

# Possible Future Revenue Creation Through IMS Service Enablers

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**Abstract:** This paper summarises challenges that service providers face when deploying services on top of IMS core networks. Those challenges can be classified in two categories, being 1) related to the competition with the Internet as service platform and 2) challenges that reside in the architecture or deployment of IMS itself. Secondly, we speculate on a way to create revenue which relies on integration of Internet services, the usage of advertisement to generate initial revenues, and finally the provisioning of differentiating services on top.

## 1 Introduction

The IP Multimedia Subsystem (IMS) is a fully specified and industry-wide accepted evolution towards an all-IP operator's network, together with a service model that promised to be easy and fast in terms of service delivery. It is defining and fulfilling the vision of a NGN service layer. Standardisation bodies – such as Open Mobile Alliance (OMA), 3GPP and even the GSMA members – have defined and standardised possible services and service enablers that can run on top of IMS.

GSM Association's Rich Communication Suite (RCS) [GSM08] is an initiative to investigate and profile the standardised service enablers to create a compelling service suite on top of IMS. But even in this group there is no clear consensus about how the defined collection of services will generate revenues.

Introducing IMS not only as a means to converge fixed and mobile access, but also as foundation for a service delivery platform can be crucial to justify investments in the technology. Further, the *services and service enablers* that are offered over the IMS core represent the value of the IMS architecture towards users and 3rd parties. Based on our work in GSMA RCS, we present the challenges that service providers face, especially when IMS is compared to the Internet as a service platform in the following chapter. Those challenges lead to the question if IMS service platforms can be profitable at all. Therefore, in chapter 3 we speculate about possibilities for future revenue creation on top of IMS.

## **2 Challenges for IMS service enablers**

### **2.1 Competition with the Internet as a service platform**

Currently standardised service enablers, like OMA SIMPLE Presence, OMA SIMPLE Instant Messaging or 3GPP Multimedia Telephony (MMTel) have to differentiate themselves from services, that have already been deployed by application service providers (ASPs) in the Internet domain. Services like Youtube, Jabber, Google Talk, Rapidshare or Skype represent a competitive environment for these kinds of services.

One challenge here is that the Internet services are mostly offered free of charge for the users. Of course, users might be willing to pay service fees for superior quality of service (QoS) offerings, which can be delivered over IMS. Nevertheless, to establish IMS service platforms, the need to deliver Internet-like, innovative services is critical. In this field, IMS services will have to face flat-rate fee based access models to the Internet over the IP-based data plane of NGN itself.

Further, smart phones with open and rich operating systems can be used to provide clients and applications to access Internet-domain services. Because they offer high computing power, and platform specific service access, end users can use these types of clients very conveniently. Indeed, Internet browsers as service frontends are available for almost any device platform. This provides users with the possibility to access Internet services from every device ubiquitously and removes the need to use access network specific services.

### **2.2 Architecture and deployment challenges**

Service interoperability in NGN service layer realisations depends not only on the capability of the end-points to understand each other, but also on the application servers that terminate or forward the data and signalling flows between different network domains. In the Internet, this is not a problem, as the network just provides pipe transport mechanisms, and the service logic resides on the end-points. In contrast, trials and interoperability tests with IMS service platforms [IW09] have shown that even in the fully standardised IMS domain, service interoperability of basic services like presence or IM can be challenging, due to the involvement of several application servers, gateways and terminals. Building differentiation on top of those service enablers without losing interoperability is therefore difficult, while loss of interoperability with differentiation leads to large constraints in the user base and to closed (wallet garden) services with no interconnection ability.

Secondly, in IMS customers are bound to a subscription based service model. That means users can only use the services that they subscribed for. It is not possible to search and trigger new services on demand, especially if they are located in a different domain.

### 3 Possibilities for service providers

#### 3.1 Merge with Internet services

One possible way to utilise IMS services is to merge them with existing Internet service offerings. This can be realised by offering IMS service capabilities to internet domain ASPs. For example, a click-to-dial service to a mobile device could be embedded into a web mail service. Furthermore, a bilateral data access can be imagined allowing data manipulation and retrieval from the ASP to IMS and vice versa, e.g. exchange between IMS Presence status and a social network service status. Both ways require open network service APIs on IMS side.

GSMA already strives in this direction with the OneAPI[GSM09] project, allowing RESTful and Web Service access to some network functionalities like SMS or MMS. Recently, also the RCS initiative starts considering the development of API access to the service suite. Further, Parlay-X[3rd09] provides a full set of SOAP APIs for accessing network functionality and OMA currently processes a work item “NGSI – Next Generation Service Interfaces”.

However, the question if revenue can be generated through network APIs is difficult; on the one hand the offer may help to foster the usage of IMS-based communication in a large user base. On the other hand this additional revenue might still not compensate the infrastructure investments and it is uncertain that Internet service providers can be charged for API usage.

#### 3.2 Revenue through advertisements

Considering that advertisement is used very heavily in the world of Internet services and also has proven to be a relatively stable source of revenue, it is likely that future revenues in IMS services will also be related to it. The penetrating usage of advertising through all service enablers can be ensured through standards like OMA MobileAd. This would also differentiate the advertisement offerings of IMS from mobile advertisement or Internet advertisement of today.

IMS network services offer a way to target advertisements much more to what a user actually does than today’s advertisement. Using session knowledge [HSB<sup>+</sup>09] or even content of services itself (e.g. the topic of a chat room) for targeting advertisement can be of a huge value in differentiating the quality of advertising from the one that can be observed in the Internet. Of course, user data privacy has to be kept intact; on the other hand end-users seem to be willing to share some information about themselves in exchange for free service offerings. Here, the usage of intelligence in the network, e.g. through 3GPP’s SCIM, OMA PEEM or OMA Dynamic Content Delivery, can help to tailor and target data from a large pool of advertisers to the respective users.

### 3.3 Competition with differentiating services offerings

To really create new revenues through subscription based services in IMS it is needed to differentiate the service offering very much from what exists in the Internet. The usage of highly personalised services in the so called “long tail market” [And04] is for sure one way to create future revenue over IMS. In this field the service provider can utilise the IMS specific service enablers and values, like high quality video services offerings. IMS communication services [OS07] provide the fully standardised and interoperable service enablers towards new and innovative applications which can provide service-specific usage and data models. Still, it is unclear today if the differentiation of IMS service offerings is big enough to generate revenues that overcome IMS core investment costs.

## 4 Conclusion

We see the need for currently standardised IMS service enablers to establish themselves, before new innovative services can be developed on top of it. The usage of advertisement, as a business model for initial revenue generation can be a chance to overcome the investments, while the convergence with Internet services helps to motivate and bind users to the newly offered IMS service enablers. If this is successful, we envision more personalised and differentiating services that help to create new revenues for IMS service providers in the future.

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