

# Sorrento GigaEdge 820™ Tributary Interface Modules

with Performance Monitoring

## FEATURES AND BENEFITS

- Performance monitoring statistics to support client SLAs
- Performance Monitoring of SONET, SDH and 8B/10B signals according to GR-820/GR-253 or G.829/G.784
- PM Threshold crossing alerts with configurable thresholds
- Single client port per TIM
- Hot swappable modules with any module in any slot flexibility
- Plug and Play WDM™ — all TIMs are wavelength independent, small number of TIM variants
- Multi-rate software configurable TIMs minimize inventory and spares
- Support for OC-3 to OC-48, STM-1 to STM-16, GbE, Fibre Channel, 2G Fibre Channel, FICON, ESCON, DVB-ASI video
- Advanced thermal design for -40°C to +65°C operation
- Less than 6 W power consumption per TIM
- Flexible service protection options

**The Sorrento GigaEdge 820 Tributary Interface Modules (TIMs) with Performance Monitoring provide all the benefits of the existing Sorrento GigaEdge 820 TIM family, with the addition of key Performance Monitoring (PM) features.**

These PM TIMs provide the PM statistics required to support client SLAs (Service Level Agreements), by performing PM at the client service termination point.



Performance monitoring statistics are generated for SONET, SDH and 8B/10B signals according to GR-820/GR-253 or G.829/G.784 (configurable). Performance monitoring TCAs (threshold crossing alerts) are generated when configurable thresholds are reached or exceeded, allowing client service faults to be rapidly detected and diagnosed.

These performance monitoring capabilities build on the existing Plug and Play WDM™ features provided by all modules in the Sorrento GigaEdge 820 TIM family. All TIMs are wavelength independent, and inventory and spares are minimized by the small number of TIM variants, with each variant having software configurable multi-rate multi-protocol capability. There is no external fiber cabling required other than the tributary interface cables.

All TIMs can be configured for optical layer path protection (with less than 50 ms switch-over time), or two TIMs can be used to provide client layer protection.

The switching and transmission architecture of the Sorrento GigaEdge 820 supports full logical mesh connectivity between TIMs attached to the same ring. Remote service provisioning is used to connect any TIM to any channel. Maximum utilization of WDM channel resources is achieved through channel re-use, multicast and broadcast transport options. These features support both protected and unprotected video distribution services. Input to a TIM at any point in the network can be output from any number of TIMs attached to the same Sorrento GigaEdge 820 network.

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## PERFORMANCE MONITORING FEATURES

**PM Mode options:** Telcordia (GR-820/GR-253), ITU-T (G.829/G.784), Auto

**PM Counter types:** Telcordia Mode: UAS-S, CV-S, ES-S, SES-S, SEFS-S, BER-S, PSC; ITU-T Mode: UAS-S, EB-S, BBE-S, ES-S, SES-S, OFS-S, BER-S, PSC

**PM Statistics storage (Rx & Tx):** Current 24 hrs, Previous 24 hrs, Current 15 min, 32 previous 15 min

**Thresholds:** Configurable per counter type

**Threshold crossing alerts:** Generated when count reaches configured threshold

## S1000P— 1 GBIT/S SHORT REACH

**Protocols Supported:** Gigabit Ethernet (1000BASE-SX), Fibre Channel (100-M5-SN-I), FICON

**Fiber:** Multimode, 850 nm

## S622P — 51 - 622 MBIT/S SHORT REACH

**Protocols Supported:** OC-48/STM-16, OC-48c/STM-16c, ESCON, DVB-ASI (270 Mbit/s)

**Fiber:** Multimode, 1310 nm

## PHYSICAL FEATURES

**Density:** One service per module

**Connector:** LC duplex

**Power:** < 6 W (above 0°C)

**Alarms:** Loss of signal, Loss of synchronization

**Loopbacks:** TIM tributary, Network channel

**Temperature:** -40°C to +65°C

**Safety:** Class 1 laser product

**LEDs:** Loss of Signal (TLS), Module Status (TS)

## T2400P — 2.488 GBIT/S INTERMEDIATE REACH

**Protocols Supported:** OC-3/STM-1, OC-3c/STM-1c, OC-12/STM-4, OC-12c/STM-4c, 2 Gigabit Fibre Channel, (200-SM-LC-L)

**Fiber:** Single mode, 1310 nm

## T1000P — 1 GBIT/S INTERMEDIATE REACH

**Protocols Supported:** Gigabit Ethernet (1000BASE-LX), Fibre Channel (100-SM-LL-L), FICON

**Fiber:** Single mode, 1310 nm

## T622P — 51 - 622 MBIT/S INTERMEDIATE REACH

**Protocols Supported:** OC-3/STM-1, OC-3c/STM-1c, OC-12/STM-4, OC-12c/STM-4c, ESCON, DVB-ASI (270 Mbit/s)

**Fiber:** Single mode, 1310 nm



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