

New and Changed Information

This chapter provides release-specific information about all features.

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New and Changed Feature Information

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

Table 1: New and Changed Feature Information

Feature	Release & Platform
Provisioning	

Feature	Release & Platform
Zero-Touch Provisioning	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco IOS XE Fuji 16.8.2
	Cisco ASR 1000 Series Aggregation Services Routers (ASR1004, ASR1006, ASR1006-X, ASR1009-X, ASR1013)
	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9200 Series Switches
	Note This feature is not supported on C9200L SKUs.
	Cisco Catalyst 9300L SKUs
	Cisco Catalyst 9600 Series Switches
	Cisco Catalyst 9800-40 Wireless Controllers
	Cisco Catalyst 9800-80 Wireless Controllers

Feature	Release & Platform
Zero Touch Provisioning: HTTP Download	Cisco IOS XE Fuji 16.8.1
	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
	Cisco Catalyst 9500-High Performance Series Switches
DHCPv6 Support for Zero-Touch	Cisco IOS XE Fuji 16.9.1
Provisioning	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
iPXE	Cisco IOS XE Denali 16.3.2 and Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3650 Series Switches
	Cisco IOS XE Everest 16.6.1
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco IOS XE Fuji 16.9.2
	Cisco Catalyst 9200 Series Switches
	Cisco IOS XE Gibraltar 16.11.1
	Cisco Catalyst 9600 Series Switches

Feature	Release & Platform
Guest Shell	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Fuji 16.8.1
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco IOS XE Fuji 16.9.1
	Cisco 1000 Series Integrated Services Routers
	Cisco IOS XE Gibraltar 16.11.1b
	Cisco Catalyst 9800-40 Wireless Controllers
	Cisco Catalyst 9800-80 Wireless Controllers
	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9200 Series Switches
	Note This feature is not supported on C9200L SKUs.
	Cisco Catalyst 9300L SKUs
	Cisco Catalyst 9600 Series Switches

Feature	Release & Platform
Python APIs	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches

Feature	Release & Platform
Python CLI Module	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Fuji 16.8.1
	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)
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches

Feature	Release & Platform
EEM Python Module	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.2.
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-X, ASR1001-HX, ASR1002-X, ASR1002-HX)
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches
Model-Driven Programmabilit	zy

Feature	Release & Platform
NETCONF Protocol	Cisco IOS XE Denali 16.3.1
	Cisco 4000 Series Integrated Services Routers
	Cisco ASR 1000 Series Aggregation Services Routers
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9400 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Fuji 16.8.1a
	Cisco 1000 Series Integrated Services Routers
	Cisco ASR 900 Series Aggregation Services Routers
	Cisco ASR 920 Series Aggregation Services Routers
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco cBR-8 Converged Broadband Router
	Cisco Network Convergence System 4200 Series
	Cisco IOS XE Fuji 16.9.2
	Cisco Catalyst 9200 and 9200L Series Switches
	Cisco Catalyst 9300L SKUs
	Cisco IOS XE Gibraltar 16.10.1
	Cisco Catalyst 9800-40 Wireless Controllers
	Cisco Catalyst 9800-80 Wireless Controllers
	Cisco Network Convergence System 520 Series
	Cisco IOS XE Gibraltar 16.11.1
	Cisco Catalyst 9600 Series Switches
	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9800-L Wireless Controllers

Feature	Release & Platform
NETCONF and RESTCONF IPv6 Support	Cisco IOS XE Fuji 16.8.1a
	Cisco 4000 Series Integrated Services Routers
	Cisco ASR 1000 Series Aggregation Services Routers
	Cisco ASR 900 Series Aggregation Services Routers
	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
	Cisco cBR-8 Converged Broadband Router
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Gibraltar 16.11.1
	Cisco Catalyst 9500-High Performance Series Switches
NETCONF Global Lock and Kill	Cisco IOS XE Fuji 16.8.1a
Session	Cisco 1100 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 Catalyst 3650 Series Switches
	Cisco Catalyst 3850 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

Feature	Release & Platform
NETCONF-YANG SSH Server Support	Cisco IOS XE Gibraltar 16.12.1
	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

Feature	Release & Platform
RESTCONF Protocol	Cisco IOS XE Everest 16.6.1
	Cisco 4000 Series Integrated Services Router
	Cisco ASR 1000 Aggregation Services Routers
	Cisco Cloud Services Router 1000V Series
	Cisco IOS XE Fuji 16.8.1a
	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
	Cisco IOS XE Fuji 16.9.2
	Cisco Catalyst 9200 Series Switches
	Cisco IOS XE Gibraltar 16.11.1
	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
	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9800-L Wireless Controllers

Feature	Release & Platform
NETCONF and RESTCONF Service-Level ACLs	Cisco IOS XE Gibraltar 16.11.1
	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 IE 3200, 3300, 3400 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
gNMI Protocol	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9400 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Gibraltar 16.10.1
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco IOS XE Gibraltar 16.11.1
	Cisco Catalyst 9600 Series Switches
	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9200 and 9200L Series Switches
	Cisco Catalyst 9300L SKUs
	Cisco cBR-8 Converged Broadband Router

Feature	Release & Platform
gNMI Username and Password Authentication	Cisco IOS XE Gibraltar 16.12.1
	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
Model-Based AAA	Cisco IOS XE Fuji 16.8.1
	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
	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	Cisco IOS XE Everest 16.6.1
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco 4000 Series Integrated Services Routers
	Cisco ASR 1000 Aggregation Services Routers (ASR1001-HX) ASR1001-X, ASR1002-HX, ASR1002-X
	Cisco IOS XE Fuji 16.8.1
	Cisco 1000 Series Integrated Services Routers
	Cisco ASR 1000 RP2 and RP3 Series Aggregation Services Routers
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches
	Cisco IOS XE Fuji 16.9.1
	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
	Cisco IOS XE Fuji 16.9.2
	Cisco Catalyst 9200 and 9200L Series Switches
	Cisco Catalyst 9300L SKUs
	Cisco IOS XE Gibraltar 16.10.1
	Cisco Cloud Services Router 1000v
	Cisco Network Convergence System 520 Series
	Cisco IOS XE Gibraltar 16.11.1
	Cisco Catalyst 9600 Series Switches

Feature	Release & Platform
Model-Driven Telemetry gRPC Dial-out	Cisco IOS XE Gibraltar 16.10.1
	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
	Cisco Catalyst 9600 Series Switches
Model-Driven Telemetry gNMI Dial-	-In Cisco IOS XE Gibraltar 16.12.1
	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

Feature	Release & Platform
Model-Driven Telemetry: Kill Subscription	Cisco IOS XE Gibraltar 16.11.1
	Cisco ASR 900 Series Aggregation Services Routers
	Cisco ASR 920 Series Aggregated Services Routers (RSP2)
	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 Network Convergence System 520 Series
	Cisco Network Convergence System 4200 Series
In-Service Model Updates	Cisco IOS XE Everest 16.5.1a
	Cisco Catalyst 9300 Series Switches
	Cisco Catalyst 9500 Series Switches
	Cisco IOS XE Everest 16.5.1b
	Cisco 4000 Series Integrated Services Routers
	Cisco IOS XE Everest 16.6.1
	Cisco Catalyst 3650 Series Switches
	Cisco Catalyst 3850 Series Switches
	Cisco IOS XE Everest 16.6.2
	Cisco Catalyst 9400 Series Switches
	Cisco IOS XE Fuji 16.7.1
	Cisco ASR 1000 Aggregation Services Routers
	Cisco IOS XE Fuji 16.8.1a
	Cisco Catalyst 9500-High Performance Series Switches.
Application Hosting	
Application Hosting	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9300 Series Switches

Feature	Release & Platform
Application Hosting: Front-Panel Network Port Access	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9300 Series Switches
Application Hosting: Front-Panel USB Port Access	Cisco IOS XE Gibraltar 16.12.1
	Cisco Catalyst 9300 Series Switches
OpenFlow	
OpenFlow	Cisco IOS XE Fuji 16.9.1
	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
	Catalyst 9300 Series Switches
	Catalyst 9400 Series Switches

New and Changed Feature Information