

## NSW100 Series

### 8/24-port GbE L2 Nebula Cloud Managed PoE Switch

The Zyxel Nebula NSW100 Series Cloud Managed Layer-2 Switches come in 8- and 24-port models with high power budget of 180 and 375 watts respectively. They are designed to be managed completely from the Nebula Control Center. The cloud-based management interface provides site-wide configuration and monitoring of all ports, which allows multiple switches to be configured at the same time with a single click over the Web.

The Nebula switches bring 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. Every Nebula Switch automatically downloads the current network configuration to the device and enables auto-provisioning without the need for on-site network professionals.

#### 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



Essential L2 features with user-friendly ACL and VLAN configuration



Optimized for quality voice and video traffic with high 375 (28P)/180 (10P)-watt power budget PoE technology



Support Port Mirroring for network traffic monitoring



Support DHCP white list and IGMP snooping



RADIUS, static MAC forwarding and 802.1X authentication



nebula

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 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.

## Holistic management

Zyxel Nebula Switches can automatically discover wired and wireless devices that connected to a network, and then draw the network topology to enable network administrators to easily troubleshoot issues remotely without the need for manual mapping and overlay monitoring software.

## Model List

### NSW100-28P

#### 24-port GbE Nebula Cloud Managed PoE Switch



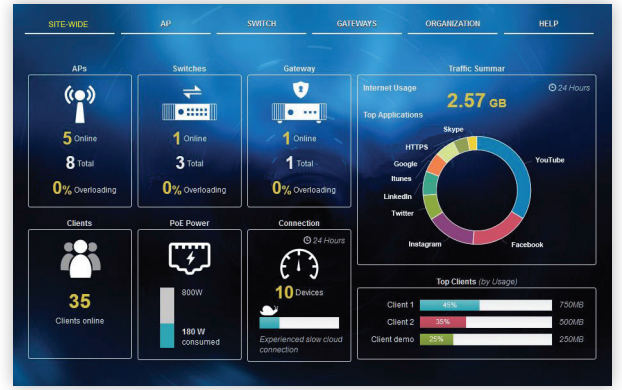
- 24 x GbE PoE RJ-45 ports
- 4 x GbE combo (RJ-45/SFP) ports

### NSW100-10P

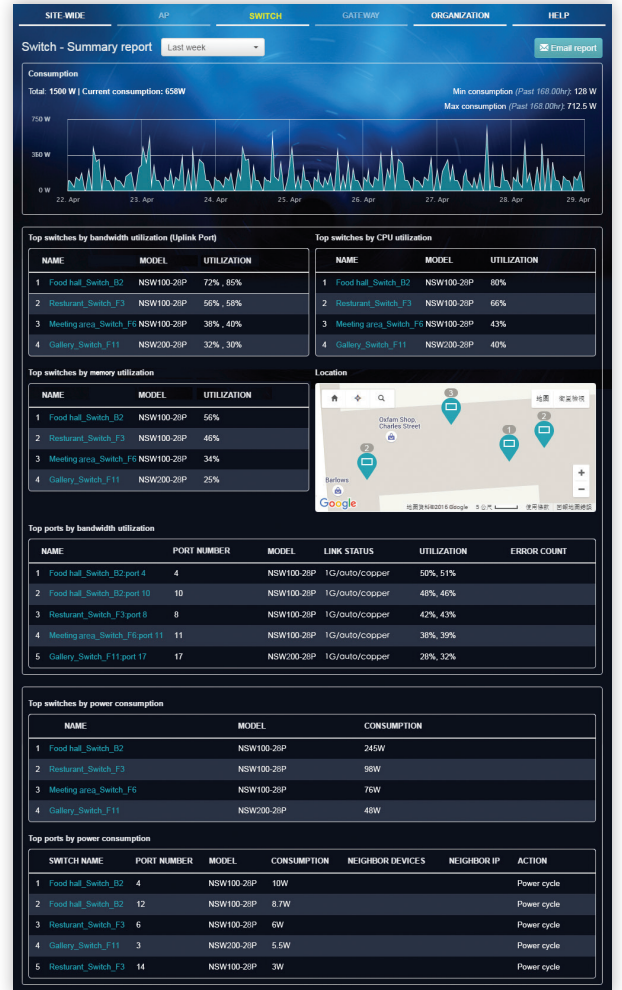
#### 8-port GbE Nebula Cloud Managed PoE Switch



- 8 x GbE PoE RJ-45 ports
- 2 x GbE combo (RJ-45/SFP) ports



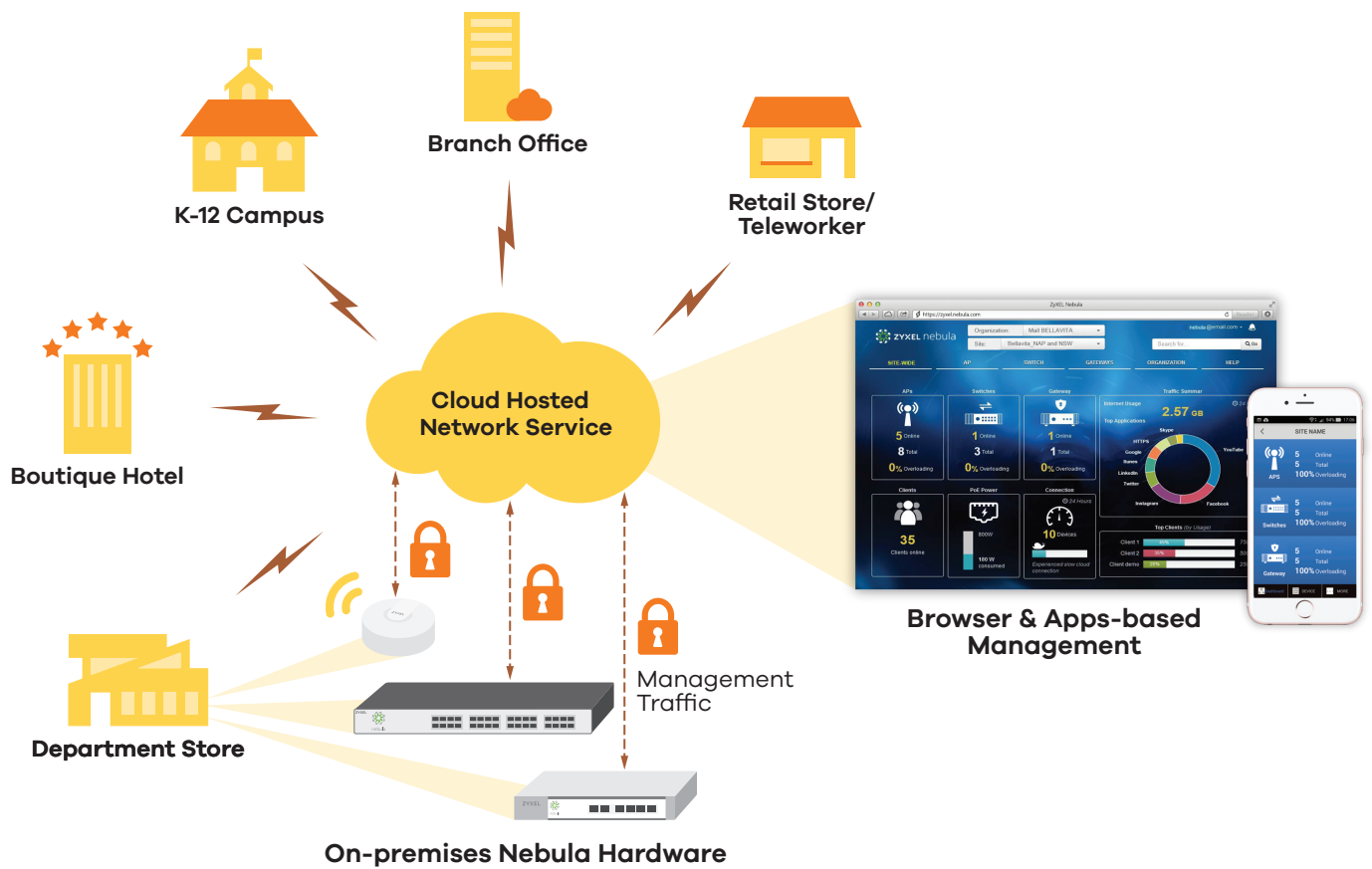
Real-time control of all the devices through a single pane of glass



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

# 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

| Model  | NSW100-28P  | NSW100-10P  |                                       |
|--|---|---|---------------------------------------|
| <b>Product name</b>  | 24-port GbE Nebula Cloud Managed PoE Switch   | 8-port GbE Nebula Cloud Managed PoE Switch  |                                       |
|   |   |   |                                       |
| <b>Switch class</b>  | Layer 2   | Layer 2   |                                       |
| <b>Port Density</b>  |   |   |                                       |
| <b>Total port count</b>  | 28  | 10  |                                       |
| <b>100/1000 Mbps PoE</b>   | 24  | 8   |                                       |
| <b>Gigabit combo (SFP/RJ-45)</b>   | 4   | 2   |                                       |
| <b>Performance</b>   |   |   |                                       |
| <b>Switching capacity (Gbps)</b>   | 56  | 20  |                                       |
| <b>Forwarding rate (Mbps)</b>  | 41.67   | 15  |                                       |
| <b>Packet buffer (byte)</b>  | 1.5 M   | 1.5 M   |                                       |
| <b>MAC address table</b>   | 16 K  | 16 K  |                                       |
| <b>Power</b>   |   |   |                                       |
| <b>Input</b>   | 100 - 240 V AC, 50/60 Hz  | 100 - 240 V AC, 50/60 Hz  |                                       |
| <b>Max. power consumption (watt)</b>   | 454   | 230   |                                       |
| <b>Total PoE power budget (watt)</b>   | 375   | 180   |                                       |
| <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   | 330 x 230.5 x 44.5/12.99 x 9.07x 1.75 |
|  | <b>Weight (kg/lb.)</b>  | 4.79/10.56  | 2.703/5.96                            |
| <b>Packing</b>   | <b>Dimensions (WxDxH)(mm/in.)</b>   | 583 x 451 x 98/22.95 x 17.76 x 3.86   | 389 x 337 x 79/15.31 x 13.27 x 3.11   |
|  | <b>Weight (kg/lb.)</b>  | 5.747/12.67   | 3.65/8.05                             |
| <b>Included accessories</b>  | <ul style="list-style-type: none"> <li>• Power cord</li> <li>• Rack mounting kit</li> </ul> | <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   | 0°C to 50°C/32°F to 122°F             |
|  | <b>Humidity</b>   | 10% to 95% (non-condensing)   | 10% to 95% (non-condensing)           |
| <b>Storage</b>   | <b>Temperature</b>  | -40°C to 70°C/-40°F to 158°F  | -40°C to 70°C/-40°F to 158°F          |
|  | <b>Humidity</b>   | 10% to 90% (non-condensing)   | 10% to 90% (non-condensing)           |
| <b>MTBF (hr)</b>   |   | 949,326   | 1,155,719                             |
| <b>Heat dissipation (BTU/hr)</b>   |   | 1,625.55  | 784.30                                |
| <b>Acoustic noise (dBA)</b>  |   | 59.6  | 37.7                                  |

## 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 (Max # Trunks/ Links per Trunk): 8/8

### Traffic Control

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

### Security

- 802.1X
- Port security
- Layer 3 IP filtering
- Layer 4 TCP/UDP socket filtering
- Multiple RADIUS servers
- Authorization on RADIUS
- SSL
- DHCP white list
- Guest VLAN
- ACL packet filtering (IPv4)

### Quality of Service (QoS)

- No. of hardware queues per port: 8 (User configurable: 6)

### Layer 2 Multicast

- L2 multicast
- IGMP snooping (v1, v2, v3)

### Manageability

- SNMP v1, v2c
- SNMP trap group
- ICMP echo/echo reply
- Syslog
- 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

## Accessories

### Transceivers (Optional)

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

# ZYXEL

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Datasheet [NSW100 Series](#)



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