

# MX

## Cloud-Managed Security and SD-WAN



### Overview

The Cisco Meraki MX are multifunctional security & SD-WAN enterprise appliances with a wide set of capabilities to address multiple use cases—from an all-in-one device. Organizations of all sizes and across all industries rely on the MX to deliver secure connectivity to hub locations or multi-cloud environments, as well as application quality of experience (QoE), through advanced analytics with machine learning.

The MX is 100% cloud-managed, so installation and remote management is truly zero touch, making it ideal for distributed branches, campuses, and data center locations. Natively integrated with a comprehensive suite of secure network and assurance capabilities, the MX eliminates the need for multiple appliances. These capabilities include application-based firewalling, content filtering, web search filtering, SNORT®-based intrusion detection and prevention, Cisco Advanced Malware Protection (AMP), site-to-site Auto VPN, client VPN, WAN and cellular failover, dynamic path selection, web application health, VoIP health, and more. SD-WAN can be easily be extended to deliver optimized access to resources in public cloud environments with virtual MX appliances (vMX). Public clouds supported with vMX include Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, and Alibaba Cloud.

#### Advanced quality of experience (QoE) analytics

- End-to-end health of web applications at-a-glance across the LAN, WAN, and application server
- Machine-learned smart application thresholds autonomously applied to identify true anomalies based on past behavioral patterns
- Monitor the health of all MX WAN links, including cellular, across your entire organization at-a-glance
- Detailed hop-by-hop VoIP performance analysis across all uplinks

#### Feature-rich unified threat management (UTM) capabilities

- Application-aware traffic control: bandwidth policies for Layer 7 application types (e.g., block YouTube, prioritize Skype, throttle BitTorrent)
- Content filtering: CIPA-compliant content filter, safe-search enforcement (Google/Bing), and YouTube for Schools
- Intrusion prevention: PCI-compliant IPS sensor using industry-leading SNORT® signature database from Cisco
- Advanced Malware Protection: file reputation-based protection engine powered by Cisco AMP
- Identity-based security policies and application management

## Branch gateway services

- Built-in DHCP, NAT, QoS, and VLAN management services
- Web caching: accelerates frequently accessed content
- Load balancing: combines multiple WAN links into a single high-speed interface, with policies for QoS, traffic shaping, and failover
- Smart connection monitoring: automatic detection of layer 2 and layer 3 outages and fast failover, including option of integrated LTE Advanced or 3G/4G modems

## Industry-leading cloud management

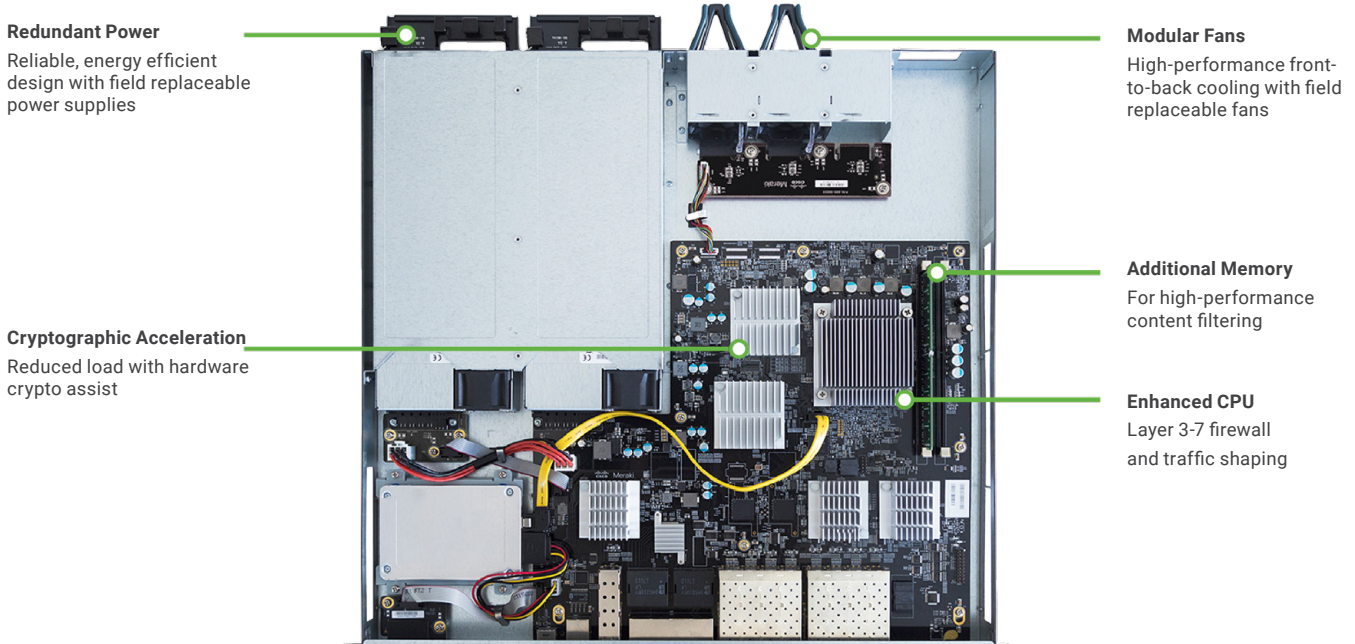
- Unified firewall, switching, wireless LAN, and mobile device management through an intuitive web-based dashboard
- Template-based settings scale easily from small deployments to tens of thousands of devices
- Role-based administration, configurable email alerts for a variety of important events, and easily auditable change logs
- Summary reports with user, device, and application usage details archived in the cloud

## Intelligent site-to-site VPN with Meraki SD-WAN

- Auto VPN: automatic VPN route generation using IKE/IPsec setup. Runs on physical MX appliances and as a virtual instance within the Amazon AWS or Microsoft Azure cloud services
- SD-WAN with active / active VPN, policy-based-routing, dynamic VPN path selection, and support for application-layer performance profiles to ensure prioritization of the applications types that matter
- Interoperates with all IPsec VPN devices and services
- Automated MPLS to VPN failover within seconds of a connection failure
- Client VPN: L2TP IPsec support for native Windows, Mac OS X, iPad and Android clients with no per-user licensing fees

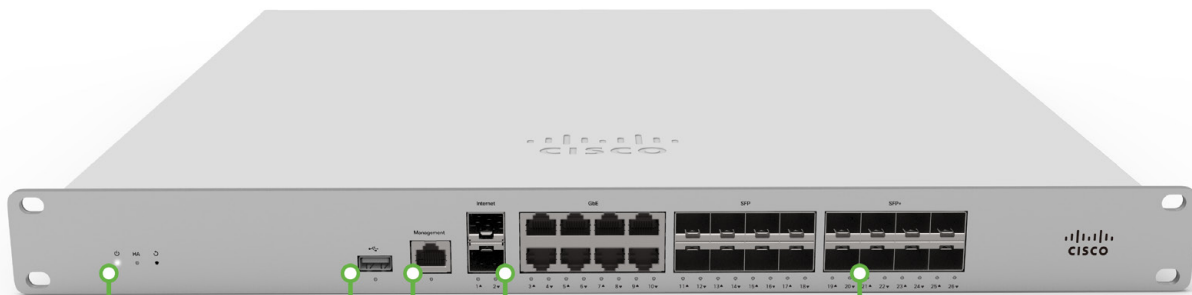
**Inside the Meraki MX**

MX450 shown, features vary by model



**Front of the Cisco Meraki MX**

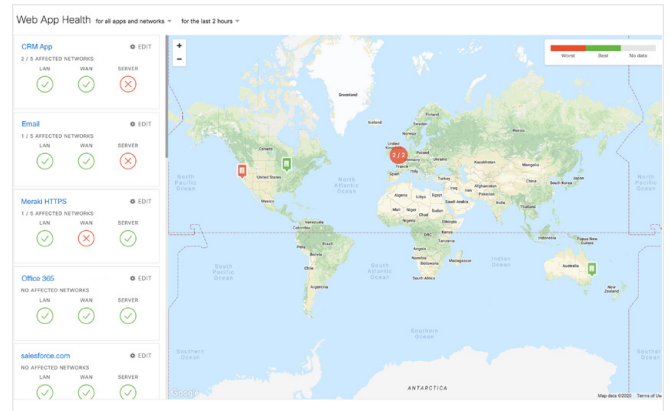
MX450 shown, features vary by model



- Multicolor Status LED**  
Monitor device status
- 3G/4G Modem Support**  
Automatic cellular failover
- Management Interface**  
Local device access
- Dual 10G WAN Interfaces**  
Load balancing and SD-WAN
- 1G/10G Ethernet/SFP+ Interfaces**  
10G SFP+ interfaces for high-speed LAN connectivity

# Secure Cisco SD-WAN powered by Meraki

Secure Cisco SD-WAN powered by Meraki is delivered by the MX appliances. SD-WAN powered by Meraki has helped thousands of organizations rapidly save costs by reducing their dependence on MPLS without compromising on performance. As enterprises continue to shift from hub-centric architectures interconnected with VPN to ones that leverage public Internet connectivity, SD-WAN powered by Meraki delivers advanced analytics with ML to monitor and optimize quality of experience (QoE) for applications, regardless of where they might be hosted.

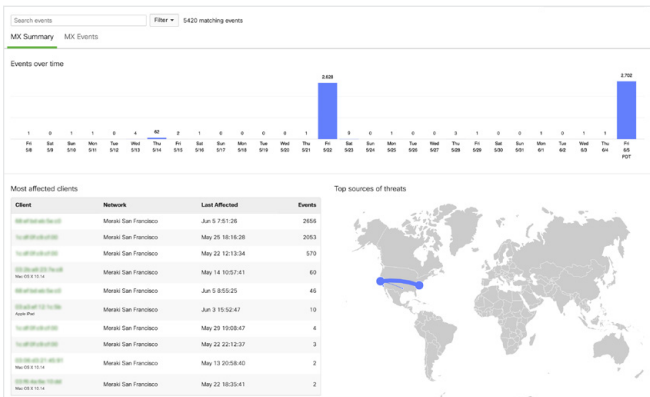


## Transport independence

Leverage more than one uplink of any type with automatic failover—MPLS, broadband, fiber, or cellular.

## Advanced analytics

Coming soon: at-a-glance health of web applications with ML thresholds, VoIP, and WAN with predictive analytics.



## Native security

Integrated with next-gen firewall, content filtering, and Advanced Malware Protection (AMP) and IDS/IPS informed by Cisco Talos.

## SaaS quality of experience

Manual and performance-based path selection using advanced analytics.

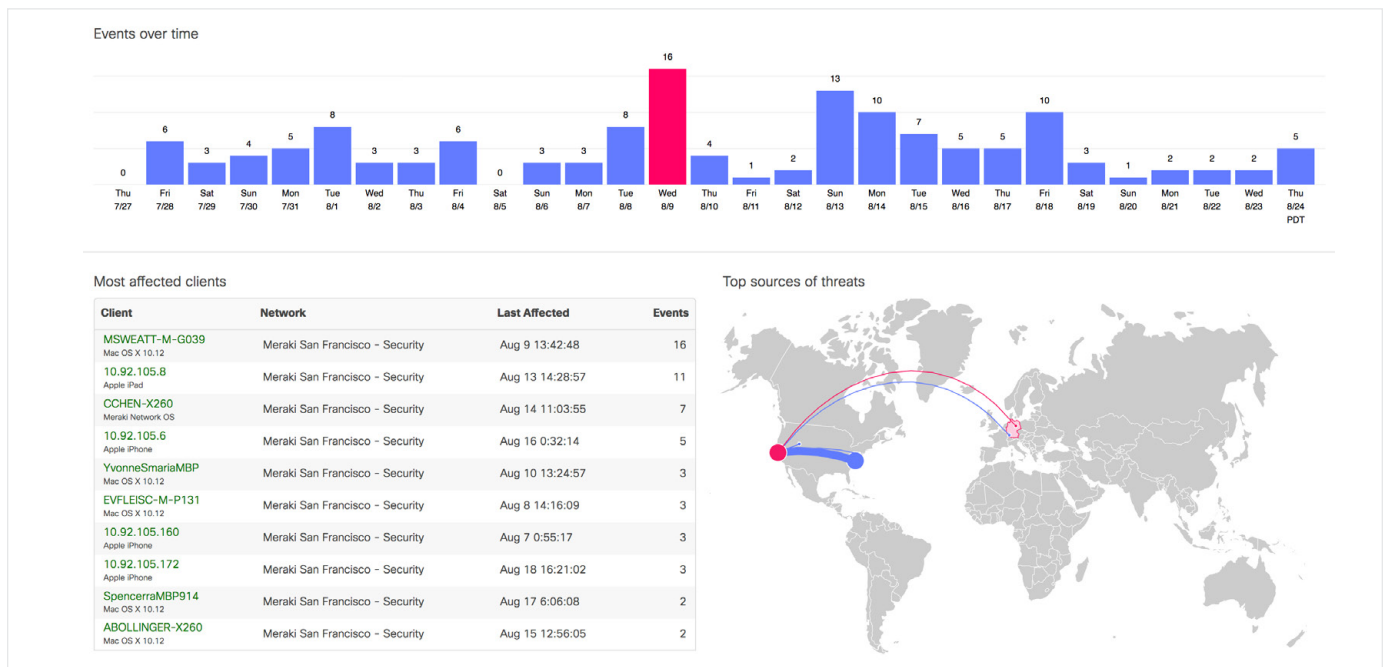
## Ironclad security

The MX platform has an extensive suite of security features, including IDS/IPS, content filtering, web search filtering, anti-malware, geo-IP-based firewalling, IPsec VPN connectivity, and Cisco Advanced Malware Protection, while providing the performance required for modern, bandwidth-intensive networks.

Layer 7 fingerprinting technology lets administrators identify unwanted content and applications, and prevents recreational apps like BitTorrent from wasting precious bandwidth.

The integrated Cisco SNORT® engine delivers superior intrusion prevention coverage, a key requirement for PCI 3.2 compliance. The MX also uses the Webroot BrightCloud® URL categorization database for CIPA/IWF-compliant content filtering, Cisco Advanced Malware Protection (AMP) engine for anti-malware, AMP Threat Grid Cloud, and MaxMind for geo-IP-based security rules.

Best of all, these industry-leading Layer 7 security engines and signatures are always kept up-to-date via the cloud, simplifying network security management and providing peace of mind to IT administrators.



### Organization-Level Threat Assessment with Meraki Security Center

**Group policies - Students**

Name:

Bandwidth:  unlimited [Details](#)

Firewall and traffic shaping  [Custom network firewall & shaping rules](#)

#	Policy	Protocol	Source	Src port	Destination	Dst port	Comment	Actions
	Allow	Any	Any	Any	Any	Any	Default rule	

[Add a firewall rule](#)

#	Policy	Application	Actions
1	Deny	Peer-to-peer (P2P)	BitTorrent
2	Deny	Online backup	All Online backup

[Add a layer 7 firewall rule](#)

### Identity-Based Policy Management

**Security Center Assessment**

File Name	Score	Behavioral Indicators	URL
8d9a80afe7d10c4022380a912c25842266ef965d01368bde04dea105e8c2a43f	95	10	http://198.19.7.11/malware
/8d9a80afe7d10c4022380a912c25842266ef965d01368bde04dea105e8c2a43f			

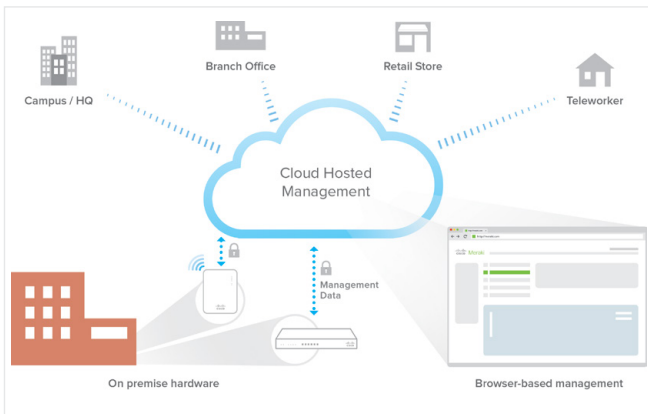
### Cisco Threat Grid Cloud for Malicious File Sandboxing

## Cloud-managed architecture

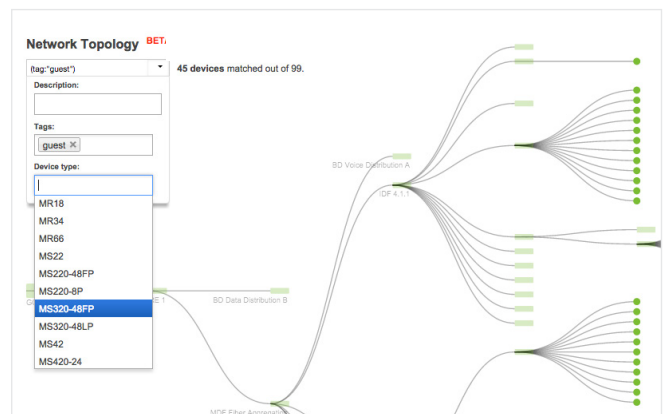
Built on Cisco Meraki's award-winning cloud architecture, the MX is the industry's only 100% cloud-managed solution for unified threat management (UTM) and SD-WAN in a single appliance. MX appliances self-provision, automatically pulling policies and configuration settings from the cloud. Powerful remote-management tools provide network-wide visibility and control, and enable administration without the need for on-site networking expertise.

Cloud services deliver seamless firmware and security signature updates, automatically establish site-to-site VPN tunnels, and provide 24x7 network monitoring. Moreover, the MX's intuitive browser-based management interface removes the need for expensive and time-consuming training.

For customers moving IT services to a public cloud service, Meraki offers a virtual MX for use in Amazon Web Services and Microsoft Azure, enabling Auto VPN peering and SD-WAN for dynamic path selection.



Cisco Meraki Cloud Management Architecture



End-to-End Network Visibility and Troubleshooting

## Integrated 802.11ac Wave 2 Wireless

The MX67W, MX68W, and MX68CW integrate Cisco Meraki's award-winning wireless technology with the powerful MX network security features in a compact form factor ideal for branch offices or small enterprises.

- Dual-band 802.11n/ac Wave 2, 2x2 MU-MIMO with 2 spatial streams
- Unified management of network security and wireless
- Integrated enterprise security and guest access



MX68CW Security & SD-WAN Appliance

## LTE Advanced

While all MX models feature a USB port for 3G/4G failover, the MX67C and MX68CW include a SIM slot and internal LTE modem. This integrated functionality removes the need for external hardware and allows for cellular visibility and configuration within the Meraki dashboard.

- 1 x CAT 6, 300 Mbps LTE modem
- 1 x Nano SIM slot (4ff form factor)
- Global coverage with individual orderable SKUs for North America and worldwide



MX67C SIM Slot

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## Power over Ethernet

The MX68, MX68W, and MX68CW include two ports with 802.3at (PoE+). This built-in power capability removes the need for additional hardware to power critical branch devices.

- 2 x 802.3at (PoE+) ports capable of providing a total of 60W
- APs, phones, cameras, and other PoE-enabled devices can be powered without the need for AC adapters, PoE converters, or unmanaged PoE switches



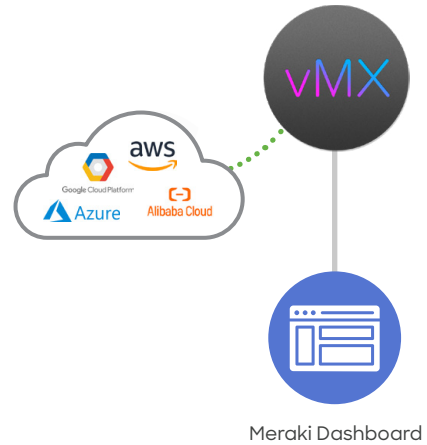
MX68 Port Configuration

## Meraki Virtual MX Appliances for Public Clouds

Virtual MX (vMX) is a virtual instance of a Meraki security & SD-WAN appliance dedicated specifically to providing the simple configuration benefits of site-to-site Auto VPN for organizations running or migrating IT services to public cloud environments. An Auto VPN tunnel to a vMX is like having a direct Ethernet connection to a private data center.

Features and functionality of the vMX appliance:

- Securely connect branch sites with a physical MX appliance to resources in public cloud environments in three clicks with Auto VPN
- Extend SD-WAN to public cloud environments for optimized access to business-critical resources
- No hardware, only a Meraki license is required
- Available in three VPN throughput-based sizes to suit a wide range of use cases: small, medium, large
- Supported public cloud platforms: Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)<sup>1</sup>, Alibaba Cloud





vMX functions like a VPN concentrator and includes SD-WAN functionality like other MX devices. For public cloud environments, a vMX is added via the respective public cloud marketplace and then configured in the Meraki dashboard, just like any other MX.

<sup>1</sup> Targeted Q2 2021



## Desktop and All-in-One Models







	<b>MX64</b> 	<b>MX64W</b> 
<b>Recommended Use Cases</b>	Small branch	Small branch
<b>Recommended Clients</b>	50	50
<b>Stateful Firewall Throughput</b>	250 Mbps	250 Mbps
<b>Advanced Security Throughput</b>	200 Mbps	200 Mbps
<b>Maximum site-to-site VPN Throughput</b>	100 Mbps	100 Mbps
<b>Maximum Concurrent site-to-site VPN Tunnels<sup>3</sup></b>	50	50
<b>WAN Interfaces</b>		
<b>Dedicated</b>	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )
<b>Dual-purpose<sup>2</sup></b>	1 x GbE RJ45	1 x GbE RJ45
<b>LAN Interfaces</b>		
<b>Fixed</b>	4 x GbE RJ45	4 x GbE RJ45
<b>Web Caching</b>	-	-
<b>Mounting</b>	Desktop or Wall mount	Desktop or Wall mount
<b>Dimensions (w x d x h)</b>	9.5" x 5.2" x 1" (239mm x 132mm x 25mm)	9.5" x 5.2" x 1" (239mm x 132mm x 25mm)
<b>Weight</b>	1.61 lb (0.7 kg)	3.04 lb (1.4 kg)
<b>Power Supply</b>	30W DC (included)	30W DC (included)
<b>Power Load (idle/max)</b>	4W / 10W	6W / 13W
<b>Operating Temperature</b>	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
<b>Humidity</b>	5% to 95%	5% to 95%

<sup>1</sup>Requires separate cellular modem

<sup>2</sup>Interface configurable for WAN or LAN use

<sup>3</sup>The maximum concurrent VPN tunnels are based on lab testing scenarios where no client traffic is transferring over the VPN tunnels.

## Desktop and All-in-One Models





	<b>MX67</b>	<b>MX67W</b>	<b>MX67C</b>	<b>MX68</b>	<b>MX68W</b>	<b>MX68CW</b>
						
<b>Recommended Use Cases</b>	Small branch	Small branch	Small branch	Small branch	Small branch	Small branch
<b>Recommended Clients</b>	50	50	50	50	50	50
<b>Stateful Firewall Throughput</b>	450 Mbps	450 Mbps	450 Mbps	450 Mbps	450 Mbps	450 Mbps
<b>Advanced Security Throughput</b>	300 Mbps	300 Mbps	300 Mbps	300 Mbps	300 Mbps	300 Mbps
<b>Maximum site-to-site VPN Throughput</b>	200 Mbps	200 Mbps	200 Mbps	200 Mbps	200 Mbps	200 Mbps
<b>Maximum Concurrent site-to-site VPN Tunnels<sup>3</sup></b>	50	50	50	50	50	50
<b>WAN Interfaces Dedicated</b>	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> ) 1 x Integrated CAT 6 LTE Cellular Modem (cellular failover)	2 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	2 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	2 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> ) 1 x Integrated CAT 6 LTE Cellular Modem (cellular failover)
<b>Dual-purpose<sup>2</sup></b>	1 x GbE RJ45	1 x GbE RJ45	1 x GbE RJ45	-	-	-
<b>LAN Interfaces Fixed</b>	4 x GbE RJ45	4 x GbE RJ45	4 x GbE RJ45	10 x GbE RJ45 (2 x PoE+)	10 x GbE RJ45 (2 x PoE+)	10 x GbE RJ45 (2 x PoE+)
<b>Web Caching</b>	-	-	-	-	-	-
<b>Mounting</b>	Desktop or wall mount	Desktop or wall mount	Desktop or wall mount	Desktop or wall mount	Desktop or wall mount	Desktop or wall mount
<b>Dimensions (w x d x h)</b>	9.4" x 5.1" x 1.1" (239mm x 130mm x 27mm)	9.4" x 6.5" x 1.1" (239mm x 164mm x 27mm)	9.4" x 6.9" x 1.1" (239mm x 176mm x 27mm)	11.2" x 5.8" x 1.1" (284mm x 148mm x 27mm)	11.2" x 6.8" x 1.1" (284mm x 172mm x 27mm)	11.2" x 7" x 1.1" (284mm x 178mm x 27mm)
<b>Weight</b>	1.74 lb (0.7kg)	1.84 lb (0.83 kg)	1.87 lb (0.85 kg)	2.46 lb (1.12 kg)	2.55 lb (1.16 kg)	2.61 lb (1.18 kg)
<b>Power Supply</b>	30W DC	30W DC	30W DC	100W DC	100W DC	100W DC
<b>Power Load (idle/max)</b>	5W / 14W	15W / 23W	6W / 17W	11W / 79W	19W / 87W	19W / 89W
<b>Operating Temperature</b>	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
<b>Humidity</b>	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%

<sup>1</sup> Requires separate cellular modem

<sup>2</sup> Interface configurable for WAN or LAN use

<sup>3</sup> The maximum concurrent VPN tunnels are based on lab testing scenarios where no client traffic is transferring over the VPN tunnels. For information on recommended maximum concurrent site-to-site and client VPN tunnels, visit MX Sizing Guide.

## Rack Mount Models

	 <b>MX84</b>	 <b>MX100</b>	 <b>MX250</b>	 <b>MX450</b>
<b>Recommended Use Cases</b>	Medium branch	Large branch	Campus or VPN concentrator	Campus or VPN concentrator
<b>Recommended Clients</b>	200	500	2,000	10,000
<b>Stateful Firewall Throughput</b>	500 Mbps	750 Mbps	4 Gbps	6 Gbps
<b>Advanced Security Throughput</b>	320 Mbps	650 Mbps	2 Gbps	4 Gbps
<b>Maximum site-to-site VPN Throughput</b>	250 Mbps	500 Mbps	1 Gbps	2 Gbps
<b>Maximum Concurrent site-to-site VPN Tunnels<sup>3</sup></b>	100	250	3,000	5,000
<b>WAN Interfaces Dedicated</b>	2 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	1 x GbE RJ45 1 x USB (cellular failover <sup>1</sup> )	2 x 10GbE SFP+ 1 x USB (cellular failover <sup>1</sup> )	2 x 10GbE SFP+ 1 x USB (cellular failover <sup>1</sup> )
<b>Dual-purpose<sup>2</sup></b>	-	1 x GbE RJ45	-	-
<b>LAN Interfaces Fixed</b>	8 x GbE2 x GbE (SFP)	8 x GbE 2 x GbE (SFP)	8 x GbE (RJ45) 8 x GbE (SFP) 8 x 10GbE (SFP+)	8 x GbE (RJ45) 8 x GbE (SFP) 8 x 10GbE (SFP+)
<b>Web Caching</b>	1TB	1TB	128GB (SSD)	128GB (SSD)
<b>Mounting</b>	1U rack	1U rack	1U rack	1U rack
<b>Dimensions (w x d x h)</b>	19" x 10" x 1.75" (483 mm x 254 mm x 44 mm)	19" x 10" x 1.75" (483 mm x 254 mm x 44 mm)	19" x 17.3" x 1.75" (483 mm x 440 mm x 44 mm)	19" x 17.3" x 1.75" (483 mm x 440 mm x 44 mm)
<b>Weight</b>	9 lb (4.1kg)	9 lb (4.1kg)	16 lb (7.3kg)	16 lb (7.3kg)
<b>Power Supply</b>	Internal 100-220V 50/60Hz AC	Internal 100-220V 50/60Hz AC	Modular 100-220V 50/60Hz AC 2 x 250WAC PSU	Modular 100-220V 50/60Hz AC 2 x 250WAC PSU
<b>Power Load (idle/max)</b>	26W / 32W	30W / 55W	105W / 190W	105W / 190W
<b>Operating Temperature</b>	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
<b>Humidity</b>	5% to 95%	5% to 95%	5% to 95%	5% to 95%

<sup>1</sup> Requires separate cellular modem

<sup>2</sup> Interface configurable for WAN or LAN use

<sup>3</sup> The maximum concurrent VPN tunnels are based on lab testing scenarios where no client traffic is transferring over the VPN tunnels. For information on recommended maximum concurrent site-to-site and client VPN tunnels, visit MX Sizing Guide.

## Virtual appliance models

	vMX - Small	vMX - Medium	vMX - Large
<b>Recommended use cases</b>	Extend secure SD-WAN connectivity from branch sites to resources in public cloud environments		
<b>Interfaces</b>	Virtual	Virtual	Virtual
<b>Supported Cloud Platforms</b>	AWS Azure Google Cloud Platform <sup>1</sup> Alibaba Cloud	AWS Azure Google Cloud Platform <sup>1</sup> Alibaba Cloud	AWS Azure Alibaba Cloud
<b>Maximum site-to-site VPN Throughput</b>	200 Mbps	500 Mbps	1 Gbps
<b>Maximum Concurrent site-to-site VPN Tunnels</b>	50	250	1,000
<b>Client VPN Support</b>	Yes	Yes	Yes

<sup>1</sup> Targeted Q2 2021

## Included in the box

Package Contents	Platform(s)
Mounting kit	All
Cat 5 Ethernet cable (2)	All
AC power adapter	MX64, MX64W, MX67, MX67W, MX67C, MX68, MX68W, MX68CW
Wireless external omni antenna (2)	MX64W, MX67W, MX68W
250W power supply (2)	MX250, MX450
System fan (2)	MX250, MX450
SIM card ejector tool	MX67C, MX68CW
Fixed external wireless and LTE paddle antennas	MX68CW
Removable external LTE paddle antennas	MX67C

## Lifetime Warranty with Next-Day Advanced Replacement

Cisco Meraki MX appliances include a limited lifetime hardware warranty that provides next-day advance hardware replacement. Cisco Meraki's simplified software and support licensing model also combines all software upgrades, centralized systems management, and phone support under a single, easy-to-understand model.

For complete details, please visit [meraki.cisco.com/support](https://meraki.cisco.com/support).

## Licensing

Given the range of use cases that can be solved, there are three license options for the MX appliance that give customers the flexibility to select the license most appropriate for their intended use.

The licensing structure for MX appliances is the same as that of any other Meraki device—1:1 ratio of devices to licenses. Pair your chosen MX appliance(s) with the relevant license for your use case.



### Enterprise

#### Essential SD-WAN features:

Secure connectivity  
& basic security

Ideal for when only seamless site-to-site VPN connectivity with a firewall is needed.



### Advanced Security

#### All enterprise features plus:

Fully featured unified  
threat management

Ideal for organizations with sites also connecting to the Internet so unified threat management security is required.



### Secure SD-WAN Plus

#### All advanced security features plus:

Advanced analytics with ML Smart  
SaaS quality of experience  
Tag-based segmentation

Ideal for organizations reliant on apps served by SaaS, IaaS, or data center locations.

## Accessories

The Cisco Meraki MX84, MX100, MX250, and MX450 models support pluggable optics for high-speed backbone connections between wiring closets or to aggregation switches. Cisco Meraki offers several standards-based Gigabit and 10 Gigabit pluggable modules. Each appliance has also been tested for compatibility with several third-party modules.



MX68 Port Configuration

### Accessories / SFP transceivers

Supported Cisco Meraki accessory modules

Model	Description
MA-SFP-1GB-SX	Cisco Meraki 1 GbE SFP SX Fiber Module (1000BASE-SX, range: 550m) for MX84, MX100, MX250, MX450
MA-SFP-1GB-TX	Cisco Meraki 1 GbE RJ45 Copper Module (1000BASE-T for twisted pair) for MX84, MX100, MX250, MX450
MA-SFP-10GB-SR	Cisco Meraki 10 GbE Short Range SFP+ Module (10GBASE-SR, range: 400m) for MX250, MX450
MA-CBL-TA-1M	Cisco Meraki 10 GbE Twinax Cable with SFP+ Connectors (10GSFP+Cu, range: 1m) for MX250, MX450
MA-CBL-TA-3M	Cisco Meraki 10 GbE Twinax Cable with SFP+ Connectors (10GSFP+Cu, range: 3m) for MX250, MX450
MA-PWR-30WAC	Replacement Power Adapter (30W) for MX64, MX64W, MX67, MX67W, MX67C
MA-PWR-100WAC	Replacement Power Adapter (100W) for MX68, MX68W, MX68CW
MA-PWR-250WAC	Meraki MX250/MX450 Power Supply Unit (PSU)
MA-FAN-18K	Meraki 18K RPM System Fan for MX250 and MX450
MA-ANT-MX	One pair of external dual-band dipole antennas (connector type: RP-SMA) for MX64W, MX67W, or MX68W

### Power cables

1x power cable required for each MX, 2x power cables required for MX250 and MX450. For U.S. customers, all required power cables will be automatically included. Customers outside the U.S. are required to order power cords separately.

#### SKU

- MA-PWR-CORD-US
- MA-PWR-CORD-EU
- MA-PWR-CORD-UK
- MA-PWR-CORD-AU



# MX specifications

## Management

- Managed via the web using the Cisco Meraki dashboard
- Single pane-of-glass into managing wired and wireless networks
- Zero-touch remote deployment (no staging needed)
- Automatic firmware upgrades and security patches
- Template-based multi-network management
- Org-level two-factor authentication and single sign-on
- Role-based administration with change logging and alerts

## Monitoring and Reporting

- Throughput, connectivity monitoring, and email alerts
- Detailed historical per-port and per-client usage statistics
- Application usage statistics
- Org-level change logs for compliance and change management
- VPN tunnel and latency monitoring
- Network asset discovery and user identification
- Periodic emails with key utilization metrics
- Device performance and utilization reporting
- Netflow support
- Syslog integration

## Remote Diagnostics

- Live remote packet capture
- Real-time diagnostic and troubleshooting tools
- Aggregated event logs with instant search

## Network and Firewall Services

- Stateful firewall, 1:1 NAT, DMZ
- Identity-based policies
- Auto VPN: automated site-to-site (IPsec) VPN for hub-and-spoke or mesh topologies
- Client (IPsec L2TP) VPN
- Multiple WAN IP, PPPoE, NAT
- VLAN support and DHCP services
- Static routing
- User and device quarantine

## WAN Performance Management

- Web caching (available on the MX84, MX100, MX250, MX450)
- WAN link aggregation
- Automatic Layer 3 failover (including VPN connections)
- 3G/4G USB modem failover or single uplink
- Application-level (Layer 7) traffic analysis and shaping
- Ability to choose WAN uplink based on traffic type
- SD-WAN: dual-active VPN with policy-based routing and dynamic path selection
- CAT 6 LTE modem for failover or single uplink<sup>1</sup>

<sup>1</sup> MX67C and MX68CW only

# MX specifications

## Advanced Security Services<sup>1</sup>

Content filtering (Webroot BrightCloud CIPA-compliant URL database)

Web-search filtering (including Google/Bing SafeSearch)

YouTube for Schools

Intrusion-prevention sensor (Cisco SNORT® based)

Advanced Malware Protection (AMP)

AMP Threat Grid<sup>2</sup>

<sup>1</sup>Advanced security services require Advanced Security license  
<sup>2</sup>Threat Grid services require additional sample pack licensing

## Integrated Wireless (MX64W, MX67W, MX68W, MX68CW)

1 x 802.11a/n/ac (5 GHz) radio

1 x 802.11b/g/n (2.4 GHz) radio

Max data rate 1.2 Gbps aggregate (MX64W), 1.3 Gbps aggregate (MX67W, MX68W, MX68CW)

2 x 2 MU-MIMO with two spatial streams (MX67W, MX68W, MX68CW)

2 external dual-band dipole antennas (connector type: RP-SMA)

Antenna gain: 3.0 dBi @ 2.4 GHz, 3.5 dBi @ 5 GHz

WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X authentication

FCC (U.S.): 2.412-2.462 GHz, 5.150-5.250 GHz (UNII-1), 5.250-5.350 GHz (UNII-2), 5.470-5.725 GHz (UNII-2e), 5.725 -5.825 GHz (UNII-3)

CE (Europe): 2.412-2.484 GHz, 5.150-5.250 GHz (UNII-1), 5.250-5.350 GHz (UNII-2) 5.470-5.600 GHz, 5.660-5.725 GHz (UNII-2e)

Additional regulatory information: IC (Canada), C-Tick (Australia/New Zealand), RoHS

## Integrated Cellular (MX67C and MX68CW only)

LTE bands: 2, 4, 5, 12, 13, 17, and 19 (North America). 1, 3, 5, 7, 8, 20, 26, 28A, 28B, 34, 38, 39, 40, and 41 (worldwide)

300 Mbps CAT 6 LTE

Additional regulatory information: PTCRB (North America), RCM (ANZ, APAC), GCF (EU)

## Power over Ethernet (MX68, MX68W, MX68CW)

2 x PoE+ (802.3at) LAN ports

30W maximum per port

## Regulatory

FCC (U.S.)

CB (IEC)

CISPR (Australia/New Zealand)

PTCRB (North America)

RCM (Australia/New Zealand, Asia Pacific)

GCF (EU)

## Warranty

Full lifetime hardware warranty with next-day advanced replacement included.



## Ordering Guide

To place an order for an MX appliance, pair a specific hardware model with a single license (which includes cloud services, software upgrades, and support). For example, to order an MX64 with three years of Advanced Security license, order an MX64-HW with LIC-MX64-SEC-3YR. Lifetime warranty with advanced replacement is included on all hardware at no additional cost.

Model	License	Description
MX64-HW	LIC-MX64-ENT-1YR LIC-MX64-ENT-3YR LIC-MX64-ENT-5YR	Cisco Meraki MX64, 1-year Enterprise License and Support Cisco Meraki MX64, 3-year Enterprise License and Support Cisco Meraki MX64, 5-year Enterprise License and Support
	LIC-MX64-SEC-1YR LIC-MX64-SEC-3YR LIC-MX64-SEC-5YR	Cisco Meraki MX64, 1-year Advanced Security License and Support Cisco Meraki MX64, 3-year Advanced Security License and Support Cisco Meraki MX64, 5-year Advanced Security License and Support
	LIC-MX64-SDW-1YR LIC-MX64-SDW-3YR LIC-MX64-SDW-5YR	Cisco Meraki MX64, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX64, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX64, 5-year Secure SD-WAN Plus License and Support
MX64W-HW	LIC-MX64W-ENT-1YR LIC-MX64W-ENT-3YR LIC-MX64W-ENT-5YR	Cisco Meraki MX64W, 1-year Enterprise License and Support Cisco Meraki MX64W, 3-year Enterprise License and Support Cisco Meraki MX64W, 5-year Enterprise License and Support
	LIC-MX64W-SEC-1YR LIC-MX64W-SEC-3YR LIC-MX64W-SEC-5YR	Cisco Meraki MX64W, 1-year Advanced Security License and Support Cisco Meraki MX64W, 3-year Advanced Security License and Support Cisco Meraki MX64W, 5-year Advanced Security License and Support
	LIC-MX64W-SDW-1YR LIC-MX64W-SDW-3YR LIC-MX64W-SDW-5YR	Cisco Meraki MX64W, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX64W, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX64W, 5-year Secure SD-WAN Plus License and Support
MX84-HW	LIC-MX84-ENT-1YR LIC-MX84-ENT-3YR LIC-MX84-ENT-5YR	Cisco Meraki MX84, 1-year Enterprise License and Support Cisco Meraki MX84, 3-year Enterprise License and Support Cisco Meraki MX84, 5-year Enterprise License and Support
	LIC-MX84-SEC-1YR LIC-MX84-SEC-3YR LIC-MX84-SEC-5YR	Cisco Meraki MX84, 1-year Advanced Security License and Support Cisco Meraki MX84, 3-year Advanced Security License and Support Cisco Meraki MX84, 5-year Advanced Security License and Support
	LIC-MX84-SDW-1YR LIC-MX84-SDW-3YR LIC-MX84-SDW-5YR	Cisco Meraki MX84, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX84, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX84, 5-year Secure SD-WAN Plus License and Support
MX100-HW	LIC-MX100-ENT-1YR LIC-MX100-ENT-3YR LIC-MX100-ENT-5YR	Cisco Meraki MX100, 1-year Enterprise License and Support Cisco Meraki MX100, 3-year Enterprise License and Support Cisco Meraki MX100, 5-year Enterprise License and Support
	LIC-MX100-SEC-1YR LIC-MX100-SEC-3YR LIC-MX100-SEC-5YR	Cisco Meraki MX100, 1-year Advanced Security License and Support Cisco Meraki MX100, 3-year Advanced Security License and Support Cisco Meraki MX100, 5-year Advanced Security License and Support
	LIC-MX100-SDW-1YR LIC-MX100-SDW-3YR LIC-MX100-SDW-5YR	Cisco Meraki MX100, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX100, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX100, 5-year Secure SD-WAN Plus License and Support

## Ordering Guide

To place an order for an MX appliance, pair a specific hardware model with a single license (which includes cloud services, software upgrades, and support). For example, to order an MX64 with three years of Advanced Security license, order an MX64-HW with LIC-MX64-SEC-3YR. Lifetime warranty with advanced replacement is included on all hardware at no additional cost.

Model	License	Description
vMX	LIC-VMX-S-ENT-1YR LIC-VMX-S-ENT-3YR LIC-VMX-S-ENT-5YR	Cisco Meraki Small vMX, 1-year License and Support Cisco Meraki Small vMX, 3-year License and Support Cisco Meraki Small vMX, 5-year License and Support
	LIC-VMX-M-ENT-1YR LIC-VMX-M-ENT-3YR LIC-VMX-M-ENT-5YR	Cisco Meraki Medium vMX, 1-year License and Support Cisco Meraki Medium vMX, 3-year License and Support Cisco Meraki Medium vMX, 5-year License and Support
	LIC-VMX-L-ENT-1YR LIC-VMX-L-ENT-3YR LIC-VMX-L-ENT-5YR	Cisco Meraki Large vMX, 1-year License and Support Cisco Meraki Large vMX, 3-year License and Support Cisco Meraki Large vMX, 5-year License and Support
MX67-HW	LIC-MX67-ENT-1YR LIC-MX67-ENT-3YR LIC-MX67-ENT-5YR LIC-MX67-ENT-7YR LIC-MX67-ENT-10YR	Cisco Meraki MX67, 1-year Enterprise License and Support Cisco Meraki MX67, 3-year Enterprise License and Support Cisco Meraki MX67, 5-year Enterprise License and Support Cisco Meraki MX67, 7-year Enterprise License and Support Cisco Meraki MX67, 10-year Enterprise License and Support
	LIC-MX67-SEC-1YR LIC-MX67-SEC-3YR LIC-MX67-SEC-5YR LIC-MX67-SEC-7YR LIC-MX67-SEC-10YR	Cisco Meraki MX67, 1-year Advanced Security License and Support Cisco Meraki MX67, 3-year Advanced Security License and Support Cisco Meraki MX67, 5-year Advanced Security License and Support Cisco Meraki MX67, 7-year Advanced Security License and Support Cisco Meraki MX67, 10-year Advanced Security License and Support
	LIC-MX67-SDW-1YR LIC-MX67-SDW-3YR LIC-MX67-SDW-5YR LIC-MX67-SDW-7YR LIC-MX67-SDW-10YR	Cisco Meraki MX67, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX67, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX67, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX67, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX67, 10-year Secure SD-WAN Plus License and Support
MX67W-HW	LIC-MX67W-ENT-1YR LIC-MX67W-ENT-3YR LIC-MX67W-ENT-5YR LIC-MX67W-ENT-7YR LIC-MX67W-ENT-10YR	Cisco Meraki MX67W, 1-year Enterprise License and Support Cisco Meraki MX67W, 3-year Enterprise License and Support Cisco Meraki MX67W, 5-year Enterprise License and Support Cisco Meraki MX67W, 7-year Enterprise License and Support Cisco Meraki MX67W, 10-year Enterprise License and Support
	LIC-MX67W-SEC-1YR LIC-MX67W-SEC-3YR LIC-MX67W-SEC-5YR LIC-MX67W-SEC-7YR LIC-MX67W-SEC-10YR	Cisco Meraki MX67W, 1-year Advanced Security License and Support Cisco Meraki MX67W, 3-year Advanced Security License and Support Cisco Meraki MX67W, 5-year Advanced Security License and Support Cisco Meraki MX67W, 7-year Advanced Security License and Support Cisco Meraki MX67W, 10-year Advanced Security License and Support
	LIC-MX67W-SDW-1YR LIC-MX67W-SDW-3YR LIC-MX67W-SDW-5YR LIC-MX67W-SDW-7YR LIC-MX67W-SDW-10YR	Cisco Meraki MX67W, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX67W, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX67W, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX67W, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX67W, 10-year Secure SD-WAN Plus License and Support

## Ordering Guide

To place an order for an MX appliance, pair a specific hardware model with a single license (which includes cloud services, software upgrades, and support). For example, to order an MX64 with three years of Advanced Security license, order an MX64-HW with LIC-MX64-SEC-3YR. Lifetime warranty with advanced replacement is included on all hardware at no additional cost.

Model	License	Description
MX67C-HW-NA (North America)  MX67C-HW-WW (worldwide)	LIC-MX67C-ENT-1YR LIC-MX67C-ENT-3YR LIC-MX67C-ENT-5YR LIC-MX67C-ENT-7YR LIC-MX67C-ENT-10YR	Cisco Meraki MX67C, 1-year Enterprise License and Support Cisco Meraki MX67C, 3-year Enterprise License and Support Cisco Meraki MX67C, 5-year Enterprise License and Support Cisco Meraki MX67C, 7-year Enterprise License and Support Cisco Meraki MX67C, 10-year Enterprise License and Support
	LIC-MX67C-SEC-1YR LIC-MX67C-SEC-3YR LIC-MX67C-SEC-5YR LIC-MX67C-SEC-7YR LIC-MX67C-SEC-10YR	Cisco Meraki MX67C, 1-year Advanced Security License and Support Cisco Meraki MX67C, 3-year Advanced Security License and Support Cisco Meraki MX67C, 5-year Advanced Security License and Support Cisco Meraki MX67C, 7-year Advanced Security License and Support Cisco Meraki MX67C, 10-year Advanced Security License and Support
	LIC-MX67C-SDW-1YR LIC-MX67C-SDW-3YR LIC-MX67C-SDW-5YR LIC-MX67C-SDW-7YR LIC-MX67C-SDW-10YR	Cisco Meraki MX67C, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX67C, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX67C, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX67C, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX67C, 10-year Secure SD-WAN Plus License and Support
MX68-HW	LIC-MX68-ENT-1YR LIC-MX68-ENT-3YR LIC-MX68-ENT-5YR LIC-MX68-ENT-7YR LIC-MX68-ENT-10YR	Cisco Meraki MX68, 1-year Enterprise License and Support Cisco Meraki MX68, 3-year Enterprise License and Support Cisco Meraki MX68, 5-year Enterprise License and Support Cisco Meraki MX68, 7-year Enterprise License and Support Cisco Meraki MX68, 10-year Enterprise License and Support
	LIC-MX68-SEC-1YR LIC-MX68-SEC-3YR LIC-MX68-SEC-5YR LIC-MX68-SEC-7YR LIC-MX68-SEC-10YR	Cisco Meraki MX68, 1-year Advanced Security License and Support Cisco Meraki MX68, 3-year Advanced Security License and Support Cisco Meraki MX68, 5-year Advanced Security License and Support Cisco Meraki MX68, 7-year Advanced Security License and Support Cisco Meraki MX68, 10-year Advanced Security License and Support
	LIC-MX68-SDW-1YR LIC-MX68-SDW-3YR LIC-MX68-SDW-5YR LIC-MX68-SDW-7YR LIC-MX68-SDW-10YR	Cisco Meraki MX68, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX68, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX68, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX68, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX68, 10-year Secure SD-WAN Plus License and Support
MX68W-HW	LIC-MX68W-ENT-1YR LIC-MX68W-ENT-3YR LIC-MX68W-ENT-5YR LIC-MX68W-ENT-7YR LIC-MX68W-ENT-10YR	Cisco Meraki MX68W, 1-year Enterprise License and Support Cisco Meraki MX68W, 3-year Enterprise License and Support Cisco Meraki MX68W, 5-year Enterprise License and Support Cisco Meraki MX68W, 7-year Enterprise License and Support Cisco Meraki MX68W, 10-year Enterprise License and Support
	LIC-MX68W-SEC-1YR LIC-MX68W-SEC-3YR LIC-MX68W-SEC-5YR LIC-MX68W-SEC-7YR LIC-MX68W-SEC-10YR	Cisco Meraki MX68W, 1-year Advanced Security License and Support Cisco Meraki MX68W, 3-year Advanced Security License and Support Cisco Meraki MX68W, 5-year Advanced Security License and Support Cisco Meraki MX68W, 7-year Advanced Security License and Support Cisco Meraki MX68W, 10-year Advanced Security License and Support
	LIC-MX68W-SDW-1YR LIC-MX68W-SDW-3YR LIC-MX68W-SDW-5YR LIC-MX68W-SDW-7YR LIC-MX68W-SDW-10YR	Cisco Meraki MX68W, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX68W, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX68W, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX68W, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX68W, 10-year Secure SD-WAN Plus License and Support

## Ordering Guide

To place an order for an MX appliance, pair a specific hardware model with a single license (which includes cloud services, software upgrades, and support). For example, to order an MX64 with three years of Advanced Security license, order an MX64-HW with LIC-MX64-SEC-3YR. Lifetime warranty with advanced replacement is included on all hardware at no additional cost.

Model	License	Description
MX67-HW	LIC-MX67-ENT-1YR LIC-MX67-ENT-3YR LIC-MX67-ENT-5YR LIC-MX67-ENT-7YR LIC-MX67-ENT-10YR	LIC-MX67-ENT-1YR LIC-MX67-ENT-3YR LIC-MX67-ENT-5YR LIC-MX67-ENT-7YR LIC-MX67-ENT-10YR
	LIC-MX67-SEC-1YR LIC-MX67-SEC-3YR LIC-MX67-SEC-5YR LIC-MX67-SEC-7YR LIC-MX67-SEC-10YR	LIC-MX67-SEC-1YR LIC-MX67-SEC-3YR LIC-MX67-SEC-5YR LIC-MX67-SEC-7YR LIC-MX67-SEC-10YR
	LIC-MX67-SDW-1YR LIC-MX67-SDW-3YR LIC-MX67-SDW-5YR LIC-MX67-SDW-7YR LIC-MX67-SDW-10YR	LIC-MX67-SDW-1YR LIC-MX67-SDW-3YR LIC-MX67-SDW-5YR LIC-MX67-SDW-7YR LIC-MX67-SDW-10YR
MX68CW-HW-NA (North America)  MX68CW-HW-WW (worldwide)	LIC-MX68CW-ENT-1YR LIC-MX68CW-ENT-3YR LIC-MX68CW-ENT-5YR LIC-MX68CW-ENT-7YR LIC-MX68CW-ENT-10YR	Cisco Meraki MX68CW, 1-year Enterprise License and Support Cisco Meraki MX68CW, 3-year Enterprise License and Support Cisco Meraki MX68CW, 5-year Enterprise License and Support Cisco Meraki MX68CW, 7-year Enterprise License and Support Cisco Meraki MX68CW, 10-year Enterprise License and Support
	LIC-MX68CW-SEC-1YR LIC-MX68CW-SEC-3YR LIC-MX68CW-SEC-5YR LIC-MX68CW-SEC-7YR LIC-MX68CW-SEC-10YR	Cisco Meraki MX68CW, 1-year Advanced Security License and Support Cisco Meraki MX68CW, 3-year Advanced Security License and Support Cisco Meraki MX68CW, 5-year Advanced Security License and Support Cisco Meraki MX68CW, 7-year Advanced Security License and Support Cisco Meraki MX68CW, 10-year Advanced Security License and Support
	LIC-MX68CW-SDW-1YR LIC-MX68CW-SDW-3YR LIC-MX68CW-SDW-5YR LIC-MX68CW-SDW-7YR LIC-MX68CW-SDW-10YR	Cisco Meraki MX68CW, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX68CW, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX68CW, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX68CW, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX68CW, 10-year Secure SD-WAN Plus License and Support
MX250-HW	LIC-MX250-ENT-1YR LIC-MX250-ENT-3YR LIC-MX250-ENT-5YR LIC-MX250-ENT-7YR LIC-MX250-ENT-10YR	Cisco Meraki MX250, 1-year Enterprise License and Support Cisco Meraki MX250, 3-year Enterprise License and Support Cisco Meraki MX250, 5-year Enterprise License and Support Cisco Meraki MX250, 7-year Enterprise License and Support Cisco Meraki MX250, 10-year Enterprise License and Support
	LIC-MX250-SEC-1YR LIC-MX250-SEC-3YR LIC-MX250-SEC-5YR LIC-MX250-SEC-7YR LIC-MX250-SEC-10YR	Cisco Meraki MX250, 1-year Advanced Security License and Support Cisco Meraki MX250, 3-year Advanced Security License and Support Cisco Meraki MX250, 5-year Advanced Security License and Support Cisco Meraki MX250, 7-year Advanced Security License and Support Cisco Meraki MX250, 10-year Advanced Security License and Support
	LIC-MX250-SDW-1YR LIC-MX250-SDW-3YR LIC-MX250-SDW-5YR LIC-MX250-SDW-7YR LIC-MX250-SDW-10YR	Cisco Meraki MX250, 1-year Secure SD-WAN Plus License and Support Cisco Meraki MX250, 3-year Secure SD-WAN Plus License and Support Cisco Meraki MX250, 5-year Secure SD-WAN Plus License and Support Cisco Meraki MX250, 7-year Secure SD-WAN Plus License and Support Cisco Meraki MX250, 10-year Secure SD-WAN Plus License and Support