

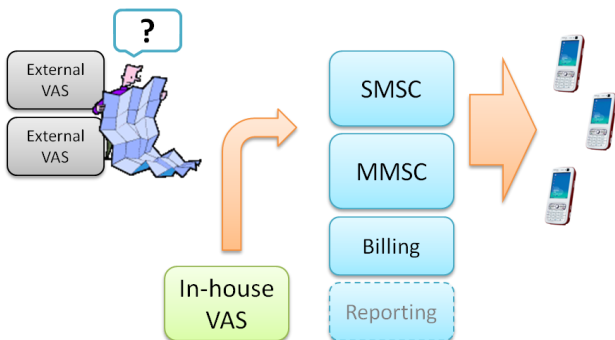
Managing Mobile VAS Business

Since voice revenues are declining, mobile network operators should identify and exploit advanced data applications to grow revenue and differentiate their service offerings. Value-Added SMS, such as directory services, “who called”, ringtones, operator logos, breaking news, etc. are very good examples of this. Following the SMS success there are additional opportunities to enable rich multimedia downloads over WAP: games, wallpapers, music, and video, just to name a few.

In the initial phase, carriers typically implement and maintain most of the core application servers by themselves. However, experience has shown that in the long run, it makes more sense for a carrier to use external service providers and only focus on providing the easy connectivity, reporting tools, and complete management for their applications. Because of their billing relationship with consumers, carriers can only win in this game. They can make revenue share agreements with tens or hundreds of innovative third-party application providers. This allows carriers to bypass marketing risks or investments in application platforms - which would be a huge task when the service selection covers hundreds of applications.

Solving Network Complexity

The core messaging platforms, SMSC and MMSC, have been initially developed for person-to-person traffic, and they are not designed for value-added-service (VAS) management. It is also common to have multiple SMSCs and MMSCs from different vendors. When the system contains hundreds of service applications, the network eventually becomes extremely complex.

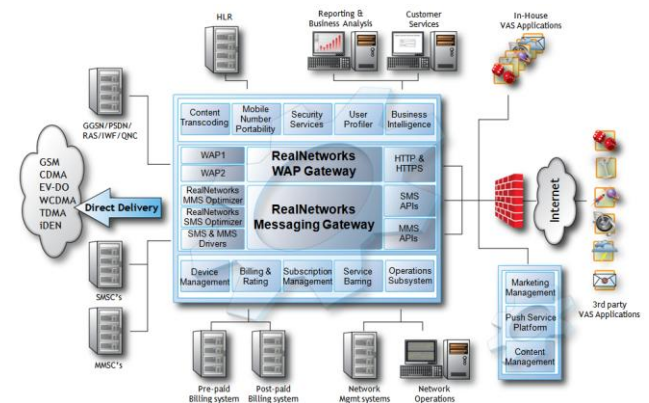


A common solution to this problem, which has also become a de facto network standard, is to add an additional front-end server, a messaging gateway, between the messaging centers and the service applications.

Service Delivery Platform

The Service Delivery Platform (SDP) is a comprehensive solution for managing and steering mobile VAS business. However, *all components do not need to be implemented at the same time*. Typically, carriers may start with the Messaging Gateway, which provides

- Faster time to market with new services
- Complete control over applications, content providers, and quality of service
- Centralized billing of value-added services
- Powerful reporting solution

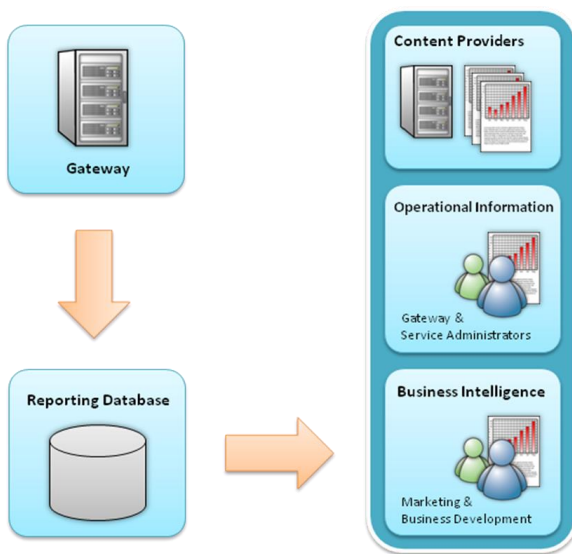


Revenue Share with Third Parties

The third-party application and content providers are a carrier’s “best friends” who need to be served particularly well.

- Providers are very innovative and introduce interesting new services frequently
- The carrier does not need to run the applications or take the marketing risk
- The carrier has the billing relationship with consumers and thus gets its revenue share (30-70%) in any case

An essential part of the SDP setup is the Reporting Solution. This tool helps marketing people steer campaigns, shows which content providers are most popular, and generates clearing house reports for revenue share purposes. The nearly real-time statistics allow operations people to prepare for coming capacity requirements. As all the traffic is transmitted through the Messaging Gateway, the Reporting Solution also provides a CRM interface to trace any delivery that a consumer might have questions about.



Other SDP Modules - Push Service Platform

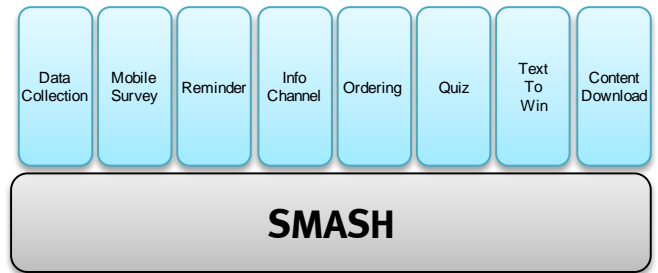
Real Push Service Platform (PSP) enables the easy creation of SMS and MMS push services. The system is accessed through an easy-to-use web-based user interface. It also supports the application service provider (ASP) model, so that the mobile operator can allow multiple external service providers to remotely create and monitor their own push services from a single PSP deployment.

Example:

Consumers can self-provision to a football video clip service by sending an SMS to a free short number. When their team scores a goal, a short video clip is delivered over MMS to their handset. One clip may cost, for example, 50 cents. This revenue is shared between the carrier and the service provider. The service provider manages the service via PSP, where he may also see service statistics in real time.

Other SDP Modules - Mobile Advertising

Mobile Advertising Server (SMASH) allows a carrier to manage its own or its customers' campaigns and to observe their results in real time over the Internet.



The system provides various ready-made templates, with which services such as a Mobile Quiz can be created rapidly. Typically these services are done in co-operation with TV, print or other media houses. Some carriers have also outsourced the campaign creation to marketing agencies.

Other SDP Modules

The same Messaging Gateway platform may also be used for other purposes, such as:

- SMS interconnectivity (GSM - other networks)
- Credit Transfer

As all the traffic is transmitted through the Gateway on a store and forward basis, it is also very flexible platform for any custom modifications that carriers may need, such as Number Portability, number range modifications, rating, etc.

Contact information:

RealNetworks

Multimedia & Messaging Solutions

**P.O. Box 227 / Linnoitustie 4 A
FIN-02101 Espoo
Finland**

**Tel: +358 9 8568 9200
Email: realnetworksmms@real.com**