



## NSW200-28P

### 24-port GbE Nebula Cloud Managed PoE Switch with 10GbE Uplink

The Zyxel Nebula NSW200-28P Cloud Managed PoE Switch is a 375-watt high-power-budget Layer-2 switch with 10 Gigabit uplinks designed to be managed completely from the Nebula cloud. The cloud-based management interface provides site-wide configuration and monitoring on all ports, which allows multiple switches to be configured at the same time with a single click over the Web.

The NSW200-28P brings many benefits of the cloud management systems, such as simplified configuration, easy management, site-wide visibility and real-time control for speedy branch network deployments into networks. Advanced settings such as user friendly ACL, VLAN-based QoS and PoE scheduling significantly improve the efficiency of network management.

### Benefits

#### Zero-touch deployments

The Zyxel Nebula Cloud Managed Switches support plug-and-play installation through remote provision with simple steps. The Zyxel Nebula NSW200-28P automatically downloads the current network configuration to the device and enables auto-provisioning without the need for on-site network professionals.



Essential L2 features with user-friendly ACL and VLAN configuration



Support 10GbE uplinks to servers for high bandwidth network



Optimized for quality voice and video traffic with high 375-watt power budget PoE technology



Support Port Mirroring for network traffic monitoring



Support DHCP Server Guard and IGMP snooping



RADIUS, static MAC forwarding and 802.1X authentication



nebula

## Perfect network backbone solution

Designed with 10 Gigabit uplinks, Zyxel's Nebula NSW200-28P is the perfect network backbone solution for the Gigabit-speed 802.11ac trend. It provides 24 Gigabit ports for connecting devices to the network, along with four SFP+ ports for network uplinks to servers and delivery of high-bandwidth network with ease. Additionally, the Zyxel Nebula NSW200-28P enhances network security and storm protection with advanced mechanisms such as Storm Control to detect and block intentional network attacks as well as to prevent disruptions by broadcasts, multicasts or unknown unicasts.

## Efficient network provisioning

Rather than traditional management operations that require network administrators to configure each device separately with repetitive command lines, all Nebula Switches connected to the Nebula Control Center can be centrally managed with a single management interface. For better network management efficiency, switch settings made in the Nebula Control Center can automatically propagate to all connected Nebula switches.

## Increased network uptime

User misspecifications are commonly seen in setting up ACL, reconfiguring VLAN/IP or other similar operations, and these may cause interruption to cloud connection. The Zyxel Nebula Cloud Managed Switches provide stable network environments by incorporating a mechanism that detects and prevents configuration that could potentially cause network disconnection between the switch and Nebula Control Center.

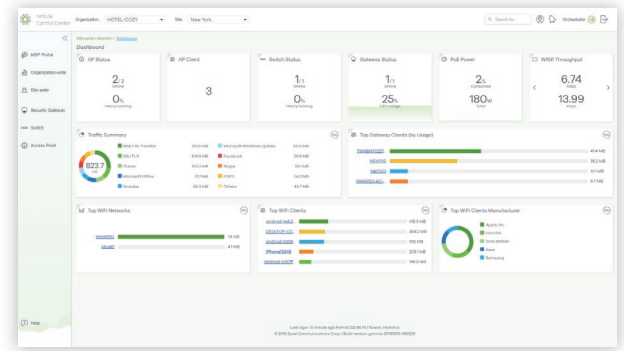
## Better user experience

Quality-of-service (QoS) functionality is essential for applications that require guaranteed quality for stable connections. The Zyxel Nebula NSW200-28P PoE switches offer a smarter way for optimizing quality of service, which enables administrators to specify VLAN configuration with different priorities directly. This means that administrators can assign a priority to a specific VLAN through Nebula Control Center, and this priority can be applied to all tagged traffics for a specific VLAN. Traffics of the higher priority VLAN will receive preferential treatment and are serviced before VLANs with lower priorities. The same mechanism applies to voice VLAN configuration as well.

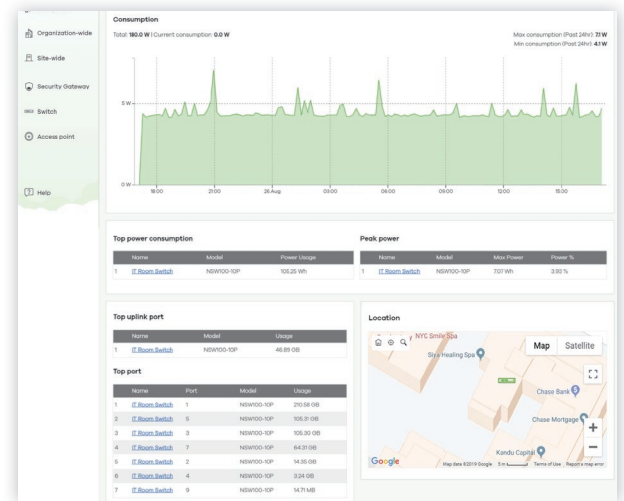
## Comprehensive IPTV Reports\*

Nebula provides powerful insight into your IPTV channel management, giving an instant view on the most popular or selected channels in different time intervals. On top of that, it also keeps track of statistics including the viewers' IP addresses, connected ports, channels watched and the periods of time spent on each channel. Furthermore, the built-in Network Analytic provides automated analyses on your network configurations for advices on optimization or troubleshooting of the IPTV network.

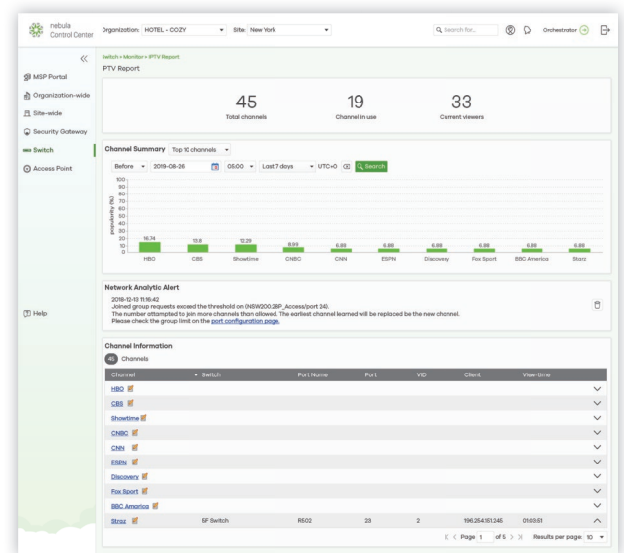
\* Requires Professional Pack license.



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



Monitor switch port usage and bandwidth utilization by different time intervals and view historical status record with the intuitive management interface



Provide utilization, network analysis and client statistics of the multicast groups or channels in an IPTV environment

## Model List

### NSW200-28P

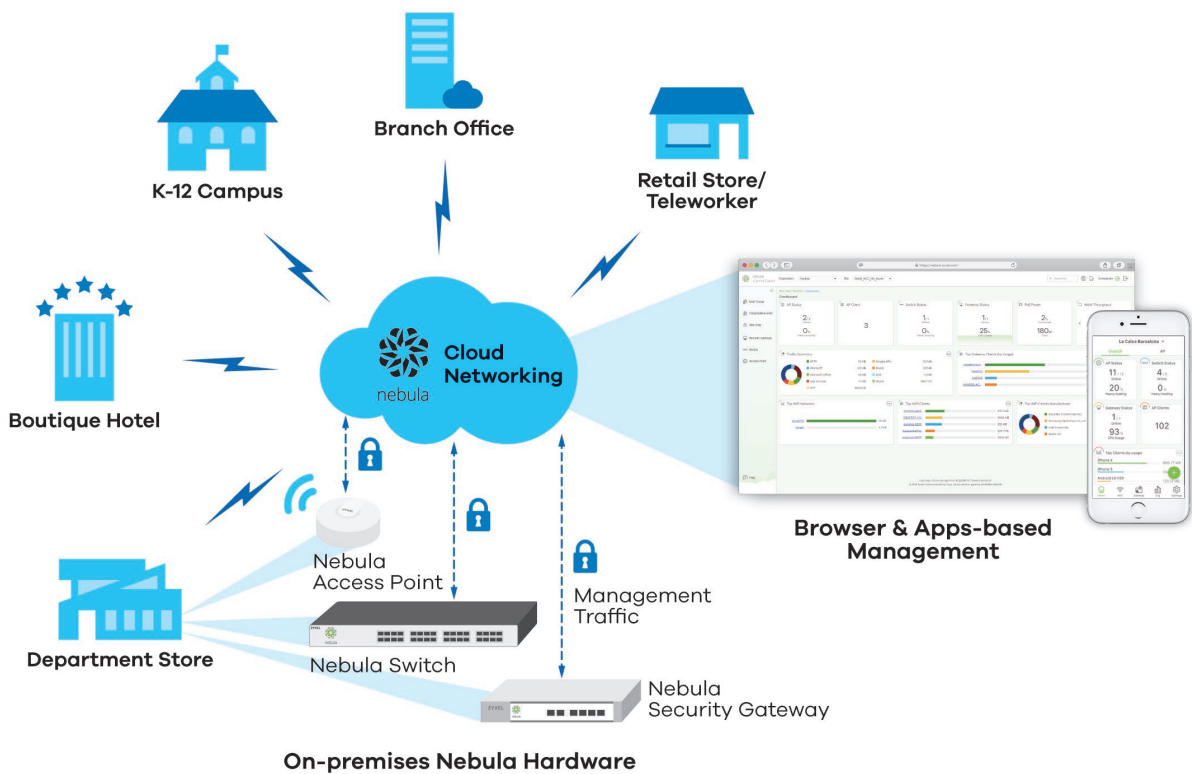
24-port GbE Nebula Cloud Managed PoE Switch with 10GbE Uplink



- 24 x GbE PoE RJ-45 ports
- 4 x 10 GbE SFP+ ports

## Applications Diagram

### Nebula cloud management architecture



## Ultra Durable Hardware Design



Unlike normal switch hardware design with Electrolytic capacitors (E-cap), the Zyxel Nebula Cloud Managed Switches adopt solid capacitors to get rid of drying out, bursting and leaking problems. Solid capacitors ensure Nebula switches with longer lifetime, high stability and robust operation.

# Specifications

<b>Model</b>	<b>NSW200-28P</b>
<b>Product name</b>	24-port GbE Nebula Cloud Managed PoE Switch with 10GbE Uplink



<b>Switch class</b>	Layer 2	
<b>Port Density</b>		
<b>Total port count</b>	28	
<b>100/1000 Mbps PoE</b>	24	
<b>10 Gigabit SFP+</b>	4	
<b>Gigabit combo (SFP/RJ-45)</b>	-	
<b>Performance</b>		
<b>Switching capacity (Gbps)</b>	128	
<b>Forwarding rate (Mbps)</b>	95.2	
<b>Packet buffer (byte)</b>	1536 K	
<b>MAC address table</b>	16 K	
<b>Power</b>		
<b>Input</b>	100 - 240 V AC, 50/60 Hz	
<b>Max. power consumption (watt)</b>	453	
<b>Total PoE power budget (watt)</b>	375	
<b>Physical Specifications</b>		
<b>Item</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	440 x 330 x 44.5/17.32 x 12.99 x 1.75
	<b>Weight (kg/lb.)</b>	5.06/11.16
<b>Packing</b>	<b>Dimensions (WxDxH)(mm/in.)</b>	583 x 452 x 97/23.07 x 17.8 x 3.82
	<b>Weight (kg/lb.)</b>	6.4/14.1
<b>Included accessories</b>	<ul style="list-style-type: none"> <li>• Power cord</li> <li>• Rack mounting kit</li> </ul>	
<b>Environmental Specifications</b>		
<b>Operating</b>	<b>Temperature</b>	0°C to 50°C/32°F to 122°F
	<b>Humidity</b>	10% to 95% (non-condensing)
<b>Storage</b>	<b>Temperature</b>	-40°C to 70°C/-40°F to 158°F
	<b>Humidity</b>	10% to 90% (non-condensing)
<b>MTBF (hr)</b>	560,726	
<b>Heat dissipation (BTU/hr)</b>	1,483.4	
<b>Acoustic noise (dBA)</b>	42.075	

## Features

### Standard Compliance

- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-TX Ethernet
- IEEE 802.3ab 1000BASE-T Ethernet
- IEEE 802.3z 1000BASE-X
- IEEE 802.3af PoE
- IEEE 802.3at PoE Plus
- IEEE 802.3az EEE
- IEEE 802.3ad LACP aggregation
- IEEE 802.1AB LLDP
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1p Class of Service (CoS) Prioritization
- IEEE 802.1X port authentication
- ZDP (Zyxel Discovery Protocol)

### Resilience and Availability

- IEEE 802.3ad LACP
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- Loop guard
- BPDU Guard
- Root Guard
- Dual configuration files
- Dual images

### Traffic Control

- 802.1Q static VLANs/  
dynamic VLANs: 1 K/4 K
- Port-based VLAN
- Voice VLAN

### Security

- 802.1X
- Port security
- Layer 3 IP filtering
- Layer 4 TCP/UDP socket filtering
- Multiple RADIUS servers
- Login authentication by RADIUS
- Authorization on RADIUS
- SSL
- SSH
- DHCP server guard
- ACL packet filtering (IPv4)
- Port isolation

### Quality of Service (QoS)

- No. of hardware queues per port: 8 (User configurable: 6)
- Storm control (Broadcast, multicast, unknown unicast (DLF))
- Bandwidth Control\*

### Layer 2 Multicast

- L2 multicast
- IGMP snooping (v1, v2, v3)
- IGMP snooping fast leave\*
- IGMP snooping immediate leave\*
- Configurable IGMP snooping timer\*

- IGMP snooping filtering\*
- IGMP snooping Querier\*
- IGMP snooping group limit\*
- IPTV report\*
- IGMP report proxy/leave proxy

### Manageability

- SNMP v1, v2c
- ICMP echo/echo reply
- IEEE 802.1AB LLDP

### Device Management

- Web interface
- Configuration saving and retrieving
- DHCP client
- Daylight saving
- Cloud-managed
- NTP
- Port mirroring
- Scheduled PoE

### Certifications

#### Safety

- LVD
- BSMI

#### EMC

- FCC Part 15 (Class A)
- CE EMC (Class A)
- BSMI EMC

#### RoHS

- Level A

\* Requires Professional Pack license

## Accessories

### Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	DDMI
<b>SFP10G-SR</b>	10-Gigabit SFP+	Duplex LC	850 nm	300 m (984 ft)	Yes
<b>SFP10G-LR</b>	10-Gigabit SFP+	Duplex LC	1310 nm (Tx)	10 km (10936 yd)	Yes
<b>SFP-1000T</b>	Gigabit	RJ-45	-	100 m (109 yd)	-
<b>SFP-BX1310-10-D</b>	Gigabit	LC	1310 nm (Tx); 1490 nm (Rx)	10 km (10936 yd)	Yes
<b>SFP-BX1490-10-D</b>	Gigabit	LC	1490 nm (Tx); 1310 nm (Rx)	10 km (10936 yd)	Yes
<b>SFP-LHX1310-40-D</b>	Gigabit	LC	1310 nm	40 km (43744 yd)	Yes
<b>SFP-LX-10-D</b>	Gigabit	LC	1310 nm	10 km (10936 yd)	Yes
<b>SFP-SX-D</b>	Gigabit	LC	850 nm	550 m (601 yd)	Yes
<b>SFP-ZX-80-D</b>	Gigabit	LC	1550 nm	80 km (87488 yd)	Yes
<b>SFP-100BX1310-20-D</b>	Fast Ethernet	LC	1310 nm (Tx); 1550 nm (Rx)	20 km (21872 yd)	Yes
<b>SFP-100BX1550-20-D</b>	Fast Ethernet	LC	1550 nm (Tx); 1310 nm (Rx)	20 km (21872 yd)	Yes
<b>SFP-100FX-2</b>	Fast Ethernet	LC	1310 nm	2 km (2187 yd)	-
<b>SFP-100LX-20</b>	Fast Ethernet	LC	1310 nm	20 km (21872 yd)	-

# ZYXEL

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Datasheet [NSW200-28P](#)



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