

Alcatel's MainStreet Frame Relay/Asynchronous Transfer Mode (FRATM) Interworking Unit provides high performance frame relay-to-ATM interconnectivity using a standard E3 or T3 ATM interface, allowing frame relay networks and terminal equipment to connect to ATM terminal equipment over an ATM network.

The FRATM Interworking Unit attaches to a 3600 MainStreet Multiservice Bandwidth Manager through a FASTbus Interconnect Panel (FIP), allowing Frame Relay Engine (FRE) cards and Packet Engine (PE) cards on the FASTbus to connect to an Alcatel 7470 Multiservice Platform (MSP), formerly the 36170 Multiservices Switch*, or to a third party ATM network. The FRATM can also provide high speed backbone trunk service between 3600 MainStreet nodes.

The FRATM Interworking Unit simplifies the design and management of frame relay backbone networks, and facilitates migration to ATM backbone networks. As a result, frame relay networks and terminal equipment have transparent use of an ATM network.

The FRATM Interworking Unit provides high performance, standards-compliant frame relay connectivity to ATM service for public, private and hybrid networking applications.

* This product belonged to the Newbridge family. Newbridge was acquired by Alcatel in May 2000.



Frame relay
connectivity to ATM
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Overview

The FRATM Interworking Unit is an optional rack-mountable unit for a 3600 MainStreet System with a FASTbus. It provides high performance frame relay-to-ATM interconnectivity using a standard E3 or T3 ATM interface.

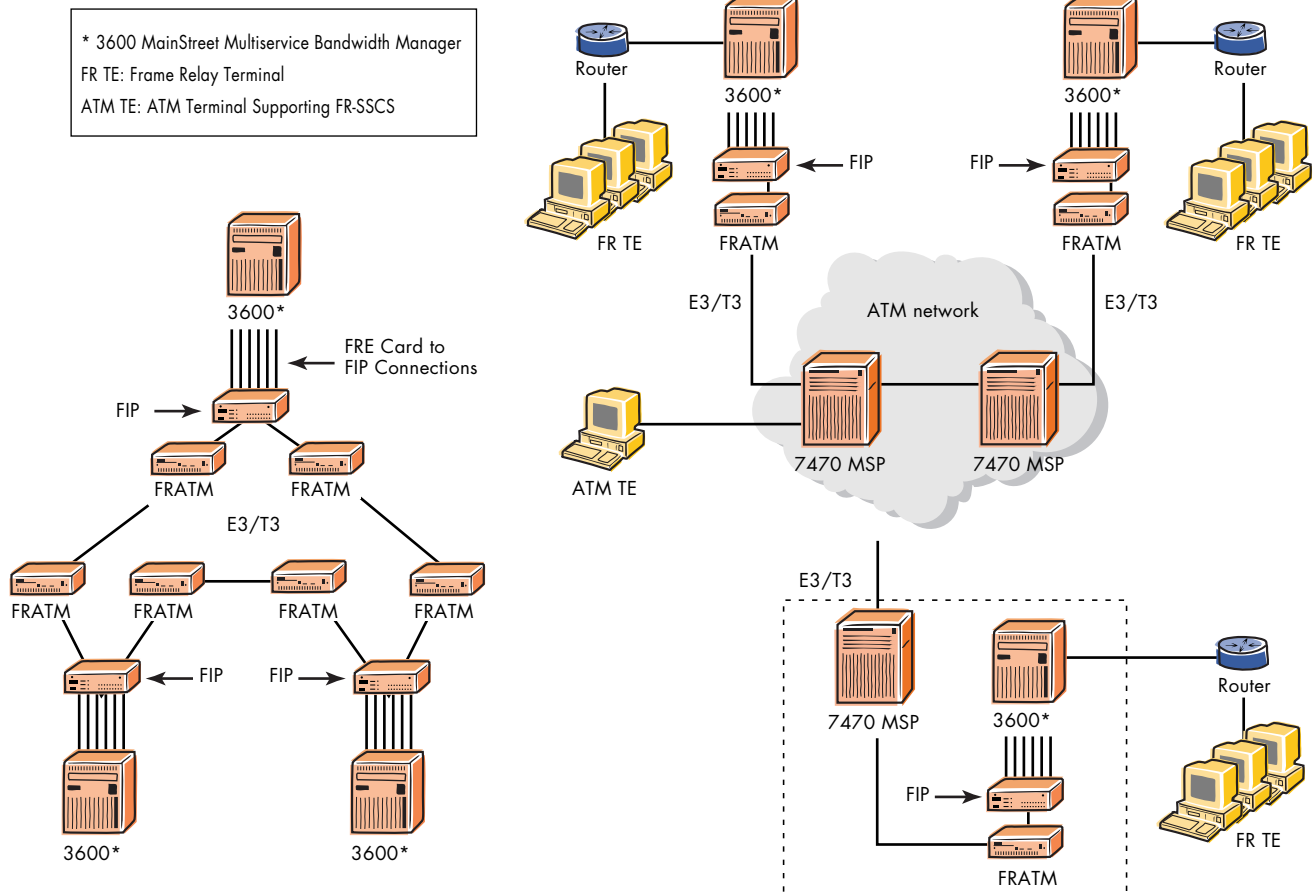
The FRATM unit complies with the ATM Forum B-ICI specifications and UNI 3.1 specifications for PVC-based frame relay service support on B-ICI by providing mapping and encapsulation functions for transparent ATM transport of frame relay services.

Network management

The FRATM unit can be managed from the Alcatel 5620 Network Manager (NM). The 5620 NM system provides integrated remote management of the FRATM unit and other network nodes, including configuration, maintenance, automatic rerouting and statistics collection.

Applications

- ▼ Connects 3600 MainStreet nodes using high speed trunks at up to T3 rates, simplifying the design and management of frame relay backbone networks
- ▼ Facilitates migration to ATM backbone networks.
- ▼ High speed frame relay backbone for 3600 MainStreet nodes
- ▼ ATM backbone for 3600 MainStreet nodes
- ▼ To connect to an ATM network, the FRATM connects frame relay PVCs over a standard E3 or T3 ATM link. This means that frame relay networks and terminal equipment have transparent use of an ATM network.
- ▼ Use a 3600 FIP/FRATM combination to feed frame relay traffic into a collocated 7470 MSP switch, increasing the frame relay fanout capacity of the switch.
- ▼ Frame relay-to-ATM gateway
- ▼ Allows frame relay networks and terminal equipment to connect to ATM terminal equipment over an ATM network. The ATM terminal equipment must support the frame relay service specific convergence sublayer (FR-SSCS).



Technical Summary

Features

- ▼ Resource congestion control
- ▼ Wide range of statistics and maintenance features
- ▼ Hot standby redundancy
- ▼ Hot insertion/removal of the FRATM from the FASTbus
- ▼ Downloadable software
- ▼ Network and service interworking
- ▼ VCC and VP shaping

Frame Relay Interface

- ▼ Conforms to the following ANSI and ITU-T standards: T1.602/Q.921, T1.606/I.122 and I.233.1, T1.618/Q.922, T1.617 (Annex D)/Q.933
- ▼ Frame Relay Forum UNI implementation agreement (FRF.1)

ATM WAN Interface

- ▼ Standard ATM E3 or T3 transmission, conforming to ANSI, ITU-T (CCITT), Bellcore, and ATM Forum standards

Node Management Capabilities

- ▼ Frame relay permanent virtual circuits (PVCs) and ATM virtual circuit connections (VCCs) set up
- ▼ Bandwidth configuration for virtual connections (PVC/VCC)
- ▼ Diagnostic testing for system and circuits
- ▼ Alarm and status information collection

5620 Network Management Capabilities

- ▼ Configuration management
- ▼ Connection management
- ▼ Network event and alarm monitoring
- ▼ Fault management
- ▼ Traffic monitoring
- ▼ Performance management
- ▼ Customer network management and network partitioning
- ▼ Billing statistics collection

Performance and Capacities

- ▼ WAN interface performance: DS3 wire speed transport
- ▼ Maximum number of frame relay PVCs: 1984
- ▼ Maximum number of ATM VCCs: 1984
- ▼ Maximum number of FRE Cards and FRATMs configurable on a FASTbus: 64

Statistics

- ▼ Frames transmitted
- ▼ Frames received
- ▼ Cells transmitted
- ▼ Cells received
- ▼ Errors received
- ▼ Invalid DLCI messages
- ▼ UNI management interface errors

Physical Description

- ▼ Height: 8.9 cm (3.5 in.)
- ▼ Width: 43.2 cm (17 in.)
- ▼ Depth: 25.4 cm (10 in.)
- ▼ Front panel indicators:
 - Power and system status
 - FASTbus interface status
 - ATM interface status
 - Data transmit and receive LEDs

FRATM Standards Compliance

- ▼ ATM Forum B-ISDN Inter Carrier (B-ICI) specification
- ▼ ATM UNI 3.1 specifications
- ▼ ITU-T I.555, I.365.1 and I.363
- ▼ FRF.5
- ▼ FRF.8

For more information: www.cid.alcatel.com

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