



Application Note

Carrier Ethernet Aggregation

Typical Users

- Carriers
- Transport Providers
- Backhaul Providers

Typical Applications

- Business Services for Enterprises
- Wholesale Services
- Mobile Backhaul

Service Resiliency with 10 Gigabit Ethernet Ring Protection

Many carriers and transport providers have already upgraded their aggregation and metro networks to packet switched technology in an effort to support next-generation services with ultra-high throughput at lower costs. However, to ensure successful migration from legacy SDH/SONET transport to packet switched networks (PSNs), telcos require Carrier Ethernet access and metro solutions that are capable of aggregating SLA-backed, QoS-differentiated services with the high level of resiliency and reliability that is needed for effective network and service control.

10 Gigabit Ethernet access and aggregation rings are key elements in making PSNs a true replacement for SDH/SONET transport and in defining carriers' ability to meet the service expectations of enterprises, operators and service providers. By connecting subscriber locations to newly deployed multiprotocol label switching (MPLS) cores over scalable Carrier Ethernet fiber rings, telecom providers are able to optimize their networks for residential, business and wholesale services, as well as for mobile backhaul applications.

10 Gigabit Ethernet Ring Aggregation with Hard QoS and SLA Monitoring

RAD's ETX-1002 10 Gigabit Carrier Ethernet aggregation switch provides a central aggregation solution for ETX Carrier Ethernet demarcation devices installed at customer premises and service endpoints, such as the ETX-102, ETX-202, and ETX-204A, as well as third-party NTUs. The high capacity aggregation switch is deployed in 1 Gigabit and 10 Gigabit Ethernet access rings with sub-50ms switchover protection to provide high availability and service continuity when fiber cuts or link failures occur. Equipped with multi-priority traffic management capabilities and Ethernet OAM diagnostics, it ensures latency, jitter and packet delivery performance for Layer 2 VPN services and VoIP transport, as well as for broadband access, data center consolidation and mobile backhaul.

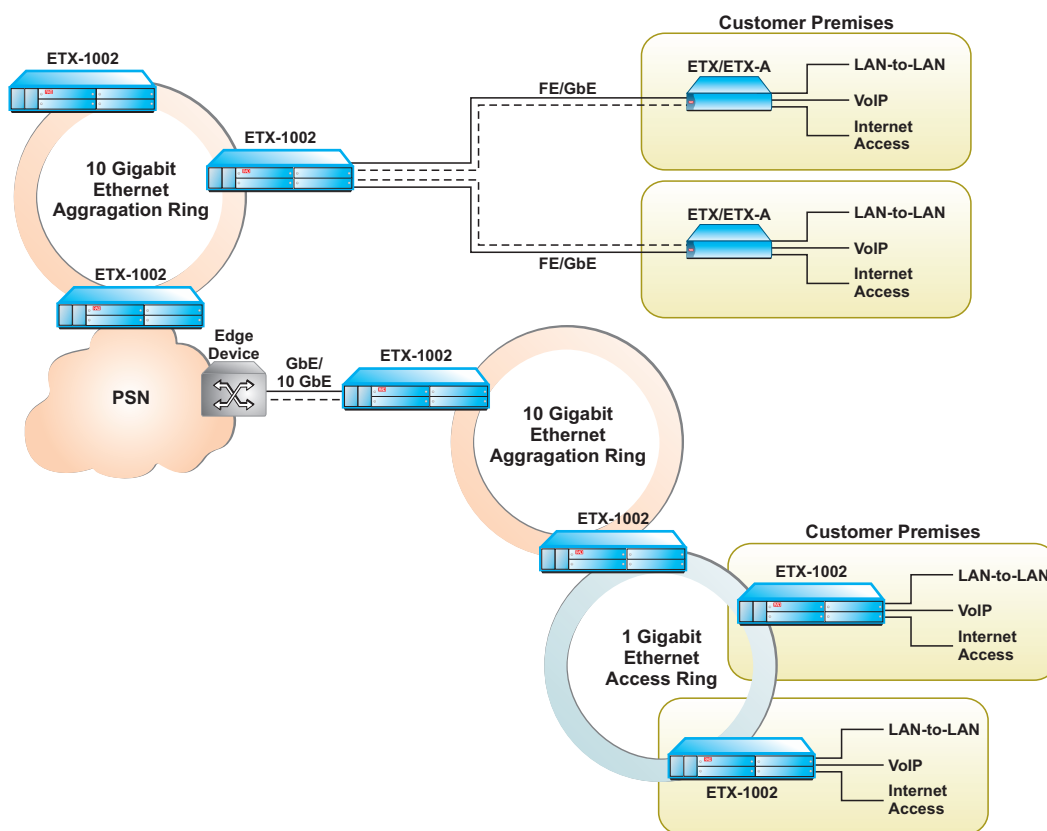
The non-blocking edge switch grooms traffic from multiple locations using up to 24 Fast Ethernet or Gigabit Ethernet links, to deliver a variety of services over up to four 10 Gigabit Ethernet connections at wire speed. In addition to its fast ring protection features, the ETX-1002 supports mission-critical applications with link aggregation (LAG) redundancy and standard spanning-tree protocols.



Features	Benefits
24 FE/GbE ports, up to four 10 GbE ports; non-blocking architecture	<ul style="list-style-type: none"> • 10 Gigabit aggregation point for L2/L3 transport and SLA-based services • Wire speed forwarding optimizes throughput with minimal latency
Ethernet ring, spanning tree and link aggregation (LAG) protection	Carrier-class resiliency and service availability with sub-50 ms switchover
Traffic management capabilities include classification, policing, shaping, queue management, and congestion avoidance features	Enhanced QoS allows carriers and service providers to generate additional revenues by offering premium services with differentiated SLAs to their customers
Ethernet OAM per IEEE 802.3-2005 (formerly 802.3ah) and IEEE 802.1ag	<ul style="list-style-type: none"> • Enables network performance and SLA monitoring • Remote troubleshooting reduces OpEx • Improve service reliability
MEF-9 and MEF-14 certified for EPL and EVPL services	Enable multi-vendor interoperability
Compact size; temperature hardened enclosure	Ideal for limited space installations and outdoor deployments



ETX-1002



High capacity Carrier Ethernet fiber ring aggregation

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