cisco Cloud Services Router 1000V Series<li data-bbox="850 1102 1378 1131">• Cisco Network Convergence System 520 Series<li data-bbox="850 1155 1390 1184">• 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	<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 Controller for Cloud • 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

Feature	Release & Platform
RESTCONF YANG-Patch Support	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 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 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms • Cisco Catalyst 9800-CL Wireless Controller for Cloud • 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
PROTO Encoding	Cisco IOS XE Dublin 17.11.1 <ul style="list-style-type: none"> • Cisco Catalyst 9200, 9200L, and 9200X Series Switches • Cisco Catalyst 9300, 9300L, and 9300X Series Switches • Cisco Catalyst 9400 and 9400X Series Switches • Cisco Catalyst 9500, 9500-High Performance, and 9500X Series Switches • Cisco Catalyst 9600 Series Switches

Feature	Release & Platform
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
gNMI Dial-Out Using the gRPC Tunnel Service	Cisco IOS XE Dublin 17.11.1 <ul style="list-style-type: none"> • Cisco Catalyst 9200, 9200L, and 9200CX Series Switches • Cisco Catalyst 9300, 9300L, and 9300X Series Switches • Cisco Catalyst 9400 and 9400X Series Switches • Cisco Catalyst 9500 and 9500-High Performance Series Switches • Cisco Catalyst 9600 and 9600X Series Switches • Cisco Network Convergence System 4200 Series

Feature	Release & Platform
Model-Based AAA	<p data-bbox="816 296 1089 321">Cisco IOS XE Fuji 16.8.1</p> <ul data-bbox="850 342 1446 678" 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 1446 464">• Cisco ASR 1000 Series Aggregation Services Routers<li data-bbox="850 487 1433 512">• Cisco ASR 900 Series Aggregation Services Routers<li data-bbox="850 535 1433 560">• Cisco ASR 920 Series Aggregation Services Routers<li data-bbox="850 583 1321 609">• Cisco Cloud Services Router 1000v Series<li data-bbox="850 632 1321 657">• Cisco Network Convergence System 4200 <p data-bbox="816 716 1102 741">Cisco IOS XE Fuji 16.8.1a</p> <ul data-bbox="850 762 1256 993" style="list-style-type: none"><li data-bbox="850 762 1256 787">• Cisco Catalyst 3650 Series Switches<li data-bbox="850 810 1256 835">• Cisco Catalyst 3850 Series Switches<li data-bbox="850 858 1256 884">• Cisco Catalyst 9300 Series Switches<li data-bbox="850 907 1256 932">• Cisco Catalyst 9400 Series Switches<li data-bbox="850 955 1256 980">• 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
	Cisco IOS XE Amsterdam 17.3.1 <ul style="list-style-type: none"> • Cisco Catalyst 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms
Model-Driven Telemetry gRPC Dial-out	Cisco IOS XE Gibraltar 16.10.1 <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 cBR-8 Converged Broadband Router • Cisco Cloud Services Router 1000V Series • Cisco Network Convergence System 520 Series • Cisco Network Convergence System 4200 Series Cisco IOS XE Gibraltar 16.11.1 <ul style="list-style-type: none"> • Cisco Catalyst 9600 Series Switches Cisco IOS XE Amsterdam 17.3.1 <ul style="list-style-type: none"> • Cisco Catalyst 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms

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"> • 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 cBR-8 Converged Broadband Router <p data-bbox="816 695 1170 720">Cisco IOS XE Amsterdam 17.1.1</p> <ul data-bbox="850 741 1430 926" style="list-style-type: none"> • Cisco ASR 900 Series Aggregation Services Routers • Cisco ASR 920 Series Aggregated Services Router • Cisco Network Convergence System 520 Series • Cisco Network Convergence System 4200 Series <p data-bbox="816 963 1170 989">Cisco IOS XE Amsterdam 17.2.1</p> <ul data-bbox="850 1010 1446 1035" style="list-style-type: none"> • Cisco ASR 1000 Series Aggregation Services Routers <p data-bbox="816 1073 1170 1098">Cisco IOS XE Amsterdam 17.3.1</p> <ul data-bbox="850 1119 1446 1144" style="list-style-type: none"> • Cisco ASR 1000 Series Aggregation Services Routers <p data-bbox="816 1182 1154 1207">Cisco IOS XE Cupertino 17.8.1</p> <ul data-bbox="850 1228 1360 1413" style="list-style-type: none"> • Cisco 1000 Series Integrated Services Routers • Cisco 4000 Series Integrated Services Routers • Cisco Catalyst 8200 Series Edge Platforms • Cisco Catalyst 8300 Series Edge Platforms

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
Subscription Dampening Period for On-Change Telemetry	Cisco IOS XE Dublin 17.11.1 <ul style="list-style-type: none"> • Cisco Catalyst 9800-CL Series Wireless Controller for Cloud • Cisco Catalyst 9800-40 Series Wireless Controller • Cisco Catalyst 9800-80 Series Wireless Controller

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 for Cloud • 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 for Cloud • 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
Multicast Routing on the AppGigabitEthernet Port	Cisco IOS XE Dublin 17.11.1 <ul style="list-style-type: none"> • Cisco Catalyst 9300, 9300L, 9300X Series Switches • Cisco Catalyst 9400 and 9400X Series Switches • Cisco Catalyst 9500-High Performance Series Switches • Cisco Catalyst 9600 and 9600X Series Switches

Feature	Release & Platform
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	
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

