The Zyxel Nebula Cloud Managed Security Gateway is built with remote management and ironclad security for organizations with multiple distributed sites. With an extensive suite of security features including ICSA-certified firewall, IPsec VPN connectivity, Intrusion Detection Prevention (IDP) and Application Patrol, Content Filtering as well as Anti-virus the NSG provides deep, extensive protection to meet everything that small- to mid-sized businesses need.

As the Zyxel Nebula Security Gateway has been designed from the ground up to be cloud managed, installation and management is as simple as 1-2-3. Through Nebula’s cloud interface, administrators can create site-wide policies and monitor all branch sites effortlessly, even without training.

Benefits

**Out-of-the-box cloud-managed gateway**
Every Zyxel Nebula Security Gateway can be quickly and easily deployed at a remote location through nearly zero-touch cloud provisioning. It automatically pulls policies and configuration settings, receives seamless firmware upgrades and security signature updates from the cloud without the need for on-site networking expertise.

**Easy setup, simple management**
Traditional gateways require administrators to manage configurations and security policies separately for every device, eating up considerable time and effort. Nebula provides a single point of management for all Nebula gateways, allowing administrators to synchronize security settings

Datasheet NSG50/100/200
across thousands of sites to every device all at once. The cloud interface provides site-wide visibility and control that enable administrators to monitor and manage event logs, traffic statistics, bandwidth consumption, networked clients, and application usage without access to the individual devices.

**Zero-touch VPN connections**

Establishing a virtual private network to keep branch locations securely connected is easier than ever. With the Zyxel Nebula Security Gateway, either site-to-site or hub-and-spoke VPN connections can be configured with just a few clicks in the Nebula Control Center and no complex VPN configuration steps. The intuitive cloud management interface lets administrators monitor VPN connectivity between multiple locations in real time.

**Streamlined policy management**

The Zyxel Nebula Security Gateway streamlines the configuration of firewalls and every security feature for faster, easier, and more consistent policy settings. It does so by supporting object-based management and a unified configuration approach for all security related policies, with which users can easily apply all policy criteria to every security feature. Moreover, any configuration made in the Nebula Control Center can be automatically propagated to all connected Nebula gateways.

**Effective network protection**

Nebula’s IDP system scans multiple layers and protocols to inspect vulnerabilities invisible to simple port and protocol-based firewalls by utilizing deep packet inspection (DPI) technology that eliminates false positives with a database of malware signatures and provides effective protection against intrusions from unknown backdoors.

**Powerful security pack free for a year**

Every Nebula Security Gateway comes bundled with a one-year subscription to the Nebula Security Pack, which better protects your networks through IDP, Application Patrol, Content Filtering, and Anti-Virus security services. IDP guards your business from a wide range of attacks and suspicious activities such as SQL injection and DoS; Application Patrol helps boost productivity and prevent bandwidth abuse by prioritizing, throttling, and blocking unnecessary applications; and Content Filtering uses categorization and URL filtering to stop users from accessing malicious and inappropriate sites. Finally, the Anti-Virus acts as a bulwark against malware including viruses, Trojans, worms, spyware, and rogue ware, being the first line of defense for your networks.
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Applications Diagram

Nebula cloud management architecture

On-premises Nebula Hardware

Cloud Hosted Network Service

Management Traffic

Browser & Apps-based Management

VPN application

Headquarters

NSG200
Nebula Cloud Managed Security Gateway

NSG50/100
Nebula Cloud Managed Security Gateway

Branch Office

Partner Office

Home User

Travelling Employee

Travelling Employee

NSG100
Nebula Cloud Managed Security Gateway

NSG50
Nebula Cloud Managed Security Gateway

Department Store

Retail Store/Teleworker

Boutique Hotel

K-12 Campus
## Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>NSG50</th>
<th>NSG100</th>
<th>NSG200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
<td>Nebula Cloud Managed Security Gateway</td>
<td>Nebula Cloud Managed Security Gateway</td>
<td>Nebula Cloud Managed Security Gateway</td>
</tr>
<tr>
<td><strong>Hardware Specifications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10/100/1000 Mbps RJ-45 ports</td>
<td>4 x LAN (GbE)</td>
<td>4 x LAN (GbE)</td>
<td>5 x LAN (GbE)</td>
</tr>
<tr>
<td></td>
<td>2 x WAN (1x SFP, 1x GbE)</td>
<td>2 x WAN (GbE)</td>
<td>2 x WAN (GbE)</td>
</tr>
<tr>
<td>USB ports</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Console port</td>
<td>Yes (RJ-45)</td>
<td>Yes (DB9)</td>
<td>Yes (DB9)</td>
</tr>
<tr>
<td>Rack-mountable</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Wall-mountable</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fanless</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>System Capacity &amp; Performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPI firewall throughput (Mbps)(^2)</td>
<td>300</td>
<td>450</td>
<td>1,250</td>
</tr>
<tr>
<td>VPN throughput (Mbps)(^3)</td>
<td>100</td>
<td>150</td>
<td>500</td>
</tr>
<tr>
<td>IDP throughput (Mbps)(^4)</td>
<td>110</td>
<td>160</td>
<td>500</td>
</tr>
<tr>
<td>AV throughput (Mbps)(^4)</td>
<td>50</td>
<td>90</td>
<td>300</td>
</tr>
<tr>
<td>SP throughput (Mbps, AV and IDP)(^4)</td>
<td>50</td>
<td>90</td>
<td>300</td>
</tr>
<tr>
<td>Unlimited user</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Max. TCP concurrent sessions(^5)</td>
<td>20,000</td>
<td>40,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Max. TCP Session Rate</td>
<td>2,000</td>
<td>2,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Max. concurrent IPsec VPN tunnels(^6)</td>
<td>10</td>
<td>40</td>
<td>200</td>
</tr>
<tr>
<td>VLAN interface</td>
<td>8</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>Key Software Features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firewall</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Virtual Private Network (VPN)</td>
<td>Yes (IPSec, L2TP over IPSec)</td>
<td>Yes (IPSec, L2TP over IPSec)</td>
<td>Yes (IPSec, L2TP over IPSec)</td>
</tr>
<tr>
<td>Application Patrol</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Intrusion Detection and Prevention (IDP)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bandwidth management</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Logging and Monitoring</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Content Filtering</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Anti-Virus</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>WAN Failover</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Power Requirements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power input</td>
<td>12 V DC, 2.0 A max.</td>
<td>12 V DC, 3.0 A max.</td>
<td>12 V DC, 3.33 A max.</td>
</tr>
<tr>
<td>Max. power consumption (watts)</td>
<td>12.0</td>
<td>19.0</td>
<td>37.0</td>
</tr>
<tr>
<td>Heat dissipation (BTU/hr)</td>
<td>40.95</td>
<td>64.83</td>
<td>199.61</td>
</tr>
<tr>
<td><strong>Physical Specifications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Dimensions (WxDxH)(mm/in.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>216 x 143 x 33/8.50 x 5.63 x 1.30</td>
<td>242 x 175 x 36/9.53 x 6.89 x 1.42</td>
<td>300 x 178 x 44/11.81 x 7.0 x 1.73</td>
</tr>
<tr>
<td>Weight (kg/lb.)</td>
<td>1.04/2.29</td>
<td>1.25/2.76</td>
<td>2.0/4.4</td>
</tr>
</tbody>
</table>

Datasheet NSG50/100/200
Datasheet NSG50/100/200

### Features

**Firewall**
- Stateful packet inspection
- VLAN
- PPPoE
- Static route
- Firewall
- Intrusion Detection and Prevention (IDP)
- Application Patrol

**IPSec VPN**
- Topology: Site-to-site, hubs-and-spoke
- Encryption: AES (256-bit), 3DES and DES
- Authentication: SHA-2 (512-bit), SHA-1 and MD5
- Perfect forward secrecy (DH groups) support 1, 2, 5, 14
- IPSec NAT traversal

**Intrusion Detection and Prevention (IDP)**
- Signature-based
- Behavior-based scanning
- Automatic signature updates

**Application Patrol**
- Granular control over the most important applications
- Identifies and controls applications and behaviors
- Top application usage record

**Content Filtering**
- Social media filtering
- Malicious Website filtering
- URL blocking
- Blacklist and whitelist support
- Dynamic, cloud-based URL filtering database
- Unlimited user license support
- Customizable warning messages and redirection URL
- HTTPs Domain filtering

**Anti-Virus**
- Supports Anti-Virus signatures
- Identifies and blocks over 650,000 viruses
- Stream-based Anti-Virus engine
- HTTP, FTP, SMTP, POP3 and IMAP4 protocol support
- Automatic signature updates
- No file size limitation

### Environmental Specifications

<table>
<thead>
<tr>
<th>Operating Temperature</th>
<th>0°C to 40°C/32°F to 104°F</th>
<th>0°C to 40°C/32°F to 104°F</th>
<th>0°C to 40°C/32°F to 104°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity (non-condensing)</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage Temperature</th>
<th>-30°C to 70°C/ -22°F to 158°F</th>
<th>-30°C to 70°C/ -22°F to 158°F</th>
<th>-30°C to 70°C/ -22°F to 158°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity (non-condensing)</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
<td>10% to 90%</td>
</tr>
</tbody>
</table>

| MTBF (hr) | 44,000 | 815,463.9 | 787,109.3 |

### Certifications

- **EMC**
  - FCC Part 15 (Class B), IC, CE EMC(Class B), RCM, BSMI
  - FCC Part 15 (Class B), CE EMC (Class B), C-Tick (Class B), BSMI
  - FCC Part 15 (Class A), CE EMC (Class A), C-Tick (Class A), BSMI

- **Safety**
  - BSMI, UL
  - LVD (EN60950-1), BSMI
  - LVD (EN60950-1), BSMI

---

1: Actual performance may vary depending on network conditions and activated applications.
2: Maximum throughput based on RFC 2544 (1,518-byte UDP packets), and without enabling Intrusion Detection and Prevention.
3: VPN throughput measured based on RFC 2544 (1,424-byte UDP packets), and without enabling Intrusion Detection and Prevention.
4: AV and IDP throughput measured using the industry standard HTTP performance test (1,460-byte HTTP packets). Testing were done with multiple sessions.
5: Maximum sessions measured using the industry-standard IXIA IxLoad testing tool.
6: Including Gateway-to-Gateway and Client-to-Gateway
Streamlined Policy Management
• Unified policy management interface
• Supported exclusive security features: IDP, Application Patrol, firewall (ACL)
• Policy criteria: Source and destination IP address, destination port, time

Networking
• Routing mode
• Ethernet and PPPoE
• NAT
• VLAN tagging (802.1Q)
• DHCP client/server/relay
• Dynamic DNS support
• Maximum bandwidth
• Bandwidth limit per client IP

Authentication
• Microsoft Windows Active Directory integration
• External RADIUS user database
• Nebula Cloud (Nebula Control Center) authentication

Captive Portal
• Web-based authentication
• Forced user authentication (transparent authentication)
• Sign-on or click-to-continue authentication
• Multiple instances of captive portal
• Customizable portal templates
• Internal or external captive portal redirect
• Walled garden support

System Management
• Cloud managed
• Role-based administration
• SNMP v2c (MIB-II)
• System configuration rollback
• Cloud firmware upgrade

Logging and Monitoring
• Comprehensive local logging
• Syslog (to up to 2 servers)
• Real-time traffic monitoring

* IDP and Application Patrol, Content Filtering and Anti-Virus services need to be purchased on top of Professional Pack license, and will be co-terminated separately from with Professional Pack license.