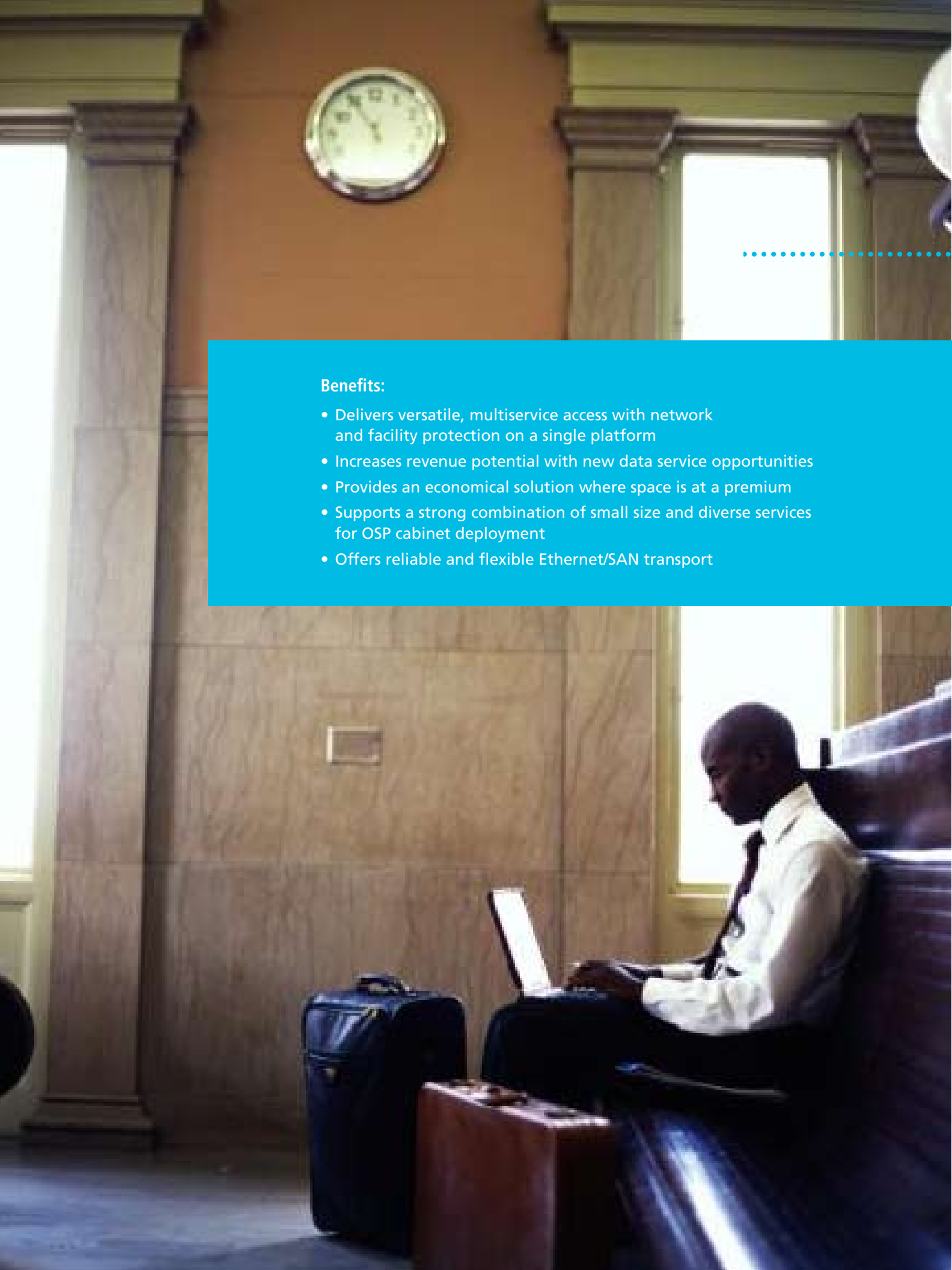
Alcatel-Lucent 1665 Data Multiplexer Extend (DMX*tend*) for Service Providers

Fills the access gap in next-generation optical edge networks. Offers economical protection for optical and electrical access services while extending multiservice capabilities into the local loop.



Benefits:

- Delivers versatile, multiservice access with network and facility protection on a single platform
- Increases revenue potential with new data service opportunities
- Provides an economical solution where space is at a premium
- Supports a strong combination of small size and diverse services for OSP cabinet deployment
- Offers reliable and flexible Ethernet/SAN transport

Delivers Versatile, Multiservice Access with Network and Facility Protection on a Single Platform

The Alcatel-Lucent 1665 DMX*tend* can help bring voice, private line, SAN and data services to the edge of the access network with the protection levels that customers need. It combines the performance of trusted SONET protection schemes with the facility protection of a shelf that supports redundant circuit packs.

The 1665 Alcatel-Lucent DMX*tend* is part of Alcatel-Lucent's Service Intelligent Architecture vision — providing intelligent and dynamic allocation of resources, to simplify network operations and speed the delivery of high-margin, managed IP services. Among these services are Ethernet over SONET, Resilient Packet Ring (RPR), SAN transport, Managed IP VPNs, and circuit based services.

Within a single Network Element (NE), the Alcatel-Lucent 1665 DMX*tend* offers the versatility to combine optical SONET layer transmission interfaces with cost-effective Ethernet and SAN (FICON/ESCON/FC) interfaces. It can enable deployment of high-speed OC-3/12/48/192 networks in remote areas of the local-loop via a single, compact shelf for transmission back to the metro core. These characteristics help make the Alcatel-Lucent 1665 DMX*tend* suitable for applications where space is at a premium and multiple interfaces must be supported.

The Alcatel-Lucent 1665 DMX*tend* can provide reliable multiservice enterprise access and a solid foundation for metro networking evolution. It can function as a bridge between the Alcatel-Lucent 1665 DMX and Alcatel-Lucent 1665 DMXplore — serving as a loop access platform while helping to accommodate the increased dependence of enterprises on high-speed data services.

Figure 1. The 1665 DMX*tend* helps provides multiservice, facility-protected user and network-side interfaces, in a compact and OSP-hardened shelf.

Increases Revenue Potential with New Data Service Opportunities

The Alcatel-Lucent 1665 DMX*tend* can help increase revenue potential by enabling service providers to offer new data services and applications such as fiber to the business/curb (FTTB) and low-cost multi-service aggregation. It supports full (network and facility) protection on tributary and high-speed interfaces — helping to facilitate smooth migration toward data-centric optical networks where security is a concern.

The hybrid, multiservice capabilities of the Alcatel-Lucent 1665 DMX*tend* can translate into increased revenue opportunities. They enable it to support tributary data/electrical and optical interfaces, including:

- DS1, DS3, E1, EC-1, TransMUX
- OC-3, OC-12, OC-48, OC-192
- Fast Ethernet (10/100 Mbps)
- Gigabit Ethernet (GbE)
- SAN (FICON/ESCON/FC) with 2x compression

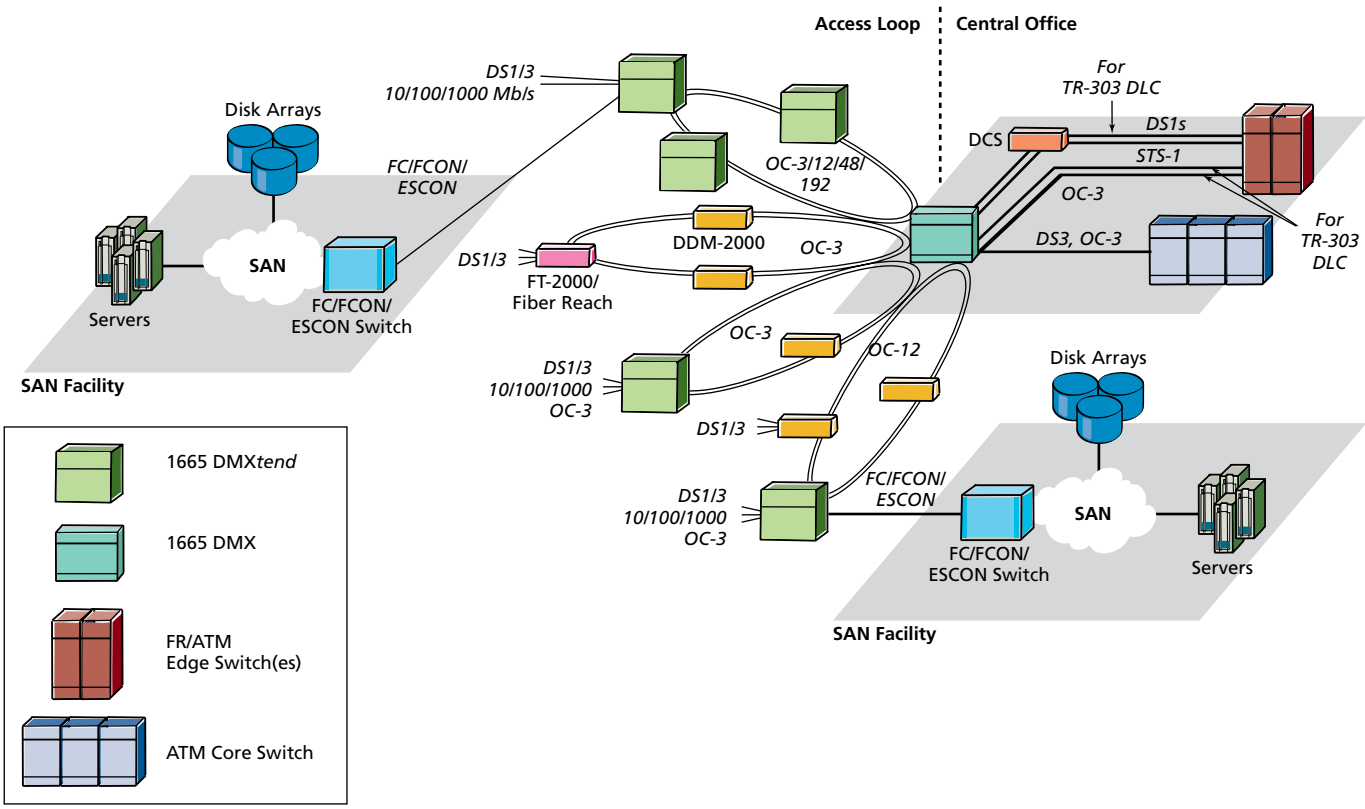
The Alcatel-Lucent 1665 DMX*tend* can also support a variety of high-speed services; addressing the challenge of cost-effectively delivering high quality data and SONET capabilities to remote areas of the access network.

Provides an Economical Solution

The Alcatel-Lucent 1665 DMX*tend* system can help significantly reduce service providers' operating costs. It offers an OC-3 high-speed interface with 16 DS1 ports combined in the same circuit pack as an economical start-up option for remote applications with modest initial traffic flow. It uses the same controller and various other circuit packs as 1665 DMX, simplifying the spare parts management. Also, common management with other 1665 DMX family products may reduce training costs since technicians can share operating system familiarity.

The Alcatel-Lucent 1665 DMX*tend* is an economically priced option for environments in which space is at a premium and traffic protection is a must. Its compact design (8.75" height) permits as many as eight units to be housed in a single rack. As a result, it can reduce the required capital investment in comparison with larger network elements offering similar service. Plus, its low power consumption offers energy savings compared to larger systems.

Figure 2. The 1665 DMX*tend* can act as a collection point for different interfaces, helping to facilitate next-generation loop access with a smooth upgrade path from legacy equipment.



Supports a Strong Combination of Small Size and Diverse Services for OSP Cabinet Deployment

The Alcatel-Lucent 1665 DMX*tend* is OSP-hardened making it suitable for cabinet and hut deployments. It can provide facility-protected, high-speed interfaces at an economical price for Outside Plant (OSP) cabinet applications near the Metro edge. It supports OC-3, OC-12, OC-48, or OC-192 high-speed interfaces, making it suitable for upgrades from existing Alcatel-Lucent DDM/FT-2000 systems. The 1665 DMX*tend* is engineered for access transport, business access and regional interoffice applications, and it can transport voice and data at the OC-3/12/48/192 levels.

Offers Reliable and Flexible Ethernet/SAN Transport

A single Alcatel-Lucent 1665 DMX*tend* Ethernet circuit pack offers reliable data throughput for high-availability services, and statistical Internet quality transport — prioritizing service over shared bandwidth. The flexibility of standards-based Ethernet transport via GFP (G.7041) and/or RPR (IEEE 802.17). Ethernet services can be provisioned in 1.5 Mbps increments, up to full line-rate GbE. 1665 DMX*tend* provides an excellent network edge access solution, offering economical, protocol-independent transport of raw data from the customer premises all the way to metropolitan data hubs.

The Alcatel-Lucent 1665 DMX*tend* incorporates a full array of SAN interfaces on a single card to enable efficient SAN transport over SONET. The SAN card uses SFP optics to provide FICON, ESCON, and Fibre-channel interfaces. The same card can be used on both the Alcatel-Lucent 1665 DMX and the Alcatel-Lucent 1665 DMX*tend*, enabling rollout of new services from the metro core to edge, where and when they are requested. It can be equipped with four 200 Mbps ESCON ports or four FICON/FC ports. The Alcatel-Lucent 1665 DMX SAN implementation offers standards-based buffer-to-buffer credit management for long distance operations, sub-rate allocation of FC/FICON traffic, 2x FC/FICON compression, and provisionable bandwidth levels.

A Solution for the Next Generation

The Alcatel-Lucent 1665 DMX*tend* is cost effective and well-suited for environments where space is at a premium and traffic must be protected. It can enable voice, private line and data services to be extended to the edge of the access network, with the option of network and facility protection. The 1665 DMX product family is designed to help migrate from an embedded SONET base to next-generation technology.

If such technology is already in place, the Alcatel-Lucent 1665 DMX*tend* allows service providers to offer SONET and Ethernet services at the metro network edge with the proven reliability of SONET transport from speeds of DS-1 to OC-192. It helps add revenue opportunities through the addition of new services, while reducing costs through the consolidation of multiple technologies into one Network Element.

Features

- Compact size, multiservice tributaries, and protected OC-3/12/48/192 high-speed interfaces makes it suitable for upgrades of Alcatel-Lucent DDM-2000 and FT-2000
- Switch capacity increased to 120G STS-1 and 20G VT1.5 with VLF Main pack (1-port OC-192 Main)
- Shares/reuses 1665 DMX controller and other circuit packs to help simplify maintenance, training, and spare parts inventory
- Offers multiservice interfaces over SONET including SAN (FICON/ESCON/FC) and Ethernet (10/100 and GbE), increasing revenue opportunities
- OSP-hardened design supplies a suitable platform for cabinet and hut deployments
- Helps deliver highly reliable multiservice loop access with facility and SONET protected optical interfaces
- SONET protection on all circuits, plus the option of spanning tree, link aggregation, and/or RPR protection on Ethernet traffic
- Provides feature and management commonality with the 1665 DMX portfolio, which can help reduce operating costs
- Certifications: MEF 9 and MEF 14, ISO 9001, UL / CSA, NEBS 3, GR-253, Telcordia, RUS, ANSI, IEEE, OSP Hardened, EMC

www.alcatel-lucent.com
Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. 1665 DMX, 1665 DMX*tend* and 1665 DMXplore are registered trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. Alcatel-Lucent assumes no responsibility for the accuracy of the information presented, which is subject to change without notice.
© 2007 Alcatel-Lucent. All rights reserved. WLN1103070914 (11)

Alcatel·Lucent