Charging ahead in real time

Amdocs White Paper
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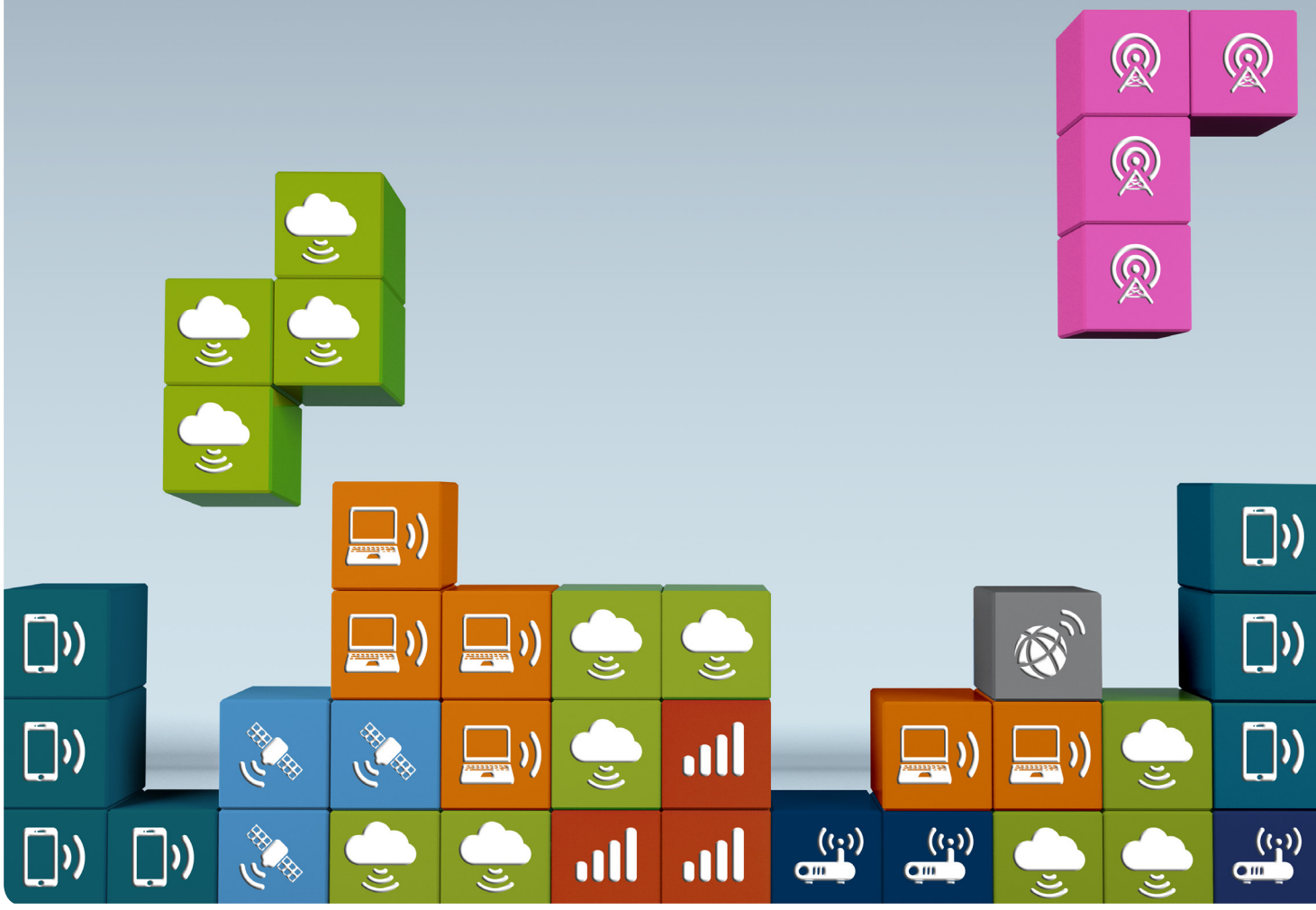

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Wanted: New data monetization strategies!

Streaming data is what powers the connected world. Yet with an exponential rise in data consumption, growing global connectivity and increasing rates of smartphone penetration, service providers are under pressure to support the increasing demand on their systems. At the same time, they face a continuing challenge to provide their customers with the best possible data experience in order to keep them on their network and prevent churn.

This challenge is magnified by falling prices of data subscriptions. Flat rate pricing for data and unlimited plans have become a heavy burden. Moreover, deployment of 4G LTE networks require significant financial investment. Clearly, this situation is not sustainable.

To remain viable, service providers must find strategies to monetize services while still providing a high quality data experience. The ability to achieve this lies in providing innovative offerings that offer the customer great perceived value and being able to charge for them effectively.

For service providers, the main challenge lies in encouraging migration from unlimited plans to new specialized plans. But this requires the ability to conceive solutions whose perceived value is greater than those they would replace. This paper reviews some of the strategies that service providers have been employing to innovate and differentiate their offerings.

Making the experience real

People expect a good data experience – and Google, Apple, Facebook, Amazon and others already provide one. Responses are immediate, satisfaction is fast, and the outcome of user actions are easily visible.

Users expect their interactions with service providers to be easy and convenient. They want to be offered what they need at the right time – and usually, the right time is right now. With decreasing attention spans, increasing smartphone usage and reliance on cloud-based services, consumers expect an immediate experience: everything must happen in real time or as close to real time as possible. Consider the strategy of providing data usage notifications with context-based promotions. Many capped data plan subscribers are wary of using too much data, lest they deplete their allowance and start paying overage. But this all changes if a timely notification alerts them when they have reached 90% of their allowance, with a discount offer to add more data that will last until the end of the month. This not only provides a great service experience, but also encourages more data usage, increases brand loyalty and delivers the opportunity to up-sell data “bolt-on” packages as a new stream of revenue.

This and other strategies demonstrate the need to act and respond in real time, a message that also holds true for the charging systems that support these strategies.

In fact, real-time charging is already a feature of legacy Intelligent Network (IN) platforms, which are used to support prepaid subscriptions. However, current real-time demands on charging systems are much greater, due to the far larger numbers of subscribers consuming data-based services. As a result, service providers now need to offer real-time services to all their data users, regardless of whether the subscription is prepaid, postpaid or hybrid, thereby adding

both complexity and flexibility demands onto the system. This is the only way to ensure a better data experience for end subscribers.

Modern convergent charging systems answer this need. They can support real-time data monetization across all network types, subscriber types and lines of business. In the race to differentiate their offerings, certain real-time charging strategies have become increasingly popular for their ability to provide added value to customers, increase service monetization and reduce churn. These are described below.

Multi-service consumption

Today, many users own more than one mobile connected device, resulting in simultaneous data consumption by multiple services associated with the same account. For example, while connected to the service provider's data network, a user may watch a video on a tablet, while commenting on Facebook posts via smartphone. Such behavior results in increased data consumption and faster depletion of the user's allowance. But at the same time, this is easier than managing different data plans for each connected device, which could result in a depleted data allowance on one device and an oversupply on others.

Catering to this requires a real-time charging system that is capable of handling real-time metering, as well as issuing threshold limit notifications and advices of charge to both postpaid and prepaid customers. Such a system also needs to be proactive in offering a suitable data package to customers approaching their allowance limit that will prevent overage charges during the remainder of the billing period.

Shared data experience

Over the past two years, shared data plans have been a major driver of increased sales of larger data packages to 3G and 4G LTE customers. Shared data plans are based on a single data allowance for all members of a family, workplace or group, where each member may also use multiple devices.

Such plans provide great economic benefit to groups in which each member is responsible for purchasing their own data allowance. It also enables the account owner to manage the data cap for each group member within an overall data limit.

In the United States, the introduction of shared data plans has led to a large migration of customers with unlimited data plans to these new offers, and significantly increased the volume of data packages sold.

As with multi-service consumption, parallel consumption of data by group users necessitates data allowance monitoring in real-time, as part of a sophisticated and proactive online charging system.

Real-time promotions and notifications

Real-time promotions are one means by which advertisers, enterprises and businesses reach mobile users by either sponsoring portions of a customer's data allowance or

promoting selected services through limited zero-rating. Such rating can also be limited to a specific data volume or duration of time.

These promotions need to be metered in real time, according to monetary value or volume, so that handover of charges to the end-customer can occur at the appropriate time.

Personalized data plans

In the constant battle against customer churn, service providers are under growing pressure to provide service plans that are more tailored to their customer's needs. To address this challenge, the past year has seen a trend towards providing customers with the ability to create personal, individualized plans via a smartphone app or web portal.

Such plans enable customers to choose the exact services they want, the networks they will run on, the validity period, and more. Once defined, the plans are activated online without the involvement of a service rep. Customers can also modify or change plans, even during the middle of the validity period. Globe's GoSakto is an excellent example of the range of choices such plans can provide.

Real-time plans demand a highly proactive real-time charging system that is capable of catering to a wide range and large volume of system requests, including activations, real-time changes, top-ups, and more.

It's all about 'quality of experience'

While the technical capability to support customer demands is paramount, for the consumer this is only one part of what they expect from their communications services. Indeed, there are a number of factors that contribute to what we call the "quality of experience". And the responsibility for this is not limited to service providers.

As part of an ongoing process of improving policy for bill shock protection and mobile experience, governments and legislative bodies have been collaborating to establish a unified code of conduct. European Union legislation currently mandates service providers to notify their end customers at the exact moment they have consumed 50 Euros worth of services in their monthly billing cycle. This applies whether they are roaming or in their home country. In parallel, service providers have been working towards giving their customers the ability to set their own preferences with regard to receiving notifications. For example, many enable customers to set personalized and multiple notification levels when nearing the end of their service allowance. Moreover, the course of action following that notification is also placed in the hands of the customer: whether to end the service, freeze it, add funds and so on.

Another important facet of quality of experience lies with advanced service plans, known as "hybrid" data plans, which also enable parental controls. These offer a combination of postpaid and prepaid plans under the same account, while enabling the main plan owner to determine the exact data allowance for prepaid members, at what balance end-of-allowance notifications should be sent and more.

These courses of action necessitate real-time notifications, which are driven by constant real-time metering of the customers' allowances. The real-time charging system is the primary component responsible for performing these processes, assuring precision and timely sending of notifications, managing top-up payments and more.

i As published by the European Commission, March 1st, 2010 (see official press release)

Amdocs Convergent Charging and Billing: Built for networks, designed for business

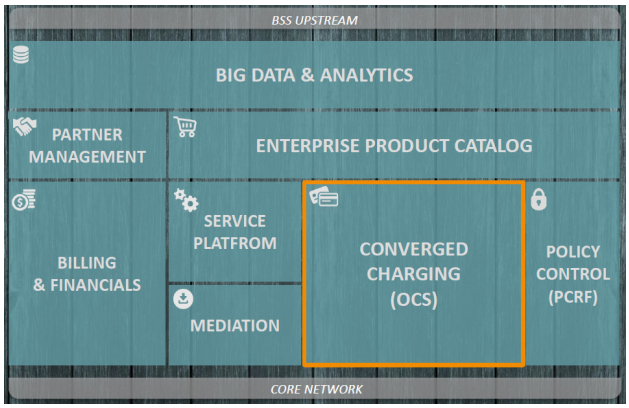
Amdocs Convergent Charging and Billing is the industry's leading solution for real-time charging across all services, networks, and customer types.

The Convergent Charging platform is part of Amdocs' BSS suite and provides service providers with a comprehensive, pre-implemented solution for all their charging needs:

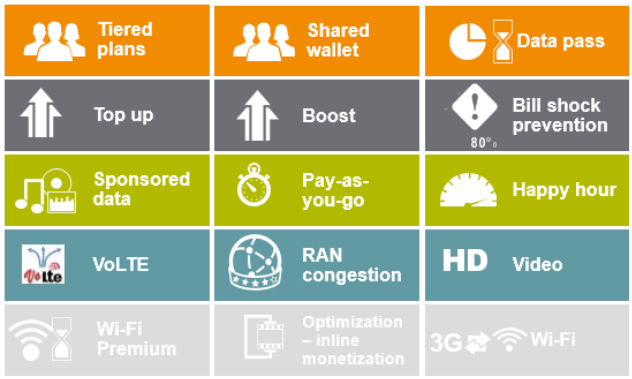
- Real-time integration of Amdocs' charging and policy products based on the latest industry standards (3GPP Release 11) for advanced data services
- Greater flexibility with support for any policy charging and rules function (PCRF) – standard or non-standard
- A unified, optimized framework for defining the business logic of offers, rating, and policy
- Real-time service control, notifications, and usage queries across any service and customer
- Pre-implemented support for next-generation convergent data and intelligent network services using business building blocks

Key business highlights

Ad-hoc data offers	**Flexible product catalog** configuration, supporting various data plans, i.e.: Hourly data, Daily data pass, Weekly pass, etc.
	Real-time activation of new plans, short time-to market (TTM) provides winning business agility in both reactive and proactive in rolling out new offers.
	Context-aware offers, based either on multiple rating groups, zero-rated events or discounted ones.
Flexible customer structure	**Multi-layered customer structure**, supporting Family, SMB and Corporate User Group (UCG) business models.
Rich, real-time notifications	**On multiple events** during subscriber consumption and billing cycles via multiple channels such as SMS, email, smart phone notification, USSD.
Shared Data plans support	**Real-Time sahred quota** across devices, users and cross-hierarchies
	Shared notifications across hierarchies and supporting multi-device configurations
Flexible Charge Distribution	**Split** consuming and paying entities



Drawing 1 – Amdocs Billing & Charging Suite



Drawing 2 – Wealth of Data Services

Key network highlights

Flexible, real-time rating	Real-time quota management - supporting metering by Monetary, Volume or Time-based parameters.
	Multiple threshold configuration
Network - Agnostic	**Works with any network elements** across any vendor or network type while operating with multiple sessions control elements
Holistic PCC integrated solutions (OCS-PCRF integration)	**Centralized policy and charging** (via Native Diameter Sy)
	Synchronized subscriber and counter management
	Rich policy rules
Quicker time to data service innovation	leveraging **robust data dictionary** with prebuilt real-time charging (Gy) and spending limit notification (Sy)
Carrier-Grade Latency	Unprecedented **single-digit (ms) latency** common network elements, such as the Sservice Control Point (SCP).
Supporting VoLTE and RCS	Services via **inter-session correlation** for charging advanced VoLTE services based on one or more diameter network interfaces
Granular Data insight	**Partial charging** in greater transparency
	Simultaneous charging of multiple data services

Conclusion

The connected world is at the midst of a data explosion. With 4G LTE networks becoming more ubiquitous and 5G already on the horizon, our hunger for data is growing exponentially. And as we incorporate increasing numbers of connected devices into our lifestyle, this trend will only accelerate, as will our expectations for a high quality of experience.

The ramifications for services providers are clear. Real-time charging is no longer a luxury. In order to remain relevant and competitive, what's needed are innovative strategies coupled with an effective real-time system that provides an excellent data experience, improves the customer experience and facilitates monetization.

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About Amdocs

For 30 years, Amdocs has ensured service providers' success and embraced their biggest challenges. To win in the connected world, service providers rely on Amdocs to simplify the customer experience, harness the data explosion, stay ahead with new services and improve operational efficiency. The global company uniquely combines a market-leading BSS, OSS and network control and optimization product portfolio with value-driven professional services and managed services operations. With revenue of $3.3 billion in fiscal 2013, Amdocs and its more than 20,000 employees serve customers in over 70 countries.

Amdocs: Embrace Challenge, Experience Success.
For more information, visit Amdocs at www.amdocs.com

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