AI IN ACTION

ขับเคลื่อน [องค์กรอัจฉริยะ]
ด้วยพลังของ
IT และ OT

Reinventing Enterprise Networks with
AI-Driven Simplicity and Security
Powered by Cisco Meraki

Yukunthorn Kajorndech
Product Sales Specialist

Microsoft · RA Rockwell Automation · Hewlett Packard Enterprise · hp · Cisco Meraki · ADVANTECH

Transformation meets network complexity

$60B Annually spent on **network operations**, labor, and tools[1]

[1]Cisco McKinsey Study

Transformation meets
network complexity

70%
of policy violations are due to human error

75%
of OpEx is spent on changes and troubleshooting

95%
of network changes are performed manually

Meraki

CISCO MERAKI CUSTOMER STATISTIC

42%
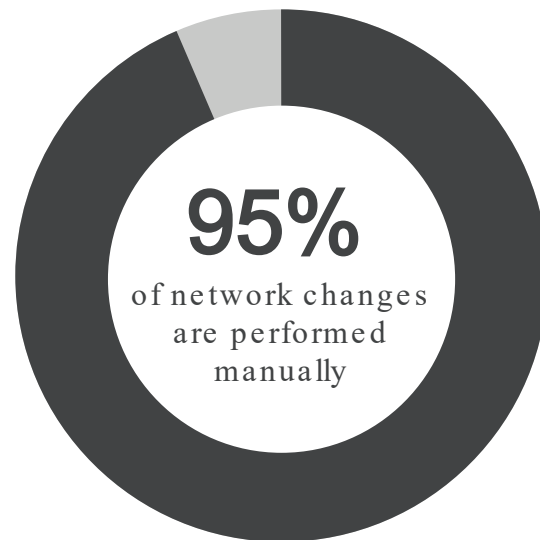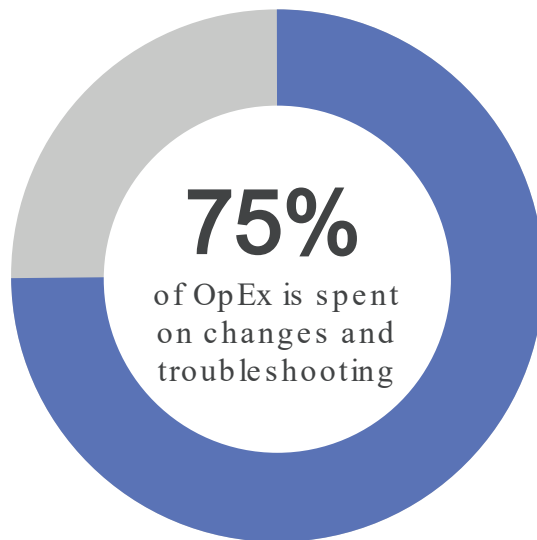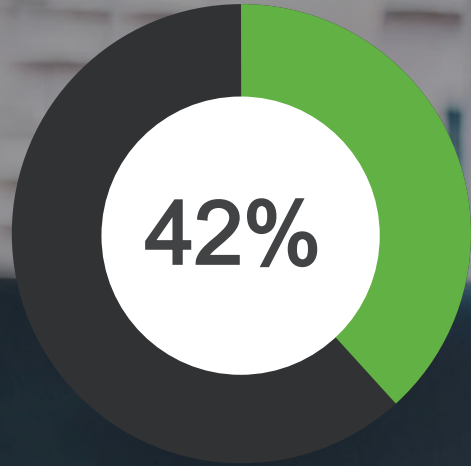
of surveyed organizations **saved 50 -70% or more time** deploying, maintaining, and/or troubleshooting IT since using Meraki.

cisco Meraki

Source: TechValidate survey of 1107 users of Cisco Meraki

Meraki at a glance

Connecting **passionate people** to their mission by **simplifying** the digital workplace.

2006
Invented cloud networking

2012
Acquired by Cisco

2017
IT Portfolio expansion to IOT

2021
Meraki powers 10M active devices

Today
19+ years designing scalable and secure cloud architecture

CISCO Meraki

Meraki: Born in the cloud, growing daily, and **trenched everywhere**

838K
c u s t o m e r s

4+
million

CUSTOMER
NETWORKS

16+
million

MANAGED
DEVICES ONLINE

190+

COUNTRIES
IN NETWORK

700+
million

EXTERNAL API
DAILY REQUESTS

360+
million

DAILY END USER
DEVICES
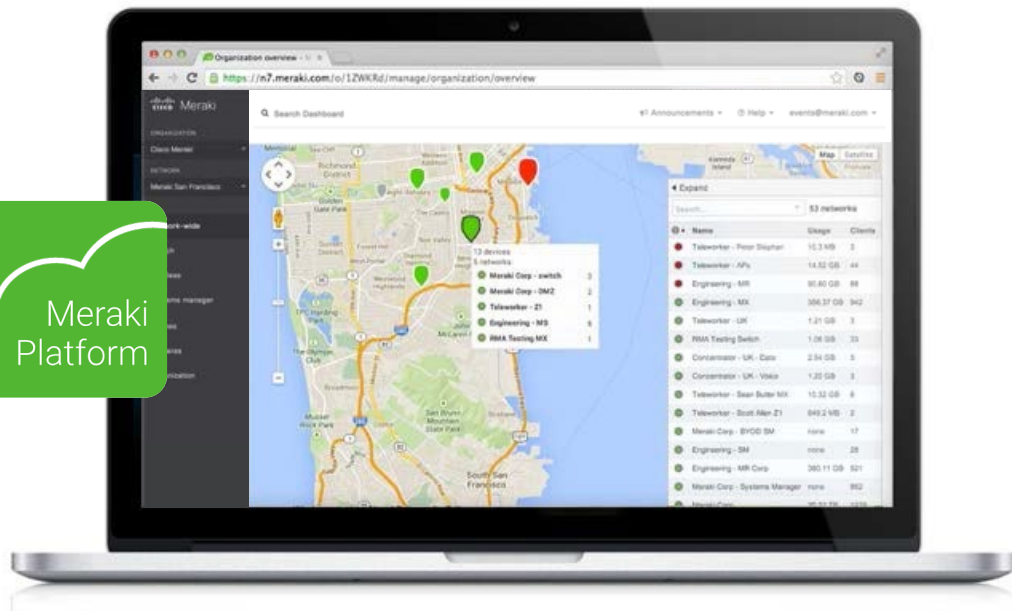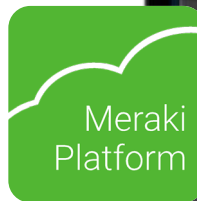
250+
million

DAILY SPLASH
PAGES SERVED

99.99%
CLOUD SLA

CISCO Meraki

Cloud - first ops

- **Simplicity** with intuitive management

- **Scalable** , SMBs to large enterprises

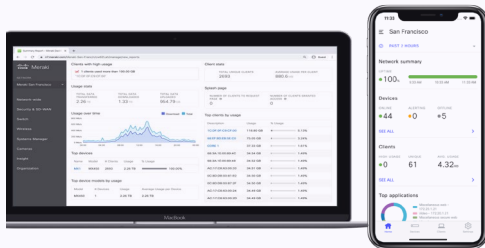- **Intelligence** as IT and OT converge

Meraki Platform

✔ DESIGNED FOR
Ease of new

✔ BUILT FOR
Ease of change

cisco Meraki

Meraki Dashboard Benefits

Unparalleled Visibility

Gain insight into what your bandwidth is being used for and who is using it

Receive regular summary reports and alerts when issues arise

Visibility into overall network health and performance

Intuitive Network Management

Multi-site management using the dashboard

Access from anywhere via intuitive browser-based interface

Out-of-the-box solution for full-stack network management

Inherent Scalability

Highly programmable and integration-ready for future growth

Supports small deployments or million-user plus deployments

All inclusive licensing model

cisco Meraki

True zero - touch provisioning out of the gate

One - time remote ,
web - based
configuration.
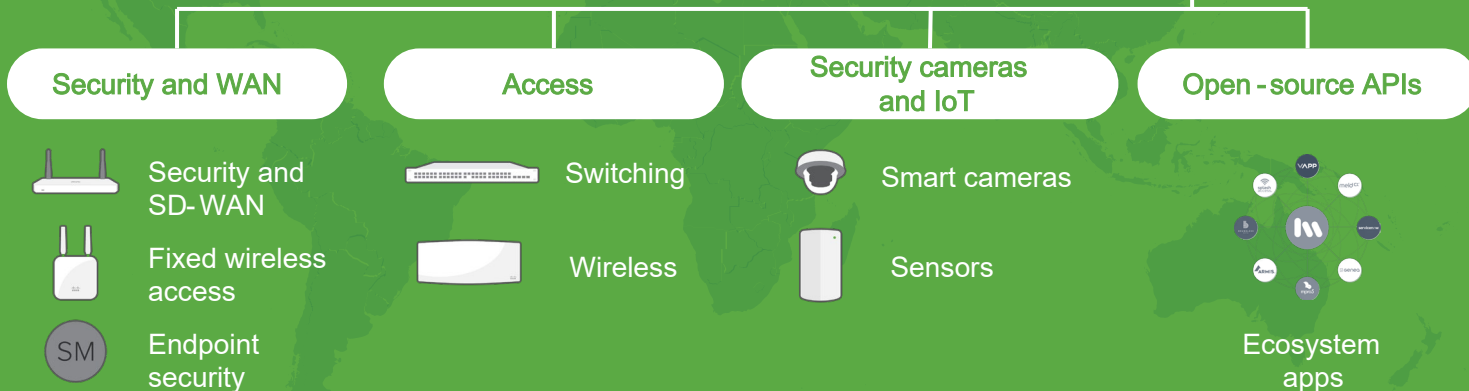Templates **simplify** large
multi - site deployments

No pre - staging
No onsite configuration

Unbox and plug in
appliances at
required locations

Meraki

Built on an intelligent cloud platform IT and IoT

94% of customers save time with a **single** intuitive dashboard

| Security and WAN | Access | Security cameras and IoT | Open-source APIs |

- Security and SD-WAN
- Fixed wireless access
- Endpoint security

- Switching
- Wireless

- Smart cameras
- Sensors

Ecosystem apps

cisco Meraki
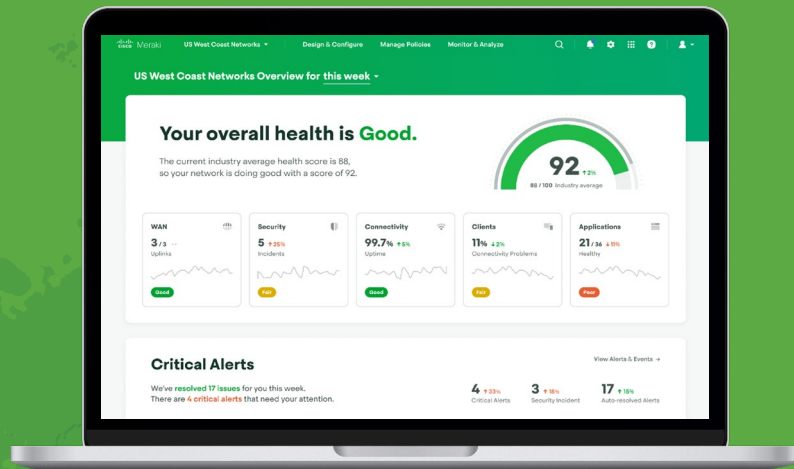
Cisco cloud-managed switching portfolio
A next-gen model for every network need

Ruggedized	Enterprise -class switching	Multigigabit bandwidth and scale

Gigabit access
Up to 1 Gbps

Multigigabit access
Up to 10 Gbps (mGig)

Fiber aggregation
10/25 Gbps SFP+ fiber

NEW!

MS130R
- 8x 1 Gbps SFP
- 30W PoE
- Ideal for hot, cold, or tight spaces

MS130
- 8/24/48 port options
- PoE/PoE+
- Compact or 1RU

MS150
- 24/48 ports, 4x SFP+
- 60W PoE++
- Stacking 80 Gbps

Catalyst 9300 T/P/U   -M
- 24/48 ports; 40 Gbps QSFP+ and 10 Gbps SFP+ modular uplink
- Data, 30W PoE, or 60W UPOE
- 480 Gbps physical stacking; StackPower

Catalyst 9300L T/P/PF   -M
- 24/48x 1 Gbps/100 Mbps copper
- 4x SFP+ fixed fiber uplinks
- Data, 30W PoE
- 320 Gbps physical stacking

MS130X
- 8/12/24/48 ports; PoE+
- 2.5 Gbps + 10 Gbps SFP+
- Compact or 1RU

Catalyst 9300 LUXG   -M
- 24/48x 10 Gbps mGig
- 60W PoE
- 4x SFP+ 1/10 Gbps fixed fiber uplink

MS150MP
- 24/48 ports; PoE++
- 5 Gbps + 10 Gbps SFP+
- Stacking 80 Gbps

Catalyst 9300 XTX/HX/HXN   -M
- 24/48x 10 Gbps mGig
- Data only, 90W UPOE+
- Supports 100 Gbps uplinks
- Modular uplink options

Catalyst 9300 UX/UXM/UN   -M
- 24/48 ports; 40 Gbps QSFP+ and 10 Gbps SFP+ modular uplink options
- 60W UPOE support
- 480 Gbps physical stacking; StackPower
- Modular 80 plus Platinum PSU

Catalyst 9300 12/24 S-M
- 24/48 port 1 Gbps SFP
- 40/10/1 Gbps fiber modular uplink options

Catalyst 9300X 12/24Y   -M
- 25/10/1 Gbps SFP28
- 40/10/1 Gbps fiber modular uplink options

Meraki

Catalyst Meraki
9300
Simply powerful

Power of the Catalyst Switching with the scalability of Meraki cloud management.

Modular uplinks

Hot-swappable uplink modules for flexible hardware upgrades and easier management.

Wide range of mGig speeds

PoE on all 24/48-ports along with SFP and mGig and the option to address legacy infrastructure issues.

Adaptive policy

Micro-segmentation of users, devices, and applications to simplify security and access policies.

60 W UPoE density

Power your smart space needs with UPOE and IEEE 802.3bt support.

StackPower

Create additional power capacity by pooling sources to power more PoE devices.

Improved physical stacking

Up to 480 Gbps to provide more throughput for Wi-Fi 6 and IoT and higher network resilience.

The Wi-Fi 7 portfolio
Next-Level Unified Hardware

NEW!

CleanAir®
Pro

CW9172I

- 6 Spatial Streams
- 2x2:2 across 3 radios, 3 bands (2.4GHz, 5GHz, 6GHz) or 2x2:2 on 2.4GHz and 4x4:4 on 5GHz
- BLE/IoT and dedicated scan radio
- Single 2.5Gbps multigigabit uplink
- USB 2.0 – 4.5W
- DC Power Jack
- Integrated Omnidirectional Antenna
- Global Use AP

NEW!

CleanAir®
Pro

CW9172H

- 6 Spatial Streams 2x2:2 across 3 radios, 3 bands (2.4GHz, 5GHz, 6GHz)
- BLE/IoT and dedicated scan radio
- Single 2.5Gbps multigigabit uplink
- 3 x 1Gbps LAN port with 1x POE out
- 1x Passthrough port
- Integrated Omnidirectional Antenna
- Global Use AP

CleanAir®
Pro

CW9176I

- 12 Spatial Streams 4x4: 4 MU-MIMO across 3 radios, 3 bands (2.4/5GHz (XOR), 5 GHz, 6GHz)
- BLE/IoT radio
- Single 10Gbps multigigabit
- Ultra Wide Band (UWB)
- USB 2.0 – 9W
- Accelerometer
- Built-in GPS/GNSS, w/ support for ext. antenna
- Integrated Omnidirectional Antenna

CleanAir®
Pro

CW9176D1

- 12 Spatial Streams 4x4: 4 MU-MIMO across 3 radios, 3 bands (2.4/5GHz (XOR), 5 GHz, 6GHz)
- BLE/IoT radio
- Single 10Gbps multigigabit
- Ultra Wide Band (UWB)
- USB 2.0 – 9W
- Accelerometer
- Built-in GPS/GNSS, w/ support for ext. antenna
- Integrated Directional Antenna (70x70)

CleanAir®
Pro

CW9178I

- 16 Spatial Streams 4x4: 4 MU-MIMO across 4 radios, 3 bands (2.4 GHz, dual 5GHz, 6GHz)
- BLE/IoT radio & accelerometer
- Dual 10Gbps multigigabit
- Ultra Wide Band (UWB)
- USB 2.0 – 9W
- Accelerometer
- Built-in GPS/GNSS, w/ support for ext. antenna
- Integrated Omnidirectional Antenna

cisco **Meraki**

Meraki SD-WAN & Security

Small Branch

MX67/68
- Up to 50 users
- 600 Mbps FW through put Wi-Fi & PoE

MX67C/68 CW
- Up to 50 users
- 600 Mbps firewall throughput
- Wi-Fi & PoE
- CAT 6 & LTE modem

MX75
- Up to 250 users
- 1 Gbps firewall through put
- LAN PoE

Medium to Large Branch

MX85
- Up to 250 users
- 1 Gbps FW through put
- WAN PoE

MX95
- Up to 500 users
- 2 Gbps FW through put
- WAN PoE

MX105
- Up to 750 users
- 3 Gbps FW through put
- WAN PoE

Virtual

vMX

VPN Through put

Small	200 Mbps
Medium	500 Mbps
Large	1 Gbps

Campus or Concentrator

MX250
- Up to 2,000 users
- 4 Gbps FW throug hput

MX450
- Up to 10,000 users
- 6 Gbps FW through put

cisco Meraki

AI Improves Network Operations – AIOps

Artificial intelligence (AI) is becoming driving force behind improving network operations, encompassing innovations such as machine learning, predictive analytics, statistical modeling and problem diagnosis. It brings the following benefits

Increases network availability

Enhances network performance

Brings future-proof network resilience.

Early detection reduces support calls.

Improves troubleshooting by enhanced root cause analysis.

Raises operational efficiency.

Empowers NetOps teams to do more with less resources.

Meraki

AI Everywhere @Cisco

	Networking	Security	Collaboration	Observability	CX
Generative AI	• Enabled by Silicon One Scheduled Fabric Ethernet Solution In development: • Next-gen AIOps • Next-gen Assurance Long-term: • AI Assistant for Networking (incl network config. generator)	In development: • AI Assistant Experience (incl. AI Assistant in Firewall, XDR and cross-portfolio) • Purpose-built LLMs • Autonomous Actions (incl. incident summarization, incident-response, playbook recommendation and automation)	• Language Intelligence incl. transcription, translation, captions • Webex assistant In development: • New Webex AI Assistant • Intelligent Contact Center • LLM Orchestration • Realtime Media Models incl. AI audio codec, super resolution video, etc.	• Model observability In development: • Prompt interface • AI assistant for summarization	• Engineer copilots • Automated code creation • Customer Q&A & Sentiment analysis • Topology generation In development: • Test script creation • Root cause analysis Long-term: • Network risk analysis • Self-remediation • Adoption advisory
Predictive AI	• Network Management • Network Assurance • Network Deployment • Anomaly Detection • Change Automation • Predictive Internet	• Email Compromise Analysis • Threat Detection • Endpoint Trust Monitor • Malware Protection In development: • Data Protection • Alert Prioritization	• Background noise removal • Voice focus • Bandwidth extension • People focus / frames • Personal/Team insights • Cinematic Meetings • Meeting Zones	• Statistical Modeling • Baselining • Anomaly Detection • Intelligent Automation Long-term: • Data Tagging	• Virtual Engineers • Analytics Engine • Anomaly Detection • Sentiment Prediction • Managed Insights • Change & Assurance (Services-as-Code) • CX Cloud – Insights & Analytics

AI

Meraki

AI - Enhanced RRM

Quickly assess the health and performance of the RF coverage

Meraki Dashboard

Insights
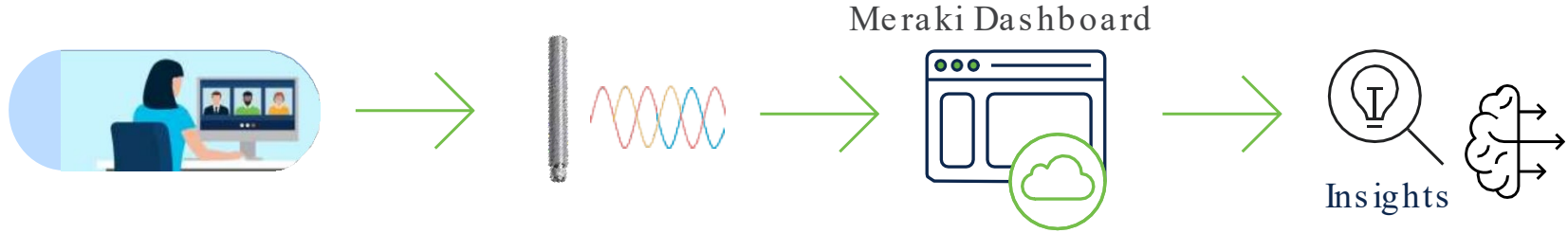
- IT admins have no view with respect to RRM changes been made on the network

- RF understanding and optimization needs special expertise

- RRM modifications require expert knowledge

- IT admins would want visibility into RRM changes (why and when it happened)

- IT administrators would want simplified recommendations with respect to RF changes

- The RRM Control Center within Meraki Dashboard allows IT to quickly assess the health and performance of the RF coverage.

- AI Enhanced RRM integrates the power of Artificial Intelligence and Machine Learning (AI, ML).

- Cisco AI-Enhanced RRM brings the ability to analyze historical dynamic RF data over time.

Easy Configuration, Complete Visibility & Improved Serviceability with AI Enhanced RRM

Meraki

AI-Enhanced RRM

Improves Wireless Reliability

AI Cloud
AI-Enhanced RRMAlgorithms
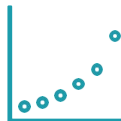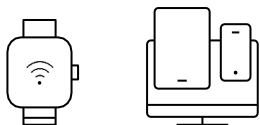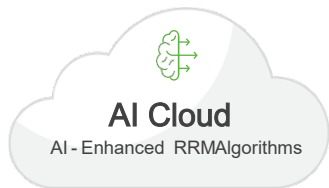
Trend-Based RRM
Optimize RFwith weeks of historical analysis

Flexible Radio Assignment
Optimize band selection to minimize 2.4 GHz interference

Busy Hour Aware
Minimize disruptive changes during the critical times of day

cisco Meraki

Capabilities that AI - Enhanced RRM will bring to Meraki!

Trend - Based RRM

Optimize RF with 2 weeks of data enabling more sophisticated & efficient RRM optimization!

Flexible Radio Assignment

Place radios on the most optimal band/mode to minimize interference on 2.4 GHz at the touch of a button!

Enhanced Busy Hour

Optimizations are deferred until after the busy hour, using busy hour data, rather than just suppressed!

Radio Settings

Overview   RF Profiles   **AI-RRM**

Trend-based RRM	⬤ Enable
	Trend-based RRM uses an AI engine to improve the performance of your network ⓘ

Flexible radio assignment	☐ Enable FRA
	FRA optimizes the 2.4 GHz band by strategically disabling redundant radios to reduce interference ⓘ

AI channel planning	☑ Enable AI channel planning
	Improved Channel Assignment by leveraging artificial intelligence to optimize channel planning capabilities ⓘ

Busy hour	☐ Enable busy hour
	AI-RRM will minimize changes during the most active hours of the day ⓘ

Sensitivity ⓘ ○ Low   ○ Medium   ⬤ High

⬤ Auto schedule
Based on historical data of up to the last 6 weeks ⓘ

23:00 → 08:00 🕐

○ Manual schedule

Capabilities that AI -Enhanced RRM will bring to Meraki!

AI-Driven Channel Change

Auto Channel Update « hide
New_Channel   53/20
Old_Channel   53/80
Band   6
Radio   2

→ Event_Reason   -Channel bandwidth quality is improved 23 percent
                  -Channel width is decreased to reduce co-channel interference

AI-Driven Tx Power Change

Tx power reduced to decrease network interference « hide
Old_Power   7
New_Power   4
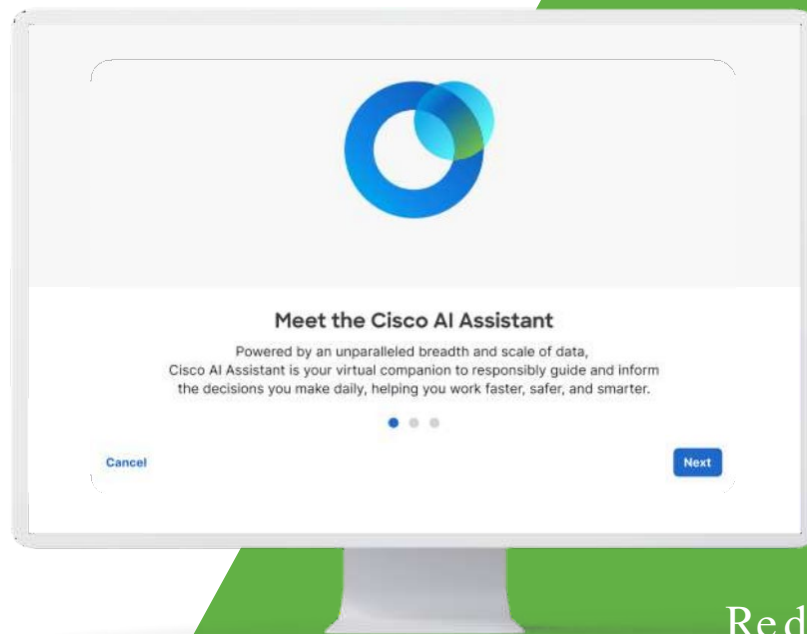Radio   1

→ Event_Reason   -Tx Power is changed to 4 dBm from 7 dBm
   -Old Tx Power 7 dBm is higher than optimal Tx Power 4 dBm
                  -Channel Max Power is 24 dBm and TPC threshold is -70

ᴉᴵᴵᴵᴵᴵ cisco Meraki

Unlock network intelligence
with **Cisco AI Assistant**

Meet the Cisco AI Assistant

Powered by an unparalleled breadth and scale of data,
Cisco AI Assistant is your virtual companion to responsibly guide and inform
the decisions you make daily, helping you work faster, safer, and smarter.

Cancel   Next

Reduce management **costs**
Empower productive **IT Teams**
Optimize network **performance** and **reliability**
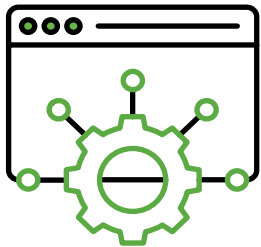
Meraki

Meraki
Assurance
Dashboard

- Centralized alerts and monitoring
- Visibility across all network devices
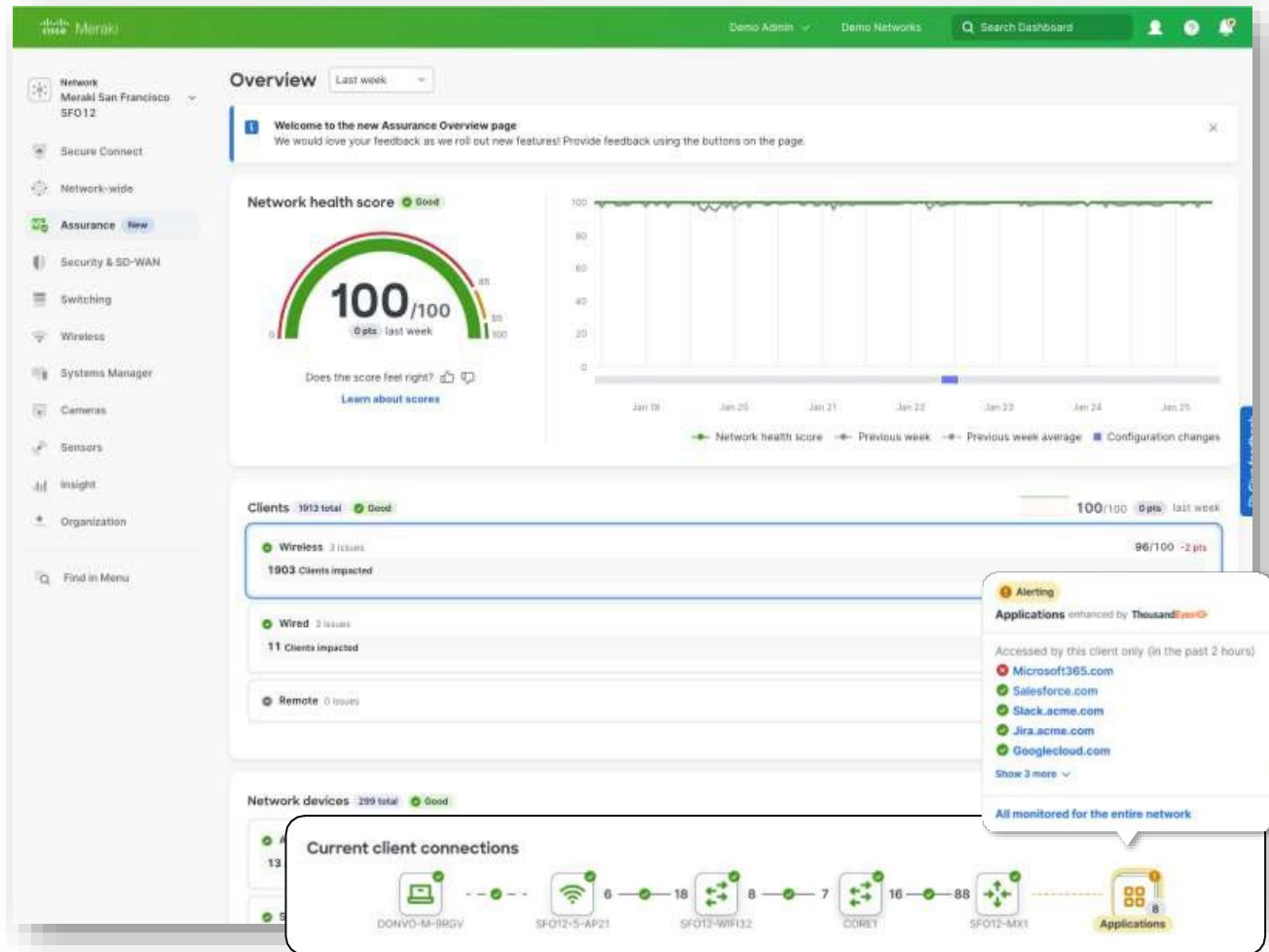
Selection of Details per Client

Obtain roaming behavior details for a specific client during selected hour…
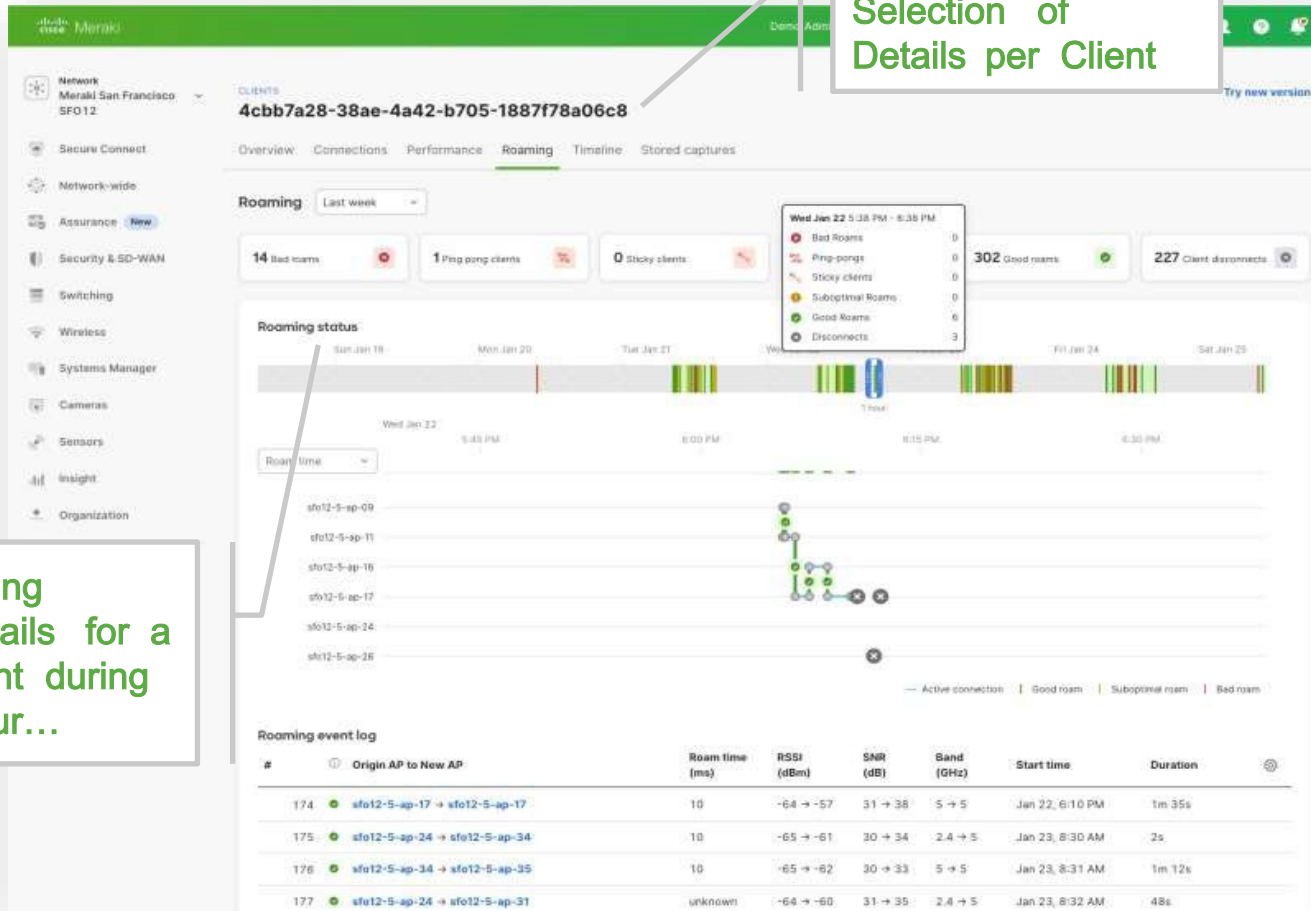
What APIs can do

The term API is an acronym, and it stands for "Application Programming Interface."

- **Mass provisioning**
  Set up tens of thousands of networks across time zones in minutes

- **Network automation**
  Automatically configure devices based on environmental factors and custom criteria

- **Advanced monitoring**
  Monitor devices and trigger workflows in case of failure

- **Advanced analytics**
  Produce statistical reports on ‑demand, e.g. % of wireless vs. wired clients

- **Cloud integrations**
  Integrate with your own business systems and official ecosystem partner applications

Marketplace + Developer APIs
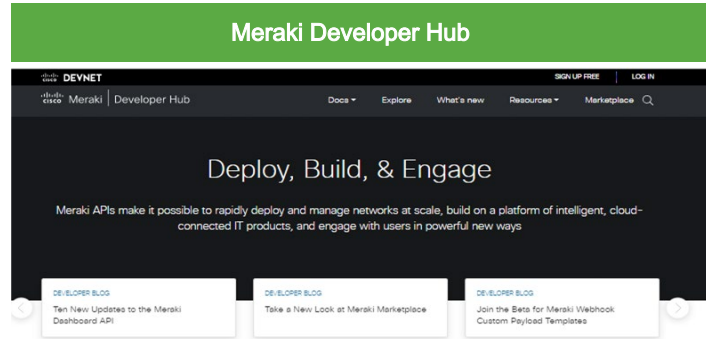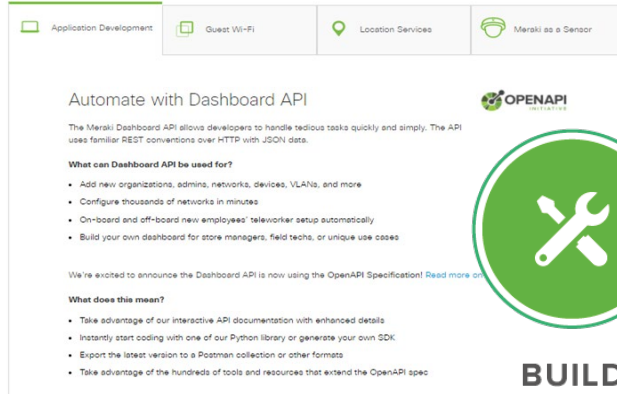
Open APIs and Ecosystem

OPENAPI
INITIATIVE

Meraki
Platform

Cisco webex
Integrated
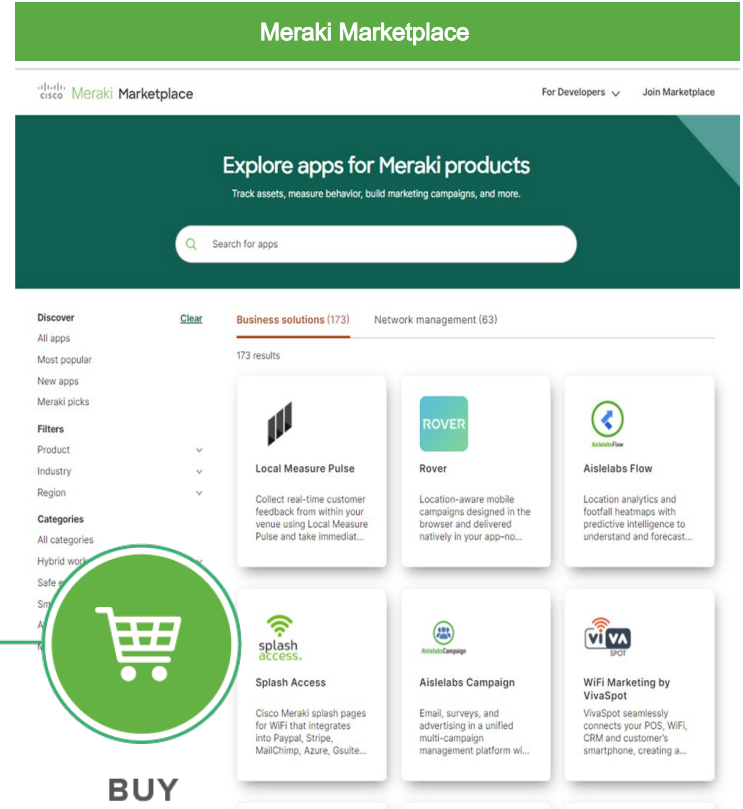
slack
Integrated

BUSINESS OUTCOME SOLUTIONS

- AI & ML Video Analytics
- Asset & People Tracking
- Real-time, Interactive Customer Experience
- POS & Monetize Wi-Fi
- Physical Security & Access Control
- Dwelling & Dormitory Integrators
- Wayfinding & Mapping
- Workplace Solutions
- Video & Wi-Fi Analytics: Engagement

ADVANCED IT SOLUTIONS

- Automation
- Identity Services
- IT Service Management Tools
- IOT Security
- Managed Service Solutions
- Application & Performance Monitoring
- Network Monitoring & Logging
- SD-WAN Monitoring & Performance
- Network Security

#10 most used B2B app at work

cisco Meraki