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WHITEPAPER

REINVENTING INTERCONNECT/SETTLEMENT AND PARTNER MANAGEMENT FOR NEXT-GENERATION SERVICE PROVIDERS

CONTENTS

1. INTRODUCTION

1.1 A NEW REALITY

What is today's reality for service providers? It's not just about having to deal with falling voice revenues but it's also about trying to keep their existing customers. And it's forcing them to look for alternative sources of revenue via the communications and media value chain in areas such as digital content, gaming and commerce. But as this chain continues to expand, and the products on offer become more complex, **the role of partners is becoming more and more important.**

Automated partner settlement solutions are now playing a very crucial part in the partner strategies of service providers, since they not only have to make sure that they're managing all their partner agreements effectively, but they also have to make sure that these partner relationships stay profitable. To make matters even more challenging, next-generation networks and services are introducing new dimensions of complexity to virtually all aspects of service delivery, including partner settlement. Whatever the need—from managing a multimedia service that combines both their features and content as well as those of third-parties, to simply settling roaming for an IP-based network data service—the scope of interconnect settlement and partner management continues to expand at a very fast pace.

An important question to ask is whether the IT domain of interconnect/settlement and partner management (I/SPM) can keep up with the new and constantly evolving demands of service providers. The answer: it *can*, but **it needs to re-invent itself.**

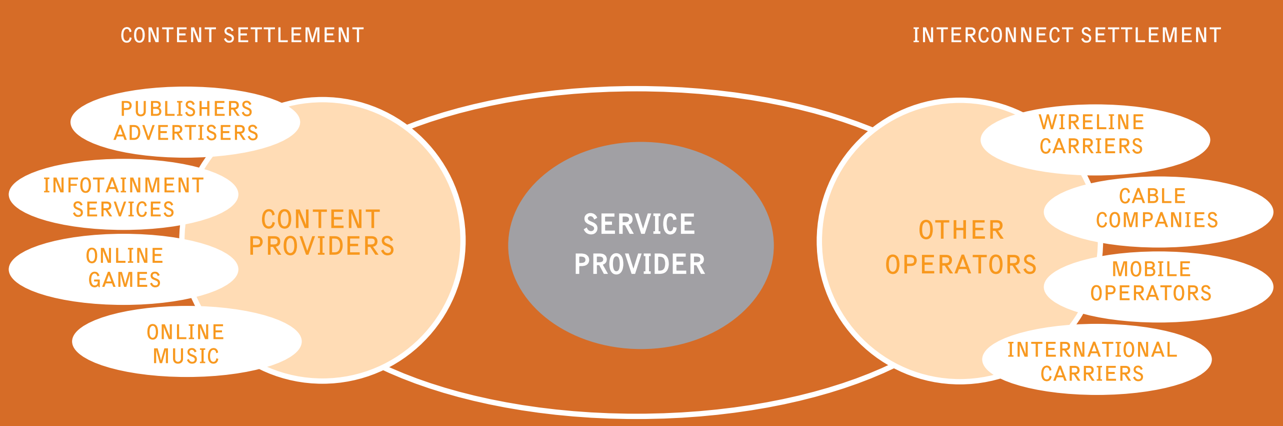
Because ***only*** by transforming itself through a new generation of systems and solutions, will partner relationships be able to deliver the predictable, manageable revenue streams that service providers need. This paper will be examining the new tools now available to service providers that can help them secure these revenues.

1.2 WHAT IS INTERCONNECT/SETTLEMENT AND PARTNER MANAGEMENT?

Interconnect/settlement and partner management refer to all the systems that service providers deploy to manage the payment for services to, and from other service providers and content suppliers. Traditionally, interconnect related to national to international, local broadband/ISP interconnect, mobile to interconnect carriers, and more. In other words, interconnect settlement related to ***service provider to service provider*** arrangements.

Today, this has been extended to include interconnect/settlement *and* partner management, which has now added the crucial ***service provider to any partner*** aspect to the equation. And when you combine the introduction of next-generation services with the complexities of interconnect /settlement and partner management, it's not surprising that service providers can no longer count on once-effective, yet now outdated Excel-based solutions and manual processes to get the job done.

FIGURE ONE:
SERVICE PROVIDER TO ANY PARTNER



2. WHAT DO NEXT-GENERATION SERVICES MEAN FOR INTERCONNECT/SETTLEMENT AND PARTNER MANAGEMENT?

Service providers are increasingly focusing on extending their offerings through partnerships. This means that 'partner arrangements' are becoming more and more crucial to total operations, as well as a primary source of revenue.

2.1 NEXT-GENERATION SERVICES: A WORKING DEFINITION

Although the industry currently lacks a consensual definition of the term '*next-generation service*', it's commonly agreed that the following components should be included in the definition:

> A service other than voice or messaging (SMS or MMS), or a combination of voice and/or messaging service with another service, such as presence or multimedia, which is delivered over a next-generation network (such as IP-based or IMS)

> The service can interoperate with other services delivered on either next-generation or traditional networks such as PTSN.

2.2. EXAMPLES OF PARTNERSHIP MODELS

The market today already illustrates the variety and creativity of partnership models that different companies can form with service providers in order to profitably deliver next-generation services:

> **SMS Voting for TV Shows** – SMS voting for TV shows such as American Idol is becoming more and more popular. Supporting the revenue share between service providers and other media providers requires high speed to market, the ability to support promotional periods, and rich reporting capabilities

> **Access to Mobile Services on Airplanes** – In Europe, a market-leading low-cost airliner plans to offer mobile calls on airplanes in the near future. The airliner will receive commission payments based on the level of phone usage, and has already announced plans to use handsets as a platform for inflight gambling. Passengers will be charged a roaming fee by the mobile service provider, which will share revenues with the airliner.

In each of the cases above, the service provider has to financially settle with different types of partners and different partner models. Since many providers still use manual processes or legacy solutions to manage their partnerships, operations can quickly turn chaotic. These solutions lack the key capabilities for tracking revenue and costs, handling complaint-based refunds, and supporting complicated partner agreements, which has an impact on revenue generation.

However, with a centralized automated interconnect/settlement and partner management solution, service providers can manage these partnerships more effectively *and* make sure that their revenue stays where it belongs – within their business.

2.3. CHALLENGES IN MANAGING PARTNER SETTLEMENT FOR NEXT-GENERATION SERVICES

When it comes to managing partners of next-generation content services, it usually means having to deal with hundreds of partners of various types, who all need to be enlisted, paid and managed. Since this ongoing process consumes both time and money, and since every partner has multiple products and offers, it involves overcoming significant challenges:

> **Refunds** usually amount to more than the average product purchase price, causing instant losses in the system

> **The cost of a customer service center call** is often higher than the average purchase price, creating a loss on the majority of customer service calls

> **Bad debt and fraud arise** when content partners bill incorrectly, consumers fail to confirm charges, or consumers fail to produce the funds to pay for the content services

> **Any bad experience results in damage to brand**, since customers don't necessarily differentiate between the content provider and the service provider. In addition, it also affects the ability to sell more products or services

The role of new interconnect/settlement and partner management solutions is to reduce the risks inherent in these challenges and to make sure that the service provider receives the highest possible revenues. This means also taking the evolution of network environments into consideration.

" Manually managing the individual relationships a CSP [communication service provider] must maintain with each partner and the relative revenue share associated with such relationships is no longer practical"

MORLEY & WHITE, STRATECAST, MARCH 2007

2.4. SETTLEMENT OVER NEXT-GENERATION NETWORKS

Next-generation networks will define a whole new generation of interconnect/settlement and partner management solutions where content and interconnect merge to support combined services. IP multimedia subsystems (IMS) and next-generation networks will enable service providers to roll out a "killer environment" of ubiquitous, network- and device-agnostic access to voice-data-content services, such as video-sharing calls, presence services, and push-to-talk over cellular. By utilizing IMS, service providers will be able to evolve from today's standalone service to offering bundled multimedia services such as video sharing, in which a camera view can be shared among two or more parties during a regular voice call. In fact, earlier in 2007, AT&T in North America already announced the availability of such a service.

Traditional services usually involve a single data flow (such as SMS or voice) and a simple cost scheme (such as per minute). However, interconnect agreements for innovative, next-generation network/IMS-based services are usually more complex since they involve several data flows (such as voice, video, presence, location and gaming), multiple units of measurement that complicate agreements, and possibly quality-of-service (QoS) measurements. A flexible interconnect/settlement and partner management system that supports converged settlement for multiple lines of business is critical when considering future scenarios.

2.4.1 EXAMPLE: MULTI-PARTY GAMING SCENARIO

So that we can illustrate the emerging complexities of interconnect/settlement and partner management, this section is going to look at an example of a mobile gaming scenario. The service session described below represents a multi-service scenario where distinct flows of information are exchanged between multiple players for which quality of service guarantees should be met. This complex scenario, and the need to guarantee quality of service directly, affects interconnect, content and advertisement agreements.

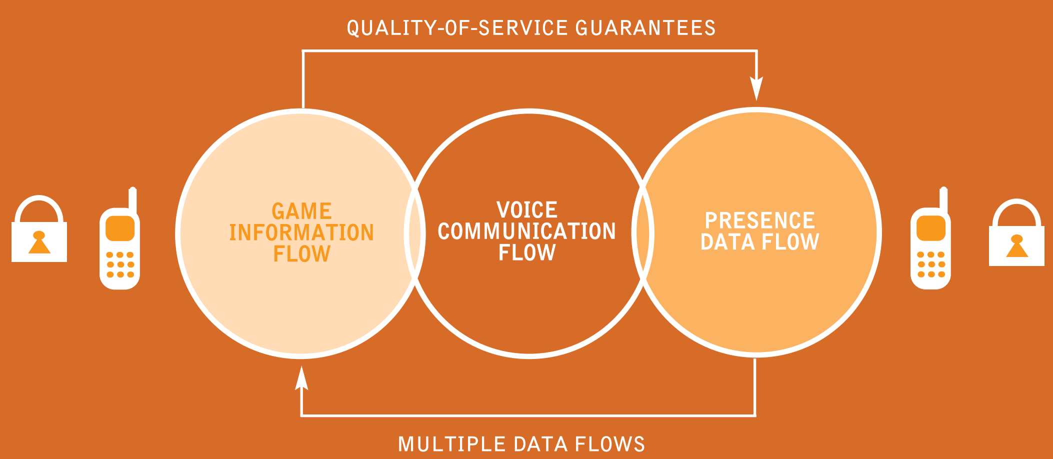
The core of the scenario features two subscribers playing together a game using their mobile phone. First, there's the ***gaming flow*** of information between the two parties. For example, player A receives alerts of player B's moves and actions, such as 'Player B is making a move'.

Then there's the ***voice flow***; whereby during the game, the players can talk to each other live.

Lastly, a ***presence flow*** can be added, so that, for example, the players can monitor a third party's availability and ask them to join the game, or exchange some related video clips while the game is in progress. An additional alternative flow (not illustrated below) involves in-game advertisements, where the advertiser needs to be charged (based on exposure or 'clicks'), and the game provider might also receive a share of the ad revenue.

The interconnect/settlement and partner management solution not only need to be able to accommodate many parameters included in the information flows described above but also to reconcile their implications according to predefined partner arrangements with the relevant stakeholders. To achieve this, next-generation interconnect/settlement and partner management solutions need to support the requirements detailed in section 3.

FIGURE TWO:
MULTI-PARTY GAMING SCENARIO



3. INTERCONNECT/SETTLEMENT AND PARTNER MANAGEMENT REQUIREMENTS FOR THE NEXT GENERATION

3.1. A UNIFIED APPROACH TO PARTNER SETTLEMENT

Obviously, each type of partnership—whether it's interconnect, roaming, content, MVNO, wholesale, or advertising—introduces specific aspects of settlement which are relevant to that line of business. However, the broad similarities between service provider partnerships means it makes sense to **centralize all partner operations and use a single platform to support them all**. It doesn't necessarily mean that service providers have to re-organize or unify the wholesale department that handles interconnect and the department that handles content and advertising. However, a unified approach will provide service providers with a common, clear view of settlement with each of their partners.

Let's consider a relatively simple scenario, where a user agrees to listen to an audio advertisement, in exchange for free voice minutes and a ringtone download. This seemingly simple service entails multiple business partners, all participating in a single instance of subscriber activity. The advertiser needs to pay the service provider, while the latter must pay the interconnect partners and the ringtone provider for their share of the service, even though the subscriber received it for free.

By adopting the unified operations approach, service providers will be able to centralize all their partner management, and to monitor different aspects throughout the partnership lifecycle. This includes dealing with the huge challenge of being able to correlate a bundle's retail price with the partner revenue of the different partners who are providing the elements that make up the bundle.

3.2. WHAT ARE THE FOUNDATIONS OF A COMPREHENSIVE INTERCONNECT/SETTLEMENT AND PARTNER MANAGEMENT SOLUTION?

As previously illustrated, interconnect and content partner management share similar lifecycle stages. These include managing multiple partnerships, supporting many types of services such as commerce, content and advertising, with possibly multiple partners per transaction.

3.2.1. MULTI-DIMENSIONAL AGREEMENTS

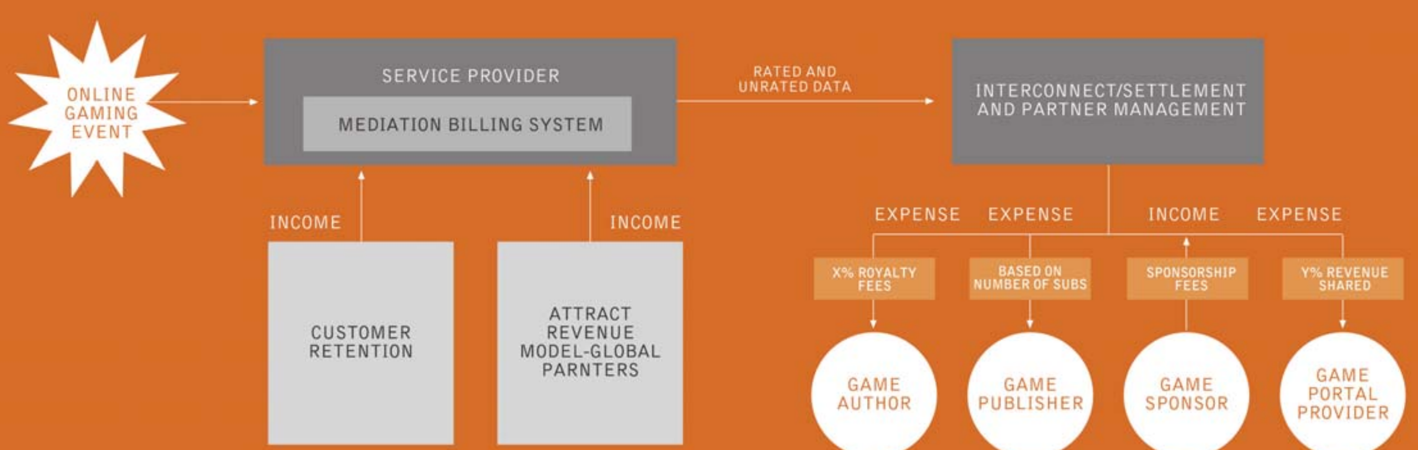
The two key elements in maximizing partners' revenue are the ability to handle any type of pricing scheme and the freedom to mix-and-match services from multiple vendors into a single compelling package. An example might be defining a video clip, static images and an audio clip from different providers within a single bundle. Content-related parameters introduce additional dimensions to the equation. For example, the identity of the performer could affect the revenue share model with top-rated stars bringing a larger share of revenues to the service provider, while less-known performers might bring a larger share to the content provider.

3.2.2. MULTI-PARTY SETTLEMENT

Next-generation service bundles offered to retail subscribers eventually generate network transactions that are transferred to the partner settlement system for revenue sharing with the relevant partners. In many cases, a single transaction from the retail side requires revenue sharing with more than one partner. Let's look at the following two examples of services offered by a major mobile operator in the UK which illustrate these scenarios:

> **Full Track Music Downloads** – These require payment to be made to the content provider for the track itself, payment for the Performing Rights Society (who performed the song) and payment to the Mechanical Copyright Protection Society (who wrote it). So the same event actually requires ***three*** calculations with different ratings and reporting requirements

FIGURE THREE:
SOPHISTICATED PARTNER SETTLEMENT SOLUTIONS



> **Football Content** – A bundle of games, TV and clips probably involves multiple content providers, multiple subscriptions, 'per-use' charges and variable shares of revenue. This means that a single retail event record requires multiple transactions and business rules in the partner settlement system.

While the basic requirement for partner settlement solutions is being able to manage an agreement with each partner separately, the ***real*** challenge for the service provider is how to manage a single agreement for ***multiple*** partners, as in the case of bundles. That's because multi-partner agreements increase the risk of the service provider ***sharing*** more than the retail revenue for a specific service or event, which then translates into lost revenues. The partner settlement solution must prevent this from happening by making sure that multi-partner bundles stay profitable.

Figure 3 illustrates several of the complexities reviewed above. It shows how, for a single game download which generates a single download event, the service provider would need to settle revenues with the game author, publisher, sponsor *and* the portal provider. Each of the agreements is different—varying from simple revenue share based on percentage, to accumulation based on the number of subscribers registered to the game, and a sponsorship model where the game sponsor actually pays the service provider.

3.2.3. PRICING SIMULATION

Another useful tool for service providers is a pricing simulator that can compare retail bundle prices to partnership revenues, which helps to build more profitable agreements. The simulation could then be supplemented with analysis tools and reports that open up a managerial view not only to simulations, but also to existing, active partnerships, on an ad-hoc basis.

3.2.4. ADVANCED REVENUE-SHARE MODELS

Service providers require a fair degree of freedom when creating attractive schemes in order to attract the best partners for their business. This is helped by the various combinations of parameters within the partner agreement that enable the service provider to devise any type of pricing scheme. These can range from the simplest flat-rate plan for one partner to the most complex revenue-share scheme involving any number of partners. A few examples of advanced revenue sharing agreements are:

> **Revenue share per content** – Various content events are accumulated over the billing period. The revenue share might be:

> **Flat:** Fixed rate/percentage for all events

> **Stepped:** Different rate/percentage for different bands of event count

> **Tiered:** The greater the event count, the higher (or lower) the rate/percentage for all events

> **Minimum requirement** – Minimum monetary obligations or minimum value of charging parameter are defined for a partner. This can be applied for a billing period or fixed period e.g. month, quarter or year; or specified in terms of units of measurement or a specified monetary amount; for example, the minimum monthly payment for MP3 usage charges will be €6000.

FIGURE FOUR:
EXAMPLE OF A REVENUE-SHARE MODEL

CONTENT PROVIDER	EVENT (CONTENT)	REGION	NUMBER OF EVENTS IN BILLING PERIOD		REVENUE SHARE RATE
HBO	DA VINCI CODE	LONDON	0	1000	EUR 1.25 PER EVENT
			1000	5000	EUR 1.75 PER EVENT
			5000	5000 +	EUR 2.00 PER EVENT
		PARIS	0	500	EUR 0.25 PER EVENT
			500	3000	EUR 0.50 PER EVENT
			3000	3000 +	EUR 1.00 PER EVENT
		MADRID	0	1000	EUR 1.50 PER EVENT
			1000	1000 +	EUR 2.00 PER EVENT

3.2.5. QUALITY-OF-SERVICE CONTROLS

Quality of service is an interesting new aspect of partner settlement in a next-generation network environment. That's because both interconnect and content revenue-sharing agreements will need to support quality of service as an attribute of any agreement with another operator or third-party partner.

Many aspects related to the future of interconnect are still unclear and depend on potential new regulations that could dictate new models of interconnect. For example, what we know today as routing optimization could be enhanced with a new dimension whereby network operators would look for 'quality-based routing' rather than the least-cost or best-cost routing (LCR/BCR) models which are popular today.

3.2.6. SPONSORSHIP MODELS

As advertising turns into a growing source of revenue for service providers, a partner settlement solution should allow them to define partners and advertising campaigns, manage the association of pricing plans with campaign and support specific contract characteristics for each partner.

For example, when it comes to sharing revenues between the service provider and advertisers, different subscriber actions can be measured using various indicators, which can then be used as the basis for settlement between partners:

> **Cost Per Action (CPA)** – Also known as **"pay for performance,"** CPA is an effective way for advertisers to select how they want to pay for their advertising: by click, impression, sale, or other variables

> **Cost Per Thousand Ad Impressions (CPM)** – This is an industry standard measurement for selling ads on Web sites

> **Clickthrough (CPC)** – This is what is counted by the sponsoring site as a result of an ad click

It's essential, in a complex multi-party settlement environment, to be able to correlate between sponsored ads and the actual voice or content that's being sponsored. This means being able to actually credit a subscriber's balance when the subscriber is engaged in an advertisement-related activity. **A converged system makes correlations like this possible, providing more added value for the service provider.**

3.2.7. REVENUE ASSURANCE

If service providers don't enforce stricter methods for revenue assurance, then chances are very high that they won't receive all the revenues that they're supposed to. Specifically, they need to track content usage through the end-to-end lifecycle and ensure that accurate payments are being made by comparing retail revenue with payments to partners. They also need to manage multiple partners with efficiency and track revenues from their content partners. But getting revenue assurance right in a multi-partner next-generation environment is quite challenging:

> They need to track usage more efficiently if they want to make sure that accurate payments are being made and that the profitability of the partnership is maintained

> Service providers need to make sure that no revenue leakage is taking place in a multi-party value chain in which they only have limited control over content, advanced services and the customer experience for the service.

> Rating and billing processing is becoming more and more complex for a number of reasons, including new quality-of-service attributes, complete versus incomplete transactions, bandwidth use, time of day, multi-party discounts and multi-product discounts

> The economic impact and potential revenue loss due to errors both increase. In the new environment, service providers are more vulnerable to losses in the event of a simple error

> There is a huge range of issues related to complex payment arrangements and revenue stream bypasses. In many content-related products or services, payment may be made via either the content vendor or the aggregator. This is a new concept for the service provider and reduces its control even further over the revenue stream and increases the chance of revenue leakage

Revenues through partnerships—whether interconnect or content partners—will become more and more important to service providers in the next few years. Commoditization and competition has placed a strain on traditional revenue sources and the search for new revenues is encouraging service providers to launch next-generation services that need more complex partner relationships. As they plan for the near-and long-term future, service providers should consider their needs around interconnect settlement and partner management as a whole.

Here are some general guidelines to take into consideration when deciding on a comprehensive solution to address those needs:

DOES THE SOLUTION ENABLE NEXT-GENERATION SERVICE INNOVATION?

While service providers are looking towards innovative content services as a way to reduce churn and increase ARPU (average revenue per user), they also recognize that partner settlement solutions are an important foundation for supporting their business as it continues to grow, and as products become more complex. An appropriate interconnect/settlement and partner management solution should allow them to effectively manage multiple interconnect and content partners. This also means handling complex multi-service scenarios involving the exchange of simultaneous flows of information, and which need to meet quality-of-service guarantees.

DOES IT SUPPORT ALL PARTNER MANAGEMENT NEEDS IN A SINGLE ENVIRONMENT?

The solution should offer automated support for all lines of business and handle every aspect of partner settlement, including interconnect, roaming, content, digital advertising, MVNOs, wholesale and dealerships.

DOES IT IMPROVE REVENUE ASSURANCE?

The solution should allow service providers to monitor and track revenue and costs, as well as handle complaint-based refunds. It should support bi-directional invoicing, so that providers can calculate the expected invoice from the partner and then perform electronic reconciliation with root-cause analysis for dispute settlement. This enforces better financial control over the partner settlement processes.

CAN IT BE IMPLEMENTED QUICKLY AND EASILY?

With the pressures of competition and market demand, service providers can't afford long implementation cycles for partner settlement systems. The solution should enable a quick turn around while maintaining high levels of reliability and performance.

Find out how Amdocs Partner Settlement Solution reinvents interconnect and content partner management for the next generation. Visit www. amdocs.com or contact a sales representative for more information.

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