Cisco Wireless Portfolio

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Agenda

- Wireless Network Trends
- Cisco Enterprise Wireless Portfolio
- Meraki Cloud Managed Portfolio
- Q & A


Wireless Network Trends

Market Transitions and the Need for 802.11ac

BYOD

The rapid adoption of client devices including 802.11ac

Mobility

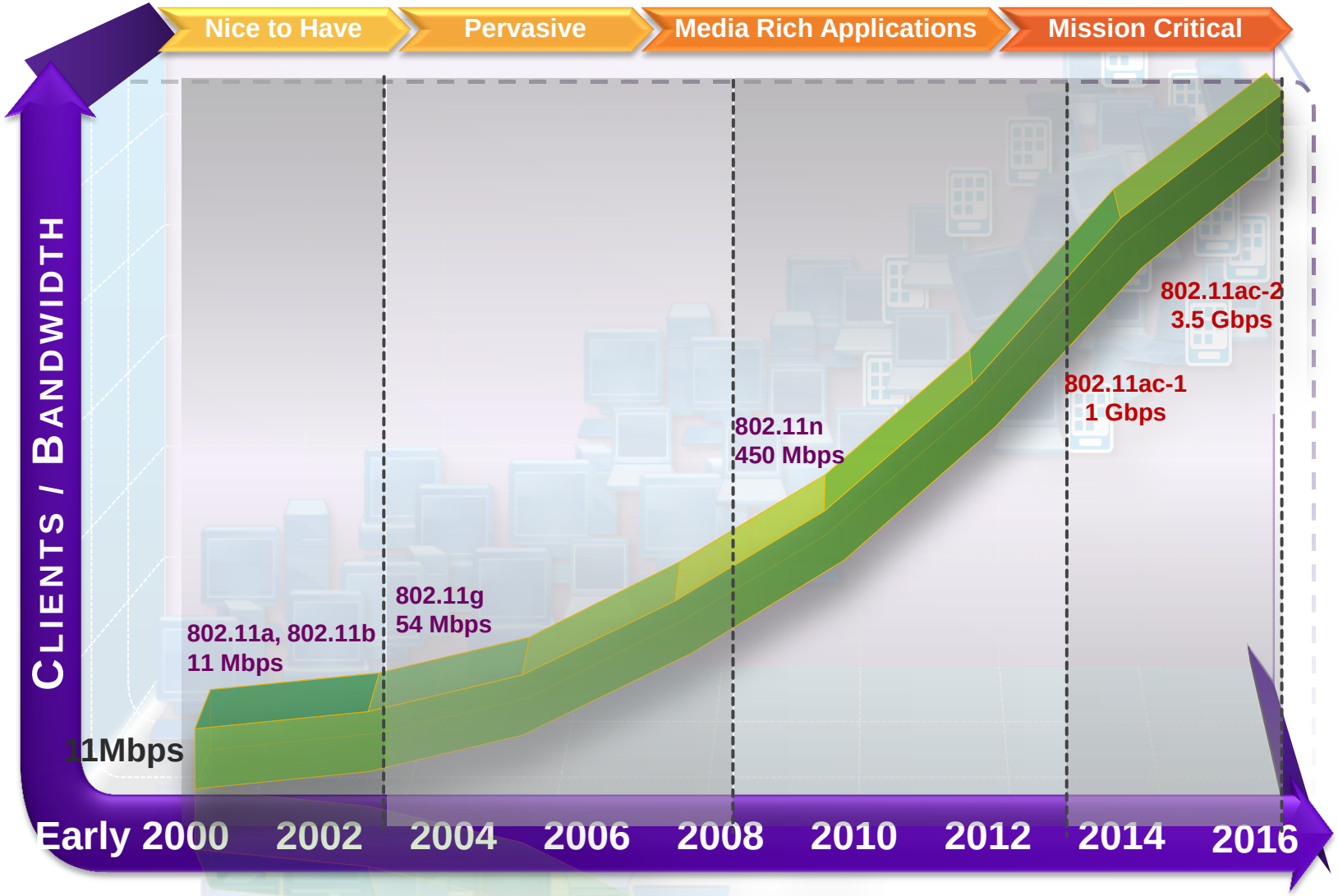
Increasing demand more bandwidth and performance throughout the network.

Higher Bandwidth Applications

Both cloud-managed and enterprise solutions are seeing more Bandwidth intensive apps in the network

Technology Response to Market Drivers

Wireless Speed – Past, Present, and Future



802.11n compared with 802.11ac:

In Products Today and Projecting Wave 2

	802.11n – Today	802.11ac Wave 1 - Today	802.11ac Wave 2 - Future Features still in review by WFA & Vendors
Band	2.4 GHz & 5 GHz	5 GHz	5 GHz
MIMO	Single User (SU)	Single User (SU)	Multi User (MU)
PHY Rate	450 Mbps	1.3 Gbps	2.34 Gbps – 3.5 Gbps
Channel Width	20 or 40 MHz	20, 40, 80 MHz	20, 40, 80, 80-80, 160 MHz
Modulation	64 QAM	256 QAM	256 QAM
Spatial Streams	3	3	3-4
MAC Throughout*	270 Mbps	780 Mbps	1.57 Gbps – 2.1 Gbps
Uplink – Product Specific	GbE	GbE	GbE and GbE+

*** Assuming a 60% MAC efficiency with highest MCS**


Cisco Enterprise Wireless
Product Portfolio

Cisco Unified Access Portfolio

Robust Converged Wired and Wireless Solution

Cisco Unified Access

One Policy

Identity Services Engine (ISE)

MDM/MAM

SIEM

One Management

Prime Infrastructure

One Network

Controllers, Mobility Services and Access Switches

MSE - CMX (Virtual/Physical)	Wireless Controllers	Access Switch	Converged Access Switches			Backbone Switches	
							
3300	8500, 5760, 5508	Catalyst 2960-X	Catalyst 3650	Catalyst 3850	Catalyst 4500	Catalyst 6500	Catalyst 6800

Access Points

Mission Specific	Small-Mid Enterprise	Mid-Large Enterprise	High-Density Enterprise	Low Profile	Larger Deployments
					
600 & 700/700W	1600 & 1700	2600 & 2700	3600 & 3700 W/ HDX	1530	1550/1570

Cisco Aironet Indoor Access Points

Industry's Best 802.11n and 802.11ac Series

802.11ac

NEW

Mission Specific

700 & 700W

- Up to 600 Mbps
- 700w: Wall Plate AP
  - Hospitality, dorm-rooms
- 700i: Compact Mid-market AP

NEW

Enterprise Class

1700

- Over 1 Gbps, 802.11ac
- CleanAir Express
- ClientLink 3.0
- VideoStream

Mission Critical

2700

- Over 1 Gbps, 802.11ac
- HDX: High Density Experience
- CleanAir 80 MHz
- ClientLink 3.0
- VideoStream

Best in Class

3700

- Over 1 Gbps, 802.11ac
- HDX: High Density Experience
- CleanAir 80 MHz, ClientLink 3.0, VideoStream
- StadiumVision
- Future proof modularity: Security, 3G Small Cell or Wave 2 802.11ac

Value-Based → Enterprise → Mission Critical → Best In Class

WLAN Controller Portfolio

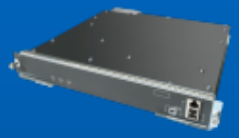
Industry's broadest portfolio from standalone appliance, virtual and infrastructure-based

Large Campus and Service Provider

5508

- 12 to 500 APs
- 7000 clients
- 8 Gbps

WISM2



- 100 to 1000 APs
- 15,000 clients
- 20 Gbps

5760

- 25 to 1000 APs
- 12,000 clients
- 60 Gbps

8500

- 300 to 6000 APs
- 64,000 clients
- 10 Gbps

Small Campus / Branch (Controller On-Premise)

2500

- 5 to 75 APs
- 1000 clients
- 1 Gbps

Virtual WLC e.g. UCS-E on ISR G2

- 5 to 200 APs
- 3000 clients
- 500 Mbps

Catalyst 3650

- 1-25 APs per switch/stack (Directly connected APs)
- 1000 clients per stack
- 40 Gbps per switch

Catalyst 3850

- 1-50 APs per switch/stack (Directly connected APs)
- 2000 clients per stack
- 40 Gbps per switch

Branch (Controller in DC)

Virtual Controller

- 5 to 200 APs
- 3000 clients
- 500 Mbps

Flex 7500

- 300 to 6000 APs
- 64,000 clients
- 1 Gbps

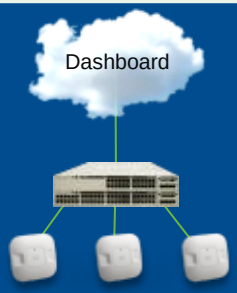
Unified Access: Wireless Deployment Options

Cisco Cloud Networking

Prime

Cisco Unified Access: 1 Architecture, 4 Deployment Modes

ISE



CLOUD MANAGED

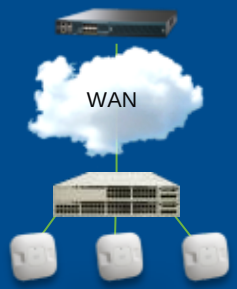
- Common OS
- Lean IT
- Mid-Market / Distributed Enterprise

- MR Access Points
- MS switches
- MX security
- Dashboard

AUTONOMOUS

- Intended for static installations
- SP Hotspots

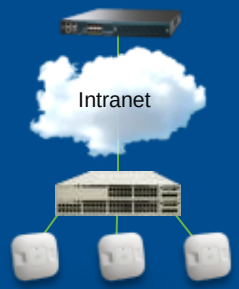
- Aironet Access Points
  - 11ac: 3700 / 2700
  - 11n: 1600 / 700
- Catalyst Switches
  - 3850 / 3650
  - 2960-X
- Controllers
  - N / A



FLEX CONNECT

- Data center hosted controller
- Distributed enterprises

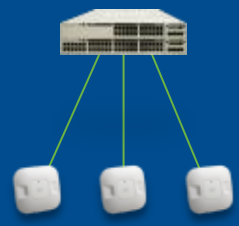
- Aironet Access Points
  - 11ac: 3700 / 2700
  - 11n: 1600 / 700
- Catalyst Switches
  - 6800/4500/3850/ 3650
  - 4500-X / 2960-X
- Controllers
  - 8510 / 7510 /



CENTRALIZED

- Premise-based controller
- Traditional Overlay Model
- Highly Scalable

- Aironet Access Points
  - 11ac: 3700 / 2700
  - 11n: 1600 / 700
- Catalyst Switches
  - 6800/4500/3850/ 3650
  - 4500-X / 2960-X
- Controllers
  - 8510 / 5760 /



CONVERGED

- Common OS
- Consistent Wired/Wireless
- Highest performance

- Aironet Access Points
  - 11ac: 3700 / 2700
  - 11n: 1600 / 700
- Catalyst Switches
  - 6800/4500*/3850/ 3650
  - 4500-X
- Controllers
  - Integrated
  - 5760 external MC

Cisco Aironet 702i Series Access Point

New

PROVEN RF DESIGN FOR BASIC WiFi CONNECTIVITY AND BUSINESS APPLICATIONS

2x2 ANTENNA DESIGN, 2 SPATIAL STREAMS
Provides consistent reliable 802.11n RF performance

GOOD PERFORMANCE
Delivers advanced features for its class - with good performance, functionality, and reliability at a great price

PROVEN RF EXCELLENCE
Integrated antennas with simultaneous dual band radios, with RRM, BandSelect, VideoStream, Rogue Detection, and WIPS

WLC-BASED & AUTONOMOUS SUPPORT
Supported on 2500, 5500, 7500, 8500, WiSM2 and vWLC series Wireless LAN Controllers

Cisco Aironet 700w Access Point Series

New

Shipping
CUWN 7.6 MR2
IOS XE 3.6

- $495 List
- Compact wired + wireless solution for Multi Dwelling Unit (MDU)
  - Hospitality, Higher Ed dorms, Healthcare
- Simultaneous Dual Radio, Dual Band with Integrated Antennas
- 4 GigE Ports
  - 1 PoE Out Port
- Mountable and lockable to most junction box worldwide
- VLAN tag support in CUWN 8.0/IOS XE 3.6

Cisco Aironet 1700 Access Point Series

New

Shipping
CUWN 8.0
IOS XE 3.6

- Sleek Design with internal antennas
  - Enterprises, Healthcare, K-12 and Higher Education, Factories, warehouses, and other indoor office and industrial environments
- 3x3 MIMO:2 SS 802.11ac AP
- CleanAir Express - Classification of over 20 different types of interferences, including non-Wi-Fi interference, within 5 to 30 seconds with limited number of simultaneous IDRs
- 2 GigE Ports
  - 2nd Port provides downward device connectivity
- UL 2043 plenum-rated for above ceiling installation or for suspending from drop ceilings

Cisco Aironet 2700 Access Point Series

Shipping
CUWN 7.6 MR2
IOS XE 3.6

- 3x4 MIMO: 3 SS 802.11ac AP
- 3x performance of 802.11n
- RF Excellence enabled in Hardware
- HDX Technology
- 2 GigE Ports
  - Downstream device support only

Cisco Aironet 3700 Access Point Series
Best-in-Class 802.11ac

Shipping
CUWN 7.6
IOS XE 3.3 MR1

- 4x4 MIMO: 3 SS 802.11ac AP
- 3x performance of 802.11n
- RF Excellence enabled in Hardware
- HDX Technology
- Future Proof Modular Architecture
  - Wireless Security Module
  - 3G Small Cell Module
  - Wave 2 802.11ac Module – Target Q4CY15/Q1CY16

with Integrated
802.11ac (4x4:3SS)

Cisco Aironet Outdoor Access Points

Industry's Best 802.11n & 802.11ac Series

Base
1530

- Low Profile, Low Price
  - Europe: Low Profile
  - Emerging SP: Low Price
  - Enterprise: Low profile & Price
- 11n, 2G: 3x3:3; 5G: 2x3:2
- In/External Antennas

High-Functionality
1550

- Multiple models & features
- Enterprise, MSO
- DOCSIS3.0 8x4
- 11n, 2x3:2
- In/External Antennas

Best in Class
1570

NEW

- High-end Enterprise, MSO
- 11ac, 4x4:3
- NG-Cable: 24x8
- In/External Antennas
- Modular: Future Proof

Higher Throughput, Larger Area, More Pervasive Coverage

Bringing 802.11ac with HDX Outdoors

Cisco Aironet 1570 Series

Any More Powerful…It Would be Illegal

Highest Allowable RF Power* for Range & Coverage

4X Performance of 1550

- 4x Transmit + 4x Receive
- 3 Spatial Streams
- Max. Allowable Transmit Power*
- Multi Mode Options: Flex, Mesh, Auto.
- NG DOCSIS (24x8), Fiber, Gig-E
- Future Proof: Plug-in Module via POE

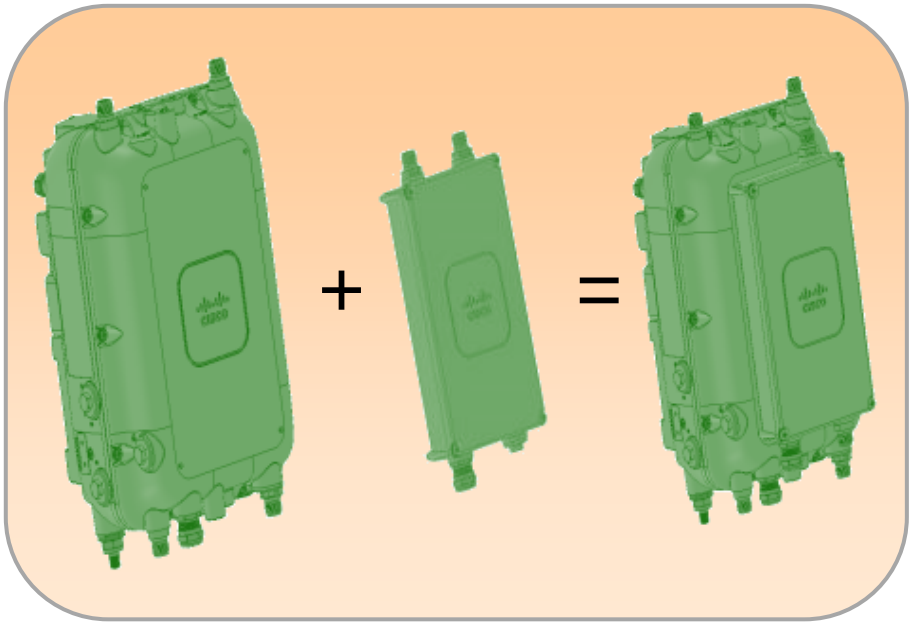
HIGH DENSITY EXPERIENCE (HDX)

RF Interference, Detection & Mitigation	Increase Performance & Range	Intelligent Handoff in High Density	More 802.11ac Clients per AP
CleanAir for 80MHz	ClientLink 3.0	Optimized Roaming	Turbo Performance

* Limited by highest power allowed by FCC

1570 Module Option
Future Proof & Protect Investment

- **Similar advantage of AP3K Module**
- **Eco-System of potential Cisco & non-Cisco development partners**
- **External Module: Faster Certification & Time-to-Market e.g. LTE, Sensors (1552S), 4.9 GHz, … (non-committed)**



Cisco Mobility Services Engine
Hardware Overview and Scalability-Numbers with 7.6

Comparison-Table				
Product-Picture	 MSE 3365	vmware		
Type	HW-Appliance	Virtual Appliance		
Sub-Type		Low-End	Standard	High-End
Base Location License	2’500 APs	200 APs	2’500 APs	5’000 APs
CMX License	2’500 APs	Not supported	2’500 APs	5’000 APs
Max. tracked Devices	25’000	2’000	25’000	50’000
wIPS License	5’000 APs	2’000 APs	5’000 APs	10’000 APs
VMWare-Version	n/a	Vmware: ESX/ESXi *(ESX or ESXi4.1 or later)* MS: HyperV *(MSE Windows Server 2012)* Citrix: Xen *(Citrix XenServer / XenCenter 6.1)*		
Evaluation support	100 Base Location Licenses 100 CMX Licenses 20 MSE wIPS Licenses			

Promotie


Cisco Meraki Cloud Networking

About Cisco cloud-managed networking

Cisco Meraki: a complete cloud-managed networking solution

- Wireless, switching, security, and EMM, centrally managed over the web
- Built from the ground up for cloud management
- Integrated hardware, software, and cloud services

Leader in cloud-managed networking

- Among Cisco's fastest-growing portfolios: over 100% annual growth
- Tens of millions of devices connected worldwide

Recognized for innovation

- Gartner Magic Quadrant, InfoWorld Technology of the Year, CRN Coolest Technologies

Trusted by thousands of customers worldwide:

Cisco on Premise and Cloud-Managed
Primary positioning

Cisco On Premise Networking

- Flexible deployment and configuration options
- Highly customizable and advanced feature set
- Advanced professional services, extended support
- Extensive integration capabilities

Cisco Cloud Managed Networking

- Easy to deploy and manage over the web
- Out-of-the-box optimized feature set
- Ongoing managed upgrades and enhancements
- Optimized for lean IT, with limited requirement for 3rd Party integration

Network-As-A-Platform **Network-As-A-Service**


The Cisco Meraki Cloud Infrastructure

Cisco Meraki: Bringing the cloud to enterprise networks

Meraki MR
Wireless LAN

Meraki MS
Ethernet Switches

Meraki MX
Security
Appliances

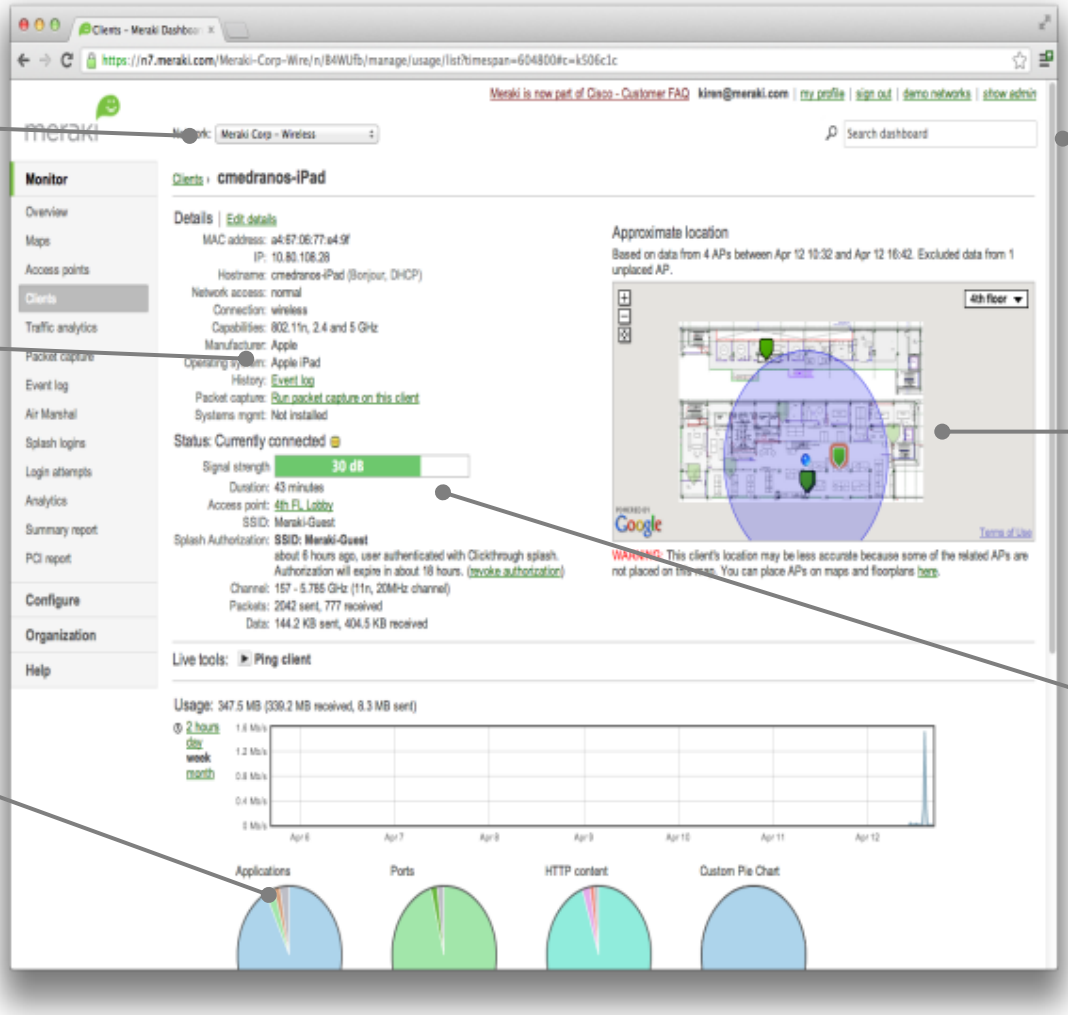
Meraki SM
Mobile Device
Management

Intuitive Web-Based Dashboard

Wired + wireless

Client fingerprints

Application QoS

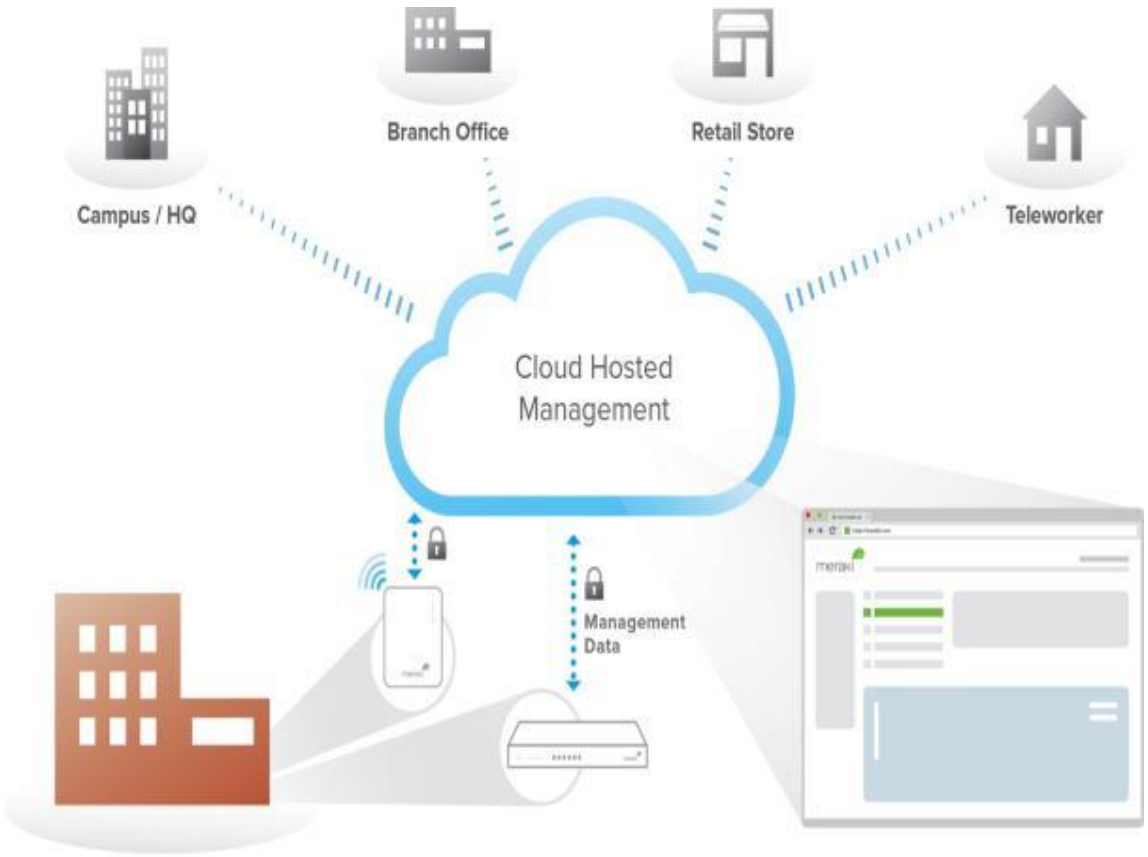


Instant search

Location analytics

Real-time control

Cloud-managed networking architecture



Network endpoints securely connected to the cloud

Cloud-hosted centralized management platform

Intuitive browser-based dashboard

MR wireless access points

Feature highlights

BYOD policies

Application traffic shaping

Guest access

Enterprise security

WIDS / WIPS

Location analytics

7 models including indoor / outdoor, high performance and value-priced

Enterprise-class silicon including RF optimization, PoE, voice / video support

Lifetime warranty on indoor APs

MR Wireless Access Points Family

Indoor APs

MR18

2 Stream Triple-Radio
802.11a/b/g/n
600 Mbit/s

MR26

3 Stream Triple-Radio
802.11a/b/g/n
900 Mbit/s

MR32

2 Stream Quad-Radio
802.11ac
1.2 Gbit/s

MR34

3 Stream Triple-Radio
802.11ac
1.75 Gbit/s

Outdoor APs

MR66

2 Stream Dual-Radio
802.11a/b/g/n
600 Mbit/s

MR72

2 Stream Quad-Radio
802.11ac
1.2 Gbit/s


Q & A
LIKEIT