Alcatel-Lucent 3600 MainStreet

ATM SERVICE CARD

The Alcatel-Lucent ATM Service Card enables easy integration of the Alcatel-Lucent 3600 and 3600+ MainStreet Multiservice Bandwidth Managers into ATM networks.

The Alcatel-Lucent MainStreet ATM Service Card provides ATM service adaptation and inverse multiplexing over ATM (IMA) for the Alcatel-Lucent MainStreet 3600 and 3600+ Multiservice Bandwidth Managers. Installed in any universal card slot (UCS), it adapts the rich variety of services supported by the Alcatel-Lucent MainStreet 3600 and 3600+ Multiservice Bandwidth Managers to ATM cells for transmission over an ATM network.

As part of the Alcatel-Lucent MainStreet access portfolio, comprising multiservice access platforms (MAPs), integrated access devices (IADs) and network termination units (NTUs), it is considered the most successful digital overlay platform ever built – with more than 250,000 nodes deployed worldwide.

FEATURES

- Supports AAL1 (CE mapping) and AAL5 (HDLC mapping)
- Provides four T1 or E1 physical interfaces, where each interface can:
  - ¬ Provide a user network interface (UNI) to an ATM network
  - ¬ Function as an independent network link
  - ¬ Be assigned to a logical IMA port for combined transmission

BENEFITS

- Full support for all services provided by the Alcatel-Lucent MainStreet 3600 and 3600+ Multiservice Bandwidth Managers
- Full end-to-end management from the Alcatel-Lucent 5620 Network Manager

Card Variants

There are 8 variants based on:

- Primary rate interface (T1 or E1)
- AAL type (AAL1 or AAL1/AAL5)
- System backplane bandwidth (4 Mb/s or 16 Mb/s)
- EMC compliance

ATM Service Adaptation

- AAL1 and AAL5
- Selectable on a DS0 basis for channelized user-side interfaces (e.g., T1/E1)

AAL1 Adaptation and CES

- AAL1 or AAL1/AAL5
- Adapts CBR data and associated signaling (n*64 kb/s) to AAL1 VCs over an ATM network, in accordance with AF-SAA-0032.000 and GR-1113- CORE
- DS0s
  - ¬ Supports up to 84 for T1 interfaces
  - ¬ Supports up to 104 for E1 interfaces
  - ¬ Multiple DS0 CESs can be transmitted over the same VC
  - ¬ Voice (LGS) and data (V.35) DS0s with a common destination can be transmitted together
- Configurable signaling multi-frame size: 16 or 24 frames
- Supports voice signaling with robbed-bit signaling and channel associated signaling
- Received cell delay variation tolerance is user defined per VC
- Transmit cell level is user defined per VC from n to 47, in one byte increments, where n is the number of DS0s in the VC

AAL5 Adaptation and HDLC Services

- AAL1/AAL5
- Transports HDLC-formatted traffic over an ATM network
- Transparently adapts streams of HDLC frames into AAL5 VCs
- Interworks and adapts streams of frame relay HDLC frames into AAL5 VCs
- Supports up to 3,968 Kb/s of HDLC-formatted traffic

Interworking Mode

- Supports service interworking mode (translates frame relay into ATM, for transmission across an ATM network to ATM devices)
- Supports network interworking mode (transports frame relay across an ATM network to another frame relay network)
- Compliant with FRF.5 and FRF.8 using AAL5 and non real-time variable bit rate (nrt-VBR) or unspecified bit rate (UBR)

Data Link Connections (DLCs)

- Supports up to 250 DLCs per stream
- Supports up to 1,024 DLCs per card

Connection Admission Control (CAC)

- Static and dynamic
- Based on:
  - ¬ Peak information rate (PIR)
  - ¬ Sustained information rate (SIR)
  - ¬ Minimum information rate (MIR)

ATM Traffic Management

- Configurable service categories
  - ¬ AAL1 VCs
  - ¬ CBR
  - ¬ AAL5 VCs
  - ¬ nrt-VBR, with VC traffic management
  - ¬ nrt-VBR, with virtual path (VP) traffic management
  - ¬ UBR, with VC traffic management
  - ¬ UBR, with VP traffic management

Frame Relay Traffic Management

- Configurable class of service parameters
  - ¬ Committed information rate (CIR)
  - ¬ Committed burst size (Bc)
  - ¬ Excess burst size (Be)
- Configurable congestion thresholds
  - ¬ Absolute congestion threshold (ACT)
  - ¬ Severe congestion threshold (SCT)
  - ¬ Mild congestion threshold (MCT)
- Supports link management protocols
  - ¬ Local management interface (LMI): user, network and network extended
  - ¬ ITU-T Q.933 Annex A: user, network and bidirectional
  - ¬ ANSI T1.617 Annex D: user, network and bidirectional

Interfaces

- Single logical ATM interface, user programmable for up to four T1 or E1 interfaces
- Supports ATM Forum IMA standard AF-PHY-0086.000
- 4-port T1 interface, user program-mable for DS1 or DSX-1 operation
- 4-port E1 interface, compliant with ITU-T G.703, 75 Ω or 120 Ω
- Transmit timing obtained from node system clock or network
- ATM Forum UNI 3.1

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