



Wholesale and Peering Link Management

Control Internet Peering QoE and Cost

WHOLESALE AND PEERING LINK MANAGEMENT BENEFITS

Deliver a measurably better customer experience for popular content

Measure and manage the peering links that contain your most popular subscriber content to ensure high QoE

Get more from your existing peering links

Managing peering links ensures that you only upgrade bandwidth on peering links when it will deliver better QoE to important applications and content

Better peering insights for all peers

Per AS Path, Origin, and Transit QoE and application usage ensures that the right engineering KPIs can be measured for peering

Control costs and maximize user quality of experience by precisely managing traffic peaks and composition for vital content networks and peering partners

Not all network routes are created equal: some are more expensive than others, some are purchased/leased while others are part of peering arrangements, and some contribute positively to quality of experience (QoE) while others have a negative impact. By carefully managing traffic on peering and transit links, network operators can precisely control costs and can even improve the QoE for all network users.

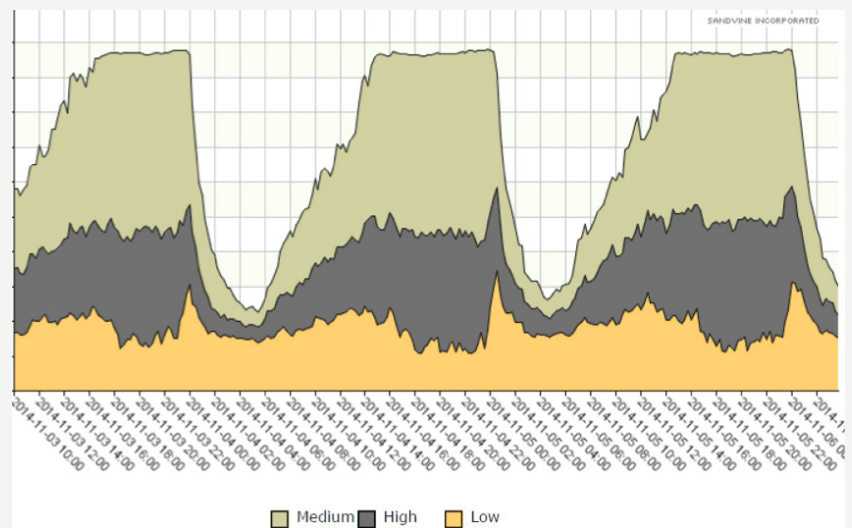
USE CASE TECHNOLOGY OVERVIEW

The first step to control costs and ensure fair execution of peering arrangements is to enforce peak bandwidth levels on a per-peering link basis. But a basic approach to peak enforcement can have significant negative side effects, as it leaves all traffic in competition for a shared resource. Sandvine's intelligent approach lets the network operator define different traffic priorities. With this technique:

- Overall traffic levels are limited to an operator-defined peak
- When traffic levels approach that peak, the lowest priority traffic is deprioritized; traffic is limited in this manner until a defined minimum threshold for the lowest priority traffic is reached, thereby preventing 'starvation'
- When the lowest priority traffic has reached its minimum threshold, the next-lowest (e.g., medium) priority traffic is subsequently limited in the same manner
- The highest priority of traffic is only limited when all lower priorities of traffic have reached their minimum thresholds

Figure 1

Prioritize real-time, high visibility traffic to deliver high user QoE on peering links while saving on peering costs





Some operators have specific targets for their peering management based on real-time vs non real-time applications where they are experiencing peering imbalances – mainly from peer-to-peer traffic. One target for many operators is to limit P2P traffic from consumer broadband networks where traffic is not mission critical. Significant savings can be gained by managing P2P traffic to favor more cost effective networks than over expensive transit links.

SANDVINE'S UNIQUE BENEFITS FOR WHOLESALE AND PEERING LINK MANAGEMENT

Per AS Path Visibility and Control

Each BGP peer has statistics at the application layer and can set traffic control parameters (shaping, priority, weight, etc.). Sandvine also delivers visibility into up to 10 AS paths as well as transit vs origin, which enables operators to identify content networks that you may not directly be peering with that could benefit from a direct peering relationship, both for cost and QoE purposes (offloading a heavily congested peer or improving costs)

Advanced Traffic Management Capabilities

Powerful and flexible shaping engine with advanced queue management algorithms including fairness with weighted fair queueing, connection fairness and normal or tiered subscriber fairness. The goal of Sandvine's traffic management engine is to deliver the highest possible throughput through sophisticated algorithms, and this is even more important at the scale and performance required for managing peering links

Application Layer Visibility

Not only can Sandvine provide application layer visibility for QoE KPIs – throughput, latency, and packet loss for all traffic on the peering link.

CONCLUSION

By using Sandvine's solutions to implement the approach described above, network operators control costs by enforcing strict peaks, while at the same time maximizing the value (i.e., priority) of the traffic carried over each link.

Additionally, by using Sandvine's unique QoE metrics, network operators can evaluate the quality delivered by each link and peer. Using this information, they can optimize peering and routing arrangements to protect – and even to raise – the quality of experience for all the network's users, contributing to long-term success.

v20181029

ABOUT SANDVINE

Sandvine helps organizations run world-class networks with Active Network Intelligence, leveraging machine learning analytics and closed-loop automation to identify and adapt to network behavior in real-time. With Sandvine, organizations have the power of a highly automated platform from a single vendor that delivers a deep understanding of their network data to drive faster, better decisions. For more information, visit sandvine.com or follow Sandvine on Twitter at [@Sandvine](https://twitter.com/Sandvine).



USA
2055 Junction Avenue
Suite Number 105
San Jose,
CA, 95131
USA

EUROPE
Svärdfiskgatan 4
432 40 Varberg,
Halland
Sweden
T. +46 340.48 38 00

CANADA
408 Albert Street,
Waterloo,
Ontario N2L 3V3,
Canada
T. +1 519.880.2600

ASIA
RMZ Ecoworld,
Building-1, Ground Floor,
East Wing Devarabeesanahalli,
Bellandur, Outer Ring Road,
Bangalore 560103, India
T. +91 80677.43333