

CISCO *Engage*



#CiscoEngage



The bridge to possible

網路智慧王 彩色生活好夥伴

DNA Center創造顧客價值

潘德誠 技術顧問
零壹科技股份有限公司

CISCO *Engage*

#CiscoEngage



Agenda

- Introduction
- Why Intent-based networking
- Wireless Assurance
- Wi-Fi 6/6E Products
- Conclusion



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肝若顧得好，人生
就是彩色的

肝若不好，人生
是黑白的

錯綜複雜的網路

高運營成本

\$60B

每年花費在
網路運營、
勞動力和工具¹



¹Cisco McKinsey Study

CISCO Engage

95%

人工執行網路變更



75%

持續性支出用於更改和故障排除



70%

人為錯誤造成政策違規





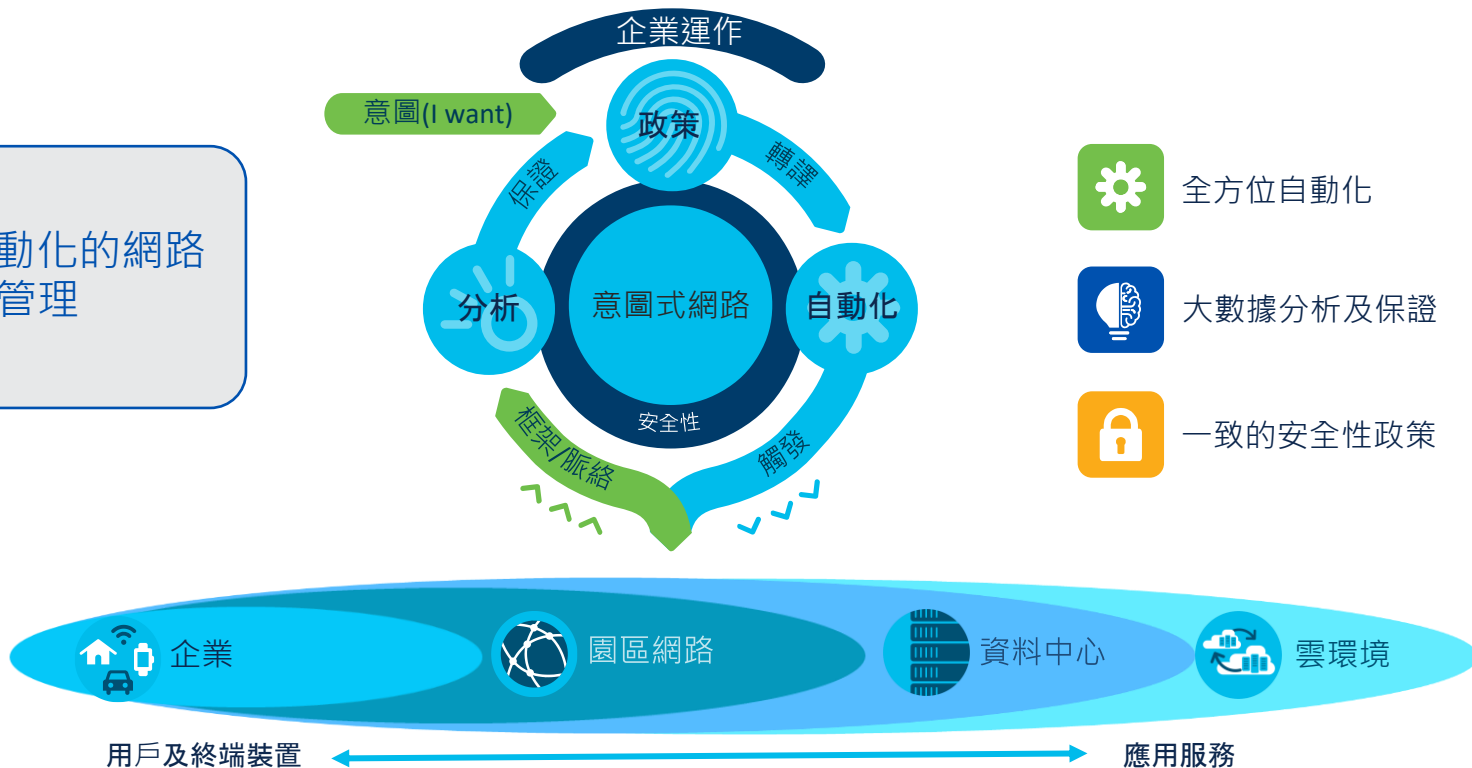
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意圖式網路

Intent-based networking

IT 成功需要自動化的網路
操作和管理



Cisco DNA Center

意圖式網路的指揮和控制中心





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DNA Assurance是DNA Center的重要組件

DNA Center 包括自動化(Automation) 及大數據分析(Assurance)

Automation

Design



Provision



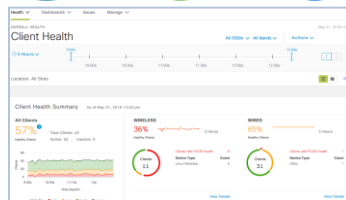
Policy



規劃、安裝和遷移

Analytics

Assurance



主動和預測性網路、客戶端和應用程序保證

Cisco DNA Assurance

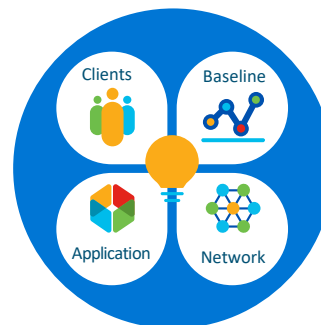
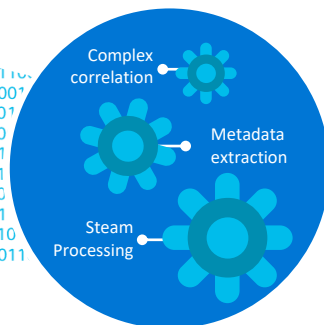
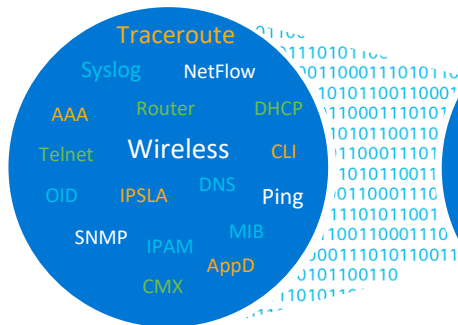
大數據分析/智能運維

遙測網路數據

將複雜事件情境
化關聯

洞悉問題

引導修復



萬物皆為傳感器

超過 150 種可操作性的情境關聯

Clients | Applications | Wireless | Switching | Routing

Cisco DNA Assurance: 思科見解洞察問題3R

Right Place:
問題隔離



- 360度全方位可視圖
- 萬物皆為傳感器
- 事件驅動的遙測技術

Right Time:
問題呈現



- 過去兩週歷史紀錄回顧
- 預測趨勢
- 主動測試

Right Action:
問題解決



- 逐步引導修復
- 與IT運營整合



大數據分析

Before



After

花費數小時修
復網絡故障

點擊滑鼠即可
解決問題

優勢

- 自動檢測問題並確定優先度(P1、P2、P3...)
- 即時指導修復以快速解決問題
- 提高性能並減少除錯的時間

思科如何做到



來自每台設備的遙測數據提供完整的可見性。



將複雜事件投入分析引擎即刻發現異常。



洞察力分析分析查明根本原因。



一站式引導修復方案。

Cisco DNA Center: 診斷(Assurance)如何開始

Intent-based networking

Cisco DNA Center

Cisco® Software-Defined Access

Cisco DNA Center security

Cisco DNA Center Assurance



Telemetry protocols:
NetFlow, SNMP, Syslog, streaming



CLI, SNMP, PnP, NETCONF



Wireless
access point



Cisco®
Catalyst®
2000, 3000



Cisco Catalyst
4000, 6000



Cisco
Nexus®
7000



Wireless
controller



ISR/ASR



Wireless
802.11ac
Wave 2 AP



Cisco
Catalyst 3850



Cisco
Catalyst 9000



Industrial
Ethernet
Catalyst



Wireless
controller



4000 Series ISR
8000 Series
Catalyst



NFV-IS

傳統網路

具備Cisco DNA 功能網路

網路健檢



回去看看到底發生了什麼

應用程式體驗(Application)

使應用程式性能與業務意圖保持一致

應用程式設定

相關:
對工作績效重要
且關鍵。

預設:
重要但不關鍵。

無關:
不需要可能會分
散注意力。



業務



CRM



Collab



Quoting



Internet



Social



Video



Music



財務



Invoicing



Payroll



CRM



Internet



Collab



Social



Video



Music



市場營銷



Graphic



Social



Collab



Video



Internet



Social



Video



Music



CCTV



DVR



Analytics



Video



Internet



Video



Video



Video

Outcome

這些應用程式對於支援業務目標至關重要。
應根據行業最佳實踐建議對應用程式進行
分類、標記和處理。

這些應用程式支援非關鍵業務活動。這
種類型的應用程式應該使用默認轉發服
務來處理。

這些應用程式不支持業務目標，通常面
向消費者

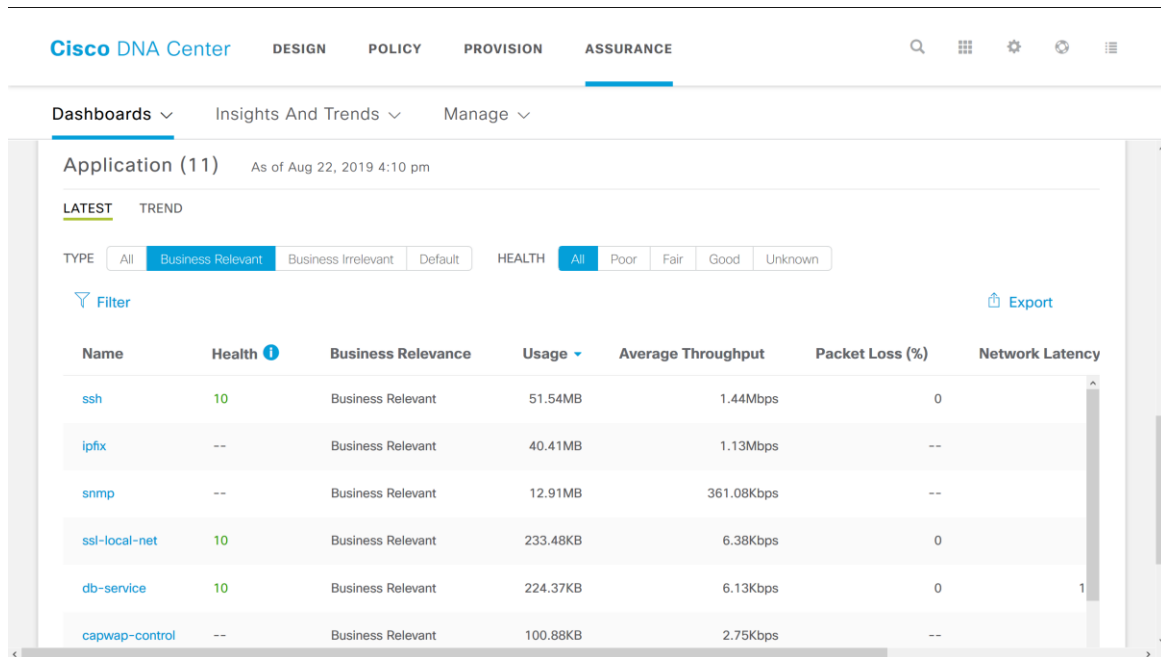
應使用“低於最大努力”服務處理此類應
用程式

應用程式體驗(Application)

以客戶端級別為主的應用程式可見性。

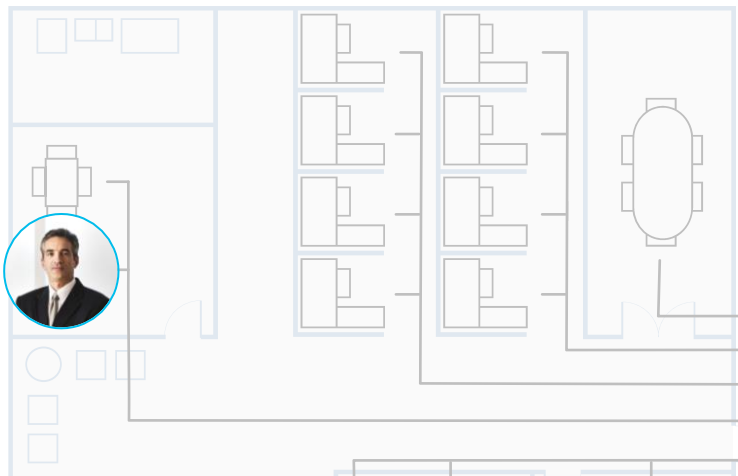
每個應用程式的健康評分以及歷史趨勢。

詳細的應用程式流量指標：吞吐量、數據包丟失、耗費時間(latency)和延時(delay)。



主動式偵測傳感器

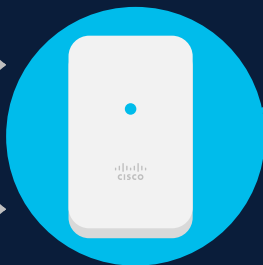
Aironet active sensors



思科的網路傳感器讓您可以從用戶的角度查看應用程式和服務的實際性能

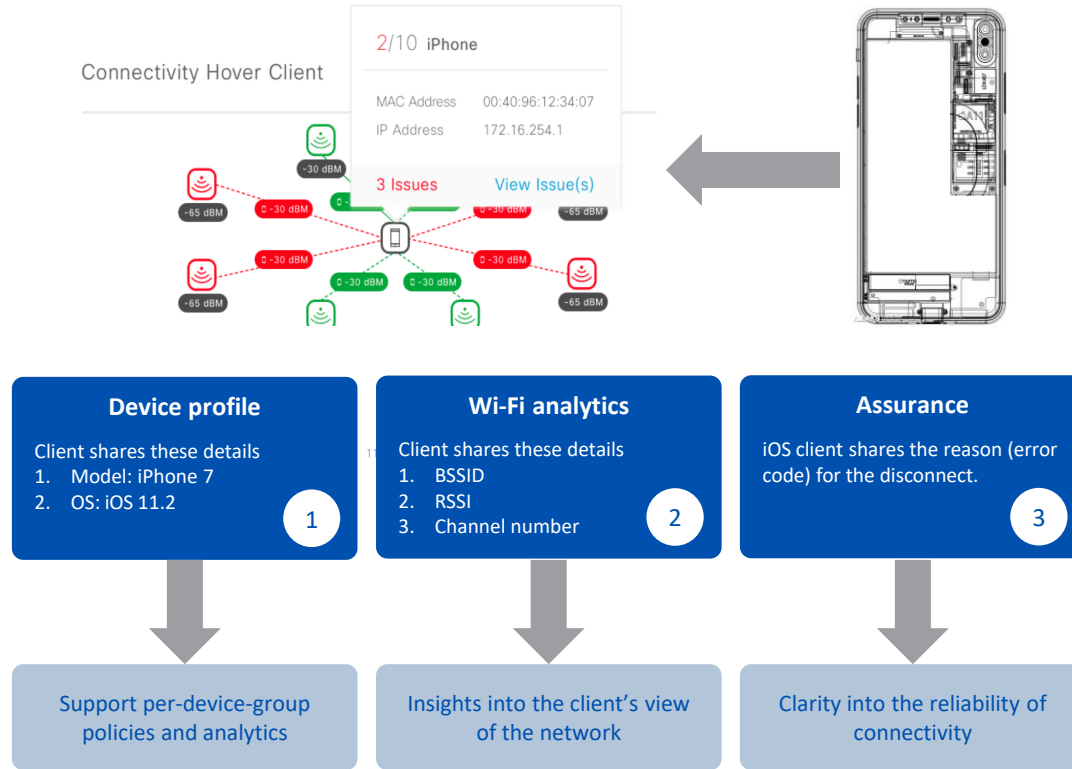
CISCO *Engage*

使用功能強大的網路測試端點解決方案，將自己置身於網路中的任何位置。



IT

Wireless client insights



Wi-Fi analytics for iOS

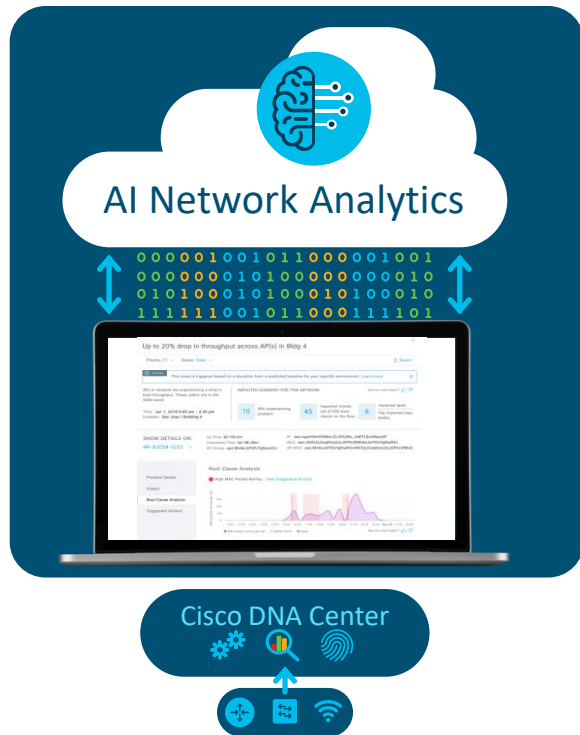
This partnership with Apple enables any iOS 11 client to speak to Cisco DNA Center with client diagnostics.

Provides a more comprehensive view of all potential root causes of wireless issues.

Problems affecting iOS clients are likely affecting all wireless clients.

思科人工智能網路分析

機器學習讓 Assurance 更聰明



可視化: 個人化基準線

使用全球遙測數據定義客戶等級的“網路正常”。



網路洞察: 智能數據分析

提高信噪比(SNR), 減少誤報, 並準確識別趨勢和根本原因。



行動: 加速修復

根據機器推理演算法, 創建自動解決方案供 IT 採取行動。

思科優勢

整合思科KB

Diverse data:

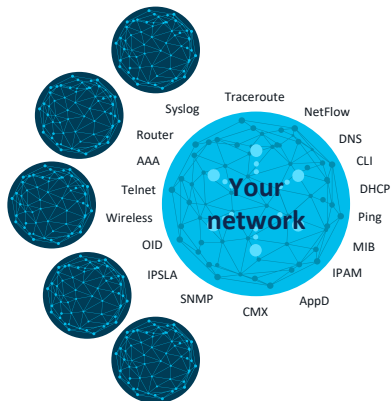
Network,
application, security

Diverse networks:

Local and global

Streaming
telemetry :

Cloud connected



Worldwide
data platform
Anonymized data

AI/ML

Accurate
insights

Improved
performance

35
年TAC累積
的KB經驗

Communities

Cisco Fellows

CX

TAC

Distinguished Engineers

cisco
Knowledge base

Cisco DNA Center

CISCO Engage

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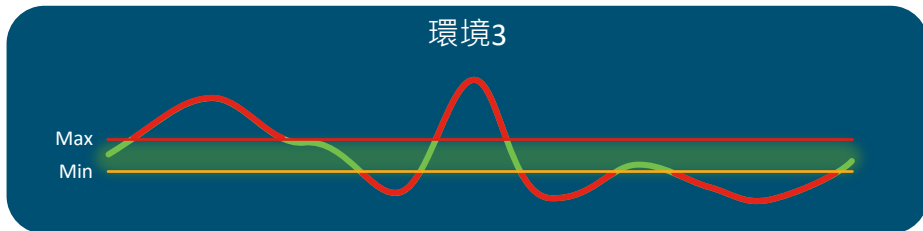
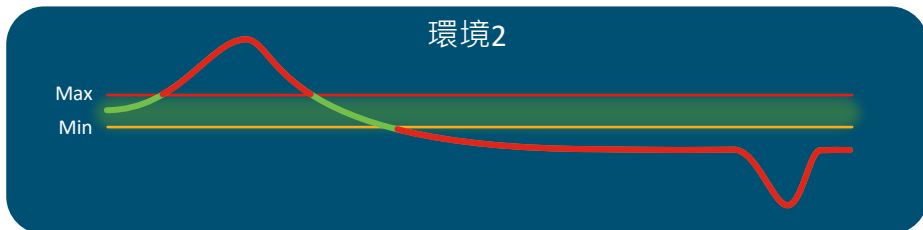
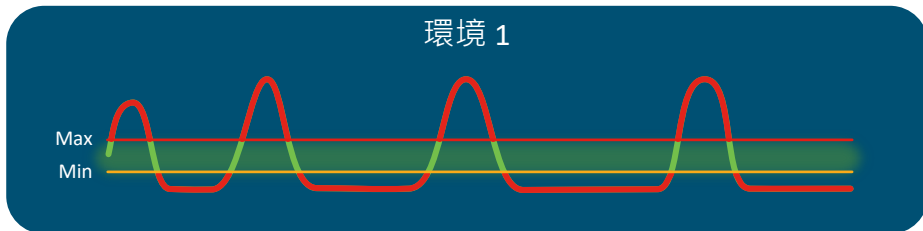
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使用案例1：讓事件警報盡量符合現狀

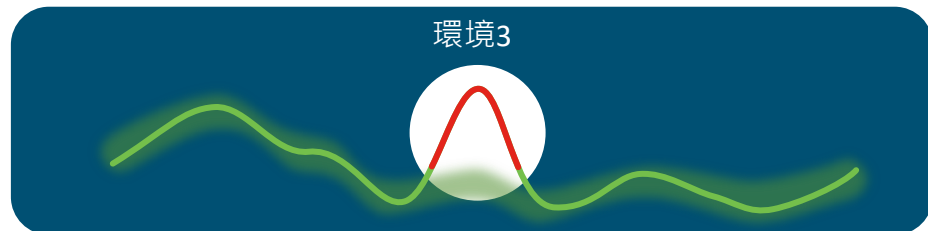
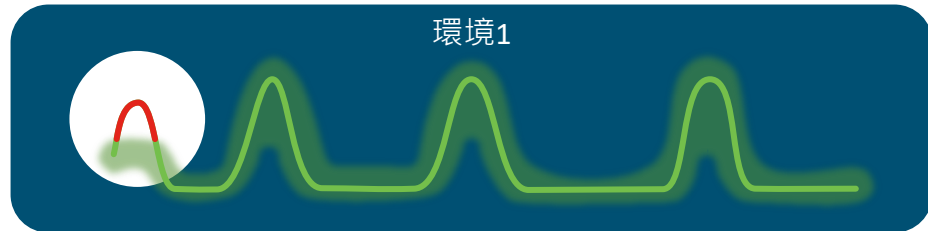
個人化的基準線Personalized Baselining



Before: 自定義閾值 = 警報太多



AI-driven: 動態基準線 = 分析異常



使用案例2 :主動式和預測性見解



主動探索

Proactive exploration



系統生成見解

System-generated insights

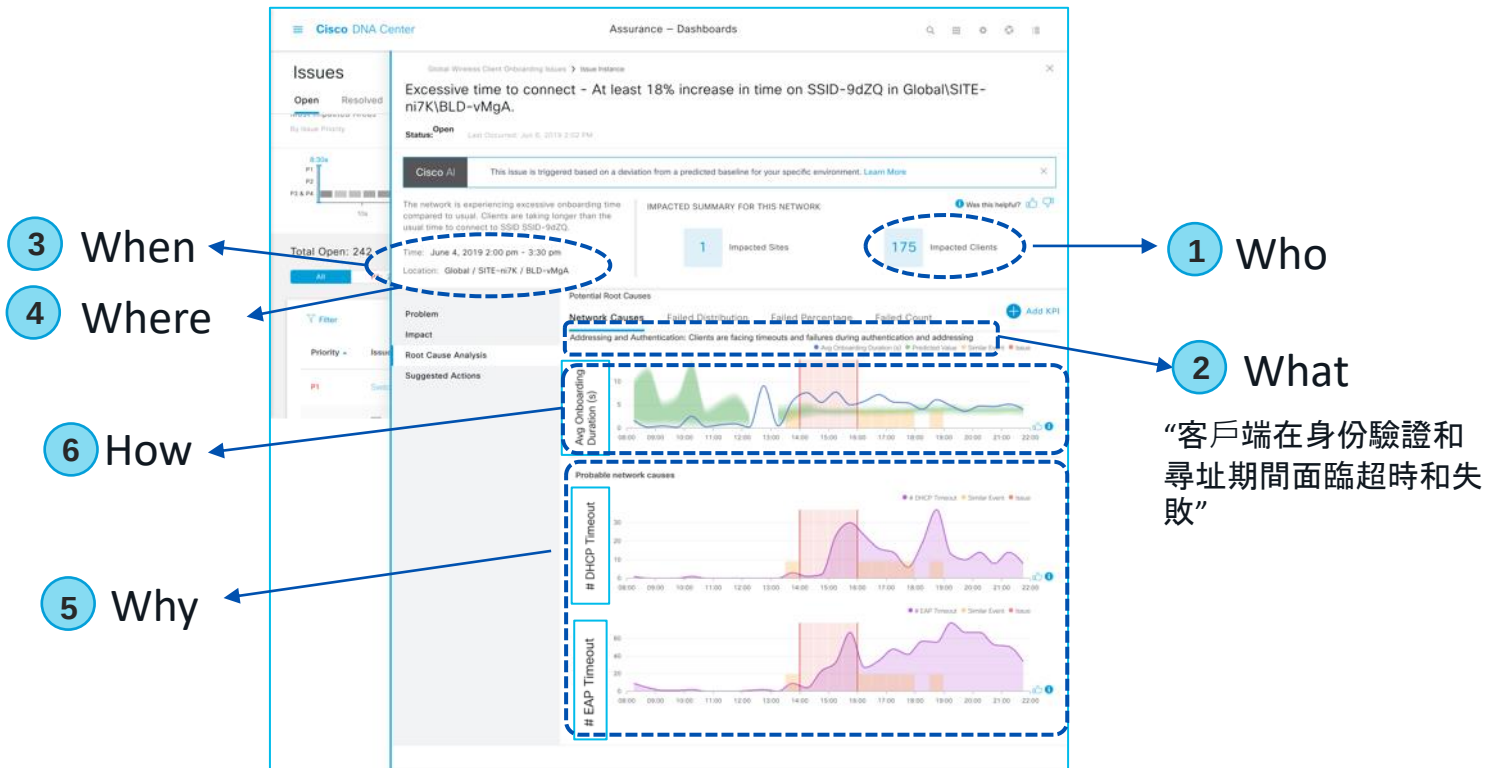


點對點或站對站的比較

Peer-to-peer and
site-to-site comparison

使用案例3 :根本原因分析

Who / What / When / Where / Why / How (5W1H)

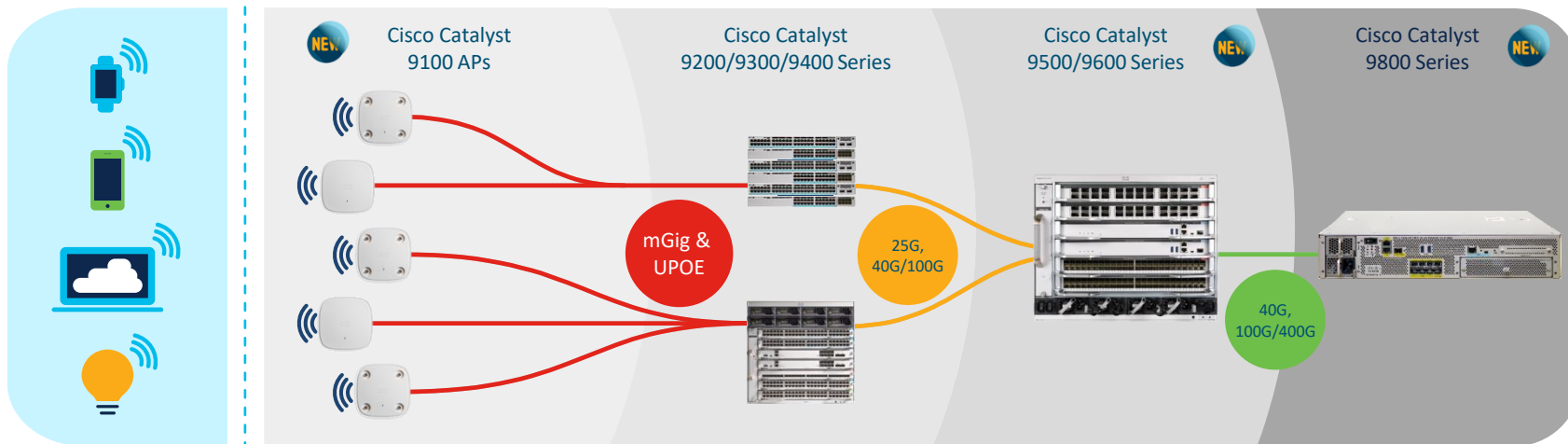




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Catalyst 9000 Family



The Full Experience, End to End



Built for Intent-Based Networking



Automation



Security



Analytics

Cisco Catalyst Wireless 6 Access Point

Ideal for small to medium-sized deployments



9105AX

- 2x2 + 2x2
- MU-MIMO, OFDMA
- Spectrum intelligence
- IoT ready
- 1x 2.5 mGig (WP)
- TWT

9115AX

- 4x4 + 4x4
- MU-MIMO, OFDMA
- Spectrum intelligence
- 1 x 2.5 mGig
- TWT

Mission critical



Powered by
Cisco RF ASIC

9120AX

- 4x4 + 4x4
- Cisco RF ASIC for Next Gen CleanAir
- Dual 5GHz, Next Gen HDX
- IoT ready
- 1 x 2.5 mGig
- TWT

Best in Class



Powered by
Cisco RF ASIC

9130AX

- 8x8 + 4x4; 4x4 + 4x4 + 4x4
- Tri-radio: Dual 5GHz + 2.4GHz
- Cisco RF ASIC for Next gen CleanAir
- Full iCap with data packets
- Dual 5GHz, Next Gen HDX
- IoT ready
- Smart Antennas supporting up to 8x8
- 1 x 5 mGig
- First 8x8 AP with external antennas
- TWT

Bluetooth 5

USB

Integrated or External Antenna

Cisco DNA Assurance with iCAP

Cisco Catalyst Wireless 6E Access Point

Ideal for Small to Medium-sized deployments

Best In Class, Flexibility

Mission Critical, Performance



CW9162

- 2x2 + 2x2 + 2x2
- 2.5 Gbps mGig
- Power Options: PoE, DC Power
- IoT ready + Bluetooth 5.x
- iCAP for Management Frames
- USB – 4.5 W

Available with IOS-XE 17.9.2



CW9164

- 2x2, 4x4, 4x4
- 2.5 Gbps mGig
- Power Options: PoE, DC Power
- IoT Ready + Bluetooth 5.x
- iCAP for Management Frames
- USB- 4.5 W



CW9166

- 4x4 + 4x4 + 4x4 (XOR 5/6)
- 5 Gbps mGig
- Power Options: PoE, DC Power
- IoT ready + Bluetooth 5.x
- Environmental Sensor
- Full Packet Capture (iCAP)
- Zero-Wait DFS*
- USB – 4.5W



C9136

- 4x4, 8x8, 4x4 (or) 4x4, 4x4+4x4, 4x4
- Dual 5 Gbps mGig, active fail over
- PoE Redundancy
- IoT ready
- Bluetooth 5.x
- Environmental Sensor
- Full Packet Capture (iCAP)
- Zero-Wait DFS*
- USB – 9W

*Available in Future

Full radio capability (6 GHz @ LPI) on single 30W PoE+

Dedicated Radio for CleanAir Pro

Same Bracket, Industrial Design

AP Power Optimization

USB

Catalyst Access Point w/Best of both world



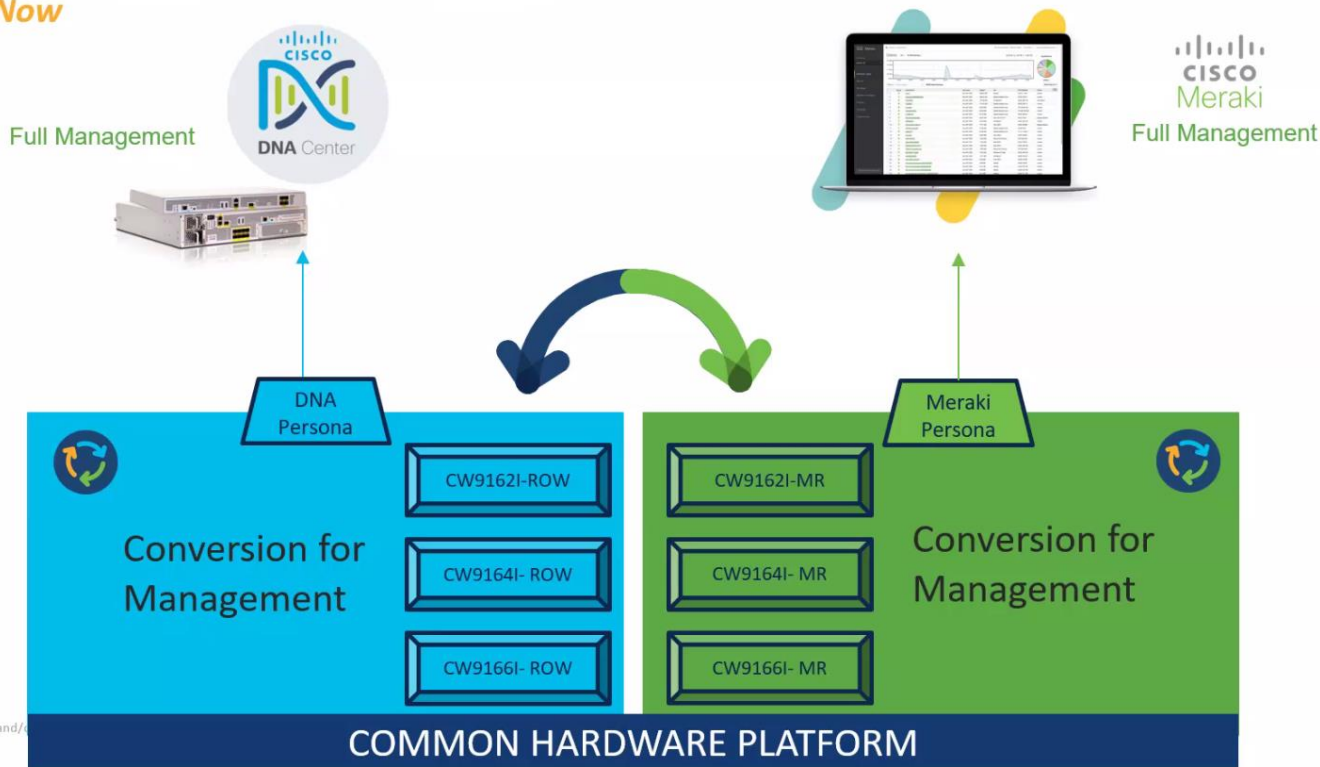


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選你所需

As of Now



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The bridge to possible

Thank you

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