

Alcatel-Lucent 1675 LambdaUnite MSS

MULTISERVICE SWITCH | RELEASE 10

The Alcatel-Lucent 1675 LambdaUnite® MultiService Switch (MSS) is a well established global 10G optical switch that enables support for a wide variety of applications in ring and mesh network topologies, while keeping the network flexible, cost-effective and easy to manage. The Alcatel-Lucent 1675 LambdaUnite MSS is designed to meet operators' demanding price and performance requirements for small-to-large applications in metropolitan and backbone networks.



Features

- Flexible “any card in any slot” architecture
- Multiple capacity options in a single shelf
- In-service insertion and provisioning of expansion-port modules, with in-service upgrades to higher-capacity configurations
- Sophisticated protection schemes, with access to protection bandwidth and hardware redundancy
- Ethernet transport with dynamic link capacity adjustment scheme (LCAS) and virtual concatenation
- Built-in line rate, capacity and density enhancements and simultaneous ring and mesh support
- Network-embedded intelligence (ASON/GMPLS)

Benefits

- Minimizes equipment types and increases revenue opportunities for rapid feature introduction
- With single-shelf capacity options, reduces floor space and operating costs
- Provides built-in scalability and minimizes service downtime
- Protects system resources with sophisticated availability and reliability features
- Enables rich multiservice support
- Eases migration and allows for future network topologies and growth

Technical specifications

Applications

- 2.5G/10G multiple-ring terminal for metro, regional and backbone networks
- 10G backbone feeder and transoceanic deployments, with sub-lambda grooming service
- Hybrid ring and mesh
- Ethernet transport

Topologies

- Multiple ring (2F/4F MS-SPRing/ BLSR, 4F TOP+EX, UPSR/SNCP, DNI/DRI)
- Point-to-point (0x1, MSP/APS 1+1)
- Mesh

Optics

- CWDM, PWDM and DWDM direct compatible optics
- VSR to LR

Interfaces

- 2-port OC-192/STM-64 (XFP)
- 8-port OC-48/STM-16 (SFP)
- 8-port (SFP) or 16-port (fixed) OC-12/STM-4
- 8-port (SFP) or 16-port (fixed) OC-3/STM-1
- Ethernet Private Line (EPL)
 - 1-port 10GigE (XFP)
 - 8-port GigE (SFP)
- 8-port STM-1 (electrical)
- 36-port DS3 (electrical)
- "Any card in any slot" architecture
- Per-port SDH/SONET provisioning
- I-NNI, UNI 1.0 R2, and E-NNI R1.0

Switch architecture/connectivity

- Redundant switch fabric (including 160G, 320G and 640G capacities) and timing unit, providing non-blocking connectivity at AU-4/HO VC-3 and STS-1 levels
- Concatenation up to AU-4/4c/16c/64c, STS-1/3c/12c/48c/192c, including pipe mode
- 40G VC-12/VC-3 or VT-1.5 LO-XC adjunct switch fabric
- TransMux, converts DS1 within channelized DS3 into VT1.5 signals
 - 2.5 Gbit/s capacity
 - up to 12 protected pairs per system
- Dual system controllers (1+1) (optional)

Connectors

- LC
- Conversion solutions to other common connector types available

Timing/synchronization

- Timing inputs/outputs: DS1 Telcordia/ITU-T 2 MHz, 2 Mb/s
- Timing quality: Stratum 3
- System timing reference selection according to:
 - ETSI 300417-1-1/ITU-T G.781
 - GR-253-CORE

Fault/performance monitoring

- GR-253-CORE, ITU-T G.783/ G.784/G.826
- Local NE alarm indication: critical/major/minor alarm LED
- Autonomous alarm forwarding
- Remote Test Access (RTA)

Network management

- Transport protocols
 - OSI
 - TCP/IP
 - DCCm, DCCr
- Ethernet communication ports
- TL1 management interface
- Management systems
 - Alcatel-Lucent Optical Management System (OMS)
 - Alcatel-Lucent 1340 Integrated Network Controller (INC)
 - Alcatel-Lucent Craft Interface (CIT)
 - Telcordia-compliant OS

Dimensions

- Subrack design: ETSI/GR-78-CORE compliant
- Height: 95 cm (37.4 in.)
- Width: 50 cm (19.7 in.)
- Depth: 54.6 cm (21.5 in.)
- Two systems per ETSI 220 cm (86.6 in.)/260 cm (102.4 in.) rack or GR-63-CORE (NEBS 2000) 212.6 cm (83.7 in.) rack

Rack design

- ETSI-2 rack
 - Height: 220 cm (86.6 in.)
 - Width: 60 cm (23.6 in.)
 - Depth: 60 cm (23.6 in.)
- GR-63-CORE (NEBS 2000) rack
 - Height: 212.6 cm (83.7 in.)
 - Width: 60 cm (23.6 in.)
 - Depth: 60 cm (23.6 in.)
- Earthquake safety standards: both subrack-rack combinations certified for risk zone 4 (GR-63-CORE)

Power

- Redundant primary power supply voltage: -60 V/-48 V nominal
- Operation range: -40 V to -72 V
- Power consumption: typical 2500 W per NE

Operating environment

- EMC
 - EN 300 386-2
 - IEC 61000-4-x (immunity)
 - GR-1089-CORE (emission/immunity)
- ETSI 300 019
 - ETSI Class 3.1e operating temperature 5°C to 40°C (41°F to 104°F); short term -5°C to +50°C (23°F to 122°F)
 - ETSI Class 1.2 (storage)
 - ETSI Class 2.3 (transportation)
- GR-63-CORE
 - Operating temperature: 5°C to 40°C (41°F to 104°F)
 - Short-term: -5°C to +50°C (23°F to 122°F)
- Humidity:
 - Operating: 5% to 85%
 - Short-term: 5% to 90%
- Noise
 - ETSI 300 753
 - GR-63-Core Sec.4.6
- Laser safety: IEC 60825 hazard level 1 or 3A for all circuit packs

Certifications

- Metro Ethernet Forum — Ethernet Services (MEF 9 - EPL, EVPL, ELAN)
- CE marking
- NEBS Level 3
- FDA approved
- UL listed

