Meraki is now part of Cisco.

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Prepare Your Network for BYOD

Meraki Webinar Series

Agenda

Introduction to Meraki and Cloud Networking

BYOD objectives

Taming BYOD: capacity, security & management

- Design considerations
- Live demos

Product line & pricing

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.

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2013

About Meraki

About Meraki, part of Cisco

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

- Initial technology developed at MIT - tradition of innovation and R&D

Cloud-managed edge and branch networking portfolio

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

Now the Cisco 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 product roadmap, licenses, etc.

Trusted by thousands of customers worldwide:

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Recognized for innovation

Trusted by thousands of customers

Education, professional services, healthcare, retail, government, industrial & manufacturing, hospitality

Gartner — Visionary, Magic Quadrant for Wireless LAN

TECHWORLD — Winner, Mobility and Wireless Product of the Year

World Economic Forum — Technology Pioneer Award

Network Products Guide Hot Companies 2011 — Winner, Best Product Wireless Solution

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Customer success across all industries

Enterprise

ZGF
Needham
Foster Pepper PLLC
Bilzin Sumberg
ATTORNEYS AT LAW
THQ
dcm
Nordson

Higher Ed

MIT
Stanford
Westmont College
Baker College
Remington College
Merrimack College
CA
Clark Atlanta University
Embry-Riddle Aeronautical University
University of Virginia

Retail

Design Within Reach
piggly wiggly
Burger King
United Colors of Benetton.
Caribou Coffee
Sterling Auto Body
Reeds Jewelers
Starbucks Coffee
Westfield

Healthcare

Health Canada
www.hc-sc.gc.ca
Montefiore
UC Health
Horizon Bay
Retirement Living
CenturyCare Management
Telluride Medical Center
EPIC Management, L.P.
Ochiltree General Hospital

Hospitality

Caravelle Hotel
Holiday Inn
Comfort Inn & Suites
Sandman
Hotels | Inns | Suites
Viceroy Hotels and Resorts
Accor
Seascape Beach Resort
Monterey Bay
Radisson

K-12

Alvin Independent School District
Staunton City Schools
Rainbow Schools
Reaching minds. Touching hearts.
Exeter
LPSD
Lloydminster Public School Division
Regis High School

Industrial

Haycock Petroleum
SEMCOENERGY
GeoEngineers
Halperns'
Purveyors of Steak & Seafood
Weller Reman Center
Pacific Power Products
Columbia Steel

Government

City and County of San Francisco
Tulsa County
U.S. Department of Energy
Boston
Harvard Square
Aiken • Bamberg • Barnwell • Edgefield
Regional Library System
Brooklyn Public Library

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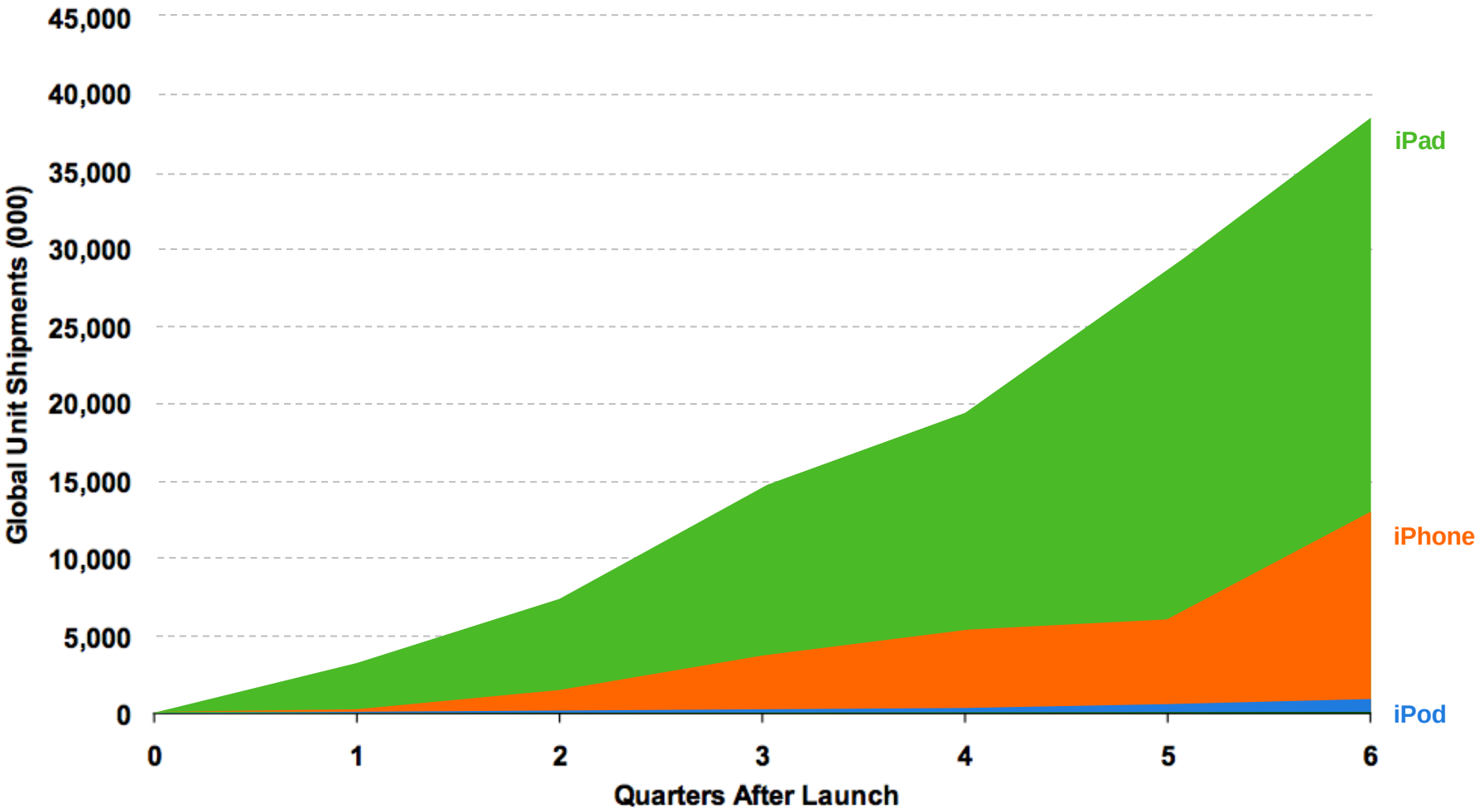
Why cloud networking?

Apple: First 6 Quarters Cumulative Unit Shipments



Source: Apple as of Q2:11 (6 quarters, post iPad launch)

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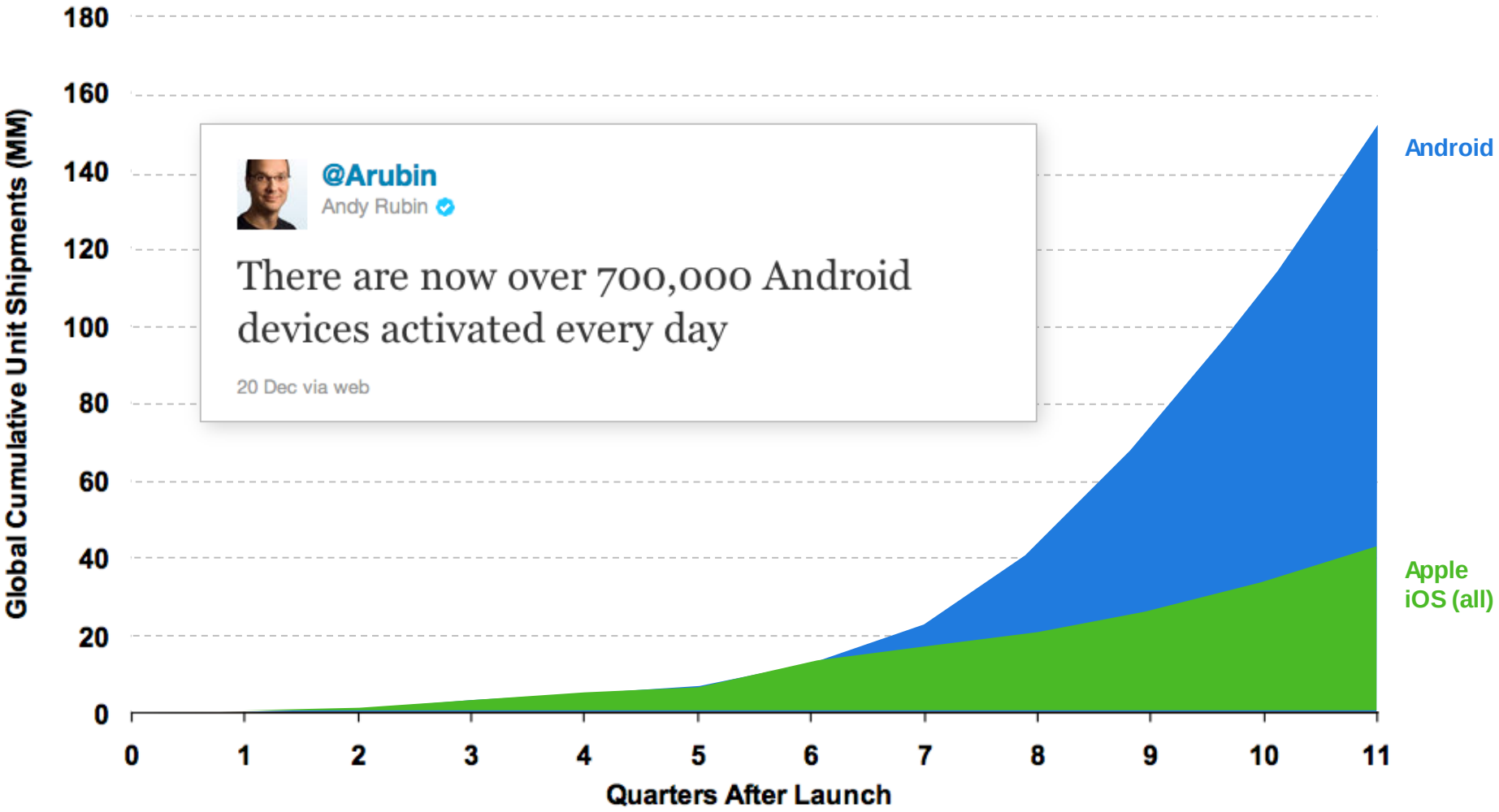
Apple vs. Android: First 11 Quarters



Source: Gartner, Morgan Stanley Research, as of Q2:11

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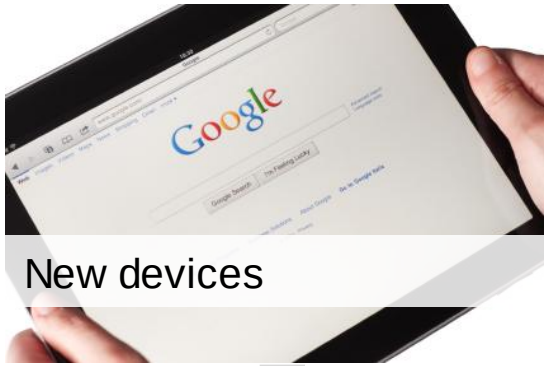
Networking challenges



New devices

High bandwidth web apps

Access everywhere

Creating new challenges for IT:

"How do I support 10x more devices with a fixed staff?"

"How do I keep BitTorrent from slowing down web apps?"

"Can users securely bring their own devices?"

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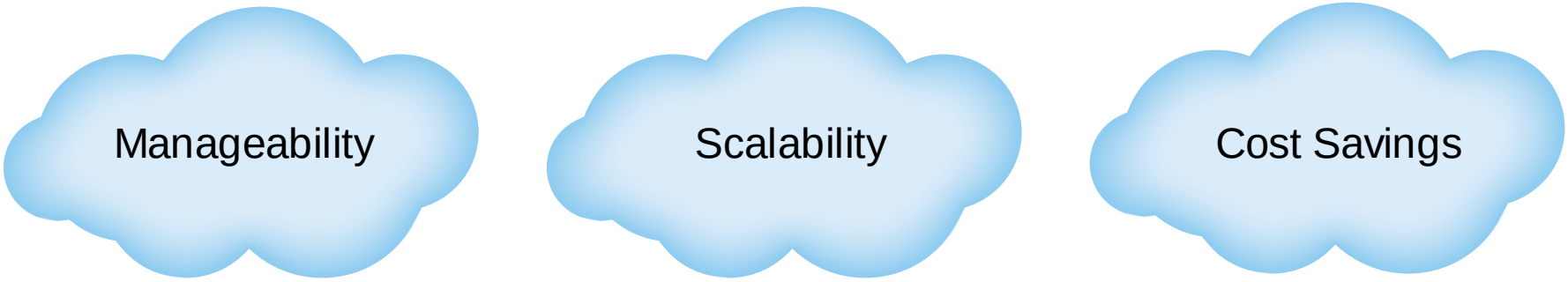
Cloud increases IT efficiency



Turnkey installation and management

Integrated, always up to date features

Scales from small branches to large networks

Reduces operational costs

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Bringing the cloud to enterprise networks

Meraki MR
Wireless LAN

Meraki MS
Ethernet Switches

Meraki MX
Security Appliances

Meraki SM
Mobile Device
Management

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Live Demo

Preparing your network for BYOD

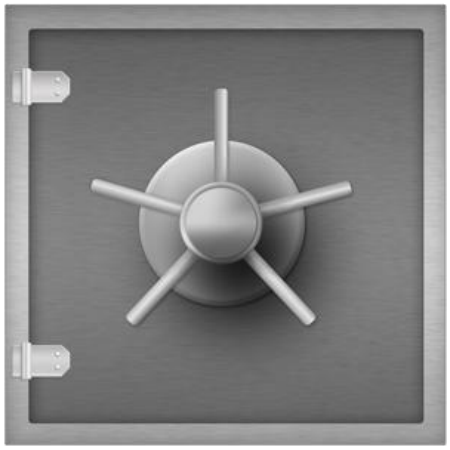
BYOD objectives

- Satisfy end-user demand
- Maintain security, visibility and control
- Preserve network reliability and end-user experience
- Minimize IT burden

"iPad has changed the way this firm practices law. And I think it's changed the practice of law in general."

James Goodnow
Director, Fennemore Craig

Key BYOD design considerations

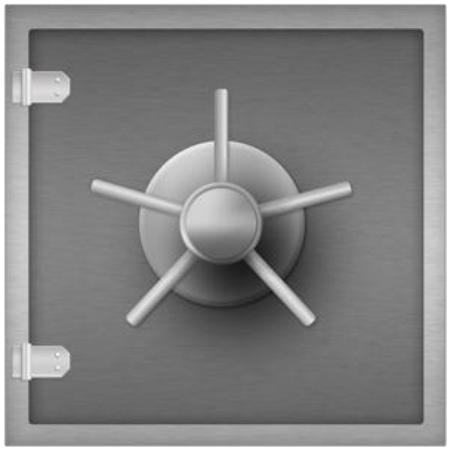


Security

Capacity

Management

100% integrated, without cost or complexity



Security

Security

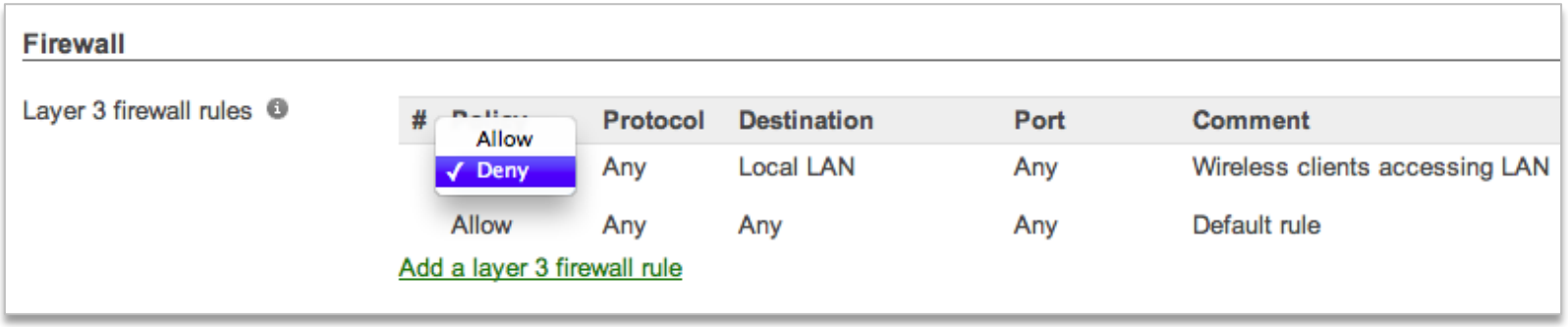
- Goal: prevent viruses, unauthorized data access
- First, follow wireless security best practices
- Augment with BYOD-specific strategies
  - Layer 7 device fingerprinting
  - NAC/Antivirus Scan
  - Segment corporate and BYOD devices

Wireless security best practices

- Segment classes of users
  - Separate SSIDs for guests, employees
  - Identity-based policy firewall

- Encrypt wireless traffic
  - WPA2 PSK or Enterprise

- Detect and mitigate rogue APs



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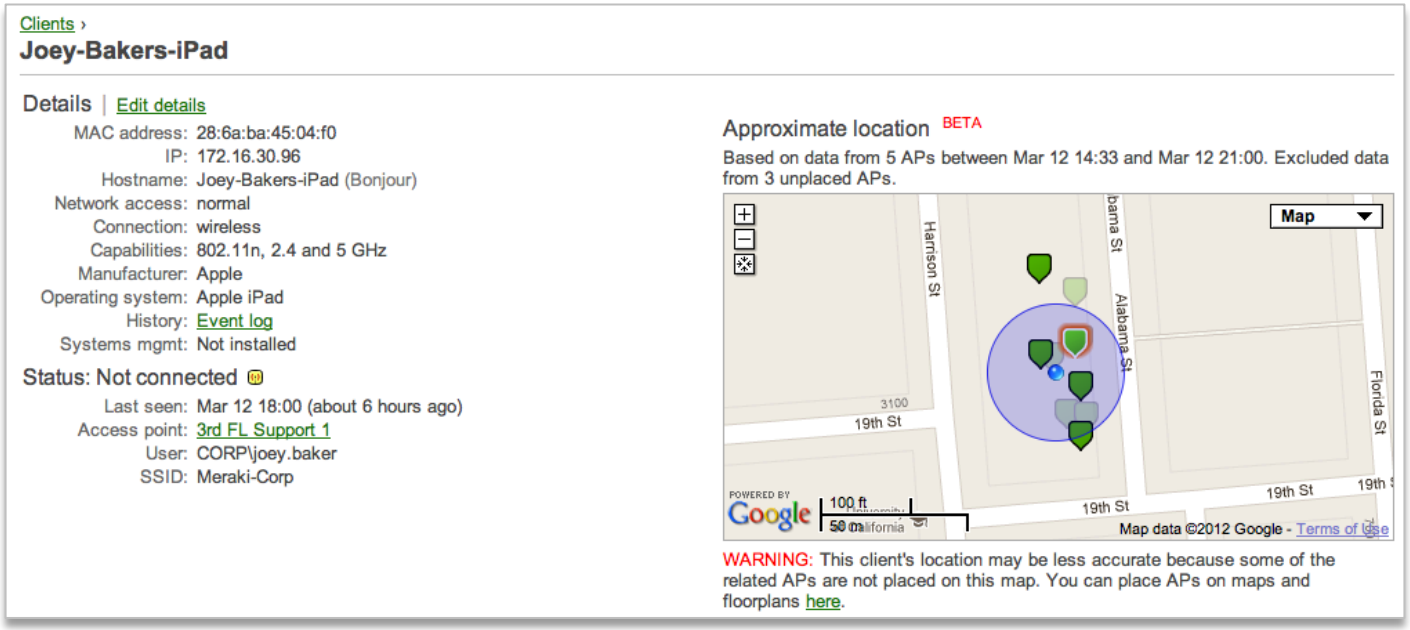
Layer 7 device fingerprinting



- Gleans identifying signatures from network traffic
- Zero-configuration
- Automatic updates to handle new devices
- Fully integrated with NAC and device-based policy firewall

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Corporate and employee device separation

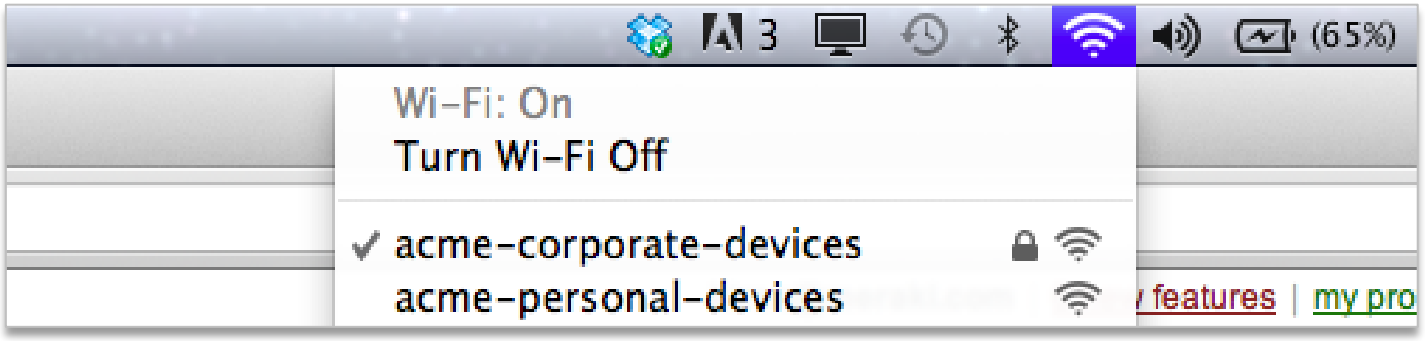
"I already authenticate users with 802.1X. Should I restrict access based on the authenticated user's device?"

Three strategies:

- Equal access for all devices
  - Appropriate for many environments: education, corporate, etc.
  - Simple for users and IT
  - Optionally control access based on user identity
- Use Internet-only guest access SSID for employee devices
  - Isolate LAN resources from employee devices
  - May not satisfy end-user requirements
- Fine-grained access control restrictions for employee-owned devices
  - Most flexible

Isolated SSID for BYOD

- Strategy: isolated virtual network for BYOD
  - Prevent or restrict LAN access
  - May double as guest (non-employee) network
  - Protect network for company-owned devices via MAC whitelist or 802.1x/EAP-TLS
- Pro: secure, easy to configure and understand
- Con: user has to think before connecting



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Apply policies by device type

Meraki Firewall (built into AP):

- Classify devices (Layer 7)
- Apply rules based on user or device type:
  - VLAN tag
  - Firewall rules/ACLs
  - Bandwidth limits

- Example device-based policies:
  - Corporate-issued laptops: full access
  - iPads: email servers + Internet
  - CEO's iPad: email, ERP, Internet
  - Smartphones, netbooks etc: Internet-only

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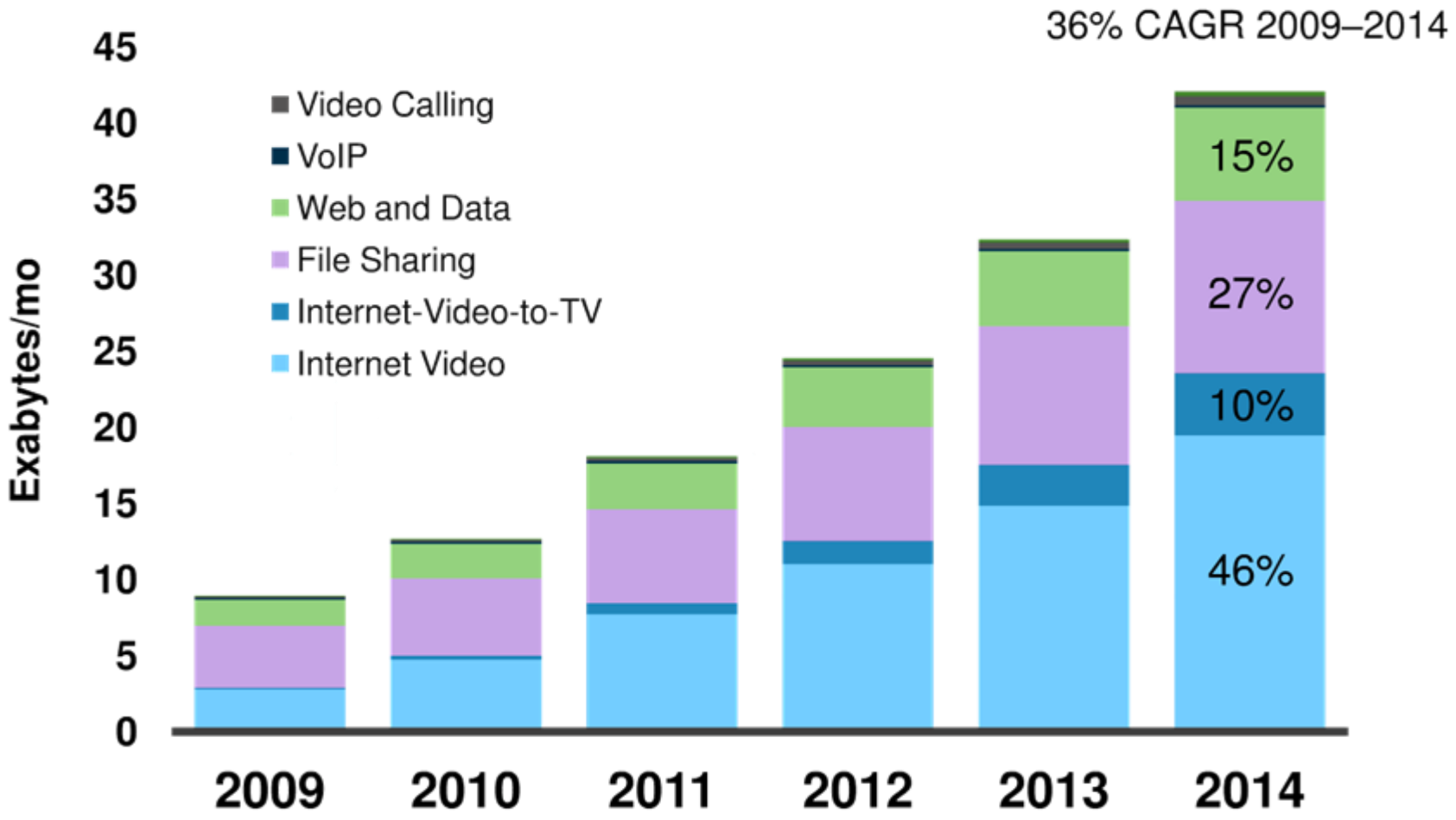
Capacity

Internet edge traffic



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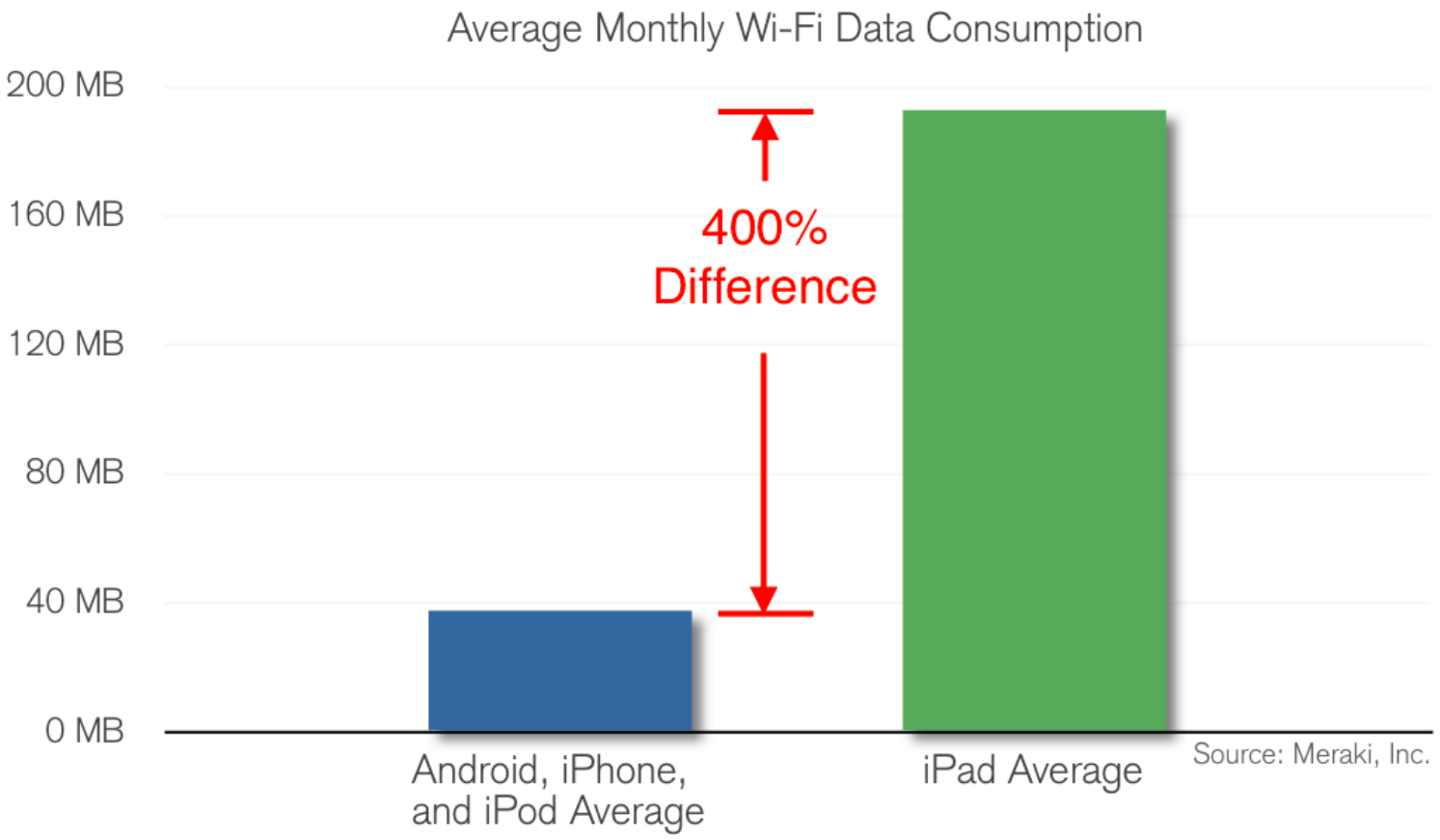
Meraki survey: iPads use 400% more data



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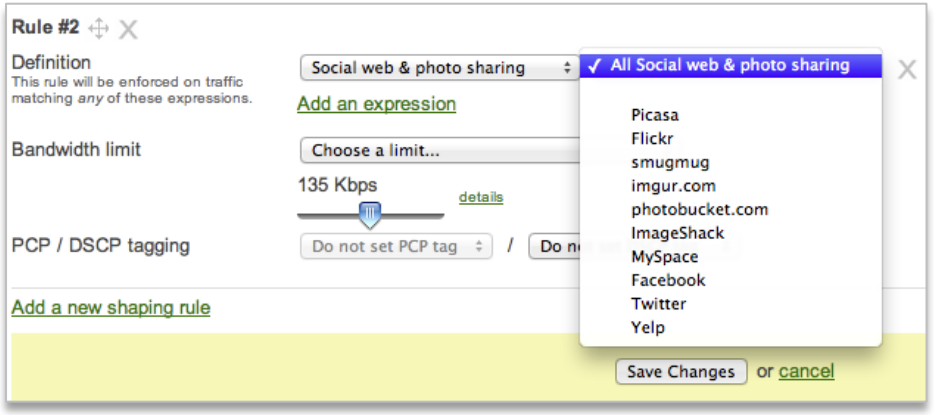
Layer 7 application traffic shaping



- Monitor bandwidth usage by application
- Limit or block unwanted recreational traffic
- L7 shaping controls peer to peer, encrypted, & evasive apps

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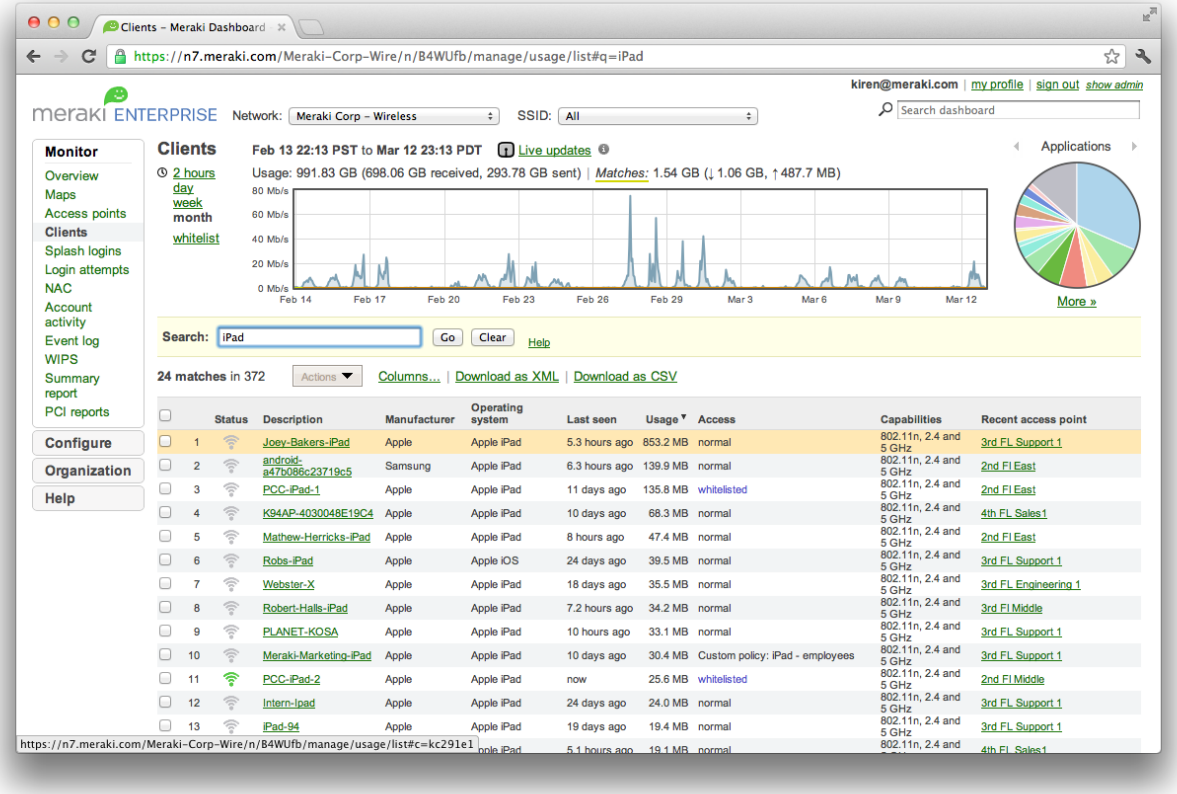
RF capacity planning

- Deploy 802.11n
  - Higher throughput, up to 900 Mbps
  - More resilient against interference
- Deploy dual-concurrent APs
  - Independent 2.4 and 5 GHz radios
  - Prevents smartphones from slowing down iPads and laptops
  - Band steering: improves iPad performance, reduces crowding on low-power 2.4 GHz devices (supported by all Meraki dual-radio APs)
- Test for weak devices
  - Use APs with high receive sensitivity (all Meraki APs)
  - Add APs as needed

Meraki APs built to handle 100+ devices

Management

Visibility into BYOD network



- Identify applications, users, and devices
- Classify encrypted and P2P apps (Skype, BitTorrent etc.)
- Real-time search and historical reporting

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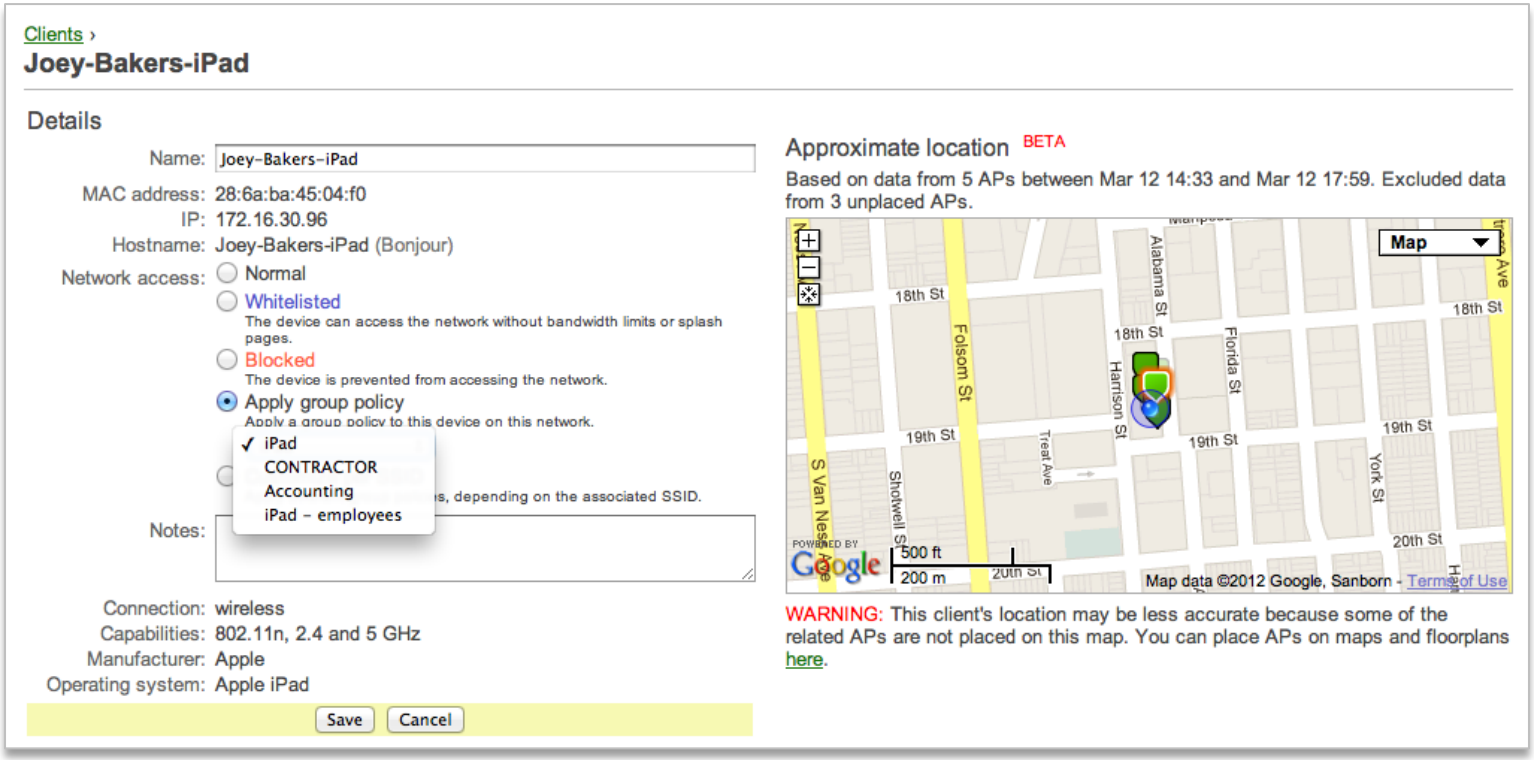
Control devices, users, applications



Apply access control policies

Identify and block unwanted users, devices, and applications

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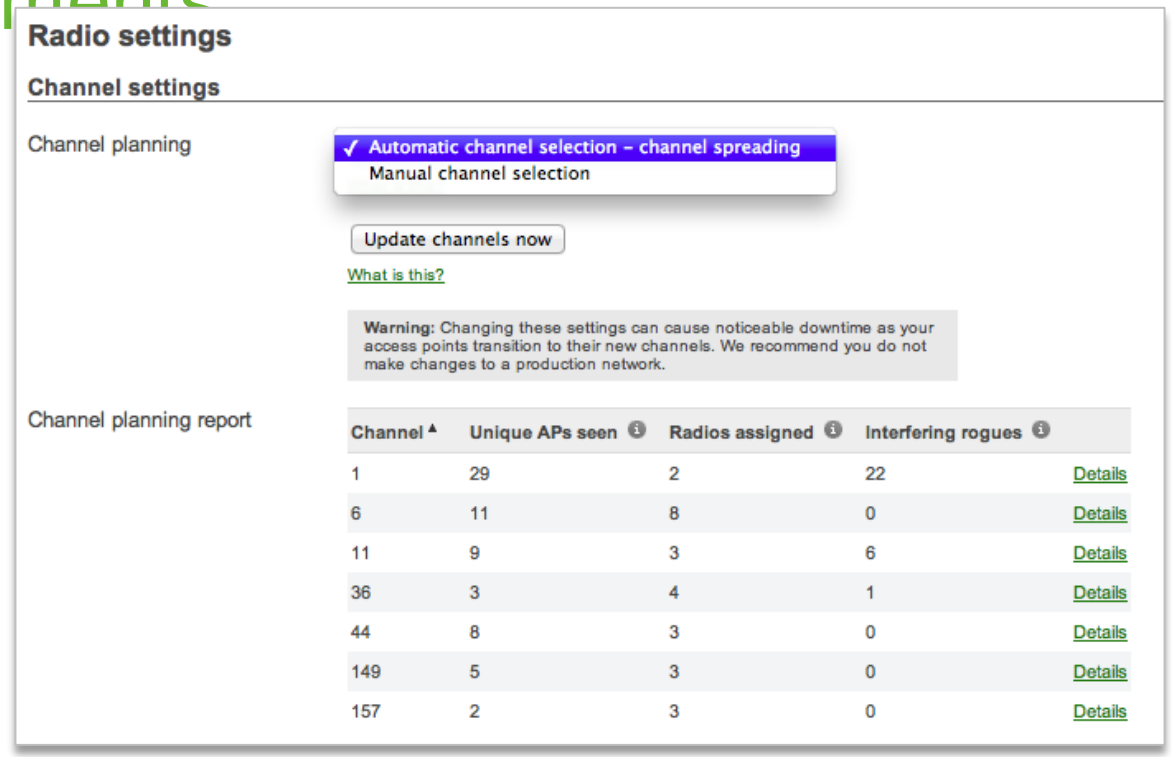
Automate maintenance for dynamic environments



Radio settings

Channel settings

Channel planning

✓ Automatic channel selection – channel spreading
Manual channel selection

Update channels now

What is this?

Warning: Changing these settings can cause noticeable downtime as your access points transition to their new channels. We recommend you do not make changes to a production network.

Channel planning report

Channel ▲	Unique APs seen	Radios assigned	Interfering rogues	
1	29	2	22	Details
6	11	8	0	Details
11	9	3	6	Details
36	3	4	1	Details
44	8	3	0	Details
149	5	3	0	Details
157	2	3	0	Details

Mitigate dynamic RF environments with cloud-based RF optimization

Respond to new devices and applications with seamless over-the-web firmware upgrades (user-scheduled)

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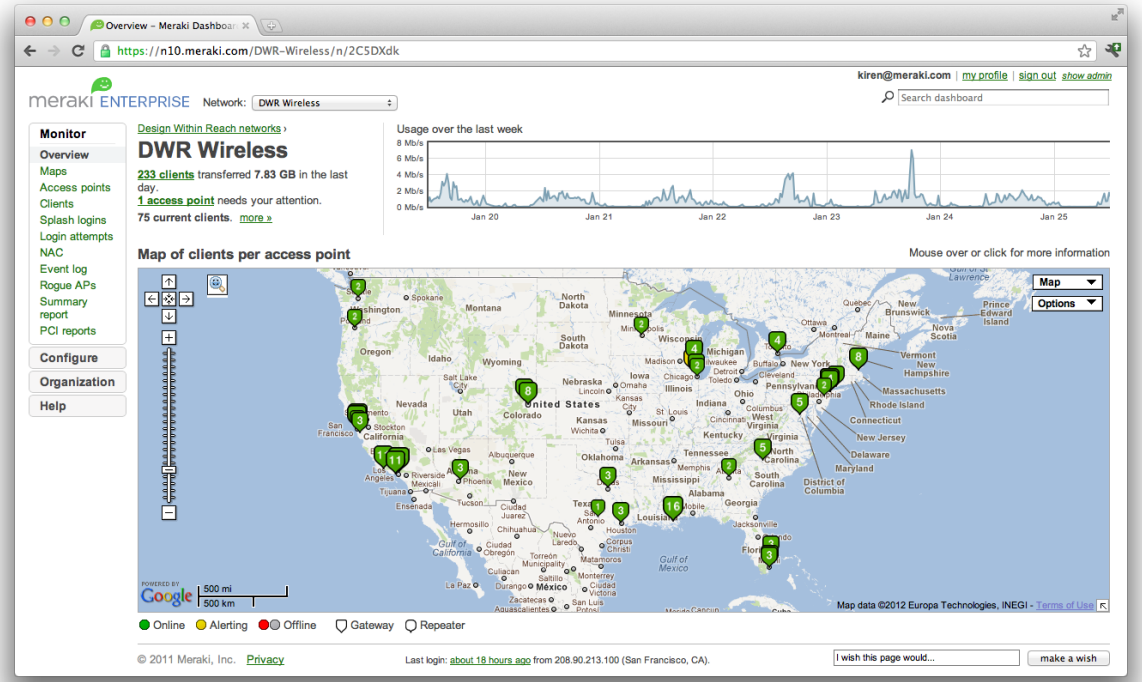
Network-wide visibility and control



Built-in multi site management

Integrated wireless, switching, WAN and security

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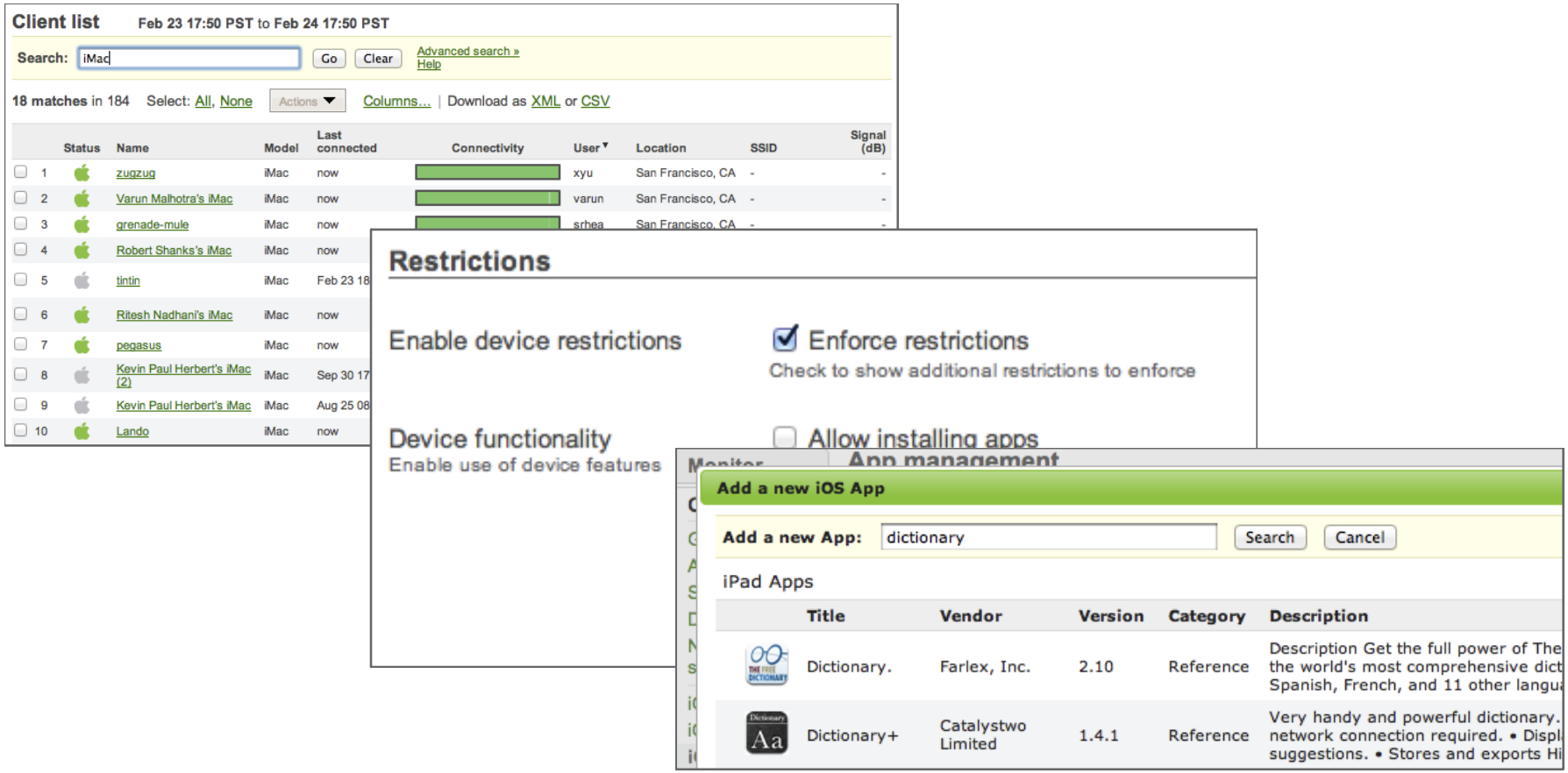
Controlling Company-Managed Devices

Meraki Systems Manager



Manage mobile devices, Macs, & PCs from the cloud

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Systems Manager

Key features:

- Deploy applications
- Set restrictions and security policies
- Monitor hardware and software vitals

Easy to deploy

- Uses native iOS facilities, Android app, or lightweight installer for Mac/PC

100% free for anyone

- Supports up to thousands of devices

Products

Cloud managed 802.11n wireless LAN

5 access point models

- Indoor, rugged/outdoor
- 802.11n up to 900 Mbps
- Ultra-high performance and value-priced models

Enterprise-class hardware

- Lifetime warranty for indoor APs
- 802.3af Power over Ethernet
- Voice, video optimization

Fully integrated features

- Traffic shaping, mesh, NAC, guest access, device management…

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Cloud managed security appliances

6 versatile models

- Scale from small sites to large campuses

Complete networking and security

- Stateful firewall
- Site to site and client VPN
- Link balancing and failover (including 3G/4G)

L7 application control

- Traffic shaping
- NG application firewall
- Content filtering (CIPA-compliant)
- WAN optimization

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Cloud managed switches

Managed access switches in 4 models

- 24 and 48 port, with PoE available
- Gigabit with 10 GbE uplinks

Enterprise-class performance and reliability

- Lifetime warranty
- 802.3af/at PoE on all ports
- Voice, video QoS

Centrally managed from the cloud

- Visibility and control over thousands of ports
- Built-in monitoring, cable testing, and alerts

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Try Meraki for free

- Try Meraki on your network
- Sets up in 15 minutes
- Technical support available at no cost

Free trials available at meraki.com/eval

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

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3675 S. Rainbow Blvd #107-374
Las Vegas, NV 89103-1059

Phone:	*+1-800-965-8499*	*Toll Free, USA*
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