



## Alcatel 1540 Litespan Multiservice Access Gateway | Release 2.3



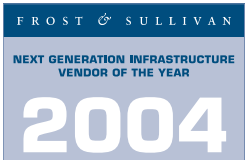
The Alcatel 1540 Litespan Multiservice Access Gateway is a world-class, flexible multiservice access platform for the delivery of ATM-based xDSL, TDM-based narrowband/wideband and next-generation networking (NGN) services to an area from a single node. Residential, small office/home office (SOHO), small to medium-sized enterprises (SMEs), and large corporate customers are served from Alcatel 1540 Litespan access nodes distributed as close to their premises as economically possible.

This robust, scalable multivendor-compatible Alcatel 1540 Litespan platform supports multiple network topologies and transport options and allows service providers to offer any mix of revenue-generating services. It is an attractive

solution for service providers wanting to evolve their traditional networks smoothly to NGN. The Alcatel 1540 Litespan incorporates a voice over Internet protocol (VoIP) server card that converts legacy plain old telephone service (POTS)/integrated subscriber digital network (ISDN) voice traffic to IP traffic. Its modular design eases the migration of the installed base toward a media gateway.

The integrated Alcatel 1353 Litespan Management System (LMS) provides for network viewing, equipment configuration and service provisioning, alarm collection, remote inventory, testing and remote software upgrade of Alcatel 1540 Litespan network elements, and offers subscriber management for voice services.

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## Technical Summary

### Subscriber Interfaces

#### Narrowband

- > POTS
- > ISDN BRA (2B1Q or 4B3T) voltage/current feeding
- > ISDN PRA (G.704, HDSL or G.SHDSL)

#### Leased lines

- > E1 (G.703, HDSL, HDB3 or G.SHDSL)
- > E1 (G.704, 2 Mb/s or  $n \times 64$  kb/s service HDSL, HDB3 or G.SHDSL)
- > Subrate data (X.50 and multiplexing)
- > Analog LL (2W or 4W for audio, 1E/1M or 2E/2M for signaling)

#### Broadband

- > ADSL over POTS full rate and G.Lite (G.992.1 and G.992.2)
- > ADSL over ISDN
- > g.SHDSL (G.991.2)
- > ADSL2plus (from MuM shelf)

### Transport

#### PDH

- > 4xE1 HDSL
- > 8xE1 G.SHDSL
- > 16xE1 for G.703 aggregate
- > 16xE1 for optical link

#### SDH

- > STM-1 or STM-4 rings

#### ATM optical/broadband transport

- > Optical point-to-point STM-1 (155 Mb/s)
- > DS3 (44.7 Mb/s) encapsulated in VC3 via STM-1 or STM-4 rings
- > E3 (34.3 Mb/s) encapsulated in VC3 via STM-4 or STM-4 rings
- > Sharing SDH rings with the voice traffic in an E3 or DS3 encapsulated in a VC3

#### ATM electrical/broadband transport

- > ATM IMA  $n \times E1$  (ITU-T G.703),  $n \times 4$  (2 to 8 Mb/s)
- > Electrical DS3 (44.7 Mb/s)
- > Electrical E3 (34.3 Mb/s)

### Ethernet MAN (for broadband and packetized voice traffic)

- > Dual Ethernet 10/100Base-T (100 Mb/s)
- > Optical FX Fast Ethernet (100 Mb/s)
- > Gigabit Ethernet uplinks (1000Base-SX, 1000Base-LX and 1000Base-TX) (from MuM shelf)

### Voice Signaling

- > a/b wire or mirror
- > ETSI V5.1, V5.2
- > MEGACO

### Synchronization Sources

- > External 2048 KHz G.703
- > Extracted from the SDH transport clock in the internal ADM
- > Extracted from the E1 links
- > Internal 50 ppm clock

### Management Interfaces

- > Embedded Transport channels
- > Out-band connections (Ethernet 10/100Base-T or X25)
- > Q3 over OSI
- > Q3 over IP

### Multishelf Configuration

- > Scalable from 1 to 12 multiservice shelves (1 to 4 for NB and BB traffic, 5 to 12 only BB)
- > Optional dedicated Multimedia (MuM) shelf for triple play configurations

### Mechanical Dimensions

#### ETSI indoor rack (4 shelves)

- > Height: 220 cm (86.6 in.)
- > Width: 60 cm (23.6 in.)
- > Depth: 30 cm (11.8 in.)

#### Indoor non-telecom center (mini shelf)

- > Height: 130 cm (51.2 in.)
- > Width: 75 cm (29.5 in.)
- > Depth: 42.5 cm (16.7 in.)

#### Outdoor cabinet (1 line shelf)

- > Height: 120 cm (47.2 in.)
- > Width: 120 cm (47.2 in.)
- > Depth: 50 cm (19.7 in.)

### Outdoor cabinet (2 line shelves)

- > Height: 150 cm (59 in.)
- > Width: 135/150 cm (53/59 in.)
- > Depth: 50 cm (19.7 in.)

### Power

#### Outdoor

- > AC/DC converter to provide 48 V DC from 220 V AC
- > Battery pack for providing autonomy when mains are switched off

#### Central office

- > 48 V DC

### EMI/EMC

- > ETS 300386-1 and ETS 300-386-2
- > EN 55022
- > IEC CISPR 22
- > IEC 825
- > VDE 0878

### Safety

- > EN60950 Class 2 (IEC950)
- > EN 41003
- > ITU K.20
- > For cabinets, IEC 144/63

### Environmental Conditions

- > Storage: complies with ETS 300-019-1-1 Class 1.2
- > Transport: complies with ETS 300-019-1-2 Class 2.3
- > Operating temperature
  - weather protected ETS 300-019-1-3 Class 3.3 (-25 C to 55 C) (-13 F to 131 F) non temperature-controlled locations (outdoor)
  - non-weather-protected locations comply with ETS 300 019-1-4 Class 4.1E (-45 C to 45 C) (-49 F to 113 F) indoor installations

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