METROBILITY optical systems

THE METROBILITY DIFFERENCE

- Local and Remote loop-back testing and BERT 511 for T1/E1 and T3/E3
- Full featured management of 40 functional, operational and environmental parameters
- Quality of Line(QOL) monitoring
- Quality of Equipment(QOE) monitoring
- Quality of Optical Amplitude(QoOA) monitoring
- Bandwidth provisioning in 1Mbps increments up to 100Mbps asymmetrically for down stream and up stream data flow
- Database gathering of histograms which track Ethernet statistics such as packet types, packet sizes and packet errors
- NetBeacon SNMP network management software, WebBeacon web-browser management, and command line interface(CLI) management allows three convenient methods of full management capability for local and remote administrators
- IP stacking of up to 4 chassis using a single IP address, accommodating 64 line cards per stack at CO and 64 remote demarcation devices
- Remote management of CPE which uses no remote IP address, no customer bandwidth and provides a very secure customer environment
- Comprehensive line protection and restoration solutions that provide a fail-over time of less than 200 microseconds
- SONAR(Switch on No Activity Received) redundant feature provides layer 2 functionality to a layer 1 device by monitoring external redundant network connections for data activity
- Highly reliable and scalable modular and stand alone solutions support Ethernet, Fast Ethernet, Gigabit Ethernet, OC-3, OC-12 and TDM connectivity allowing you to “Future Proof” your network
- Over 20 SNMP trap notifications that can be sent to an email address or pager via NetBeacon for critical network resolution
- High availability features including hot-swappable redundant load-sharing AC/DC power supplies, hot-swappable line cards and hot-swappable management cards
- Signal retiming using Gigabit Ethernet and Fast Ethernet devices ensures accurate transmission of data over long distances and eliminates the need for repeaters

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- View hardware serial number, model number and manufacturing date for simple inventory procedures
- Monitor hardware uptime for proactive means of hardware operability
- Extended single-mode fiber distances of up to 70Km for Gigabit, 100Km for 100Mbps and T1/E1
- 2-slot, 12-slot, and 17-slot, along with stand-alone devices allow scalability

NetBeacon Reporting Features

NetBeacon for Radiance is a SNMP based management application from METRObility. NetBeacon provides for full and complete management of the R5000 seventeen slot chassis and R1000 and R400 two slot chassis. The reporting features of NetBeacon are of greatest interest for the Service Provider.

These reporting features include tracking all types of Ethernet statistics such as packet errors, packet types and packet sizes. NetBeacon also keeps track of power supply voltages of the remote and local equipment as well as power supplies active time and chassis temperature. There is also a built in optical power meter function which reads the output and input levels of the fiber ports on both ends of the fiber media.

NetBeacon can also be configured so that a hysteresis optical power window may be set so that a trap will be sent to the network administrators email or pager alerting them that there may be a potential thresh hold problem. Alerts can be configured to keep track of all information that is vital to the Service Provider and customer. A database is available so that historical tracking may provide a proactive optical maintenance program, which will assure customer satisfaction. Gathering of all Ethernet information are done in REAL-TIME using RMON statistics.

Bandwidth Provisioning

The Radiance Access line card has the capability of provisioning asymmetrical bandwidth flow from the Service Provider's Central Office or POP, to the Customer Premise. This feature allows the Service Provider to allocate only the amount of bandwidth that the customer subscribes. The provisioning can be done on the downstream to the customer and on the upstream from the customer at different bandwidth speeds. Through the NetBeacon management software, this task can be performed quite simply. Double clicking on the port in the GUI that represents a specific customer will bring up a statistics and management window for that customer. Bandwidth can be changed through this window in 1Mbps increments all the way up to 100Mbps and is implemented immediately providing for bandwidth on demand. There is also a burst rate that can be modified which will act as a buffer for those large bursts of data that could possibly pass to or from the customer. The burst rate increments are 16K, 32K, 64K, 128K and 256Kbps. The way the software controls the bandwidth allocation is by determining a "high water mark" that the amount of data passing through cannot exceed. At that high water mark, packets will be throttled back to maintain the configured level of bandwidth.

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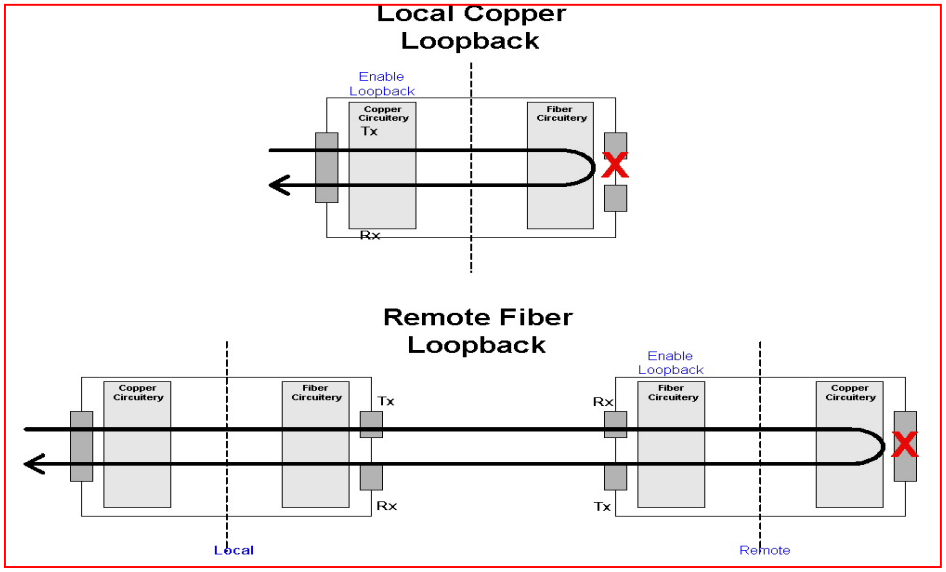
Radiance Optical Ethernet Sytem

The R5000 is the access platform that is located at the Central Office(CO) or Point of Presence(POP) of the Service Provider. The Radiance 1000 rack mountable chassis represents the demarcation point, which is located at the customer site. The R1000 is a two slot chassis that is used directly at the customer premise that will connect to a switch. Port density is a major benefit for the Service Provider because more customers can be connected to a switch that contains all RJ-45 ports as opposed to bulky and expensive fiber blades. The customer also saves money by not having to purchase a fiber native device or an expensive switch with fiber blades and interfaces.

➢ LOOPBACK TESTING

The biggest advantage of having the R1000 as the demarcation unit is its loop back testing capability. Via NetBeacon, loop back can be enabled. This is a way for the Service Provider to prevent unnecessary truck rolls to the customer site to service a problem that may be identified locally which equates to lower cost and greater customer satisfaction.

There are two forms of loop back: local and remote loop back. Local loop back tests the physical connection up to the fiber port circuitry by connecting a packet generator to the copper connection. At that point, the simulated data will be sent through up to the shut down fiber port and returned to the packet generator. If the same amount of data that was sent out is received, then the problem may not be on the local end. Same test is used for the remote connection testing the copper circuitry.



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