Alcatel-Lucent 1665 Data Multiplexer (DMX) for Service Providers

Bridges the bandwidth gap between LANs and core backbone networks. Offers multiservice growth from traditional voice/private line services to next-generation, hybrid Ethernet/SONET services.

Benefits

- Increases revenue-generating opportunities
- Adds SAN transport and RPR switching to existing Ethernet/ SONET hybrid capabilities
- Migrates seamlessly from TDM to packet networks
- Offers end-to-end optical integration
- Helps improve network reliability
- Extends the potential service life of existing SONET networks

The Alcatel-Lucent 1665 Data Multiplexer (DMX) is a compact, highly-scalable system designed to bridge the bandwidth gap between LANs and core backbone networks. This hybrid Ethernet/ SONET platform enables multiservice growth from traditional voice/private line services to Ethernet and Storage Area Networking (SAN) services. Compatible with established SONET networking equipment, it enables Ethernet/ SAN transport over SONET in the WAN/MAN, offering a potentially higher return on existing SONET-based investments.

Increases Revenue-Generating Opportunities

The Alcatel-Lucent 1665 DMX is part of a next-generation, integrated, end-to-end portfolio, and offers seamless migration from TDM to packet networks enabling service providers to offer a diverse portfolio of billable services. Its data-savvy capabilities such as GFP, VCAT, and LCAS enable greater transport efficiency and multiservice support of both Ethernet and SAN traffic. The Alcatel-Lucent DMX has also integrated RPR switching capabilities that optimize SONET rings for Ethernet transport, give users equal access to opportunistic bandwidth, and offer the option of pure Ethernet over fiber with <50 msec restoration times. Furthermore, by supporting CIR & PIR rate shaping, increased traffic separation and prioritization can enhance the quality of service.

The Alcatel-Lucent 1665 DMX helps traditional networks support existing and emerging services through enhanced multiservice-over-SONET capabilities, including:

- 10/100 Fast Ethernet and GbE private line services (full or fractional rate)
- Ethernet transport and switching via GFP and RPR
- Private line SAN service with transport of FICON, ESCON, and Fibre-Channel traffic with 2x compression
- Transparent LAN services
- Virtual private LAN services
- Office interconnect and transport
- Virtual Private Networks (VPNs)
- Broadband data and Internet access
- Access transport for voice and private line services
- DSLAM aggregation in support of DSL services

Migrates Seamlessly from TDM to Packet Networks

The Alcatel-Lucent 1665 DMX portfolio is engineered to help service providers choose the solution that best accommodates their existing networks, allowing new services to be brought to market quickly and cost effectively. The Alcatel-Lucent 1665 DMX system eliminates the need for separate routers or data switches by combining SONET (TDM), Ethernet (data), and SAN (FICON/ESCON/FC) functionality in a single platform. Service providers can enhance throughput potential while simplifying metro Point of Presence (POP) router handoff with full-rate GbE and/or 1G/2G FC/FICON.

It also enables growth of existing metro access networks without equipment upgrades due to in-service scalability from low to high-density DS1/DS3 packs, as well as OC-12 (622 Mbps) to OC-48 (2.5 Gbps) to OC-192 (10 Gbps). This product can even increase the efficiency of data transport through its flexible bandwidth granularity (provisionable in 1.5 Mbps or 50 Mbps increments on the WAN, and in 1 Mbps increments to the end user) and ability to offer equal access to opportunistic bandwidth around an RPR ring.

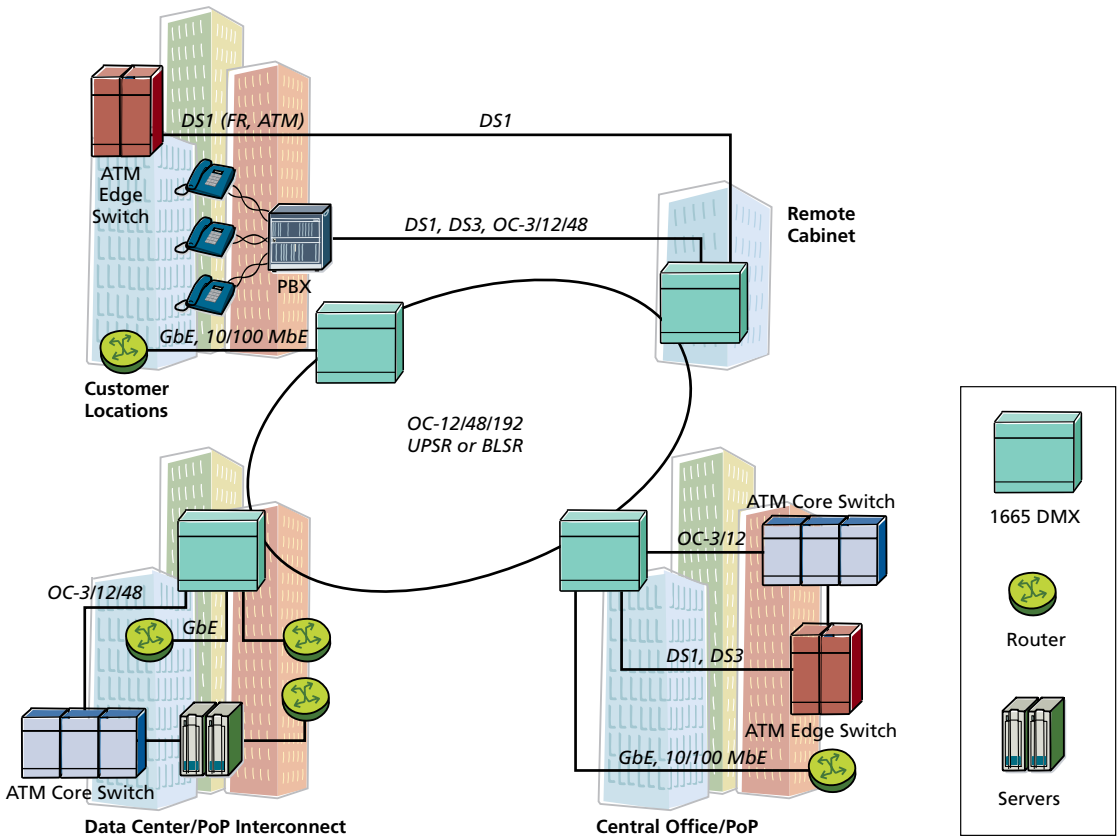
The integrated architecture of the Alcatel-Lucent 1665 DMX system can yield substantial power and space savings, and increase the range of service deployment scenarios with outside plant hardening, long reach high-speed optics, collocation certification, multi-ring hub solutions and reduced footprint Customer Premises Equipment (CPE).

Offers Extensive Interoperability

The Alcatel-Lucent 1665 DMX is a key element in the industry leading Alcatel-Lucent optics portfolio. The Alcatel-Lucent 1665 DMX interworks with the widely deployed Alcatel-Lucent DDM-2000 and FT-2000 and WaveStar network elements that support Target ID Access Resolution Protocol (TARP). The 1665 DMX portfolio products are also designed to support operations interworking with a number of Nortel Networks, Fujitsu and Tellabs products.

The 1665 DMX system combines the strengths of Ethernet and SONET into one, compact network element.

Figure 2. Voice. Data. Private Line. The 1665 DMX handles all of a service providers needs on one platform – and functions equally as well in a data center as it does in a customer location.



Improves Multi-Service Network Reliability

As optical networks transport an increasingly diverse set of protocols, MSPPs need to integrate protocol specific protection and QoS architectures to ensure carrier-grade service at every level of the network. As an industry leader in this area, the Alcatel-Lucent 1665 DMX offers rapid and standard spanning tree on both network and LAN ports, FC-BB-3 standard SAN transport, link aggregation, and an RPR implementation enabling oversubscription, spatial reuse, fair allocation of opportunistic bandwidth, and three classes of service. These capabilities combined with the legendary reliability of SONET make the Alcatel-Lucent 1665 DMX an ideal platform to seamlessly integrate multiservice capabilities into existing metro networks while simultaneously improving reliability.

Extends the Potential Service Life of Existing SONET Networks

Strict compliance with industry standards and multi-vendor interoperability can eliminate the need for forklift upgrades in order to support next-generation metro access network solutions. The Alcatel-Lucent 1665 DMX system uses standards-compliant designs that are evident in its use of IEEE 802.3 Ethernet, 802.17 RPR, 802.1q VLAN, ANSI T1X1.5/2000-147 Generic Framing Procedure, ITU G.7041 and ITU G.707 Virtual Concatenation as standards. This strict adherence to industry standards has placed the Alcatel-Lucent 1665 DMX among the first products to achieve Metro Ethernet Forum (MEF) certification, insuring "carrier grade" Ethernet services and eventual interoperability. The Alcatel-Lucent 1665 DMX is also among the first products to support the newly ratified FC-BB-3 standard for SAN traffic. This, in turn, increases the profitable longevity of a service provider's existing SONET network.

With its compact, yet highly-scalable design, the Alcatel-Lucent 1665 DMX system can help service providers bridge the bandwidth gap between LANs and core backbone networks. It is engineered so service providers can choose the solution that best accommodates their existing networks, while allowing them to bring new services to market quickly and cost effectively – further increasing revenue-generating opportunities with a more diverse portfolio of billable services. The Alcatel-Lucent 1665 DMX stands as proof of Alcatel-Lucent's commitment to providing service providers and end users with all the capabilities and advantages that the next-generation of metro optical networking has to offer.

Features

- Wideband, broadband and optical service interfaces
- 80 GbE and 96 FE Ethernet port density (both optical and electircal SFP-based ports)
- In-service network scalability from 622 Mbps to 2.5 Gbps to 10 Gbps
- Switch capacity increased to 240G STS-1 and 40G VT1.5 with VLF Main pack (2-port OC-192 Main)
- Terabit backplane able to provide in-box throughput of 1Tbps
- Full-rate GbE with statistical aggregation of 10/100/1000 Mbps clients
- Enhances multiservice-over-SONET with high-speed 10/100 Mbps Ethernet and Gigabit Ethernet via RPR and/or GFP as well as FICON/ESCON/FC SAN service interfaces
- MEF carrier grade certification for Ethernet Private Line (EPL), Ethernet Virtual Private Line (EVPL) and Ethernet LAN (E-LAN) services
- Shared/switched or Private Line 10/100 Mbps and 1000 Mbps Ethernet services
- Flexible bandwidth granularity and service scalability when interconnected with routers and data switches
- SONET protection on all circuits, plus the option of spanning tree, link aggregation, and/or RPR protection on Ethernet traffic
- 20 Amp, lower power consumption shelf option
- Certifications: ISO 9001, UL, NEBS 3, GR-253, Telcordia, EMC, OSP Hardened, ANSI, IEEE, CSA, ITU G.707, G.7041, G.7042, FC-BB-3, IEEE802.17 RPR, Metro Ethernet Forum (MEF 9 and MEF 14), CE Marking

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