

amdocs

REALIZING THE POTENTIAL OF IMS:  
AMDOCS IMS CHARGING SOLUTION

## CONTENTS

MONETIZING IMS	1
EFFECTIVE CHARGING FOR IMS	1
AMDOCS IMS CHARGING SOLUTION	2
> AMDOCS CHARGING	3
> AMDOCS MEDIATION	3
> AMDOCS IMS BUSINESS-LOGIC LAYER	3
BENEFITS OF BSS-BASED IMS CHARGING	4
> CONTIGUOUS IMS ENVIRONMENT	4
> NETWORK INDEPENDENCE	4
> SERVICE DIFFERENTIATION	4
> PERFORMANCE & SCALABILITY	4
AMDOCS IMS CHARGING – ENABLING YOUR IMS STRATEGY	5
> AMDOCS: A TRUSTED PARTNER	5

## MONETIZING IMS

**IMS (IP [Internet Protocol] Multimedia Subsystem)** is a new network abstraction layer based on a 3GPP<sup>1</sup> standard. It aims to enable service providers to roll out a “killer environment” of ubiquitous, network- and device-agnostic access to blended voice-data-content services, such as video-sharing calls, presence services, push-to-talk over cellular and more. With newly ratified standards, it is accepted by the wireless, wireline and cable industries as *the* roadmap for new-generation networks.

Clearly, IMS is transforming service providers’ networks. But it isn’t just a network issue. Chief Information Officers, take note: IMS profoundly impacts the IT environment. As analyst firm Frost and Sullivan reported in its *Next-Generation OSS for IMS and Next-Generation Networks—Now!* study, “IMS success cannot be achieved until a solid information management strategy and OSS/BSS alignment around the customer have been put into place.”

As service providers race to implement IMS architectures and deliver these more sophisticated offerings, they face questions of profitability and pricing, return on invested capital, quality of service, and more. These are questions best addressed with IT solutions—specifically, the business support systems (BSS)<sup>2</sup> that manage IMS applications and transform IMS services into revenue.

---

<sup>1</sup> The 3rd Generation Partnership Project (3GPP) is a collaboration agreement that brings together a number of telecommunications standards bodies such as the European Telecommunications Standards Institute (ETSI) and Alliance for Telecommunications Industry Solutions (ATIS).

<sup>2</sup> In addition to BSS, IMS also significantly impacts operational support systems. The focus of this paper is BSS and specifically, charging systems.

## EFFECTIVE CHARGING FOR IMS

As with any service, the ability to profitably generate revenue is of paramount importance. Charging has always been considered among the most critical systems in providers’ front office. But rather than helping make money, many legacy billing systems today can be a roadblock to generating revenue in an IMS environment.

IMS services are often much more complex than traditional service offerings. They are often bundled or blended with other services, such as video-sharing calls and push-to-talk over cellular, and can require real-time handoffs between networks and internal systems. Moreover, IMS services have a much more rapid lifecycle, requiring service providers to roll out more new services per year in order to keep pace in the next-generation world. Legacy systems weren’t built to handle this kind of service complexity and speed. **Next-generation IMS services require a next-generation charging environment.**

To efficiently support IMS and enable effective marketing and innovative pricing strategies for IMS services, IT practitioners must build a charging environment that:

- > **Complies to IMS standards** – The charging solution should be based on IMS standard interfaces (Diameter Credit Control Application) to create an open and flexible environment and prevent a single vendor lock-in.
- > **Functions horizontally and modularly** – Charging solutions for IMS must support the entire scope of service providers’ services, including both IMS and non-IMS (legacy) offerings and prevent the creation of an IMS silo.

- > **Supports multi-dimensional convergence** – In order to promote IMS service consumption (important to defraying the cost of implementing the hardware and software to enable this next-generation technology), providers must market IMS offers to all subscribers regardless of payment method or access technology. Deploying a truly convergent charging environment across all types of services (voice-data-content), payment methods (prepaid-postpaid-hybrid) and lines of business (wireless-wireline-cable) will create a clear advantage.
- > **Includes convergent mediation** – Billing for IMS services requires the smart correlation of records originated from diverse network elements. The charging environment must include an agile mediation platform that can quickly accommodate to the changes in network architecture IMS brings.
- > **Builds on a strong, common foundation** – In order to speed time to market, the charging solution should seamlessly integrate with a robust product catalog covering the full range of activities required to rapidly introduce IMS services.

## AMDOCS IMS CHARGING SOLUTION

The Amdocs IMS Charging Solution uniquely illustrates how these technical requirements work together to turn IMS services into cash. Its integration of charging, rating and mediation, and customer management functions and foundational elements common to the entire BSS-OSS environment clearly differentiate it from a charging solution proffered by a network equipment provider.

### AMDOCS CHARGING

At the core of the solution is Amdocs Charging, an industry-leading platform for rating and billing for any and all communications and media services. It includes unique components for online and offline charging for IMS services.

The Amdocs IMS Charging Solution is based on the Amdocs Online Charging system. In accordance with the 3GPP standards, this online charging functionality interacts with core IMS network elements via the Diameter interface (Diameter reference point Ro for Online Charging System interface).

In addition, two key components of the Amdocs IMS Online Charging Solution are Amdocs Rating and Amdocs Balance Manager:

### Amdocs Rating

Amdocs Rating is a highly configurable, real-time rating engine that can rate for any type of event, based on any customer or service attribute. The rating function supports online and offline charging and permits rapid introduction of flexible rating schemes and rating discounts, cross-product marketing initiatives and multi-attribute pricing.

With Amdocs Rating, service providers can introduce creative IMS business models using promotions, allowances, discounts and benefits that encourage consumption. It allows IMS services to be rated by any event- or customer-based chargeable attribute including time, volume, location, customer profile and more. For example, with Amdocs Rating, a video call that is initiated following a voice call within the same IMS multi-service session (i.e., second service within voice-video session) can be rated at a 25% discount.

### Amdocs Balance Manager

Amdocs Balance Manager provides advanced support for flexible and robust balance management capabilities for prepaid and postpaid accounts. Used in conjunction with Amdocs Rating, Balance Manager allows service providers to deploy budget-control mechanisms, such as personalized advice of charge and spending limits for all subscribers and services. And these features can increase adoption of IMS services, even from budget-conscious users who fear overspending.

Amdocs Balance Manager's real-time performance adheres to the demanding requirements of interfacing with network elements. In addition, it permits innovative marketing and increased payment flexibility through support of multiple balances per subscriber, including shared balance between several subscribers and hybrid accounts.

### AMDOCS MEDIATION

To interact with the IMS call session control function for offline charging, the 3GPP standard for IMS defines two components: the charging data function (CDF) and the charging gateway function (CGF). These functions construct, correlate, format and transfer the information about charging events to the billing system. Amdocs Service Mediation Manager, a part of the Amdocs IMS Charging Solution, was enhanced to comply with 3GPP standards and to inherently provide CDF and CGF capabilities.

Amdocs Service Mediation Manager provides a network abstraction layer for IMS network transformation. It enables sophisticated charging for IMS services and improves downstream processing through smart correlation, and reformatting of both IMS and legacy records generated from a variety of network elements and vendors.

Additionally, with its modular plug-in design, Amdocs Service Mediation Manager can quickly accommodate changes in network architecture resulting from IMS deployments and enables simpler upgrade of IMS network elements and service platforms.

### AMDOCS IMS BUSINESS-LOGIC LAYER

The Amdocs IMS Charging Solution is built on a strong, common foundation that spans providers' entire enterprise, turning raw product, customer and network data into actionable information that can fuel innovation around IP-based services and help bring them to market faster.

### Amdocs Product Catalog

With its integration to the Amdocs Enterprise Product Catalog, the Amdocs IMS Charging Solution allows straightforward definition of pricing rules for any service and any line of business. It enables flexible definition of cross-product rating and discounts as well as multi-dimensional rating offers and cross-channel IMS bundles. Its friendly graphic user interface supports both business- and technical-area maintenance, which significantly reduces implementation time for the new services and offers that are critical for IMS success.

### Amdocs Customer Management

Amdocs Customer Management and Amdocs Charging together provide a flexible customer-centric model for IMS charging. Customer Management stores data such as customers' profiles, products and services, and hierarchy information for a simple, unified customer billing and customer care experience. And it can stimulate IMS usage and facilitate customer retention by supporting complex customer models such as organizational and hybrid accounts with prepaid and postpaid subscribers.

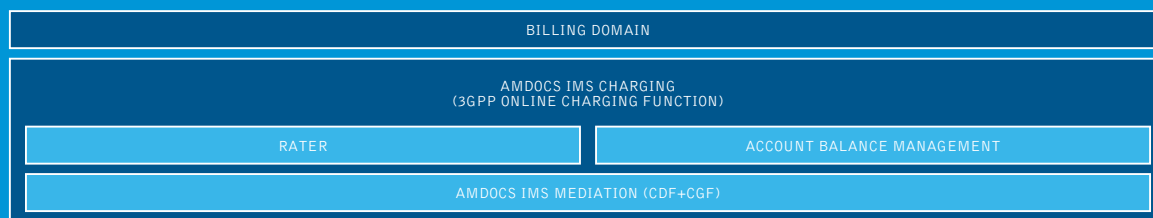
### Amdocs Subscriber Resource Manager

Amdocs Subscriber Resource Manager is used for management and allocation of logical and physical resources. It provides easy-to-use configuration tools that enable quick definition of resources, package types and pools. Implementation of new resources (and their corresponding services) is simplified utilizing preconfigured support for key resource types such as MSISDN, SIM cards and others.

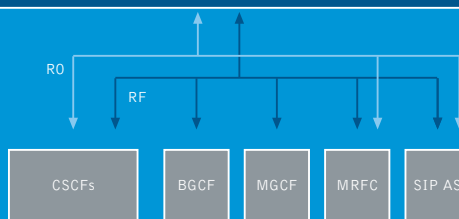
### Amdocs Replenishment Manager

Amdocs Replenishment Manager provides an end-to-end, automated system for replenishing prepaid account balances through multiple channels and payment methods.

## AMDOCS IMS CHARGING SOLUTION



- CSCF – Call Session Control Function
- MGCf – Media Gateway Control Function
- BGCF – Breakout Gateway Control Function
- MRFC – Media Resource Function Controller
- SIP AS – Session Initiation Protocol (SIP) Application Server
- CDF – Charging Data Function
- CGF – Charging Gateway Function



## BENEFITS OF BSS-BASED IMS CHARGING

Once the technical requirements for IMS charging are met, as with the Amdocs IMS Charging Solution, the benefits to the business go beyond the collection of revenue for IMS services. They range from the ability to differentiate the business through advanced service offerings to improving operating efficiencies and scalability.

### CONTIGUOUS IMS ENVIRONMENT

Although the implementation of a network-edge charging solution for IMS services may hold some short-term benefits for service providers, it often involves proprietary interfaces that limit flexibility and prevent smooth integration with existing business logic. This approach disintegrates the charging engine and business logic, creating another organizational silo—the IMS silo—which is contradictory to the key IMS benefits of agility, rapid time to market and reduced total cost of ownership.

To prevent building an IMS silo, Amdocs' IMS solution connects the BSS domain and is fully compliant to IMS standard interfaces, minimizes integration efforts and assures no negative impact on existing back-office systems. This approach permits the reuse of proven business logic, such as customer information and models, pricing schemes, eligibility rules, etc.

### NETWORK INDEPENDENCE

3GPP's IMS standards draw a clear distinction between the network and IT domains by defining a real-time demarcation between online charging and session control, utilizing the Diameter protocol (Ro and Rf reference point for offline and online charging interaction). Strict compliance to IMS standard interfaces must be a critical factor when considering an IMS charging solution.

The Amdocs IMS Charging Solution adheres strictly to 3GPP standards. As a result, it prevents a single vendor lock-in and enables flexibility by allowing service providers to work with multiple network elements from multiple vendors.

### SERVICE DIFFERENTIATION

Amdocs' IMS Charging Solution enables service differentiation and accelerates the adoption of IMS by allowing the service provider to offer a wide range of innovative services and IMS bundles to specific segments, or even individual subscribers.

Combined with comprehensive mediation support, the Amdocs solution gathers rich usage patterns and consumer data such as location and presence via performance indicators and performs behavior-pattern analysis. This allows the service provider to effectively deliver IMS services, personalize them and ensure efficient and focused customer service around them.

### PERFORMANCE & SCALABILITY

The Amdocs IMS Charging Solution is field-proven as a carrier-grade solution. It can perform in high-volume environments to meet the response requirements of peak performance windows and incorporates components that meet the high availability typically required of network equipment. Moreover, the Amdocs IMS Charging Solution can scale as necessary to meet future subscriber growth.

## AMDOCS IMS CHARGING – ENABLING YOUR IMS STRATEGY

Although IMS is a transformational network technology, it profoundly impacts the IT environment. Specifically, it has major implications for the OSS and BSS that manage IMS applications and transform IMS services into business value.

To overcome the technological challenges posed by IMS, and to fully exploit the potential of IMS services, service providers require BSS/OSS architecture and systems that support its tenets: rapid time-to-market, flexibility and reduced operating expense.

Amdocs employs a holistic approach to IMS charging by providing a horizontal, unified charging suite of modular IMS-ready products. They prevent the creation of IMS silos by supporting the entire scope of service providers' services, including IMS, non-IMS, blended and legacy offerings, and spanning the entire scope of the revenue management lifecycle. Its benefits set the bar for IMS charging:

- > **True, real-time convergence across any line of business**
- > **Rapid time to market for complex IMS offerings and products**
- > **Flexibility for innovation and multiplay offerings**
- > **Converged mediation**
- > **Strict compliance to IMS standards**

### **AMDOCS: A TRUSTED PARTNER**

In Amdocs' commitment to enable service providers to evolve to deliver next-generation services with low risk, the entire Amdocs 7 suite is IMS-ready. Amdocs 7 is the first industry-specific application suite for convergence, enabling service providers to deliver the multiplay of voice, data and video services through any channel, network or device.

Now in our 25th year serving the communications industry, Amdocs is the market leader in customer experience systems innovation, enabling world-leading service providers to deliver an integrated, innovative and *intentional customer experience™*—at every point of service. Amdocs provides solutions that deliver customer experience excellence, combining the software, service and expertise to help our customers execute their strategies and achieve service, operational and financial excellence.

#### ABOUT AMDOCS

Amdocs is the market leader in customer experience systems innovation, enabling world-leading service providers to deliver an integrated, innovative and *intentional customer experience*™ – at every point of service. Amdocs provides solutions that deliver customer experience excellence, combining the software, service and expertise to help our customers execute their strategies and achieve service, operational and financial excellence. A global company with revenue of \$2.48 billion in fiscal 2006, Amdocs has over 16,000 employees and serves customers in more than 50 countries around the world.

For more information, visit [www.amdocs.com](http://www.amdocs.com).

Amdocs has offices, development and support centers worldwide, including sites in:

#### THE AMERICAS:

BRAZIL  
CANADA  
MEXICO  
UNITED STATES

#### ASIA PACIFIC:

AUSTRALIA  
CHINA  
INDIA  
JAPAN  
THAILAND

#### EUROPE, MIDDLE EAST & AFRICA:

CYPRUS  
CZECH REPUBLIC  
FRANCE  
GERMANY  
HUNGARY  
IRELAND  
ISRAEL  
ITALY

THE NETHERLANDS

POLAND

RUSSIA

SOUTH AFRICA

SPAIN

SWEDEN

TURKEY

UNITED KINGDOM

For the most up-to-date contact information for all Amdocs offices worldwide, please visit our website at [www.amdocs.com/corporate.asp](http://www.amdocs.com/corporate.asp)