

Case Study: Bridgewater Policy Controller (PCRF) deployed for advanced European Union bill shock compliance

- ▶ European operator complies with regulation on data roaming

The Customer

This operator, part of a major global mobile operator group, operates one of the largest and fastest networks in Eastern Europe and has several million active customers. It needed to meet new EU mobile data roaming legislation that came into effect in 2010.

The Challenge

In March 2009, the Industry Committee of the European Parliament voted to amend the 2007 European Union (EU) Roaming Regulation to set new roaming voice call price caps that would apply between 2010 and 2012. They also proposed bringing mobile data into this legislation by introducing price caps for text messages and suggested measures for preventing consumer bill shock from data roaming charges. On April 22, 2009, the European Parliament voted with an overwhelming majority in favor of the new roaming regulations, which came into effect in 2010.

Operators must comply with the legislation on bill shock in two phases. Firstly, the EU required that by March 1, 2010 all operators provide an optional data roaming cut-off at €50 per month. The second phase, which came into effect on July 1, 2010, mandates that any consumers not taking up the optional cut-off have the €50 per month limit set by the operator.

This European operator faced several challenges in complying with the new legislation and meeting the demands of complex roaming requirements.

Integration with the operator's portal and notification services were important for the deployment. The operator was required to notify consumers — normally by text message — when 80 per cent of the customer's monthly limit was reached and again when the data roaming ceiling was met.

Initially, the operator decided to deploy bill shock prevention in a single zone. However, the extended deployment included a requirement for a complex metering system with multiple zones and different charging rates for different territories, customers, and service plans.

The operator required separate data bundles for home and roaming data use in neighboring countries. This required complex modeling of cascading quotas, enabling customers to have buckets of data for home zones — with a fair usage policy — and different bundles for each roaming zone.

The Solution

This operator chose the Bridgewater® Policy Controller as an intelligent means of meeting regulatory requirements by monitoring subscriber usage thresholds in real time — including data roaming usage. Using the Policy Controller, the operator can send notifications to subscribers when they are approaching their usage thresholds, and then again when they actually reach them. It also allows subscribers to set personalized usage caps and notifications, which prevents 'bill shock' and ensures that they have a positive mobile experience.

While compliance can be achieved through billing and charging mechanisms, this European operator deployed the Policy Controller, which meets the Third Generation Partnerships Project (3GPP) Policy and Charging Rules Function (PCRF) standard, with an eye on future-proofing their network. The Policy Controller, which includes Diameter protocol functionality and backwards compatibility with the RADIUS protocol, enables operators to provision a range of solutions in the future, in addition to complying with bill shock legislation today (see Figure 1).

Highlights

- ▶ Provides full compliance with European mobile bill shock legislation
- ▶ Future-proof, policy-based bill shock solution not only meets legislative requirements but enables additional services
- ▶ Advanced notification system to improve subscriber transparency
- ▶ Two phase deployment with complex metering functions for multi-zone data roaming and billing packages
- ▶ Rapid deployment schedule

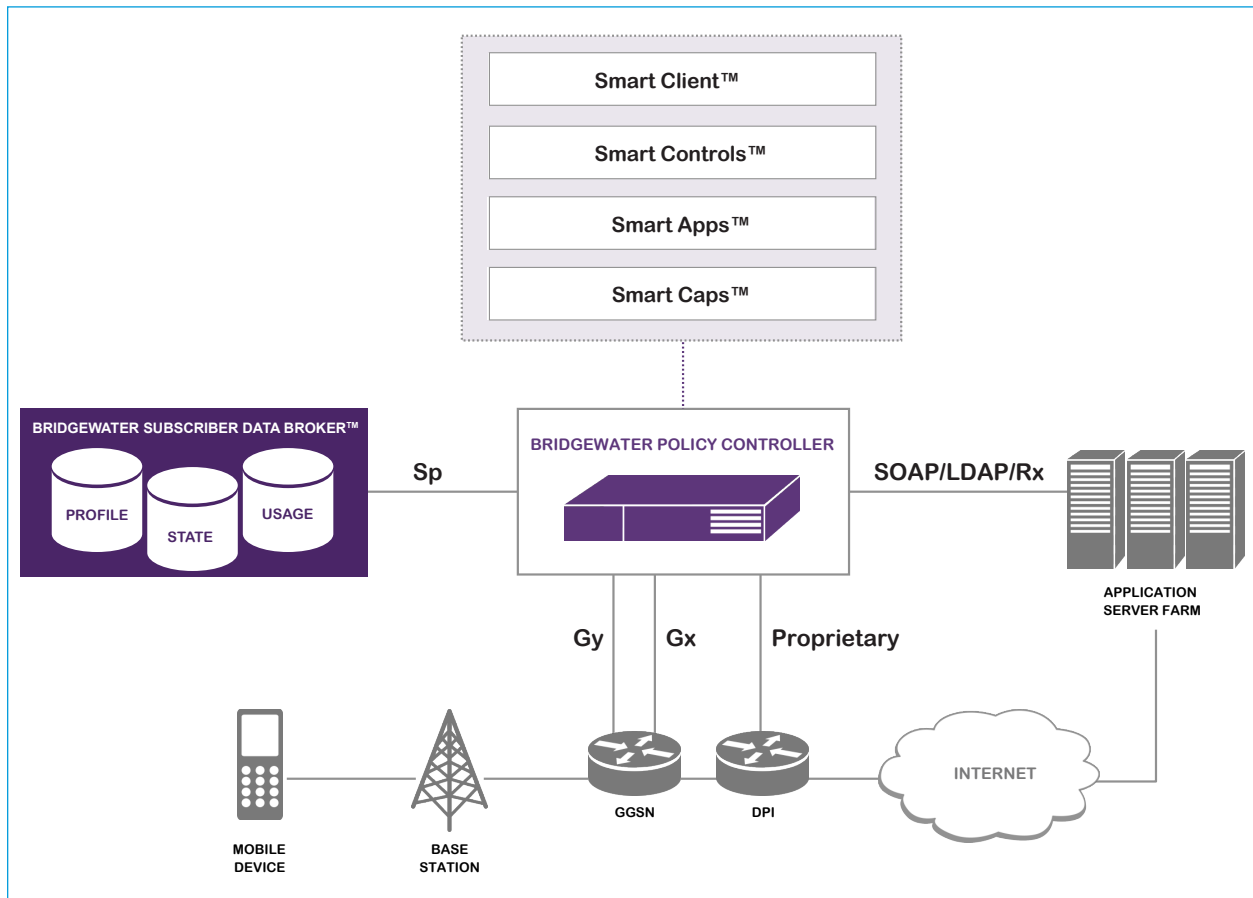


Figure 1: EU Bill Shock Solution Architecture

More than bill shock

By deploying the Bridgewater Policy Controller, this operator is now able to create new solutions such as enforcing fair usage limits or down-speeding as appropriate and providing new, imaginative data plans.

The operator can offer subscribers a cut-off limit for data roaming charges that they can set – achieving compliance with the legislation. The self-service mobile portal framework is integrated with the Policy Controller, enabling users to set their limits or for the operator to override these limits to meet regulatory guidelines.

Proactive notification is also enabled, with multiple thresholds set to generate automatic notifications at 80 per cent and 100 per cent of the limit to provide transparent communications with subscribers. This real-time functionality provides more accurate and timely notifications to subscribers, avoiding customer complaints and improving satisfaction.

By deploying the Policy Controller, this operator has future-proofed its network, enabling 3GPP-compliant PCRF supporting Gx and Gy interfaces for 3G networks, evolving LTE requirements, and interoperability with leading network infrastructure vendors.

Complex modeling requirements

The operator is now able to model very complex pricing bundles and data-roaming scenarios for combinations of packages across multiple territories, including home zone data buckets plus packages that include roaming in multiple neighboring countries.

Flexible per-subscriber limits can be set or amended at any time by the subscriber based on travel plans or personal financial limits. These can be applied dynamically and automatically. The system generates triggers and events required for online rating and billing, reducing revenue leakage and improving billing accuracy.

Rapid installation

The Bridgewater Policy Controller was deployed within two days, including interoperability testing with the Gateway GPRS Support Node (GGSN) already installed in the network, and provisioning of the server. Configuration and training were completed within two months, enabling rapid compliance.

Extended use cases

The Policy Controller enables this operator to implement fair usage policy for home traffic. A small percentage of subscribers consistently engage in bandwidth-heavy usage for sustained periods. In this case, the Policy Controller can apply Smart Caps™ to implement a variety of fair usage controls to ensure that network resources are protected and other subscribers are not adversely affected.

The Result

This European operator is now compliant with EU legislation on mobile data roaming, has increased price transparency for its users, and introduced powerful future-proof tools into its network. The rapid deployment has ensured that this operator is ahead of the legislative curve, while inspiring confidence in its mobile data services at home and abroad.

About Bridgewater Systems

Bridgewater Systems, the mobile personalization company, enables service providers to efficiently manage and profit from mobile data services, content and commerce. The company's market leading mobile personalization portfolio provides a real-time, unified view of subscribers including entitlements, devices, networks, billing profiles, preferences and context. Anchored by Bridgewater's Subscriber Data Broker™, the portfolio of carrier-grade and standards-based products includes the Bridgewater® Service Controller (AAA), the Bridgewater® Policy Controller (PCRF) and the Bridgewater® Home Subscriber Server (HSS). More than 150 leading service providers including America Movil, Bell Canada, Clearwire, Cox, Hutchison Telecom, Iusacell, Scartel, SmarTone-Vodafone, Sprint, Tata Teleservices, Tatung, Telmex, Telstra, and Verizon Wireless use Bridgewater's solutions to rapidly deliver innovative mobile services to over 150 million subscribers. For more information, visit us at www.bridgewater.com.

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