

# ZYXEL



## NAP353

### 802.11ac Dual-Radio External Antenna 3x3 Outdoor Nebula Cloud Managed Access Point

The ZyXel Nebula NAP353 802.11ac Dual-Radio External Antenna 3x3 Nebula Cloud Managed Access Point is a high-performance outdoor 3x3 802.11ac AP capable of delivering combined data rates of up to 1.75 Gbps. Featuring dual-concurrent, dual-band operation and advanced technologies such as Dynamic Channel Selection, Load Balancing and Smart Client Steering as well as with IP66-rated weather protection, the NAP353 delivers high throughput and reliable coverage for a superb Wi-Fi experience even in harsh outdoor environments.

Every Nebula AP has been engineered for cloud management. Based on the NETCONF standard, all data traffics between the cloud and access points are exchanged using secure transports to ensure transaction-safe configuration on all Nebula devices. Furthermore, with the intuitive management interface, administrators are able to manage all the access points quickly even without training.

## Benefits

### Zero-touch deployments

The ZyXel Nebula NAP353 auto-configures itself after installation and then automatically connects to the Nebula cloud to join the network; so auto-configuration, provision, monitoring and diagnostics can be performed anytime, anywhere. This simplifies network setup and enables deployment of Nebula APs to a remotely located network even by non-IT professionals.



Cloud-managed, dual-radio 3x3 MIMO 802.11ac access point



Supports combined data rates of up to 1.75 Gbps



IP66-rated weather protection for harsh outdoor environments



Self-configuration and zero-touch deployment



Enterprise-class security and RF optimization



Dynamic Channel Selection, Load Balancing and Smart Client Steering



Industry-leading receive sensitivity at as low as -102 dBm



nebula

## Best-in-class coverage and performance

Different from other 802.11ac APs, the Zyxel Nebula NAP353 stands out with its best-in-class coverage and performance thanks to its unique RF design. The AP's three-stream hardware configuration provides power of up to 29 dBm and unparalleled receive sensitivity of as low as -102 dBm.

## Optimized wireless experience

The Zyxel Nebula NAP353 delivers optimized wireless experience for users with comprehensive wireless features such as Dynamic Channel Selection (DCS), Load Balancing, and Smart Client Steering, etc. DCS avoids interference from co-channeling and overlapping channels continuously, while Load Balancing and Smart Client Steering that features Band Select and Balance for more spectrum to provide more stable, reliable wireless connections.

## Enterprise-class security

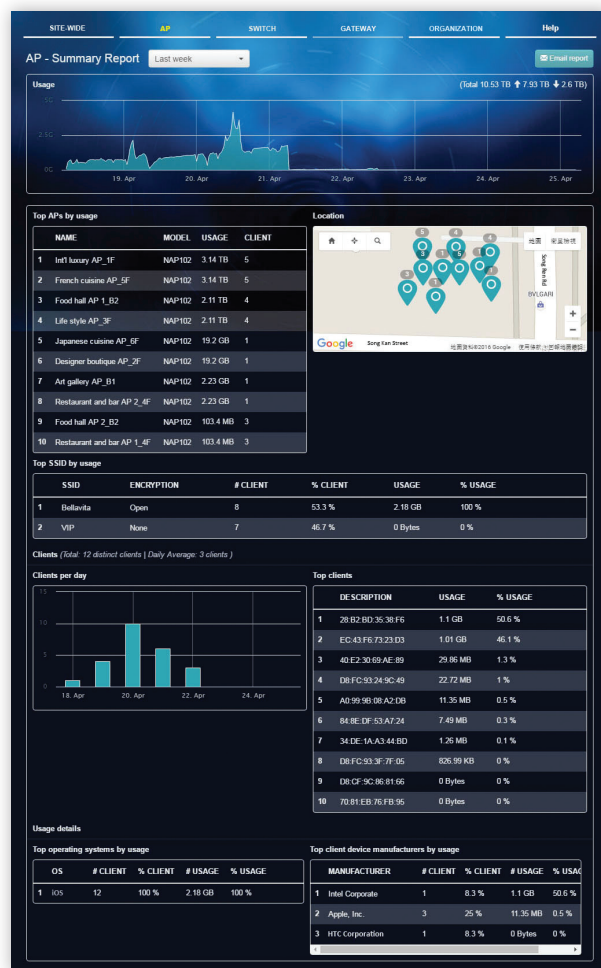
The Zyxel Nebula NAP353 inherits the NETCONF protocol for secure configuration changes. In terms of authentication and data encryption, it supports WPA2 enterprise protection and a wide range of Extensible Authentication Protocol (EAP) types, including EAP SIM for smartphones. Besides, the NAP353 also features access control and Layer-2 isolation for privacy protection. The comprehensive security features ensure NAP353 to deliver enterprise-grade protection to the entire network.

## Hardened enclosure for harsh outdoor environments

The Zyxel Nebula NAP353 operates well under harsh outdoor environments with its industrial-grade IP66 water- and dust-proof enclosure that is completely resistant to dusts and even powerful water jets; and the embedded heater automatically activates to allow NAP353 to operate in the freezing below-zero temperatures. With these features, the Zyxel Nebula NAP353 is proven ideal for hotels, resorts, schools and other locations in need of high throughput, high capacity outdoor coverages.



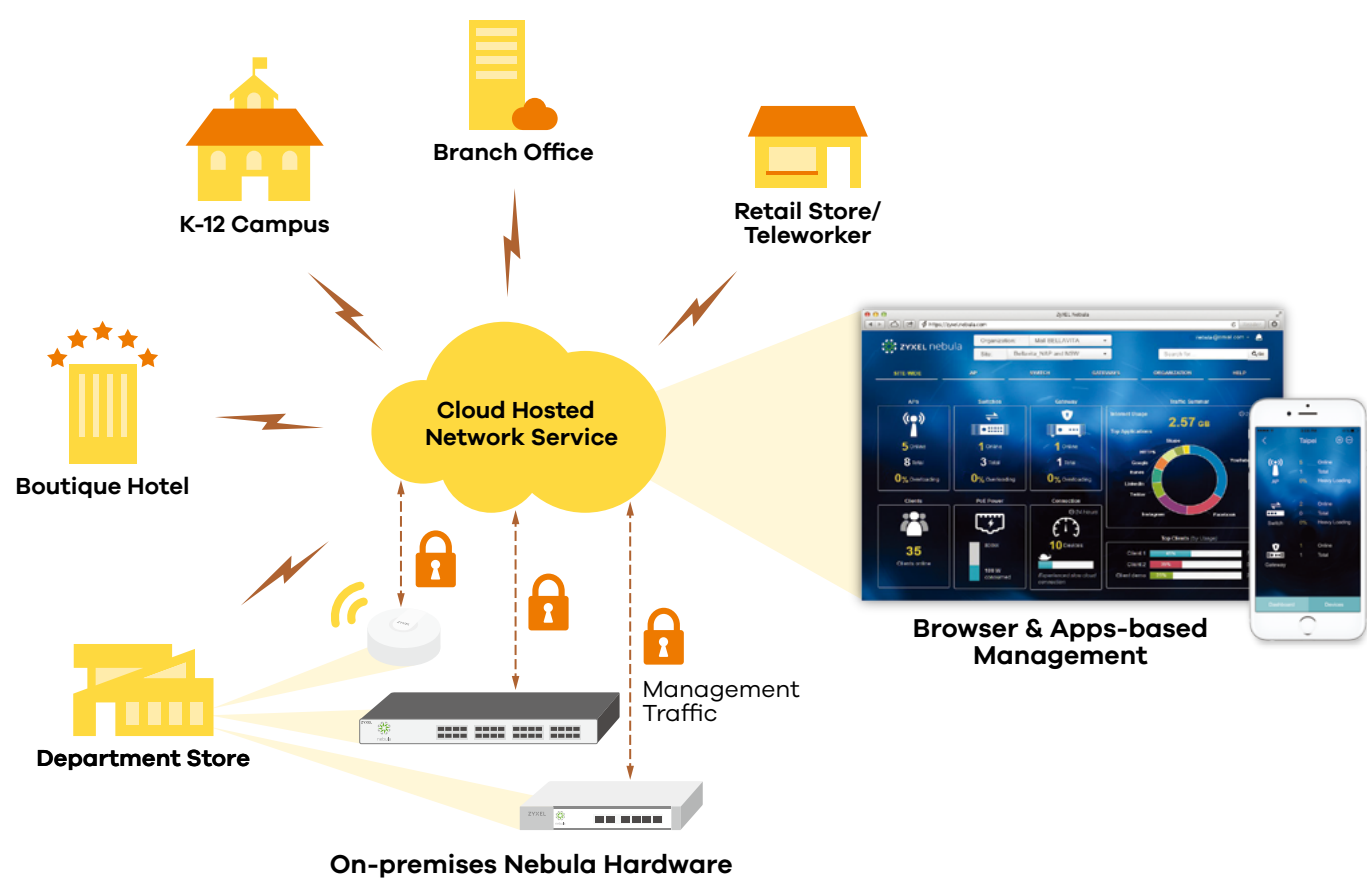
Get real-time control and monitoring of all the devices through a single pane of glass



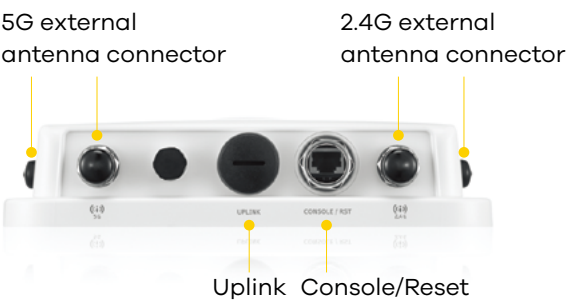
Monitor AP usage and client report by different time intervals and view historical status record via the intuitive management interface

# Applications Diagram

## Nebula cloud management architecture

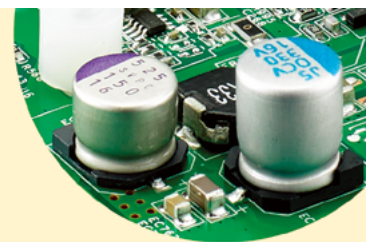


## Robust Hardware



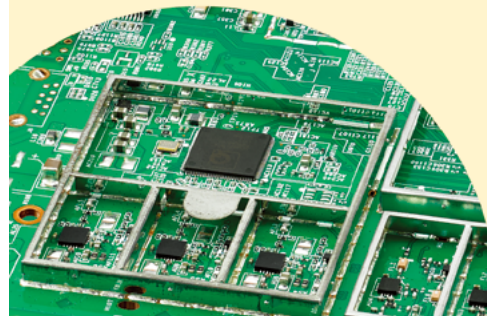
### Robust, reliable hardware

Ordered shielding frames prevent electromagnetic interference, while covers manage heat through thermal pads to mitigate overheating.




### Solid capacitor for longevity

Industry-leading durability from the beginning of design process through manufacturing with the highest-quality components ensures product reliability.



## Specifications

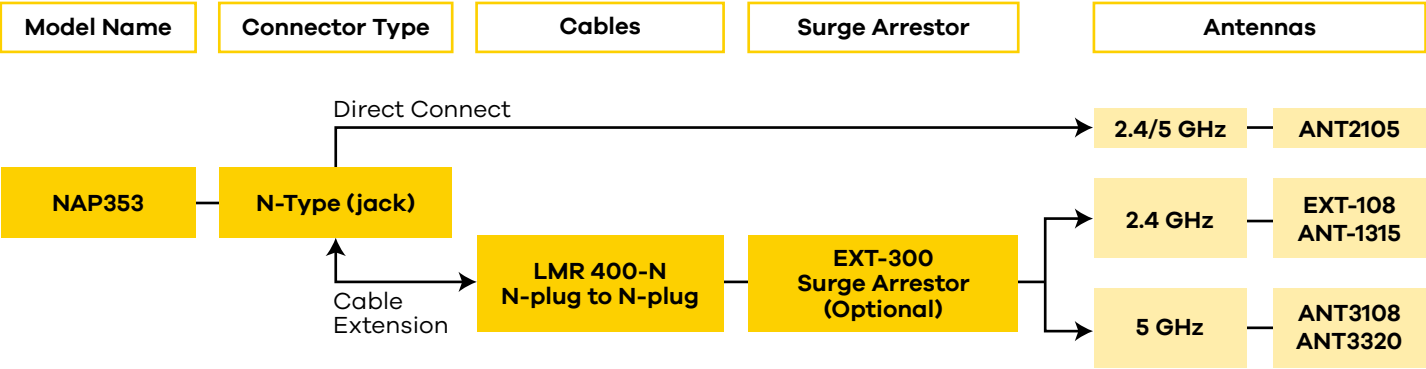
<b>Model</b>		<b>NAP353</b>
<b>Product name</b>		802.11ac Dual-Radio External Antenna 3x3 Outdoor Access Point
		
<b>RF Specifications</b>		
<b>Frequency band</b>		2.4 GHz (IEEE 802.11 b/g/n) <ul style="list-style-type: none"> <li>• USA (FCC): 2.412 to 2.462 GHz</li> <li>• Europe (ETSI): 2.412 to 2.472 GHz</li> <li>• Taiwan (TW): 2.412 to 2.462 GHz</li> </ul> 5 GHz (IEEE 802.11 a/n) <ul style="list-style-type: none"> <li>• USA (FCC): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz</li> <li>• European (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz</li> <li>• Taiwan (TW): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz</li> </ul>
<b>802.11n/ac premium features</b>		<ul style="list-style-type: none"> <li>• 3x3 Multiple-Input Multiple-Output (MIMO) with three spatial streams</li> <li>• Maximal Ratio Combining (MRC)</li> <li>• 20-, 40- and 80-MHz channels</li> <li>• Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)</li> <li>• Cyclic Delay Diversity (CSD) support</li> <li>• Maximum Likelihood Demodulation (MLD) support</li> <li>• Low Density Parity Check (LDPC) support</li> </ul>
<b>Conducted typical transmit output power (dBm)</b>	<b>FCC 11b/g</b>	29
	<b>FCC 11g/n</b>	29
	<b>FCC 11a</b>	29
	<b>FCC 11n/a (ac)</b>	29
	<b>EU 11b/g</b>	15
	<b>EU 11g/n</b>	15
	<b>EU 11a</b>	23
	<b>EU 11n/a (ac)</b>	23
<b>Number of antenna</b>		6 N-type connectors*
<b>Support data rate</b>		<ul style="list-style-type: none"> <li>• 802.11a/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</li> <li>• 802.11n: up to 450 Mbps in MCS15 (40 MHz)</li> <li>• 802.11ac: up to 1300 Mbps in MCS9 (80 MHz)</li> </ul>
<b>Receive sensitivity</b>		Min. Rx sensitivity up to to -102 dBm
<b>Interfaces</b>		
<b>Number of 10/100/1000M LAN</b>		1
<b>Console port</b>		RJ-45 serial
<b>PoE</b>		Yes
<b>PoE power draw</b>		25 W
<b>WLAN Features</b>		
<b>WLAN maximum throughput</b>		Up to 900 Mbps
<b>Wireless Security</b>		
<b>WPA2-PSK</b>		Yes
<b>WPA2-Enterprise</b>		Yes
<b>EAP types</b>		EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-FAST, EAP-AKA and EAP-SIM
<b>IEEE 802.1X</b>		Yes
<b>Number of SSID</b>		8 (per radio)
<b>MAC filtering</b>		Yes

\* The antenna is not embedded and external antennas are separately sold.

<b>Wireless Security</b>		
Layer-2 isolation		Yes
RADIUS authentication		Yes
Captive portal		Yes
<b>Network</b>		
VLANs		Yes
DHCP client		Yes
<b>QoS (PG)</b>		
WMM		Yes
WMM power save		Yes
DiffServ marking		Yes
<b>Management</b>		
Cloud managed		Yes
ZON utility		Support
Smart connect		Neighbor device discovery
<b>Others</b>		
Plenum rating		Yes
Input power		PoE: 802.3at compliant
MTBF (hr)		562,413
<b>Standard Compliance</b>		
Ethernet		IEEE 802.3, IEEE 802.3u, IEEE 802.11ab IEEE 802.3au, IEEE 802.3az, IEEE 802.3at
PoE		IEEE 802.3at
WLAN		<ul style="list-style-type: none"> <li>• 802.11b: DBPSK, DQPSK, CCK</li> <li>• 802.11g: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11a: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11n: BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• 802.11ac: BPSK, QPSK, 64-QAM, 256-QAM</li> </ul>
<b>Certifications</b>		
Radio		FCC Part 15C, FCC Part 15E; ETSI EN 300 328, EN 301 893; LP0002
EMC		FCC Part 15B, EN 301 489-1, EN 301 489-17, EN55022, EN55024, EN61000-3-2/-3, EN 60601-1-2, BSMI CNS13438
Safety		EN 60950-1, IEC 60950-1; BSMI CNS14336-1
<b>Physical Specifications</b>		
Item	Dimensions (WxDxH)(mm/in.)	255 x 256 x 62/10.04 x 10.08 x 2.44
	Weight (g/lb.)	1,708/3.77
Packing	Dimensions (WxDxH)(mm/in.)	393 x 158 x 430/15.47 x 6.22 x 16.93
	Weight (g/lb.)	3,904/8.63
Included accessories		<ul style="list-style-type: none"> <li>• Pole/wall mounting kits</li> <li>• PoE injector</li> <li>• Power cord</li> </ul>
<b>Environmental Specifications</b>		
Weather Protection		IP66 (Embedded heater for harsh weather)
Operating	Temperature	-40°C to 60°C/-40°F to 140°F
	Humidity	10% to 95% (non-condensing)
Storage	Temperature	-40°C to 70°C/-40°F to 158°F
	Humidity	10% to 95% (non-condensing)

# Optional Accessories

## Antenna & Cable Compatibility



For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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