Fairshare Traffic Management for Cable Networks

Sandvine's Fairshare Traffic Management solves the congestion problem in cable networks, extending infrastructure lifetime and reducing costs for operators, improving subscriber QoE, and complying with regulatory requirements.

Automated cable network congestion management with QualityGuard

The QualityGuard congestion response system is a unique feature that allows cable operators to automatically and precisely detect, isolate, and manage congestion in the cable access network for predictable CapEx deferral. QualityGuard continuously monitors the quality experienced by subscribers specific to each QAM or DOCSIS 3.0 bonded group. When quality falls below the cable operator's configured benchmark, the solution automatically takes action to ensure the vast majority of subscribers continue to have a high-quality experience. The solution also uses IPDR data to signal CMTS elements and cable modems for precise upstream congestion management.

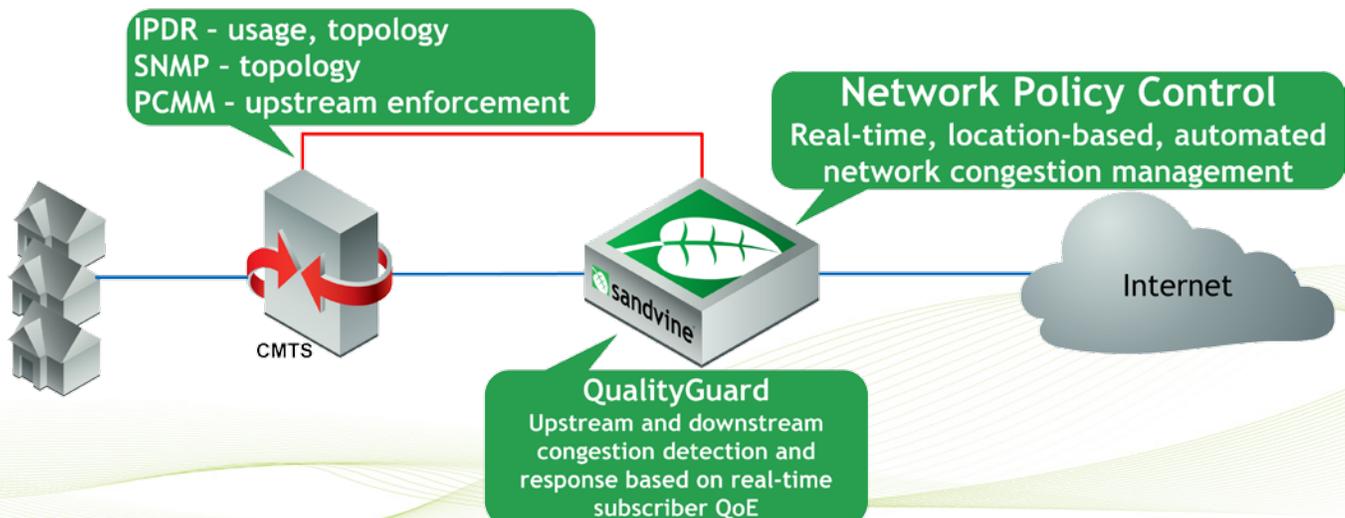## Policy fairness that delivers massive cost-savings

Using this powerful quality awareness, operators can define and prioritize high-value traffic over low-value traffic during congestion events using fair criteria applied proportionally at the location where the problem occurs. When QualityGuard detects congestion, the response only impacts the 2% of subscribers currently consuming up to 80% of traffic. Application prioritization (such as streaming video over bulk downloads) is also supported. Fairshare pays for itself in just a few months and generates incredible cost-savings within the first year. Finally, cable operators can extend the life of their access network resources while ensuring:

- QAM congestion is continuously detected and managed based on real-time subscriber quality of experience

- The majority of subscribers have access to the majority of available bandwidth during congestion events

- Only the true contributors to congestion are affected, using regulatory-compliant network management policies

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

IPDR – usage, topology
SNMP – topology
PCMM – upstream enforcement

Network Policy Control
Real-time, location-based, automated network congestion management

CMTS

sandvine

Internet

QualityGuard
Upstream and downstream congestion detection and response based on real-time subscriber QoE
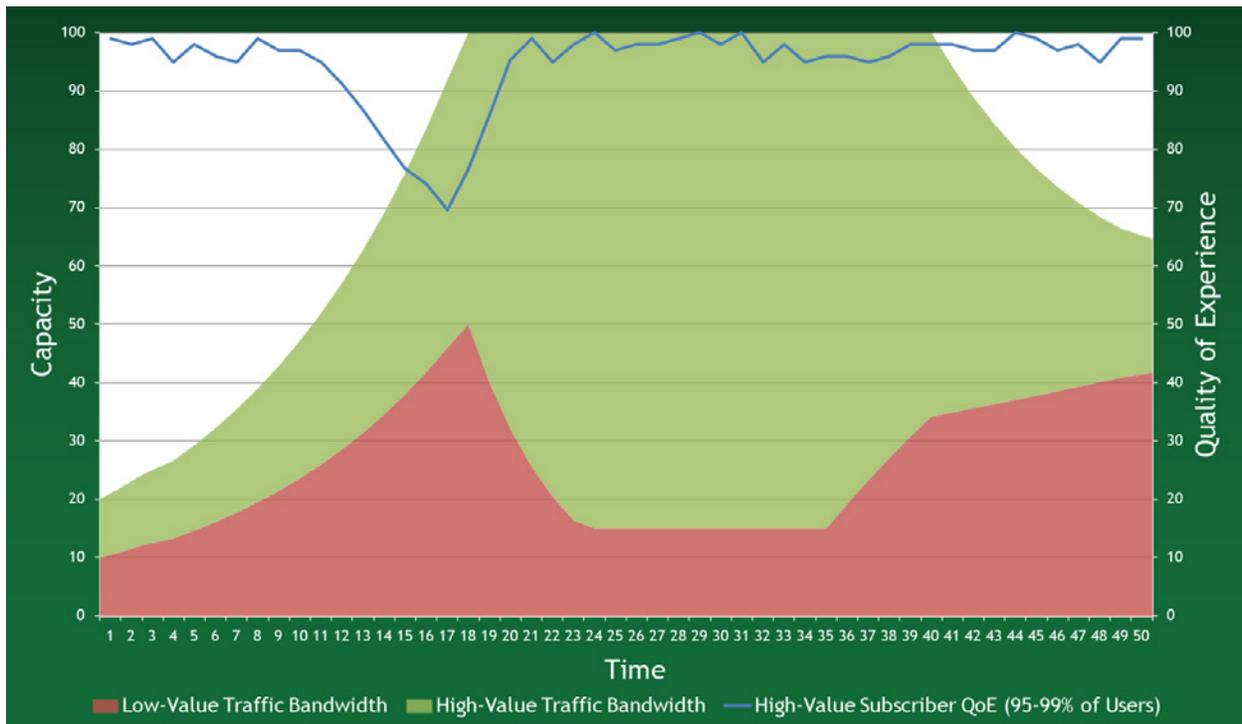
QualityWatch congestion reporting system

Enabled by QualityGuard, the QualityWatch congestion reporting system provides the operational business intelligence MSOs need to get a firm grip on congestion throughout the cable network. It enables detailed network congestion reports specific to location and subscriber through Sandvine's standard reporting interface, Network Demographics. Ready-made reports based on both access- and network-side subscriber QoE 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.

Fairshare Traffic Management for Cable Networks gives MSOs 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 graph shows QualityGuard in action:

Sandvine Cable Network Congestion Management Advantages

- Extensively deployed in cable networks, with full DOCSIS 3.0 support
- QualityGuard delivers fully automated network congestion management based on real-time quality
- QualityWatch provides reporting needed to get a firm grip on congestion throughout the cable network
- Multiple levels of network data – application, topology, congestion, and per-subscriber usage history and service plan awareness – provide complete context
- Cable operators benefit from incredible cost-savings while subscribers enjoy a higher quality of experience

sandvine®
Intelligent Broadband Networks