

Nusoft Access Point NAP-600



Nusoft NAP-600 is a MU-MIMO, OFDMA, 1024-QAM access point with IEEE 802.11ax wireless networking standard and dual-band radios (2.4GHz and 5GHz), which can deliver the speed of 1800 Mbps, meeting the demands on high speed wireless networking.

As to the housing, NAP-600 utilizes flame-retardant material. It can be perfectly integrated with any decor without affecting the original design. Besides, it can be powered by the power adapter or PoE 802.3af which can bring more flexibility to your wireless network deployment. In addition, it equips with wireless security capability, multiple SSIDs (up to 16 SSIDs), Captive Portal, RADIUS authentication, etc., greatly enhancing your wireless network security.

NAP-600 is a two-in-one wireless access point that offers a flexible conversion between fat and thin AP. Thin AP mode supports AP-centralized control and advanced wireless network management (QoS, web filtering, etc.), whereas Fat AP mode delivers various options for AP operation, perfectly meeting your deployment needs and allowing it to be adapted to any indoor scenario, such as office, train station, airport, hotel, restaurant, department store, mall, campus, factory, warehouse, etc.

Product Features

Two-in-One AP

Based on the two-in-one AP design, NAP-600 can be deployed in standalone mode (Fat AP) to act as a multi-functional AP, or be deployed in a controller-based mode (Thin AP) to be managed by the Nusoft AP controller, all of which adapts itself ideally to every network infrastructure.

When deployed in Fat AP mode, NAP-600 can deliver complete wireless network related capabilities and multiple options for AP operation. This mode is ideal for a deployment of a small number of APs.

Free Software-Based AP Controller

The LAC-100 software can be downloaded from Nusoft website for free and be installed on your computer. Then, your computer can be used as an AP controller to centrally manage a number of access points. In addition, no user license fees are charged for operation, which greatly reduces your ownership cost of IT infrastructure.

802.11ax Standard & Dual-Band Operation (2.4 and 5GHz)

NAP-600 supports IEEE 802.11a/b/g/n/ac/ax standards and dual-band operation (2.4 and 5GHz) together with the speed of OFDMA and MU-MIMO, delivering high throughput, reliable coverage and high compatibility and providing the speed of 1800 Mbps (up to 1201 Mbps at 5 GHz and up to 574 Mbps at 2.4GHz).

Furthermore, NAP-600 equips with FEM (Front-End Module) which greatly enhances the coverage and gives better signal penetration through walls, allowing NAP-600 to be adapted to difficult building and any kind of indoor environment.

* 1750 Mbps is the maximum value. This value may be different according to the network infrastructure.

Ceiling-Mounted Design & Flame-Retardant Housing

NAP-600 is designed to provide a convenient and aesthetic mounting solution which can be deployed easily on ceiling or wall. It utilizes flame-retardant material and it is ideal for enterprises, train station, airport, hotel, campus, factory, warehouse and any other indoor environments.

PoE 802.3af & Power Adapter

NAP-600 can be powered by a power adapter (optional) or PoE 802.3af. Through the Power over Ethernet (PoE) technology, NAP-600 receives its power over the same cable that is used to carry datagrams, which simplifies network installation by allowing the use of a PoE-enabled switch as a power source.

Multiple SSIDs for Secure Access

By providing up to 16 SSIDs (up to 8 at 2.4GHz and 5GHz, respectively), NAP-600 enables users to access different networks based on their identities (employer, employee, guest, etc.). In addition, the hardware-based AP controller allows you to deliver the access privilege to the user.

Captive Portal / RADIUS Authentication

With the support of captive portal web page and RADIUS database, the authenticated users can be forced to a designated website (e.g., commercial, online shopping, advertising, etc.) for promoting and marketing purposes.

Hardware Watchdog

Each NAP-600 features a hardware watchdog timer to automatically reboot the non-responding system due to an unpredictable event or a radio interference, providing you with an enterprise-class wireless network with a 24/7 continuity.

Thin AP Mode

When operating in Thin AP mode, NAP-600 should be managed by Nusoft hardware-based AP controller (NGFW, UTM, MHG, and NFW Series) or software-based AP controller (LAC-100). It is ideal for a deployment of a great number of APs, such as medium and large-sized enterprises, hotel, campus, train station, airport, factory, warehouse, etc.

The AP controller can centrally control and manage all of the APs, including the configuration of SSIDs, encryption, authentication, etc. And it also delivers the advanced functions like AP load balancing, auto transmit power control, AP auto-configuration, connection status notification, firmware update, etc.

Moreover, the hardware-based AP controller can deliver the network management such as QoS, access privilege, web filtering, etc., bringing your wireless network security to a higher level.

AP Auto-Configuration

When operating in Thin AP mode, NAP-600 can proactively obtain a pre-configured profile from the Nusoft AP controller and stay up-to-date with the latest configurations using the CAPWAP (Control and Provisioning of Wireless Access Points) protocol, which makes it ideal for a deployment of a great number of APs.

AP Load Balancing

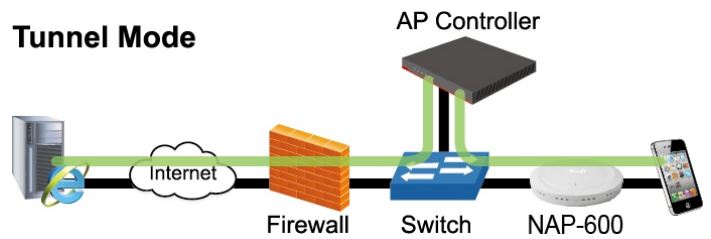
The wireless users usually connect to the AP with the strongest signal regardless of the user load on that AP. This results in increasing the burden on the specific AP.

Unlike a conventional AP, NAP-600 is capable of AP load balancing by dis-associating and re-associating mobile devices to avoid network bottleneck using a maximum client value as well as a windows threshold mechanism, effectively preventing wireless traffic from being congested to a specific AP.

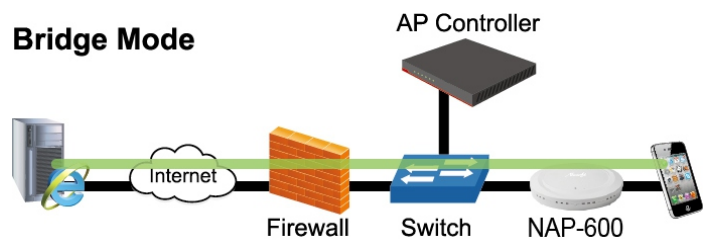
Tunnel & Bridge Forwarding Modes

Tunnel Mode - (Only applicable to hardware-based AP controller) All wireless traffic are forwarded to the Nusoft AP controller to perform a client management by the means of access privilege, QoS, web filtering, etc. and then passed to their destination.

On the contrary, most of the third-party products manage the wireless access by VLAN which requires more expense and makes it more difficult to deploy and maintain the wireless network. This also enables the wireless clients using the same SSID access to each other. (This is a common problem encountered when deploying wireless network in hotels.) And, the wireless clients using the different SSIDs are unable to access to the NAS device. (This is a common problem encountered when deploying wireless network in offices.)



Bridge Mode - All wireless traffic are forwarded to their destination directly without being processed by the Nusoft AP controller, greatly increasing the number of associated wireless clients.



Fat AP Mode

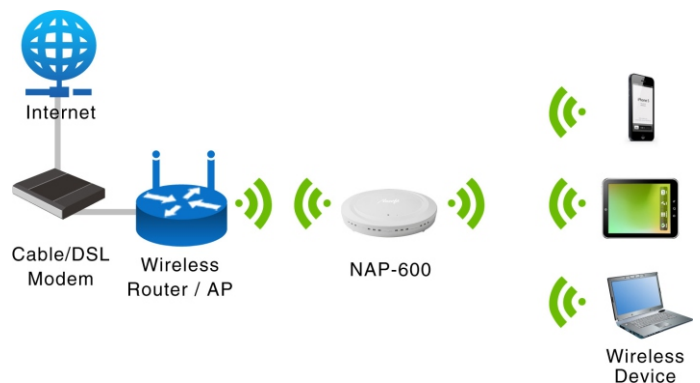
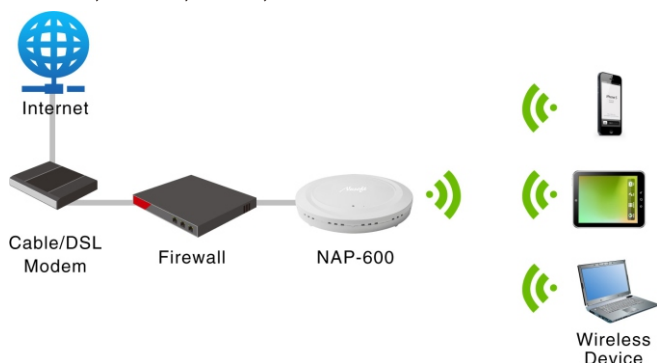
Fat AP mode delivers various options for AP operation. Apart from the most widely applied AP mode, there are also Repeater mode for extending current wireless coverage to any dead spot areas, as well as WDS mode for connecting LANs at two physically separated locations, adding variety to your deployment decision.

Providing Wireless Signals Using AP Mode

The AP mode is the most common approach used for establishing a wireless LAN. It converts Ethernet signals into radio signals, enabling mobile devices to access the Internet through the wired network, which is ideal for small business, SOHO, home, and other indoor sites.

Eliminating Wi-Fi Dead Spots Using Repeater Mode

The Repeater mode eliminates dead spots and enhances weak signals by extending your current Wi-Fi coverage, efficaciously alleviating the signal issues caused by obstacles or walls (including structural and interior ones). It is widely adopted in an indoor scenario where the signal of wireless router or AP is impeded.

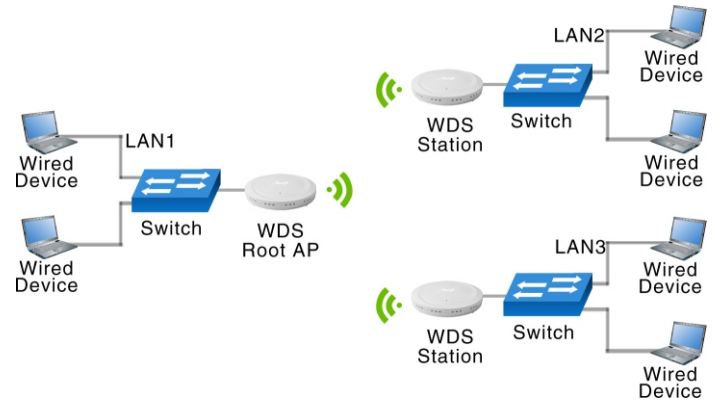


Connecting LANs at Different Locations Using WDS Mode

The WDS (Wireless Distribution System) mode is subcategorized into “Root AP” and “Station” modes. It connects LANs at two (or more) physically separated locations, enabling wireless devices to communicate with each other, which is ideal for outdoor-to-indoor, building-to-building and floor-to-floor scenarios.

WDS Root Mode: Once enabled, the AP serves as a root node to connect a leaf node (i.e., LAN) in a point-to-point (P2P) fashion or multiple leaf nodes in a point-to-multipoint (P2MP) fashion.

WDS Station Mode: Once enabled, the AP serves as a leaf node to connect a root node (i.e., an AP operated in “WDS Root AP” mode) in a point-to-point (P2P) fashion.



Product Feature of Thin AP and Fat AP

AP Mode		Thin AP	Fat AP
Wireless Client Management (Only applicable to tunnel mode)	SSID-based Management	○	×
	Access Privilege	○	×
	Web Filtering	○	×
	Application Blocking	○	×
	QoS	○	×
Operation Mode	AP	○	○
	Repeater	×	○
	WDS Root AP	×	○
	WDS Station	×	○
AP Auto-Configuration		○	×
Connection Status Notification		○	×
Push Firmware		○	×
E-MAP		○	×
AP Load Balancing		○	×
Auto Transmit Power Control		○	×
AP Group Management		○	×
Rogue AP Detection		○	×
RADIUS Authentication		○	×
Captive Portal Authentication		○	×
Wi-Fi Billing		○	×
Dedicated APP		○	×
Client Isolation		○	○
Hardware Watchdog		○	○

NAP-600 Specifications

Hardware Specifications

Mounting	Ceiling
LED Indicators	1 x LED (Power/ Status)
Reset Switch	Push-button momentary contact switch
Power Supply	PoE 802.3af 12w DC adapter (optional): 12V / 1A
Energy Efficient Ethernet	802.3az
Antenna	Internal Antenna x 2 (2.4GHz:2.2dBi、5GHz:2.9dBi)
Ethernet Ports	1 x 10/100/1000Mbps Ethernet ports Power over Ethernet (PoE 802.3af)
Operating Temperature/ Humidity	0~40°C (32 ~ 104 °F) / up to 90% (Non-Condensing)
Flammability Rating	UL94-5VB
Dimensions(length x width x height)/ Weight	17.6 x 17.6 x 3.3 cm / 372g
Certifications	FCC, CE, NCC, BSMI, RoHS

Wireless Specifications

Wireless Standards	IEEE 802.11 a/b/g/n/ac/ax Simultaneous Dual-Band			
Frequency Band	2.4 GHz : 802.11b/g/n/ax		5 GHz : 802.11a/n/ac/ax	
Wireless Transfer Rate	Up to 574 Mbps at 2.4GHz		Up to 1201 Mbps at 5GHz	
Operating Frequency	2.4 GHz: 2.400~2.473 GHz		5G Hz: 5.15~5.35、5.470~5.725 GHz	
Transmit Power	802.11b	17 dBm@1 Mbps 17 dBm@11 Mbps	802.11a	17 dBm@6 Mbps 16 dBm@54 Mbps
	802.11g	17 dBm@6 Mbps 15 dBm@54 Mbps	802.11n (5 GHz)	17 dBm@MCS 0(HT20) 15 dBm@MCS 7(HT20)
	802.11n (2.4 GHz)	17 dBm@MCS 0(HT20) 15 dBm@MCS 7(HT20) 12 dBm@MCS 9(HT40)	802.11ac	17 dBm@MCS 0(VHT80) 15 dBm@MCS 7(VHT80) 14 dBm@MCS 9(VHT80)
	802.11ax (2.4 GHz)	9 dBm@MCS 11(HT40) 15 dBm@MCS 4/12 15 dBm@MCS 5/13 14 dBm@MCS 6/14 14 dBm@MCS 7/15	802.11ax (5 GHz)	10 dBm@MCS 11(HT80)
Receiver Sensitivity	802.11b	≤ -88 dBm@1 Mbps ≤ -86 dBm@11 Mbps	802.11a	≤ -87 dBm@6 Mbps ≤ -68 dBm@54 Mbps
	802.11g	≤ -88 dBm@6 Mbps ≤ -71 dBm@54 Mbps	802.11n (5 GHz)	≤ -87 dBm@MCS 0 ≤ -68 dBm@MCS 7
	802.11n (2.4 GHz)	≤ -88 dBm@MCS 0 ≤ -68 dBm@MCS 7 ≤ -60 dBm@MCS 9	802.11ac	≤ -56 dBm@MCS 9
	802.11ax (2.4 GHz)	≤ -53 dBm@MCS 11	802.11ax (5 GHz)	≤ -50 dBm@MCS 11
No. of Concurrent Connection	200 (2.4 GHz: 100, 5GHz: 100)			
No. of Supported SSIDs	16 (2.4GHz:8, 5GHz:8)			
Fast Roaming	802.11 r/k			
Band Steering	○			
AirTime Fairness	○			
Beamforming	○			