

## Usage Management for Fixed and Fixed Wireless Providers

### Every Subscriber is Unique...Are You Offering a Personalized Experience?

As basic Internet connectivity is commoditized and price pressures drive average revenue per user (ARPU) down, capital infrastructure costs continue to grow. Subscribers are demanding personalized plans that reflect their network usage and ensure superior access to the applications they value most.

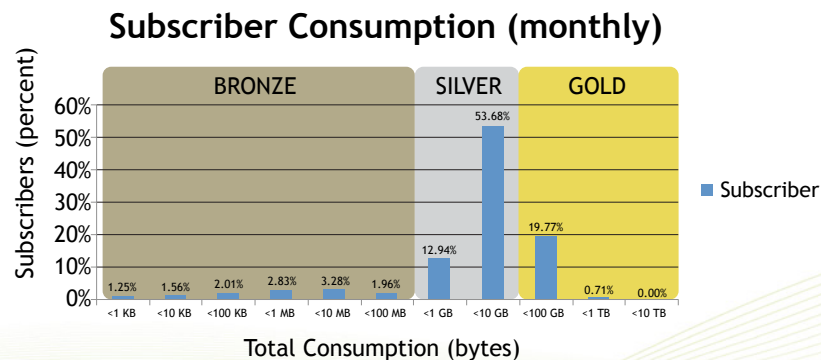
Amidst this rapidly-changing landscape, network providers seek a sustainable source of competitive advantage and a cost-effective means to capitalize on this trend. Sandvine's Service Creation solutions enable the delivery of subscriber-oriented service plans to facilitate a seamless and accelerated entry into service differentiation.

### Introducing Sandvine Usage Management

Sandvine's Usage Management suite enables providers to better meet the unique needs of their subscribers with tier-based usage plans to retain existing customers, and targeted service plans to attract new customers. Sandvine's Usage Management solution for fixed and fixed wireless providers enables a flexible Usage Data Record (UDR) generation and quota management solution to maximize the value of the Internet connection. Deploying Usage Management enables you to:

- Plan and tune prepaid and postpaid service plans using Sandvine Network Demographics and Network Analytics, to align service plans with subscriber consumption and maximize ARPU
- Leverage custom-format usage record generation for charging and auditing / reconciliation
- Proactively keep your subscribers informed of their usage, reducing bill shock and increasing satisfaction
- Allow subscribers to adjust their plans or top-up their quota depending on usage needs
- Configure plan-specific billing periods
- Enable multiple quotas per subscriber, with different periods
- Make qualified marketing and operational decisions with increased network visibility and easy-to-use reports
- Zero-rate managed content and apply real-time policy action

Sandvine's Usage Management suite provides an end-to-end solution for fixed network operators who wish to deploy a comprehensive usage measurement, rating, subscriber communication, and policy control solution. An example tiered service plan definition, based on monitored subscriber consumption, is illustrated below:



#### Key Benefits

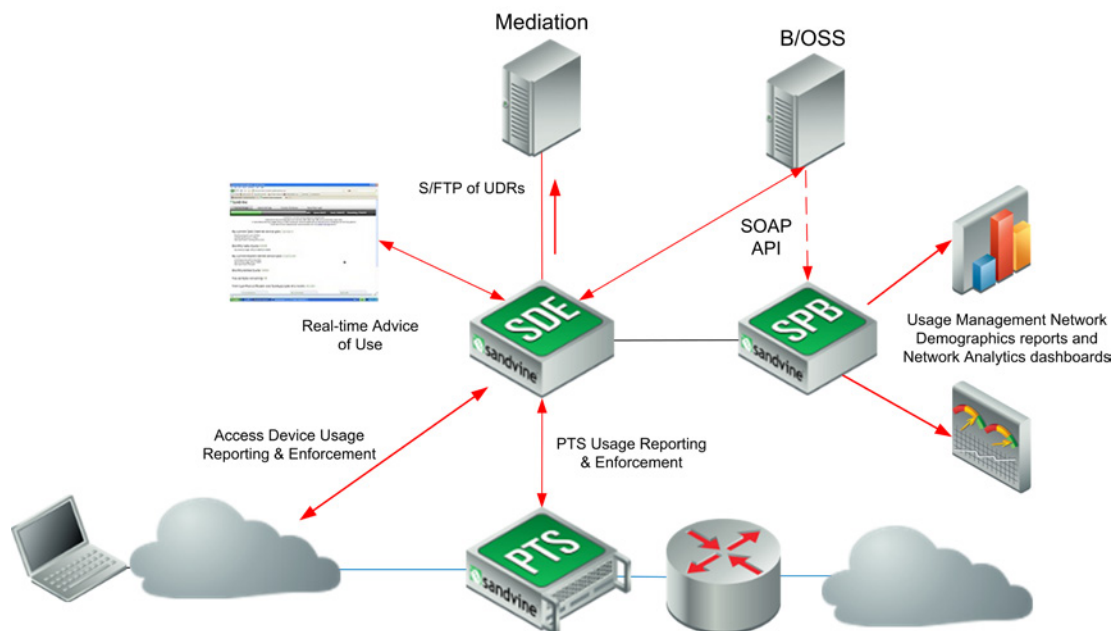
- Performance and reliability for tier-one networks
- Complete, single-vendor quota management, service tiering, record generation, and policy control solution
  - Optional collection of third-party usage data (e.g. IPDR, Diameter, AAA)
- Subscriber-aware, application-aware or application-agnostic policy enforcement
- Advanced policy decisions based on subscriber usage thresholds
- Superior session and application tracking under asymmetric networking conditions
- Access and vendor technology agnostic
- Real-time advice of use/charge

## Solution Overview

The Sandvine Usage Management solution consists of the Policy Traffic Switch (PTS) platform for real-time usage counting and policy enforcement, Service Delivery Engine (SDE) for collecting and storing subscriber usage information, running quota logic, and generating Usage Data Records (UDRs), and Subscriber Policy Broker (SPB) platform for generating usage reports and analytics dashboards.

With industry-standard interfaces, the solution can be integrated with a provider's subscriber repository for entitlement information and portal for subscriber notification. The solution includes a policy package to enable default policies and reports. Sandvine provides professional services to help integrate network elements and to customize policies and reports for your specific deployment configuration.

The solution's customizable record generation capability creates usage records by application category, protocol, and/or flow/subscriber details upon selected event triggers. These records can be used for postpaid charging reconciliation, clickstream analysis, customer care auditing, and other use cases that extend the functionality of the end-to-end quota management solution.



## Solution Highlights

- Definition and deployment of tier-based usage plans by measuring and enforcing per-subscriber time-based and volume-based quotas, with configurable billing periods
- Real-time usage cap enforcement via Sandvine PTS or signaling to third-party devices (e.g. via PCMM)
- Subscriber notifications via HTTP portal, Flash video, or SMS, for advice of usage, top up, or plan selection
- High availability quota repository with multiple quotas per subscriber
- Support for multiple concurrent sessions (e.g. shared household quotas)
- Consistent network policies across different access and vendor technologies
- Bandwidth histograms and analytics dashboards to align service plans with usage, using persistent historical data
- Multiple event thresholds - for each defined threshold per quota, a specific action can be triggered
- Periodic usage records for auditing, charging reconciliation or business intelligence
- Zero-rating of selected traffic to differentiate content and exclude it from being counted against quotas
- Optional usage collection from multiple data sources (e.g. AAA, IPDR, Diameter)