ZYXEL

Your Networking Ally

Unlock Networking Possibilities with Cloud

Nebula Cloud Networking
Solution Guide

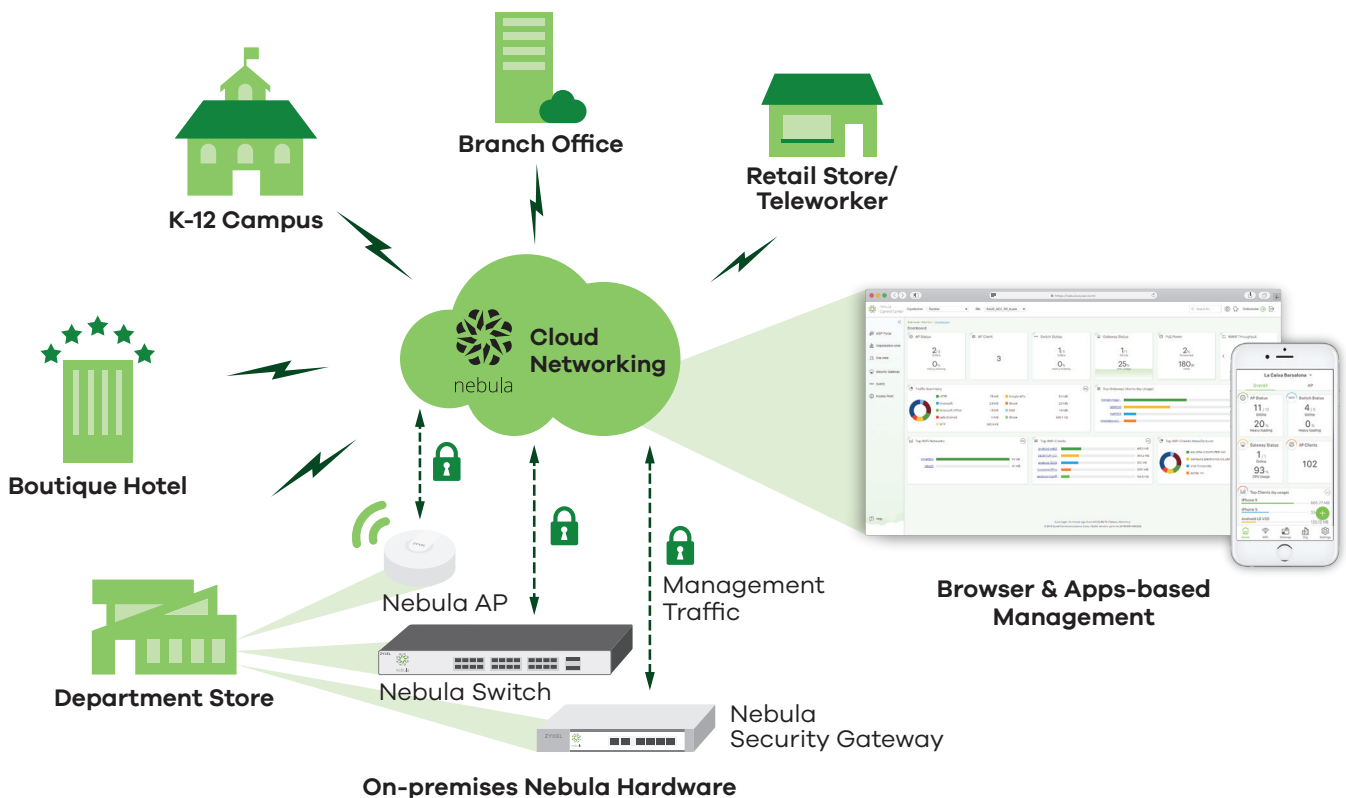nebula

We help you to make everything easier

Overview

The Nebula cloud networking and management solution provides centralized control and visibility over all Nebula wired and wireless networking hardware — all without the cost and complexity of on-site control equipment or overlay management systems. With comprehensive product portfolio that can be centrally managed from the cloud, Nebula offers simple, intuitive and scalable management for all networks.

Highlights

- **Intuitive, automated network management interface as well as continuous feature updates that eliminate training and labor for network implementation, maintenance and support**

- **Zero-touch provisioning, built-in multisite network management tools accelerate deployment of large networks**

- **Centralized, unified and on-demand control as well as visibility that reduce capital expense for hardware and software**

- **Free cloud management for the life of the product without the need for ongoing costs**

- **NAP, NSW, NSG series and APs and switches with NebulaFlex Pro are sold with bundled Professional Pack license for you to experience advanced cloud management features**

- **A comprehensive networking product portfolio from a single vendor ensures better product compatibility**

- **Credit & on-demand and limited lifetime licensing models provide rich diversity and high flexibility on business dynamics**

Introduction to Nebula cloud managed networks

Nebula's networking products, including access points, switches and security gateways, are purpose-built for cloud management. They break the traditions and come up with easy management, centralized control, auto-configuration, real-time Web-based diagnostics, remote monitoring and more.

The Nebula cloud managed networking introduces an affordable, effortless approach for network deployments with high security and scalability to provide completely control over Nebula devices and users. When an organization grows from small sites to massive,

distributed networks, the Nebula hardware with cloud-based self-provisioning enables easy, quick and plug-n-play deployment to multiple locations without IT professionals.

Through Nebula cloud services, firmware and security signature updates are delivered seamlessly, while secure VPN tunnels can be established automatically between different branches over the Web with just a few clicks. Based on a secure infrastructure, Nebula is designed with fault-tolerant properties that enable local networks to keep operating properly in WAN downtimes.

Nebula cloud managed networking architecture

The Nebula Cloud provides a networking paradigm for building and managing networks over the Internet in the Software as a Service model. Software as a Service (SaaS) is defined as a way of delivering software for users to access via the Internet rather than local installation. In the Nebula architecture, network functions and management services are pushed to the cloud and delivered as a service that provides instant control to the entire network without wireless controllers and overlay network management appliances.

All Nebula devices are built from the ground up for cloud management with the capability to communicate with

Nebula's cloud control center through the Internet. This TLS-secured connectivity between hardware and the cloud provides network-wide visibility and control for network management using the minimal bandwidth.

Over the cloud, thousands of Nebula devices around the world can be configured, controlled, monitored and managed under a single pane of glass. With multi-site network management tools, businesses are allowed to deploy new branches of any size, while administrators are able to make policy changes any time from a central control platform.

Data Privacy and Out-of-band Control Plane

The Nebula service uses the infrastructure and services built upon the Amazon Web Service (AWS), so all Nebula security details can be referred to AWS Cloud Security. Nebula is committed to data protection, privacy and security as well as compliance with applicable regulatory frameworks in the world. Nebula's technical architecture along with its internal administrative and procedural safeguards can assist customers with design and deployment of cloud-based networking solutions that comply with EU data privacy regulations.

In Nebula's out-of-band control plane, network and management traffics are split into two different data paths. Management data (e.g. configuration, statistics, monitoring, etc.) turn towards Nebula's cloud from devices through an encrypted Internet connection of the NETCONF protocol, while user data (e.g. Web browsing and internal applications, etc.) flows directly to the destination on the LAN or across the WAN without passing through the cloud.

Cloud Hosted Network Service

Internet Traffic

Management Traffic

LAN Traffic

WLAN Traffic
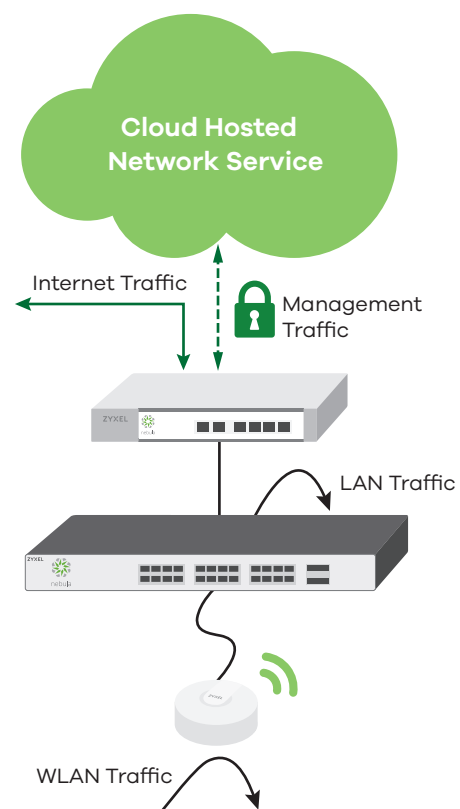
Features of the Nebula Architecture:

- End user data does not traverse through the cloud.

- Unlimited throughput, no centralized controller bottlenecks when new devices are added.

- Network functions even if connection to cloud is interrupted.

- Nebula's cloud management is backed by a 99.99% uptime SLA.

NETCONF Standard

Nebula is an industry-first solution that implements NETCONF protocol for safety of configuration changes in cloud management as all NETCONF messages are protected by TLS and exchanged using secure transports. Prior to NETCONF, CLI scripting and SNMP were two common approaches; but they have several limitations such as lacking of transaction management or useful standard security and commit mechanisms. The NETCONF protocol has been designed to address the shortcomings of the existing practices and protocols.

With the support of TCP and Callhome to overcome the NAT barrier, NETCONF is considered more reliable and elegant. It is also thinner than CWMP (TR-069) SOAP, which saves Internet bandwidth. With these features, the NETCONF protocol is regarded as more suitable for cloud networking.

Nebula Control Center (NCC)

Nebula Control Center offers a powerful insight into distributed networks. Its intuitive and web-based interface illustrates an instant view and analysis of network performance, connectivity and status automatically and continuously. Integrated with organization-wide and site-wide management tools, Nebula provides a quick and remote access for administrators to ensure the network is up and performing efficiently.

Nebula Control Center is also engineered with a number of security tools that provide optimal protection to networks, devices and users; and they also deliver the needed information to enforce security and enhance control over the entire Nebula network.
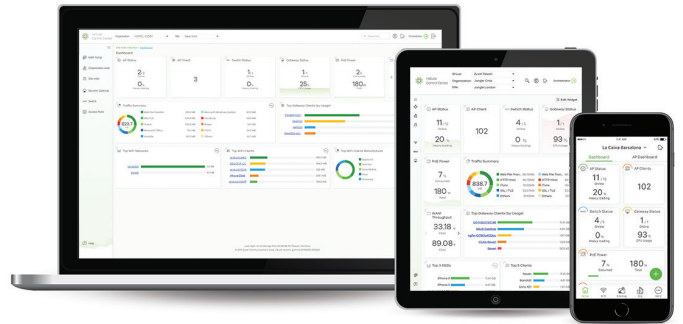
Highlights

- **Responsive web design and intuitive user interface with light & dark modes**
- **Multi-tenant, multi-site view**
- **First time setup wizard**
- **Role-based administration privileges**
- **Real-time and historical monitoring/reporting**
- **Granular device based information and trouble shooting tools**
- **Rich site-wide management tools**

- **Site-based auto and smart configuration tools**
- **Powerful organization-wide management tools**
- **Configuration changing alerts**
- **Misconfigure protection against disconnecting NCC**
- **Configure login auditing**
- **Flexible firmware management**
- **Multi-lingual management interface (English, Traditional Chinese, Japanese, Germany, Russian and more to come)**

First Time Setup Wizard

Nebula first time setup wizard helps create your organization/site and setup an integrated network with only a few simple clicks, making your devices up and running in minutes.

Role-based Administration

Supervisors are allowed to appoint different privileges for multiple administrators to manage network and guess access. Specify management authority in the network access control function to maximize security and to avoid accidental misconfiguration.
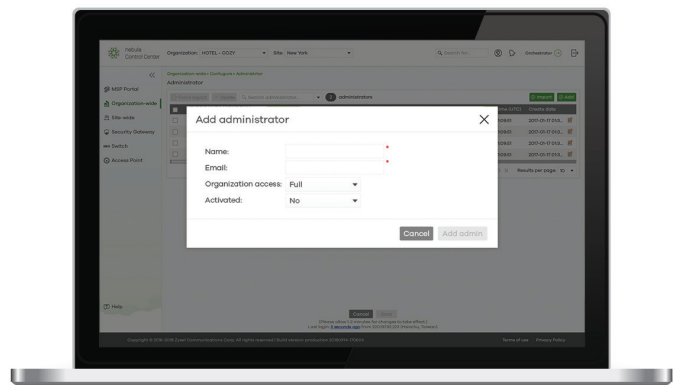
Role-based Administration

Real-time Monitoring

Nebula Control center provides 24x7 monitoring over the entire network, giving administrators real-time and historical activity views with unlimited status records that can be backdated to the installation time.

Site-wide Management Tools

Integrated with the feature-rich dashboards, maps, floor plans, automated network topology and site-based auto and smart configuring tools, the Nebula Control Center delivers instant network analysis and automatically performs AP authentication, configuration parity check, switch ports link aggregation and site-to-site VPN.

Organization-wide management tools

Powerful organization-wide features such as organizational overview, configuration backup and restore, configuration template and configuration clone are supported to allow MSP and IT admins to manage their org/sites much easier.

Configuration Changing Alerts

Configuration changing alerts help administrators to manage thousands of networking devices more efficiently, especially in larger or distributed sites. These real-time alerts are automatically sent from the Nebula Cloud system when configuration changes are made to keep new policies always up-to-date in the entire IT organization.

Misconfiguration Protection

To prevent any connectivity interruption caused by incorrect or inappropriate configuration, the Nebula devices can intelligently identify if the order or setting from NCC is correct to ensure the connection is always up with the Nebula cloud.

Configure Login Auditing

The Nebula cloud control center automatically records the time and IP address of every logged in administrators. The login audit log lets administrators track Web-based login actions on their Nebula networks to see what configuration changes were made and who made the changes.
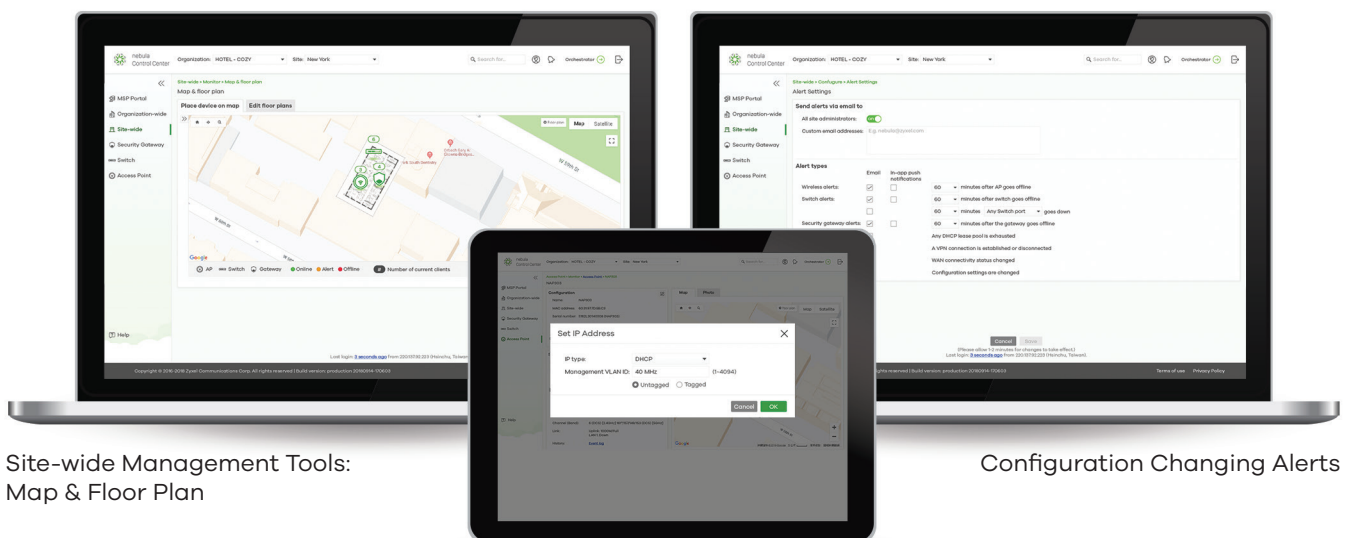
Site-wide Management Tools:
Map & Floor Plan

Misconfiguration Protection:
Set IP Address

Configuration Changing Alerts

Nebula Mobile App

The Nebula mobile app offers a fast approach to network management, providing an instant view of multiple sites for you to monitor network status in real time. With it, you can perform WiFi network configuration, break down usage by device and client, troubleshoot with live tools, check the status of connected Nebula devices and clients at a glance, and scan device QR codes to register large numbers of devices to the Nebula Control Center all at once. The app's features and functions include:

Highlights

- Sign up Nebula account
- Installation walk through wizard for creating org & site, adding devices (QR code or manually), setting up WiFi networks
- Captive portal customization
- Configure clients policies
- Switch ports settings & Create PoE schedule
- Live trouble shooting tools: reboot, LED, switch port power cycle, cable diagnostics, connection test
- MSP portal with org/site status
- Site-wide map view

- View dashboard with traffic summary & AP dashboard
- Check map and photo of device location
- Monitor No. of connected clients per device type
- View VPN connection topology
- Create firmware upgrade schedule
- Push notifications - VPN & device down/up (free from V.2.2)
- Notification center up to 7 days alert history
- Scan license QR code
- Tech support and case management

Product families

Nebula Access Points

Nebula's high-performance cloud managed APs are designed for deployments in offices, schools, hospitals, hotels, and retail stores. Featuring the latest 802.11ac technology including MIMO, dual-concurrent, dual-band operation and advanced technologies such as Smart Antenna, DCS, Load Balancing and Smart Client Steering, Nebula APs can deliver high throughput and reliable coverage for superb WiFi experience.

Since every Nebula AP is engineered for cloud management, all data traffics between the cloud and APs are exchanged using secure transports. With the intuitive cloud interface, administrators are able to control all the distributed access points quickly even without training. Automatic configuration, provision, monitoring and diagnostics can be performed anytime, anywhere.

Highlights

- 2x2 802.11ac AP supports up to 1.2 Gbps (NAP102)
- 3x3 802.11ac AP supports up to 1.75 Gbps (NAP203, NAP303, NAP353)
- Dual-optimized antenna (NAP203)
- Smart antenna design (NAP303)
- IP66-rated weather protection (NAP353)
- Self-configuring, zero-touch deployments
- Easy setup on SSID/SSID schedule/VLAN/Rate limiting

- Enterprise wireless security and RF optimization
- DCS, smart load balancing and client roaming/steering
- Rich Captive Portal support Nebula Cloud Authentication Server accounts, social login with Facebook accounts and Facebook WiFi
- Support smart mesh
- Wireless health monitoring and report

Product Options

Model	NAP102	NAP203	NAP303	NAP353
Product name	802.11ac Dual-Radio Nebula Cloud Managed Access Point	802.11ac Dual-Radio, Dual-Optimized Antenna 3x3 Nebula Cloud Managed Access Point	802.11ac Dual-Radio Smart Antenna 3x3 Nebula Cloud Managed Access Point	802.11ac Dual-Radio External Antenna 3x3 Nebula Cloud Managed Outdoor Access Point
Typical deployment	Entry level wireless establishments	Medium to high density deployments	High density and interference-laden indoor environments	Harsh outdoor environments
Radio specification	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.2 Gbps max rate • 2x2 MIMO with 2 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams
Power	DC input: 12 VDC, 1 A PoE: 802.3at compliant	802.3at PoE only (No DC jack)	DC input: 12 VDC, 2 A PoE: 802.3at compliant	PoE: 802.3at compliant
Antenna	Embedded antenna	Dual-optimized internal antenna	6 embedded Smart Antenna	6 N-type connectors*

* The antenna is not embedded and external antennas are separately sold.
** 3-year Professional Pack license is bundled in every Nebula AP.

Nebula Switches

The Zyxel Nebula cloud managed layer-2 switches are ideal for deployment to branch locations. Designed to be managed completely from the Nebula Control Center, the cloud interface of Nebula switches provides site-wide configuration and monitoring of all ports that allow multiple switches to be configured at the same time with a single click.

The Nebula switches introduce many cloud benefits, such as simplified configuration, easy management, site-wide visibility and real-time control for speedy branch network deployments to networks. Advanced settings such as user friendly ACL, VLAN-based QoS and PoE scheduling significantly improve the efficiency of network management.

Highlights

- Layer-2 Gigabit access switching with 8/24-port PoE and non-PoE models
- Support 10GE uplinks to servers for high bandwidth network (NSW200-28P)
- Efficient network provisioning with multiple ports configuration all at once
- User-friendly ACL and PoE schedule configuration
- Optimized for quality voice and video traffic with high 375-watt (NSW200-28P, NSW100-28P)/180-watt (NSW100-10P) power budget PoE technology

- Port Mirroring for network traffic monitoring
- Intelligent PoE technology and network topology
- RADIUS, static MAC forwarding and 802.1X authentication
- Port bandwidth control
- Advanced IGMP multicast functionality and IPTV report

Product Options

Model	NSW100-10	NSW100-10P	NSW100-28	NSW100-28P	NSW200-28P
Product name	8-port GbE Nebula Cloud Managed Switch	8-port GbE Nebula Cloud Managed PoE Switch	24-port GbE Nebula Cloud Managed Switch	24-port GbE Nebula Cloud Managed PoE Switch	24-port GbE Nebula Cloud Managed PoE Switch with 10GbE Uplink
Switch class	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2
Total port count	10	10	28	28	28
100/1000 Mbps	8	-	24	-	-
100/1000 Mbps PoE	-	8	-	24	24
10 Gigabit SFP+	-	-	-	-	4
Gigabit combo (SFP/RJ-45)	2	2	4	4	-
Switching capacity (Gbps)	20	20	56	56	128
Total PoE power budget (watts)	-	180	-	375	375

* 1-year Professional Pack license is bundled in every Nebula switch.

Nebula Security Gateways

The Nebula Cloud Managed Security Gateways are built with remote management and ironclad security for organizations with growing numbers of distributed sites. With the comprehensive Next-Gen Firewall features and security services like IDP and Application Patrol, Content Filtering as well as Anti-virus, Nebula security gateways provide deep, extensive protection to meet everything that small- to mid-size businesses would need.

As the Zyxel Nebula Security Gateway has been completely designed for cloud management, it can automatically pull configuration settings from the cloud, self-configure site-to-site VPN, receive seamless firmware and security signature updates over the Web. Through Nebula's cloud interface, administrators are able to create site-wide policies and monitor all the branch sites effortlessly.

Highlights

- Complete networking, security and application control over the cloud
- Zero-touch site-to-site smart VPN with connection topology and monitoring
- Secure networks with Next-Gen Firewall, IDP and Application Patrol, Content Filtering and Anti-virus
- Built-in DHCP, NAT, QoS and VLAN management

- Static route, policy route and dynamic DNS support
- Streamlined network and application security policy management
- Captive Portal support Nebula Cloud Authentication Server accounts
- Powerful Nebula Security Service analysis report, includes Application Patrol, Content Filtering and Anti-virus

Product Options

Model	NSG50	NSG100	NSG200	NSG300
Product name	Nebula Cloud Managed Security Gateway	Nebula Cloud Managed Security Gateway	Nebula Cloud Managed Security Gateway	Nebula Cloud Managed Security Gateway
Firewall throughput	300 Mbps	450 Mbps	1,250 Mbps	4,000 Mbps
VPN throughput	100 Mbps	150 Mbps	500 Mbps	750 Mbps
IDP throughput	110 Mbps	160 Mbps	500 Mbps	950 Mbps
AV throughput	50 Mbps	90 Mbps	300 Mbps	450 Mbps
Max. TCP concurrent sessions	20,000	40,000	80,000	500,000
Multi-WAN	Yes	Yes	Yes	Yes

* 1-year Professional Pack license and 1-year Nebula Security Service Pack license are bundled in every Nebula security gateway.

Access Points with NebulaFlex/ NebulaFlex Pro

Zyxel NebulaFlex solution allows the access points to be used in two modes; it's easy to switch between standalone mode and License Free Nebula Cloud management, anytime, with a few simple clicks. NebulaFlex provides true flexibility to adapt the access point to different needs in an ever-changing environment.

When used with Nebula you are able to centrally manage, access real-time network information and gain effortless control over your devices, all under a single intuitive platform without the need to install any software or add additional equipment like a controller.

NebulaFlex Pro further supports triple mode functionality (standalone, hardware controller and Nebula) to give business clients true flexibility whatever their project may need.

Access Points with NebulaFlex Product Options

Model	NWA110AX	NWA1302-AC	NWA1123-ACv2	NWA1123-AC PRO	NWA1123-AC HD
Product name	802.11ax (WiFi 6) Dual-Radio PoE Access Point	802.11ac Wall-Plate PoE Access Point	802.11ac Dual-Radio Ceiling Mount Access Point	802.11ac Dual-Radio Dual-Mount Access Point	802.11ac Wave 2 Dual-Radio Access Point
Typical deployment	Entry-level wireless establishments	Per room deployments	Entry level wireless establishments	Medium to high density deployments	High density and interference-laden indoor environments
Radio specification	• 1 x 802.11 b/g/n/ax radio • 1 x 802.11 a/n/ac/ax radio • 1.775 Gbps max rate • 2x2 MIMO with 2 streams (MU-MIMO)	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.2 Gbps max rate • 2x2 MIMO with 2 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.2 Gbps max rate • 2x2 MIMO with 2 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.6 Gbps max rate • 3x3 MIMO with 3 streams (MU-MIMO)
Power	DC input : 12 VDC 1.5 A PoE (802.3)at: power draw 17 W	802.3at PoE only	DC input: 12 VDC, 2 A PoE: 802.3at compliant	802.3at PoE only (No DC jack)	DC input: 12 VDC, 2 A PoE: 802.3at compliant
Antenna	Embedded antenna	Embedded smart antenna	Embedded antenna	Dual-optimized internal antenna	Embedded antenna

* Bundled licenses are not applicable to NebulaFlex AP.

Highlights

- 4x4 802.11ax AP supports up to 3.55 Gbps (WAX650S)

- 2x2 802.11ax AP supports up to 1.775 Gbps (WAX510D, NWA110AX)

- 3x3 802.11ac Wave 2 AP supports up to 1.6 Gbps (NWA1123-AC HD, NWA5123-AC HD, WAC6303D-S)

- 3x3 802.11ac AP supports up to 1.75 Gbps (NWA1123-AC PRO, WAC6503D-S, WAC6553D-E, WAC6103D-I)

- 2x2 802.11ac AP supports up to 1.2 Gbps (NWA1123-ACv2, NWA1302-AC, WAC6502D-S, WAC6552D-S)

- Dual-optimized antenna (NWA1123-AC PRO, WAC6103-I, WAX510D)

- Smart antenna (WAX650S, NWA1302-AC, WAC6303D-S, WAC6502D-S, WAC6552D-S)

- Innovative MU-MIMO technology (WAX650S, WAX510D, NWA110AX, NWA1123-AC HD, NWA5123-AC-HD, WAC6303D-S)

- Wireless, wired and PoE connectivity with a built-in Gigabit switch (NWA1302-AC)

- Support smart mesh (NWA1302-AC, NWA1123-ACv2, NWA1123-AC PRO, NWA1123-AC HD, NWA5123-AC HD, WAC6103D-I, WAC6303D-S, WAC6503D-S, WAC6502D-E, WAC6502D-S, WAC6553D-E, WAC6552D-S)

- Enjoy cloud features like zero-touch deployment, real-time configurations with Nebula

Access Points with NebulaFlex Pro Product Options

Model	WAX650S	WAX510D	WAC6303D-S	NWA5123-AC HD
Product name	802.11ax (WiFi 6) Dual-Radio Unified Pro Access Point	802.11ax (WiFi 6) Dual-Radio Unified Access Point	802.11ac Wave 2 Dual-Radio Unified Pro Access Point	802.11ac Wave 2 Dual-Radio Unified Access Point
Typical deployment	High density and interference-laden indoor environments	Entry-level wireless establishments	High density and interference-laden indoor environments	Medium to high density deployments
Radio specification	• 1 x 802.11 b/g/n/ax radio • 1 x 802.11 a/n/ac/ax radio • 1 x monitoring radio • 3.55 Gbps max rate • 4x4 MIMO with 4 streams (MU-MIMO)	• 1 x 802.11 b/g/n/ax radio • 1 x 802.11 a/n/ac/ax radio • 1.775 Gbps max rate • 2x2 MIMO with 2 streams (MU-MIMO)	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.6 Gbps max rate • 3x3 MIMO with 3 streams (MU-MIMO)	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.6 Gbps max rate • 3x3 MIMO with 3 streams (MU-MIMO)
Power	DC input: 12 VDC 2.5 A PoE (802.3)bt: power draw 31 W	DC input: 12 VDC 1.5 A PoE (802.3)at: power draw 17 W	DC input: 12 VDC, 2 A PoE: 802.3at compliant/802.3af (Restrict 2.4G & 5G radio to one transmit stream only.)	DC input: 12 VDC, 2 A PoE: 802.3at compliant/802.3af (Restrict 2.4G & 5G radio to one transmit stream only.)
Antenna	Embedded smart antenna	Dual-optimized internal antenna	Embedded smart antenna	Embedded antenna

* 1-year Professional pack license is bundled in NebulaFlex Pro AP

Access Points with NebulaFlex Pro Product Options

Model	WAC6103D-I	WAC6502D-S	WAC6503D-S
Product name	802.11ac Dual-Radio Dual-optimized Antenna 3x3 Access Point	802.11ac Dual-Radio Smart Antenna 2x2 Access Point	802.11ac Dual-Radio Smart Antenna 3x3 Access Point
Typical deployment	Medium to high density deployments	High density and interference-laden indoor environments	High density and interference-laden indoor environments
Radio specification	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.2 Gbps max rate • 2x2 MIMO with 2 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams
Power	802.3at PoE only	DC input: 12 VDC 2 A PoE: 802.3at compliant	DC input: 12 VDC 2 A PoE: 802.3at compliant
Antenna	Dual optimized antenna	Embedded smart antenna	Embedded smart antenna

Model	WAC6552D-S	WAC6553D-E
Product name	802.11ac Dual-Radio Unified Pro Outdoor Access Point	802.11ac Dual Radio External Antenna 3x3 Outdoor Access Point
Typical deployment	Outdoor	Outdoor
Radio specification	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.2 Gbps max rate • 2x2 MIMO with 2 streams	• 1 x 802.11 b/g/n radio • 1 x 802.11 a/n/ac radio • 1.75 Gbps max rate • 3x3 MIMO with 3 streams
Power	802.3at PoE only	802.3at PoE only
Antenna	Embedded smart antenna	External antenna

Switches with NebulaFlex/ NebulaFlex Pro

Zyxel switches with **NebulaFlex** allow you to easily switch between standalone and our license-free Nebula cloud management platform anytime with just a few simple clicks. The XS3800-28 switch with **NebulaFlex Pro** is further bundled with a 1-year Professional Pack license, allowing you to use the advanced features including the advanced IGMP technology, the comprehensive IPTV report that provides insights to channel usage information, and the network analytics

alert to optimize network performance along with more upcoming new features on NCC. After a year, you may choose to extend the license or continue to use the device with Nebula basic (free) version. Both **NebulaFlex/NebulaFlex Pro** switches protect your investment on wired technology by offering the flexibility to transition to the cloud in your own time, without worrying about additional ongoing licensing costs.

Highlights

- Smart fan and fanless designs offer silent operations in the office
- Check real-time status intuitively by cloud and PoE LED indicators
- Handles the increasing high-bandwidth applications in your office affordably with four built-in 10G SFP+ uplinks (XGS1930 Series)

- The first Multi-Gigabit (100M/1G/2.5G/5G/10G) switch that can step up the network bandwidth via the cloud
- Flexible to switch between standalone and Nebula Cloud management without additional costs
- Enjoy cloud features like zero-touch deployment, real-time configurations with Nebula

Switches with NebulaFlex Product Options

Model	XGS1930-28	XGS1930-28HP	XGS1930-52	XGS1930-52HP
Product name	24-port GbE Smart Managed Switch with 4 SFP+ Uplink	24-port GbE Smart Managed PoE Switch with 4 SFP+ Uplink	48-port GbE Smart Managed Switch with 4 SFP+ Uplink	48-port GbE Smart Managed PoE Switch with 4 SFP+ Uplink
Switch class	Smart Managed	Smart Managed	Smart Managed	Smart Managed
Total port count	28	28	52	52
100/1000 Mbps	24	24	48	48
100/1000 Mbps PoE	-	24	-	48
10 Gigabit SFP+	4	4	4	4
Switching capacity (Gbps)	128	128	176	176
Total PoE power budget (watts)	-	375	-	375

Switches with NebulaFlex Product Options

Model	GS1920-8HPv2	GS1920-24v2	GS1920-24HPv2	GS1920-48v2	GS1920-48HPv2
Product name	8-port GbE Smart Managed PoE Switch	24-port GbE Smart Managed Switch	24-port GbE Smart Managed PoE Switch	48-port GbE Smart Managed Switch	48-port GbE Smart Managed PoE Switch
Switch class	Smart Managed	Smart Managed	Smart Managed	Smart Managed	Smart Managed
Total port count	10	28	28	50	50
100/1000 Mbps	8	24	24	44	44
100/1000 Mbps PoE	8	-	24	-	48
Gigabit SFP	-	-	-	2	2
Gigabit combo (SFP/RJ-45)	2	4	4	4	4
Switching capacity (Gbps)	20	56	56	100	100
Total PoE power budget (watts)	130	-	375	-	375

 * Bundled licenses are not applicable to NebulaFlex switches.

Switch with NebulaFlex Pro Product Option

Model	XS3800-28
Product name	28-port 10GbE L2+ Managed Switch*
Switch class	Layer 2 Plus
Total port count	28
100M/1G/2.5G/ 5G/10G Ethernet (RJ-45)	4
Multi-Gigabit combo (100M/1G/ 2.5G/5G/10G RJ-45/SFP+)	8
10 Gigabit SFP+	16
Switching Capacity (Gbps)	560

 * Routing & IP interfaces are only available in standalone mode for now.

License information

Credit-based License Model

Nebula offers free cloud management, and it bundles one-year professional pack license with devices for users to experience the advanced features and functions. After the one year, users may choose to extend the license or move to the free Cloud management.

Nebula offers license points (Nebula Points) to extend the licenses, which vary by product and can be shared among different types of devices regardless of adding or renewing device licenses. Under the credit-based licensing architecture, fewer license SKUs and keys need to be activated.

License Co-termination

The Zyxel Nebula Control Center (NCC) automatically adjusts the expiration dates of all licenses to expire on the same date (co-termination date). When an organization purchases additional licenses for hardware, the terms between the existing license and the new license will be adjusted; all the licenses will be re-calculated for the remaining time to terminate on the same date so that each organization will have only one single license renewal date. Please note that the usage of the Zyxel Nebula Service is subject to the terms of License Co-termination.

Limited Lifetime License

The limited lifetime license is for users who look forward to a long-term, full-functioned management service, which allows users to configure and monitor their devices on NCC without the hassle purchasing an annual management license, as well as to replace the existing Nebula devices with new Nebula devices at no additional license charge.

Moreover, the limited lifetime license schema is similar to which of the traditional controllers, it is easy to understand and use. On top of the credit-based licensing model which offers businesses a predictable option, the limited lifetime license has been created to provide more flexibility on licensing to both customers and channels, lowering down the long-term cost.

Nebula Security Service License

To help users reducing the initial license purchase, registration and activation efforts on Nebula Security Gateways, every NSG is pre-bundled with one-year Nebula Security Service - Security Pack (NSS-SP), including the licenses for IDP and Application Patrol, Content Filtering and Anti-virus. The NSS-SP license is sold separately from the Professional Pack license; if there are more than one NSG in an organization, the NSS licenses will also be co-terminated to the same day, but will be separated from the Professional Pack license.

	BASIC PACK (LICENSE FREE)	PROFESSIONAL PACK	PROFESSIONAL PACK (LIFE TIME)
	NO PAYMENT REQUIRED	ANNUAL PAYMENT PER DEVICE	ONE TIME PAYMENT PER DEVICE
ZERO TOUCH AUTO-DEPLOYMENT (HARDWARE)	●	●	●
QUICK DEPLOY APP FOR ANDROID AND IOS	●	●	●
AUTOMATIC UPDATES (FIRMWARE & FEATURES*1)	●	●	●
ANYTIME, ANYWHERE CLOUD DEVICE CONFIGURATION	●	●	●
ANYTIME, ANYWHERE CLOUD DASHBOARD	●	●	●
ANYTIME, ANYWHERE CLOUD DEVICE MONITORING (LIVE/HISTORY)	7 DAYS (ROLLING)	365 DAYS (ROLLING)	365 DAYS (ROLLING)
ANYTIME, ANYWHERE CLOUD CLIENT MONITORING (LIVE/HISTORY)	7 DAYS (ROLLING)	365 DAYS (ROLLING)	365 DAYS (ROLLING)
ANYTIME, ANYWHERE CLOUD EVENT LOGS ACCESS	7 DAYS (ROLLING)	365 DAYS (ROLLING)	365 DAYS (ROLLING)
ANYTIME, ANYWHERE CLOUD VISUAL LOCATION MAP & FLOOR PLAN	●	●	●
ANYTIME, ANYWHERE CLOUD REPORTS	●	●	●
ANYTIME, ANYWHERE CLOUD REPORTS (EMAIL OUTPUT)		●	●
USER AUTHORITIES E.G. BUILT IN/EXTERNAL RADIUS FOR 802.1X & MAC	●	●	●
USER AUTHORITIES E.G. FACEBOOK LOGIN FOR CAPTIVE PORTAL	●	●	●
USER AUTHORITES BUILT IN USER AUTHENTICATION ENTRIES	100	NO LIMIT	NO LIMIT
USER AUTHORITES BUILT IN VLAN ASSIGNMENT		●	●
MAXIMUM ASSIGNED ADMIN ACCOUNTS	5	NO LIMIT	NO LIMIT
SNMP/SYSLOG OUTPUT	●	●	●
DEVICE FUNCTIONALITY SCHEDULES (E.G. SSID, POE, FIREWALL RULES)	●	●	●
WI-FI MAXIMUM SSID	8 SSID	8 SSID	8 SSID
WI-FI DCS (SCHEDULED AND MANUAL)	●	●	●
ORGANISATIONAL USER AUDIT/CHANGE LOGS		●	●
USER NOTIFICATIONS & ALERTS		●	●
AUTOMATIC VISUAL TOPOLOGY		●	●
NEW SITE CONFIGURATION CLONE		●	●
ORGANISATIONAL TABLE DATA EXPORT		●	●
ORGANISATIONAL-WIDE CONFIGURATION TOOLS (E.G. SITE-BASED SETTINGS SYNC, SWITCH SETTINGS CLONE, CONFIGURATION TEMPLATE*2)		●	●
CONFIGURATION BACKUP/RESTORE		●	●
MSP BRANDING (LOGO, SUPPORT CONTACT)		●	●
WIFI ANALYTICS INTEGRATION (SOCIAL MEDIA/3RD PARTY AAA)		●	●
FACEBOOK WIFI		●	●
WIRELESS HEALTH MONITORING AND REPORT		●	●
SWITCH IPTV FEATURE SET (E.G. ADVANCED IGMP, VIEW SUMMARY, AI ALERT)		●	●
GATEWAY ADVANCED VPN FEATURE SET (E.G. VPN TOPOLOGY, VPN TRAFFIC USAGE)		●	●
GATEWAY NEBULA SECURITY SERVICE (NSS) ANALYSIS REPORT (ANTI-VIRUS/APP PATROL/CONTENT FILTERING)*3	7 DAYS (ROLLING)	●	●
HARDWARE DEVICE LIMIT FOR MANAGEMENT	NO LIMIT	NO LIMIT	NO LIMIT
PRIORITY NEBULA SUPPORT REQUEST (DIRECT NCC)		●	●
TECHNICAL PHONE/EMAIL/FORUM SUPPORT	●	●	●

*: "ANYTIME, ANYWHERE" refers to the ability to access the devices via the nebula web service (NCC) over the Internet.
*1: Some features with per device granularity option e.g. firmware management, AP's station signal (RSSI) threshold configuration only available in Professional Pack license.
*2: Currently AP and Gateway settings are NOT available.
*3: Require NSS-SP license, and 7 days only on free version.

Service related information

Nebula Forum

The Nebula forum is a great place where users can come together to share tips and ideas, get problems solved and learn from fellow users around the world. Join the conversations to know more about everything the Nebula products can do. Visit Nebula forum to explore more.

URL: https://forum.nebula.zyxel.com/

Support Request

The Support Request channel allows users to submit request tickets directly on NCC. It is a tool that provides an easy way for users to send and track an inquiry for help on a problem, request or service, to find answers to their questions quickly. The request will go directly to the Nebula support team, and will be reviewed and followed by a dedicated group until the proper resolutions are found.

* Available for Professional Pack users.

ZYXEL

Your Networking Ally

Corporate Headquarters

Zyxel Communications Corp.
Tel: +886-3-578-3942
Fax: +886-3-578-2439
Email: sales@zyxel.com.tw
http://www.zyxel.com

Europe

Zyxel Belarus
Tel: +375 17 334 6099
Fax: +375 17 334 5899
Email: sales@zyxel.by
http://www.zyxel.by

Zyxel BeNeLux
Tel: +31 23 555 3689
Fax: +31 23 557 8492
Email: sales@zyxel.nl
http://www.zyxel.nl
http://www.zyxel.be

**Zyxel Bulgaria
(Bulgaria, Macedonia,
Albania, Kosovo)**
Tel: +3592 4443343
Email: info@cz.zyxel.com
http://www.zyxel.bg

Zyxel Czech Republic
Tel: +420 241 091 350
Hotline: +420 241 774 665
Fax: +420 241 091 359
Email: sales@cz.zyxel.com
http://www.zyxel.cz

Zyxel Denmark A/S
Tel: +45 39 55 07 00
Fax: +45 39 55 07 07
Email: sales@zyxel.dk
http://www.zyxel.dk

Zyxel Finland
Tel: +358 9 4780 8400
Email: myynti@zyxel.fi
http://www.zyxel.fi

Zyxel France
Tel: +33 (0)4 72 52 97 97
Fax: +33 (0)4 72 52 19 20
Email: info@zyxel.fr
http://www.zyxel.fr

Zyxel Germany GmbH
Tel: +49 (0) 2405-6909 0
Fax: +49 (0) 2405-6909 99
Email: sales@zyxel.de
http://www.zyxel.de

Zyxel Hungary & SEE
Tel: +36 1 848 0690
Email: info@zyxel.hu
http://www.zyxel.hu

Zyxel Iberia
Tel: +34 911 792 100
Email: ventas@zyxel.es
http://www.zyxel.es

Zyxel Italy
Tel: +39 011 2308000
Email: info@zyxel.it
http://www.zyxel.it

Zyxel Norway
Tel: +47 22 80 61 80
Fax: +47 22 80 61 81
Email: salg@zyxel.no
http://www.zyxel.no

Zyxel Poland
Tel: +48 223 338 250
Hotline: +48 226 521 626
Fax: +48 223 338 251
Email: info@pl.zyxel.com
http://www.zyxel.pl

Zyxel Romania
Tel: +40 31 0809 888
Fax: +40 31 0809 890
Email: info@cz.zyxel.com
http://www.zyxel.ro

Zyxel Russia
Tel: +7 (495) 539-9935
Fax: +7 (495) 542-8925
Email: info@zyxel.ru
http://www.zyxel.ru

Zyxel Slovakia
Tel: +421 220 861 847
Hotline: +421 220 861 848
Fax: +421 243 193 990
Email: info@cz.zyxel.com
http://www.zyxel.sk

Zyxel Sweden A/S
Tel: +46 8 55 77 60 60
Fax: +46 8 55 77 60 61
Email: sales@zyxel.se
http://www.zyxel.se

Zyxel Switzerland
Tel: +41 (0)44 806 51 00
Fax: +41 (0)44 806 52 00
Email: info@zyxel.ch
http://www.zyxel.ch

Zyxel Turkey A.S.
Tel: +90 212 314 18 00
Fax: +90 212 220 25 26
Email: bilgi@zyxel.com.tr
http://www.zyxel.com.tr

Zyxel UK Ltd.
Tel: +44 (0) 118 9121 700
Fax: +44 (0) 118 9797 277
Email: sales@zyxel.co.uk
http://www.zyxel.co.uk

Zyxel Ukraine
Tel: +380 (50) 440 88 61
Email: evelichko@zyxel.eu
http://www.zyxel.ua

Asia

**Zyxel China (Shanghai)
China Headquarters**
Tel: +86-021-61199055
Fax: +86-021-52069033
Email: sales@zyxel.cn
http://www.zyxel.cn

Zyxel China (Beijing)
Tel: +86-010-62602249
Email: sales@zyxel.cn
http://www.zyxel.cn

Zyxel China (Tianjin)
Tel: +86-022-87890440
Fax: +86-022-87892304
Email: sales@zyxel.cn
http://www.zyxel.cn

Zyxel India
Tel: +91-11-4760-8800
Fax: +91-11-4052-3393
Email: info@zyxel.in
http://www.zyxel.in

Zyxel Kazakhstan
Tel: +7-727-2590-699
Fax: +7-727-2590-689
Email: info@zyxel.kz
http://www.zyxel.kz

Zyxel Korea Corp.
Tel: +82-2-890-5535
Fax: +82-2-890-5537
Email: sales@zyxel.kr
http://www.zyxel.kr

Zyxel Malaysia
Tel: +603 2282 1111
Fax: +603 2287 2611
Email: sales@zyxel.com.my
http://www.zyxel.com.my

Zyxel Middle East FZE
Tel: +971 4 372 4483
Cell: +971 562146416
Email: sales@zyxel-me.com
http://www.zyxel-me.com

Zyxel Philippine
Email: sales@zyxel.com.ph
http://www.zyxel.com.ph

Zyxel Singapore
Tel: +65 6339 3218
Hotline: +65 6339 1663
Fax: +65 6339 3318
Email: sales@zyxel.com.sg
http://www.zyxel.com.sg

Zyxel Taiwan (Taipei)
Tel: +886-2-2739-9889
Fax: +886-2-2735-3220
Email: sales_tw@zyxel.com.tw
http://www.zyxel.com.tw

Zyxel Thailand
Tel: +66-(0)-2831-5315
Fax: +66-(0)-2831-5395
Email: info@zyxel.co.th
http://www.zyxel.co.th

Zyxel Vietnam
Tel: (+848) 35202910
Fax: (+848) 35202800
Email: sales_vn@zyxel.com.tw
http://www.zyxel.com/vn/vi/

The Americas

**Zyxel USA
North America Headquarters**
Tel: +1-714-632-0882
Fax: +1-714-632-0858
Email: sales@zyxel.com
http://us.zyxel.com

Zyxel Brazil
Tel: +55 (11) 3373-7470
Fax: +55 (11) 3373-7510
Email: comercial@zyxel.com.br
http://www.zyxel.com/br/pt/

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

5-000-00020003   01/20