Say hello to the future.

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Delivering an Intent Based Network with Cisco Meraki

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Agenda

- The Intent-Based Networking Framework
- Cisco Meraki Portfolio
  - Simplicity
  - Security
  - Assurance
  - Programmability and APIs
  - Cisco DNA Center Integration
- Summary
- Q&A
- Useful links
The IBN Framework
Intent-Based Networking

Digital Business

Mobile  Security  IoT  MultiCloud

Business Goals

Intent

Context

Security

Network Learning

Insights
Cisco Meraki Guiding Principles

SIMPLICITY FIRST

Technology that simply works.

DASHBOARD LED

DEVELOPER READY
Cisco Meraki Portfolio
Cisco Meraki Full Stack Portfolio

**Wireless Access Points**
Optimized for high-density with 802.11ac/ax and bluetooth

**Security Appliances**
Feature rich security and unified threat management platform

**Switches**
Layer 2 and layer 3 switches for mission-critical networks

**Endpoint Management**
Unified managed and control of thousands of devices

**MI**
Optimize User Experience, Accelerate IT

**Security Cameras**
Streamline deployment and monitoring of video security cameras

A complete cloud-managed IT portfolio
Single-pane-of-glass management
MX security appliance

Feature highlights

Security
NG Firewall, Client VPN, Site to Site VPN, IDS/IPS

Networking
SD-WAN, 3G/4G Cellular, Static/Dynamic Routing, Link Balancing

Application Control
Traffic Shaping, Content Filtering, Geo Firewall Rules

A complete unified threat management solution
Scaling from teleworker and small branch to campus / datacenter
MS switches

Feature highlights

- Voice and video QoS
- Layer 7 app visibility
- Virtual and physical stacking
- Dynamic routing
- Enterprise security
- Remote packet capture, cable testing

Scaling from access to campus aggregation

Introducing cloud managed physical stacking, multigigabit performance, and UPoE power to the campus network
MR wireless access points

Feature highlights

- Self-healing mesh
- Application traffic shaping
- Guest access
- Enterprise security
- WIDS / WIPS
- Location analytics

Lifetime warranty on indoor APs
Indoor / outdoor, high performance and value-priced APs
802.11ax/WiFi6, 802.11ac Wave 2, multigigabit performance, and dedicated scanning and BLE radios
MV Security Cameras

Hardware Features

IR Illumination
Up to 256GB on-device solid state storage
Up to 1080p recording with H.264 encoding
Automatic DSCP marking
IP66 and IK10 rated (outdoor)
Mounting kits available

Indoor and outdoor security, advanced analytics
3 year hardware replacement warranty
Systems Manager - Unified Endpoint Management

Feature highlights

- End point / Device security
- Mobile and desktop management
- Easy and Rapid provisioning
- Software inventory

Multi platform MDM support - macOS, iOS, Windows, Windows Mobile, Android, & Chrome OS

Cloud-based - no on-site appliances or software, works with any vendor’s network
Meraki Infrastructure

- Simplified Segmentation for IOT and services
- One Consistent Policy
- Distributed Data Plane
- Centralized Control and Management Plane
- Guest Split Tunnel

- Simplified Segmentation
- WAN | LAN | WLAN
- Scale and Consistency
- Easy Troubleshoot & Operations
- VPN
Intent-Based Networking with Cisco Meraki

Operational Efficiency
- Client View
- Meraki Insight
- Wireless Health

Business Intelligence
- MV Analytics
- Location Analytics
- BLE

MR
MX
MS
SM
MV
Simplifying IT with Cloud Management

A complete cloud managed IT solution
Wireless, switching, security, SD-WAN, intelligent network insights, endpoint management, and security cameras
Integrated hardware, software, and cloud services

Leader in cloud-managed IT
Among Cisco’s fastest growing portfolios

400k+ Unique customers | 5.5M+ Meraki devices online | 23M+ API calls per day
Simple, all-inclusive licensing

A Meraki solution includes a 1:1 ratio of hardware and licenses

Licensing is required and includes:

- Centralized management and network-wide visibility and control
- Seamless firmware and security updates
- 24/7 Enterprise Support and lifetime warranty

The cloud license represents the total cost of ownership for all of your Meraki devices
Futureproofing IT investments

BUILT-IN
CAPABILITIES WITH IMMEDIATE IMPACT
OUT-OF-THE-BOX

APIs
ENABLING TAILORED SOLUTIONS
NOW AND INTO THE FUTURE

Marketing
Automation

Augmented experiences
Custom analytics

90%

Typical customers save in the region of 90% on operating costs with Meraki compared to traditional architectures

https://meraki.cisco.com/tco
Dashboard Demo
Security
Simplified Enterprise Security

Air Marshal WIDS/WIPS
- Detect wireless attacks; contain rogue APs; cloud-based alerting and diagnostics

User and device aware security
- User, device, and group-based firewall rules (layer 3 / 7) with Active Directory integration

UTM and content security
- Application firewall; content filtering matching 1B+ URLs; antivirus/anti-malware filtering; Google safe-search
Integrated Security for Cisco SD-WAN

One security architecture across Viptela and Meraki powered by Talos
Security in the wired LAN

Lock down wired LAN access

- 802.1X access policies require either user or device-based authentication
- Use ACLs to filter unwanted services, clients, and network access
- Enable port access only to whitelisted devices

Reduce response times

- Email alerts for faster response to critical events
- Multi-tenant dashboard and mobile app provide on-the-go admin access
- Time-based port scheduling automatically turns off ports at a defined time

Built-in troubleshooting tools

- Packet capture
- Per-port monitoring
- Detailed event logs
- Remote diagnostic tools: Ping, throughput, cable test, traceroute (MTR), and more
Secure Wi-Fi

**Meraki MR**
100% cloud-managed wireless access points

- Manage your global wireless infrastructure from a single dashboard.
- Provides visibility into application, device, and usage statistics.
- No controller hardware to install or maintain.

**Umbrella**
Cloud-delivered secure internet gateway

- Protection against threats such as malware, ransomware, & C2 callbacks with no added latency.
- Visibility into internet activity across all locations and users.
- No hardware to install or software to manually update.

Requires MR version 26
Cisco Security Connector (iOS)

Featured technologies

Cisco Umbrella
Your first line of defense against Internet threats protects against phishing attacks.

Cisco Clarity
Your last line of defense gives you visibility into network and device traffic.

Deployed and configured with Systems Manager
Sentry Suite - Network Integration

Deep Network Integration with Meraki Stack
+ Simple Configuration (The Meraki Way!)

Sentry Enrollment (MR)
• Integrated self service UEM onboarding

Sentry Wi-Fi Security (MR)
• EAP-TLS WLAN authentication made easy

Sentry VPN Security (MX)
• Auto provision mobile client VPN

Sentry Policies (MX)
• Network policy enforcement based on posture
Assurance
Wireless Health: Assurance for Meraki Wireless

Rapidly identify issues impacting end users’ experience across every stage of client connectivity — association, authentication, IP addressing, and DNS availability.

Meraki Wireless Health drastically reduces time needed to narrow troubleshooting scope.

Available out of the box on all MR Access Points.
Deep Reporting and Analytics

Use detailed network reporting to make informed decisions about infrastructure expansion, staffing, and site planning.

Integrate raw, real-time data with business intelligence systems.

Perform in-depth analysis using built-in API to export comprehensive event logs.

Integrated event logs, alerts, and anomaly detection
Real-time Monitoring and Analytics for SD-WAN

Latency | Jitter | Loss | MOS*

* Mean opinion score (MOS) is a measure used in the domain of Quality of Experience and telecommunications engineering, representing overall quality of a stimulus or system.
Meraki Insight: WAN Health

Quickly Identify downed uplinks
Including Cellular across all sites.

Monitor Signal Strength
Across all cellular location

Isolate underperforming uplink
Make the case for switching the ISP
Meraki Insight: Application Health

End-to-End Visibility
For SaaS Applications
Application Performance
Monitor apps traveling over VPN or public internet
Network Performance Analytics
LAN, WAN, Servers, Domains, Clients
Accelerate IT
Reduce time-to-resolution
Assurance Demo
Programmability and APIs
Changing the Way Solutions Work Together

By interconnecting different systems, organizations now have an opportunity to solve problems in ways that wouldn’t previously have been possible.
Cloud Platform – Dual Investment Strategy

OUT-OF-THE-BOX MANAGEMENT & ANALYTICS

BUSINESS SOLUTIONS POWERED BY MERAKI

AUTOMATION APPS ANALYTICS

ENGAGEMENT TRACKING AND MORE

{ APIs }
Meraki APIs Provide the Programming Framework

Dashboard

Captive Portal

Scanning + Bluetooth API

WiFi + BLE

Meraki APIs Provide the Programming Framework

Meraki APIs Provide the Programming Framework
MV Sense – Analytics API

INPUT
LOTS OF DATA

MV COMPUTER VISION
MACHINE LEARNING ALGORITHM

HISTORICAL AGGREGATE
How many were here at X time?

CURRENT SNAPSHOT
How many people are here now?

REALTIME FEED
Sub-second feed of people and location

THIRD PARTY APPLICATIONS

Available on MV12, MV22, MV72
Example: Location and Network Health Analytics

Dynamic analytics from multiple data sources
Powerful, custom insights for tailored to the business
Cisco DNA Center Integration
Cisco DNA Center – Meraki Integration

Version 1.1

• Starting point of integration between Cisco’s access platforms
• Single Dashboard inventory visibility across all platforms (Meraki, Catalyst, ISR, ASR, N7K, Aironet)
• API driven dashboard integration

Version 1.2

• Combined Topology mapping for Hybrid environments along with Up/Down status notification for Meraki devices

Version 1.4+

• Integration with DNA Automation workflow
• Ingestion of Meraki data into Assurance
Cisco DNA Center 1.2 – Topology Integration

Topology displayed with Catalyst, Aironet, ISR and Meraki devices
Cisco Meraki enables Intent Based Networking

Operational Efficiency
Business Insights
Innovation

Manageability
 Scalability
 Cost Savings
Delivering an Intent Based Network with Cisco Meraki
Useful links

- **Documentation**
- **API docs**
  - [https://create.meraki.io/](https://create.meraki.io/)
  - [https://apps.meraki.io/](https://apps.meraki.io/)
- **Success Stories**
Thank you!

Q&A
Backup slides
Intuitive Web-Based Dashboard

- Single pane of glass management
- Client fingerprints
- Real-time analytics
- Client location
- Usage Monitoring
- Monitoring
- Real-time analytics
- Client fingerprints
- Single pane of glass management
Now Better Together (MR + Umbrella)

- Secure WiFi: Define Umbrella policies to protect corporate users, guest wifi and BYOD
- Dashboard Linkage: Link Meraki Dashboard directly to the Umbrella account via API
- Policy Flexibility: Assign Umbrella policies to Meraki wireless networks, per-SSID or Meraki Group Policy

Requires MR version 26
Using the Dashboard API

1. Send a GET Request for the URL http://dashboard.meraki.com/v0/api/organizations/
2. Receive JSON responses:
   
   ```json
   [ {
      "id": 435358,
      "name": "ACME Corp"
   } ]
   ```

Add to this URLs:

- /networks
- /licenseState
- /inventory
- /snmp
- /admins
Meraki Scanning API Architecture

Dashboard

Cloud Management

Lookup Contact Details
- Retail Intelligence Merchandising Decision
- Push Offer Text Message

Technology Partner
- Push Targeted Offers
- 50% OFF Mobile Coupon

Detect via Wi-Fi Probes
Detect via BLE beacons

Custom WiFi Sign-on
New Scanning API Features

- Bluetooth Low Energy in the Scanning API
- Enables Asset Tracking of BLE Things
- Wearables = Beacons = Tags = Badges
- Blue Dots in Mobile apps = Yes, Really.
Customer Stories using the Scanning API

Fashion Retailer measures marketing campaigns and analyzes customer behavior.
MV Sense - Use cases

Retail
Department store employees get a notification when there are more than 3 people in a certain department

Education
School staff or security guards receive a notification if there are students on the playground during class hours

Public Safety
Police or fire department can quickly determine if there are people left in building hallways during an evacuation

Available on MV12, MV22, MV72