

# 無線網路應用架構分享

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麟瑞科技 林楓  
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# Agenda

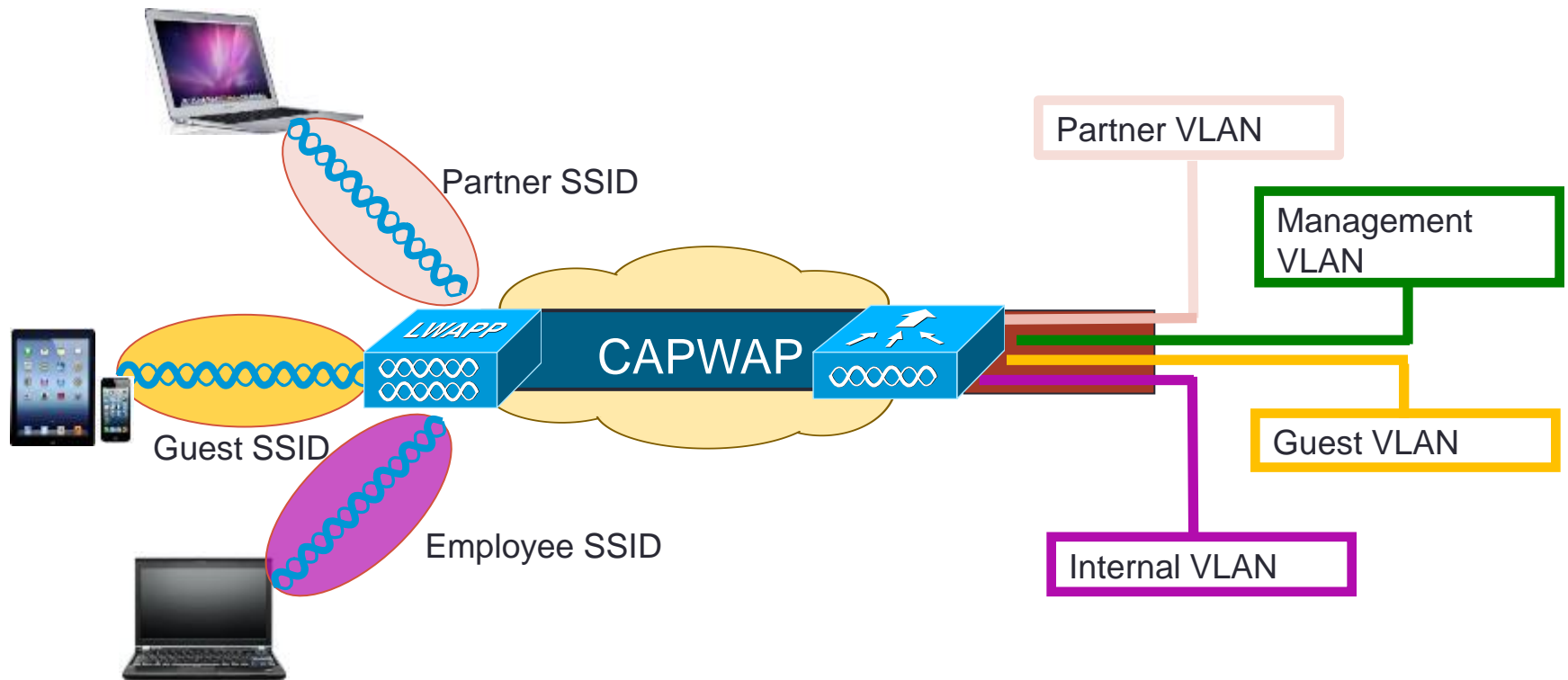
- Fat AP v.s Thin AP
- 無線網路架構
- Thin AP Wireless Solution
  - Spectrum Solution
  - Application
  - BYOD



# 比較

	Stand-Alone Access Points	Thin AP Wireless Network
集中式的管理	●	●
動態即時的無線頻率控制	●	●
便利的Access Point設定	●	●
內建的規劃以及設計軟體	●	●
整合室內以及室外的無線網路	●	●
移動式的服務	●	●
	Legend: ● Full ● Partial ● None	

# 集中式無線網路架構



- 不同的使用者群組使用不同SSID對應到不同的VLAN作流量區隔
- AP到Controller中間的流量是加密管道，可輕易由Controller端做流量區隔與管理

# Wireless 架構

- 架構

Normal (Controller/AP)

Flexconnect / Remote AP (Local Switching)

Bridge v.s MESH

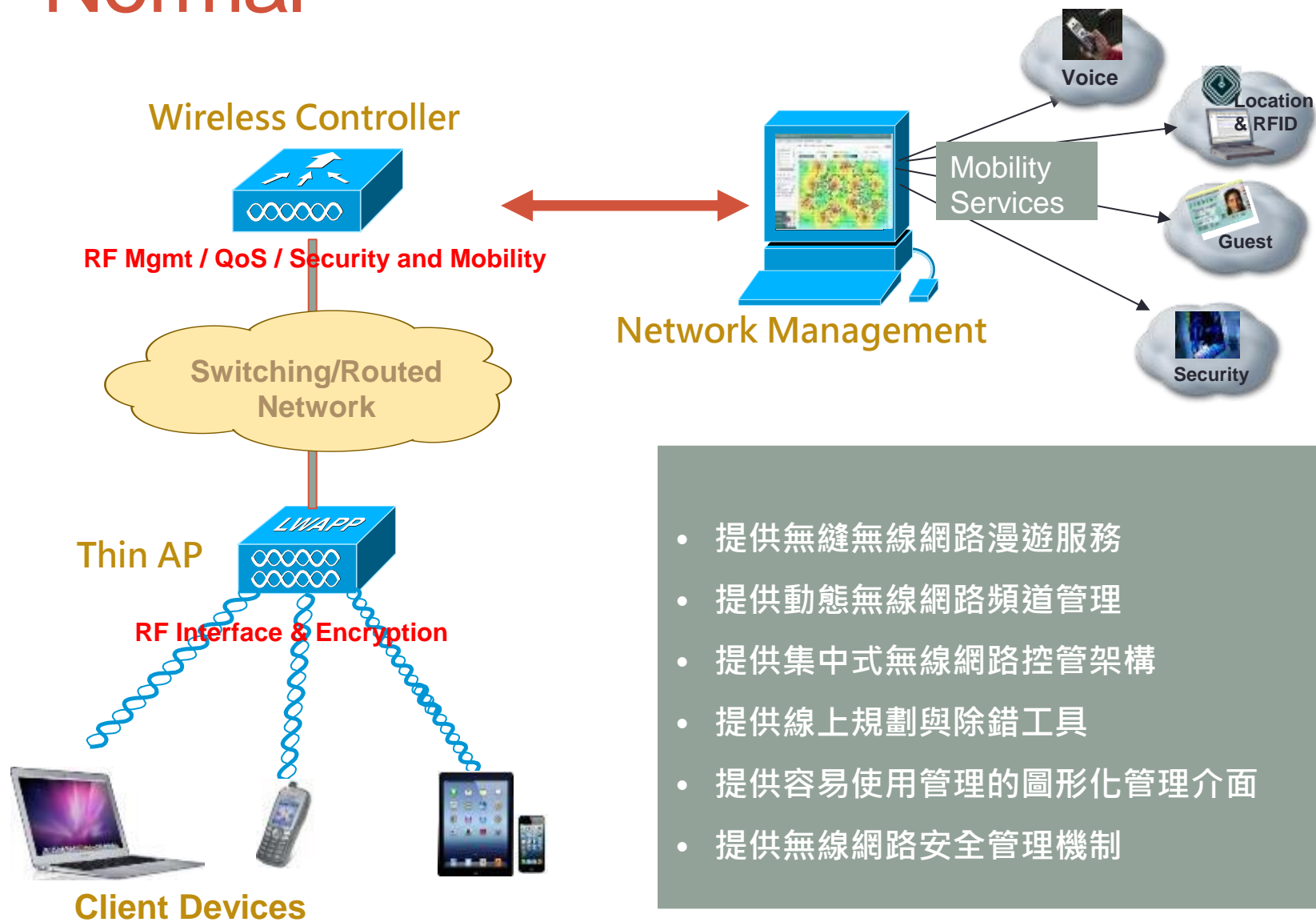
- 認證模式

Layer2 & Layer3 Auth

802.1x : PEAP or Others

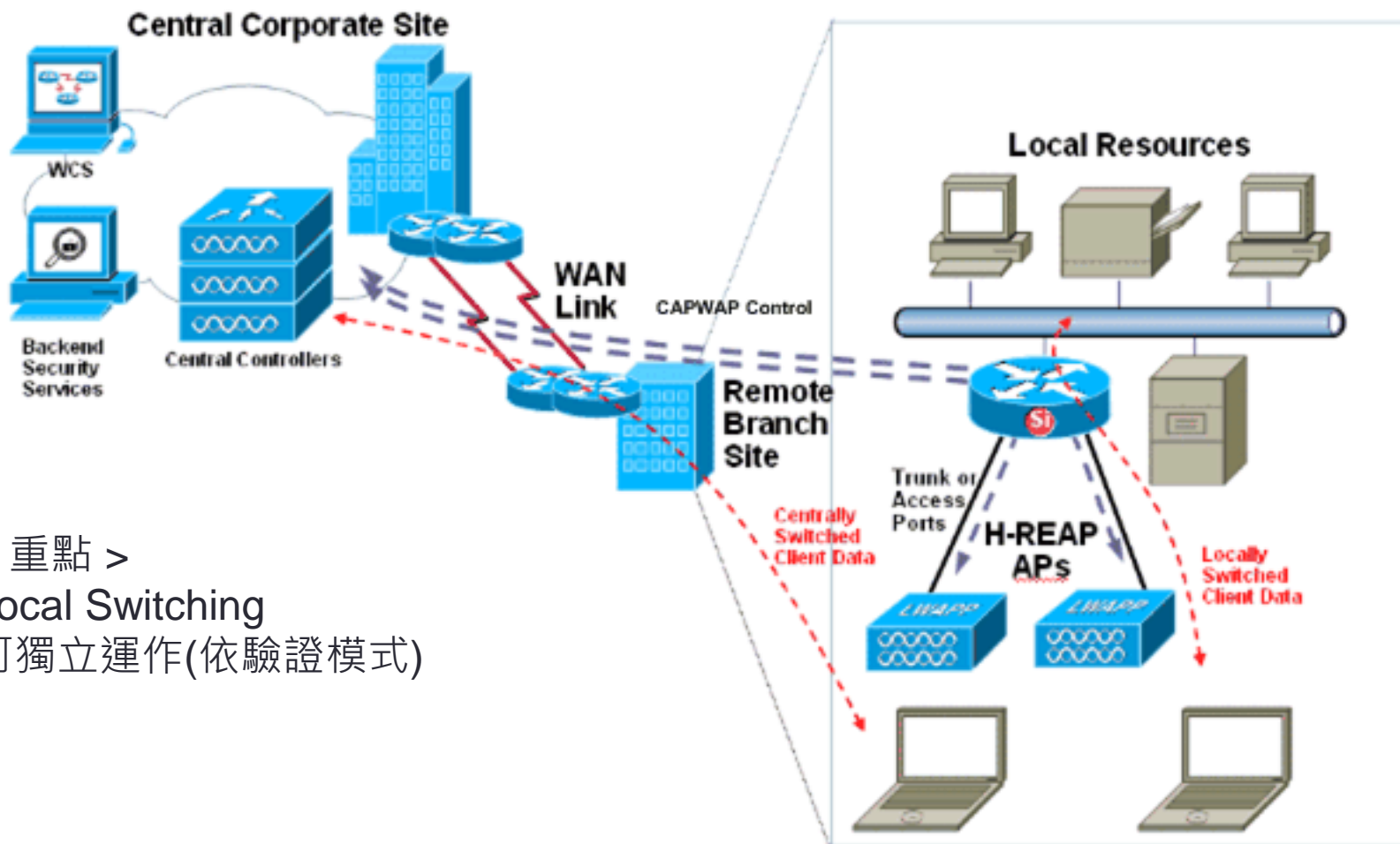
有線認證

# Normal



- 提供無縫無線網路漫遊服務
- 提供動態無線網路頻道管理
- 提供集中式無線網路控管架構
- 提供線上規劃與除錯工具
- 提供容易使用管理的圖形化管理介面
- 提供無線網路安全管理機制

# FlexConnect / Remote AP



< 重點 >

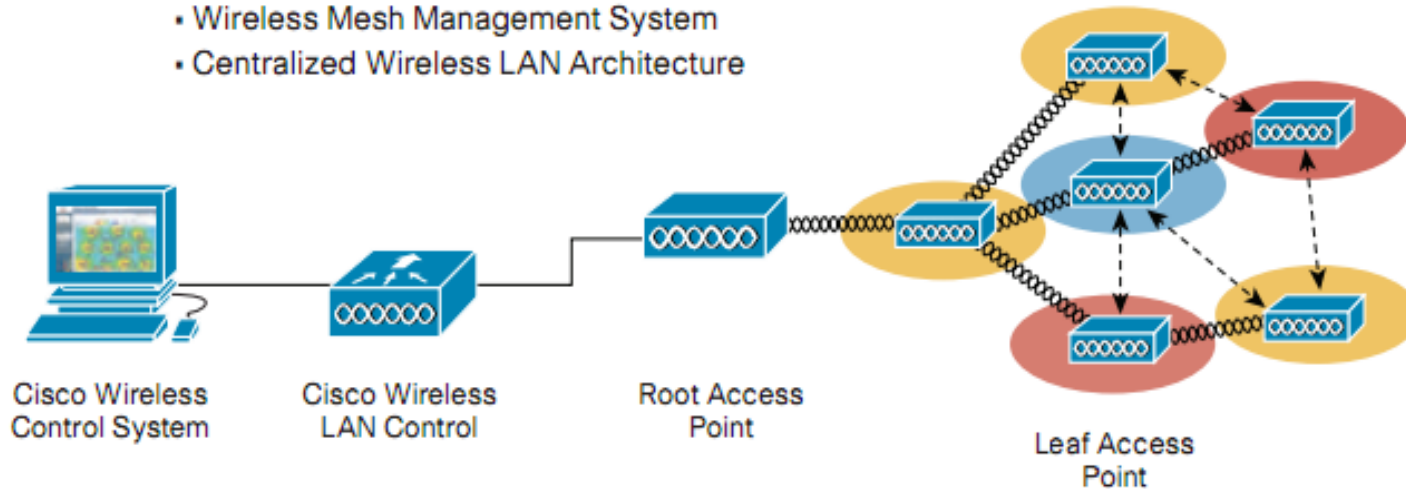
Local Switching

可獨立運作(依驗證模式)

# MESH & Bridge 差異 <1>

## Industry's 1st Intelligent Wireless Mesh Solution

- Intelligent Wireless Routing Protocol
- Wireless Mesh Management System
- Centralized Wireless LAN Architecture

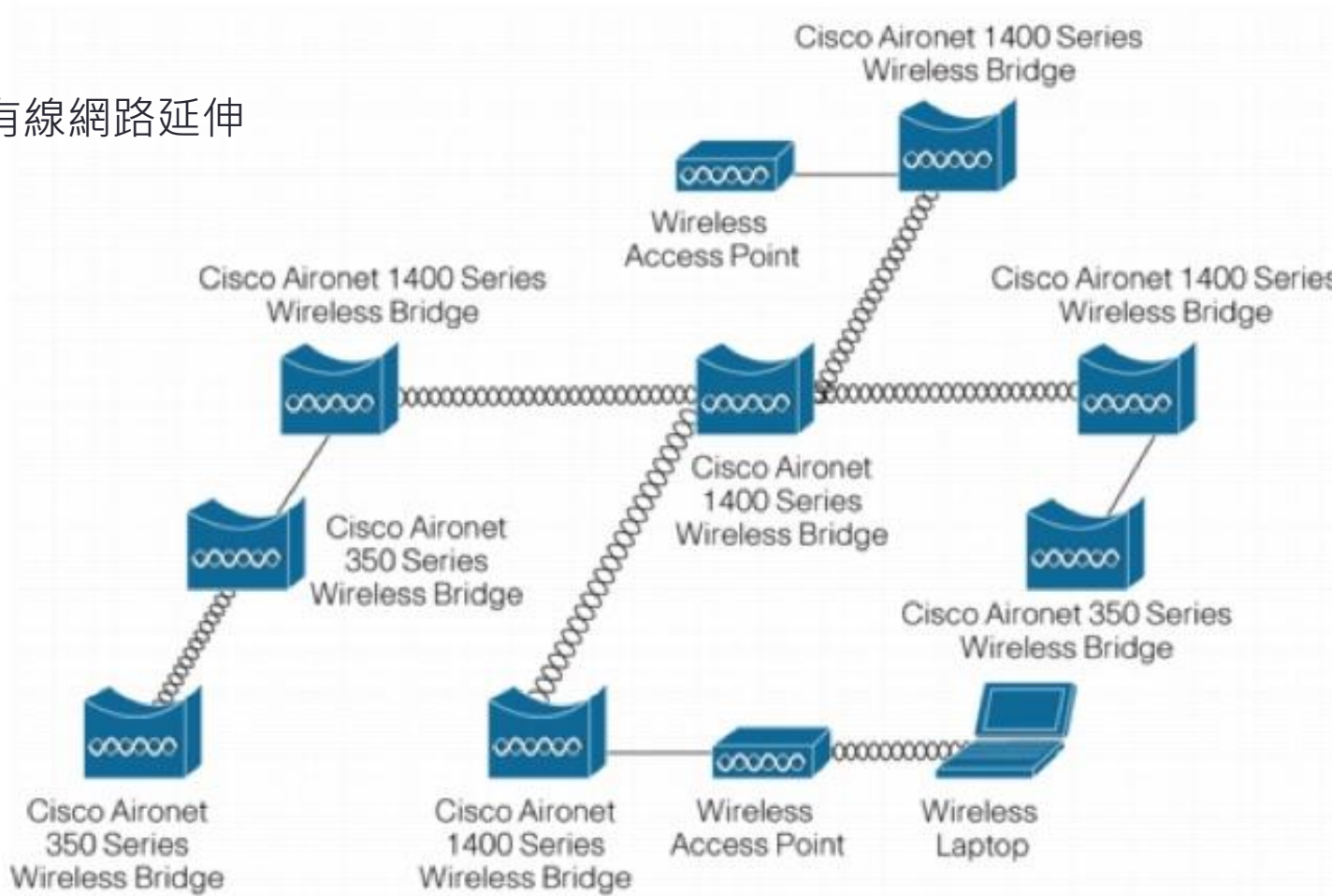


[http://www.cisco.com/en/US/solutions/collateral/ns340/ns394/ns348/ns621/networking\\_solution\\_at\\_a\\_glance0900aecd8066a18b.pdf](http://www.cisco.com/en/US/solutions/collateral/ns340/ns394/ns348/ns621/networking_solution_at_a_glance0900aecd8066a18b.pdf)



# MESH & Bridge 差異 <2>

\* 有線網路延伸



# Install Photo



# 驗證模式

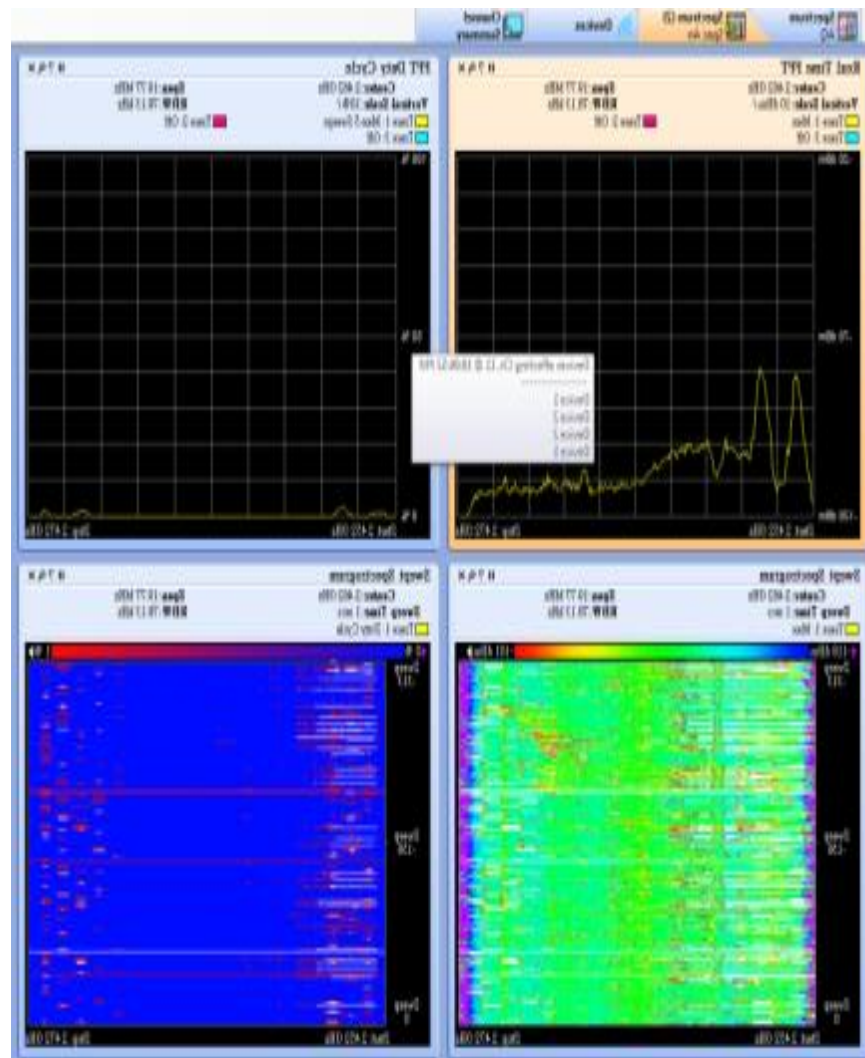
- Web-Auth(Layer3) :  
僅驗證無加密, 可再加入Layer2(WPA/WPA2 or MAC Filter)加密  
驗證!
- 802.1x :  
使用PEAP, 可整合AD環境!  
學校單位須先克服後端Account DB的加解密~
- DHCP Auth :  
用以解決學術單位使用Public IP的顧慮~

# 有線網路認證

- CISCO & Aruba都支援有線認證。  
基本上就是把Controller當做認證Gateway.
- 差異性：  
Aruba強調可整合3-Party AP, 並可使用多種驗證模式  
Cisco不建議讓3-Party AP做有線認證, 問題在於有線驗證  
僅可使用Web-Auth, 無法完全整合原有無線網路的驗證需求.

# 頻譜分析 (Non-WIFI)

- 偵測non-wifi干擾源
  - 獨立晶片運作
- AutoRF
  - Real-Time
- Location & Monitor Report
  - 定位干擾源與歷史紀錄
- 提供頻譜分析工具協助
  - Spectrum Expert

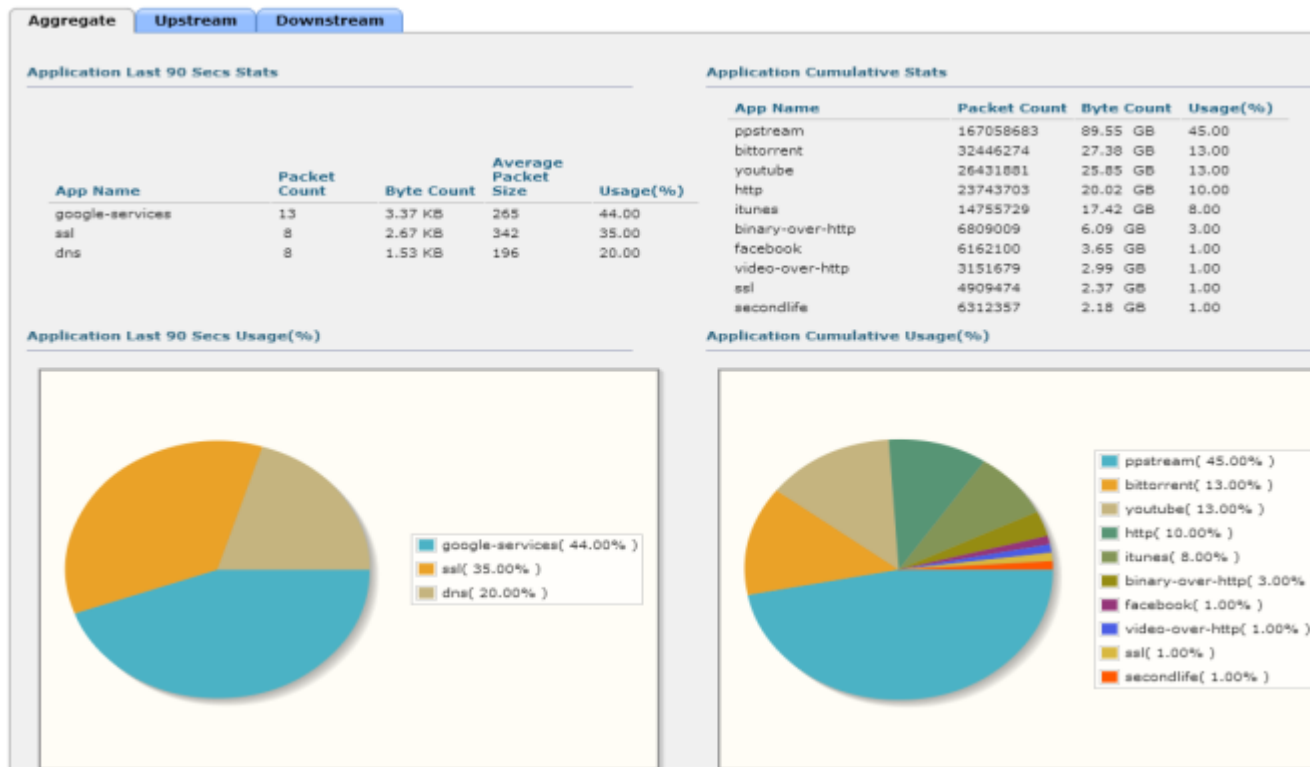


# Application 應用程式分析

- CISCO AVC
- Aruba AppRF



## QoS

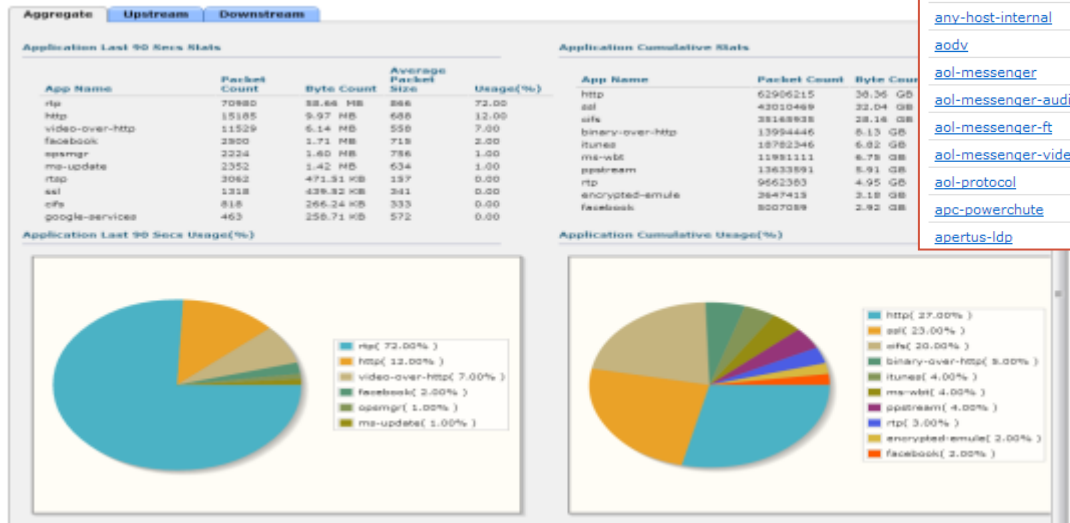


# 無線網路流量分析

- Cisco AVC
  - Signature Base !!!
- Monitor / Report
  - By SSID
  - By Client
- QoS
  - By SSID or Application 進行QoS Control

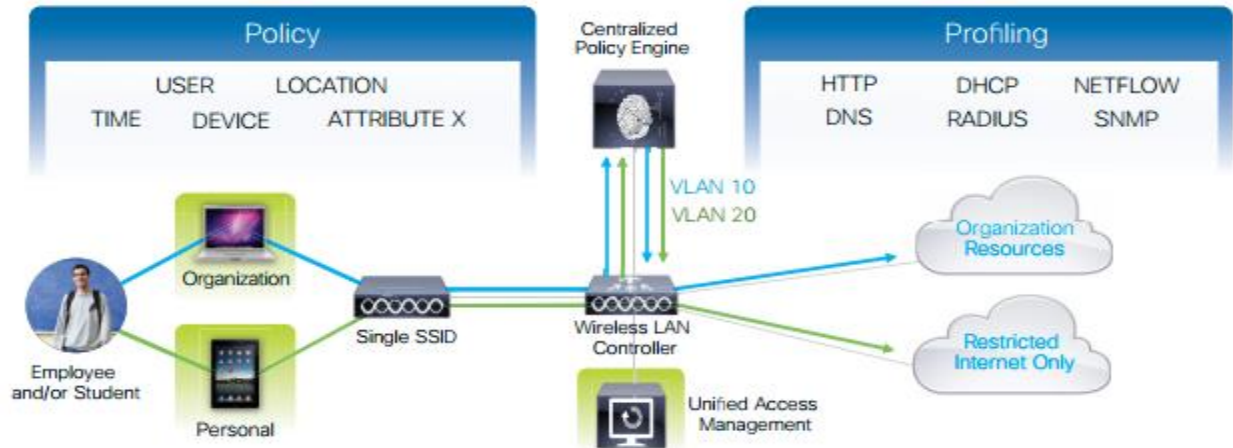
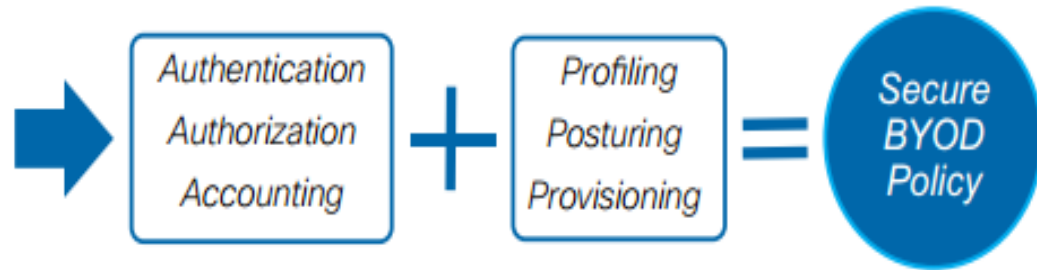
Application Name	Application Group	Application ID	Engine ID	Selector ID
<a href="#">3com-amp3</a>	other	538	3	629
<a href="#">3com-tsmux</a>	obsolete	977	3	106
<a href="#">3pc</a>	layer3-over-ip	788	1	34
<a href="#">914c/g</a>	net-admin	1109	3	211
<a href="#">9pfs</a>	net-admin	479	3	564
<a href="#">acap</a>	net-admin	582	3	674
<a href="#">acas</a>	other	939	3	62
<a href="#">accessbuilder</a>	other	662	3	888
<a href="#">accessnetwork</a>	other	607	3	699
<a href="#">acp</a>	other	513	3	599
<a href="#">acr-nema</a>	industrial-protocols	975	3	104
<a href="#">active-directory</a>	other	1194	13	473
<a href="#">activesync</a>	business-and-productivity-tools	1419	13	490
<a href="#">adobe-connect</a>	other	1441	13	505
<a href="#">aed-512</a>	obsolete	963	3	149
<a href="#">afpovertcp</a>	business-and-productivity-tools	1327	3	548
<a href="#">agentx</a>	net-admin	609	3	705
<a href="#">alpes</a>	net-admin	377	3	463
<a href="#">aminet</a>	file-sharing	558	3	2639
<a href="#">an</a>	layer3-over-ip	861	1	107
<a href="#">anet</a>	other	1110	3	212
<a href="#">ansanotify</a>	other	986	3	116
<a href="#">ansatrader</a>	other	993	3	124
<a href="#">any-host-internal</a>	layer3-over-ip	815	1	61
<a href="#">aodv</a>	net-admin	563	3	654
<a href="#">aol-messenger</a>	instant-messaging	79	13	79
<a href="#">aol-messenger-audio</a>	voice-and-video	1436	13	500
<a href="#">aol-messenger-ft</a>	file-sharing	1438	13	502
<a href="#">aol-messenger-video</a>	voice-and-video	1437	13	501
<a href="#">aol-protocol</a>	instant-messaging	1224	13	452
<a href="#">apc-powerchute</a>	other	1374	3	2160
<a href="#">apertus-ldp</a>	net-admin	457	3	539

WLANs > Application Statistics





# Bring your own device BYOD





Q & A