Resource Arbitration Processor (RAP)

DESCRIPTION

The Calix C7 Resource Arbitration Processor (RAP) is a common control card that contains the system switch matrix, real-time processor and memory, and timing source for the Calix C7 system. The RAP maintains the database of the Calix C7 system in nonvolatile memory for storage of cross-connect information and system software. The RAP card plugs into either of the two common control slots of the Calix C7 shelf (CS-A and CS-B).

KEY ATTRIBUTES

SWITCHING CAPACITY: The RAP manages up to 50 Gbps of user traffic in the Calix C7 shelf, and supports the following switching and cross-connect capabilities:

- Packet switch: Asymmetric fabric (optimized for access and transport applications)

    - 2.4 Gbps ingress (actual packet traffic)

    - 50 Gbps egress (multicast)

- STS cross connect: 1,056 STS-1 cross-connects for STS-based signals. The switch matrix on the RAP cross connects TDM traffic in a byte-interleaved manner identical to a traditional SONET ADM.

- DS0 cross connect: 11,700 DS0 cross-connects for POTS and other DS0-based services

This versatile bandwidth and switching capacity enables service providers to support their needs today while building capacity and packet processing capability for their subscribers' service needs of the future.

DISTRIBUTED PACKET SWITCH FABRIC: The centralized packet switching fabric on the RAP combines with the packet-based optical and DS3 cards to form a distributed switch fabric. The individual plug-in cards perform packet concentration and traffic shaping. This function separates actual packet traffic from the physical interface and aggregates it across all ports on the card before forwarding the payload to the centralized switch fabric on the RAP. This combination results in very efficient use of centralized switching resources, and in tremendous scalability potential via distributed packet processing.

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ORDERING INFORMATION
Calix Part No. 100-00180

SWITCHING CAPACITY
STS—1,056 STS-1 cross connects
ATM Traffic—32k PVCs, Asymmetric 2.4 Gbps ingress, 50 Gbps egress (multicast)
TDM Traffic—11,700 DS0 cross-connects

CLOCK/SYNCHRONIZATION
Stratum 3, holdover
Clock inputs: Composite Clock (CC), external

EQUIPMENT PROTECTION
(Optional) 1:1

STATUS INDICATORS
FAIL: Red – Card has failed
ACTIVE: Green – Card is in active mode
STBY: Yellow – Card is in standby mode for protection

POWER DISSIPATION
45 Watts per card

PHYSICAL DIMENSIONS
9.3 inches (height) x 0.7 inches (width) x 9.0 inches (depth)

OPERATING ENVIRONMENT
Temperature: –40 C to +65 C (–40 F to +149 F)
Humidity: 5 to 90% non-condensing
Altitude: to 13,125 feet

STORAGE TEMPERATURE
–40 C to +70 C (–40 F to +158 F)

NEBS LEVEL 3 COMPLIANCE
Telcordia GR-63-CORE, Network Equipment-Building System (NEBS) Requirements, Issue 1, October 1995.
Telcordia GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety, Issue 2, December 1997 with revision 1, February 1999.

SAFETY
NTRL-UL 1950

EMI/RFI
FCC Part 15 Class A

STANDARDS SUPPORT
Telcordia, GR-253-CORE, Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria, Issue 3, September 2000.
Telcordia, GR-499-CORE, Transport Systems Generic Requirements (TSGR): Common Requirements, Issue 2, December 1998.
Telcordia, GR-496, SONET Add-Drop Multiplex Equipment (SONET ADM) Generic Criteria, Issue 1, December 1998.
Telcordia, GR-1244-CORE, Clocks for the Synchronized Network: Common Generic Criteria, Issue 2, December 2000.

250-00049, Rev.13