![Metrobility optical systems — Simply Brilliant Optical Ethernet]

Dynamic Bandwidth Provisioning

## The Problem: Overpaying for bandwidth = Customer Unhappiness

Users today have varying bandwidth requirements depending on the application. Consider a user that normally needs 10Mbps of bandwidth but needs 100Mbps for full-motion video conferencing once a month, or, the user who uses off-site storage and needs more bandwidth to complete their backup operations between 3 a.m. and 4 a.m. To accomplish this with traditional Internet access, companies would need to purchase bandwidth based on their highest level of usage, regardless of frequency or time of day.

The Solution: Dynamic bandwidth provisioning in 1Mbps increments

With Metrobility's unique Radiance technology available in Access Line Cards, bandwidth can be adjusted from 1Mbps to 100Mbps quickly and easily. Service providers or network administrators can remotely and instantaneously change user bandwidth multiple times per day. Moreover, both transmit and receive bandwidth can be adjusted in seconds to accommodate users' changing requirements. For example, if a service provider's customer is using a storage area network for backup, bandwidth can be increased during evening hours when bandwidth is more available – and less costly. The service provider can create mechanisms to track the bandwidth and invoice by time of day, as well as actual bandwidth used.

Bandwidth provisioning is accomplished through an easy-to-use interface using NetBeacon Element Manager.

Transmit and receive bandwidth and burst length (expressed in Mbps) can be set independently. Maximum burst size may be 16, 32,64,128, or 256 KB.
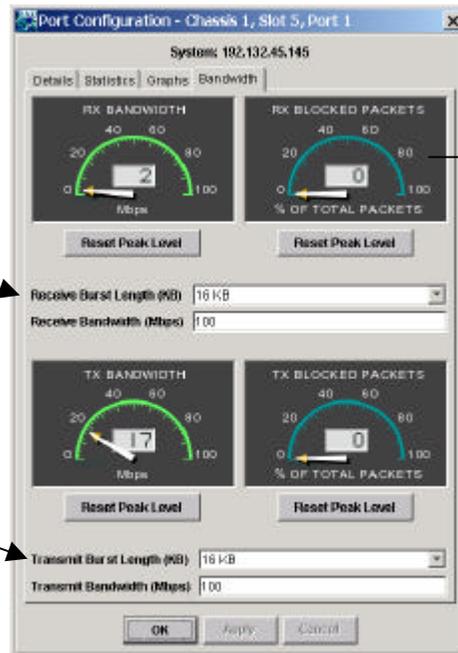
If the user exceeds the set bandwidth, then packets will be blocked. Blocked packets are expressed as a percentage.

The number of blocked packets is available in the statistics screen for the selected port.

Bandwidth usage can also be accessed in a histogram to show trend lines over a range of time increments are also available. The database option allows for up to 28 days of information to be viewed. The information can be automatically archived to data files for use by other applications.
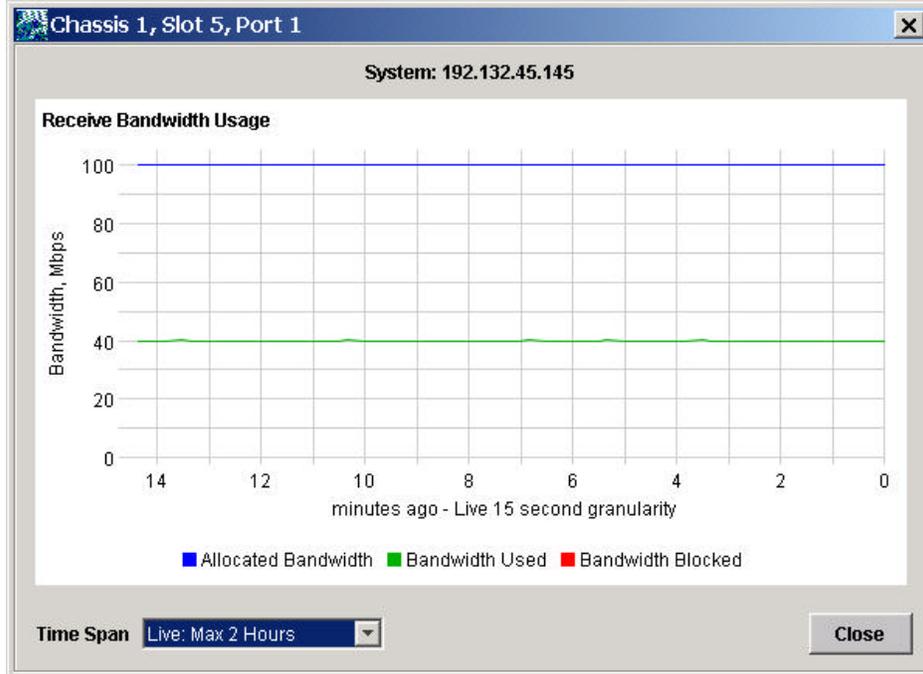
The Benefit: Bandwidth on a pay-as-you-go basis = Happy Customers

Because optical Ethernet scales in bandwidth so easily, remote and instantaneous bandwidth management can be accomplished with a point and click. This is in marked contrast to a SONET network where a skilled network technician has to physically go to the SONET network element and start swapping cards out in order to increase speed and where provisioning can sometimes take days or months.

With Radiance, service providers can offer flexible broadband bandwidth provisioning to allow customers to pay only for the bandwidth they need, as they need it.

Product Information

All Metrobility 100Mbps optical Ethernet Access line cards enable dynamic bandwidth provisioning. These products also provide copper-to-fiber and fiber-to-fiber media conversion as well as distance extension from 2km segments to 100km segments. Access Line Cards also offer remote optical amplitude monitoring, quality of line monitoring, and remotely controlled loopback testing.

Access Line Cards

R231-13	100M TX to FX MM/SC
R231-14	100M TX to FX SM/SC
R231-15	100M TX to FX MM/ST
R231-16	100M TX to FX SM/ST
R231-17	100M TX to FX SM/SC LH (40km)
R231-1J	100M TX to FX SM/SC ELH (100km)

Chassis Configurations

R5000-17HS	17 Slot Chassis with Two Bays for Optional AC and/or DC Load-Sharing Power
R1000-AAF	2 Slot Chassis with Two Fixed, Load-Sharing, Front Facing AC Power Supplies
R1000-AAR	2 Slot Chassis with Two Fixed, Load-Sharing, Rear Facing AC Power Supplies
R1000-ADF	2 Slot Chassis with One Each Fixed, Load-Sharing, Front AC and DC Power Supplies
R1000-ADR	2 Slot Chassis with One Each Fixed, Load-Sharing, Rear AC and DC Power Supplies
R1000-DDF	2 Slot Chassis with Two Fixed, Load-Sharing, Front Facing DC Power Supplies
R1000-DDR	2 Slot Chassis with Two Fixed, Load-Sharing, Rear Facing DC Power Supplies
R400-02HS-1A	2 Slot Chassis with One External AC Power Supply, Standalone

NetBeacon Element Manager 3.0.0 supports Access Line Cards. NetBeacon's database option requires NetBeacon 3.0.1 and an R502-M management card.

For additional information on bandwidth provisioning, NetBeacon and supported modules and line cards, contact Metrobility Optical Systems at 1.877.526.2278 or 1.603.880.1833, or visit us at www.metrobility.com.