

Fairshare Traffic Management for DSL Networks

Sandvine's Fairshare Traffic Management solves the congestion problem in DSL networks, extending infrastructure lifetime and reducing costs for communications service providers (CSPs), improving subscriber quality of experience and complying with regulatory requirements.

QualityGuard Congestion Response System

The actual capacity of a network resource is dynamic - it is not constant. This reality is true of both mobile networks and fixed networks, and causes many complications for network operators fervently trying to deliver a high-quality subscriber service. **QualityGuard** is a superior alternative to the blind addition of unmanaged capacity. It generates massive cost-savings by automatically preventing congestion whenever and wherever it occurs. Two capabilities allow QualityGuard to provide fully-automated congestion detection and control:

- Real-time awareness of subscriber access location and short-term usage
- Real-time measurement of access round trip time (aRTT) to detect and prevent congestive collapse

Policy fairness that delivers massive cost-savings

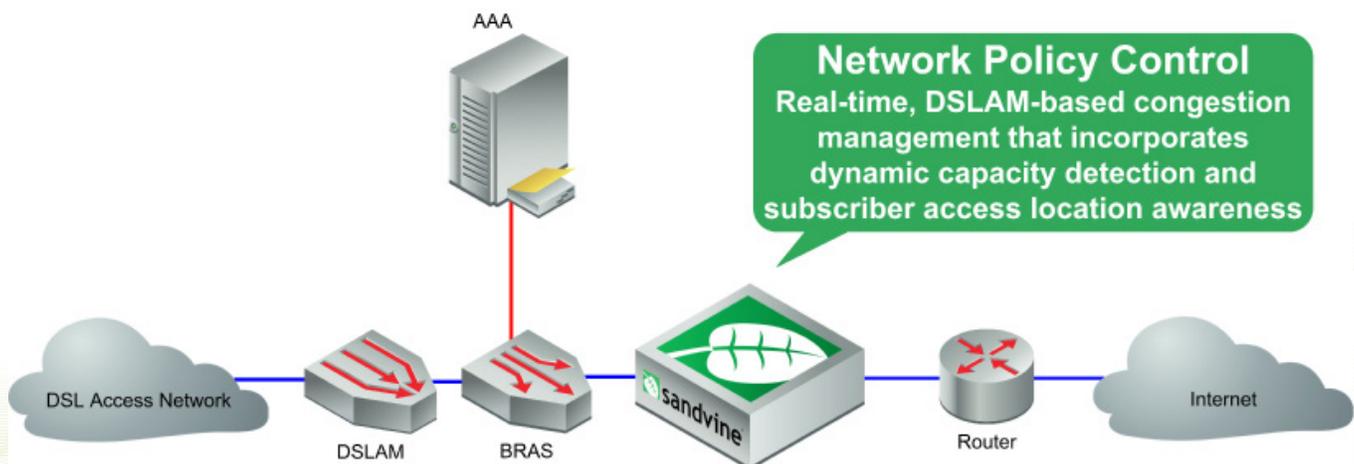
Using this powerful quality awareness, operators can prioritize high-value traffic over low-value traffic during congestion events using fair criteria applied proportionally at the location where the problem occurs. When the network is no longer congested, the management ceases. The criteria used to determine relative value of traffic are rich and at the CSP's discretion and can include: application, application type, subscriber service plan, and recent subscriber contribution. Fairshare Traffic Management pays for itself in just a few months and generates incredible cost-savings within the first year. Extend the life of your access network resources while ensuring:

- DSLAM congestion is continuously detected and managed based on real-time subscriber QoE
- The vast majority of subscribers have access to the majority of available bandwidth during congestion events
- Only the true contributors to congestion are affected by a regulatory-compliant policy

Key Benefits

Experience all of these benefits while complying with regulatory requirements:

- Reduced and more predictable capital expenses from extended resource lifetime and optimized resource investment
- Improved insight with business intelligence tools that let operator monitor policy effectiveness and plan capacity expansions
- Lowered operating costs, resulting from increased subscriber QoE



QualityWatch Congestion Reporting System

Enabled by QualityGuard, **QualityWatch** provides the operational business intelligence CSPs need to comprehensively understand congestion in their network. While QualityGuard delivers fully automated and precisely targeted congestion management, QualityWatch leverages the solution's complete application, topology, congestion, and subscriber behavior awareness to deliver insightful reporting. Detailed network congestion reports are provided through Sandvine's Control Center and standard reporting interface Network Demographics. Real-time and ready-made reports based on subscriber QoE and QualityGuard enforcement allow service providers to determine the location of issues ("is it with my own network, or the third-party service?"), plan capacity expansions, see opportunities for additional cost-savings, and monitor congestion management policies for continued effectiveness. QualityWatch also indicates when enforcement is no longer preventing congestion and it's finally time to add equipment to the network.

Fine-grained precision and complete network control

Fairshare Traffic Management for DSL Networks gives CSPs an exceptional degree of control over the definition of high- and low-value traffic for the fair management of congestion to do the following:

- Apply policies to the small minority of heavy users that consume the majority of bandwidth. This can be done for all traffic and/or by application.
- Combine per-user and aggregate traffic management for better peak period control. For example, guarantee quality of service for VoIP traffic at all times and constrain per-user bandwidth for P2P and other non-time-sensitive traffic when congestion is detected.
- Introduce new application-based service tiers, offering users different priority levels for various applications. This gives users choice as to how their applications will be handled under congestion conditions and gives the service provider the opportunity to maximize revenue from service packages that are better tailored to subscriber needs.

The following shows the solution in action:

