

## Case Study: Usage-Based Billing in Cable Networks

### How can an Operator better align its revenues with subscriber value?

Cable operators are facing daunting challenges. Their traditional customers have a bewildering array of choices of network providers and service offerings. Rapidly changing usage patterns, and end-users' ability to communicate in new ways, are spurring cable operators to offer new services and capabilities. The widespread availability and affordability of new technologies, the uptake of new devices, and the introduction of innovative service models, particularly from the online entertainment community for video streaming, have shifted the environment to a much more dynamic and competitive ecosystem.

Heavy users of bandwidth were manageable, in terms of network capacity, when they only comprised 2-5% of an MSO's subscriber base; however, with the widespread adoption of streaming video, traditional network planning rules have become obsolete. One hour of streaming video requires between 1 and 1.5 GigaBytes (GB). Furthermore, according to Sandvine's recent Global Internet Phenomena Report, North American subscribers consume a median of 7GB per month on the fixed network, while the top 1% of subscribers account for more than 25% of the traffic.

Unlimited service was a great marketing tool to entice end-users to subscribe to broadband Internet, but every operator is now faced with the dilemma of introducing usage-based services that accommodate all users' varying usage patterns, while still profitable for the cable operator.

With unlimited service, light users actually subsidize heavy users, both in terms of pricing and the quality of service. Nevertheless, offering tiers to subscribers based on usage metrics, when they are accustomed to unlimited service, is a challenge.

### High-value at an Affordable Price

A number of progressive cable operators have introduced new service tiers to supplement unlimited offers. A large North American Multiple System Operator (MSO) faced the same decision point. Technological advances and infrastructure investment had allowed for higher bandwidth speeds, and the goal was to distribute the benefits equitably to the subscribers, based on the value each subscriber derived from the broadband connection. Users would be expected to pay commensurate with their usage of the network. Higher usage, and associated higher revenues, would support continued investment for increased network capacity.

This operator designed a service plan that offered subscribers the significant benefit of much higher access speeds (up to 10 times more bandwidth than current limits), at a reduced monthly price, while placing overall monthly limits on the amount of bytes consumed. Overage charges were introduced in small 1GB increments, in order to flexibly address subscribers who occasionally exceed quota, as well as heavy users.

In complement of this case study, there exist other examples of new application-based service offerings which combine price certainty with quota management. As a bolt-on package, for a fixed monthly fee, a subscriber can be entitled to unlimited usage of a specific application, or group of applications, like social networking or gaming.

#### Operator Case Study

**Customer Profile:**

Tier-1 North American MSO

**Opportunity:** Offer a set of usage tiers with monthly quotas, that are attractive to new and existing customers, yet provide a sustainable business model

**Sandvine Solution:** Service creation capabilities enabled by Sandvine's Usage Management product and PTS, SDE, SPB platforms

**Benefit to Subscriber:** A compelling mix of higher access speeds and lower monthly service fees - 10 x bandwidth, a monthly quota more than 7 x median usage, at a lower price. Ability to monitor own usage in real-time on a self-serve advice of usage portal.

**Benefit to Customer:** Cable operator migrates subscribers to a more sustainable operating model with monthly quota limits and overage charges for heavy users.

Usage of other applications would be managed within the monthly quota. It's a win-win for subscriber and operator, since the subscriber can enjoy favorite applications without bill-shock and the operator can manage network usage cost-effectively.

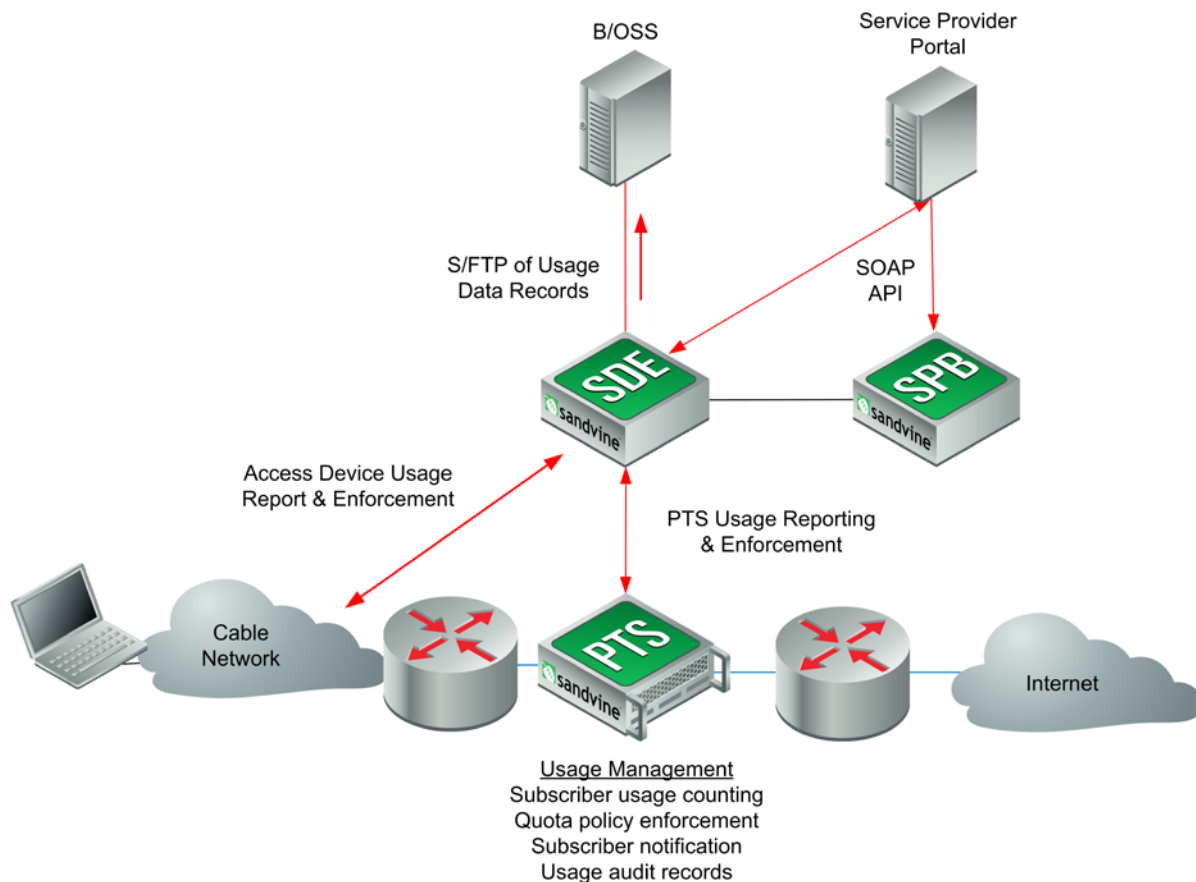
## Sandvine's Usage Management Solution for Cable Operators

Sandvine's flexible usage management solution allows operators to better meet the unique needs of their subscribers with tiered usage-based plans to attract new customers, and keep existing ones. Such plans maximize the value of the Internet connection, respective to each subscriber's need, and hence increase an operator's overall ARPU.

Key features enable the operator to:

- Define multiple rating groups for subscriber consumption, by volume or time, and application
- Proactively keep subscribers informed of their usage, reducing bill shock and increasing satisfaction
- Allow subscribers to top-up quota, extend time, or upgrade plan
- Offer multiple quotas per subscriber, with different periods, e.g. daily and monthly
- Integrate with pre-paid or post-paid billing systems
- Integrate with CableLabs® specifications for Internet Protocol Detail Record (IPDR) for usage metering, and PacketCable Multi-Media (PCMM) for dynamic quality of service (QoS )

The case study reference- architecture consisted of the Policy Traffic Switch (PTS), Service Delivery Engine (SDE) and Subscriber Policy Broker (SPB) platforms for real-time usage counting and policy enforcement, as well as for collecting subscriber usage information and generating periodic usage records for auditing. The product was integrated with the operator's subscriber repository for entitlement information, the billing system for post-paid charging, and with a Web portal for subscriber advice-of-use notification.



For more information on Sandvine products and solutions, refer to [www.sandvine.com](http://www.sandvine.com)