Metrobility R851
Gigabit Services Line Card

Intelligent Optical Ethernet Demarcation Point

The R851-1S and R851-SS Services Line Cards are supported in a Metrobility R5000, R1000, R400 or R200 (shown) platforms.

The Metrobility® R851 Services Line Card for Gigabit Ethernet by Telco Systems provides an intelligent optical Ethernet demarcation point for service providers who are deploying Ethernet in the First Mile. The Services Line Card extends baseline VLAN technologies to enable delivery of multiple, converged services across the first-mile, optical access network. These services include transport (link-specific) OAM, interconnectivity (network-specific) OAM, and services (applicationspecific) OAM.

The Gigabit Ethernet Services Line Card offers multiple management schemes designed to meet the needs of the services provider who may need to manage a remote device via SNMP using an IP address today but may want to migrate to a more robust, secure, scalable and flexible proxy-based management framework.

As a carrier-class device, the Services Line Card is specifically designed to maintain the maximum isolation between the public and private network while supporting the OAM requirements defined by both the IEEE and the Metro Ethernet Forum (MEF).

Direct Internet-Standard Management using SNMP and IEEE802.3ah

As an intelligent CPE demarcation point, the R851 Services Line Card offers the Operations, Administration and Maintenance (OAM) as-

pects of the IEEE 802.3ah standard. OAM management features provide loopbacks, MIB statistics, errored frame events, and "Dying Gasp" capabilities. These features allow keep-alives for transparent service monitoring.

Additional features include sophisticated management access control which protects the system and network connections from a denial of service attack from the user's network. Management access control automatically discards unauthorized traffic received over the user port making the device impervious under all traffic conditions and all traffic patterns.

Proxy-based Management via NetBeacon® ESP Element Manager

NetBeacon® ESP Element Manager is a carrier-class element mangement framework that consists of a GUI-based element management system and an element management proxy to achieve the highest level of managability. The Metrobility NetBeacon ESP provides intuitive, graphical management of hundreds of remote sites creating a robust and secure management scheme which improves performance through IP and managed object aggregation. Because an IP address is not required at every access point, this solution scales extremely well for a large metro access service deployment which otherwise would require the management of countless IP addresses. ∎
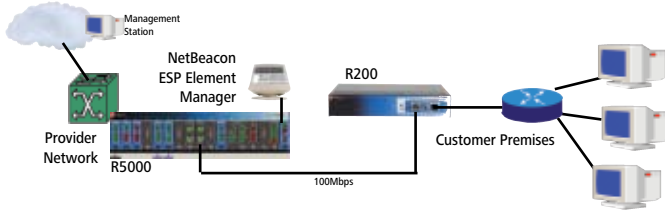
Product Highlights

- Intelligent Optical Ethernet Demarcation
- Transparent Ethernet access
- Advanced VLAN Aware Bridging
- Minimal Touch Provisioning
- Optimal ITU-Grid CWDM SFP Optics
- Signal re-amplification, reshaping and retiming
- Console port allows local configuration of NID at customer site

Configurations

Enhanced remote site management via NetBeacon ESP Element Manager

The NEBS Level 3-certified R5000 Platform installed at the central office or the point of presence connects to the switch or router at service provider's network. As a scalable management point, the R5000 includes a management card which collects information from the Services Line Card. The Metrobility SLC is monitored and managed through NetBeacon ESP Element Manager. This bookend approach provides a graphical view of the device and enables provisioning, quality of line, quality of equipment, optical power, and historical graphs.
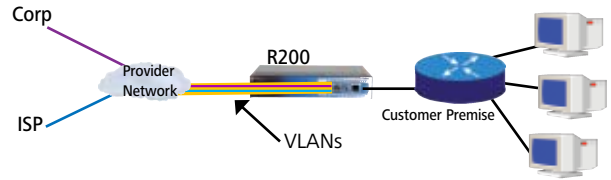
Standards-based Multi-service Delivery

The R851 Services Line Card supports delivery of E-Line services. Traffic belonging to each service is classified by, and tunneled over, pre-determined VLANs for segregation and transport across carrier networks. Controlled at the Services Line Card, VLANs identify and segregate the specific ISP-access or corporate-access E-Line service, and determine corresponding prioritization and traffic management parameters for the associated traffic. Service provider management traffic is given higher priority than user data traffic.

Ordering Information

Platform and Power Supplies

Part Number	Description
R851-1S	10/100/1000TX to 1000BASE-X LC SFP (requires 1 pluggable optic*)
R851-SS	1000BASE-X LC to 1000BASE-X LC SFP (requires 2 pluggable optics*)
Platform Options	
R5000-17HS	17-slot platform with two bays for optional AC/DC power supplies
R1000-AF, -AR	2-slot platform with one AC front or rear-facing power supplies
R1000-DF, -DR	2-slot platform with one DC front or rear-facing power supplies
R1000-AAF, -AAR	2-slot platform with two AC front or rear-facing power supplies
R1000-DDF, -DDR	2-slot platform with two DC front or rear-facing power supplies
R400-2HS-1A	2-slot platform with single external AC power supply
R200-AC	1-slot platform with single internal AC power supply
R200-DC	1-slot platform with single internal DC power supply
Accessories	
R8000-CA	Console Cable
Management	
NBESP-99, -249, -UNLIMITED	NetBeacon ESP Element Management Software

*See user manual for list of recommended pluggable optics.

Specifications

Environmental

Oper. Temp.	R851-1S 0°C to 50°C
	R851-SS 0°C to 40°C
Oper. Humidity	5% to 95% non-condensing
Storage Temp	-25°C to 70°C

Regulatory (Safety/EMC)

UL, CSA, CE, CB   NEBS Level 3
EN60950 (safety)   FCC Part 15 Class A
DOC Class A (emissions)
EN55022 Class A (emissions)
EN55024:1998 (immunity)
IEC 825-1 Classification (eye safety)
Class 1 Laser Product (eye safety)

Features and Benefits

- Flexible management options accommodates future requirements as network evolves
- Intelligent management access control makes the device impervious to denial of service attacks
- Extensions to 802.3ah OAM
  - Real-time statistics to enable Quality of Line monitoring
  - Remote real-time monitoring of optical power levels
- Remote loopback testing
- Full signal retiming, reshaping, and reamplification (3Rs)
- NEBS Level 3 compliant
- Supported distances up to 100km
- Line rate forwarding
- Copper port supports 10/100/1000Mbps autonegotiation
- Console port provides local access for configuration and upgrades

S P E C I F I C A T I O N S