Wireless Security and Guest Access

Cisco Meraki Webinar Series

Agenda

Introduction

Live demo

Cisco Meraki architecture

Case studies

Key design considerations

Cisco Meraki product line

Q&A

Free APs for IT Professionals

Meraki 802.11n AP with 3-year cloud management license

Click on this link to attend any Cisco Meraki live webinar and Cisco will send qualified attendees a free Meraki Wi-Fi Access Point (AP) with a 3-year cloud management license - a $699 MSRP value free.

. . . or click on this personalized referral link for the current schedule for all the live webinars and recorded sessions.

meraki

2013

About Cisco Meraki

Company Information

Leader in cloud networking: 20,000+ customer networks deployed

- Founded in 2006 at MIT - tradition of innovation and R&D
- 330 employees worldwide

Cloud-managed edge and branch networking portfolio

- Complete line of wireless, switching, security, WAN optimization, and mobile device management products

Cisco acquired Meraki for $1.2 billion, form Cloud Networking Group

- Increase investment in Meraki technology (grow team, R&D)
- Utilize Cisco's reach to bring Meraki to new markets
- No changes planned to pricing, licenses, product roadmap, etc.

Trusted by thousands of customers worldwide:

Recognized for Innovation

Gartner

Visionary, Magic Quadrant for Wired and Wireless LAN

InfoWorld.com ★★ AWARDS ★★ TECHNOLOGY OF THE YEAR

2012 Technology of the Year

CRN

25 Coolest Emerging Vendors for 2012

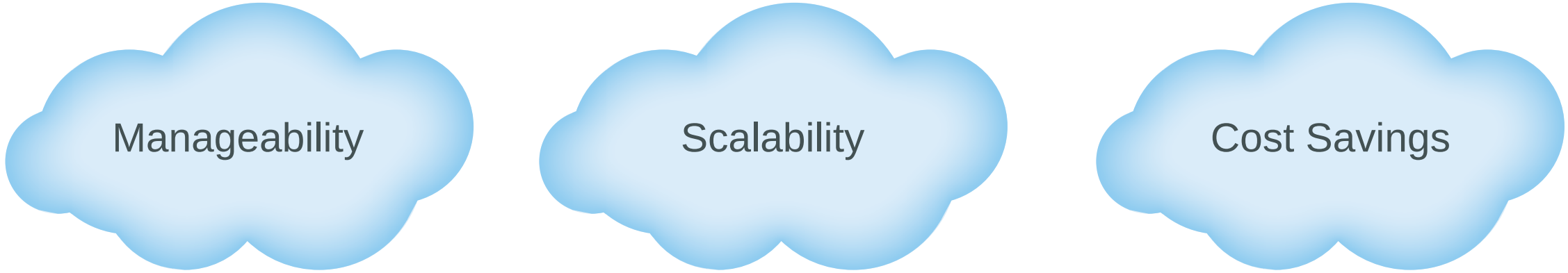
Top 100 Executives – CEO Sanjit Biswas

TECHWORLD

Mobility / Wireless Product of the Year

Why cloud managed WiFi?

Cloud increases IT efficiency



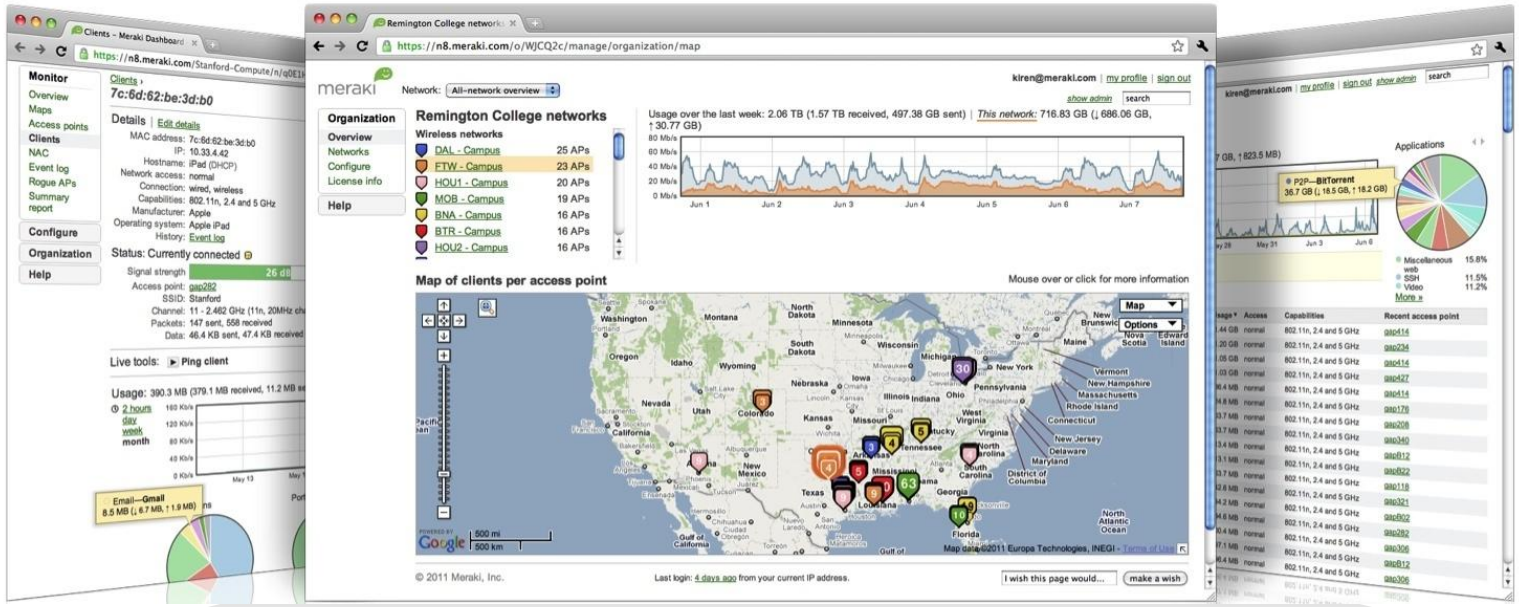
-Turnkey installation and management

-Integrated, always up to date features

-Scales from small branches to the campus

-Reduces operational costs

Bringing the cloud to enterprise networks



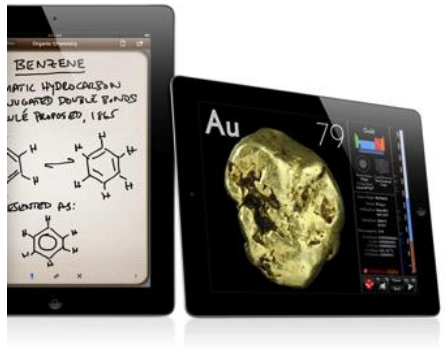
Cisco Meraki MR
Wireless LAN

Cisco Meraki MX
Security
Appliances

Cisco Meraki MS
Ethernet
Switches

Cisco Meraki SM
Mobile Device
Management

Solving new IT challenges

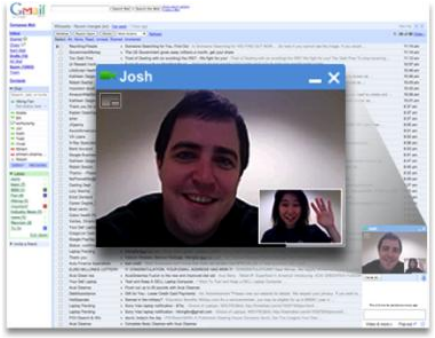


350 million iOS devices

Integrated Device Management

New business applications

Turnkey Security and Guest Access



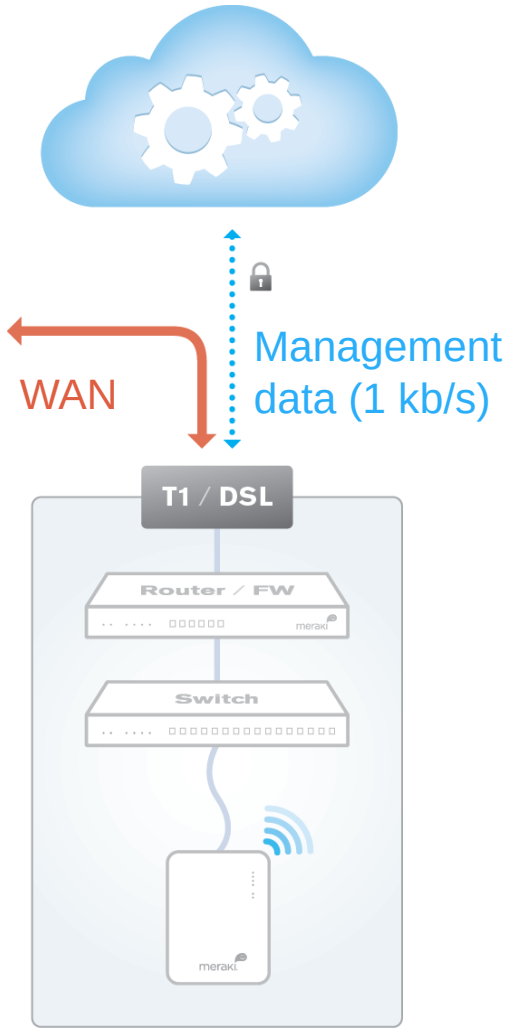
Video and rich media

Layer 7 Application QoS

Live Demo

Cloud Networking Architecture

Cisco Meraki's out-of-band control plane



Scalable

- Unlimited throughput, no bottlenecks
- Add devices or sites in minutes

Reliable

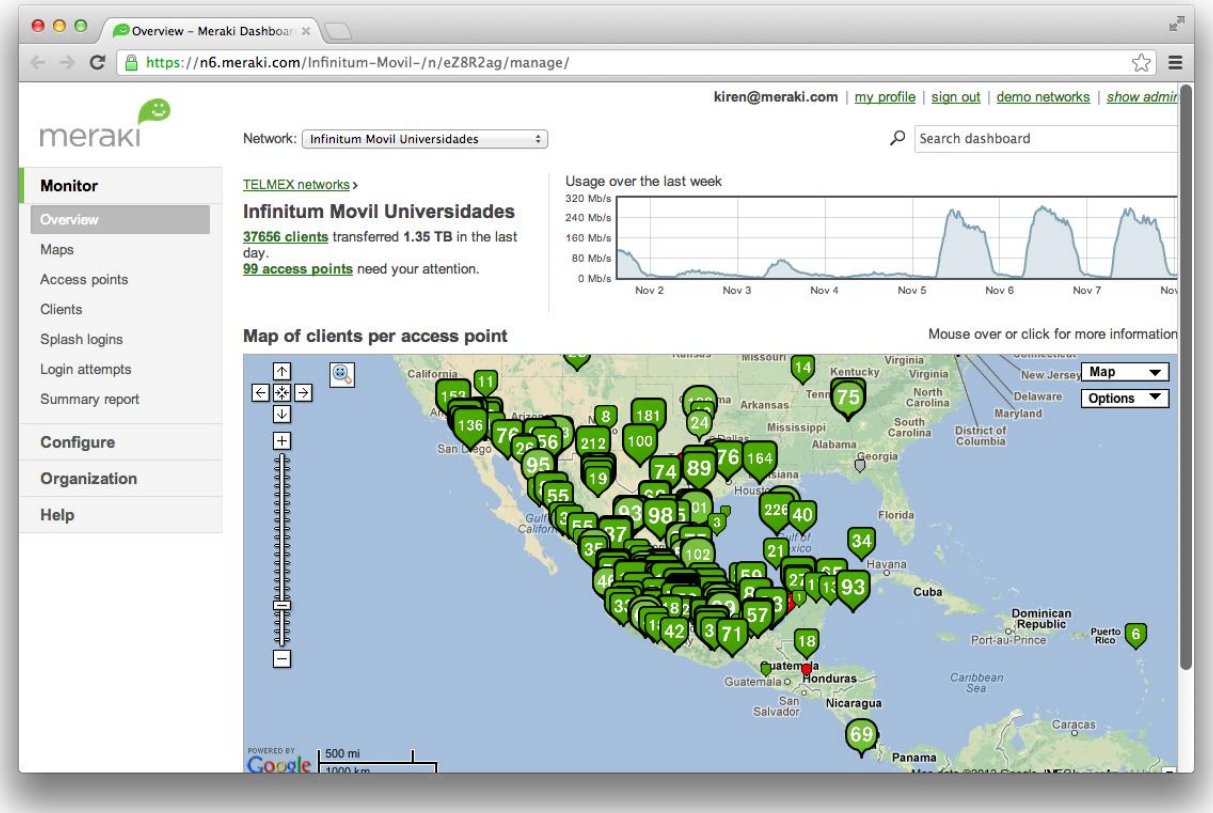
- Highly available cloud with multiple datacenters
- Network functions even if connection to cloud is interrupted
- 99.99% uptime SLA

Secure

- No user traffic passes through cloud
- Fully HIPAA / PCI compliant (level 1 certified)
- 3rd party security audits, daily penetration test

Reliability and security information at meraki.com/trust

Scalable cloud infrastructure



Telmex

Nationwide hotspot and 3G offload network

Next Retail

550 retail stores across the UK

Motel 6

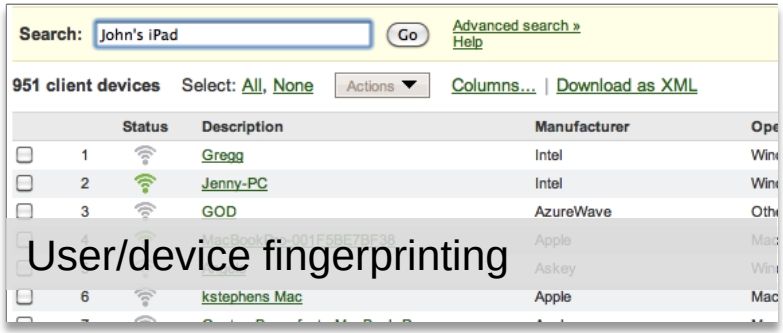
70,000 hotel room deployment

Jeffco School District

80,000 student district with 100+ schools

Proven in 10,000+ device deployments

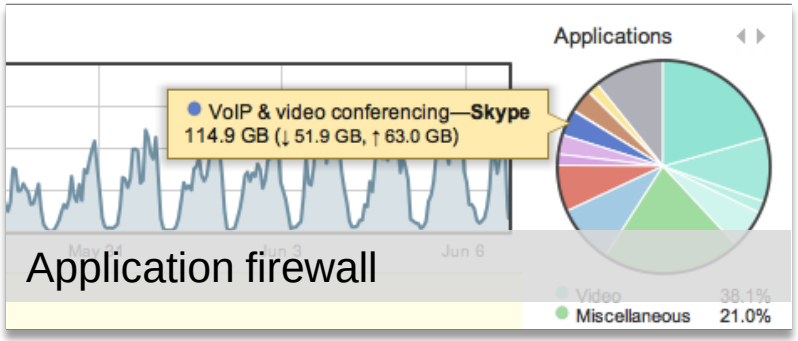
SaaS feature delivery, quarterly updates



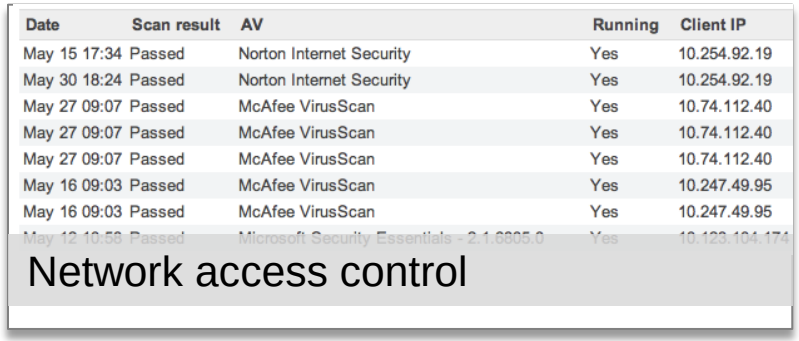
User/device fingerprinting

Content filtering

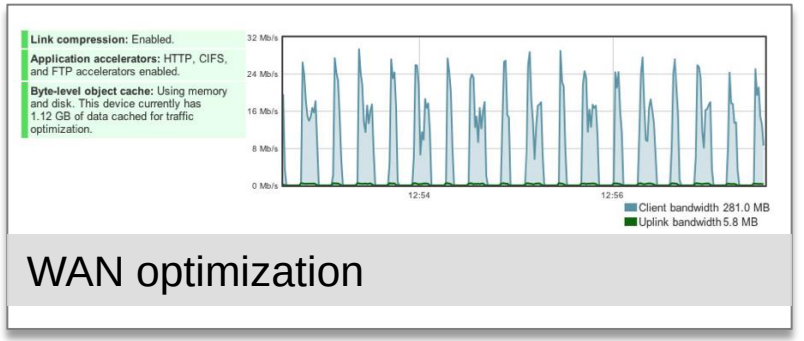
Mobile application deployment



Application firewall



Network access control



WAN optimization

Case studies

PCI compliant WiFi for shoppers and staff

UNITED COLORS OF BENETTON.

WiFi in Corporate HQ and Flagship Stores

"The dashboard is fantastic, including its analytics"

Mark Bishop, IT Manager

PCI Compliant Wireless LAN

Built-in stateful firewall isolates corporate traffic from guests

Cloud-hosted splash pages create marketing opportunities in retail

Application-Level QoS

Prevents bandwidth-intensive applications from compromising network experience

Business apps prioritized

Video, gaming, P2P traffic throttled

Secure employee and guest access

FOSTER PEPPER PLLC

Secure WLAN for attorneys and clients

"It was plug and play, and there were no new complex systems to learn"

Lucas Clara, IT Director

802.1X/RADIUS employee access

Industry-standard encryption and access control for attorney-client data

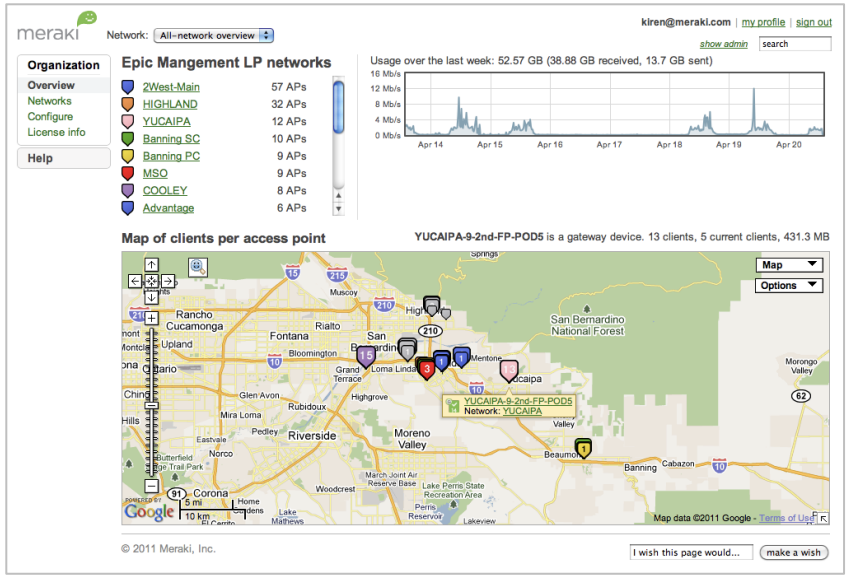
Supports laptops and iPads

Internet-only guest access

LAN isolated/protected from guests

Custom splash page provides Ts and Cs

HIPAA-compliant medical and patient access



BEAVER MEDICAL GROUP

Centrally managed wireless LAN across 22 distributed hospitals and clinics

"With Meraki, we can take the equipment to a new facility and get the site up and running overnight."

Michael Crabtree, IT Manager

HIPAA-compliant security for doctors and patients

Virtual guest network provides Internet access for patients

WPA2-Enterprise secured wireless LAN for medical carts and tablets

Distributed sites centrally managed from the cloud

Network-wide visibility and control

Built-in monitoring and alerts

Design Considerations

Security design considerations

Account protection

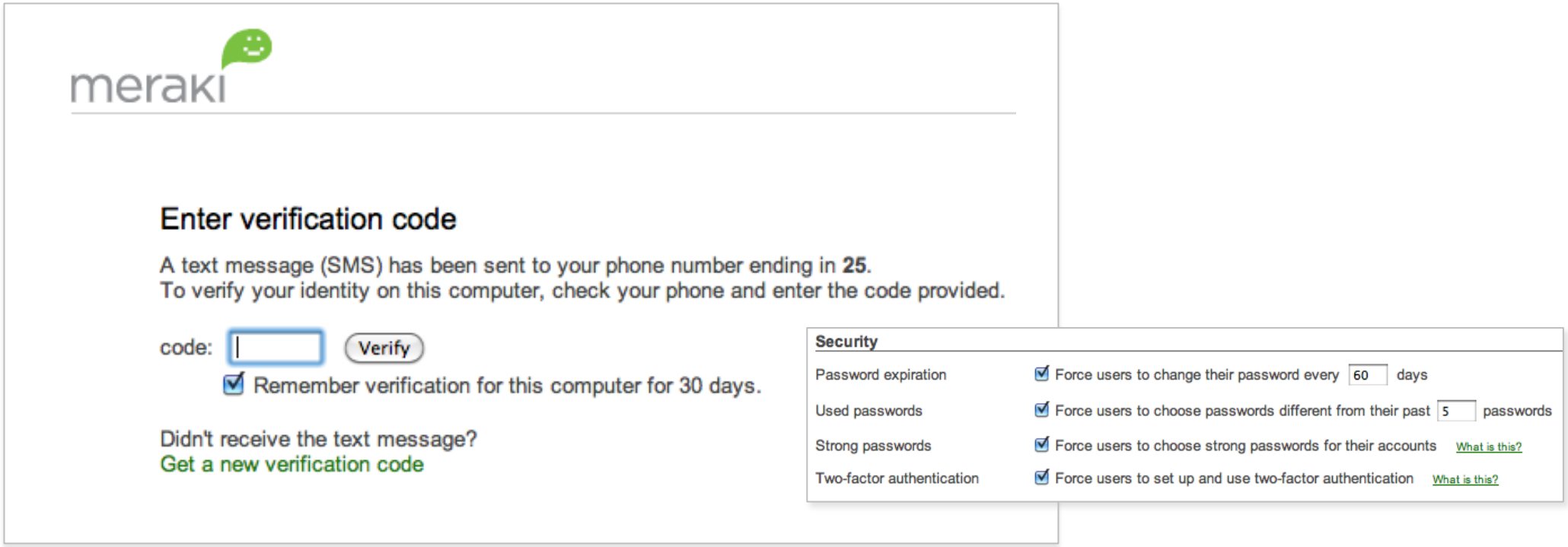
Wireless security

- Encryption and admission control
- User and content-aware firewall
- Guest access
- NAC
- Rogue AP detection and prevention

BYOD networks

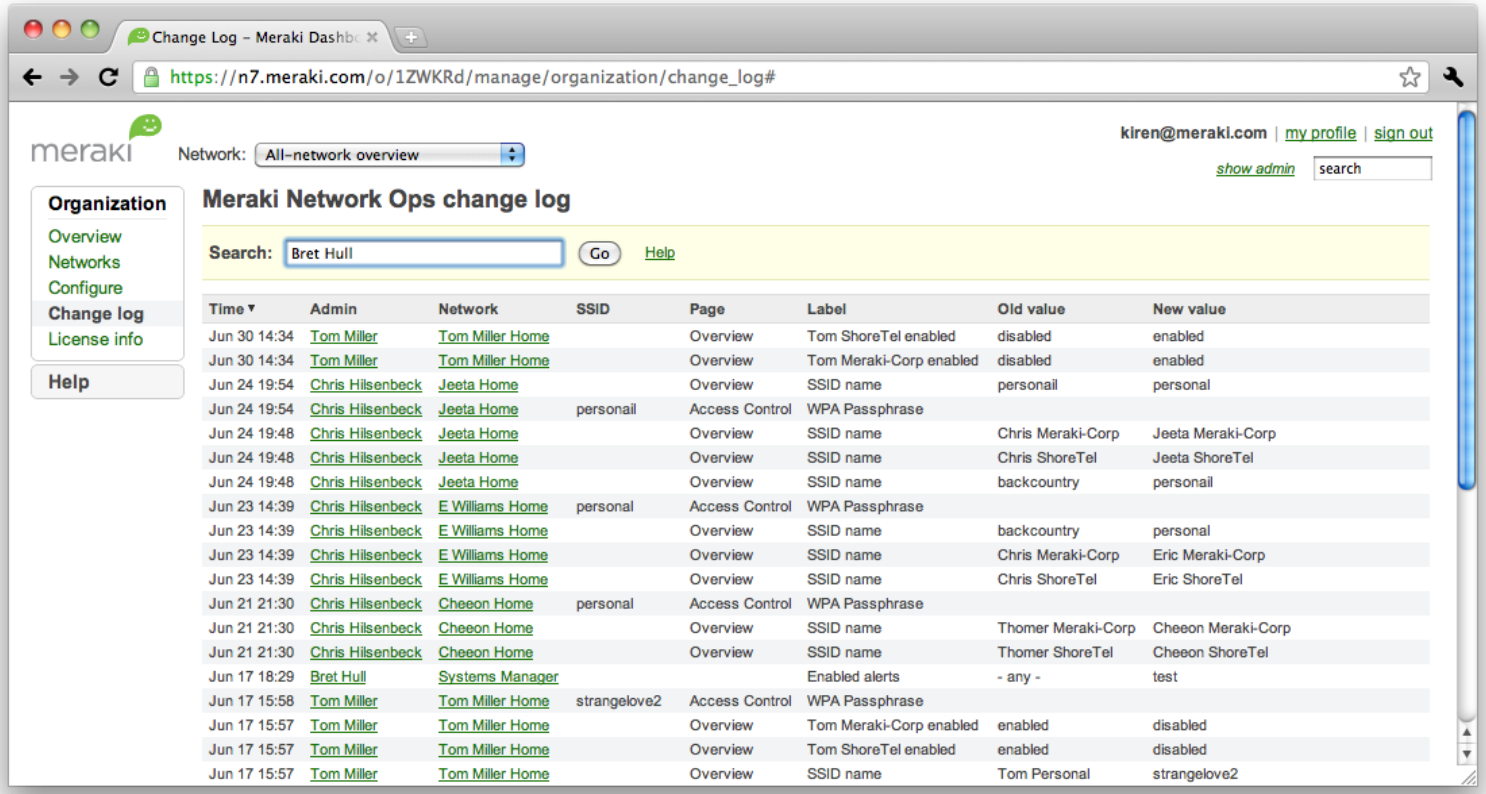
Account Protection

Account security protections



- Two-factor authentication
  - Protection from compromised passwords
  - SMS / Google Auth design eliminates RSA tokens
- Enforce password strength

Change management features



Time	Admin	Network	SSID	Page	Label	Old value	New value
Jun 30 14:34	Tom Miller	Tom Miller Home		Overview	Tom ShoreTel enabled	disabled	enabled
Jun 30 14:34	Tom Miller	Tom Miller Home		Overview	Tom Meraki-Corp enabled	disabled	enabled
Jun 24 19:54	Chris Hilsenbeck	Jeeta Home		Overview	SSID name	personail	personal
Jun 24 19:54	Chris Hilsenbeck	Jeeta Home	personail	Access Control	WPA Passphrase		
Jun 24 19:48	Chris Hilsenbeck	Jeeta Home		Overview	SSID name	Chris Meraki-Corp	Jeeta Meraki-Corp
Jun 24 19:48	Chris Hilsenbeck	Jeeta Home		Overview	SSID name	Chris ShoreTel	Jeeta ShoreTel
Jun 24 19:48	Chris Hilsenbeck	Jeeta Home		Overview	SSID name	backcountry	personail
Jun 23 14:39	Chris Hilsenbeck	E Williams Home	personal	Access Control	WPA Passphrase		
Jun 23 14:39	Chris Hilsenbeck	E Williams Home		Overview	SSID name	backcountry	personal
Jun 23 14:39	Chris Hilsenbeck	E Williams Home		Overview	SSID name	Chris Meraki-Corp	Eric Meraki-Corp
Jun 23 14:39	Chris Hilsenbeck	E Williams Home		Overview	SSID name	Chris ShoreTel	Eric ShoreTel
Jun 21 21:30	Chris Hilsenbeck	Cheeon Home	personal	Access Control	WPA Passphrase		
Jun 21 21:30	Chris Hilsenbeck	Cheeon Home		Overview	SSID name	Thomer Meraki-Corp	Cheeon Meraki-Corp
Jun 21 21:30	Chris Hilsenbeck	Cheeon Home		Overview	SSID name	Thomer ShoreTel	Cheeon ShoreTel
Jun 17 18:29	Bret Hull	Systems Manager			Enabled alerts	- any -	test
Jun 17 15:58	Tom Miller	Tom Miller Home	strangelove2	Access Control	WPA Passphrase		
Jun 17 15:57	Tom Miller	Tom Miller Home		Overview	Tom Meraki-Corp enabled	enabled	disabled
Jun 17 15:57	Tom Miller	Tom Miller Home		Overview	Tom ShoreTel enabled	enabled	disabled
Jun 17 15:57	Tom Miller	Tom Miller Home		Overview	SSID name	Tom Personal	strangelove2

- Audit configuration changes
- Delegate and control privileges (role-based administration)
- Email alerts on configuration changes

Wireless Security

OTA encryption

Admission control: who can join the network?

WPA2 PSK	– Easy to deploy, no integration – Best for small networks (does not scale)
WPA2 Enterprise/802.1X	– Scalable, fine-grained – RADIUS integration: Active Directory, LDAP, etc
Native Active Directory/LDAP integration	– Scalable – Easy to deploy: no RADIUS configuration – Requires splash page

Access control: what can they access?

NAT mode with LAN isolation: Internet only

Bridge mode: access LAN or VLAN

- VLAN tagging: tie SSID to a VLAN
- Firewall rules: restrict IP ranges
- Policy firewall: identity, device-based firewall rules

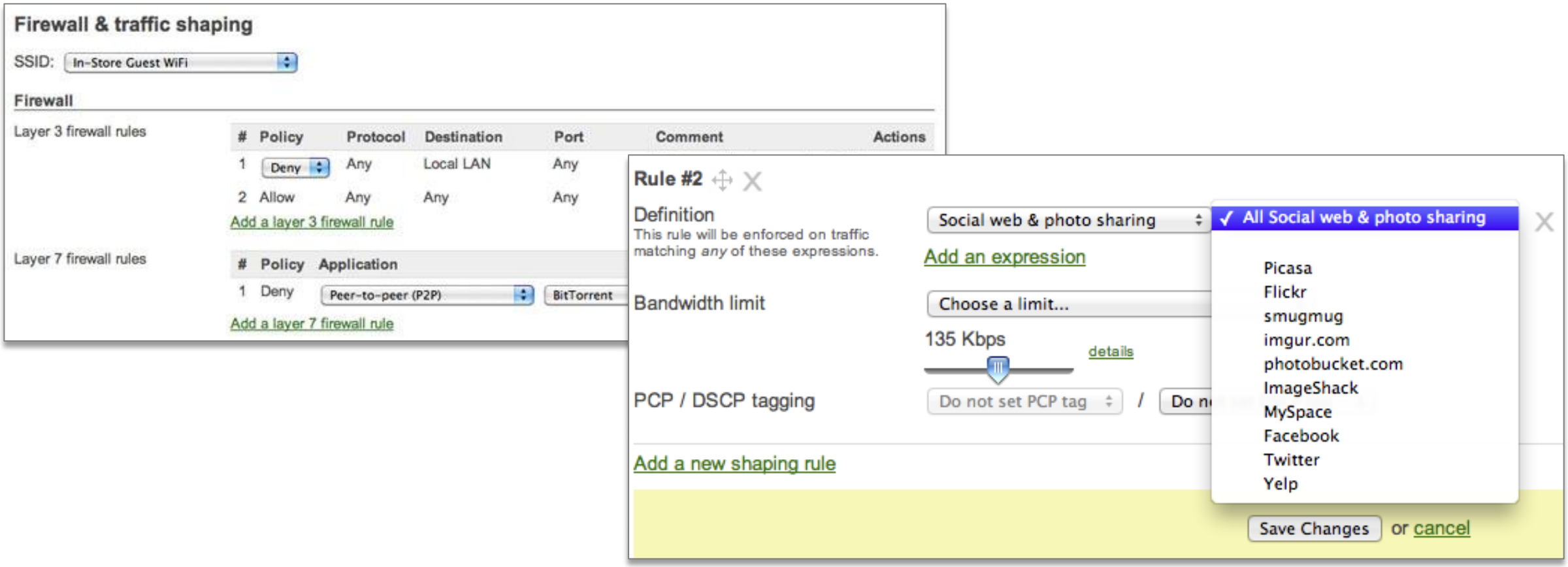
Example policy firewall rules:

Students: Internet only, via content filter

Teachers: Internet only, bypass content filter

Staff: Internet and internal servers

Layer 3-7 stateful firewall



User and content aware firewall in every access point

Guest Access

Critical requirement: protect local network

3 implementation options

Separate network: APs, switches, WAN
- White House Situation Room

Cisco Meraki LAN isolation
- Unique to Meraki
- Secure, deploys in 1 click

VLAN tagging, firewall rules
- More complex, but flexible

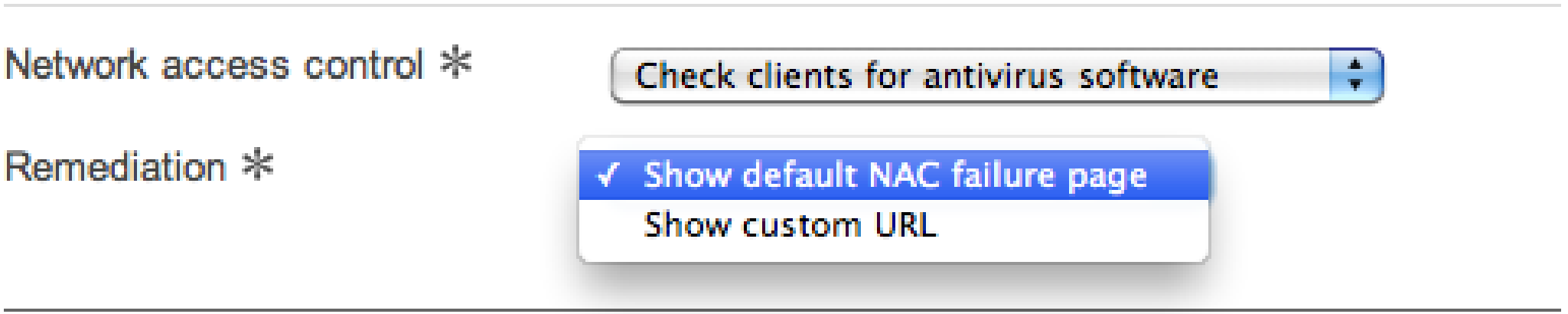
Block access to LAN resources (file shares, etc)
Prevent spread of viruses

Other options

Admission Control	– Open, WPA2-PSK, Guest Ambassador
Click through splash pages	– Show logo, terms of use
Bandwidth and content restrictions	– Application traffic shaping (limit P2P) – Adult content filtering
Time-based SSIDs	

NAC

Cisco Meraki's built-in NAC



Wireless Intrusion Prevention

Cisco Meraki Wireless Intrusion Prevention System

Detect and classify APs using multiple heuristics (captured probes, active scans, spectral scans)

- Identify other nearby APs within the network
- Interfering APs from nearby networks

Most importantly: identify rogue spoofing and attacking

- Detect other APs accidently exposing your wired LAN
- Detect other APs spoofing your SSID
- Detect attacks, such as malicious broadcasts and floods

Rogue containment

- De-authenticate clients, rendering rogue APs ineffective

Prioritized alerts: automatically notify individual or group of admins

BYOD Networks

Key Cisco Meraki BYOD technologies

Layer 7 device fingerprinting

Group policy firewall

Guest isolation firewall

NAC with anti-virus scan

Device-based policies

Flexible, fine-grained policies

Flexible, fine-grained controls

- Identity, device, location, application

Complete, integrated solution

- No external appliances, NAC software, etc

Example policies:

- Retail: block YouTube for company-owned iPads
- Corporate: CEO's iPad on VLAN 20
- Guests: Allow visitor access from any iOS/Android device, but only allow Windows laptops with AntiVirus software
- Teleworker: Allow NetFlix from home but not in branch office

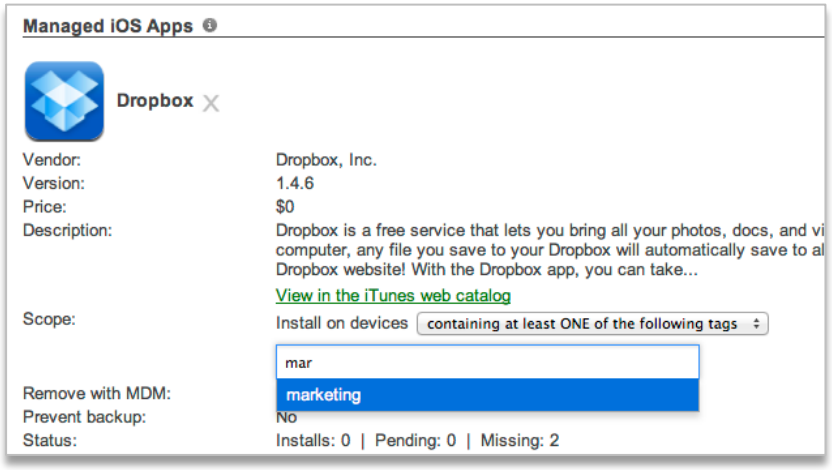
Control company owned devices

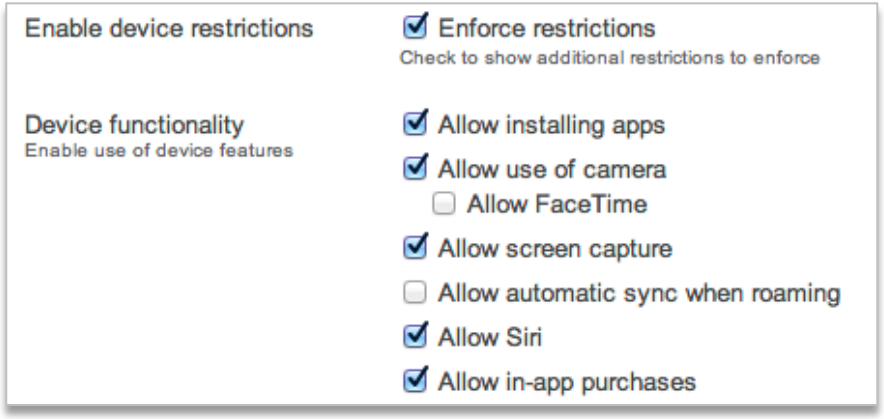
Manage hardware and software inventory

Troubleshoot with remote desktop

iOS and Android management

- Deploy apps across thousands of devices
- Set security policies and profiles
- Remote wipe, lock device, etc.

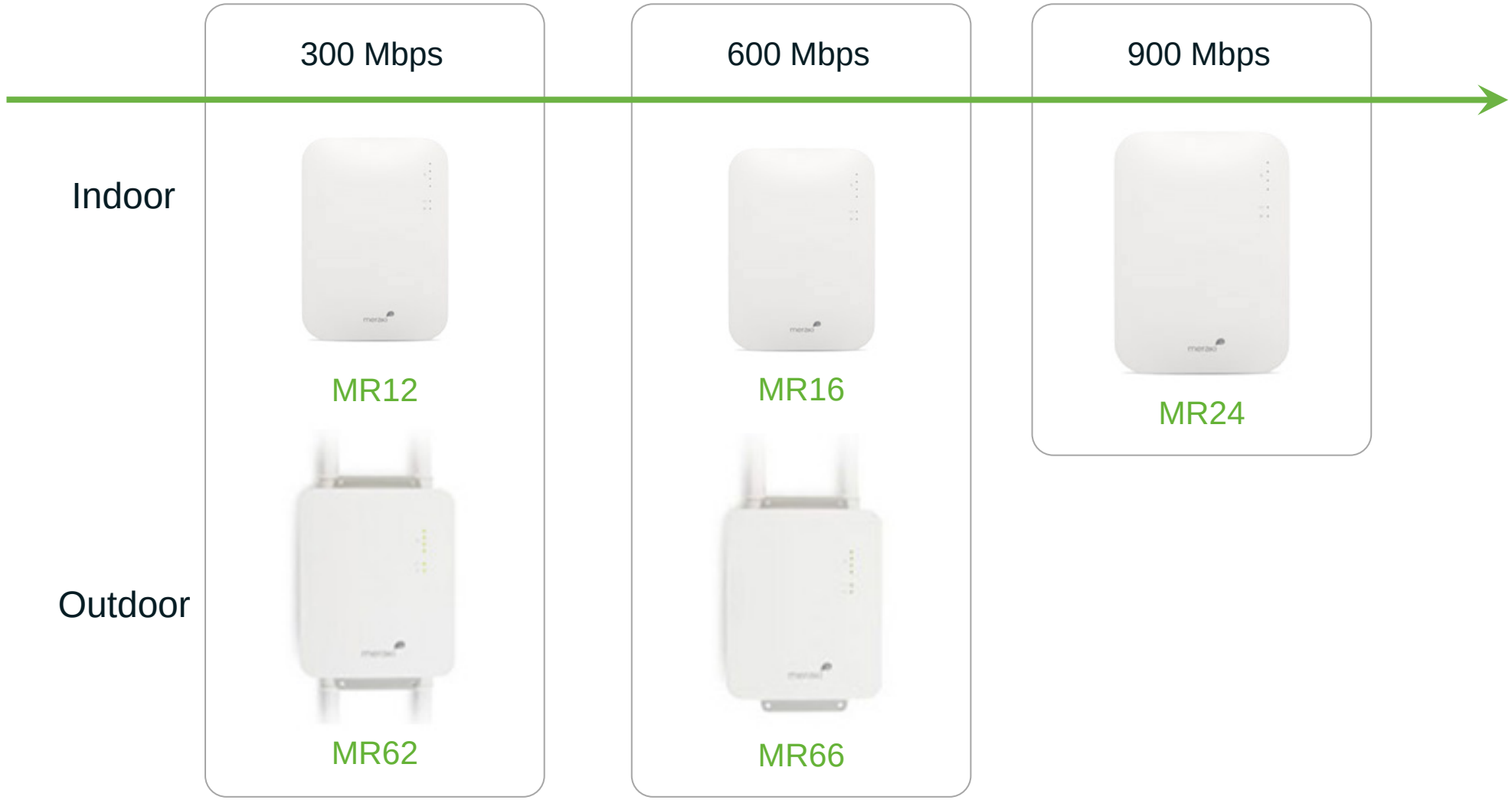




Fully integrated with Cisco Meraki dashboard

Products

5 access point models



Key features

Enterprise security and guest access

- Air Marshal™ wireless intrusion prevention
- Secure guest access
- 802.1x / Active Directory integration

Automatic RF optimization

- AutoRF™ cloud-based performance tuning
- High performance mesh routing

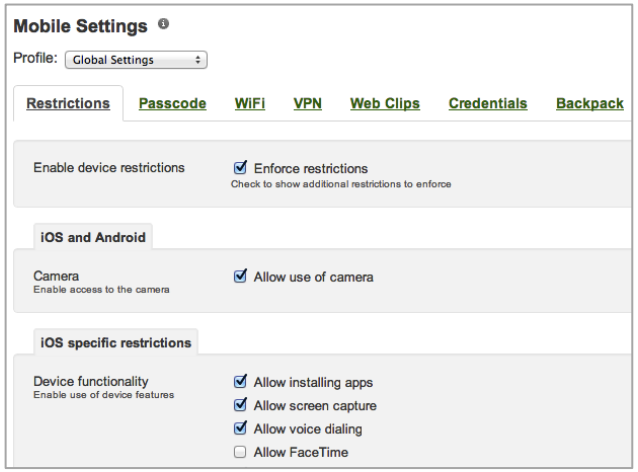
BYOD control

- User and device-based policies
- Built in MDM
- Automatic device fingerprints

Other Cisco Meraki product families

MX Security Appliances

MS Ethernet Switches



SM Mobile Device Management

Complete edge and branch hardware portfolio

Integrated under single cloud-based management dashboard

Other Cisco Meraki product families

– Multi-site management
– Zero-touch device provisioning
– Seamless firmware upgrades (user-scheduled)
– Summary reports
– PCI compliant
– 99.99% SLA

Networks that simply work

For more information and discount pricing quotations for your project,
contact 1 PC Network, your authorized Cisco Meraki Elevate Partner.

Click here to Register Your New Meraki Projects.
Qualify for Important Extra Cisco Discounts.

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