Business WiFi Coverage Solutions
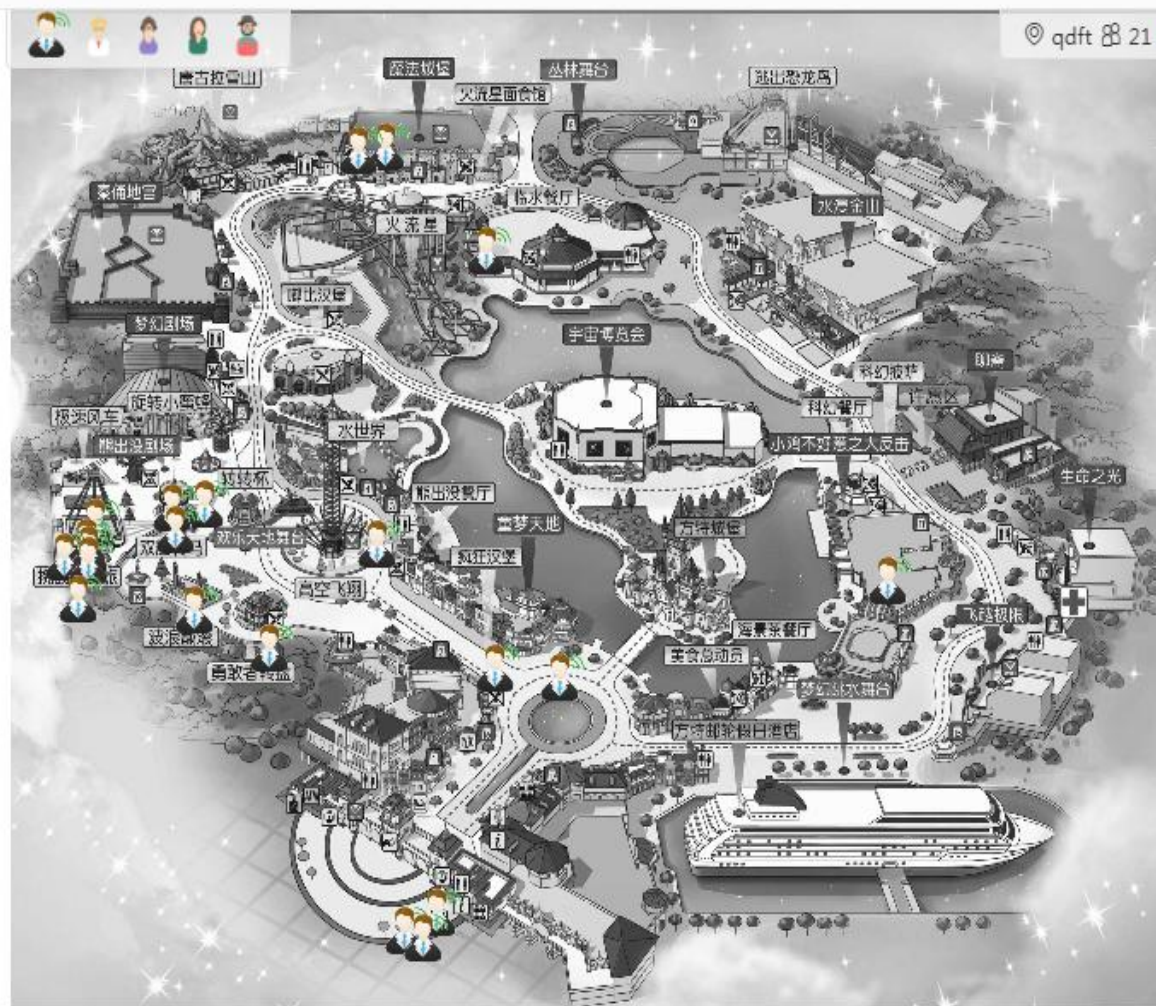
ViWALiNK

Application Scenarios ----------- Networking Methods

- **School**
- **Supermarket**
- **Enterprise**
- **Government**
- **Restaurant**
- **Operater**
- **Hotel**

1. Public Cloud
2. Private Cloud
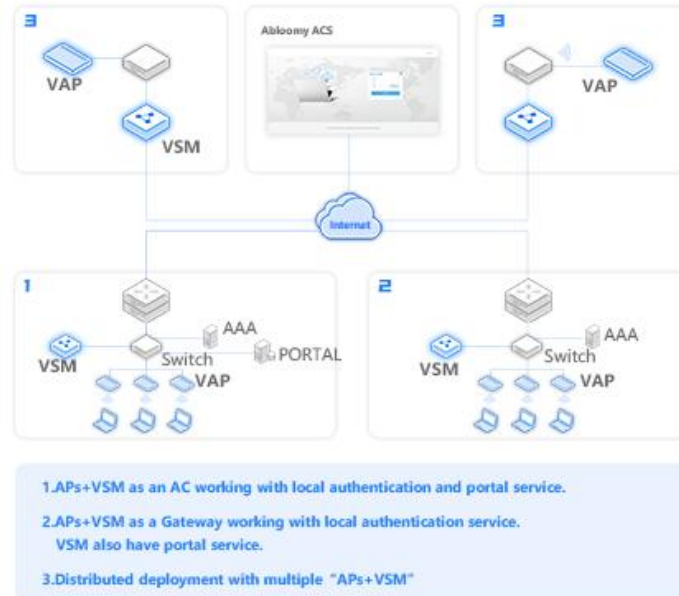3. Tradditional WLAN Networking
4. Support the 3rd Party devices

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Deployment Scenario 1:
Deploy Only APs for Networking

1.APs in existing network
2.Single GAP
3.VAPs+GAP
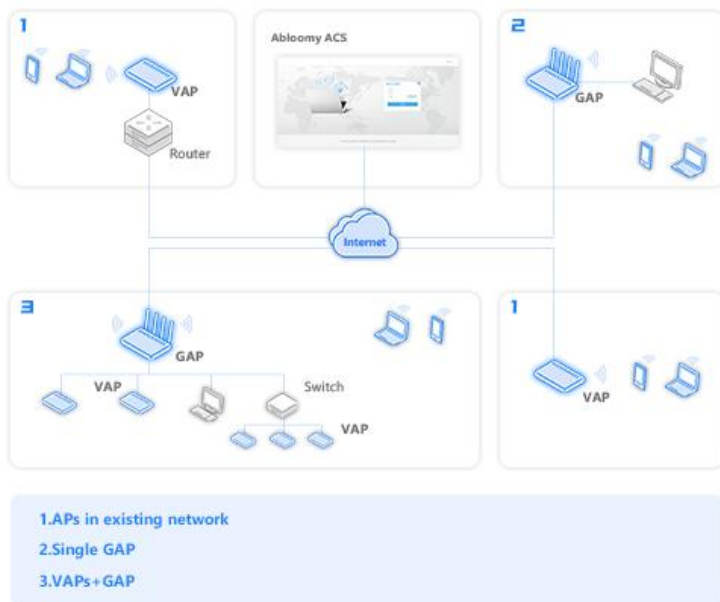
Typical Clients:
Community Libraries,Sports Centers,Classrooms
Offices,Laboratories,Cafeterias,Kindergartens
Professional Training Centers,Hotels,Shops,Operators
Small Cross-Regional Chain Enterprises,Schools
Internet Companies,Tourist Attractions,Guesthouses
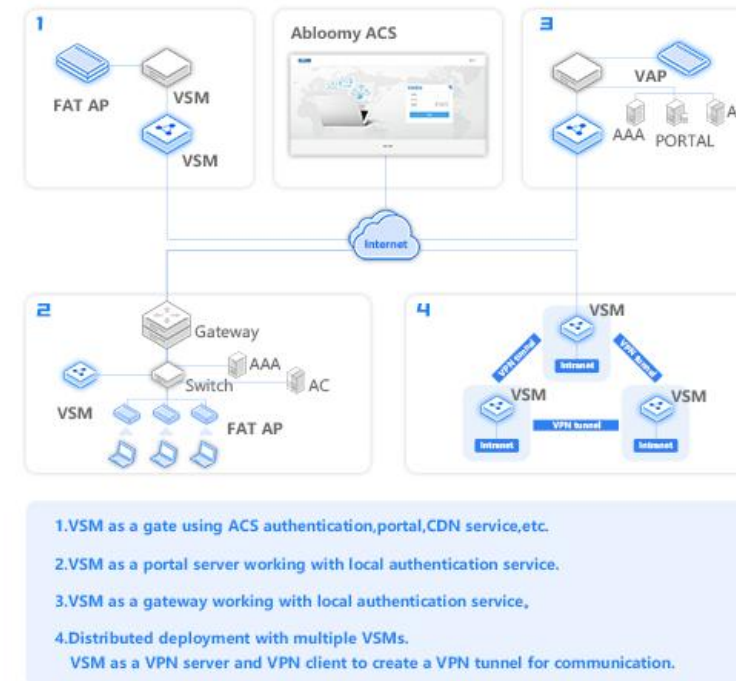Hostels,Cabins,Independent Hotels,Chain Hotels

Deployment Scenario 2:
Deploy APs + VSM for Networking

1.APs+VSM as an AC working with local authentication and portal service.
2.APs+VSM as a Gateway working with local authentication service.
   VSM also have portal service.
3.Distributed deployment with multiple "APs+VSM"

Typical Clients:
K-12 Schools,Community Colleges,Campuses,
Universities,Kindergartens,Chain Guesthouses,
Online Training Centers/Chain Training Centers
Chain Enterprises,SMB Enterprises,Operators
Internet Retailers and Merchants,Chain Hotels

Deployment Scenario 3:
Deploy Only VSM for Networking

1.VSM as a gate using ACS authentication,portal,CDN service,etc.
2.VSM as a portal server working with local authentication service.
3.VSM as a gateway working with local authentication service,
4.Distributed deployment with multiple VSMs.
   VSM as a VPN server and VPN client to create a VPN tunnel for communication.

Typical Clients:
K-12 Schools,Community Colleges,Campuses
Universities,Internet Retailers and Merchants
Online Training Centers/Chain Training Centers
Chain Enterprises,Chain Hotels,Chain Guesthouses
Operators

VIWALINK

Deployment Scenario 1:
Deploy AP + CAM for Networking

CAM+APs at multiple sites
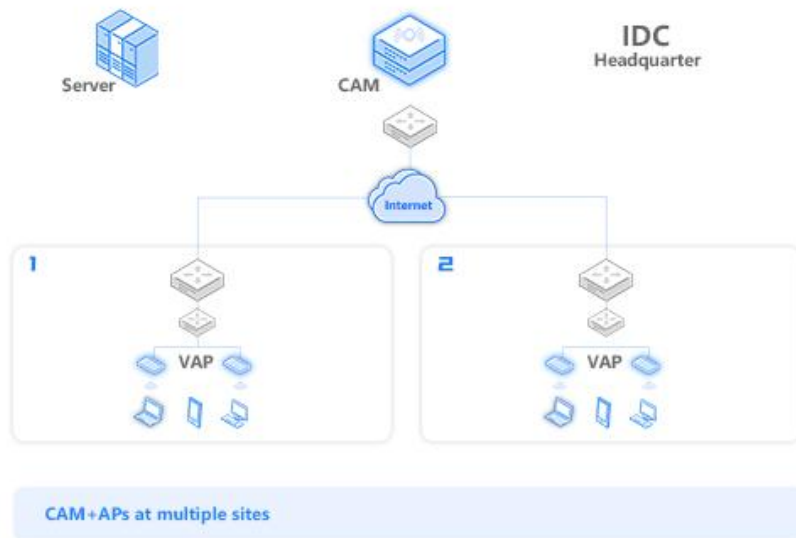
Typical Clients:
K-12 Schools,Small Cross-Regional Chain Enterprises, Hotels,
Internet Companies,Shops,Tourist Attractions
Schools,Guesthouses,Cabins,Operators

Deployment Scenario 2:
Deploy CSP + VSM + AP for Networking

CSP+" VSM+APs" at multiple sites
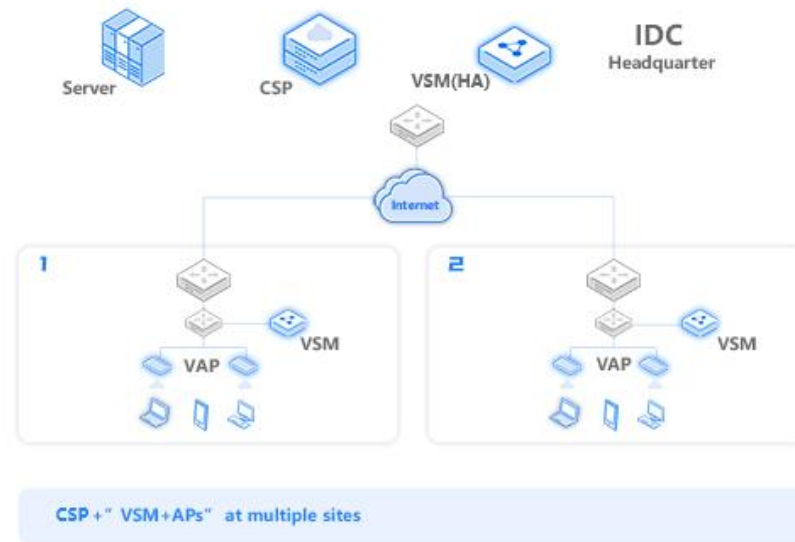
Typical Clients:
K-12 Schools, Large Cross-Regional Chain Enterprises,
Government Service Departments,Supermarkets
Internet Companies,Financial and Insurance Companies, Chain
Inns,Chain Hotels,Operators

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Deployment Scenario:

Deploy AP + CAM for Networking
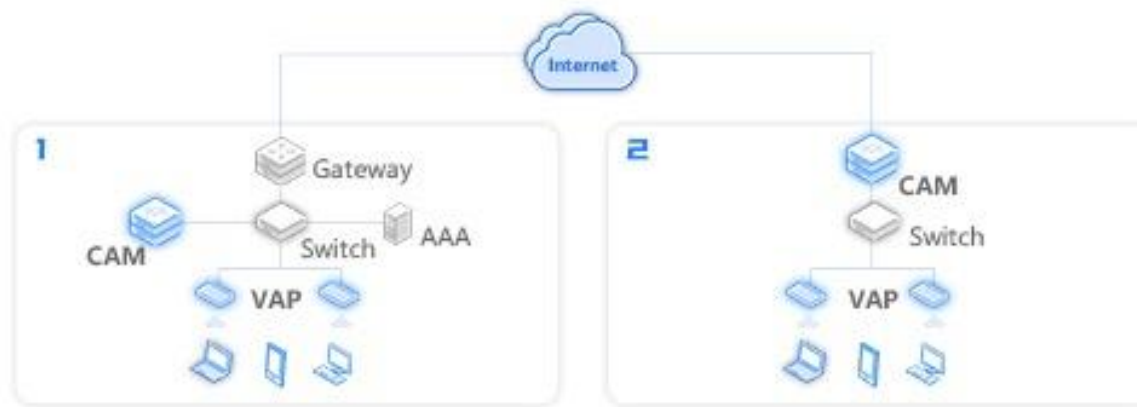
1.APs+CAM as AC. CAM also have portal and authentication service.

2.APs+CAM as a gateway.

Typical Clients:

Small Independent Businesses,Clinics,Hospitals, Individual Proprietors,Supermarkets, Hotels,Operators

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Deployment Scenario 1:
Add CAM to the Network Only

Typical Clients:

Independent businesses that need to use existing systems with additional value requirements and wish to enhance user management on top of the existing system, Operator

Deployment Scenario 2:
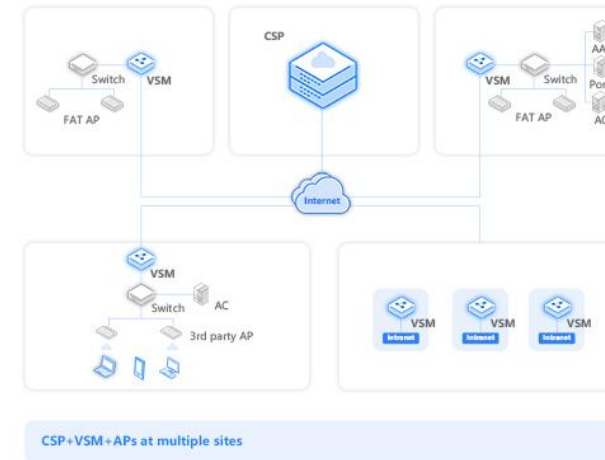## Add CSP + VSM to the Network

Typical Clients:

Cross-regional enterprises that need to use existing systems with additional value requirements and wish to enhance user management on top of the existing system, Operator

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- ■ Cloud Controller (CSP series)

- ■ Distributed Access Controller (VSM series)

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CSP

The CSP contains business support systems and Wi Fi operation systems.The business support system is designed for network and device management,wireless RF optimization,user management authorization access control,firewall/VPN,audits,and location services.The Wi Fi operation system includes advertisement management,content cache,social media,applications by industries and data analytics.Both the business support system and Wi Fi operation system provides a one stop solution for your business requirements.

VSM

The VSM is a localized cloud service node in Viwalink's solution.
Under the control of the CSP,the VSM works as an execution unit, mirroring the functions of the CSPandmanaging local operations.Tns.The VSM supports all the necessary wireless network functions,such as authentication,portal server,AC,CDN,network gateway,data statistic and audit,reducing the network construction costs for enterprises.Thanks to the plug and play feature, the VSM can create a network extension via the building blocks network architecture.The backup between VSMs avoids the single point failures of centralized AC,while the localized cloud service ensures management flexibility and user data privacy.

The Viwalink distributed architecture provides WiFi operators with large capacity and crossregional networks.The plug and play device simplifies construction and maintenance,guaranteeing network stability.The refined network control and user security policies ensure reliability and security.The cloud platform offersabundant operational tools.

Plug-and-Play &Zero Maintenance

Both Viwalink AP and the VSM are devices driven by policies. When an AP and VSM register in the cloud platform,the platform will match their MAC addresses with predefined ones. Once the matching is successful, the device will receive policies from the cloud platform, avoiding on site configuration and maintenance.

RF Channel Optimization

Interference in WLAN radio affects AP's normal operation.The Viwalink platform optimizes AP's radio allocation through adaptive channel selection, avoiding interference from neighboring APs

Scalable Network Architecture

Viwalink adapts distributed Wi-Fi network architecture based on edge computing technology, creating a flexible, modularized management system for both network functions and applications. The distributed VSM layer can be scaled seamlessly and creates N+1*

Seamless Roaming

The Viwalink centralized architecture easily allows roaming. The CSP series controller supports roaming, while the roaming domain is not limited by subnets.This characteristic allows clients to focus on the Wi-Fi coverage, instead of existing network plans,which simplifies network planning and reduces the cost.

Virtual Network Cloud Service

Virtualization is the backbone to constructing wireless cloud service platforms. Viwalink can distribute network application modules and devices dynamically via the NaaS cloud service. Customers can purchase application modules and devices as required, achieving a reliable, secure and smooth basic network service. With the flexible and customizable virtual cloud service, Viwalink enhances the quality and efficiency of Wi-Fi operation for customers

Localized Operation and Management

For security-sensitivecustomers,both operation and security functions can belocalized to the customers'premises;these functions include advertisement management,content cache,social media,applications by industries,data analytics and AAA (accounting,authentication,authorization).

Multiple Authentication Methods

Multiple authentication methods are included,such as SMS,Facebook/Google+,802.1*

CustomizedLocal Network Services

All local Wi-Fi network services aremanaged and operated in the cloud.With a leveled multi-tenant feature,Viwalink's solution makes NaaS possibleand allows customers to customize their local network services without a dependency on the ownership of the hardware.

Build VPN Private Cloud Network Dynamically

The Viwalink cloud service management satisfies the needs for dedicated Wi-Fiat events.With the CSP cloud platform,the enterprise can bring an AP to an event toextend theirVPN.

Data Analytics

Collects and visualizes data from both the network and the physical world,providing visibility regarding network status and visitor statistics.

Probe

Viwalink AP supports probe functions.When the terminal's Wi-Fi is enabled,the AP will obtain the device's MAC and RSSI.The probe supports real-time monitoring and WLAN environment analysis for network adjustment.Working with the Viwalink data analytics server(VDS),the probe will create heat maps and analysis charts for long-term marketing.

Ads and Content Operation

Abundant portal templates areavailable for customers to customize their Ad page.The customer can use single page or multi-page portals By cachingcontent locally,customers can save bandwidth by embedding content URL links in the portal page and enabling their Wi-Fi users to locally access videos,articles,and apps,creating a much better user experience.Meanwhile,the backend system will record statistics on viewed and downloaded content to better understand user preferences and fine-tune marketing strategies.

Role Based Access Control

Role based access control is the main advantage of Viwalink products.Theplatform can define different levels of access roles and authorize differentiated services for the users.

Social Media Operation

Social media integration improves the interactions and relationships between businesses and customers,building up long-term marketing strategies.

Flexible Data Forwarding

Based on the policies,the data forwarding can be done either locally by AP locally or centrally by VSM.

Centralized Management of Wirelessand Wired Network

The wireless and wired terminals can share centralized NSM,authentication,access control,audits,and other functions toreduce costs.

Hardware Specifications (CSP)

Model >	CSP1000	CSP3000	CSP5000
Interfaces	6* 10/100/1000 Base-T Ethernet ports 1* console port 2* USB 2.0 ports	6* 10/100/1000 Base-T Ethernet ports 1* console port 2* USB 2.0 ports	2* 10/100/1000 Base-T Ethernet ports 1* console port 2* USB 2.0 ports 2* SFPports
Weight	4.5kg	7.5kg	13.5kg
Dimension (L*W*D)	440mm*330mm*45mm	440mm*455mm*45mm	424mm*565mm*90mm
AP LicenseOptions	8,16,32,64,128,256,512	16,32,64,128,256,512,1024	32,64,128,256,512,1024,2048
VSM limits	16	32	128
AP limits	512	1024	2048
Disk	64G SSD	128G SSD	256G SSD
PowerSupply	110-240 VAC	110-240 VAC	110-240VAC
Consumption	75W	200W	350W
Operatingtemperature	0°C~40 ° °C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)
Storagetemperature	-20°C~80°C(-68 ° F~176 ° F)	-20 ° °C~80°C(-68 ° F~176 ° F)	-20C~80°C(-68 ° F~176 ° F)
Humidity	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing

Hardware Specifications (VSM)

Model >	VSM800	VSM1000	VSM2000
Interfaces	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	4*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 ports	6*10/100/1000 Base-T Ethernet ports 1*console port 2*USB 2.0 pots
Weight	1.5kg	6kg	6kg
Dimension(L*W*D)	290mm*155mm*45mm desktop	430mm*330mm*44mm	430mm*330mm*44mm
AP Limits	64	128	256
Disk	16G SSD	32G SSD	32G SSD
PowerSupply	12 V DC	110-240VAC	110-240VAC
Consumption	36W	75W	75W
Operatingtemperature	0°C~40 ° °C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)
Storagetemperature	-20°C~80°C(-68 ° F~176 ° F)	-20 ° °C~80°C(-68 ° F~176 ° F)	-20C~80°C(-68 ° F~176 ° F)
Humidity	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing
Model >	VSM3000	VSM5000	VSM7000
Interfaces	6 *10/100/1000 Base-T Ethernet ports 1 *console port 2 *USB 2.0 ports	6 *10/100/1000 Base-T Ethernet ports 1 *console port 2 *USB 2.0 ports	2*10/100/1000Base-T Ethernet ports 2*SFP ports 1*console port 2*USB 2.0 ports
Weight	4.5kg	7.5kg	13.5kg
Dimension(L*W*D)	426mm*320mm*44mm	440mm*455mm*45mm	424mm*565mm*90mm
AP Limits	512	1024	2048
Disk	64G SSD	128G SSD	256G SSD
PowerSupply	110-240 VAC	110-240 VAC	110-240VAC
Consumption	75W	200W	350W
Operatingtemperature	0°C~40 ° °C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)	0°C~40°C(32 ° F~104 ° F)
Storagetemperature	-20°C~80°C(-68 ° F~176 ° F)	-20°C~80°C(-68 ° F~176 ° F)	-20°C~80°C(-68 ° F~176 ° F)
Humidity	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing	10% ~ 90%,non-condensing

ACDiscovery	Broadcast discovery	Encryption	Open system	Access Management	Automatically disconnect idle traffic user
	DHCP option 43 discovery		Pre-share PSK		Role-based access control
	DNS discovery		WEP		Time-based access control
	Configuremanually		WPA,WPA2,WPA3 Encryption		Location-based access control
RF	Support APand probe mode		TKIP,AES		Combine Role/Time/Location based access control
	Support manual/automatic channel selection		WAPI Encryption	Load Balance	Load balance based on user
	Configure RFTX/RX manually		Combine Encryptions		Load balance based on traffic
	Configure channel bandwidth 20M/40M/80M manually	Authentication	Radius Server	Firewall	L4 firewall
	Support manual /auto TXpower configuration		LDAP	NAT	SNAT
Data Forwarding Mode	Central forwardingmode		Built-in role-based access control		DNAT
	Distributed NATforwanding mode		Support Layer-3 authentication		DPAT
	Local transparent forwarding mode		User's MAC address based authentication		Servicetypes can be configurable
	Soft-GRE forwarding mode		802.1X authentication	Content Platform	APP distributed as a content
	Support each SSID with Local forwarding VLAN		Hotspot 2.0		Adscan be inserted inthecontent page
	Concurrent localand central forwanding mode		Social media authentication (Facebook/Google+ authentication)		Support localized content storage
Roaming	L2 roaming between APs		FacebookXWF(Express Wi-Fi by Facebook)		Support remote content redirection
Network protocol	Policy routing		SMS authentication	Ads Module	Multiple built-in Portaltemplates
	ARP		Customer's APP authentication		Ads browsing PVUVstatistics
	802.1P/Q		Support multiple authentications concurrently		Historical Ads reports
	DHCP Server	Security	Hidden SSID,RogueAP detection	Logs and Alerts	Local logs,external log server
	IGMP Snooping		User isolation and Network isolation		Device state alerts,email alerts
	OSPF Dynamic routing		URLcapture	System Management	WEB,SSH,Console
	DHCP Relay		Black/white list	API	RESTful API
	DHCPRelay to multiple servers		MAC and IPaddress binding		
	VRRP		DoS attack protection		

Wi-Fi6 802.11ax Outdoor Tri-band Wireless AP

Introduction

VAP6762I is an 802.11 ax dual-band enterprise-grade wireless access point (2.4GHz 2*2 ax and 5GHz-1 2*2 ax, 5GHz-2 4*4 ax).Its total data rate can reach 7.8Gbps.It complies with the requirements of IP67. By seamlessly working with ABLOOMY local AC(CAM), ABLOOMY private cloud (CSP)and ABLOOMY public cloud (ACS),it can build all kinds ofcustomized,enterprise-grade wireless networks through an approach which combines simplicity,scalability,extensibility,reliability,performance and security.it is suitable for ISPs,campus,parks,commercial streets,etc.

Highlights

■ Wi-Fi 6 (802.11ax)

Supports 1024QAM modulation and 4 × 4MIMO technology,the data rate of 5GHz air interface is up to 4.8Gbps,and the whole device data rate is 7.8 Gbps. Supports OFDMA scheduling,enables multiple users to receive and send data at the same time,reducing the delay and improving the performance.

■ Load Balancing and Band Steering

Supports load balancing based on the number ofaccess users, traffic, and frequency bands, and the system automatically guides users to the 5GHz frequency band by default, which maximizes network capacity and ensures the best access experience for users

■ Zero Touch Provisioning

Fully supports plug-and-play deployment. No matter the network environment is complex or not,whether the device is deployed in the public or private network,as long as the device can access the AC,the system can automatically complete the configuration and the network is up running without touch.

■ Easy Maintenance

Supports real-time monitoring AP system status and sending alarms automatically when detecting faults;supports automatic software update in the batch mode based on the policies of AP location,model,version,and the update time.

■ Network Security

Supports L4 stateful firewall,role-based NAC(networkaccess control),white/blacklists,URL logging,and full 802.11i security standard.

■ Auto Power and Auto Channel

Supports automatic Tx power adjustment to automatically detect and compensate the signal coverage;supports automatic/manual adjustment of channels to ensure that the AP is in the best radio frequency environment and provide users with the best QoS

Hardware Specifications (VAP67621)

Category	Specification
Dimensions (HxWxD)	245mm(H) × 200mm(W) × 90mm(D)
Ports	1 × 10/100/1000/2500 Mbps Ethernet port (PoE)
	1 × 10/100/1000 Mbps Ethernet port(PoE)
	1 × 10/100/1000/2500Mbps SFP port
	1x RS232 RJ-45 Console port
	6 N-type RF ports (2.4GHz × 2,5GHz × 4),integrated antenna version no RF ports
Memory	DDR 3512MB
Flash	32MB SPI 128MB NAND Flash
CPU	Qualcomm IPQ5018
RF	2.4GHz 802.11ax 2.4GHz 2x2
	5GHz-1 802.11ax 5GHz 2x2
	5GHz-2 802.11ax 5GHz 4x4
Max TX	2.4G: 22dBm 5GHz Radio 1:22dBm 5GHz Radio 2:22dBm Subject to local regulations
Antenna Index	Frequency: 2.4GHz √ Max Gain:≥11 dBi@2.4~2.4835GHz,Azimuth angle is 61 degrees and the elevation angle is 30 degrees.
	Frequency:5.15~5.85GHz √ Max Gain:≥13 dBi@5.15~5.85GHz,Azimuth angle78 degrees,elevation 30degree.
Power Supply	PoE power supply
LED Description	5 × LED (Power,LAN1,LAN2,2.4G,5G)
Support Standard	IEEE802.11a/b/g/n/ac/ax
	2.4GHz and 5GHz
Installation	Pole or Wall Mount
Working Environment	Temp:-40 ˚ C to +65 ˚ C
	Humidity: 0% to 95%non-condensing
	Protection: IP67
	Lightning Protection: 10/700 combined wave surge test,common mode 6KV,differential mode 2KV
	Electrostatic Protection:contact discharge 6KV,air discharge 8KV

Software Specification (VAP67621)

Category	Specification
WLAN	Comply with IEEE801.11a/b/g/n/ac/ax standard
	Support dynamic rate adjustment
	Support 1024QAM modulation
	Support 802.11ax standard,
	Support automatic channel scanning and manual selection
	Support dynamic power adjustment and manual power adjustment
	Support fast roaming protocol (802.11r 802.11k)
	Support Short GI in 20M,40M,80M 160M mode
	Support OFDMA scheduling and other features,
	Support WMM
	Support band steering
	Support load balancing based on AP traffic,frequency band and number of users
Security	SupportOpen-system authentication method
	Support WEP authentication/encryption method
	Support WPA/WPA2-PSKauthentication/encryption method
	Support WPA/WPA2-802.1X authentication/encryption method
	Support WPA-WPA2 hybrid authentication method
	Support WPAI authentication/encryption method
	Support 802.1X,Mac,portal,SMS+non-perceptual authentication methods
Network	Support local forwarding and centralized forwarding data traffic
	Support user access isolation under the same SSID
	Support role-based NAC(network access control)and ACL
	Support bandwidth control based on each user
	Support speed limit based on WAN port bandwidth
	Support network detection based on Ping and Arp
	Support switching AP to the standalone mode when the connection between AP and AC is lost to make sure the data traffic is not interrupted
	Support AC active/standby deployment
	Support DHCP Server
	Support static IP/DHCP/PPOE
	Support IPV6 function
	SupportSoft-GRE function
	Support VPDN (virtual private dialup network)function
Management & Maintenance	SupportAP and AC deployed in the cross-Internet mode
	Support Web UI management (HTTPS)
	Support CL-based management
	Support SSH-based management
	Support updating AP's local credential remotely
	Support Zero Touch Provisioning
	Support LED light control
	Support scheduled restart of AP
	Support batch modification of AP's ACaccess address
	Support software update in the batch mode based on the policies of AP location,model,version and update time

## High-performance dual-band 802.11ax outdoor wireless AP (WP952)

Product Overview

The WP952 is an outdoor 2x2 dual-band 802.11ax wireless access point, suitable for outdoor areas such as scenic spots, campuses, parks, and squares that require wireless coverage. The WP952 supports 2x2 11ax, with a maximum concurrent connection rate of up to 1774 Mbps on dual bands, enabling users to establish a stable and high-speed wireless network.

The WP952 offers high-performance wireless specifications, providing a larger coverage area and improved wall penetration performance. It supports the connection of hundreds of wireless terminals, meeting the demands of high-density wireless application scenarios. Additionally, the WP952 boasts excellent compatibility, supporting the connection of most wireless devices on the market. Users can easily connect with smartphones, tablets, or laptops.

The WP952 integrates the OpenWrt development platform. For teams with software development capabilities but lacking a hardware platform, the WP952 is an excellent choice for developing their own wireless 11ax access point. Users can easily and quickly develop upper-layer applications according to specific needs, creating a unique wireless AP product.

The WP952 supports PoE (Power over Ethernet) and pole mounting, offering flexible and convenient installation options. Users can complete the setup in a short amount of time and then enjoy the fun of surfing the internet.
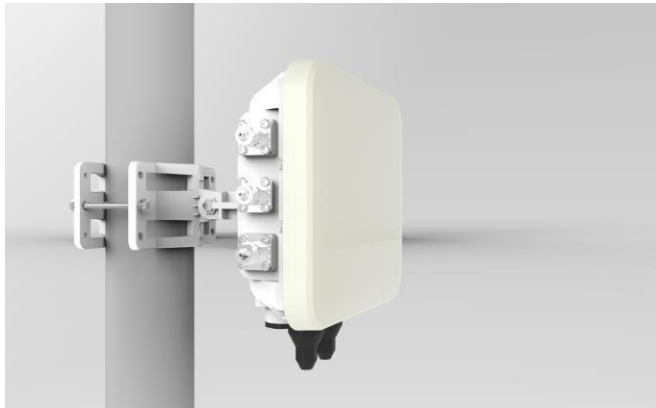
Product Features

- Supports pole mounting

- Supports 2.4G 2x2 Wi-Fi (802.11b/g/n/ac/ax), with wireless speeds up to 574 Mbps

- Supports 5G 2x2 Wi-Fi (802.11a/n/ac/ax), with wireless speeds up to 1.2 Gbps

- Two 2.4 GHz band antennas and two 5 GHz band antennas, all are internal antennas (optional external antennas available)

- 1 RJ45 1GbE WAN port, supports 802.3at PoE (PD)

- 1 SFP gigabit optical port

- 4 N-type RF interfaces

- 5 status indicators (PWR/ WAN/ 2.4G/ 5G)

Product specifications	
Supported Features	WP952
Dimensions (L × W × H)	245mm × 200mm × 90mm
weight	1200 grams
Installation Method	Newspaper pole mounting
indicators	PWR/ WAN/ SFP/2.4G/ 5G
Ports	1 x 1GbE uplink port with 802.3at PoE power support 1x 1GbE optical port 4 x N-type RF interface
input Voltage	50V ~ 57V, 802.3 at PSE
Environmental Specifications	
Environmental temperature	Operating Temperature: -40 ° C to +65 ° C Storage Temperature: -40 ° C to +70 ° C
Operating Relative Humidity	5% to 95% (non-condensing)
Air Pressure	86kPa ~ 106kPa Altitude
Water and Dust Resistance	IP67
safety certification	SRRC Customizable upon customer request
Reliability	
Annual Failure Rate (AFR):	< 1.5% (Continuous Operation)
Chip Solution	
SoC	Qualcomm
WiFi chipset	Qualcomm
FlASH	16MB Nor Flash + 128MB NAND
DDR	512MB DDR3L memory
Wi-Fi Features	
Operating Frequency Band	2.4G radio:2.4000GHz~2.4835GHz
	5G radio:5.150~5.250,5.250~5.350,5.470~5.725, 5.725~5.850 GHz
Maximum Output Power	2.4G radio:27dBm@MCS0; 21dBm@MCS11
	5G radio:27dBm@MCS0; 21dBm@MCS11

Supported Rates	2.4G Radio: 802.11b: 1, 2, 5.5, and 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, and 54Mbps 802.11n HT20/ HT40: MCS0~MCS15 (400/ 800ns GI) 802.11ac VHT20/VHT40: MCS0 ~ MCS9(400/ 800ns GI) 802.11ax HE20/ HE40: MSC0 ~ MCS11(400/ 800ns GI)
	5G Radio: 802.11a: 6, 9, 12, 18, 24, 36, 48 and 54Mb/s 802.11n HT20/ HT40: MCS0~MCS15(400/ 800ns GI) 802.11ac VHT20/VHT40/VHT80: MCS0 ~ MCS9(400/ 800ns GI) 802.11ax HE20/ HE40/HE80: MSC0 ~ MCS11(400/ 800ns GI)

Receiver Sensitivity

802.11g: -92dBm@6Mbps -74dBm@54Mbps

802.11n:

	HT20	HT40
MCS0/8/16	-90dBm	-87dBm
MCS7/15	-71dBm	-68dBm

802.11a: -89dBm@6Mbps -74dBm@54Mb

802.11ac:

	VHT20	VHT40	VHT80
MCS0	-90dBm	-87dBm	-84dBm
MCS8	-67dBm	-61dBm	-58dBm

802.11ax:

	HE20	HE40	VHT80
MCS0	-90dBm	-87dBm	-84dBm
MCS11	-56dBm	-53dBm	-50dBm

Antenna Parameters (Internal)

Frequency Band	2400~2500	4940~5850
Polarization Direction	Horizontal/Vertical	Horizontal/Vertical
Gain dBi	≥13	≥11

For more information,

please contact Viwalink Sales & Technical team.

* info@viwalink.com *