

Alcatel-Lucent 1675 LambdaUnite MultiService Switch

Alcatel·Lucent 

Versatile switching platform designed
to meet today's network requirements
and to drive future network trends





The Alcatel-Lucent 1675 LambdaUnite MultiService Switch (MSS) is a unique, future-proof platform that supports a wide variety of applications in ring and mesh network topologies while keeping the network flexible, cost-effective and easy to manage. In addition it provides the ability to cost-effectively integrate Ethernet services in metropolitan and backbone networks, enabling carriers to generate new revenue streams. The Alcatel-Lucent 1675 LambdaUnite MSS, a global product applicable to both SONET and SDH markets, is deployed worldwide.

Cost-Effective Support for a Variety of Network Applications

The Alcatel-Lucent 1675 LambdaUnite MultiService Switch (MSS) is a next-generation optical switch that supports a variety of applications, including add/drop multiplexer (ADM), terminal multiplexer, multi-ring hub and broadband cross-connect. This multifunctional platform helps lower costs by reducing equipment, floor-space and power requirements while improving operational efficiency and network reliability.



The system supports both SDH and SONET rates, making it suitable for global network deployments. Its common hardware/software and industry-standards compliance help position you for rapid feature introduction and increased revenue opportunities, for small to large office applications in backbone and metro networks.

In a Metro Network

In a metro network, the Alcatel-Lucent 1675 LambdaUnite MSS serves as a metro hub terminal, efficiently aggregating multiple 2.5G and 10G rings to help eliminate stacked ADMs. An optional passive wavelength division multiplexing (WDM) unit can be integrated for fiber exhaust situations.



In Backbone Networks

In backbone networks, efficient use of existing fiber is critical to satisfying bandwidth demands. The Alcatel-Lucent 1675 LambdaUnite MSS efficiently aggregates and grooms traffic to help maximize bandwidth utilization and lower per-bit costs. The optional, fully transparent OC-48/STM-16 interface card can help carriers to cost-effectively address wavelength service delivery using the existing SONET/SDH network infrastructure.

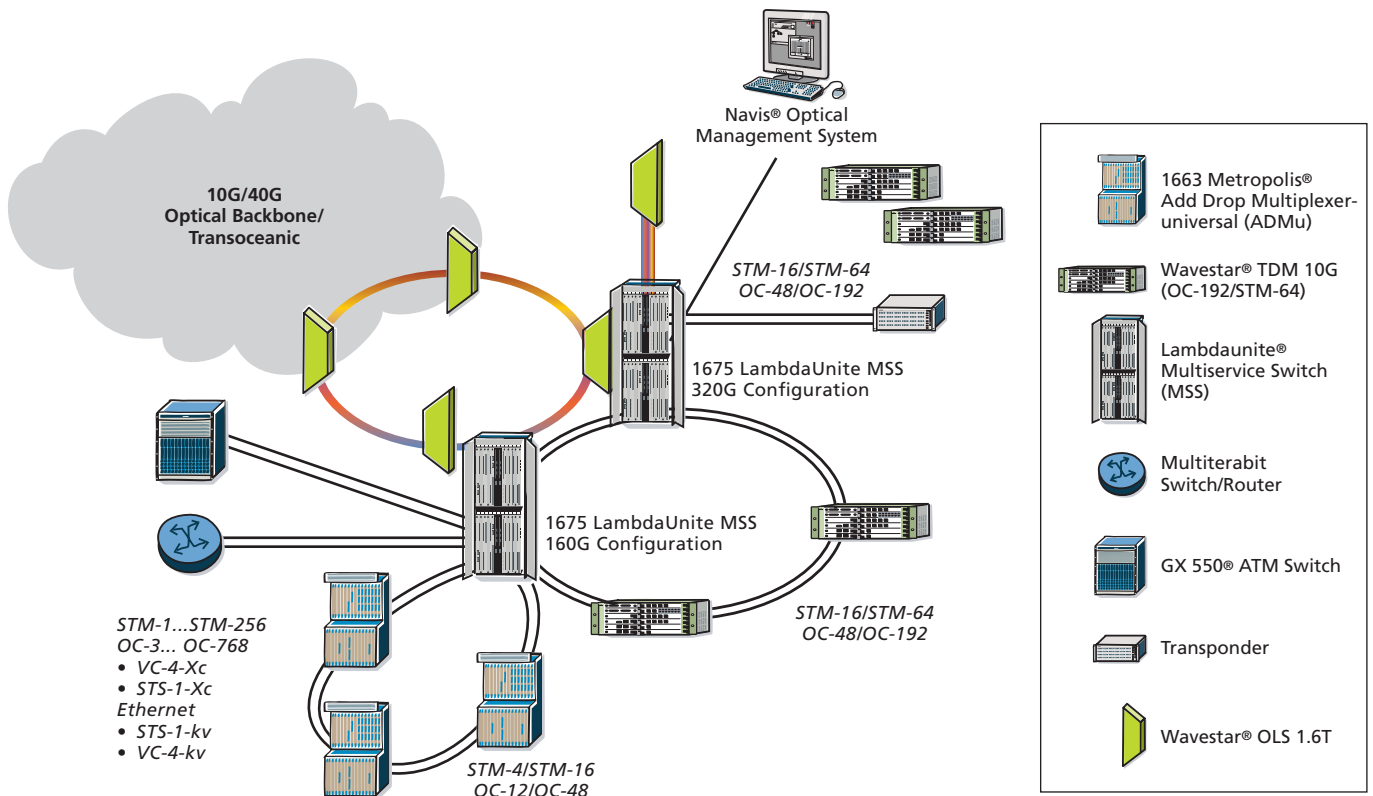
Figure 1 shows two complete Alcatel-Lucent 1675 LambdaUnite MSSs in one rack, with a capacity of 640G.

With DWDM Systems and Transoceanic Applications

When the Alcatel-Lucent 1675 LambdaUnite MSS is deployed with an Alcatel-Lucent dense WDM (DWDM) system, you can achieve significant equipment savings by using express optics because expensive optical transport units (OTUs) on the DWDM equipment are eliminated.

The Alcatel-Lucent 1675 LambdaUnite MSS is well suited for transoceanic applications. The transoceanic protocol mechanism supported by the system helps to effectively protect groomed and consolidated traffic for your valuable undersea fiber route.

Figure 1. Two Alcatel-Lucent 1675 LambdaUnite MSS Systems



Seamless Delivery of Traditional Circuit and Advanced Data Services



The Alcatel-Lucent 1675 LambdaUnite MSS leverages your existing investments in SONET/SDH networks to support traditional revenue-generating services while enabling new Ethernet services. Combining SONET/SDH resilience and quality of service (QoS) with the flexibility and ubiquity of Ethernet helps the system deliver carrier-grade Ethernet services in point-to-point and multipoint configurations.

The Alcatel-Lucent TransLAN® card option offers efficient and flexible bandwidth-assignment capabilities, including virtual concatenation and link capacity adjustment scheme (LCAS), to enable voice and data transport and to help avoid separate overlay networks that are costly to build and manage.

Central-Office Consolidation Opportunities



The Alcatel-Lucent 1675 LambdaUnite MSS performs as a metro hub terminal, efficiently aggregating multiple high-capacity rings in your central office. This deployment can result in significant cost savings by eliminating stacked ADMs at metro hubs. The centralized non-blocking switch is available in 160G, 320G and 640G switching-capacity options in a single shelf, to help reduce floor space and operation costs.

High fiber utilization is accomplished using granular STS-1/VC-4 and VT-1.5/VC-12 grooming, a wide range of service interfaces, and advanced data-transport capabilities. Occupying very little floor space because of their high density, two complete Alcatel-Lucent 1675 LambdaUnite MSSs fit in one rack, providing up to 1.2 Tb/s per bay.

As shown in Figure 1, the Alcatel-Lucent 1675 LambdaUnite MSS supports various types of traffic and protection schemes — all in one network element.

Ready Integration with Embedded Infrastructure

The Alcatel-Lucent 1675 LambdaUnite MSS is a global, standards-compliant product that leverages traditional SDH and SONET networks. Extensive multi-vendor interworking capabilities enable quick deployments while protecting your existing investments. Designed with scalability and ease of maintenance in mind, the Alcatel-Lucent 1675 LambdaUnite MSS can help you affordably meet the market's growing demand for bandwidth.

Integrated management using the Navis Optical Management System helps support a wide range of applications and services to keep your network running cost-effectively. Sharing a common management system with other Alcatel-Lucent optical products facilitates support-staff knowledge across multiple platforms.

Supported Protection Schemes

The Alcatel-Lucent 1675 LambdaUnite MSS supports a variety of industry-standard protection schemes:

- Multiplex section shared protection ring (MS-SPRing)/bi-directional line-switched ring (BLSR)
- Subnetwork connection protection (SNCP)/unidirectional path-switched ring (UPSR)
- Transoceanic protocol
- Dual node interworking/Dual ring interworking (DNI/DRI)
- 1+1 multiple section protection (MSP)/linear automatic protection switching (APS)
- Mesh-based restoration

Evolution to Meet Growing Network Needs

The Alcatel-Lucent 1675 LambdaUnite MSS offers a full set of interface rates, reaches and colored optics to help provide your network with greater flexibility and efficiency. Simultaneous support for both ring and mesh allows you to evolve network architectures when you are ready.

System Architecture

The system architecture is based on a full non-blocking duplicated switch matrix. Each of the 32 I/O slots can be filled with a variety of cards ranging from 45 Mb/s up to

40 Gb/s, thus enabling a wide range of configurations. The optical circuit packs support expansion port modules that may be inserted and provisioned in-service. This means that you only pay for the port capacity you need, when you need it.

The Alcatel-Lucent 1675 LambdaUnite MSS offers dedicated data interfaces such as Gigabit Ethernet (SX/LX) and 10 Gigabit Ethernet (WAN PHY). From small to large offices, this highly flexible architecture allows you to configure the system to meet your needs.



Flexible Interworking

Designed to interwork with a variety of standards-compliant SONET/SDH products, the Alcatel-Lucent 1675 LambdaUnite MSS can be part of your solution, with seamless, end-to-end network management and a decreased need for manual intervention.

FEATURE	BENEFIT
<ul style="list-style-type: none"> • Ultracompact high-capacity shelf, with innovative, flexible “any card in any slot” architecture • Optical line system (OLS) direct and passive DWDM optics 	<ul style="list-style-type: none"> • Cost-effectively provides multiservice support and addresses a variety of network applications
<ul style="list-style-type: none"> • Interfaces from DS-3 to OC-768/STM-256 • Bandwidth-optimized sub-lambda grooming • 15G low-order grooming capabilities 	<ul style="list-style-type: none"> • Converges traditional circuit and advanced packet services
<ul style="list-style-type: none"> • Centralized non-blocking switch, with 160G, 320G and 640G capacity options 	<ul style="list-style-type: none"> • Offers central office consolidation opportunities
<ul style="list-style-type: none"> • Seamless integration with the Navis Optical Management System • Full interoperability with the Alcatel-Lucent SONET/SDH portfolio • End-to-end point-and-click provisioning using the Alcatel-Lucent network management portfolio 	<ul style="list-style-type: none"> • Readily integrates with your embedded infrastructure
<ul style="list-style-type: none"> • Expansion port modules that may be inserted and provisioned in-service • In-service capacity upgrade • Simultaneous support of ring, mesh and hybrid network topologies • Multiple class of service (CoS) levels 	<ul style="list-style-type: none"> • Meets the needs of your growing network



The Alcatel-Lucent Advantage

The Alcatel-Lucent 1675 LambdaUnite MSS offers you a complete central office system in a single platform. Leveraging your infrastructure investments, the switch provides flexible support for existing and new network applications and eases evolution — all while maximizing capacity and availability.

With operations in more than 130 countries worldwide, Alcatel-Lucent has a world-leading position in triple play and extensive experience providing optical, broadband and wireless network products, applications and services. An end-to-end portfolio of products and recognized project management and support make Alcatel-Lucent the vendor of choice for central-office broadband and convergence solutions.

www.alcatel-lucent.com

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