



ALCATEL-LUCENT OMNISWITCH 6855

HARDENED LAN SWITCH





Businesses are demanding a common and converged communication infrastructure that supports their growth. This can be done by extending the reach and scope of the network and its services beyond traditional office applications, even to locations where harsh environmental conditions exist.

The Alcatel-Lucent OmniSwitch™ 6855 Hardened LAN Switch is the industry's first Ethernet switch offering up to 24 gigabit ports in a hardened chassis that is designed and built to operate reliably in harsh environments and severe temperature conditions.

This superior, rugged hardware design coupled with the widely deployed and field proven Alcatel-Lucent Operating System (AOS) makes it ideal for industrial and mission-critical applications that require wider operating temperatures, more stringent Electromagnetic Compatibility/Electromagnetic Interference (EMC/EMI) requirements and optimized feature set for high security, reliability, performance and easier management. In addition, OmniSwitch 6855 offers the option to power Ethernet devices at the edge of a network such as video cameras, wireless access points, card readers, and industrial sensors. The target applications for these versatile LAN switches are power utilities, transportation and traffic control systems, industrial factory floor installations, video surveillance systems, and outside installations, all requiring the benefits and performance of IP and Gigabit Ethernet.

FEATURE OVERVIEW

Flexibility in the design

- Wide choice of models offering different port densities and port types as well as diverse power supply options: external, redundant, hot swappable, AC and DC
- Purpose built, industrial strength switch engineered to operate in temperatures ranging from -40°C up to +75°C
- Convection cooling fan-less design models offer increased reliability and lower acoustic levels
- Power over Ethernet (PoE)
- All of the OmniSwitch 6855-14 and 6855-24 models support PoE (compliant with the 802.3af standard) which can be used for powering access points, card readers, surveillance cameras and more

Performance

- Wire-rate 10 gigabit and gigabit connectivity and full IPv4 and IPv6 support with unicast and multicast switching and routing (for example, native support of OSPF, IGMPv3, PIM) for future proof investment
- Advanced quality of service (QoS) to support critical applications

Security and manageability

Extensive security features for network access control, policy enforcement and attack containment enabling fully secure and protected networks

- Integrated Virtual Routing and Forwarding (VRF) support for increased network segment isolation and security
- Management of the OmniSwitch 6855 is simplified through the use of Alcatel-Lucent OmniVista™ 2500 Network Management System (NMS) and by Alcatel-Lucent 5620 Service Aware Manager (SAM).

ALCATEL-LUCENT OMNISWITCH 6855 FAMILY

The OmniSwitch 6855 family offers customers an extensive selection of Gigabit Ethernet fixed configuration switches and power supply options that accommodate most hardened Ethernet needs. All models are in a 1U form factor and offer a combination of RJ-45, PoE, SFP, and SFP + ports.

OMNISWITCH 6855 MODELS

Fiber models

OmniSwitch 6855-U10

- Eight SFP fiber ports 100/1000Base-X
- Two RJ-45 10/100/1000 ports
- Operating temperature: -40°C to +70°C



OmniSwitch 6855-U24X

- Two 10Gig E SFP + ports for stacking or uplinks
- 22 SFP ports 100/1000Base-X and Base-T
- Two combo ports
- Up to four units in a stack
- Operating temperature: -40°C to +70°C



PoE models

OmniSwitch 6855-14

- 12 10/100/1000 RJ-45 ports
- Four 802.3af PoE capable ports
- Two SFP fiber ports 100/1000Base-X
- AC or DC power supplies
- Operating temperature: -40°C to +70°C



OmniSwitch 6855-14P

- 12 10/100/1000 RJ-45 ports
- 12 802.3af PoE ports
- Two SFP fiber ports 100/1000Base-X
- Operating temperature: -40°C to +70°C



OmniSwitch 6855-24

- 20 10/100/1000 RJ-45 copper ports
- Four 802.3af PoE ports
- Four combo ports
- Operating temperature: -40°C to +75°C



Combo ports are ports individually configurable to be 10/100/1000Base-T or 100/1000Base-X that can support SFP transceivers for short, long and very long distances.



SFP fiber interfaces support 1000Base-X or 100Base SFP optical transceivers.

Compliance and regulatory agency approvals

The Alcatel-Lucent OmniSwitch 6855 family is fully compliant with the European Community's directive — Restriction on Hazardous Substances in Electrical and Electronic Equipment (RoHS) and WEEE (Waste Electrical and Electronic Equipment).

It has also received the UL approval for safety and is in compliance with numerous industrial standards and certifications for EMI immunity, environmental, mechanical shock and vibration in addition to industry specific guidelines such as IEEE1613 and IEC 61850-3 for substations.

POWER SUPPLY OPTIONS

Flexibility

- All of the OmniSwitch 6855 chassis support redundant, hot-swappable AC and DC power supplies.
- Primary as well as backup power supplies are external to the device which allows for easier installation, maintenance and replacement.
- Power supplies can also be remotely mounted using a special cable, which allows the OmniSwitch 6855 to be used in areas with reduced depth.

Availability

- Designed for maximum availability the primary, as well as the backup power supplies for the OmniSwitch 6855 models, are external and hot-swappable.
- There is no interruption of service in case a new power supply is installed or an old one replaced in a redundant configuration.

PRODUCT FEATURES AND BENEFITS

Performance and high availability features

The OmniSwitch 6855 family supports real-time voice, data, and video applications. The switches provide first packet wire-speed classification and processing for all packets — giving a noticeable performance boost to converged networks. The OmniSwitch 6855s support advanced services such as PoE and IPv6, future proofing today's investment to support the demands of tomorrow.

The OmniSwitch 6855 supports the most commonly used standards-based protocols that ensure network resiliency. In addition, it supports Ethernet Ring Protection (ERP) protocol, which is specifically designed to achieve even faster convergence time in a ring configuration.

With its superior hardware design the OmniSwitch 6855 facilitates network resiliency.

Enhanced security

Alcatel-Lucent OmniSwitch 6855 secures the network with proactive and reactive

capabilities that are provided through Alcatel-Lucent Access Guardian, traffic anomaly detection and the Alcatel-Lucent OmniVista 2500 NMS Quarantine Manager™.

Alcatel-Lucent Access Guardian

The Alcatel-Lucent Access Guardian is a network access security framework that enables network-wide and user-based security by automatically detecting and authenticating the 802.1X and non-802.1X supplicants connected to a single port, in any combination. The Access Guardian provides access security to the network, whether the device is a camera or card reader, or users connecting their computers. It simplifies moves, adds and changes of devices and users. In addition to improved network security, the Alcatel-Lucent Access Guardian reduces to zero the time a network administrator spends for adding or moving users.

Traffic Anomaly Detection

Traffic anomaly detection (TAD) is a network security component embedded in the OmniSwitch 6855, which detects network traffic anomalies and distinguishes malware traffic.

TAD monitors network traffic in real time, detects anomalies by monitoring discrepancies in user-port's ingress and egress packet rates that match specific traffic patterns. TAD either reports or automatically quarantines the offending ports.

It reduces the impact of worms and other malicious code by detecting and eliminating them right at the edge of the network.

Quarantine Manager

In addition to proactive security provided by the Alcatel-Lucent Access Guardian, the OmniSwitch 6855 provides reactive security by immediately notifying Alcatel-Lucent OmniVista network manager when an attack is detected and then swiftly handling the attacker through automatic containment and remediation as directed by the network management system.

Network management

The OmniSwitch 6855 Hardened LAN Switches are part of the Alcatel-Lucent OmniSwitch family, which includes core, stackable/modular edge and wireless LAN (WLAN) switches. All use the AOS and are managed by the Alcatel-Lucent OmniVista 2500 NMS. This system is capable of OneTouch enterprise network management for fault, configuration, performance and security management. Centralized network management will reduce the total cost of operations (TCO) for the entire network.

For service providers, Alcatel-Lucent offers the 5620 SAM. This system is capable of provisioning Ethernet services across an MPLS network from a graphical interface. Centralized service provisioning reduces the TCO of the entire Ethernet service network.

OmniSwitch administrators can use any of the management interfaces to fully configure the device: command line interface (CLI), SNMP, or Alcatel-Lucent WebView for web-based management. Each is easy to use and offers a common look and feel for every device. For enterprises Alcatel-Lucent offers the OmniVista 2500 Network Management System (NMS). This system is capable of OneTouch management of enterprise networks with regards to fault, configuration, performance and security management. Centralized network management will reduce the TCO of the entire network.

For service providers Alcatel-Lucent offers the 5620 Service Aware Manager (SAM). This system is capable of provisioning Ethernet Services across an MPLS network from a graphical interface. Centralized service provisioning reduces the TCO of the entire Ethernet service network.

IPv6 support

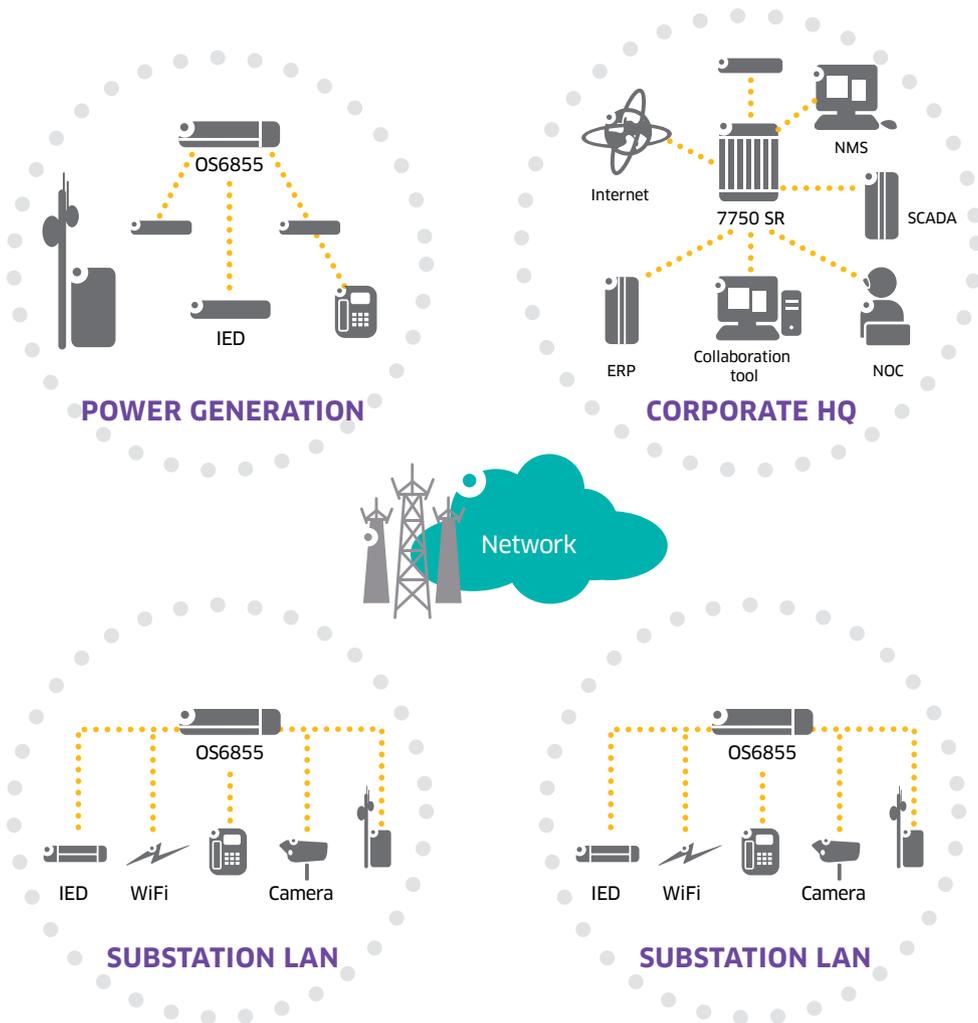
The OmniSwitch 6855 family provides full IPv6 support with hardware-based forwarding for wire-rate speeds, classification and tunneling to address various corporate and U.S. federal government Department of Defense (DoD) requirements for IPv6. Flexibility is provided through the dual IPv4/IPv6 stack without compromising switch performance. By including it in current purchases, a network manager extends the life of existing equipment and prevents future expenses that would be required to upgrade to a switch that supports IPv6.

NETWORK APPLICATIONS

Utility

Utility companies rely heavily on their communications' infrastructures to ensure the flawless delivery of critical services everywhere from the edge to the central office. Increasingly, the utility network infrastructure must deliver integrated voice, data and video communications. The advanced QoS and converged services make the OmniSwitch 6855 an excellent choice for substation installations. These locations have numerous intelligent devices such as video cameras, IP phones and IP surveillance systems, which have to be connected to a hardened Ethernet switch. In addition, the power plants need heavy duty industrial networking products that can withstand electrical noise and have DC power options which the OmniSwitch 6855 offers.

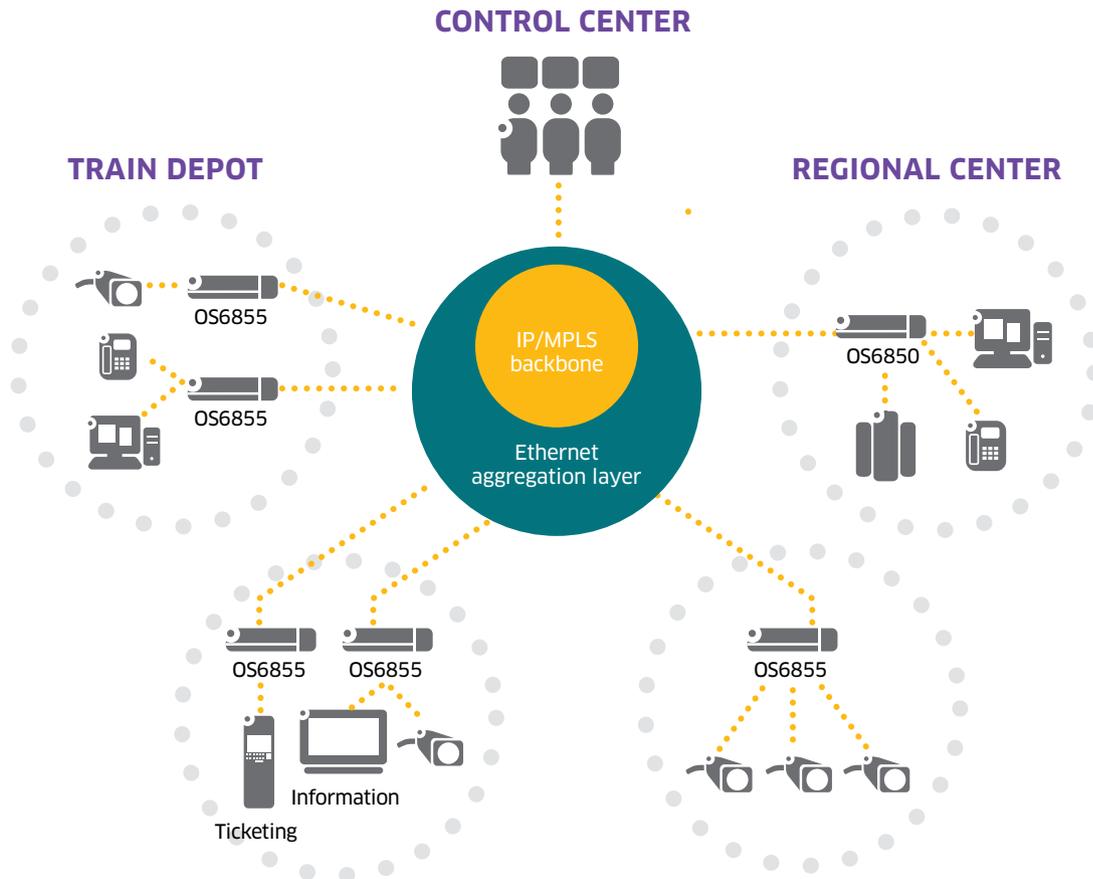
Figure 1. OmniSwitch 6855 in utility networks



Transportation systems

Transportation networks often cover a wide geographic area within a metropolitan area or between different cities. The equipment installation locations can be by the roadside, in subway stations or railroad stations. The OmniSwitch 6855 is a good fit for these installations due to its support for long haul fiber, fast networks fault recovery, PoE and advanced L2/L3 protocol supports.

Figure 2. OmniSwitch 6855 in transportation networks

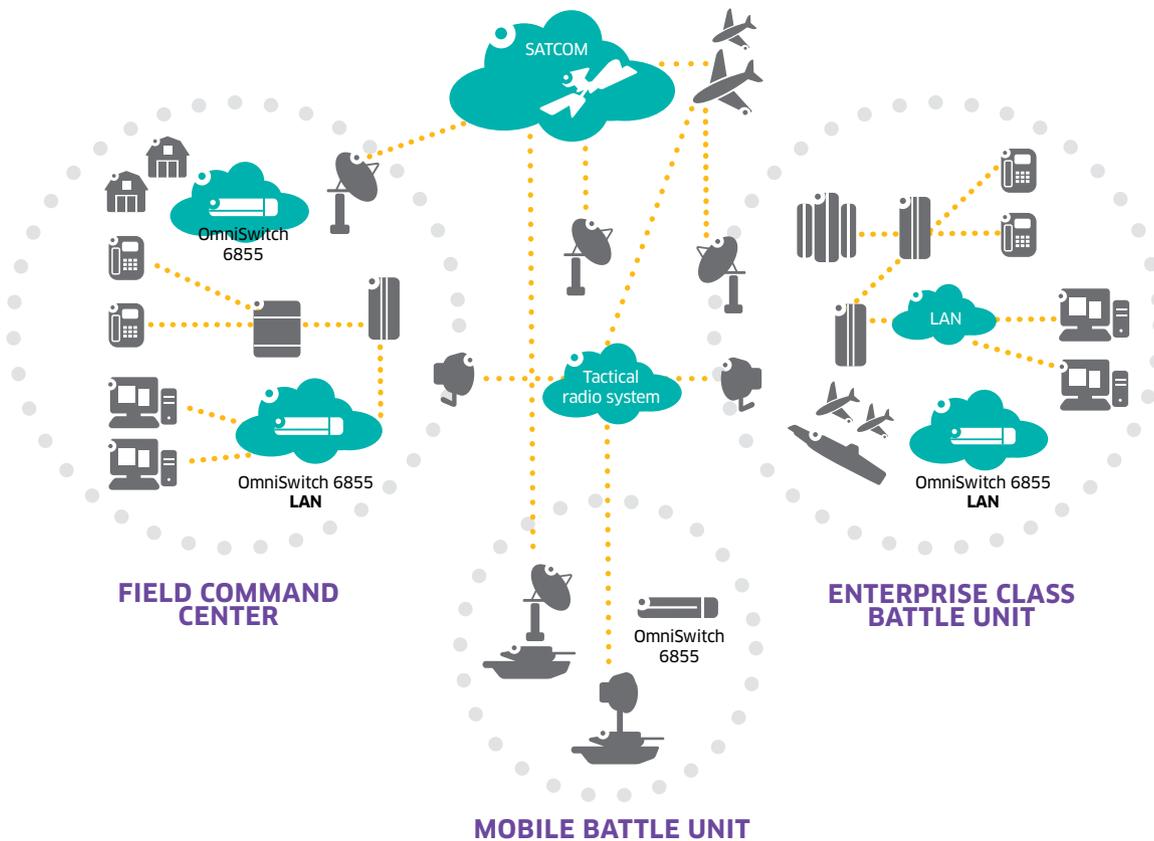


Military installations

The military have strict requirements and stringent guidelines for all equipment deployed in their networks. The OmniSwitch 6855 addresses these requirements and operates in a wide range of temperatures and physical conditions along with the ability to withstand increased shock and vibration.

Defense department networks have to be future proof and usually require support for IPv6. The OmniSwitch 6855 supports both IPv4 and IPv6 unicast and multicast switching and routing at wire rate.

Figure 3. OmniSwitch 6855 in military applications



SERVICE & SUPPORT

Warranty

OmniSwitch 6855s are offered with a lifetime hardware warranty limited to the original owner and up to five years after the product's End-of-Sales announcement.

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