10/100Base-T

Ascend 10/100Base-T IP Forwarding Media Card

The 10/100Base-T IP Forwarding Media Card is an intelligent, self-contained IP forwarding engine that provides high-performance Ethernet support for the GRF™. The 10/100Base-T IP Forwarding Media Card leverages the GRF switch to deliver packets at full line speeds. The card is available in either a 4-port or an 8-port option. Both support 10Base-T or 100Base-TX autosensing interfaces to provide exceptional configuration flexibility and port density.

Integrated Layer-3 switching capabilities optimize network performance

Within the GRF distributed architecture, each intelligent IP Forwarding Media Card makes Layer-3 decisions. The 10/100Base-T card features two processors, a large route table and memory resources to deliver the performance and capacity for demanding networks such as the Internet. The 10/100Base-T card is capable of performing hardware-assisted lookups of a full route table 100 times faster than conventional software approaches.

- Aggregate throughput of up to 120,000 packets per second (pps)
- Up to 250,000 route table entries
- 8 MB buffer memory (matches speed between dissimilar media and accommodates cross-country bandwidth-delay products)

Scalable design maximizes port density and enables full system functionality

The GRF dedicates 1 Gb/s of internal bandwidth to each IP Forwarding Media Card, maximizing the use of every port on the 10/100Base-T card and every slot on the GRF without performance degradation. In fact, the GRF scales linearly with every additional IP Forwarding Media Card. Because the 10/100Base-T card is designed to utilize every square inch of the system, users have a high-density solution at the lowest price per port available.

Independent, hot-swappable architecture increases uptime

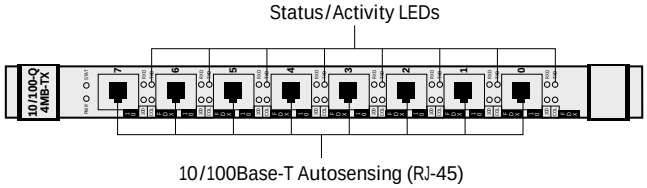
Because downtime is not an option for a network, the 10/100Base-T IP Forwarding Media card has been designed so that the GRF system operates continuously.

The card is easy to install and maintain, and it automatically configures itself after initial installation.

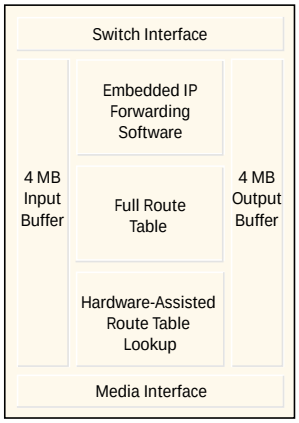
Since each card functions independently, the system continues to operate if a 10/100Base-T card problem occurs. Network administrators can reset the card or place it on hold until the situation has been corrected. Or they can replace the card while the system continues to operate, and the new card is configured automatically.

- Auto-configure
- Hot-swap capability
- Maintenance of each card occurs while system is on-line

10/100Base-T backpanel



10/100Base-T Architecture



The software on the 10/100Base-T card supports:

- Full IP
- Host extensions for IP multicasting
- Path MTU discovery
- Ethernet ARP

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Features

Standard IP Routing	Performs IP datagram forwarding, header validation and processing, ICMP processing
SNMP Monitoring	Traffic on the card monitored by the SNMP agent (RFC 1157), which can be monitored by any SNMP manager
	MIBs include: MIB-II (RFC 1213) and the GRF enterprise MIB
Full Ethernet Multicast	Supports multicast message between nodes, and routes and forwards multicast datagrams

Internet Standards

RFC 791	Internet Protocol
RFC 792	Internet Control Message Protocol
RFC 826	Ethernet Address Resolution Protocol: converting network protocol addresses to 48-bit Ethernet address fortransmission on Ethernet hardware
RFC 894	Standard for the transmission of IP datagrams over Ethernet networks
RFC 1112	Host Extensions for IP Multicasting
RFC 1157	A Simple Network Management Protocol
RFC 1191	Path MTU Discovery
RFC 1213	TCP/IP Management Information Base

Specifications

Transfer Rate	10/100 Mbps
Interfaces Per Card	4 or 8 half or full-duplex 10Base-T or 100Base-TX ports
Cable Requirements	STP and UTP CAT5
Physical Connectors	RJ-45
Transmission Distance	100 meters
Card Dimensions	9 in x 16 in [22.9 cm x 40.6 cm]
Card Weight	~2 lbs [0.9 kg]
DC Power Supplies	+5.0 V=10 amps maximum, total watts=45
Hot-swap Capability	Yes
Operating Requirements	Temperature: 32-104˚F [0-40˚C] Relative Humidity: 10-90% (noncondensing)

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Ascend markets the B-STDX, CBX, GRF, IP, MAX, Multiband, MultiDSL, Navis, Pipeline, SA, SecureConnect and STDX families of products. Ascend products are available in more than 40 countries worldwide.

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