

# Meraki MX Family

## Cloud Managed Security Appliances



### Overview

The Meraki MX is a complete next generation firewall and branch gateway solution, designed to make distributed networks fast, secure, and easy to manage. The world's first cloud-managed security appliance, the Meraki MX provides complete visibility and control in campus and distributed environments.

#### Next Generation Firewall Capabilities:

- Application-aware traffic control: set bandwidth policies based on Layer 7 application type (e.g. YouTube, Skype, P2P).
- Prioritize critical applications and throttle recreational traffic.
- Content filtering: CIPA compliant category-based content filters, configurable for classes of users user based on Active Directory user/group membership.
- Stateful firewall: set firewall policies through an intuitive graphical interface.

#### Auto-provisioning VPN:

- Site-to-site VPN: automatic routing table generation, provisioning and key exchange via Meraki's secure cloud.
- Interoperates with standards-based IPsec VPNs.

- Client VPN: support for native Windows, Mac OS X, iPad and Android clients with no-per user licensing fees.

#### Branch Gateway Services:

- Built-in DHCP, NAT, QoS and VLAN management services.
- 1:1 NAT and DMZ configured and updated from the cloud.
- Link bonding: combines multiple WAN connections into a single high-speed interface, with policies for QoS, traffic shaping and link failover.
- Layer 3 failover: automatic detection of layer 2 and layer 3 outages and fast failover, including 3G/4G USB modems.
- WAN optimization: data redundancy elimination, protocol optimization, and compression provide bandwidth savings up to 99% for Windows filesharing (CIFS), FTP, HTTP, and TCP traffic.

#### Industry-leading Cloud Management:

- Unified WAN, LAN, and wireless LAN management under a single dashboard. Scales easily from small deployments to large, multi-site deployments with tens of thousands of devices.
- E-mail alerts upon power loss or configuration changes.

Model	Recommended Use Cases	WAN	LAN	WAN Optimization
MX60	Small office / retail branch (approx. 20 users)	1 x GbE	4 x GbE	Basic
MX80	Mid-sized office (approx. 100 users)	2 x GbE	4 x GbE	Advanced
MX90	Mid-sized office (approx. 250 users)	2 x GbE	8 x GbE	Advanced
MX400	Large office / concentrator (approx. 2,000 users)	2 x GbE	8 x GbE, 8 x SFP, 2 x 10G	Advanced
MX600	Large office / concentrator (approx. 10,000 users)	2 x GbE	8 x GbE, 8 x SFP, 2 x 10G	Advanced

## Meraki MX400 Internals

### Redundant Power

Reliable, energy efficient design

### WAN Optimization

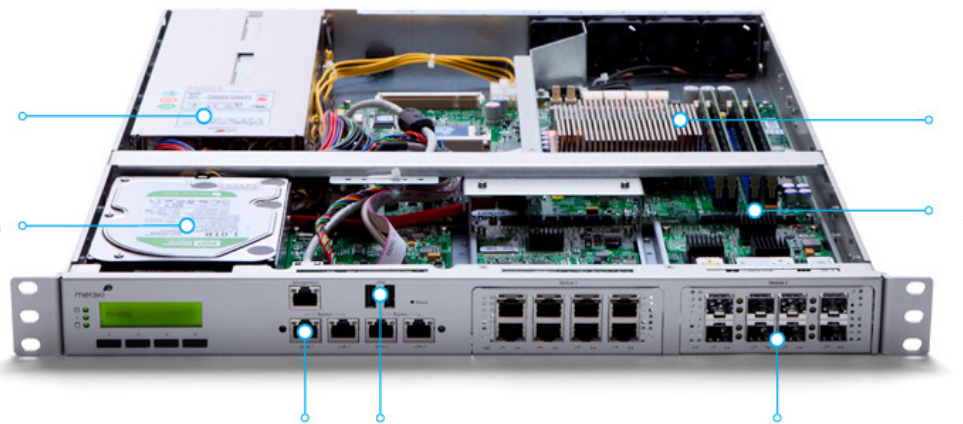
1TB SATA disk

### Enhanced CPU

Layer 3-7 firewall and traffic shaping

### Additional Memory

For content filtering



### Multiple Uplink Ports

Link bonding/failover

### 3G/4G Modem Support

Automatic wireless failover

### 10Gb Ethernet/SFP+ Ports

For switch connectivity

- Role-based administration, configuration change alerts and auditable configuration change logs.
- Summary reports with user, device and application usage details, archived in the cloud.
- Quarterly feature updates and enhancements delivered on demand from the Meraki Cloud Controller.

## Cloud Managed Architecture

Built on Meraki's award-winning Cloud Networking platform, the MX is the only 100% cloud-managed networking and security appliance. MX appliances self-provision, automatically pulling policies and configuration from the cloud. Powerful remote tools provide network-wide visibility and control, and enable administration without 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 browser-based management dashboard completely eliminates the need for training.

The MX hardware platform is purpose-built for cloud management, with CPU and memory resources designed to provide application and content-aware security at the edge. The MX's robust platform enables advanced features like Layer 7 application traffic shaping, content filtering, antivirus/antiphishing, and site-to-site VPN, while providing the throughput and capacity for modern, high-density networks.

## Control Applications, Users and Devices

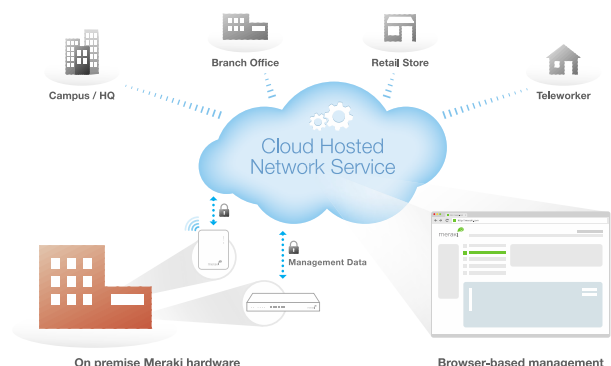
The MX provides complete control over users, content, and applications, giving the visibility, security, and control required for mixed-use networks. Layer 7 fingerprinting technology lets administrators block unwanted content and applications and prevent

	Cisco ISR	Router
	Checkpoint	Firewall
	Cisco ASA	VPN
	F5 Big-IP	Link Balancer
	Riverbed	WAN Acceleration
	Barracuda	Content Filter

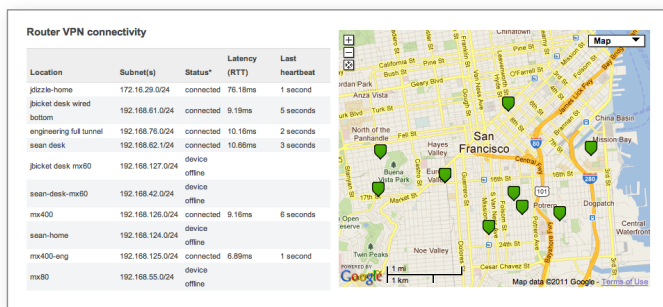


Meraki MX

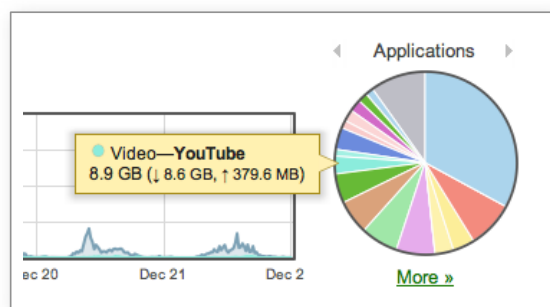
Consolidate up to six devices with a single Meraki MX appliance



Meraki Cloud Management Architecture



Auto Configuring Site-to-Site VPN



Application Control

Search:    [Advanced search »](#) [Help](#)

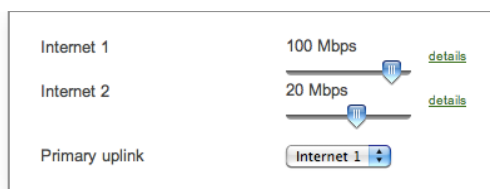
8 matches in 299 [Columns...](#) [Download as XML](#)

	Description	IP address	MAC address	Usage	Access	Manufacturer
<input type="checkbox"/>	1 Bobby-Longa-iPad	172.16.30.51	a4:d1:d2:10:f0:9d	11.3 MB	normal	Apple
<input type="checkbox"/>	2 Brian-Tobins-Pad	172.16.30.142	7c:6d:62:d7:91:58	853 KB	normal	Apple
<input type="checkbox"/>	3 iPad	172.16.30.49	70:de:a2:40:f3:02	145.8 MB	normal	Apple
<input type="checkbox"/>	4 Meraki-Marketing-iPad	172.16.30.67	b8:ff:61:b8:78:8d	331.3 MB	normal	Apple
<input type="checkbox"/>	5 PCC-iPad-1	172.16.30.183	7c:6d:62:db:32:f5	8.5 MB	normal	Apple
<input type="checkbox"/>	6 Wilson-John-Chans-Pad-2	172.16.30.135	a4:67:06:99:da:a8	33.5 MB	normal	Apple

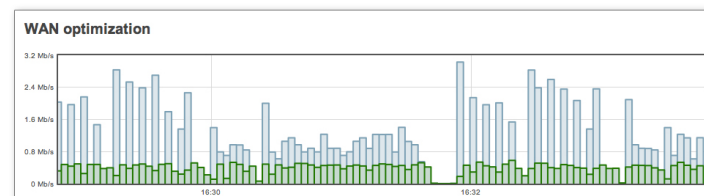
User and Device Fingerprints

Active Directory servers	Short domain	Server IP	Domain admin	Password	Actions
	<input type="text" value="CORP"/>	<input type="text" value="172.16.30.12"/>	<input type="text" value="admin"/>	<input type="password" value="*****"/>	
	<a href="#">Add an Active Directory domain server</a>				
Group policies	LDAP membership	Blocked web content			Actions
	<input type="text" value="CONTRACTOR"/>	<input type="text" value="Pornography"/>			
	<input type="text" value="EMPLOYEE"/>	<input type="text" value="Chat"/> <input type="text" value="Social networking"/>			

Active Directory Integrated Content Filtering



Link Bonding and Failover



WAN Optimization

recreational apps like BitTorrent from wasting precious bandwidth. Likewise, the MX can prioritize critical traffic like voice and video.

User fingerprinting identifies clients by name, operating system, or device (e.g., iPad). Fast search, automatic reports, and device quarantine provide complete visibility and control over the users across the entire network.

### Increased Reliability for Distributed Networks

The multiple WAN ports with balancing and failover enable the use of redundant commodity Internet connections, providing additional bandwidth and higher reliability at a fraction of the cost. For remote sites where multiple wireline providers are difficult to provision, the Meraki MX can fail over to 3G/4G wireless Internet connections.

### Reduce Bandwidth Costs with WAN Optimization

WAN optimization uses a combination of techniques to dramatically improve application performance and reduce bandwidth requirements at remote sites. All Meraki MX appliances include

WAN optimization at no additional charge.

The MX 60 features basic WAN optimization, while the MX80, MX90, MX400, and MX600 feature advanced WAN optimization. Basic WAN optimization includes link compression and protocol optimization.

Advanced WAN optimization adds data redundancy elimination and caching for additional performance improvements. Meraki optimizes a number of protocols, including Windows File Sharing (CIFS), FTP, HTTP, and generic TCP traffic. Meraki uses a universal data store to maximize the effectiveness of the cache.

### Simplified Management and Operations

The MX was designed for ease of use, even in branches without on-site IT. An intuitive interface, contextual help, and real-time support from the cloud eliminate specialized training. To deploy the MX in remote locations, simply connect the MX to the Internet, and



Interface Modules for MX400 and MX600



Pluggable Optics for MX90, MX400, MX600

it will securely self-provision from the cloud. Firmware upgrades, security patches, and signature updates are all delivered seamlessly from the cloud, ensuring that the MX is always up to date, and integrating broad security and networking features into a single intuitive device drastically reduces complexity in the branch.

By providing a complete, powerful set of management functions over the web, Meraki's browser-based cloud management eliminates the need for proprietary command line configuration interfaces, training, or added staff. Meraki MX appliances can be fully deployed and provisioned in minutes, without requiring any local configuration or staging. Additional or replacement gateways can be sent to remote offices and installed by non-technical staff, saving thousands of dollars in time and travel expense.

## Accessories

### Accessories / Optics

Supported Meraki accessory modules for MX90, MX400 and MX600. Additional third-party optics supported for other applications.

Model	Description	Standard	Range
SFP-1GB-SX	Meraki 1 GbE SFP SX Fiber Module	1000BASE-SX	550m
SFP-10GB-SR	Meraki 10 GbE Short Range SFP+ Module	10GBASE-SR	400m
CBL-TA-1M	Meraki 10 GbE Twinax Cable with SFP+ Connectors	-	1m

Interface modules for Meraki MX400 and MX600.

Part Number	Description
IM-8-CU-1GB	Meraki 8 x 1 GbE Copper Interface Module for MX400 and MX600
IM-8-SFP-1GB	Meraki 8 x 1 GbE SFP Interface Module for MX400 and MX600
IM-2-SFP-10GB	Meraki 2 x 10 GbE SFP+ Interface Module for MX400 and MX600

## Warranty

Lifetime hardware warranty included.

The Meraki MX90, 400 and 600 models support pluggable optics for high-speed backbone or link aggregation connections between wiring closets or to aggregation switches. Meraki offers several standards-based Gigabit and 10 Gigabit pluggable modules. Each appliance has also been tested for compatibility with several third-party modules.

### Lifetime Warranty with Next-day Advanced Replacement

Meraki MX appliances include a limited lifetime hardware warranty that provides next-day advance hardware replacement as long as the original purchaser owns the product. 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 [www.meraki.com/support](http://www.meraki.com/support).

# Specifications

## Product Options

	MX60	MX80	MX90	MX400	MX600
Recommended use cases	20 users Small office / Retail	100 users Mid-sized office	250 users Mid-sized office	2,000 users Large branch / concentrator	10,000 users Campus / concentrator
Stateful Firewall Throughput	100 Mbps	250 Mbps	500 Mbps	1 Gbps	2 Gbps
Advanced Security Throughput	50 Mbps	125 Mbps	225 Mbps	325 Mbps	650 Mbps
Maximum site-to-site VPN sessions	20	100	200	2,000	5,000
WAN Interfaces	1 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE
LAN Interfaces	4 x GbE	4 x GbE	8 x GbE 2 x GbE (SFP)	8 x GbE 8 x GbE (SFP) 4 x 10GbE (SFP+) (2 module bays)	8 x GbE 8 x GbE (SFP) 4 x 10GbE (SFP+) (2 module bays)
WAN Optimization	Basic*	Advanced	Advanced	Advanced	Advanced
WAN Optimization Cache	n/a	1 TB	1 TB	1 TB	4 x 1 TB (RAID)
USB for 3G/4G Failover*	yes	yes	yes	yes	yes
Mounting	Desk / Wall	1U rack	1U rack	1U rack	2U rack
Dimensions	9.75" x 6.75 " x 1.25" (248 mm x 171 mm x 32 mm)	19.0" x 10.0 " x 1.75" (483 mm x 254 mm x 44 mm)	19.0" x 10.0 " x 1.75" (483 mm x 254 mm x 44 mm)	19.0" x 22.0 " x 1.75" (483 mm x 559 mm x 44 mm)	19.0" x 22.0 " x 3.5" (483 mm x 559 mm x 89 mm)
Weight	4 lb (1.8 kg)	8 lb (3.6kg)	9 lb (4.1kg)	33 lb (15.0 kg)	53 lb (24.0 kg)
Power Supply	15W DC (included)	100-220V 50/60Hz AC	100-220V 50/60Hz AC	100-220V 50/60Hz AC (dual)	100-220V 50/60Hz AC (dual)
Power Load (idle / max)	4W / 10W (MX60) 6W / 13W (MX60W)	26W / 32W	28W / 35W	123W / 215W	132W / 226W
Operating Temperature	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)	32°F to 104°F (0°C to 40°C)
Humidity	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%

\*Available with software upgrade mid March, 2012.

## Specifications (continued)

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### > Management

- Managed via the Web using the Meraki Cloud Controller
  - Single pane of glass into wired and wireless networks
  - No-touch remote deployment (no staging needed)
  - Automatic firmware upgrades and security patches
  - Centralized policy 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
  - Syslog integration
- 

### > Remote Diagnostics

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

### > Network and Security Services

- Stateful firewall, 1:1 NAT, DMZ
  - Site-to-site (IPsec) VPN
  - Multiple WAN IP, PPPoE, NAT
  - VLAN support and DHCP services
  - Static routing
  - User and device quarantine
- 

### > WAN Performance Management

- WAN link aggregation
  - Automatic Layer 3 failover (including VPN connections)
  - 3G / 4G USB modem failover (Sprint, Verizon, AT&T)\*
  - Application level (Layer 7) traffic analysis and shaping
  - Ability to choose WAN uplink based on traffic type
- 

### > WAN Optimization

- Byte-level caching
- Universal datastore with data redundancy elimination
- TCP transport compression and optimization
- Layer 7 protocol optimization (CIFS, HTTP, FTP)

Note: Not available in passthrough mode. MX60 has basic WAN optimization, which includes protocol optimization and link compression, but not caching.

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### > Advanced Security Services

- Client (IPsec) VPN\*
- Content filtering (CIPA compliant)
- Anti-virus engine
- Anti-phishing filtering

Requires Advanced Security License

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### > Regulatory

- FCC (US)
  - CB (IEC)
  - CISPR (Australia/New Zealand)
  - RoHS
- 

### > Warranty

- Full lifetime hardware warranty with next-day advanced replacement included
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\* Available with software upgrade mid March, 2012.



## 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 MX90 with 3 years of Advanced Security license, order an MX90-HW with LIC-MX90-SEC-3YR. Lifetime warranty with advanced replacement is included on all hardware at no additional cost.

Model	License	Description
MX60-HW	LIC-MX60-ENT-1YR	Meraki MX60, 1 year Enterprise License and Support
	LIC-MX60-ENT-3YR	Meraki MX60, 3 year Enterprise License and Support
	LIC-MX60-ENT-5YR	Meraki MX60, 5 year Enterprise License and Support
	LIC-MX60-SEC-1YR	Meraki MX60, 1 year Advanced Security License and Support
	LIC-MX60-SEC-3YR	Meraki MX60, 3 year Advanced Security License and Support
	LIC-MX60-SEC-5YR	Meraki MX60, 5 year Advanced Security License and Support
MX80-HW	LIC-MX80-ENT-1YR	Meraki MX80, 1 year Enterprise License and Support
	LIC-MX80-ENT-3YR	Meraki MX80, 3 year Enterprise License and Support
	LIC-MX80-ENT-5YR	Meraki MX80, 5 year Enterprise License and Support
	LIC-MX80-SEC-1YR	Meraki MX80, 1 year Advanced Security License and Support
	LIC-MX80-SEC-3YR	Meraki MX80, 3 year Advanced Security License and Support
	LIC-MX80-SEC-5YR	Meraki MX80, 5 year Advanced Security License and Support
MX90-HW	LIC-MX90-ENT-1YR	Meraki MX90, 1 year Enterprise License and Support
	LIC-MX90-ENT-3YR	Meraki MX90, 3 year Enterprise License and Support
	LIC-MX90-ENT-5YR	Meraki MX90, 5 year Enterprise License and Support
	LIC-MX90-SEC-1YR	Meraki MX90, 1 year Advanced Security License and Support
	LIC-MX90-SEC-3YR	Meraki MX90, 3 year Advanced Security License and Support
	LIC-MX90-SEC-5YR	Meraki MX90, 5 year Advanced Security License and Support
MX400-HW	LIC-MX400-ENT-1YR	Meraki MX400, 1 year Enterprise License and Support
	LIC-MX400-ENT-3YR	Meraki MX400, 3 year Enterprise License and Support
	LIC-MX400-ENT-5YR	Meraki MX400, 5 year Enterprise License and Support
	LIC-MX400-SEC-1YR	Meraki MX400, 1 year Advanced Security License and Support
	LIC-MX400-SEC-3YR	Meraki MX400, 3 year Advanced Security License and Support
	LIC-MX400-SEC-5YR	Meraki MX400, 5 year Advanced Security License and Support
MX600-HW	LIC-MX600-ENT-1YR	Meraki MX600, 1 year Enterprise License and Support
	LIC-MX600-ENT-3YR	Meraki MX600, 3 year Enterprise License and Support
	LIC-MX600-ENT-5YR	Meraki MX600, 5 year Enterprise License and Support
	LIC-MX600-SEC-1YR	Meraki MX600, 1 year Advanced Security License and Support
	LIC-MX600-SEC-3YR	Meraki MX600, 3 year Advanced Security License and Support
	LIC-MX600-SEC-5YR	Meraki MX600, 5 year Advanced Security License and Support