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Capitalizing on IMS:
Turning all-IP networks into all-new revenues

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Introduction – why IMS?

IMS (IP Multimedia Subsystem) is a protocol for the definition and delivery of services within an all-IP network environment. In its early days it was known as 'All IP' ,and even now the two terms are often treated synonymously.

IMS is underpinned by SIP (session initiation protocol), the building block of IMS services, which manages interactive communication services such as voice or video calls, and event-based communications such as SMS or Instant Message equivalents. Common use of the SIP protocol allows different types of IMS-enabled equipment such as mobile phones, PCs, TVs or gaming units to interact and to gain access to IMS services.

Originally proposed and driven by the cellular industry (through the 3GPP standards body) as a standard for added-value services, IMS has quickly gained traction among fixed network operators, who see it as a viable template for rapidly creating new services to be carried over their own next generation IP delivery networks. Arguably, it has become the first truly fixed and mobile convergent standard.

Because IMS supports the creation and delivery of service across any IP network, it is widely regarded as a vehicle for service convergence (combining services such as voice, video, data and TV) and for network convergence (combining fixed and wireless access to a largely common IP backbone). IMS is therefore an enabler and a driver of the convergence of different communication service provider (CSP) types within the industry. It is creating opportunity – for formerly single technology carriers to become 'whole solution providers' - and threat, as it opens the door to 'insurgent' IP players (such as ISPs, search engines and major content organizations) to become the primary aggregator and supplier of services and content to the customer. Few players want to be just the 'bit pipe' in this picture.

IMS will support existing services as standard features, such as messaging and voice calls, allowing continuity of service, but will add new components, such as presence (visibility of the status of other subscribers), to allow better ways of using old ones. Importantly, however, it will also provide a flexible framework for the development of new services. As a standardized protocol it will allow fast service development and rollout. This is important not only in terms of direct costs, but also because it reduces the risk of failure and encourages the kind of experimentation which will lead to new revenue. To put it crudely, CSPs will be able to throw much more mud at the wall and improve their chances of some of it sticking. And because development is relatively cheap, a smaller number of subscribers will be needed to make a new service commercially viable. The service creation environment moves to something which has more in common with that which supported the success of i-Mode in Japan (still the world's only example of real success in mobile content) – a great many very cheaply developed services with a much shorter and faster lifecycle than traditional telecom services and much more involvement from third parties.

This capability also creates a challenge for CSPs. In a service environment which will certainly become more volatile and responsive, their own service creation environment must allow quick response to ideas coming both from their own marketing divisions and those of competitors.

Key provisioning and activation challenges in summary:

$ Abbreviated service lifecycle; fast development, test and rollout and potentially short commercial life.
$ Very fast provisioning and activation of service. If a customer wants, for example, a content package or to set up a video-conference, they will want it now, not at some future date.
$ Concurrent or precisely sequenced activation of service on IMS network components, on multiple access networks (mobile, fixed broadband), on remote networks and on application or content servers which could be managed by the carrier or by a third party organization.
$ Interaction with the service loop to manage customer self-provisioning in real time
$ Interface with AAA functionality to authorize service ahead of delivery
$ Move from a connection-based architecture to a service-based architecture, or, to put it another way, a swing in emphasis from networks to IT as an enabler of service. IMS will be less about connecting customers than with providing them with IT-based service over their existing broadband connections. In developed markets at least, most customers will already be broadband/IP enabled. Allowing customer self-service will be key, both to minimize cost of service and to meet customer expectations.

Design, create and deliver

CSPs in the IMS market will deliver complex services and will certainly need convergent provisioning and activation that can access multiple service control points across all access networks, application and content servers and external entities in precise sequence. This much is self-evident.

Importantly, however, they will also need to provision IP-based networks and for many CSPs this will be virgin territory. IP is fundamental to IMS and prospective OSS and BSS vendors will need to demonstrate a wide and deep understanding of the dynamics of IP provisioning and performance if they are to deliver viable solutions to this market.

Fast rollout of new services will be essential to the maintenance of customer interest and market share. As in any other development environment, fast rollout means using and reusing service components. The alternative, redesigning each service from scratch, would not only be slow, but would create inconsistency, poor interaction between services and a massive maintenance and management overhead.

Component reuse allows something close to a factory environment, where widely varying products can be quickly assembled from a set of common parts with the minimum of new or bespoke work. IMS services

will be enabled by a wide variety of service and network components, both inside and outside the operator domain and OSS products will need to be capable of managing services at a 'fine granular' level of assembly.

Although services will be complex to enable, they must appear simple to the customer. Customer self-provisioning or simple 'one touch' provisioning through the CRM must be the objective, to minimize cost and maximize customer satisfaction. A service-oriented architecture (SOA) is a key step in this direction, allowing enabling systems to interface efficiently through a common enterprise bus both upwards to the customer and downward to the network with minimal management overhead and human interaction.

Benefits of deploying IMS

IMS is a standard protocol which carries both opportunity and threat to communications service providers. The opportunity is to take a giant step into the next generation of telecoms with a protocol which will underpin both new, revenue generating services and convergence of still largely-divergent fixed and mobile communications. The threat is that other IP-capable organizations can easily offer competing service to the customer, dis-intermediating the carrier and assuming the dominant customer relationship.

An efficient service design, creation and delivery environment can help CSPs to maximize the opportunity and mitigate the attendant risk.

- Roll out new services fast, minimizing time to market, accelerating revenue and delivering competitive edge.
- Optimize service design and build, allowing the reuse of service components for greater service consistency and easier management and maintenance.
- Consolidate provisioning of multiple service control points onto a single platform, greatly reducing costs of operation, providing better management and allowing faster problem and query resolution
- Build service fulfilment into an open service architecture (OSA) through open standards, communication protocols and APIs.
