

Mobile Broadband Management Solutions

TACKLE TODAY'S CHALLENGES

Continuous growth of mobile data usage creates new opportunities for CSPs, taking their business model to a higher level, but also new challenges in terms of the capacity and performance of their network infrastructure. Furthermore, CSPs have to face declining ARPUs and revenues for mobile data. Therefore it becomes more and more clear that flat rate is no longer a viable option.

Control, enhance and personalize consumption

Computaris Mobile Broadband Management Solutions enable CSPs to reduce churn and revenue saturation through service differentiation by:

- Optimizing the usage of legacy network resources and dynamically adjusting services in real-time based on each subscribers service plan and preferences whilst lowering their operational expenses
- Refining their service packages and easily launching new, innovative services in real time and smoothly integrated with third parties applications
- Leveraging new valuable sources of customer insight – like social networks – encouraging an interactive service model focused on deeper segmentation and enhanced customer experience



Personalized Customer Experience

Based on 3GPP's standards, Computaris Mobile Broadband Management Solutions enable Operators to effectively manage bandwidth demand growth, defining charging rules and rates for convergent customers in real-time. It improves segmentation through differentiated offers, thereby increasing the performance of both legacy and new applications.

Spending control/Bill Shock Management

The Operators can increase revenue by encouraging data usage within controlled spending limits, charging transparency and subscribers self care. Computaris solution is fully compliant with mandatory EU Data Roaming legislation.

The European Commission legislation is protecting data consumers since July 2010, impelling each Operator to limit the wholesale cost of mobile data roaming, to inform the roaming subscribers of the cost of using data services on the network, to enable the subscriber to set a roaming spending limit everytime they enter a new country and to automatically cut off subscribers once their usage has reached €50 or equivalent.

Parental and content control

Based on Deep Packet Inspection (DPI) and network based URL filtering solutions, Computaris solution enables functionalities like blacklisting particular websites, setting of usage levels, usage control or P2P file sharing blocking, in accordance to specific needs:

- **Transparent control over usage for enterprise customers**, enabling organizations to set data usage limits by implementing corporate policies that improve productivity and manage costs more efficiently
- **Transparent control over usage for parents** over their children's mobile data usage, including different caps for different family members

Powerfull Resouce Management

CSPs need to assure the optimal allocation of network resources based on customers' payment plans and their network's capabilities in order to improve their customers overall Quality of Services (QoS).

Fair usage policies

Computaris Policy Management Solution empowers Operators to create service plans aligned with consumption, both from volume and time perspective and create multiple quotas per subscriber, top-ups and plan upgrades or configure billing periods with support for prepaid and postpaid. Furthermore, the Operator can offer separate data bundles for home and roaming data use in neighbouring countries.

Traffic optimization

Based on accurate identification of application types and associated usage patterns, Computaris Solution equips CSPs with a broad range of options such as application or subscriber based prioritization, alleviating network congestion and fair share of limited resources by all users.

Flexible content charging

Encouraging the analysis of individual consumption patterns and bandwidth allocation depending upon customer usage, it offers higher speed and improved Quality of Services (QoS) for business/revenue generating customers and lower traffic speed for low income generators. **Flexible per-subscriber limits** can be set or amended at any time by the subscriber – in line with travel plans or personal financial limits, which can be applied dynamically and automatically

Augmenting data usage through social network integration

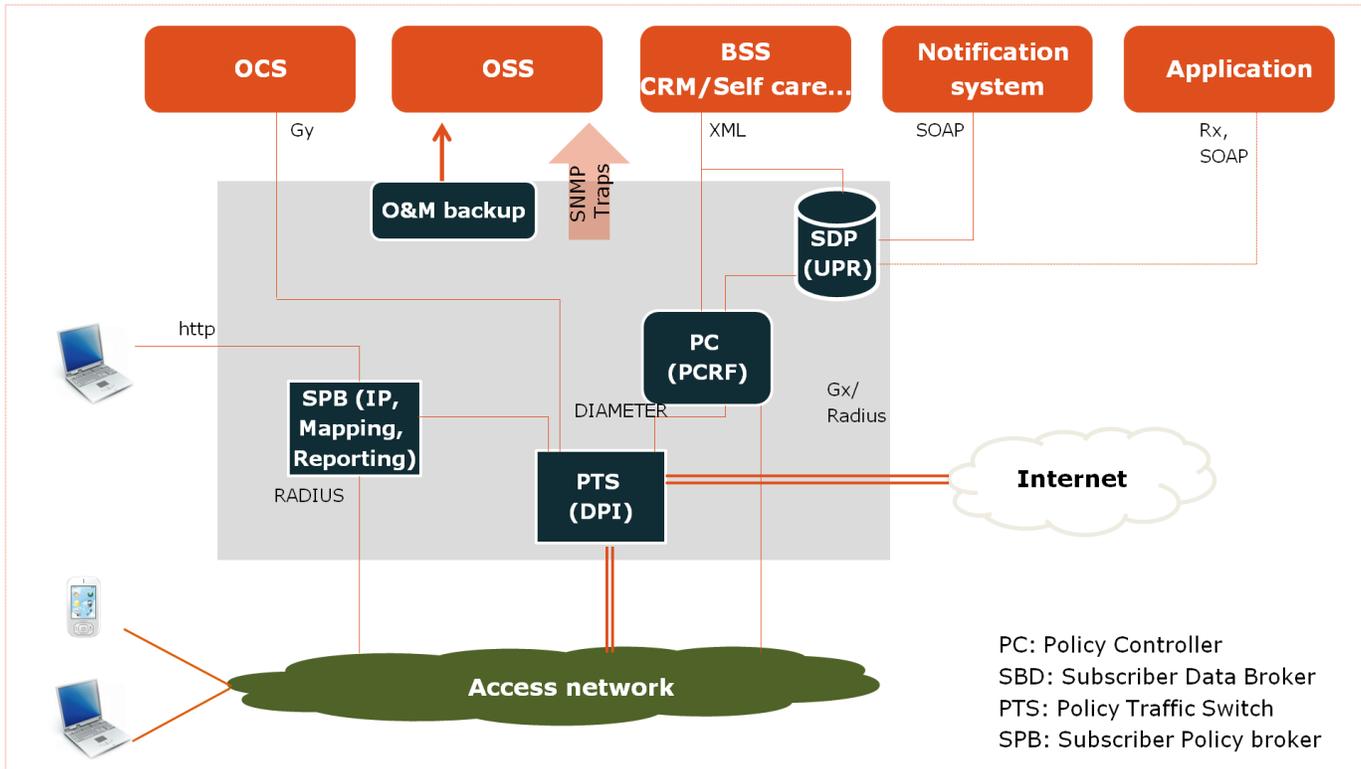
Computaris solution enable Operators to virally launch dynamic, highly cost-effective and profile-targeted campaigns which are accesible via the Facebook interface simultaneous with the mobile network, through real time integration with OSS/BSS elements like Prepaid Charging and Customer Care Powerful Resource Management.

Subscriber Centric Mobile Broadband Management

Computaris highly extensible and configurable Policy Management Solution has the following main components:

- **Policy Controller (PCRF)**– optimizes the 3G networks through support of dynamic policy capabilities that reduce network congestion. The Policy Controller can apply a wide range of intelligent, real-time controls, including managing quality of service (QoS) changes, optimizing high bandwidth traffic, and enforcing usage quotas as it combines sophisticated metering capabilities with a highly configurable business rules engine. These controls can be used to support an extensive set of use cases for both network optimization and service enablement, including tiered services, customer loyalty programs, video optimization, and more
- **Deep Packet Inspection** - the solution supports multiple physical architectures from any kind of traffic – independent of access technology
- **Subscriber Policy Broker** - allows CSPs to manage and monetize the explosive growth of mobile data usage, enabling detailed reporting and vendor-agnostic interoperability. It consists of a powerful traffic inspection and network policy control device that provides the tools necessary for network operators to achieve a wide range of business objectives across multiple functional teams
- **Subscriber Data Management** – allows CSPs to leverage their existing investments in subscriber and device databases. Additionally, it brings together rich subscriber and device data such as location, context, profile and usage, supporting the high growth of mobile data services demand, allowing CSPs to capitalize new business models and services for consumers, enterprise and M2M market.

Solution Architecture



Segmentation and Bundling Options

Segmentation options	<ul style="list-style-type: none"> ▪ By device ▪ By application ▪ By time 	<ul style="list-style-type: none"> ▪ By subscriber profile ▪ By volume ▪ By access method 	
Service bundling	<ul style="list-style-type: none"> ▪ Gamers ▪ Super users ▪ Business 	<ul style="list-style-type: none"> ▪ Basic ▪ Ipad ▪ Blackberry 	<ul style="list-style-type: none"> ▪ VOIP
Customer personalization	<ul style="list-style-type: none"> ▪ Add key applications ▪ Set priorities ▪ Allocate volume 	<ul style="list-style-type: none"> ▪ Parental control ▪ Bill control ▪ Spending rewards 	<ul style="list-style-type: none"> ▪ Premium services

Policy Management Features

Highly customizable business rules

- supports the set up of flexible rules both for individuals and customers segments

Vendor-neutral platform

- interoperates with existing charging systems in real time, eliminating the need for expensive back end modifications to existing charging systems, enabling rapid deployment
- supports incremental services deployments beyond the data roaming legislation

Real-time metering

- uses standard 3GPP interfaces to perform data usage metering within individual user sessions, allowing policy decisions to be applied in real time in response to specific user behavior

Unique client control

- offers myPolicy capability for research in smartphones and laptops
- allows subscribers to conveniently take control of their mobile data experience on their devices

Dynamic mid-session modifications

- allows immediate service response and control when a usage threshold is reached, minimizing the operational costs associated with offline analysis of subscriber usage and provisioning of usage limits, consequently reducing calls volume to the customer care desk from dissatisfied customers

Notification framework

- supports flexible, proactive subscriber notification such as email or SMS so that Operators can set multiple, flexible notification thresholds by customer, beyond the minimum requirement
- provides the opportunity for greater interaction with customers

Extensible platform - legislation reinforcement

- provides real-time network, application and subscriber policy control, including real-time data, SMS and applications usage tracking, setting personalized limits, parental control, notifications and receiving special offers, in accordance with existing and future legislation

