ZYXEL

NAP102

802.11ac Dual-Radio Nebula Cloud Managed Access Point

The Zyxel Nebula NAP102 802.11ac Dual-Radio Nebula Cloud Managed Access Point is a high-performance, cloud-managed 2x2 MIMO 802.11ac AP designed for deployments in offices, schools, hospitals, hotels and retail stores. With ultra-fast speeds of up to 1.2 Gbps, the Nebula NAP102 has revolutionized cloud managed wireless networking to a higher entry level. Featuring dual-concurrent, dual-band operation and advanced technologies such as Dynamic Channel Selection, Load Balancing and Smart Client Steering, the NAP102 delivers high throughput and reliable coverage for a superb Wi-Fi experience.

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.

- Cloud-managed, dual-radio 2x2 MIMO 802.11ac access point
- Supports combined data rates of up to 1200 Mbps
- Self-configuration and zero-touch deployment
- Enterprise-class security and RF optimization
- Dynamic Channel Selection, Load Balancing and Smart Client Steering

Benefits

Zero-touch deployments

The Zyxel Nebula NAP102 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.

nebula

Optimized wireless experience

The Zyxel Nebula NAP102 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 which features Band Select and Balance for more spectrum to provide more stable, reliable wireless connections.

Smoke detector design that blends into environments

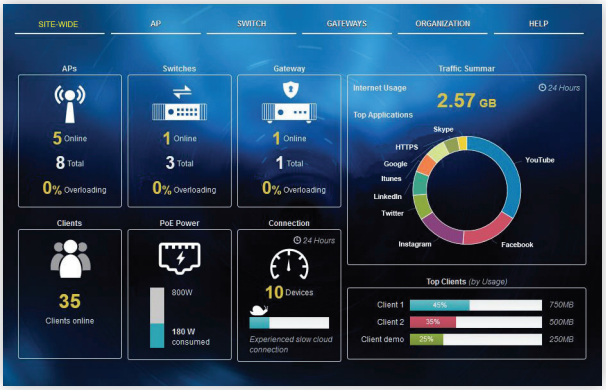
Different from traditional business access points, the Zyxel Nebula NAP102 comes in a “smoke detector” ceiling-mount design. Since the “smoke detector” design is not invasive, there is no need to hide it behind the ceiling tiles; and the ceiling-mount optimized RF design can provide its best performance and coverage. In addition, the NAP102 is plenum-rated and made of non-toxic materials without hazardous emission – critical for public indoor wireless deployments.

Enterprise-class security

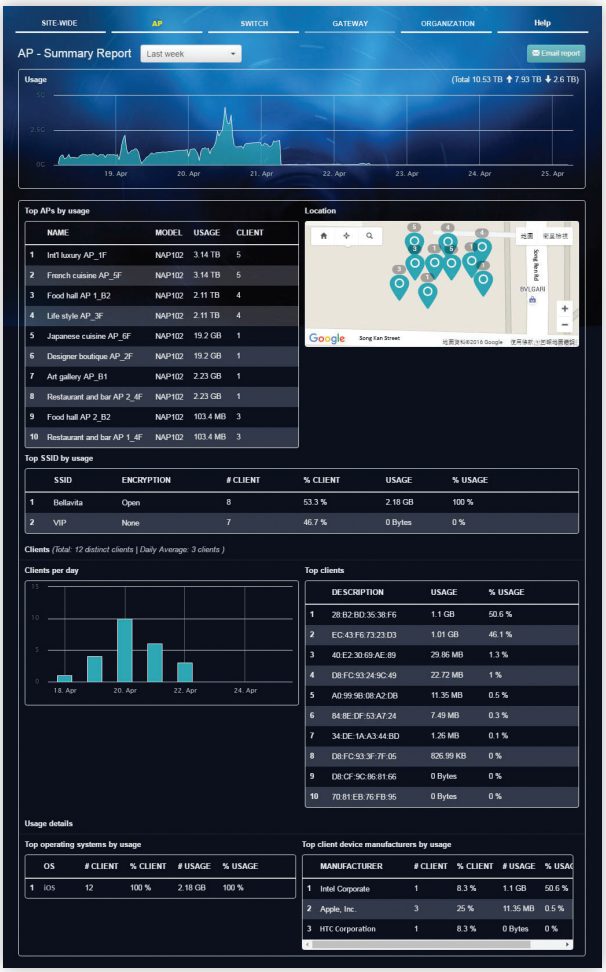
The Zyxel Nebula NAP102 inherits the NETCONF protocol for secure configuration changes. In terms of authentication and data encryption, it supports WPA2 enterprise protection and a wide range of Extensible Authentication Protocol (EAP) types, including EAP SIM for smartphones. Besides, the NAP102 also features access control and Layer-2 isolation for privacy protection. The comprehensive security features ensure NAP102 to deliver enterprise-grade protection to the entire network.

Ultra-fast speed

The Zyxel Nebula NAP102 is a 2x2 802.11ac AP that provides Gigabit Wi-Fi experience. The concurrent dual-band support meets the pervasive BYOD demands to support more clients with equal signal coverage in both 2.4 GHz and 5 GHz bands.



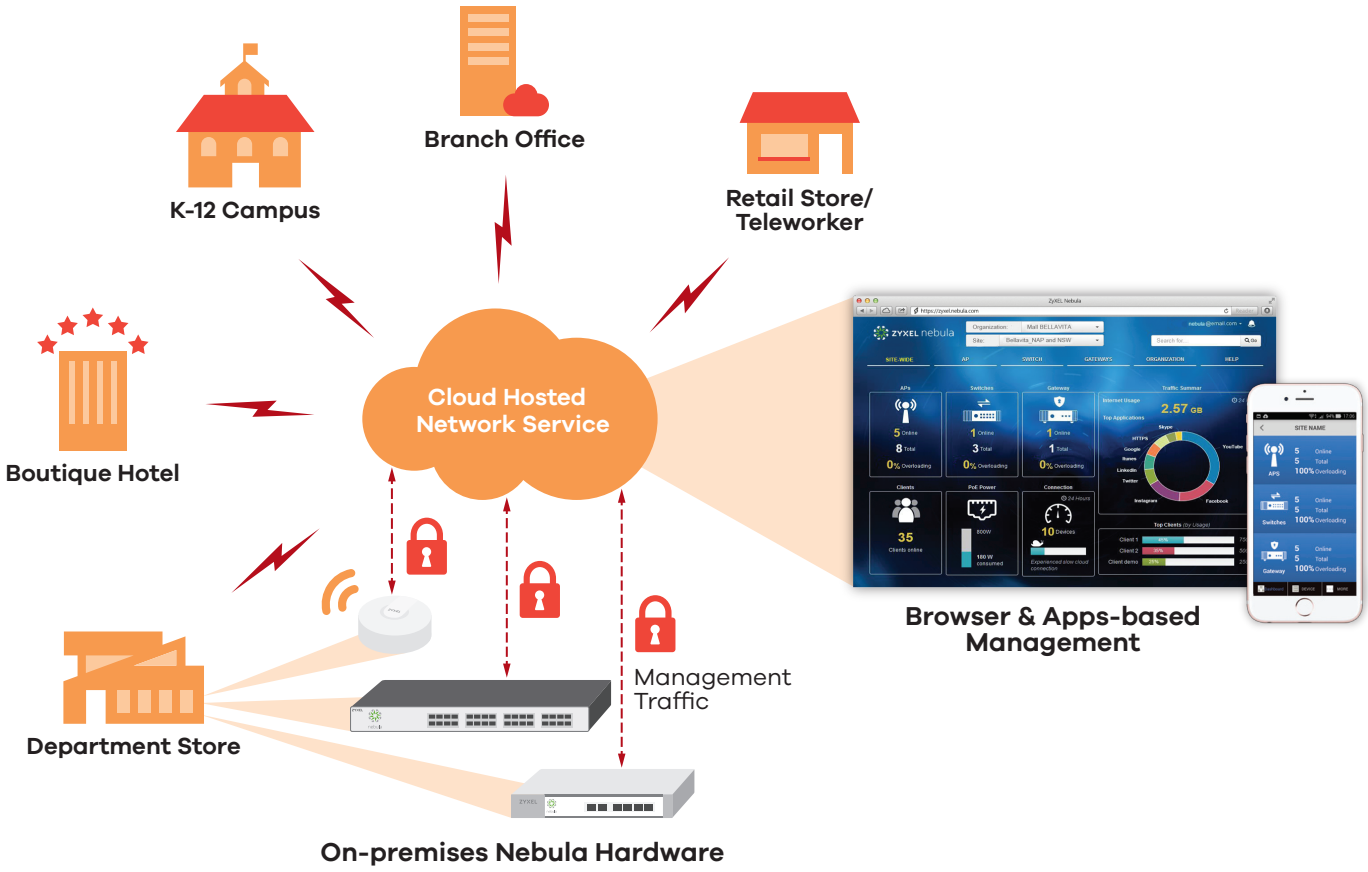
Real-time control of all the devices through a single pane of glass



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

Applications Diagram

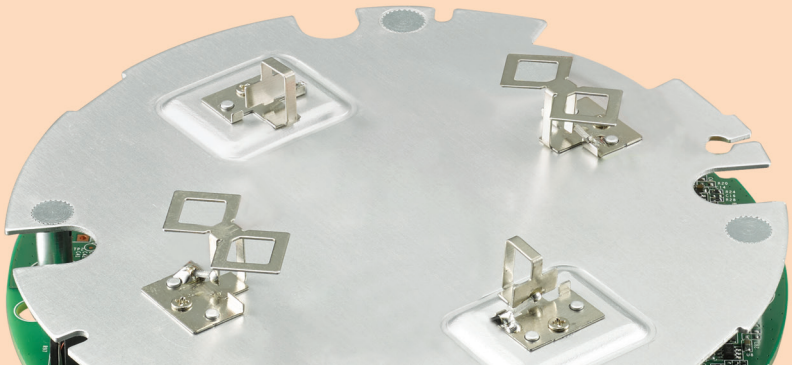
Nebula cloud management architecture

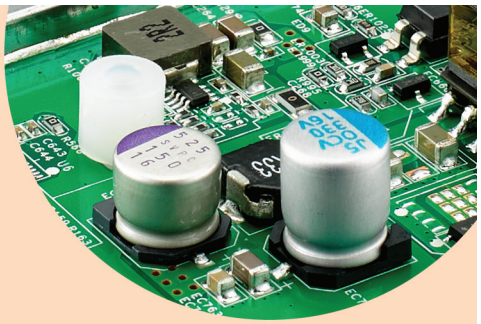


Robust Hardware

Advanced antenna design

NAP102 antenna module provides better coverage in TX/RX and eliminates dead spots with same output power by using reflector to optimize pattern for better coverage.





Solid capacitor for longevity

All-solid capacitor design provides up to 6 times lifespan than electrolytic capacitors that delivers better stability and reliability.

Specifications

Model		NAP102	
Product name		802.11ac Dual-Radio Nebula Cloud Managed Access Point	
			
RF Specifications			
Frequency band		2.4 GHz (IEEE 802.11 b/g/n) • USA (FCC): 2.412 to 2.462 GHz • Europe (ETSI): 2.412 to 2.472 GHz • Taiwan (TW): 2.412 to 2.462 GHz	5 GHz (IEEE 802.11 a/n/ac) • USA (FCC): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz • Europe (ETSI): 5.15 to 5.35 GHz; 5.470 to 5.725 GHz • Taiwan (TW): 5.15 to 5.35 GHz; 5.725 to 5.850 GHz
802.11n/ac premium features		• 2x2 Multiple-Input Multiple-Output (MIMO) with two spatial streams • Maximal Ratio Combining (MRC) • 20-, 40- and 80-Mhz channels • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx)	• Cyclic Delay Diversity (CSD) support • Maximum Likelihood Demodulation (MLD) support • Low Density Parity Check (LDPC) support
Conducted typical transmit output power (dBm)	**FCC 11b/g**	23	
	FCC 11g/n	23	
	FCC 11a	26	
	FCC 11n/a (ac)	26	
	EU 11b/g	20	
	EU 11g/n	20	
	EU 11a	26	
	EU 11n/a (ac)	26	
Antenna system		Embedded internal antenna	
Antenna gain		2.4 GHz 3 dBi; 5 GHz 4 dBi	
Support data rate		• 802.11 a/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps • 802.11n: up to 300 Mbps in MCS15 (40 MHz; GI = 400 ns) • 802.11ac: up to 866 Mbps in MCS9 (80 MHz; 2 spatial streams; GI = 400 ns)	
Receive sensitivity		Min. Rx sensitivity up to to -99 dBm	
Interfaces			
Number of 10/100/1000M LAN		1	
Console port		4-Pin serial	
PoE		Yes	
PoE power draw		9 W	
Wireless Security			
WEP		Yes	
WPA/WPA2-PSK		Yes	
WPA/WPA2-Enterprise		Yes	
WLAN access control list		Yes	
EAP types		TLS, TTLS, PEAP, FAST, AKA and SIM	
IEEE 802.1X		Yes	
Number of SSID		8 (per radio)	
MAC filtering		Yes	

Wireless Security		
Layer-2 isolation		Yes
RADIUS authentication		Yes
Captive portal		Yes
Network		
VLANs		Yes
DHCP client		Yes
QoS (PG)		
WMM		Yes
WMM power save		Yes
DiffServ marking		Yes
Management		
Cloud managed		Yes
ZON utility		Support
Smart connect		Neighbor device discovery
Others		
Plenum rating		Yes
Input power		12 VDC, 1 A
MTBF (hr)		1,727,244
Standard Compliance		
Ethernet		IEEE 802.3, IEEE 802.3u
PoE		IEEE 802.3af
WLAN		• 802.11b: DBPSK, DQPSK, CCK • 802.11g: BPSK, QPSK, 16-QAM, 64-QAM • 802.11a: BPSK, QPSK, 16-QAM, 64-QAM • 802.11n: BPSK, QPSK, 16-QAM, 64-QAM • 802.11ac: BPSK, QPSK, 64-QAM, 256-QAM
Certifications		
Radio		ETSI EN 300 328 V1.7.1: 11-2006, EN 301 893 V1.5.1 FCC Part 15.247, FCC Part 15E, LP0002, EN 60601-1-2: 2007
EMC		EN 301 489-1 V1.8.1: 11-2008, EN 301 489-17 V2.1.1: 05-2009 EN55022: 2010, EN55024: 2010, EN61000-3-2/-3 FCC Part 15.107, BSMI CNS13438.99, CNS14336: 99
Safety		EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011, IEC 60950-1: 2005; BSMI
Physical Specifications		
Item	**Dimensions (WxDxH)(mm/in.)**	130 x 130 x 54.7/5.12 x 5.12 x 2.17
	Weight (g/lb.)	300/0.67
Packing	**Dimensions (WxDxH)(mm/in.)**	278 x 209 x 72/10.94 x 8.23 x 2.83
	Weight (g/lb.)	700/1.54
Included accessories		• Power adapter • Wall/Ceiling-mount plate
Environmental Specifications		
Operating	**Temperature**	0°C to 50°C/32°F to 122°F
	Humidity	10% to 90% (non-condensing)
Storage	**Temperature**	-30°C to 70°C/-22°F to 158°F
	Humidity	10% to 90%

For more product information, visit us on the web at www.zyxel.com

Datasheet NAP102

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