

Alcatel-Lucent 1665 DMX

DATA MULTIPLEXER | RELEASE 7.1

The Alcatel-Lucent 1665 Data Multiplexer (DMX) integrates Ethernet (10/100/1000 Mb/s), storage area network (SAN) (FC/FICON/ESCON) and SONET functionality into a single, compact platform. This enables multi-service growth from traditional voice/private line services to a hybrid mix of voice/private line, data/packet and SAN transmission services. The Alcatel-Lucent 1665 DMX is part of the comprehensive Alcatel-Lucent optical portfolio, providing end-to-end optical solutions for today's metro and long-haul networks.



Features

- Scales from DS-1 to OC-192
- Full line-rate GigE
- SONET protection on all circuits
- 240G STS-1 and 40G VT1.5 switch fabric with a very large fabric (VLF) main
- Optical Ethernet with rate shaping

Benefits

- Increases revenue-generating opportunities
- Helps preserve investments in SONET equipment
- Reduces space and power consumption
- Increases throughput potential
- Reduces the need for individually provisioned digital cross connections

Applications

- GigE and Fast Ethernet packet rings and private lines
- SAN (FC/FICON/ESCON) distance extensions via private lines
- Transparent/Virtual LAN services, link capacity adjustment scheme (LCAS), CIR and PIR rate shaping
- Access transport for voice and TDM private line services
- Resilient packet ring (RPR) and generic framing procedure (GFP) powered Ethernet transport
- Digital subscriber line access multiplexer (DSLAM) access

Technical Specifications

Frame Specifications

- High-capacity shelf (includes fan unit):
 - Width: 17.6 in. (447 mm)
 - Height: 19 in. (483 mm)
 - Depth (front to back): 13.75 in. (350 mm)
 - Weight (with circuit packs): 57 lbs (26 kg)
 - Weight (without circuit packs): 38 lbs (17.3 kg)

Interfaces (ports per pack)

- 28-port DS-1 and 56-port DS-1/E-1
- 12-port and 48-port DS-3/EC-1 (DS3 loopbacks available)
- 12-port TransMUX (TMUX) and 48-port ported/portless TMUX
- 4-port OC-3 pack with small form-factor pluggable (SFP) optics
- 8-port OC-3 pack with SFP optics
- 1-port OC-12 1.3 IR1/1.3LR1/1.5LR2 main packs
- 4-port OC-12 pack with SFP optics
- 1-port OC-48 1.3SR1/1.3LR1/1.5LR2/DWDM-compatible main packs
- 1-port OC-48 main pack with SFP optics
- 1-port OC-48 1.3LR1 and DWDM-compatible packs
- 4-port OC-48 pack with SFP optics
- 12 port OC-3/12/48 pack with SFP optics
- 8 port OC-3/12/48 main pack with SFP optics
- 1-port OC-192 1.3VSR/1.5IR-2/1.5LR2/DWDM-compatible main packs
- 1-port OC-192 main pack with SFP optics
- 2-port OC-192 VLF main with 240G STS/ 40G VT fabric and XFP optics
- External OC-48 and OC-192 optical amplifiers
- 24-port 100BASE-TX with Auto-Negotiation
- 2-port 1000BASE-SX
- 2-port 1000BASE-LX
- 4-port FC-DATA (ESCON or FC/FICON) with compression and SFP optics

- 4-port 10/100/1000BASE-T or 1000BASE-LX/SX/ZX with 4-port 100BASE-LX (SFP optics)
- 4-port 10/100/1000BASE-T or 1000BASE-LX/SX/ZX with 4-port 100BASE-LX (SFP optics) and LAG
- 4-port 1000BASE-LX/SX private line (SFP optics)
- 8-port 1000BASE-TX/SX/LX/ZX private line (SFP optics)
- 4-port 1000BASE-LX/SX with 4-port 100BASE-LX/SX and RPR
- 16-port 100BASE-TX (electrical ports) with 8 100BASE-LX (SFP optics)
- 8-port VMUX/DMUX
- 10G Muxponder (8 client-side ports with SFPs and 1 line-side port with XFP)

Switched Data Services

- Ethernet (10/100/1000 Mb/s) switched and private line
- ESCON or FC/FICON SAN transport via private line with 2x compression
- Optical and Electrical Ethernet (10/100/1000 Mb/s) interfaces with SFP optics
- Point-to-point LAN transport
- Multi-point LAN interconnect
- Link Capacity Adjustment Scheme (LCAS) dynamic bandwidth provisioning
- Generic Framing Procedure (GFP)
- Resilient Packet Ring (RPR) with basic and enhanced bridging (RPR IEEE 802.17)
- Link aggregation on LNW70 LAN ports
- VT and STS virtual concatenation
- Rapid spanning tree restoration per IEEE 802.1w (802.1d also supported)
- Layer 2 switching
- 802.1q virtual local area networks (VLANs)
- Wire-speed switching
- Ethernet facility loopbacks
- Variable bandwidth allocation on WAN interfaces
- Dynamic bandwidth allocation (CIR and PIR controls and burstable services)

Network Protection

- SONET UPSR, BLSR, 1+1, unswitched UPSR, 0x1, 0x15n
- IEEE 802.1w and 802.1d spanning tree
- Facility loopbacks
- DS3 loopbacks
- UPSR DRI
- Bridge & Roll
- Pipe mode cross connects
- BLSR auto squelch map and ring circuit audits
- ASON/GMPLS E-NNI

Operating Environment

- Operating temperature: -40 F to +149 F (-40 C to +65 C)
- Storage temperature: -40 F to +158 F (-40 C to +70 C)
- Humidity: 5% to 95%

Power

- Power feeds: dual redundant
- Power consumption:
 - Configuration-dependent
 - Typically 5.4 amps/260 watts

Network Management

- TL1 messages
- Navis® Optical Element Management System (EMS)
- Navis Optical Management System (OMS)
- TIRKS, NMA, transport support
- Telcordia support for LCAS, VCAT, and Diverse Routing
- Alcatel-Lucent Craft Interface
- User panel includes:
 - Status LEDs
 - RS-232 local and remote CIT
 - LAN Interface
- Software download – local and remote over DCC or through FTP over TCP/IP

Standards

- ANSI
- EMC
- NEBS Level 3
- GR-253
- UL Certified
- UL/CSA Certified
- CE Marking
- FC-BB-3
- Telcordia
- Hardened for outside plant deployment
- ITU G.7041 (GFP)
- ITU G.707 (Virtual Concatenation)
- ITU G.7042 (LCAS)
- IEEE 802.17 RPR
- Metro Ethernet Forum (MEF 9 and MEF 14)



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