

WHITE PAPER

Achieving Mobile Data Profitability with Targeted, Value-based Services

- ▶ [Bridgewater and Openwave Joint Solution Overview](#)



Achieving Mobile Data Profitability with Targeted, Value-based Services

Introduction

As service providers look for new and creative ways to generate revenue from the enormous growth in data usage in their mobile networks, they need to have the right tools at their disposal. Intelligent policy control, combined with layer 7 application awareness plays a crucial role in helping operators deliver profitable, value-based services that offer the right mix of service elements—including speed, content, price and quality of experience—that align with increasingly diverse subscriber requirements.

Bridgewater Systems and Openwave are bringing together their core competencies in these areas to give operators the network and subscriber intelligence and real-time control they need to deliver innovative, revenue generating services while increasing the level of transparency and direct engagement with their subscribers.

The joint solution combines the market-leading Bridgewater® Policy Controller (PCRF) with the Openwave® Passport: Smart Policy traffic detection and policy application function to help service providers achieve profitability by moving from simple volume-based service tiers to a more innovative value-based model.

About the Bridgewater Policy Controller (PCRF)

The Bridgewater Policy Controller is a highly flexible and scalable policy server specifically designed to help service providers manage the impact of mobile data growth in their networks and generate revenue from personalized services. A fully compliant Policy and Charging Rules Function (PCRF), the Policy Controller is uniquely positioned to provide end-to-end policy control solutions that reach beyond the core network and deliver policy from the device, through the radio access network (RAN), and into the core. The Policy Controller supports multiple types of policy enforcement points; this promotes the simplification of the core network, delivering cost efficiencies by concentrating intelligent packet handling at the edge, avoiding backhaul to the core, and applying controls where they are needed.

The Policy Controller includes a flexible metering engine for tracking subscriber quota based on multiple criteria and supports the definition of complex business rules for applying subscriber- and application-aware policies at the points in the network where they are best enforced.

Key features

- ▶ Real-time usage metering by time, volume, and application
- ▶ Centralized business rules engine
- ▶ Broad multi-vendor interoperability and standards support
- ▶ Field proven in both 3G and LTE production environments

Joint Solution Highlights

- Combines real-time, dynamic policy with layer 7 application awareness and enforcement
- Expands traditional network-based policy control to include service and application awareness
- Supports evolution from volume- to value-based plans, which bundle applications, QoS, devices, etc. into highly targeted, personalized offers
- Provides rich, in-line user engagement capabilities
- Sophisticated metering engine for supporting multiple usage “buckets”

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About Openwave Passport: Smart Policy Solution

Passport: Smart Policy, which forms part of Openwave's mobile internet traffic mediation platform, gives service providers the flexibility to quickly and easily refine their pricing plan strategies to adapt to rapidly evolving market requirements and differentiate themselves from the competition. Passport provides traffic management, charging, and layer 7 policy enforcement functions to service providers who want to bring contextual pricing models to their subscribers.

Passport provides the "gatekeeper" function that empowers mobile service providers to effectively manage and monetize the user experience as they move towards a more diverse and personalized tiered-service environment.

Key features

- ▶ Subscriber Identification and Authentication
- ▶ Online Data Volume Consumption and Time Management
- ▶ Real-time Layer 4 through 7 Policy Enforcement
- ▶ Contextual and Proactive Subscriber Engagement
- ▶ On-Demand Self-Care
- ▶ Rich, Tiered-Service Price Plan Definition
- ▶ Inline Charging
- ▶ Standards-based PCC Interfaces

Joint Bridgewater-Openwave Solution Overview

Bridgewater's multi-enforcement-point approach to policy control is complemented by Openwave Passport: Smart Policy. The joint solution enables mobile operators to deliver a wide range of unique and innovative mobile data services that leverage Openwave's layer 7 application awareness and Bridgewater's extensible policy control platform, to deliver service experiences that are tightly aligned with subscriber entitlements and behavior.

In addition to the Policy Controller, Bridgewater also provides Bridgewater's Subscriber Data Broker™ (SDB), which acts as a 3GPP subscription profile repository (SPR) in the joint solution architecture.

The highlights of the combined solution are as follows:

- ▶ Expands traditional network-based policy control to encompass service and application awareness
- ▶ Leverages real-time contextual information—subscriber, network, and application—to render intelligent policy decisions
- ▶ Provides flexible usage metering based on volume and/or time per subscriber or per application accessed by the subscriber
- ▶ Provides rich inline user engagement to help operators innovate on new business models around data price plans through better targeting and personalization techniques

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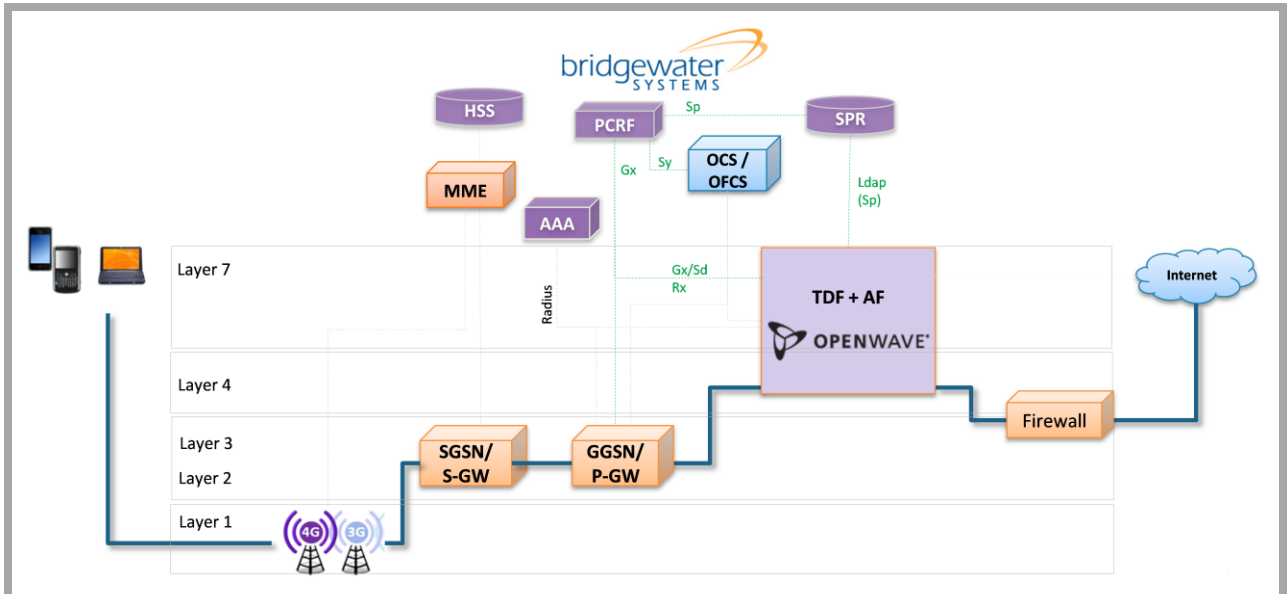


Figure 1: Joint Solution Architecture

Example Use Cases

The Bridgewater-Openwave joint solution is illustrated below through three core use cases:

- ▶ Exceeding Price Plan Quota
 - Providing real-time rich user engagement to both notify the user and enable user choice
- ▶ Proactive Inline Service Promotion
 - Providing subscribers with context based special offers inline and in real-time
- ▶ Subscriber Service Self-Care
 - Providing transparency of online consumption and control of service options

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USE CASE: EXCEEDING PRICE PLAN QUOTA

When supporting any recurring or monthly data plans with volume usage limits, operators require a real-time mechanism for tracking subscriber usage and providing flexible options when users reach their monthly allocated quotas. The Bridgewater Policy Controller meters subscriber usage based on time or volume and can apply a range of policy controls when the usage quota is reached. In this scenario, Openwave Passport: Smart Policy can take instruction from the Bridgewater Policy Controller and notify the user inline (while browsing) and offline (via SMS) of the event and handle the follow through based on the plan option the subscriber chooses.

The high-level event sequence for this use case is shown in Figure 2.

Benefits

- ▶ Improved subscriber quality of experience—real-time interaction, and full transparency
- ▶ Increased ARPU from incremental service add-ons, such as top-ups, or up-sell to a higher service tier

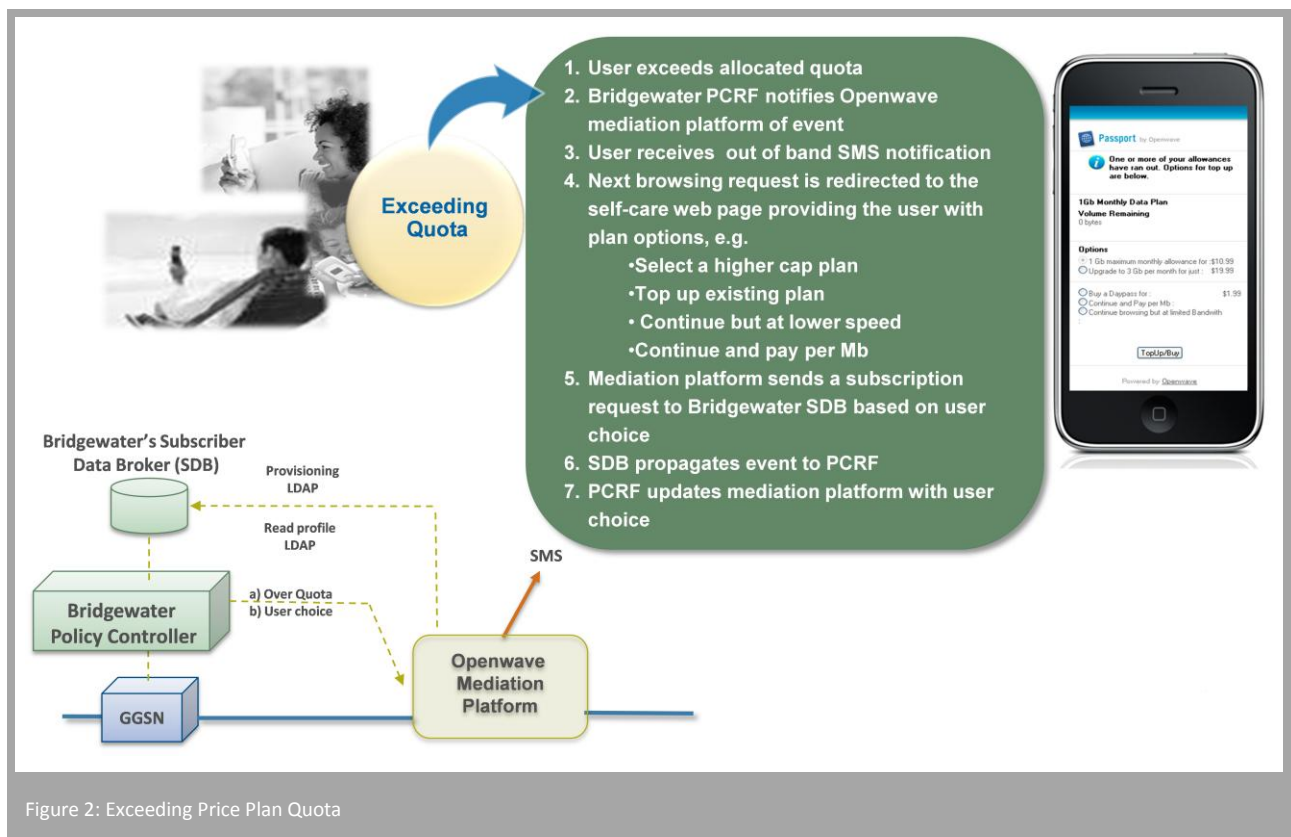


Figure 2: Exceeding Price Plan Quota

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USE CASE: PROACTIVE INLINE SERVICE PROMOTION

When the operator introduces a new pricing plan to the market it is important that any promotion of the plan addresses the right user demographic, within the right context, to increase the probability of uptake. Simply notifying the user via SMS or making the details available on the service provider’s portal will likely result in limited uptake. In the example shown below, the Bridgewater Policy Controller notifies Openwave Passport: Smart Policy to engage the target user with the specific promotion under certain conditions—for example only when accessing certain destinations or content, at certain times of days, when coming from a certain location, if using a particular device, etc.

The high-level event sequence for this use case is shown in Figure 3.

Benefits

- ▶ Improved subscriber quality of experience—real-time interaction, context driven and relevant to what they are doing at that time
- ▶ Increased probability of service/promotion uptake, resulting in ARPU uplift

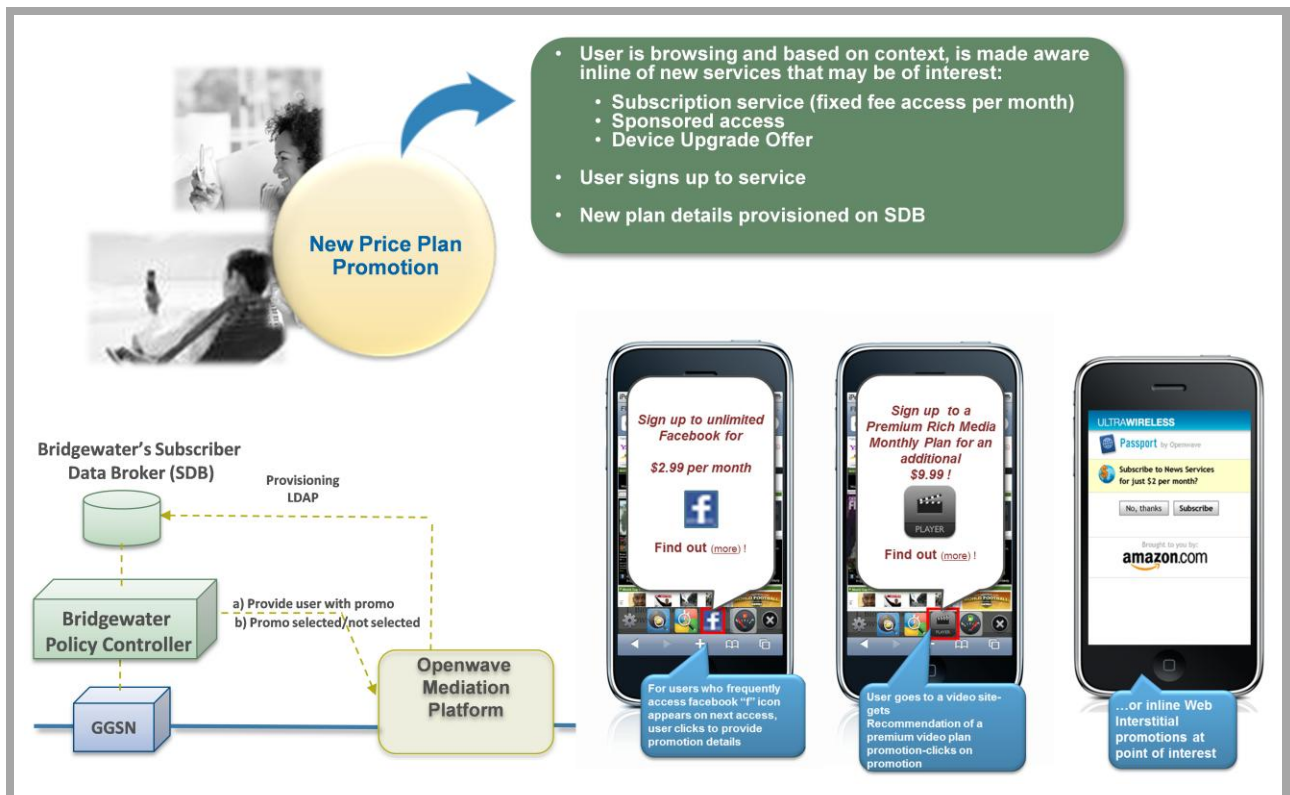


Figure 3: New Price Plan Promotion

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USE CASE: SUBSCRIBER SERVICE SELF-CARE

Providing subscribers with a higher degree of control over their service plans gives them a greater sense of ownership, makes it easier for them to “buy-in” to the idea of service tiers, and allows for a greater degree of service personalization. In the example shown below, we see how subscribers can have constant visibility into their data consumption using a metering application installed on their device in the form of an operator controlled toolbar. This also allows the subscriber to access self-care at any time, for example when they are approaching their data usage limit and want to top-up their data allowance, or when they want to move to a higher tier plan on demand.

The high-level event sequence for this use case is shown in Figure 4.

Benefits

- ▶ Improved subscriber quality of experience—real-time visibility of data consumption and control over service
- ▶ Increased probability of user doing ad hoc top-ups or moving to a higher tier plan resulting in ARPU uplift

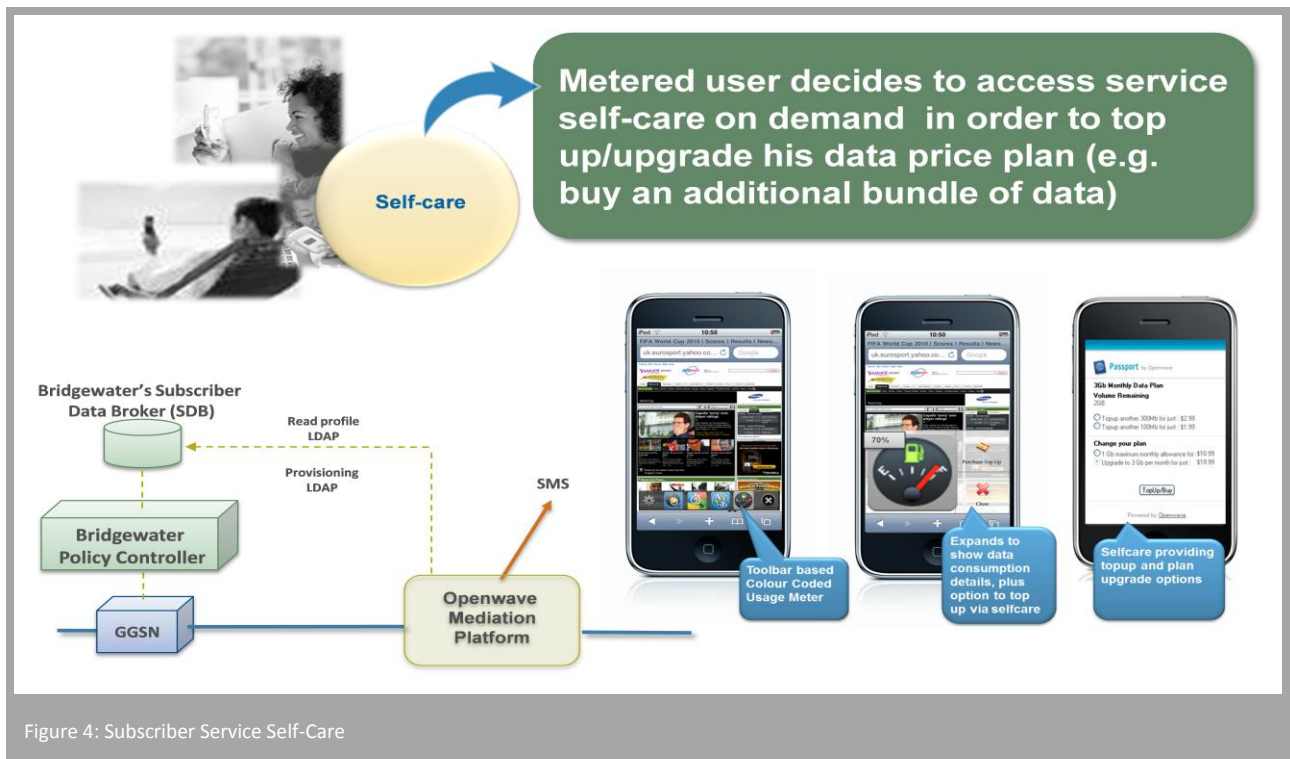


Figure 4: Subscriber Service Self-Care

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Conclusion

The need for innovation in mobile data services and price plans has never been greater, as service providers look for new and sustainable sources of revenue to avoid becoming mere "bit pipe" providers. Bridgewater Systems and Openwave give service providers a flexible toolkit for innovation that includes dynamic, real-time policy control tightly integrated with layer 7 application awareness and enforcement and direct, in-line user engagement. Using these capabilities, service providers can go beyond simple volume-based tiered plans and deliver sophisticated plans that align price with the right mix of content, applications, and data speeds for any subscriber segment—all while providing a consistently high quality of experience.

About Openwave

Openwave Systems Inc. (Nasdaq: OPWV) is a global software innovator delivering context-aware mediation and messaging solutions that enable communication service providers and the broader ecosystem to create and deliver smarter services.

Building on its mobile data heritage, Openwave mobilizes the Internet with predictive solutions fueled by real-time analytics that mediate among different ecosystem elements, comprehensively permitting the enhancement of IP traffic. The result can provide customers with a 360-degree view of their network, devices and services, and enables them to proactively optimize network resources, quickly launch smart mobile services, and provide a contextually relevant user experience.

Openwave is a global company with a blue chip customer base spanning North America, Latin America, Australia and New Zealand, Asia, Africa, Europe, and the Middle East. Openwave is headquartered in Redwood City, California.

Openwave Systems Inc.

2100 Seaport Boulevard
Redwood City, California 94063 U.S.A.
Corporate +1 650 480 8000
Europe +44 2890 416 200
Asia +81 3 5909 6100
<http://www.openwave.com>
Feedback: Info@openwave.com

About Bridgewater Systems

Bridgewater Systems, the leader in intelligent broadband controls, provides pre-integrated solutions for mobile and converged operators to transform their networks, optimize mobile data growth, and innovate with new services. The Bridgewater portfolio of carrier-grade products includes Service Controller (AAA), Policy Controller (PCRF) and Home Subscriber Server (HSS), anchored by a common identity and device management system. More than 150 leading service providers worldwide leverage Bridgewater to create and deliver profitable services to consumer, enterprise, cloud and machine markets. For more information, visit us at www.bridgewater.com



Company Headquarters

303 Terry Fox Drive
Suite 500
Ottawa, Ontario
Canada K2K 3J1
P: +1 613 591 6655
F: +1 613 591 6656

European Office

1st Floor, 6 Faraday
Office Park
Faraday Road, Basingstoke
United Kingdom
RG24 8QQ
P: +44 125 684 0877
F: +44 125 636 3833

U.S. Office

280 Madison Avenue
Suite 912
New York, NY
United States 10016
P: +1 866 652 0471
F: +1 613 591 6656

Asia Pacific Office

Suite 211 / 250 Pitt
Street
Sydney, NSW,
Australia 2000
P: + 61 2 9283 2313
F: + 61 2 9283 3738

Hong Kong Office

Unit #30, Level 23,
One Island East
18 Westlands Road,
Quarry Bay, Island East
Hong Kong
P: + 852 3750 7588
F: + 852 3750 7469

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