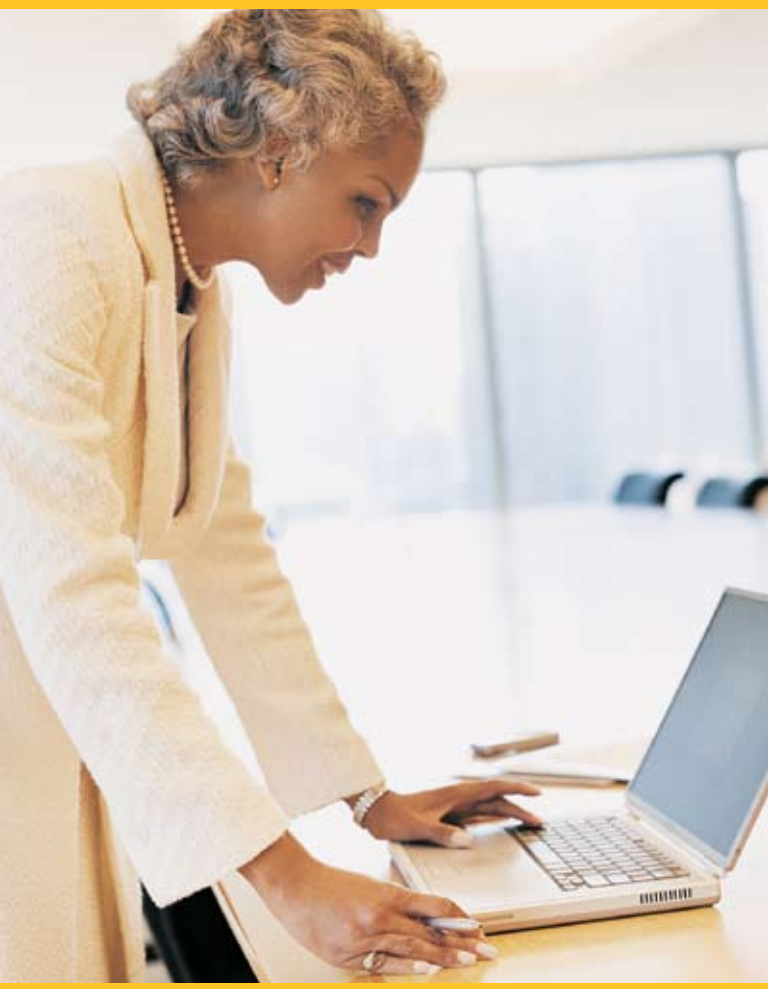
Alcatel-Lucent 1655 AMU Access Multiplexer Universal

Alcatel·Lucent

Cost-effective, STM-1/4/16 multiservice metro access



The Alcatel-Lucent 1655 Access Multiplexer Universal (AMU) is a compact, high-density access multiplexer that cost effectively delivers high-value services for service providers and enterprises. Meeting multiservice needs with one platform, it supports both Ethernet and TDM over existing SDH networks, avoiding expensive overlay networks. Offered in two rack-mounted and two street-cabinet versions, its energy-efficient, compact design reduces operating expenditures (OPEX). The 1655 AMU allows you to expand revenue-generating capabilities with minimal investment by offering a flexible mix of circuit and data traffic.

Meeting enterprise demands

New services, such as triple play and business Ethernet, are placing great demands on the existing transport infrastructure. To be profitable, service providers must reduce OPEX while meeting business demands by offering a host of new revenue-generating Internet and Ethernet services while supporting existing TDM services. At the same time, they must avoid the complexity and expense of overlay networks.

The Alcatel-Lucent 1655 AMU addresses the rapid growth in data traffic and resulting demand for additional network bandwidth, while avoiding bottlenecks in the MAN. Because of its versatility, the Alcatel-Lucent 1655 AMU expands coverage to both large and small customers.

Benefits

- Provides new revenue-generating services
- Reduces capital expenditures (CAPEX) by avoiding overlays
- Offers scalable access to business customers
- Supports both Ethernet and TDM on one platform
- Decreases OPEX through integration, compatibility, compact size and energy efficiency
- Offers flexible deployment options with two rack-mounted and two street-cabinet versions

New revenue-generating services

The Alcatel-Lucent 1655 AMU cost effectively delivers a growing array of high-performance, high-speed communications services to businesses. A wide selection of interfaces support a flexible mix of circuit and data traffic, more easily meeting customer demands for LAN interconnection, Internet access, voice services and the latest, high-value multimedia offerings.

1655 AMU 1m/1o

1655 AMU 2m/4o

Reduced CAPEX by avoiding overlays

Converging voice and data traffic on a single platform supports multi-service transport over existing SDH networks. Leveraging existing investments in network assets avoids the cost and complexity of building overlay networks.

The Alcatel-Lucent 1655 AMU combines traditional SDH, or circuit-based, and Ethernet, or packet-based, applications. Four shelf versions are offered, two rack-mounted versions for CO and CPE applications and two street-cabinet versions.

Scalable access for business customers

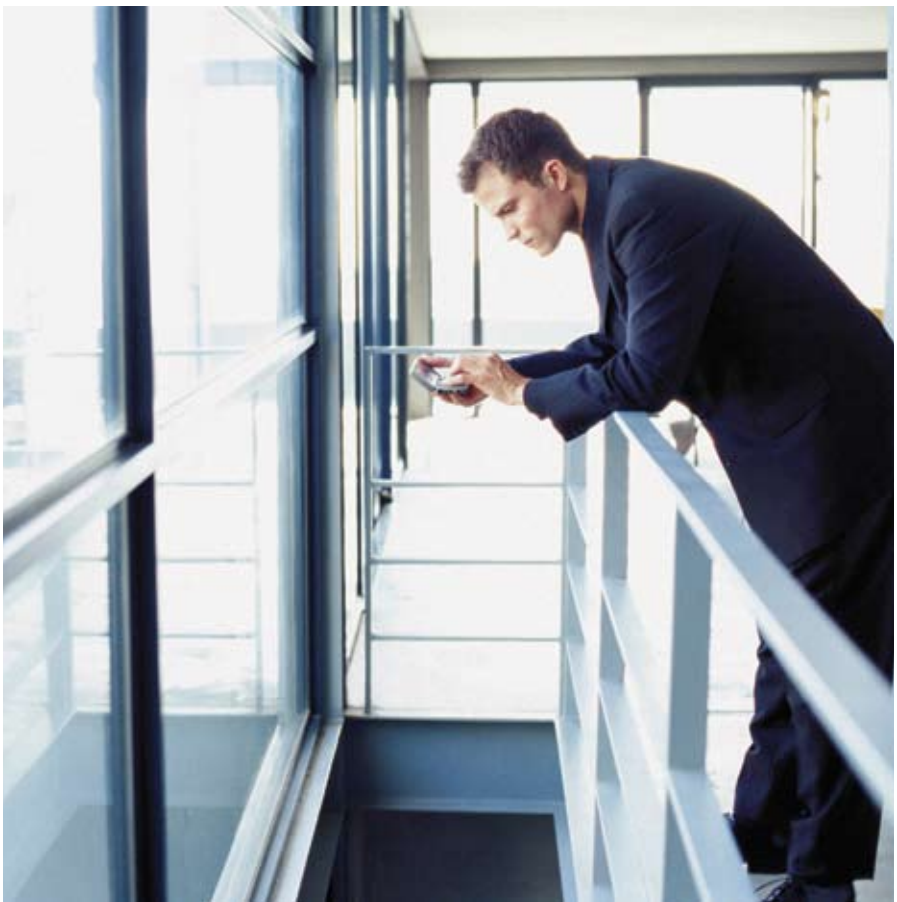
Developed specifically to serve business customers, the Alcatel-Lucent 1655 AMU suits several applications:

- Gigabit Ethernet (GigE) at customer premises equipment (CPE)
- Local loop access: fiber to the business (FTTB)
- LAN and Private Branch Exchange (PBX) interconnection
- Interoffice applications

Offering significant space efficiency, the Alcatel-Lucent 1655 AMU is applicable to CPE, Central Office (CO) and street-cabinet deployments. Two rack-mounted versions serve CPE and CO deployments, the larger version with two main and four option card slots (2m/4o), and the smaller with one main and two option card slots (1m/2o). The street-cabinet configuration operates over an extended temperature range and is available in both large and small versions.

CPE DEPLOYMENTS

The smaller 1m/2o Alcatel-Lucent 1655 AMU offers simple and cost-effective Ethernet, E1, STM-1, STM-4, and STM-16 access, supporting applications such as enterprise networking and mobile backhaul networks.



CO DEPLOYMENTS

The Alcatel-Lucent 1655 AMU 2m/4o version adds or drops up to 252 E1s. It includes one core pack, optional power, switch, synchronization core protection and four option slots. When deployed in a CO, the Alcatel-Lucent 1655 AMU supports advanced Ethernet services plus FTTB applications in either ring or mesh configurations.

These configurations offer high-speed Internet access by connecting business LANs with the Internet service provider (ISP) point of presence (POP), data-center connection through high-speed links and cost-efficient massive E1 drops in hub applications.

STREET-CABINET DEPLOYMENTS

Some services preclude the use of CO or CPE deployments. These include fiber to anywhere needed (FTTx) and transport for services requiring shorter loop lengths, such as ADSL+, VDSL and cable-TV plants. The Alcatel-Lucent 1655 AMU street-cabinet version is ideal for these situations.

Ethernet and TDM on one platform

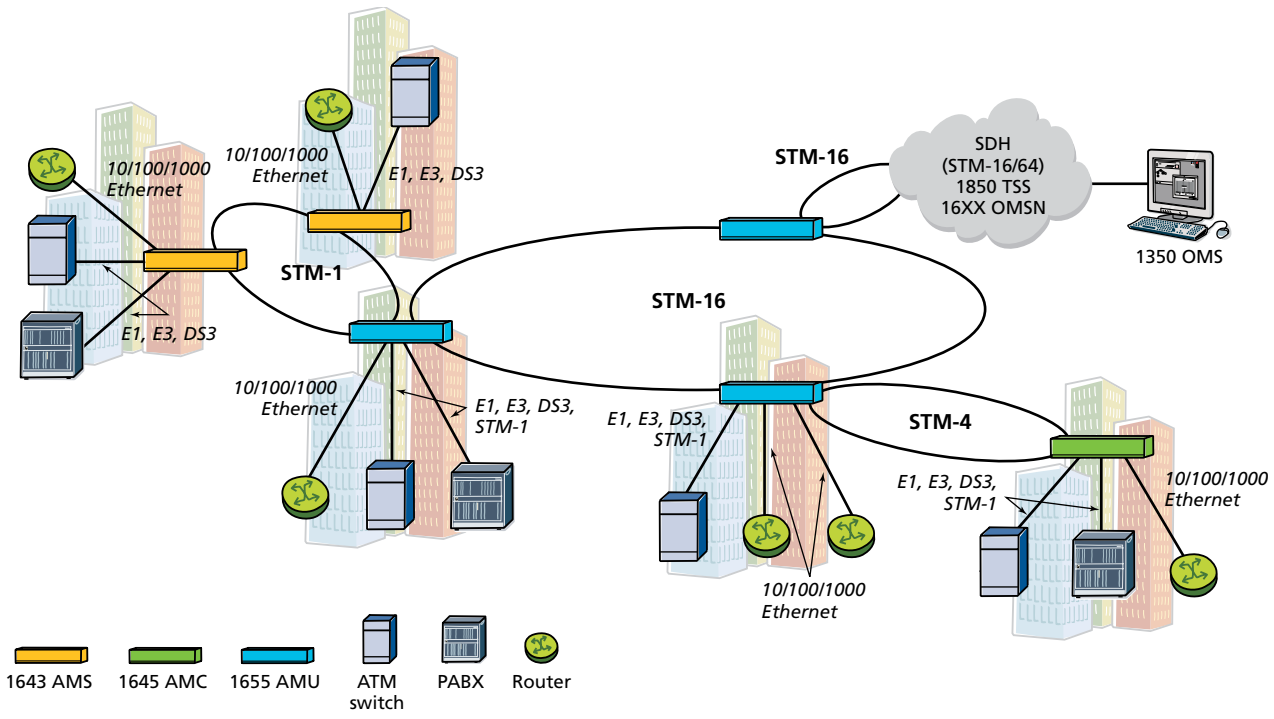
When using optional Alcatel-Lucent TransLAN Cards®, the Alcatel-Lucent 1655 AMU system supports Ethernet over existing SDH networks. Depending on the cards selected, the Alcatel-Lucent 1655 AMU system offers the following features:

- Layer 2 Ethernet switching functionality: point-to-point and multipoint LAN services
- Ethernet Performance Monitoring (PM)
- Link pass through (LPT)
- Support for virtual concatenation (VCAT), generic framing procedure (GFP) and link capacity adjustment scheme (LCAS)
- Virtual local area network (VLAN) tagging for traffic separation and statistical multiplexing gain
- VLAN trunking, saving physical interfaces at hub locations
- Enhanced flow classification and flexible Quality of Service (QoS) assignment

A variety of Alcatel-Lucent TransLAN Cards are available, including Ethernet 10BASE-T, Fast Ethernet (FE) 100BASE-T, GigE 1000BASE-T and 1000BASE-X. These cards offer the opportunity to customize support for point-to-point or Layer 2 Ethernet-switched applications (option-card-version dependent). The Alcatel-Lucent 1655 AMU is Metro Ethernet Forum (MEF) certified for MEF 9 and MEF 14.

The 1655 AMU serves traditional SDH (circuit-based), and Ethernet (packet-based), applications. As shown in Figure 1, it can be deployed with the Alcatel-Lucent 1645 AMC and 1643 AMS for cost-effective aggregation to STM-1/4 rings and with higher capacity Alcatel-Lucent platforms for aggregation to higher speed networks. In either case, the network is managed by the Alcatel-Lucent 1350 Optical Management System (OMS).

Figure 1. 1655 AMU in a network



Reduced OPEX through integration and compatibility

The Alcatel-Lucent Optical Management Solution (OMS) software products provide operations, administration, maintenance, and provisioning (OAM&P) support to the Alcatel-Lucent 1655 AMU. To increase efficiency and economy, this flexible network management package offers various customization options for meeting specific operational needs. The Alcatel-Lucent 1655 AMU communicates with the management system through an embedded communications channel, or a PC-based craft interface can be used for local and remote management and cost-efficient centralized alarming.

The Alcatel-Lucent 1655 AMU obtains fault-management and performance information by monitoring the path overhead of each virtual container (VC). Alarm information is filtered and displayed locally, then transmitted to the management-center database. When equipped with an Alcatel-Lucent TransLAN Card, the Alcatel-Lucent 1655 AMU also stores Ethernet-specific performance information.

Using adapter cards, service providers with existing Alcatel-Lucent 1643 Access Multiplexer (AM) and Alcatel-Lucent 1643 Access Multiplexer Small (AMS) systems can enjoy additional savings by reusing option boards from those systems.

Flexible deployment options

With its compact shelf, the Alcatel-Lucent 1655 AMU is suitable for a variety of installation locations in CPE, CO, street-cabinet, access and metro environments. Small Form Factor Pluggable (SFP) optics for STM-1/4/16 interfaces supply a complete range of options for reach and the higher speed for maximum deployment flexibility. For further flexibility, it provides a default DC power supply or an AC power supply through an external converter.

This flexibility ensures that the latest high-value data services can be delivered to a broader array of customers while maintaining support for existing TDM services. This cost-effective, adaptable approach for supporting multiservice requirements makes the Alcatel-Lucent 1655 AMU an excellent choice for service providers looking to efficiently meet their business customers' evolving demands.

Features

- Cost-effective multiservice access over the established SDH base
- Street-cabinet or CPE installation options
- Compact system designed for growth
- Wide range of interfaces
- Advanced Ethernet support, including full-rate GigE lines over protected STM-16 network interface
- Enhanced management capabilities
- GigE at CPE
- Local-loop access (FTTB)
- LAN and PBX interconnection
- Interoffice applications

Recognized World Leader in Optical Networking

Alcatel-Lucent delivers end-to-end communications solutions to service providers and enterprises anywhere in the world. Leveraging its network equipment as well as services, Alcatel-Lucent facilitates its customers' service offerings and revenue streams. As the recognized world leader in optical networking, Alcatel-Lucent is in a unique position to help service providers navigate through current market conditions. Alcatel-Lucent, with its global reach and scale, combined with local presence in over 130 countries, makes use of a deep understanding of global market dynamics, as well as the ability to anticipate local requirements.