GENERAL DATACOMM

Xedge ACS

ATM Cell Processing Module

ACS

FLT
RUN

LINK 0
RX
UP
TX
ERR

LINK 1
RX
UP
TX
ERR

LINK 2
RX
UP
TX
ERR

LINK 3
RX
UP
TX
ERR

INTRODUCTION

GDC's Xedge ACS is a cell controller that performs dedicated ATM cell processing functions in an Xedge switch, such as traffic management and Virtual Channel Identifier/Virtual Path Identifier (VCI/VPI) translation. Physical interfaces connect with other Xedge switches, and attach to LAN hubs, routers, PBX equipment, high performance workstations and other devices with ATM interfaces. The Xedge ACS controller provides two physical ports that support short, intermediate and long reach fiber (SDH/ SONET) interfaces.

There are four models of the Xedge ACS controller that offer distinct ingress/egress cell buffer sizes:

- 4K cells ingress/4K egress

- 16K cells ingress/16K egress

- 16K cells ingress/64K egress

- 64K cells ingress/64K egress

System Compatibility

The Xedge ACS plugs into a single slot of an Xedge AC- or DC-powered shelf: Xedge 6160 (4 slots), the 7-slot Xedge 6280, or the 16-slot Xedge 6640/6645 shelves.

The Xedge ACS is intended for use with any one of the following Enhanced Clocking LIMs:

- Xedge SMLIM, Single Port Short Reach OC-3c/STM-1

- Xedge SSLIM, Single Port Intermediate Reach OC-3c/STM-1

- Xedge LSSLIM, Single Port Long Reach OC-3c/STM-1

- Xedge DMLIM, Dual Port Short Reach OC-3c/STM-1

- Xedge DSLIM, Dual Port Intermediate Reach OC-3c/STM-1

- Xedge LDSLIM, Dual Port Long Reach OC-3c/STM-1

- Xedge DHLIM, Dual Port Short/Intermediate Reach OC-3c/STM-1

- Xedge LDHLIM, Dual Port Short/Long Reach OC-3c/STM-1

- Xedge DELIM, Dual-Port STSX-3c/STM-1 (BNC 75 ohm)

Diagnostics

Diagnostics are provided via status LEDs for all ports, diagnostic screens for all faults, and Local and Line Loopbacks. Management Interfaces include:

- Standard SNMP

- MIB management

- GDC's ProSphere Network Management System

FEATURE HIGHLIGHTS

- High performance ATM cell switching or edge multiplexing

- Supports up to 750 ATM connections, and more than 20 SVC Call Setups per second

- Supports SDH/SONET (OC-3c/STM-1) circuits.

- Supports PVC, PVP, SVC, SVP, SPVC, SPVP connection types for Point-to-Point or Point to-Multipoint circuits

- Supports UBR, rtVBR, nrtVBR, CBR traffic

- Supports ISSP, PNNI for signaling/routing

- Supports ILMI for address registration

- Supports dual GCRS buckets per interface for policing

- Meets ATM Forum UNI 3.1/4.0 for traffic management

- Supports ATM Multicast

- Supports F4 and F5 (VP and VC) OAM flows for diagnostic and fault reporting purposes (ITU-T I.610)

- Selectable transmit clock: System, Local Oscillator or Local Link

- Provides Diagnostic, Line, Payload, and Cell Loopback Tests

- Secure configuration and management via SNMP or MIB editor over Telnet/craft connection, or via ProSphere Network Management System

Low Priority Buffering

As high priority traffic increases, the ACS can tailor low priority traffic buffering until bandwidth becomes available. For the available buffer size, three threshold parameters can be set in 1K cell increments to match traffic profiles:

- EFCI threshold (Explicit Forward Congestion) indicates approaching congestion.

- CLP=1 threshold at which low priority traffic of CLP=1 begins to be discarded.

- Logical Buffer Size threshold sets the size at which the Low Priority Buffer operates.

As low priority buffering increases, more low priority traffic finds available space in the bit stream. By adjusting buffer thresholds, a tolerable cell delivery delay rate for low priority traffic can be achieved.

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