

H3C WBC 580 G2 new generation multi service wireless controller

Product overview

H3C WBC 580 G2 is a new generation of multi service wireless controller integrates user control and management, new WLAN intelligent operation and maintenance platform, LBS positioning, powerful authentication function, perfect RF management and security mechanism, fast roaming, super QoS and IPv4 & IPv6. It can provide strong access ability for large scale campus wireless office network.



WBC580 G2 diagram of new generation multi service wireless controller

*please consult H3C local office for detailed purchase information

Product features

Big data visualization

WBC580 G2 adopts x86 architecture, which not only provides more powerful data processing ability, but also provides powerful edge computing ability compared with the traditional communication CPU. WBC580 G2 multi

service wireless controller integrates with the new wireless intelligent operation and maintenance platform which can record operation and maintenance data for more than 30 days, and provide standard interface, support API in depth development, application information docking and other functions. It presents the wireless network environment by region, and accurately evaluates the online experience and dynamic changes of every day.

Provides management of 802.11ax AP

WBC580 G2 multi service wireless controller can not only support the traditional 802.11a/b/g/n/ac/ac wave2 AP management, but also support h3c AP based on 802.11ax protocol, so as to break through the mechanism of traditional wireless, promote the utilization of wireless spectrum resources and effectively access the number of users. It can effectively reduce the deployment cost of wireless network and greatly improve the user experience in high environment.

Support Portal server function to provide services for the whole network

WBC580 G2 multi service wireless controller has built in powerful portal server function. It can support up to 61440 users for local authentication without configuring other portal authentication server.

Support hierarchical AC architecture

Layered AC architecture is a new networking model proposed by H3C for the multi-level networking needs in the market. Layered AC adopts the architecture of centralized control and hierarchical management similar to that of large chain enterprises. It is managed by a general core layer AC linked with multiple local access layers AC. The main functions of access layer AC include AP access, data forwarding and other real time services. The core layer AC is mainly used for network management control, centralized authentication and other non-real time global services. In addition, the core layer AC also has the common AC access AP and data forwarding functions. The core layer AC is high performance AC and is arranged in the convergence layer; the access layer AC can be composed of standard AC, all in one AC (with routing, DPI function) or wired wireless integrated switch, which is arranged in the same level with the existing network; the layered AC architecture model pushes the wired wireless integrated concept to a new height and can be applied to the network Large scale wireless network deployment. The layered AC model naturally supports the application scenarios of headquarters and branches. The core link bandwidth and core AC forwarding capability are no longer bottlenecks. The core AC centralized control, access layer AC and down link AP can easily achieve automatic upgrade and configuration synchronization, greatly simplifying the version upgrade work. In the roaming scenario, the access layer AC responsible AP switches, and the roaming performance is greatly improved.

WBC580 G2 multi service wireless controller can be used as Central AC, providing hierarchical decentralization, vertical backup and license server for local AC in hierarchical AC architecture and other functions.

Support wireless intelligent operation and maintenance function

Integrated wireless intelligent operation and maintenance platform provides convenient and powerful operation and maintenance functions. It supports tenant management, location management, physical examination, terminal statistics, traffic rate statistics, alarm log, operation and maintenance management.

Through the built in localization oasis, it can monitor the operation status of the whole network AP and the utilization rate of each AP wireless channel, and monitor the status of the whole network. Support query based on access user Mac and IP address, support query based on AP channel utilization, and the AP responsibility is clear at a glance.

Support to view AP trend and equipment stability through graphical data curve, and intuitively count the whole network AP offline data through graphical interface, so that the whole network stability diagnosis is clear at a glance

It supports recording the traffic data and signal strength of each access terminal, real-time scanning the wireless interference of the location of the access terminal, and recording and analyzing the operation track of the access terminal

It supports one-key optimization function, wireless network analysis and other functions.

Support license server function

WBC580 G2 multi service wireless controller supports the function of license server, which can decouple authorization and equipment, centralize and unify the management of the whole network equipment, distribute authorization, pool reuse, reduce the authorization cost of users, and has the characteristics of high security and strong anti-theft ability, which can effectively protect the legitimate rights and interests of users.

Support access control and management of operation level wireless users

User based access control is a major feature of WBC580 G2 multi service wireless controller product, user profile provides a configuration template, which can save preset configuration (a set of configurations). Users can configure different content for user Profile according to different application scenarios, such as car (committed access rate) policy and quality of service (quality of service) policy.

When users access the device, they need to carry out identity authentication first. In the authentication process, the authentication server will distribute the user Profile name to the device, and the device will immediately enable the specific content configured in user Profile. When the user accesses the device through authentication, the device will restrict the user's access behavior through these specific contents. When the user is offline, the system will automatically disable the configuration item under user Profile, thus canceling the restriction of user Profile on the user.

Therefore, user profile is applicable to restrict the access behavior of online users. When there is no user online (there may be no user access, or the user has not passed the authentication, or the user is offline) the user profile is the default configuration and does not take effect.

In addition, the WBC580 G2 multi service wireless controller also supports the authentication access control mode based on Mac. This mode not only enables customers to configure and modify the permissions of user groups on AAA servers, but also supports the configuration of the permissions of specific users. This fine user permission control greatly enhances the availability of wireless networks and improves the network efficiency. Administrators can easily assign access rights to different levels of people or groups through this way.

Based on Mac VLAN is also a major feature of WBC580 G2 multi service wireless controller. In terms of control strategy, the administrator can divide users with the same nature (MAC) into the same VLAN and at the same time, the controller is based on VLAN. By configuring the security policy, the system configuration can be simplified, and the fine management of user level granularity can be achieved.

For security or billing considerations, system administrators may want to control the location of wireless users in the network. WBC580 G2 multi service wireless controller supports user access control based on AP location. When wireless users access to the network, they can send the list of AP to AC through the authentication server, and access control can be carried out on AC, so as to achieve the purpose of restricting wireless users to access to the AP in the specified location.

Support channel intelligent switching

In wireless LAN, channel is a very scarce resource. Each AP can only work on a very limited non overlapping channel. For example, for 2.4G network, there are only three non-overlapping channels, so how to intelligently allocate channel for AP is the key of wireless application. There are many possible interference sources in the working frequency band of WLAN, such as radar and microwave oven. Their appearance in the network will interfere with the normal operation of AP. Through the channel intelligent switching function, it can ensure that each AP can be assigned to the optimal channel, reduce and avoid the interference of adjacent channels as much as possible, and through the real time channel interference detection, it can make the AP avoid radar, microwave oven and other interference sources in real time.

Support intelligent AP load sharing

802.11 protocol gives the decision of wireless roaming to the wireless client. Generally, the wireless client will choose AP according to AP signal strength (RSSI) which easily leads to a large number of clients connecting to the same AP just because one AP signal is strong. Because these clients share wireless media, the network throughput of each client

will be greatly reduced.

The intelligent load sharing method can analyze the location of wireless clients in real time, dynamically determine which AP can share the load with each other at the current time and location, and realize the load sharing among these AP by controlling the AP accessed by wireless clients. The system not only supports load sharing according to the number of user online sessions, but also supports load sharing according to user traffic.

Support 7 layer mobile security detection/defense (WIDS / WIPS)

WBC580 G2 multi service wireless controller include: blacklist, whitelist, Rogue defense, malformed message detection, illegal user offline, signature MAC layer attack detection and Countermeasures Based on preset upgrade (for example: DoS attack, flood attack, man in the middle attack, wireless bridges, Windows bridges, Spoof spoofing, broadcast disassociation frames, hotspot attacks). With the built in massive intelligent expert knowledge base of wireless application console, flexible judgment basis of wireless security policy can be obtained. For clear illegal attack source (AP or terminal, etc.), visual physical location tracking monitoring and control and switch physical port removal can be realized.

By cooperating with H3C professional core layer firewall/ IPS devices, it can realize the 7 layer three-dimensional security defense of mobile Park, and meet the real end-to-end security protection requirements from wireless (802.11) to wired (802.3).

Support IPv4 / IPv6 dual stack (native IPv6)

WBC580 G2 multi service wireless controller supports IPv6 access of wireless customers. On the AP side of the tunnel starting point, because the device is aware of IPv6, it can achieve the mapping from IPv6 priority to tunnel priority; on the AC side, it can also perform complex control and filtering such as ACL filtering on IPv6 packets.

WBC580 G2 multi service wireless controller can also be deployed in IPv6 network, and AC and AP automatically negotiate to form IPv6 tunnel. When AC and AP work in IPv6 state, the wireless controller can still sense IPv4 correctly and process IPv4 packets of wireless clients. WBC580 G2 multi service wireless controller IPv4 / 6 flexible adaptability, which can meet customers' various complex applications in IPv4 to IPv6 network migration. It can not only provide customers' with IPv4 service in IPv6 isolated island, but also make users easily log in to the network through IPv6 Protocol in IPv4 isolated island.

Aiming at the campus network emerging in endlessly IPv6 forgery attack, WBC580 G2 multi service wireless controller support IPv6 SAVI (source address validation) technology. Through the interception of the address assignment protocol, the user's IP address is obtained, which ensures that the correct address can be used in subsequent applications to access the Internet, and other people's IP addresses cannot be forged, which ensures the reliability of the source

address. At the same time, through the combination of IPv6 SAVI and Portal technology, the authenticity and security of all Internet users' messages are further guaranteed.

Provide end to end QoS

WBC580 G2 multi service wireless controller is based on the new generation V7 system development, which not only improves the support standard protocol, but also increases the QoS support for IPv6 Protocol.

Support fast two, three layer roaming

H3C centralized wireless architecture can not only easily implement two tier roaming, but also is very conducive to the realization of cross three tier roaming. With fat AP deployed WLAN network, the limited information between leads to the realization of cross three tier roaming and its trouble. The centralized architecture is very easy to solve the problem of cross three tier roaming, WBC580 G2 wireless controller supports layer 2 and layer 3 roaming, and the roaming domain is not limited by the subnet. This excellent roaming feature allows customers to pay more attention to the coverage of wireless signals without too much consideration of existing network planning when planning wireless network. This way greatly simplifies the early network planning and reduces the cost of network planning.

In the traditional mode, when the wireless user terminal uses 802.1x as a means of 802.11 access authentication and key interaction, there will be a lot of interaction messages between the wireless user terminal and AP. For example, if the handover time between the two wireless access terminals is too long, the handover time between the two wireless access terminals will be too long. Wx5500h series wireless controller uses key caching technology to complete the fast switching of users when roaming. The key caching technology makes a good balance between the user's secure access and fast roaming. It can make the wireless user terminal do not need to complete 802.1x when roaming between two AP in the process of authentication interaction, it can ensure the identification of user identity and the continuity of key use; wireless users use fast roaming mode, and the roaming time in single AC is less than 50ms, which meets the harsh requirements of voice services.

Product specifications

Product	WBC580—G2	
CPU	Intel Xeon 4216, 16 core @2.1GHz	
Memory	128GB	
storage	4TB*2, Raid 1	
Dimensions()	440mm * 532mm * 87.5mm(including dust screen)	
weight	14kg	
Interface	2*GE & 2*SFP+ & 1*HDM & 2*USB & 1*VGA	
Power Supply	550W power module (no redundant)100V ~ 240VAC; 50 / 60Hz 192 ~ 288v(240vdc HVDC)	
Overall power consumption	≤194.1W	
Operating/storage ambient temperature	5°C ~ 45°C/—40°C ~ 70°C	
Relative humidity of working/storage environment (non-condensing)	8%90% / 5%95% RH, non-condensing	
Safety specification	UL 60950-1 CAN/CSA C22.2 No 60950-1 IEC 60950-1 EN 60950-1 AS/NZS 60950-1 FDA 21 CFR Subchapter J GB 4943.1 UL 62368-1 CAN/CSA C22.2 No 62368-1 IEC 62368-1 EN 62368-1 AS/NZS 62368-1	
EMC	ICES-003 Issue 6 ANSI C63.4-2014 CISPR 32:2015 EN 55032:2012 EN 55032:2012/AC:2013 EN 55032:2015 AS/NZS CISPR 32:2015 CISPR24 Ed2.0 2010-08 EN55024:2010 EN55024:2010+A1:2015 CISPR 35:2016 EN55035:2017 ETSI EN300 386 V2.1.1 (2016-07) EN61000-3-2 : 2014 EN61000-3-3 : 2013 VCCI-CISPR32:2016	
	Default management AP number	0
	License step size	1/8/16/32/128/512/1024
	Maximum number of AP	12K
	Maximum number of configurable AP	24K
	802.11a	support
	802.11b	support
	802.11g	support
	802.11n	support

Basic performance	802.11ac	support
	802.11e	support
	802.11h	support
	802.11w	support
	802.11k	support
	802.11r	support
	802.11i	support
	802.11s	support
	802.11v	support
	802.11u	support
Wireless Features	Hide SSID	support
	11g Protection	support
	User limit	Support: user limit based on SSID, Radio
	User online detection	support
	User no flow auto aging	support
	Multi Country code deployment	support
	Wireless user isolation	support: 1, wireless VLAN wireless user layer 2 Isolation 2. Layer 2 isolation of wireless users based on SSID
	40MHz mode 20MHz / 40MHz automatic switching	support
Local forwarding	Support: local forwarding based on SSID + VLAN	
CAPWAP	Auto input AP serial number	support
	AC Discovery(DHCP option43,DNS mode)	support
	IPv6 tunnel	support
	Clock synchronization	support
	Jumbo frame sending	support
	Through AC configuration AP basic network parameters	Support: configure static IP,VLAN, AC address, etc.
	AP and AC traversal Nat	support

Roaming capability	Same AC inside, different AP roaming on the second and third floor	support
	Different AC inter,different AP roaming on the second and third floor	support
access control	Open system、 Shared—Key	support
	Wep64 / 128 , dynamic WEP	support
	WPA、 WPA2	support
	TKIP	support
	CCMP	Support(recommend)
	WAPI	Optional support
	SSH v1.5/v2.0	support
	Wireless EAD (terminal access control)	support
	Portal Authentication	Support: local and remote servers
	Portal Page push	Support: portal page push based on SSID,AP
	Portal traversal proxy	support
	802.1x Authentication	support: EAP—TLS、 EAP—TTLS、 EAP—PEAP、 EAP—MD5、 EAP—SIM、 EAP Fast, EAP offload(TLS, PEAP only)
	Local certification	Support:802.1x,Portal,Mac Authentication
	LDAP Authentication	support: 1, support 802.1x and Portal access
		2,802.1x access time support EAP GTC and EAP TLS
	User access control based on basic location	support
	Visitor access	support
	VIP channel	support
	ARP anti attack	Support: Wireless SAVI
	SSID anti-counterfeiting	Support: user name and SSID binding
Domain based, SSID	support	

	Select AAA server	
	AAA server backup	support
	Local AAA server for wireless users	support
	TACACS+	support
	priority mapping	support
QoS	L2 14stream classification	support
	rate limiting	Support: flow control granularity 8kbps
	802.11e/WMM	support
	Access control based on user profile	support
	Intelligent bandwidth limiting algorithm based on bandwidth sharing	support
	Intelligent bandwidth limiting algorithm based on per user specified bandwidth	support
	Intelligent bandwidth guarantee	support: When the traffic is not congested, ensure that the packets with different priority SSID can pass freely; when the traffic is congested, ensure that each SSID can maintain its own minimum bandwidth
	QoS Optimization for SVP phone	support
	CAC(Call Admission Control)	Support: CAC based on the number of users/bandwidth
	End to end QoS	support
	AP upstream speed limit	support
Country code locked	support	
Radio resource management	Static channel and power setting	support
	Dynamic channel and power setting	support
	Dynamic rate regulation	support
	Detection and	support

Radio resource management	compensation of air hole	
	Load balancing dimension	Support: Based on traffic, user, band(dual band support)
	Intelligent load balancing	support
	AP balanced group	Support: automatic discovery and flexible setting
	Static blacklist	support
Security defense	Dynamic blacklist	support
	White list	support
	Illegal AP detection	Support: Based on SSID,BSSID, device OUI , etc.
	Illegal AP counter	Support
	Preventing wireless flooding attack(flooding attack)	Support
	Anti-counterfeiting attack(spoof attack)	Support
	Defense weak IV Attack	Support
	WIPS	Support: can achieve 7 layer mobile security defense
Layer 2 protocol	ARP answer	support
	802.1p	support
	802.1q	support
	802.1x	support
IP Protocol	IPv4 Protocol	support
	Native IPv6 (native)	support
	IPv6 SAVI	support
	IPv6 Portal	support
multicast protocol	MLD Snooping	support
	IGMP Snooping	support
	Number of multicast groups	two hundred and fifty-six
	Multicast to unicast(IPv4,IPv6)	Support: unicast access threshold can be set according to the environment
backups	AC inter 1 + 1,N + 1,N + n backup	support
	AC inter AP load sharing	support
	Remote AP	support

Network management and configuration	management style	Support:Web,SNMP V1 / V2 / V3,RMON etc.
	collocation method	Support:Web,cli,telnet,FTP
Wireless location	Cupid positioning	support
Green energy saving	Turn off the AP RF port on demand	support
	Turn off wireless service on demand	support
	Packet by packet power control(PPC)	support
WLAN integrated application	RF Ping	support
	Remote probe analysis	support
	Real time spectrum protection(RTSP)	support
	Intelligent wireless service awareness	Support/state firewall
	Fair scheduling mechanism for message sending	support
	802.11n packet transmission inhibition	support
	Traffic shaping based on connection status	support
	Channel sharing between adjustment AP	support
	Channel reuse between adjustment AP	support
	RF interface transmission rate adjustment algorithm	support
	Ignore weak signal wireless message	support
	Prohibit weak signal client access	support
	Prohibit multicast message caching	support
	Blink state detection	support
According to the terminal	support	

	Mac assign fixed IP address	
Tenant management	Account login	support
	cancellation	support
	Tenant password modification	support
	System operation log	support
Scene management	add to	support
	delete	support
	modify	support
	Add device	support
	Remove device	support
Health management	Comprehensive health	support
	Physical examination record trend chart of comprehensive health score	support
	Physical examination record physical examination report	support
Terminal statistics	Terminal information statistics access terminal list	support
	Terminal information statistics multi-dimensional statistical chart	support
Flow rate statistics	Rate statistics out port rate statistics	support
	Speed Statistics multi-dimensional statistical chart	support
	Traffic analysis AP traffic statistics	support
	Traffic analysis application traffic analysis	support
	AC Information	support
	AP Information	support

network equipment	Cloud platform information	support
	Wireless service information	support
Alarm Log	Alarm filtering	support
	Alarm information statistics display	support
	Alarm information statistics export	support
Mocha ITOM	Device restart	support
	Remote command line tool	support
	Remote command operation issuing	support
	views switching	support
	Echo results	support
	Batch distribution	support
	Execute last command	support
	Operation classification	support
	Operation log	support
License Server	License install	support
	License migration	support
	License assign	support