

# Cisco Meraki MS400 Series Cloud Managed Aggregation Switches



## OVERVIEW

The Cisco Meraki MS400 Series brings powerful cloud-managed switching to the aggregation layer. This range of 1 and 10Gbps fiber aggregation switches adopts the benefits of the cloud: simplified management, reduced complexity, network wide visibility and control, and lower cost for campus deployments.

## EXPANDING CLOUD MANAGEMENT TO THE CAMPUS

Cisco Meraki aggregation switches extend Meraki’s cloud management to campus deployments. Just like our access switches, these aggregation switches are built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in enterprise-class switches.

Meraki switches are managed through an elegant, intuitive cloud interface, rather than a cryptic command line. To bring up a Meraki switch, just plug it in; there’s no need for complicated configuration files — or pre-staging.

## INDUSTRY-LEADING CLOUD MANAGEMENT

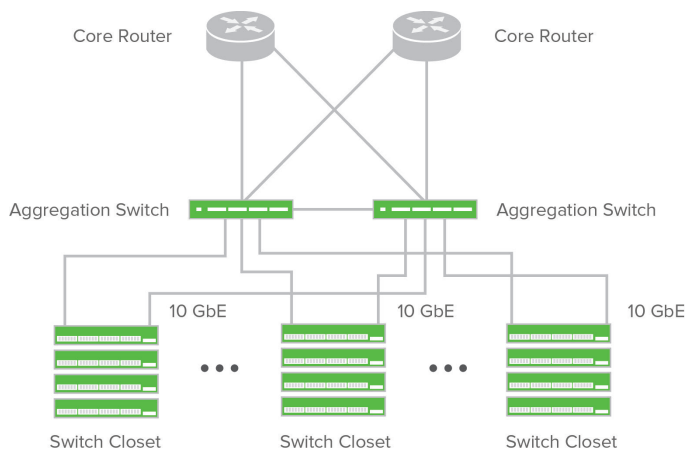
Cloud management has a number of benefits that make it easier to build campus networks:

- Centralized management that allows you to manage your entire Meraki network stack from campus aggregation to your access layer (wireless APs, switches, firewalls).
- Stack for high density fiber aggregation and manage up to tens of thousands of ports from a single pane of glass.
- Layer 7 OS, client, and hostname fingerprinting.
- E-mail and SMS (text) alerts upon power loss, downtime, or configuration changes.
- Role-based administration and automatic, scheduled firmware upgrades over the web.
- Regular feature updates and enhancements delivered on demand from the Meraki cloud.
- True zero-touch provisioning

## Meraki switches feature high-end hardware features, including:

- Compact, 1RU design for space-constrained environments
- Terabit performance with non-blocking architecture
- Field-replaceable, hot-swappable power supplies
- Field-replaceable, hot-swappable fans
- Front-to-back cooling
- Dedicated management port
- Low power consumption and shallow rack depth, which enable flexible deployment
- Stacking option for building redundant architectures

## Designed for a Complete Cloud-Managed Switch Network



## Full Enterprise Feature Set

Meraki switches include all of the traditional Ethernet features found in the enterprise:

- Quality-of-Service (QoS) to prioritize mission critical traffic such as voice and video
- IEEE 802.1X support for port based network access control
- MAC-based RADIUS auth and MAC whitelisting
- Voice VLAN support for simplified VoIP deployments
- Port Mirroring to monitor network traffic
- DHCP snooping to prevent users from adding unauthorized DHCP servers on the network
- IGMP Snooping to optimize network performance with multicast traffic
- Link Aggregation Control Protocol (LACP) for high-capacity trunking, stacking, and increased availability
- Broadcast storm protection, spanning tree, BPDU guard, root guard, and other safeguards to guard against misconfigurations and reduce convergence time
- Per port VLAN configuration
- Multiple administrative roles with sophisticated security policy management

## Lifetime Warranty with Next-day Advanced Replacement

Cisco Meraki MS switches include a limited lifetime hardware warranty that provides next-day advance hardware switch 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.cisco.com/support](http://www.meraki.cisco.com/support)

## Models

MODEL	DESCRIPTION
MS410-16-HW	Cloud-managed 16 port 1 GbE aggregation switch with 10 GbE uplinks and physical stacking
MS410-32-HW	Cloud-managed 32 port 1 GbE aggregation switch with 10 GbE uplinks and physical stacking
MS420-24-HW	Cloud-managed 24 port 10 GbE aggregation switch
MS420-48-HW	Cloud-managed 48 port 10 GbE aggregation switch
MS425-16-HW	Cloud-managed 16 port 10GbE aggregation switch with 40GbE uplinks/stacking
MS425-32-HW	Cloud-managed 32 port 10GbE aggregation switch with 40GbE uplinks/stacking

## Accessories / Optics

Meraki switches are modular in design, allowing for hot-swappable field replacements and a range of optics (no lock-out of third-party optics). Details of SFP-based modules can be found in the [SFP Datasheet](#), available in the Meraki Library.

PART	DESCRIPTION	COMPATIBILITY
MA-CBL-40G-50CM	Meraki 40GbE Stacking / Uplink Cable, 0.5 Meter	MS410 and MS425
MA-CBL-40G-1M	Meraki 40GbE Stacking / Uplink Cable, 1 Meter	MS410 and MS425
MA-CBL-40G-3M	Meraki 40GbE Stacking / Uplink Cable, 3 Meter	MS410 and MS425
MA-FAN-16K	Field replaceable 16K rpm front-to-back fan	MS410
MA-FAN-18K	Field replaceable 18K rpm front-to-back fan	MS420 and MS425
MA-PWR-250WAC	Field replaceable 250W power supply	MS410 and MS425
PWR-MS420-400AC-R	Field replaceable 400W power supply	MS420

# Specifications

## Management

Managed via the Web via the Meraki cloud management platform

Integrated with Meraki wireless, security appliance, and device management No-touch remote deployment (no staging needed)

Detailed historical per-port and per-client usage statistics

DHCP, client, and hostname fingerprinting

SNMP and traps

Seamless firmware upgrades

## Remote Diagnostics

Email and SMS (text) alerts <sup>1</sup>

Live remote packet capture

Aggregated event and configuration change logs with instant search

## Scalable Stacking

Virtual Stacking supports thousands of switch ports in a single logical stack for unified management, monitoring, and configuration

Physical stacking of up to 8 switches with 160Gbps stack bandwidth (MS410/425)

## Ethernet Switching Capabilities

802.1p Quality of Service prioritization

802.1Q VLAN tagging for up to 4095 VLANs

802.1D Spanning Tree Protocol (STP) and 802.1w Rapid Spanning Tree Broadcast storm control

802.1ab Link Layer Discovery Protocol (LLDP) and Cisco Discovery Protocol (CDP)

802.3ad Link aggregation with up to 8 ports per aggregate

IGMP snooping for multicast filtering

Cisco Discovery Protocol (CDP)

128K MAC Forwarding Table Capacity (96K on MS410)

## Layer 3 capabilities

Static routing

DHCP helper

DHCP server

Open shortest path first (OSPF v2)

Warm spare for L3 gateway redundancy <sup>2</sup>

Automatic DHCP failover in warm spare mode

## Mounting

Rack-mountable with included rack mount hardware

Front-to-back airflow

## Performance

Non-blocking fabric

480/960Gbps switching capacity on the MS420-24/48

480/800Gbps switching capacity on the MS425-16/32

72/144 Gbps switching capacity on MS410-16/32

1.2 microsecond latency

## Interfaces on MS410

16 or 32 x 1GbE SFP + 2 or 4 x 10GbE SFP+ uplink ports, 2 x 40GbE stacking ports

1x RJ45 Management port

## Interfaces on MS420

24 or 48 x 10GbE SFP+/SFP

1x RJ45 Management port

## Interfaces on MS425

16 or 32 x 10GbE SFP+, 2 x 40GbE uplink/stacking ports

1x RJ45 Management port

## Power

Power input: 100 - 240 VAC, 47-63 Hz

Power consumption at idle: 45W (MS420), 50W (MS410), 98W (MS425)

Power consumption full load: 175W (MS420), 85W (MS410), 136W (MS425)

## Environment

Operating temp: 0C to 40C

## Physical dimensions

Weight: 18.1lb (8.18kg) MS420-48, 12.6lb (5.7kg) MS410-32, 14lb (6.35kg) MS425-32

Size (420): 17.3" (w) x 18.6" (d) x 1.8" (h) (44x 47.3x4.5 cm)

Size (410): 19" (w) x 20.3" (d) x 1.8" (h) (48.5x 51.6x 4.5cm)

Size (425): 19" (w) x 19.17" (d) x 1.8" (h) (48.5x 48.7x 4.5cm)

## Regulatory

CSA (US)

IC (Canada)

CE (Europe)

C-Tick (Australia/New Zealand)

RoHS

Model	MTBF	Model	MTBF
MS420-24	225,540 hrs	MS410-16	875,186 hrs
MS420-48	203,102 hrs	MS410-32	437,593 hrs
		MS425-16	426,634 hrs
		MS425-32	431,380 hrs

<sup>1</sup> Requires carrier-supported email to SMS gateway

<sup>2</sup> OSPF and Warm Spare do not operate concurrently