Meraki

10 Ways
Cisco Meraki Switches Make Life Easier

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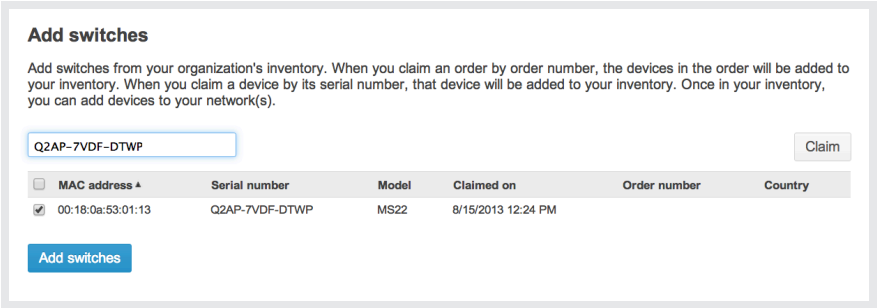
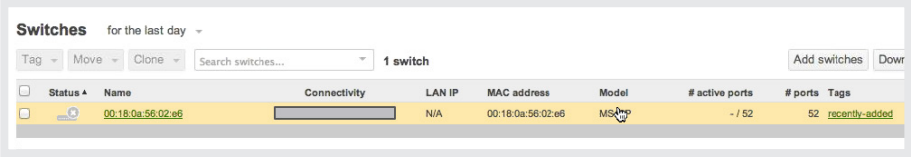
1. Preconfigure switches for zero-touch deployment
2. Manage all switch ports from a single pane of glass
3. Run remote cable tests and packet captures
4. Identify and locate switch ports
5. Identify bandwidth hogs
6. Save energy and increase wired security
7. Contain rogue DHCP servers
8. Lock down switch access
9. Keep current with seamless updates
10. Spot network trends

1. Preconfigure switches for zero-touch deployment

Cisco Meraki MS switches are 100% cloud-managed and can be fully configured from any Internet-accessible location before ever being powered on. Simply add the switch serial number (or order number for large deployments) to your network using the Meraki web-based dashboard. Once added, the switch is fully configurable. When the switch is first powered on and connected to the Internet, it will pull its settings from the cloud.



Adding new MS switch hardware to a branch location in the Cisco Meraki dashboard.



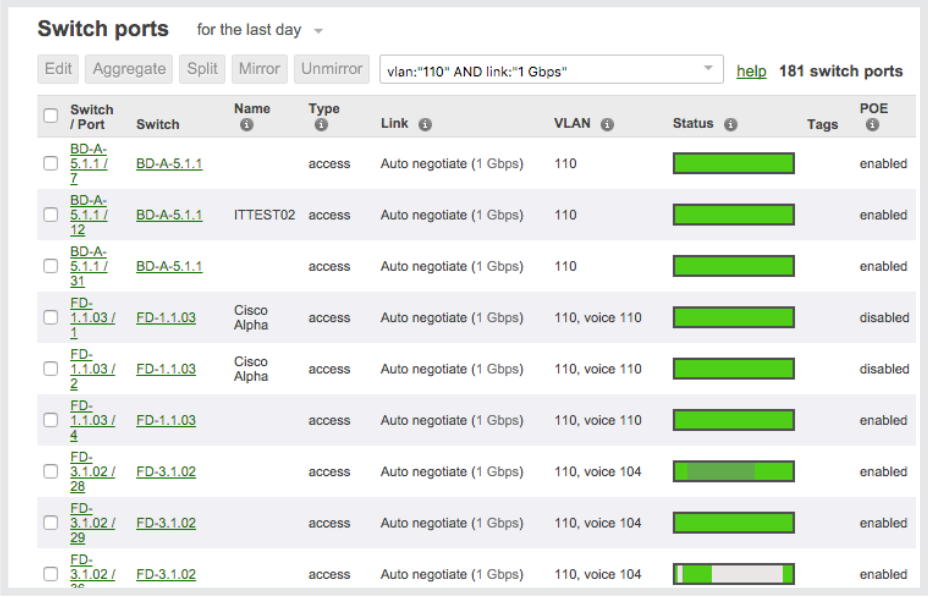
Newly-added switches are fully configurable in the Cisco Meraki dashboard — even before being powered on.

True zero-touch provisioning divorces switch setup from the precondition of physical hardware access. This frees technical staff from travel obligations to remote sites to manually configure switching infrastructure, saving time and money.

2. Manage all switch ports from a single pane of glass

Imagine: you need to reset ports numbered 20-48 (if they are connected to MR24 access points) on all of your switches. You must enable PoE, set a power-saving port schedule, prune all VLANs except VLAN 10, and ensure that these are trunk — not access — ports. How long would that take you?

Meraki MS switches let you succeed in this scenario from your office chair.
The dashboard supports intelligent search queries on variables like port type, VLAN, uplink status, port access policy status, and tags:



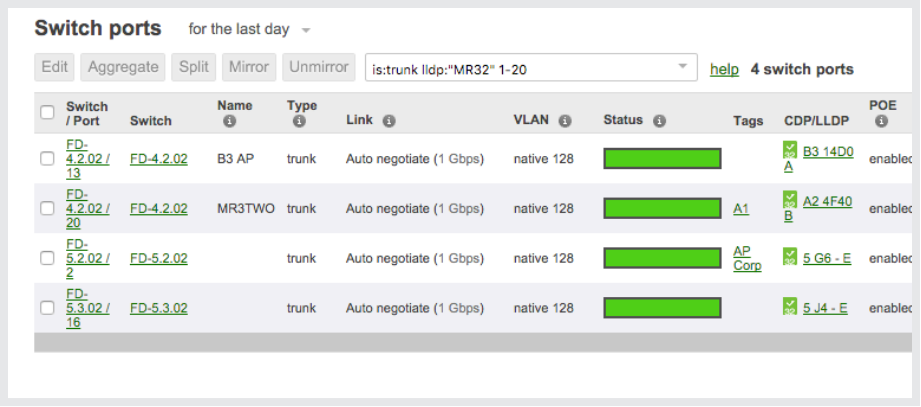
Switch ports for the last day

Edit | Aggregate | Split | Mirror | Unmirror | vlan:"110" AND link:"1 Gbps" | help | **181 switch ports**

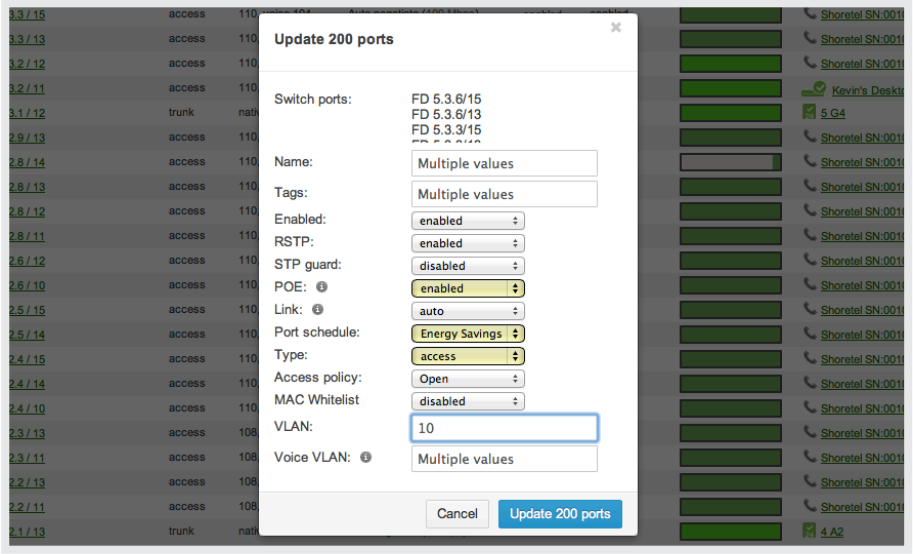
Switch / Port	Switch	Name	Type	Link	VLAN	Status	Tags	POE
BD-A-5.1.1 / 7	BD-A-5.1.1		access	Auto negotiate (1 Gbps)	110			enabled
BD-A-5.1.1 / 12	BD-A-5.1.1	ITTEST02	access	Auto negotiate (1 Gbps)	110			enabled
BD-A-5.1.1 / 31	BD-A-5.1.1		access	Auto negotiate (1 Gbps)	110			enabled
FD-1.1.03 / 1	FD-1.1.03	Cisco Alpha	access	Auto negotiate (1 Gbps)	110, voice 110			disabled
FD-1.1.03 / 2	FD-1.1.03	Cisco Alpha	access	Auto negotiate (1 Gbps)	110, voice 110			disabled
FD-1.1.03 / 4	FD-1.1.03		access	Auto negotiate (1 Gbps)	110, voice 110			enabled
FD-3.1.02 / 28	FD-3.1.02		access	Auto negotiate (1 Gbps)	110, voice 104			enabled
FD-3.1.02 / 29	FD-3.1.02		access	Auto negotiate (1 Gbps)	110, voice 104			enabled
FD-3.1.02 /	FD-3.1.02		access	Auto negotiate (1 Gbps)	110, voice 104			enabled

Dynamically filter for a list of switch ports across models and physical switch locations.

You can specify a subset of switch interfaces (up to 10,000 ports) by using these search criteria and then modify these selected ports at once.



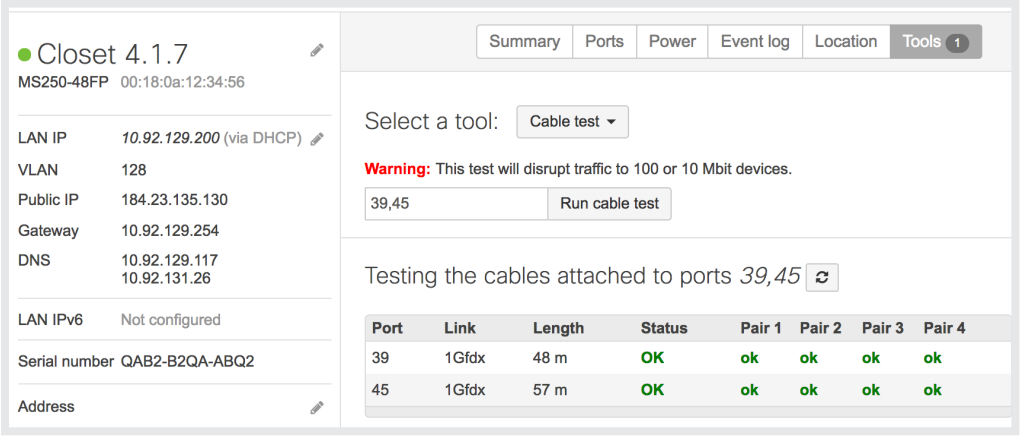
Easily select ports 1-20 servicing MR32 access points that are configured as trunks.



Updating 200 interfaces to enable PoE, apply a port schedule, and ensure they are all trunk ports.

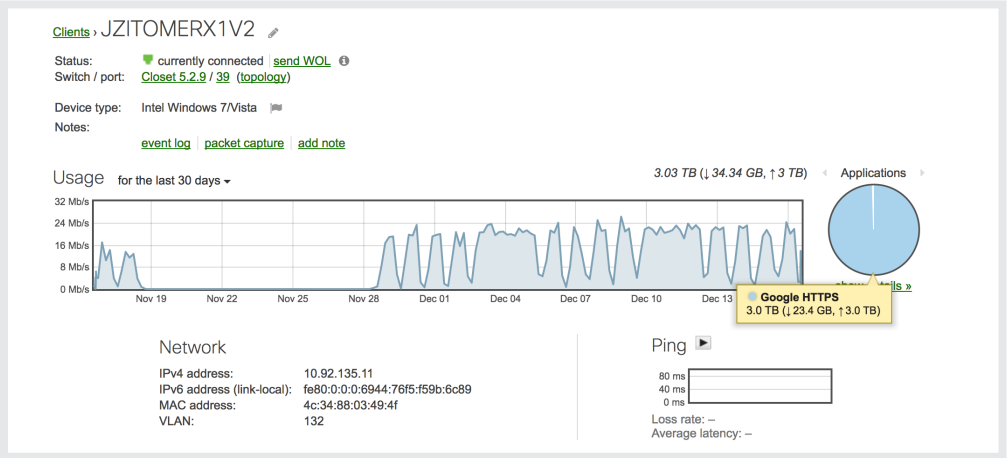
3. Run remote cable tests and packet captures

The Cisco Meraki dashboard offers real-time diagnostics and tools to troubleshoot your MS switches. You can easily perform cable tests to ascertain cable length and to check the health of the wire connecting a client device to your switch.



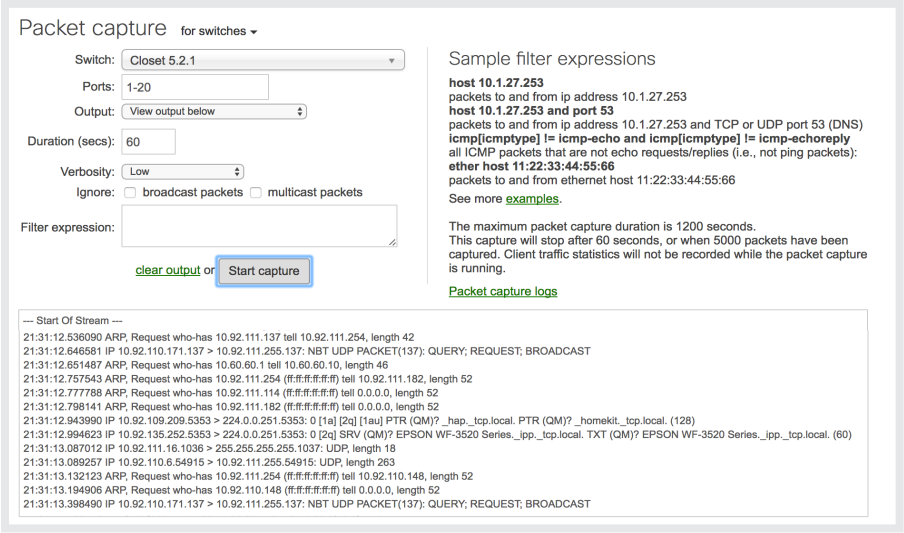
Several real-time diagnostic tools are available within the dashboard, including cable tests.

Deep visibility built into the clients and traffic passing through your fabric let you quickly surmise the layer 1-3 health status of connected devices, whether they've received IP addresses, are on the appropriate VLAN, etc.



Quickly see status for client devices passing traffic through your switch fabric.

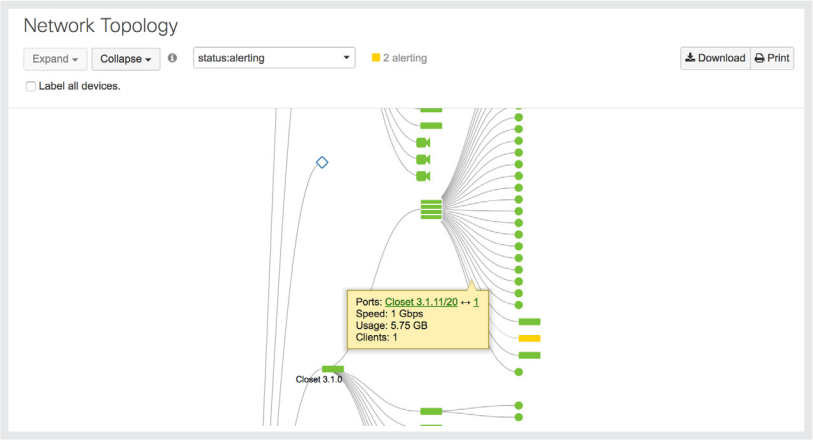
You also can take live, streaming packet captures from anywhere in the world you have Internet access. The Cisco Meraki dashboard lets you display packet captures within the dashboard, save captures to a PCAP file for later viewing with industry standard software, or stream the PCAP file to a CloudShark appliance.



The packet capture tool allows deep analysis of traffic flowing through switch interfaces.

4. Identify and locate switch ports

Meraki Topology – a dynamic logical map of the entire network and all connected Meraki devices, lets you see exactly how things are connected. A simple mouse-over and you know exactly how a switch is interconnected. The dynamic search lets you enter in the name or even status of a switch to filter the topology based on your search terms.



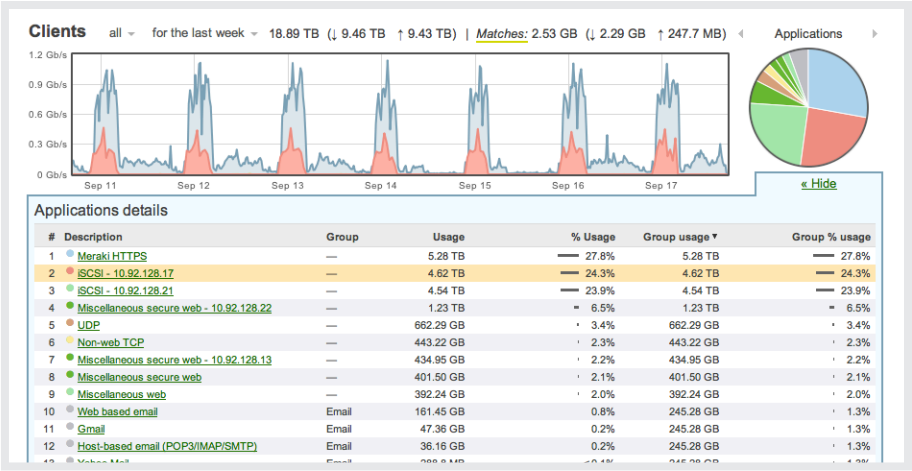
Topology showing the interconnect between a closet stack and an alerting access switch

Locating where an Ethernet wall jack terminates is as easy as connecting your laptop to the jack, opening a web browser, and navigating to **switch.meraki.com.** This URL directs to a locally-hosted page on the upstream switch that advertises the switch's name, model, MAC, IP, and on which port the wall jack terminates.

This local switch page shows the tested wall jack terminates on port 13 of our MS350 switch.

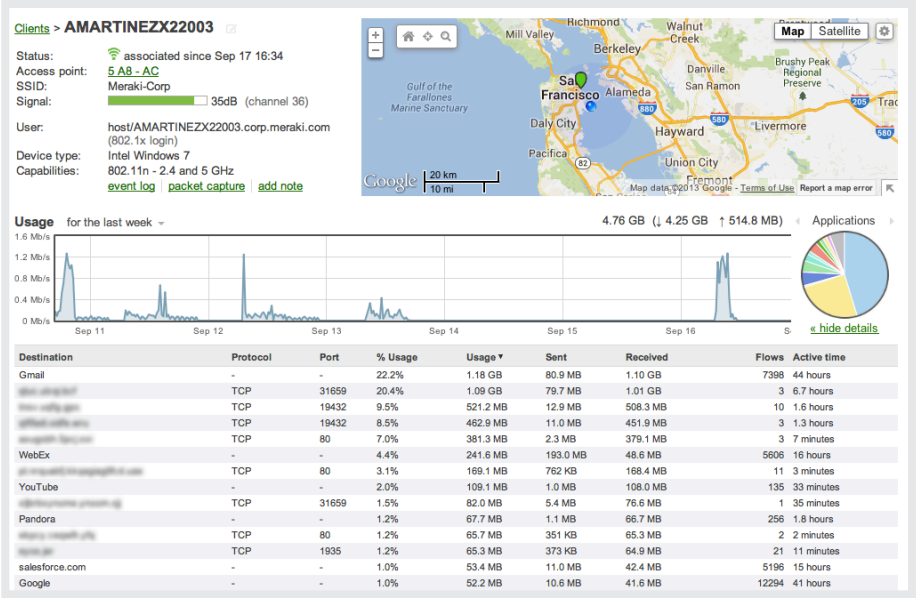
5. Identify bandwidth hogs

The Meraki dashboard will display sortable, searchable information on clients, devices, and application usage. A Google-like contextual search allows you to dynamically filter clients by device type (e.g. “iPad” or “Android HTC”), operating system, MAC, IP address, username, or device name.



Deep layer 7 visibility gives MS switches insight into the types of devices and applications passing traffic.

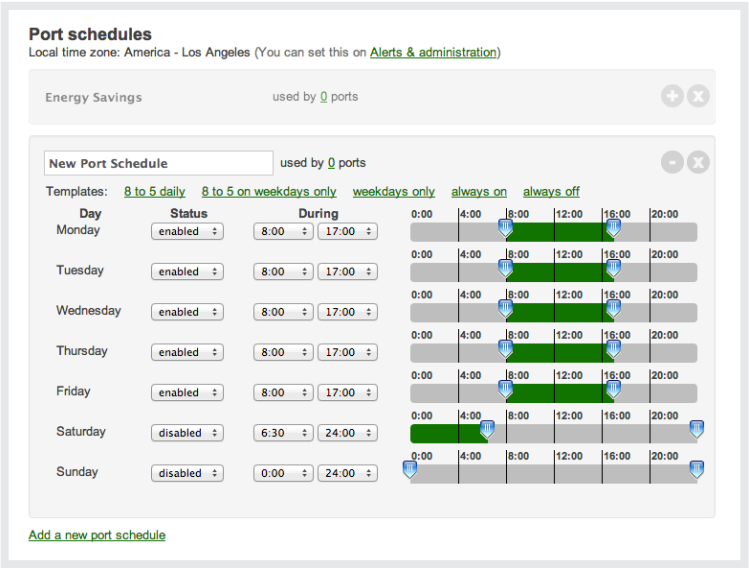
Drill down deeper into any application or connected client to view specific usage patterns for it.



The Meraki dashboard displays rich details about clients and applications.

6. Save energy and increase wired security

You may want to disable ports to save energy during off-peak hours or to prevent devices from accessing your network. Set schedules for a range of ports based on pre-configured templates or any timing of your choosing.

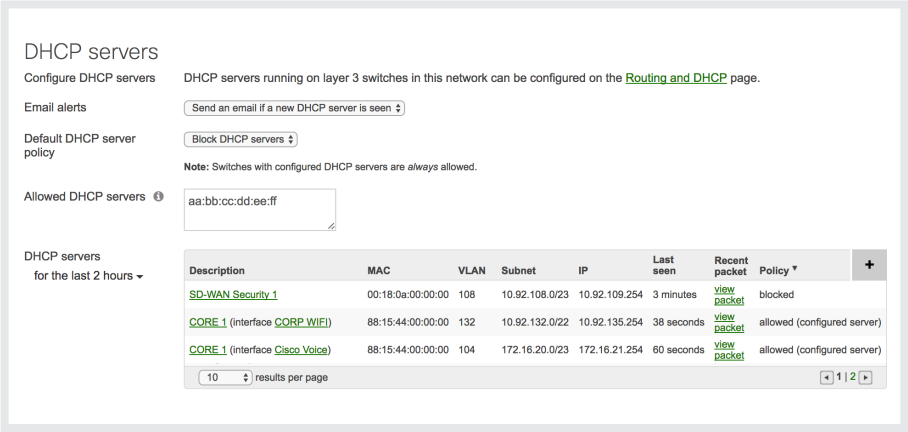


Port schedules prevent access to the switching fabric at the times you specify.

Applying port schedules to a range of switch interfaces takes less than 2 minutes using the Meraki dashboard. Apply policies to any port, regardless of switch model or geographic location, from anywhere in the world you have Internet access.

7. Contain rogue DHCP servers

MS switches perform DHCP snooping to identify which devices are responding as DHCP servers on your network, letting you automatically detect and block unauthorized, rogue devices. In the image below, for example, we've blocked all DHCP servers by default except for our authorized server with MAC address aa:bb:cc:dd:ee:ff. Combined with automatic detection alerts, this secures us from rogue servers which may be added to the network at any time.

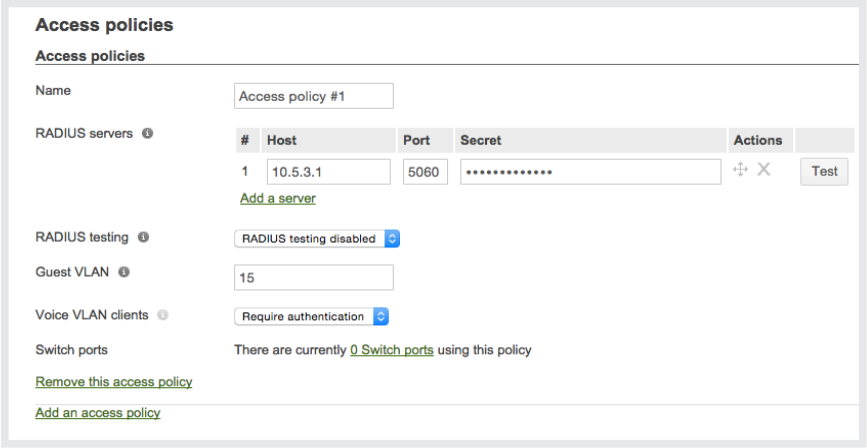


"Set it and forget it" rogue DHCP server containment, built into every Meraki MS switch.

8. Lock down switch access

All Meraki MS switches support 802.1X wired authentication, enabling port-based access policies that enforce authentication via user credentials or device MAC address.

If a RADIUS server has been defined, users or devices that are not recognized are automatically placed into a guest/remediation VLAN, eliminating any potential security risk to the network.

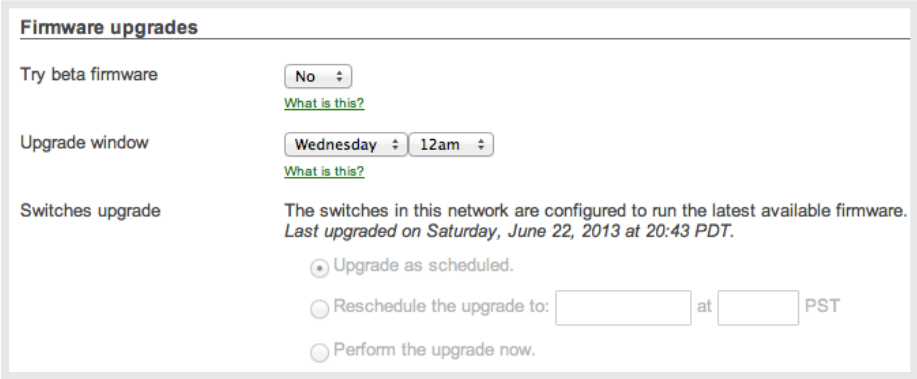


Secure your wired network by requiring user or device-based authentication.

9. Keep current with seamless updates

Firmware and dashboard updates are pushed seamlessly from the cloud to all your Cisco Meraki devices without any pre-staging, manual downloads, or trips onsite to install patches. Every quarter, new features are released; this feature velocity future-proofs your hardware investment.

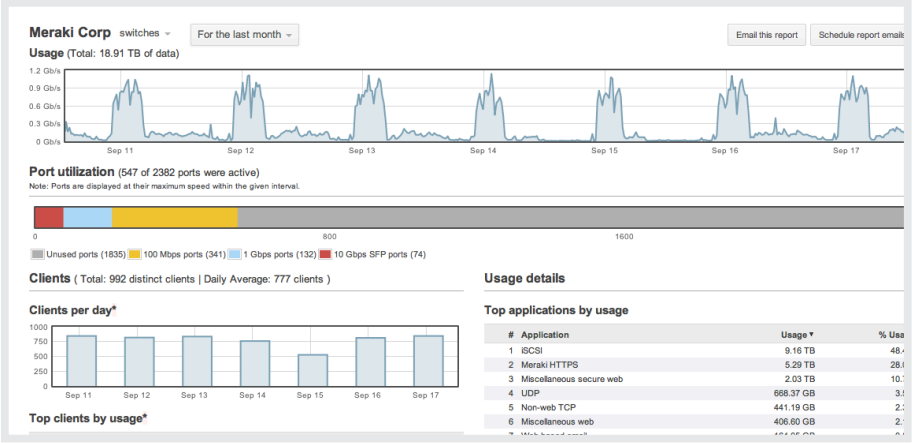
You choose the date and time to apply your switches' firmware updates — or you can opt out entirely.



Seamless updates save you time otherwise spent manually downloading and applying patches.

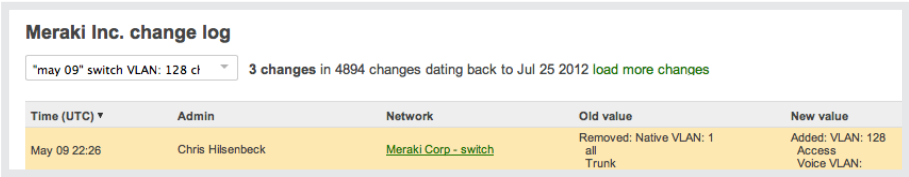
10. Spot network trends

Summary reports display useful trend digests. Quickly spot top applications, power consumption hogs or clients, and devices that are consuming bandwidth over the period of the report. Email a copy of the report to yourself or others, or schedule a regular report to be sent to your inbox.



Summary reporting distills large amounts of statistical detail into a “big picture” that is easily digested and shared.

Meraki MS switches provide detailed, searchable logs as well as digestible summary reports on trend statistics. Change logs track every configuration made to your switches, by whom, by date. Built-in, Google-like contextual search lets you quickly focus on only those events you want to see.



We’ve searched here for all changes to our switching fabric performed on May 9th by “Chris” that affected VLAN 128.

cisco Meraki

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