The Alcatel-Lucent OmniSwitch™ 6860 Stackable LAN Switches (SLS) are compact, high-density Gigabit Ethernet (GigE) and 10 GigE platforms designed for the most demanding converged networks. In addition to high performance and availability, the OmniSwitch 6860 offers enhanced quality of service (QoS), user authentication, deep packet inspection (DPI) and comprehensive security features to secure the network edge while accommodating user and device mobility with a high degree of integration between the wired and wireless LAN. The enhanced models of the OmniSwitch 6860 family also supports emerging services such as application fingerprinting for network analytics and up to 60 watts of Power over Ethernet (PoE) per port, making it ready to meet the evolving business needs of enterprise networks.

In addition to high performance and availability, the OmniSwitch 6860 offers enhanced quality of service (QoS), user authentication, deep packet inspection (DPI) and comprehensive security features to secure the network edge while accommodating user and device mobility with a high degree of integration between the wired and wireless LAN. The enhanced models of the OmniSwitch 6860 family also supports emerging services such as application fingerprinting for network analytics and up to 60 watts of Power over Ethernet (PoE) per port, making it ready to meet the evolving business needs of enterprise networks.

These versatile LAN switches can be positioned:
- At the edge of mid- to large-sized converged enterprise networks
- At the aggregation layer
- In a small enterprise network core
- In the data center for GigE server connectivity and SDN applications

### FEATURES

- Versatile features and models offering high-density Gigabit and 10 Gigabit interfaces
- Up to eight switches can be connected using Virtual Chassis technology to create a single chassis-like entity with up to 32 10 Gigabit uplinks and 384 Gigabit ports
- IEEE 802.3af and 802.3at compliant PoE of 30 W per port on all ports
- The enhanced models of the OmniSwitch 6860 family support up to 60 W of PoE per port on four ports
- Hardware-accelerated DPI available on all models
- Application monitoring and fingerprinting are available on the enhanced models

### BENEFITS

- With the variety of interfaces and models, the OmniSwitch 6860 family meets any customer configuration need and offers excellent investment protection and flexibility.
- The OmniSwitch 6860 Virtual Chassis increases system redundancy, resiliency and high availability while simplifying deployment, operations and management of the network.
- With its advanced PoE capabilities and high density of PoE ports, the OmniSwitch 6860 is ideal for converged campus deployments by offering deployment flexibility, simplifying the wiring and reducing the time to deploy edge devices such as VoIP phones, surveillance cameras, 802.11ac access points and emerging devices that require higher than 30 W, such as video displays or even a small network switch or a thin virtual desktop infrastructure (VDI) client.
- DPI technology allows for real-time classification of flows at the application level, monitoring and QoS treatment to assign higher priority and more bandwidth to business-critical applications.
- By enabling the application monitoring functionality on the OmniSwitch 6860, network administrators can obtain a comprehensive view of up to 1000 applications running in the network. This type of visibility can be used to optimize the performance of the network as well as apply adequate control.
FEATURES

Advanced Unified Access features for converged campus network solutions in application fluent network
• Integrated Policy with dynamic User Network Profiles
• Extensive security features for network access control (NAC), policy enforcement and attack containment
• SIP Fluency to provision and monitor QoS treatment of SIP flows
• Airgroup™ Network Services for Bonjour speaking devices

Enables deployment of comprehensive and secure BYOD services in enterprise networks*:
• Advanced guest management capabilities
• Device on-boarding and automated IEEE 802.1x provisioning
• Device posture/health check and fingerprinting
• Application management

The OmniSwitch 6860 is SDN ready.
• Supporting programmable AOS RESTful APIs, OpenFlow and OpenStack allow the creation of specialized services.

<table>
<thead>
<tr>
<th>GIGABIT PORTS</th>
<th>1G/10G SFP+ PORTS</th>
<th>20G QSFP+ VIRTUAL CHASSIS PORTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BASIC MODELS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OS6860-24</td>
<td>24</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>OS6860-P24</td>
<td>24 PoE</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>OS6860-48</td>
<td>48</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>OS6860-P48</td>
<td>48 PoE</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td><strong>ENHANCED MODELS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OS6860E-24</td>
<td>24</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>OS6860E-P24</td>
<td>24 PoE</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**BENEFITS**

• Unified access and application fluent networks provide simplified network architecture with automated controls and enhanced security for both wired and wireless users. Offers enhanced management and security for reduced operational complexity costs.
• User network profiles add intelligence to the network to automatically adapt as users move around the corporation without compromising the security.
• With its advanced capabilities, the OmniSwitch 6860 shows outstanding performance when supporting real-time voice, data and video applications.
• Improved user experience with the integration of services that enable employees to access the same applications and service, and have consistent experience across wired and wireless.

• The OmniSwitch 6860 offers flexible deployment options and enables the network for BYOD deployments and zero-touch guest management.
• Supports dynamic change of authentication (CoA) and enforces traffic remediation or restriction for non-compliant devices.
• Provides control and increased security over corporate data/applications for the mixed personal and corporate environment for improved visibility and control for IT.

* requires Aruba ClearPass

**ALCATEL-LUCENT OMNISWITCH 6860 MODELS**

The OmniSwitch 6860 family offers customers an extensive selection of Gigabit fixed-configuration switches with up to 60 watts of PoE per port and power supply options that accommodate the most demanding requirements. The models are in a 1RU form factor and are 19-inch rack-mountable. They all have four built-in 10 Gigabit SFP+ ports that support 10 Gigabits and 1000-X, two 20 Gigabit QSFP+ ports used as Virtual Chassis connections, USB ports and console ports.

There are four basic models in the OmniSwitch 6860 family and five enhanced models. All of the OmniSwitch 6860 PoE models support PoE+, up to 30 watts of PoE on all ports; however only the enhanced models in the family support up to 60 watts of PoE on the first four ports. The enhanced models also have an Ethernet management port (EMP) port and a built-in co-processor that can be used for running Enhanced network services such as application fingerprinting and others in the future.
**TECHNICAL SPECIFICATIONS**

**OMNISWITCH 6860 BASIC MODELS**

<table>
<thead>
<tr>
<th>PRODUCT MATRIX</th>
<th>OS6860-24</th>
<th>OS6860-48</th>
<th>OS6860-P24</th>
<th>OS6860-P48</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigabit port count</td>
<td>24</td>
<td>48</td>
<td>24 (PoE)</td>
<td>48 (PoE)</td>
</tr>
<tr>
<td>1G/10G SFP+ ports</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>20G QSFP+ VFL ports</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>USB port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Out-of-band EMP port</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RS-232 port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Console port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary slide-in PSU slot</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Backup slide-in PSU slot</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fans</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>File system flash</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>RAM</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>Max raw fabric capacity</td>
<td>224 Gb/s</td>
<td>264 Gb/s</td>
<td>224 Gb/s</td>
<td>264 Gb/s</td>
</tr>
<tr>
<td>Throughput (at 64-byte packet)</td>
<td>154.9 Mpps</td>
<td>190.6 Mpps</td>
<td>154.9 Mpps</td>
<td>190.6 Mpps</td>
</tr>
<tr>
<td>Power consumption (idle)**</td>
<td>35.6 W</td>
<td>41.7 W</td>
<td>61.9 W</td>
<td>70.8 W</td>
</tr>
<tr>
<td>Power consumption (full load)**</td>
<td>45.6 W</td>
<td>57.2 W</td>
<td>477 W</td>
<td>900 W</td>
</tr>
<tr>
<td>Heat dissipation**</td>
<td>121.5 BTU/h</td>
<td>142.3 BTU/h</td>
<td>211.2 BTU/h</td>
<td>241.6 BTU/h</td>
</tr>
<tr>
<td>MTBF with one AC power supply</td>
<td>408,614 h</td>
<td>385,181 h</td>
<td>133,391 h</td>
<td>127,594 h</td>
</tr>
<tr>
<td>Acoustic noise (dB) at 25°C</td>
<td>45.8</td>
<td>45.8</td>
<td>42</td>
<td>43.5</td>
</tr>
<tr>
<td>Height</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
</tr>
<tr>
<td>Width</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
</tr>
<tr>
<td>Weight (chassis and fan)</td>
<td>4.45 kg (9.8 lb)</td>
<td>4.67 kg (10.3 lb)</td>
<td>4.58 kg (10.1 lb)</td>
<td>4.90 kg (10.8 lb)</td>
</tr>
<tr>
<td>Weight (fully populated)***</td>
<td>5.17 kg (11.4 lb)</td>
<td>5.40 kg (11.9 lb)</td>
<td>6.03 kg (13.3 lb)</td>
<td>6.35 kg (14.0 lb)</td>
</tr>
<tr>
<td>Altitude</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
</tr>
<tr>
<td>Humidity (operating)</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
</tr>
</tbody>
</table>
## Alcatel-Lucent OmniSwitch 6860

**Humidity (storage)**
- 5% to 95% non-condensing

**Power supplies**
- OS6860-BP
- OS6860-BP-D
- OS6860-BP
- OS6860-BP-D
- OS6860-BPPH
- OS6860-BPPX

**IEEE 802.3at PoE ports**
- 0
- 0
- 24
- 48

**60 W of PoE ports**
- 0
- 0
- 0
- 0

**Air flow**
- Front to back

**OMNISWITCH 6860 ENHANCED MODELS**

<table>
<thead>
<tr>
<th>PRODUCT MATRIX</th>
<th>OS6860E-24</th>
<th>OS6860E-48</th>
<th>OS6860E-P24</th>
<th>OS6860E-P48</th>
<th>OS6860E-U28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gigabit port count</td>
<td>24</td>
<td>48</td>
<td>24 (PoE)</td>
<td>48 (PoE)</td>
<td>28</td>
</tr>
<tr>
<td>1G/10G SFP+</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>20G QSFP+ VFL ports</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>USB port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Out-of-band EMP port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RS-232 port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Console port</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary slide-in PSU slot</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Backup slide-in PSU slot</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fans</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>File system flash</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>RAM</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>Max raw fabric capacity</td>
<td>224 Gb/s</td>
<td>264 Gb/s</td>
<td>224 Gb/s</td>
<td>264 Gb/s</td>
<td>224 Gb/s</td>
</tr>
<tr>
<td>Throughput (at 64-byte packet)</td>
<td>154.9 Mpps</td>
<td>190.6 Mpps</td>
<td>154.9 Mpps</td>
<td>190.6 Mpps</td>
<td>160.9 Mpps</td>
</tr>
<tr>
<td>Power consumption (idle)**</td>
<td>38.9 W</td>
<td>44.1 W</td>
<td>65.0 W</td>
<td>72.9 W</td>
<td>70.1 W</td>
</tr>
<tr>
<td>Power consumption (full load)**</td>
<td>48.0 W</td>
<td>60.0 W</td>
<td>480 W</td>
<td>904 W</td>
<td>72.2 W</td>
</tr>
<tr>
<td>Heat dissipation (idle)**</td>
<td>132.7 BTU/h</td>
<td>150.5 BTU/h</td>
<td>221.8 BTU/h</td>
<td>248.7 BTU/h</td>
<td>239.2 BTU/h</td>
</tr>
<tr>
<td>MTBF with AC power supply</td>
<td>353,806 h</td>
<td>336,101 h</td>
<td>126,601 h</td>
<td>121,442 h</td>
<td>292,509 h</td>
</tr>
<tr>
<td>Acoustic noise (dB) at 25C</td>
<td>45.8</td>
<td>45.8</td>
<td>42</td>
<td>43.5</td>
<td>42.4</td>
</tr>
<tr>
<td>Height</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
<td>4.4 cm (1.73 in)</td>
</tr>
<tr>
<td>Width</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
<td>44 cm (17.33 in)</td>
</tr>
<tr>
<td>Depth</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
<td>35 cm (13.78 in)</td>
</tr>
<tr>
<td>Weight (chassis and fan)</td>
<td>4.58 kg (10.1 lb)</td>
<td>4.81 kg (10.6 lb)</td>
<td>4.81 kg (10.6 lb)</td>
<td>5.03 kg (11.1 lb)</td>
<td>4.58 kg (10.1 lb)</td>
</tr>
<tr>
<td>Weight (fully populated)**</td>
<td>5.26 kg (11.6 lb)</td>
<td>5.49 kg (12.1 lb)</td>
<td>6.26 kg (13.8 lb)</td>
<td>6.49 kg (14.3 lb)</td>
<td>5.26 kg (11.6 lb)</td>
</tr>
<tr>
<td>Altitude</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
<td>13,000 ft</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
<td>0°C to 45°C (32°F to 113°F)</td>
</tr>
</tbody>
</table>

** Power consumption measured at the 120 V AC outlet. The full L2 traffic load measurement for the 24- and 48-port PoE models was done with the 600-W and 920-W PSU respectively. Heat dissipation: 1 watt ≈ 3.41214 BTU/h

*** Fully populated chassis includes two power supplies, mounting brackets and no transceivers.
<table>
<thead>
<tr>
<th>PRODUCT MATRIX</th>
<th>OS6860E-24</th>
<th>OS6860E-48</th>
<th>OS6860E-P24</th>
<th>OS6860E-P48</th>
<th>OS6860E-U28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage temperature</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
<td>-40°C to 85°C (-40°F to 185°F)</td>
</tr>
<tr>
<td>Humidity (operating)</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
</tr>
<tr>
<td>Humidity (storage)</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
<td>5% to 95% non-condensing</td>
</tr>
<tr>
<td>Power supplies</td>
<td>OS6860-BP</td>
<td>OS6860-BP-D</td>
<td>OS6860-BPPH</td>
<td>OS6860-BPPX</td>
<td>OS6860-BP</td>
</tr>
<tr>
<td>IEEE 802.3at PoE ports</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>48</td>
<td>-</td>
</tr>
<tr>
<td>60 W of PoE ports</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Air flow</td>
<td>Front to back</td>
<td>Front to back</td>
<td>Front to back</td>
<td>Front to back</td>
<td>Front to back</td>
</tr>
</tbody>
</table>

** Power consumption measured at the 120 V AC outlet. The full L2 traffic load measurement for the 24- and 48-port PoE models was done with the 600 W and 920 W PSU respectively. Heat dissipation: 1 watt ≈ 3.41214 BTU/h

*** Fully populated chassis includes two power supplies, mounting brackets and no transceivers.

The OmniSwitch 6860 models are capable of supporting MacSec, Audio-Video-Bridging (AVB), and IEEE 1588 Precision Time Protocol transparent clock. The software to support these features is a future availability.

**POWER SUPPLIES**

All OmniSwitch 6860 models support 1+1 redundant, hot-swappable power supplies. The primary and backup power supply units are internal but removable to allow for easier maintenance and replacement. The OmniSwitch 6860 family also supports power load-sharing for PoE between the primary and backup power supplies to provide up to 1500 watts of PoE per switch. There is no interruption of service when a new power supply is installed or an existing one replaced.

<table>
<thead>
<tr>
<th>PS MODELS</th>
<th>OS6860-BP</th>
<th>OS6860-BP-D</th>
<th>OS6860-BPPH</th>
<th>OS6860-BPPX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Modular AC power supply. Provides 160 W system power to one OS6860 non-PoE switch</td>
<td>Modular DC power supply. Provides 160 W system power to one OS6860 non-PoE switch</td>
<td>Modular 600-W AC PoE power supply. Provides system and PoE power to one 24-port PoE switch</td>
<td>Modular 920-W AC PoE power supply. Provides system and PoE power to one 48-port PoE switch</td>
</tr>
<tr>
<td>Dimensions (H x W x L)</td>
<td>3.9 cm x 5.05 cm x 18.5 cm (1.54 in x 1.99 in x 7.28 in)</td>
<td>3.9 cm x 5.05 cm x 18.5 cm (1.54 in x 1.99 in x 7.28 in)</td>
<td>4.0 cm x 7.3 cm x 18.5 cm (1.57 in x 2.87 in x 7.28 in)</td>
<td>4.0 cm x 7.3 cm x 18.5 cm (1.57 in x 2.87 in x 7.28 in)</td>
</tr>
<tr>
<td>Weight</td>
<td>.7 kg (1.11 lb)</td>
<td>.88 kg (1.94 lb)</td>
<td>1.04 kg (2 lb)</td>
<td>1.05 kg (2.32 lb)</td>
</tr>
<tr>
<td>Max with 1 PSU</td>
<td>N/A</td>
<td>N/A</td>
<td>450 W of PoE</td>
<td>750 W of PoE</td>
</tr>
<tr>
<td>Max with 2 PSUs</td>
<td>N/A</td>
<td>N/A</td>
<td>900 W of PoE</td>
<td>1500 W of PoE</td>
</tr>
<tr>
<td>Input voltage/current</td>
<td>90 V to 136 V AC / 180 V to 264 VAC / 1.5 A</td>
<td>-36 V to -72 V DC / 6 A</td>
<td>90 V to 136 V AC / 180 V to 264 VAC / 4.25 A</td>
<td>90 V to 136 V AC / 180 V to 264 VAC / 6.5 A</td>
</tr>
<tr>
<td>Max output power/ current</td>
<td>150 W/12.5 A</td>
<td>150 W/12.5 A</td>
<td>600 W/11 A</td>
<td>920 W/16.8 A</td>
</tr>
<tr>
<td>Fans</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition to the primary and backup power supplies, the OmniSwitch 6860 family supports the OmniSwitch Backup Power Shelf (BPS). With flexible configuration and advanced management capabilities, the BPS is a powerful and cost-effective way to protect against primary power supply failure while reducing the closet space used. The OmniSwitch BPS supplies redundant power for system power as well as PoE. It can fully back up as many as eight attached OmniSwitch 6860 switches while load-sharing with the primary power supply.
PRODUCT SPECIFICATIONS AND MEASUREMENTS

**Per-port LEDs**
- Non-PoE ports - green: link/activity
- PoE ports - amber: link/activity

**System LEDs**
- OK1: green/yellow operational status of the switch
- OK2: green/yellow operational status of the external CPU
- VC: green/yellow master or slave role in VC configuration
- PS: green/yellow combined status for the primary and/or backup power supplies
- BPS: green/yellow status of the power coming from the Backup Power Shelf
- GRN: power saving mode
- 7-segment LED display for Virtual Chassis ID

**Scalability numbers and speeds**
- 24 and 48 ports: 10/100/1000, 28 ports: 100/1000Base-X with 4 x 10G SFP+ uplinks
- Wire rate at layer 2 and layer 3 on all ports
- Virtual Fabric Link (VFL) ports raw capacity: 42 Gb/s or 84 Gb/s aggregate
- Jumbo frame size: 9216 bytes (for 1/10 Gb/s)
- Total number of MAC addresses: 48,000
- Total number of IPv4 routes: 64,000
- Number of VLANs: 4,000

**COMPLIANCE AND CERTIFICATIONS**

**Commercial EMI/EMC**
- FCC CRF Title 47 Subpart B (Class A)
- VCCI (Class A)
- AS/NZS 3548 (Class A)
- CE marking for European countries (Class A)
- EN 55022 (EMI & EMC)
- EN 61000-3-2
- EN 61000-3-3
- EN 55024 (Immunity)
  - EN 61000-4-2
  - EN 61000-4-3
  - EN 61000-4-4
  - EN 61000-4-5
  - EN 61000-4-6
  - EN 61000-4-8
  - EN 61000-4-11
- IEEE 802.3: Hi-Pot Test (2250 V DC on all Ethernet ports)

**Commercial EMI/EMC**
- EN 55024 (Immunity)
- EN 61000-3-3
- EN 61000-3-2
- EN 55022 (EMI & EMC)
- CE marking for European countries
- AS/NZ T5-001 and 60950:2000, Australia
- UL-AR, Argentina
- UL-GS Mark, Germany
- CE marking for European countries
- AS/NZS 3548 (Class A)
- VCCI (Class A)
- FCC CRF Title 47 Subpart B (Class A)
- Number of VLANs: 4,000
- Total number of IPv4 routes: 64,000
- Total number of MAC addresses: 48,000
- Jumbo frame size: 9216 bytes
- Virtual Fabric Link (VFL) ports raw capacity: 42 Gb/s or 84 Gb/s aggregate
- Wire rate at layer 2 and layer 3 on all ports
- Virtual Fabric Link (VFL) ports raw capacity: 42 Gb/s or 84 Gb/s aggregate
- Jumbo frame size: 9216 bytes (for 1/10 Gb/s)
- Total number of MAC addresses: 48,000
- Total number of IPv4 routes: 64,000
- Number of VLANs: 4,000

**DetaIled ProDuct Features**

**Simplified manageability and configuration**
- Intuitive Alcatel-Lucent CLI in a scriptable BASH environment via console, Telnet or Secure Shell (SSH) v2 over IPv4/IPv6
- Powerful Alcatel-Lucent WebView Graphical Web Interface via HTTP and HTTPS over IPv4/IPv6*
- Fully programmable RESTful web services interface with XML and JSON support. API enables access to CLI and individual mib objects
- Integrated with Alcatel-Lucent OmniVista™ products for network management
- Full configuration and reporting using SNMPV1/2/3 to facilitate third-party network management over IPv4/IPv6
- File upload using USB, TFTP, FTP, SFTP or SCP using IPv4/IPv6*
- Human-readable ASCII-based configuration files for off-line editing, bulk configuration and out-of-the-box auto-provisioning
- Fully programmable OpenFlow 1.3.1 and 1.0 agent for control of native OpenFlow and hybrid ports *
- Multiple microcode image support with fallback recovery
- Dynamic Host Configuration Protocol (DHCP) relay for IPv4/IPv6
- IEEE 802.1AB Link Layer Discover Protocol (LLDP) with Media Endpoint Discover (MED) extensions
- Network Time Protocol (NTP)
- DHCPv4 and DHCPv6 server managed by Alcatel-Lucent VitalQIP™ DNS/DHCP IP Address Management
- Access to the AOS console via Bluetooth provides wireless management access to the OS6860, eliminating the use of console cables
- *Early availability support

**Monitoring and troubleshooting**
- Local (on the flash) and remote server logging (Syslog): event and command logging
- IP tools: ping and trace route
- Dying Gasp support via SNMP and syslog messages
- Loopback IP address support for management per service
- Management virtual routing and forwarding (VRF) support
- Policy- and port-based mirroring
- Remote port mirroring
- sFlow v5 and Remote Monitoring (RMON)
- Bidirectional Link Detection (UDLD), Digital Diagnostic Monitoring (DDM), and Time Domain Reflectometry (TDR)

**Resiliency and high availability**
- Unified management, control and virtual chassis technology
- Virtual Chassis 1+N redundant supervisor manager
- Virtual Chassis In-Service Software Upgrade (ISSU)
- Smart continuous switching technology
- ITU-T G.8032/Y1344 2010: Ethernet Ring Protection
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) encompasses IEEE 802.1D Spanning Tree Protocol (STP) and IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- Per-VLAN spanning tree (PVST+) and Alcatel-Lucent 1x1 STP mode
- IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP) and static LAG groups across modules
- Virtual Router Redundancy Protocol (VRRP) with tracking capabilities
- Remote port mirroring
- Bidirectional Forwarding Detection (BFD) for fast failure detection and reduced re-convergence times in a routed environment
- Redundant and hot-swappable power supplies

The OmniSwitch 6860 family is compliant with Restriction on Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) directives.
• Built-in CPU protection against malicious attacks
• Split Virtual Chassis protection: Auto-detection and recovery of Virtual Chassis splitting due to one or more VFL or stack element failures

**Advanced security**

**Access control**
• AOS Access Guardian framework for comprehensive user-policy-based NAC
• Autosensing IEEE 802.1X multi-client, multi-VLAN support
• MAC-based authentication for non-IEEE 802.1X hosts
• Web-based authentication (captive portal): a customizable web portal residing on the switch
• User Network Profile (UNP) simplifies NAC by dynamically providing pre-defined policy configuration to authenticated clients – VLAN, ACL, BW
• Secure Shell (SSH) with public key infrastructure (PKI) support
• Terminal Access Controller Access-Control System Plus (TACACS+) client
• Centralized Remote Access Dial-In User Service (RADIUS) and Lightweight Directory Access Protocol (LDAP) administrator authentication
• Centralized RADIUS for device authentication and network access control authorization
• Learned Port Security (LPS) or MAC address lockdown
• Access Control Lists (ACLs), flow-based filtering in hardware (Layer 1 to Layer 4)
• DHCP Snooping, DHCP IP and Address Resolution Protocol (ARP) spoof protection
• ARP poisoning detection
• IP Source Filtering as a protective and effective mechanism against ARP attacks
• Bring Your Own Device (BYOD) provides on-boarding of Guest, IT/non-IT issued and silent devices. Restriction/Remediation of traffic from non-compliant devices. Uses RADIUS COA to dynamically enforce User Network Profiles based on Authentication, Profiling, Posture check of devices.*
• * with Aruba ClearPass

**QoS**
• Priority queues: Eight hardware-based queues per port for flexible QoS management
• Traffic prioritization: Flow-based QoS
• Flow-based traffic policing and bandwidth management
• 32-bit IPv4/128-bit IPv6 non-contiguous mask classification
• Egress traffic shaping
• DiffServ architecture
• Congestion avoidance: Support for end-to-end head-of-line (E2E-HOL) blocking prevention, IEEE 802.1Qbb Priority-based Flow Control (PFC) and IEEE 802.3x Flow Control (FC)

**Layer-3 routing and multicast**

**IPv4 routing**
• Multiple VRF
• Static routing
• Routing Information Protocol (RIP) v1 and v2
• Open Shortest Path First (OSPF) v2 with Graceful Restart
• Intermediate System to Intermediate System (IS-IS) with Graceful Restart
• Border Gateway Protocol (BGP) v4 with Graceful Restart
• Generic Routing Encapsulation (GRE) and IP/IP tunneling*
• Virtual Router Redundancy Protocol (VRRPv2)
• DHCP relay (including generic UDP relay)
• Address Resolution Protocol (ARP)
• Policy-based routing and server load balancing
• DHCPv4 server
• *Early availability support

**IPv6 routing**
• Multiple VRF
• Internet Control Message Protocol version 6 (ICMPv6)
• Static routing
• Routing Information Protocol Next Generation (RIPv6)
• Open Shortest Path First (OSPF) v3 with Graceful Restart
• Intermediate System to Intermediate System (IS-IS) with Graceful Restart
• Multi-Topology IS-IS*
• BGP v4 multiprotocol extensions for IPv6 routing (MP-BGP)
• Graceful Restart extensions for OSPF and BGP
• Virtual Router Redundancy Protocol version 3 (VRRPv3)
• Neighbor Discovery Protocol (NDP)
• Policy-based routing and server load balancing
• DHCPv6 server*
• *Early availability support

**IPv4/IPv6 multicast**
• Internet Group Management Protocol (IGMP) v1/v2/v3 snooping
• Protocol Independent Multicast
• Sparse-Mode (PIM-SM), Source Specific Multicast (PIM-SSM)
• Protocol Independent Multicast – Dense-Mode (PIM-DM), Bidirectional Protocol Independent Multicast (PIM-BiDir)
• Distance Vector Multicast Routing Protocol (DVMRP)
• Multicast Listener Discovery (MLD) v1/v2 snooping
• PIM to DVMRP gateway support

**Fluent network for voice, video and data**

• Session Initiation Protocol (SIP) detection, session monitoring and tracking
• Provides real-time conversation quality information contained in the SIP packets concerning packet loss, delay, jitter, MOS score, R-Factor in real time
• SIP profile for QoS, priority tuning for end-to-end processing
• Multicast DNS Relay: Bonjour protocol support for wired Airgroup™

**Advanced Layer-2 services**

• Ethernet services support using IEEE 802.1ad Provider Bridges (also known as Q-in-Q or VLAN stacking)
• Fabric virtualization services IEEE 802.1aq Shortest Path Bridging (SPB-M)
• Ethernet network-to-network interface (NNI) and user network interface (UNI)
• Service Access Point (SAP) profile identification
• Service VLAN (SVLAN) and Customer VLAN (CVLAN) support
• VLAN translation and mapping including CVLAN to SVLAN
• Port mapping
• DHCP Option 82: Configurable relay agent information
• Multicast VLAN Registration Protocol (MVRP)
• HA-VLAN for Layer 2 clusters such as MS-NLB and active-active Firewall clusters
• Jumbo frame support
• Bridge Protocol Data Unit (BPDUs) blocking
• STP Root Guard

**SUPPORTED STANDARDS**

**IEEE standards**
• IEEE 802.1D STP
• IEEE 802.1p CoS
• IEEE 802.1Q VLANs
• IEEE 802.1ad Provider Bridges Q-in-Q/VLAN stacking
• IEEE 802.1ak (Multiple VLAN Registration Protocol (MVRP))
IEEE 802.1aq Shortest Path Bridging (SPB)
IEEE 802.1s MSTP
IEEE 802.1w RSTP
IEEE 802.3x Flow Control
IEEE 802.3z Gigabit Ethernet
IEEE 802.3ab 1000Base-T
IEEE 802.3ac VLAN Tagging
IEEE 802.3ad/802.1AX Link Aggregation
IEEE 802.3ae 10 GigE
IEEE 802.3af Power over Ethernet
IEEE 802.3at PoE Plus
IEEE 802.3az Energy Efficient Ethernet (EEE)

ITU-T recommendations
ITU-T G.8032/Y.1344 2010: Ethernet Ring Protection (ERPv2)

IETF RFCs
IPv4
RFC 2003 IP/IP Tunneling
RFC 2131 Dynamic Host Configuration Protocol (DHCPv4)
RFC 2784 GRE Tunneling

OSPF
RFC 1765 OSPF Database Overflow
RFC 1850/2328 OSPF v2 and MIB
RFC 2154 OSPF MD5 Signature
RFC 2370/3630 OSPF Opaque LSA
RFC 2740/5340 OSPFv3 for IPv6
RFC 3101 OSPF NSSA Option
RFC 3623 OSPF Graceful Restart

RIP
RFC 1058 RIP v1
RFC 1722/1723/2453/1724 RIP v2 and MIB
RFC 1812/2644 IPv4 Router Requirements
RFC 2080 RIPng for IPv6

BGP
RFC 1269/1657/4273 BGP v3 and v4 MIB
RFC 1403/1745 BGP/OSPF Interaction
RFC 1771-1774/2842/2918/3392/4271 BGP v4
RFC 1965 BGP AS Confederations
RFC 1966 BGP Route Reflection
RFC 1997/1998/4360 BGP Communities Attribute
RFC 2042/5396 BGP New Attribute

IP Multicast
RFC 1075/draft-ietf-idmr-dvmrp-v3-11.txt DVMRP
RFC 2365 Multicast
RFC 2710/3019/3810/MLD v2 for IPv6
RFC 2715 PIM and DVMRP interoperability
RFC 2933 IGMP MIB
RFC 3376 IGMPv3 (includes IGMP v2/v1)
RFC 3569 Source-Specific Multicast (SSM)
RFC 3973 Protocol Independent Multicast-Dense Mode (PIM-DM)
RFC 4087 IP Tunnel MIB
RFC 4541 Considerations for IGMP and MLD Snooping Switches
RFC 4601/5059 PIM-SM
RFC 5015 BIDIR PIM
RFC 5060 Protocol Independent Multicast MIB
RFC 5132 Multicast Routing MIB
RFC 5240 PIM Bootstrap Router MIB

IPv6
RFC 1981 Path MTU Discovery
RFC 2460 IPv6 Specification
RFC 2461 NDP
RFC 2464 IPv6 over Ethernet
RFC 2465 MIB for IPv6: Textual Conventions (TC) and General Group
RFC 2466 MIB for IPv6: ICMPv6 Group
RFC 2711 Router Alert Option

RFC 2385 BGP MD5 Signature
RFC 2439 BGP Route Flap Damping
RFC 2545 BGP-4 Multiprotocol Extensions for IPv6 Routing
RFC 2858/4760 Multiprotocol Extensions for BGP-4
RFC 3065 BGP AS Confederations
RFC 4456 BGP Route Reflection
RFC 4486 Subcodes for BGP Graceful Restart
RFC 4724 Graceful Restart for BGP
RFC 5492/5668/6793 BGP 4-Octet ASN

IS-IS
RFC 1142/1195/3719/3787/5308 IS-IS v4
RFC 2763/2966/3567/3373 Adjacencies and route management
RFC 5120 M-ISIS: Multi Topology IS-IS
RFC 5306 Graceful Restart
RFC 5309/draft-ietf-isis-igp-p2p-over-lan Point to point over LAN
RFC 6329 IS-IS Extensions Supporting IEEE 802.1aq SPB

IPv6
RFC 1076 Path MTU Discovery
RFC 1075/draft-ietf-dvmrp-v3-11.txt DVMRP
RFC 2365 Multicast
RFC 2710/3019/3810/MLD v2 for IPv6
RFC 2715 PIM and DVMRP interoperability
RFC 2933 IGMP MIB
RFC 3376 IGMPv3 (includes IGMP v2/v1)
RFC 3569 Source-Specific Multicast (SSM)
RFC 3973 Protocol Independent Multicast-Dense Mode (PIM-DM)
RFC 4087 IP Tunnel MIB
RFC 4541 Considerations for IGMP and MLD Snooping Switches
RFC 4601/5059 PIM-SM
RFC 5015 BIDIR PIM
RFC 5060 Protocol Independent Multicast MIB
RFC 5132 Multicast Routing MIB
RFC 5240 PIM Bootstrap Router MIB

RFC 3056 6to4 Tunnels
RFC 3315 Dynamic Host Configuration Protocol for IPv6 (DHCPv6)
RFC 3484 Default Address Selection
RFC 3493/2553 Basic Socket API
RFC 3542/2292 Advanced Sockets API
RFC 3587/2374 Global Unicast Address Format
RFC 3595 TC for IPv6 Flow Label
RFC 3596/1886 DNS for IPv6
RFC 4007 Scoped Address
RFC 4022/2452 MIB for IPv6 TCP
RFC 4113/2454 MIB for IPv6 UDP
RFC 4193 Unique Local Addresses
RFC 4213/2893 Transition Mechanisms
RFC 4291/3513/2373 Addressing Architecture (uni/any/multicast)
RFC 4301/2401 Security Architecture
RFC 4302/2402 IP Authentication Header
RFC 4303/2406 IP Encapsulating Security Payload (ESP)
RFC 4308 Cryptographic Suites for IPsec
RFC 4443/2463 ICMPv6
RFC 4861/2461 Neighbor Discovery
RFC 4862/2462 Stateless Address Autoconfiguration
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

Manageability
RFC 854/855 Telnet and Telnet options
RFC 959/2640 FTP
RFC 1350 TFTP Protocol
RFC 1157/2271 SNMP
RFC 1212/2373 MIB and MIB-II
RFC 1213/2011-2013 SNMP v2 MIB
RFC 1215 Conversion for SNMP Traps
RFC 1573/2233/2863 Private Interface MIB
RFC 1643/2665 Ethernet MIB
RFC 1867 Form-based File Upload in HTML
RFC 1901-1908/3416-3418 SNMP v2c
RFC 2096 IP MIB
RFC 2131 DHCP Server/Client
RFC 2388 Returning Values from Forms: multipart/form-data
RFC 2396 Uniform Resource Identifiers (URI): Generic Syntax
RFC 2570-2576/3411-3415 SNMP v3
RFC 2616 /2854 HTTP and HTML
RFC 2667 IP Tunneling MIB
- RFC 2668/3636 IEEE 802.3 MAU MIB
- RFC 2674 VLAN MIB
- RFC 3023 XML Media Types
- RFC 3414 User-based Security Model
- RFC 4122 A Universally Unique Identifier (UUID) URN Namespace
- RFC 4234 Augmented BNF for Syntax Specifications: ABNF
- RFC 4251 Secure Shell Protocol Architecture
- RFC 4252 The Secure Shell (SSH) Authentication Protocol
- RFC 4627 JavaScript Object Notation (JSON)
- RFC 6585 Additional HTTP Status Codes

**Security**
- RFC 1321 MD5
- RFC 1826/1827/4303/4305 Encapsulating Payload (ESP) and crypto algorithms
- RFC 2104 HMAC Message Authentication
- RFC 2138/2865/2868/3575 RADIUS Authentication and Client MIB
- RFC 2139/2866/2867/2620 RADIUS Accounting and Client MIB
- RFC 2228 FTP Security Extensions
- RFC 2697 snTCM
- RFC 2698 trTCM
- RFC 3635 Pause Control

**Others**
- RFC 791/894/1024/1349 IP and IP/ Ethernet
- RFC 792 ICMP
- RFC 768 UDP
- RFC 793/1156 TCP/IP and MIB
- RFC 826 ARP
- RFC 919/922 Broadcasting Internet Datagram
- RFC 925/1027 Multi-LAN ARP/Proxy ARP
- RFC 950 Subnetting
- RFC 951 BOOTP
- RFC 1151 RDP
- RFC 1191 Path MTU Discovery
- RFC 1256 ICMP Router Discovery
- RFC 1305/2030 NTP v3 and Simple NTP
- RFC 1493 Bridge MIB
- RFC 1518/1519 CIDR
- RFC 1541/1542/2131/3396/3442 DHCP
- RFC 1757/2819 RMON and MIB
- RFC 2131/3046 DHCP/BootP Relay
- RFC 2251 LDAP v3
- RFC 2338/3768/2787 VRRP and MIB
- RFC 3021 Using 31-bit Prefixes
- RFC 3060 Policy Core
- RFC 3176 sFlow

### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OMNISWITCH 6860 BASIC MODELS</strong></td>
<td></td>
</tr>
<tr>
<td>OS6860-24-xx</td>
<td>OS6860-24: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one AC power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19&quot; rack and a micro-USB-to-USB console adapter</td>
</tr>
<tr>
<td>OS6860-24D</td>
<td>OS6860-24: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one DC power supply, user manuals access card, hardware for mounting in a 19&quot; rack and a micro-USB-to-USB console adapter</td>
</tr>
<tr>
<td>OS6860-P24-xx</td>
<td>OS6860-P24: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 10/100/1000 Base-T PoE ports, four fixed SFP+ (1G/10G) ports and two 20G VFL/stacking ports. The bundle includes a mid-power AC PoE power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19&quot; rack and a USB-to-USB console adapter</td>
</tr>
<tr>
<td>OS6860-48-xx</td>
<td>OS6860-48: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T ports, 4 fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one AC power supply, country specific power cord, user manuals access card, hardware for mounting in a 19&quot; rack and a micro-USB to USB console adapter</td>
</tr>
<tr>
<td>OS6860-48D</td>
<td>OS6860-48: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one DC power supply, user manuals access card, hardware for mounting in a 19&quot; rack and a micro-USB-to-USB console adapter</td>
</tr>
<tr>
<td>OS6860-P48-xx</td>
<td>OS6860-P48: Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T PoE+ ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one 920-W AC PoE power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19&quot; rack and a micro-USB-to-USB console adapter</td>
</tr>
</tbody>
</table>
### OMNISWITCH 6860 ENHANCED MODELS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS6860E-24-xx</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one AC power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-24D</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, and two 20G VFL/stacking ports. The bundle includes one AC power supply, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-P24-xx</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 24 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one 600-W AC PoE power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-48-xx</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one AC power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-48D</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T ports, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one DC power supply, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-P48-xx</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 48 RJ-45 10/100/1000 Base-T ports, four of them provide 60 W, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one 920-W AC PoE power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-U28-xx</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 28 100/1000 Base-X SFP ports, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one AC power supply, country-specific power cord, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
<tr>
<td>OS6860E-U28D</td>
<td>Gigabit Ethernet L3 fixed configuration chassis in a 1U form factor with 28 100/1000 Base-X SFP ports, four fixed SFP+ (1G/10G) ports, USB, EMP, and two 20G VFL/stacking ports. Includes a built-in co-processor for Enhanced network services. The bundle includes one DC power supply, user manuals access card, hardware for mounting in a 19” rack and a micro-USB-to-USB console adapter.</td>
</tr>
</tbody>
</table>

### OMNISWITCH 6860 POWER SUPPLIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS6860-BP-D</td>
<td>Modular 150-W DC backup power supply. Provides backup power to one non-PoE OS6860 or OS6860E switch</td>
</tr>
<tr>
<td>OS6860-BP-xx</td>
<td>Modular 150-W AC backup power supply. Provides backup power to one non-PoE OS6860 or OS6860E switch</td>
</tr>
<tr>
<td>OS6860-BPPH-xx</td>
<td>Modular 600-W AC PoE backup power supply. Provides system and PoE backup power to one 24-port PoE OS6860 or OS6860E switch</td>
</tr>
<tr>
<td>OS6860-BPPX-xx</td>
<td>Modular 920-W AC PoE backup power supply. Provides system and PoE backup power to one 48-port PoE OS6860 or OS6860E switch</td>
</tr>
</tbody>
</table>

### OMNISWITCH 6860 SOFTWARE

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS6860-SW-AR</td>
<td>Advanced routing software license. Includes support for VRF, IPv4 routing protocols BGP, OSPFv2, PIMSM/DM, DVMRP. Includes IPv6 Routing, RIPng, OSPFv3, as well as SPB-M</td>
</tr>
</tbody>
</table>

### OMNISWITCH 6860 ACCESSORIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS6860-CBL-40</td>
<td>20 Gigabit direct attached copper cable (40 cm, QSFP+) for Virtual Chassis connections</td>
</tr>
<tr>
<td>OS6860-CBL-100</td>
<td>20 Gigabit direct attached copper cable (1m, QSFP+) for Virtual Chassis connections</td>
</tr>
<tr>
<td>OS6860-CBL-300</td>
<td>20 Gigabit direct attached copper cable (3m, QSFP+) for Virtual Chassis connections</td>
</tr>
</tbody>
</table>

### GIGE TRANSCEIVERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-GIG-T</td>
<td>1000Base-T Gigabit Ethernet Transceiver (SFP MSA). SFP works at 1000 Mb/s speed and full-duplex mode</td>
</tr>
<tr>
<td>SFP-GIG-SX</td>
<td>1000Base-SX Gigabit Ethernet optical transceiver (SFP MSA)</td>
</tr>
<tr>
<td>SFP-GIG-LX</td>
<td>1000Base-LX Gigabit Ethernet optical transceiver (SFP MSA)</td>
</tr>
<tr>
<td>SFP-GIG-LH40</td>
<td>1000Base-LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 40 km on 9/125 µm SMF</td>
</tr>
<tr>
<td>SFP-GIG-LH70</td>
<td>1000Base-LH Gigabit Ethernet optical transceiver (SFP MSA). Typical reach of 70 km on 9/125 µm SMF</td>
</tr>
</tbody>
</table>
### 10G Transceivers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-10G-SR</td>
<td>10 Gigabit optical transceiver (SFP+). Supports multimode fiber over 850 nm wavelength (nominal) with an LC connector. Typical reach of 300 m</td>
</tr>
<tr>
<td>SFP-10G-LR</td>
<td>10 Gigabit optical transceiver (SFP+). Supports monomode fiber over 1310 nm wavelength (nominal) with an LC connector. Typical reach of 10 km</td>
</tr>
<tr>
<td>SFP-10G-ER</td>
<td>10 Gigabit optical transceiver (SFP+). Supports monomode fiber over 1550 nm wavelength (nominal) with an LC connector. Typical reach of 40 km</td>
</tr>
<tr>
<td>SFP-10G-LRM</td>
<td>10 Gigabit optical transceiver (SFP+). Supports multimode fiber over 1310 nm wavelength (nominal) with an LC connector. Typical reach of 220 m on FDDI-grade (62.5 µm)</td>
</tr>
<tr>
<td>SFP-10G-GIG-SR</td>
<td>Dual-speed SFP+ optical transceiver. Supports multimode fiber over 850 nm wavelength (nominal) with an LC connector. Supports 1000Base-SX and 10GBase-SR</td>
</tr>
</tbody>
</table>

### SFP+ Direct Attached Cables

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-10G-C1M</td>
<td>10 Gigabit direct attached copper cable (1 m, SFP+)</td>
</tr>
<tr>
<td>SFP-10G-C3M</td>
<td>10 Gigabit direct attached copper cable (3 m, SFP+)</td>
</tr>
<tr>
<td>SFP-10G-C7M</td>
<td>10 Gigabit direct attached copper cable (7 m, SFP+)</td>
</tr>
</tbody>
</table>

Please replace the "-xx" in the part number with the country-specific power cord (e.g. OS6860-24-US will come with a power cord for the USA, -UK for United Kingdom). We offer 11 different power cord options. Please consult with the price list for the official power cord options offered.

### Warranty

The OmniSwitch 6860 family comes with a Limited Lifetime Warranty.

### Services and Support

For more information about our Professional services, Support services, and Managed services, please go to [http://enterprise.alcatel-lucent.com/?services=EnterpriseServices&page=directory](http://enterprise.alcatel-lucent.com/?services=EnterpriseServices&page=directory)