



## Key Strategies To Unleash Roaming Profits Through Signaling

The international roaming business has been highly lucrative for operators for years. But, times have changed. Today, operators are facing immense pressure on margin due to the prolonged economic downturn, rapidly falling roaming rates and increasing regulatory intervention, among other factors. The good news is that with the explosive adoption of smartphones and tablets, there is increasing demand for constant connectivity and consistent quality of service, at home and while roaming abroad. As a result, roaming traffic is expected to grow rapidly in the coming years. The question is, will operator profits grow as well?

On the network side of the house, the signaling network is the nervous system of an operator's international and roaming business. If signaling fails, the operator's entire international and roaming operations come to a stunning halt. So, quite naturally, operators have focused on reliability and quality of the signaling network. However, security and signaling data of the network have never been thought of as major profit drivers for roaming business. This white paper will explore those key areas in the signaling network in which operators can find new ways to protect and optimize their roaming profits.

## Price pressure and the importance of identifying profit holes

The recent approval by EU regulators to radically lower roaming prices for voice, text and data is well applauded by consumers and application providers, but it saddles operators with significant pressure on profit. The retail roaming rate in the EU across all services is reduced by 75%. Figure 1 below provides a detailed overview of the price reduction as reported by the EU<sup>1</sup>.

Eurotariff maximum roaming charge per minute in Euros				
	Voice call made (per minute)	Voice call received (per minute)	Data (per MB)	SMS (per SMS)
Summer 2009	43 cents	19 cents	+/-5 Euros*	11 cents
Summer 2010	39 cents	15 cents	+/-5 Euros*	11 cents
Summer 2011	35 cents	11 cents	N/A	11 cents
Prior 2012	35 cents	11 cents	N/A	11 cents
July-12	29 cents	8 cents	70 cents	9 cents
July-13	24 cents	7 cents	45 cents	8 cents
July-14	19 cents	5 cents	20 cents	6 cents
<b>Reduction since 2009</b>	<b>56%</b>	<b>56%</b>	<b>96%</b>	<b>45%</b>

Figure 1: Eurotariff maximum roaming charge per minute in Euros (without VAT)

With the new reduction in price for data roaming, the operators' loss is going to be the app-providers' gain. Now that it is cheaper to surf the web on tablets and smartphones, subscribers will increasingly use data while travelling. This will result in growth in roaming traffic<sup>2</sup>, but the regulation's pressure on retail rates will strain operators' roaming profits.

The regulatory intervention doesn't seem to be the end of the story; operator profits are threatened by increasing price pressure from substitution by Wi-fi access as well as by competition in roaming. For example, subscribers in Europe will be allowed to decouple their roaming package from their domestic package in the coming year. This will invariably lead to increased price competition since operators are launching new pricing regimes in an attempt to reduce churn.

Margin decline is going to be inevitable in the days to come and operators will have to find ways to offset this decline. Adopting newer and better profit optimization strategies is the logical approach, but it will require special attention, focus and expertise.

## Strategies to maximize profit

In order to achieve profit optimization in roaming and interworking business, iBasis advocates four distinct but related points:

### 1. Unravel hidden profit zones in the existing business

Roaming margins can still thrive if operators manage to tap the hidden profits in their business through cost reduction and revenue optimization.

#### *Unwanted costs due to SMS fraud*

There has been much discussion over the years about SMS fraud via signaling. Nevertheless, profit in this business continues to be undermined due to faking, spoofing, flooding, and spamming. Margin pressure may have finally reached the point to compel operators to confront signaling fraud. Spam traffic leads to high customer support costs, churn and damage to brand and reputation. From discussions that iBasis has had with its customers, we learned that a number of tier 1 European operators lose thousands of dollars every month on SMS billing disputes. Spam and

<sup>1</sup> [http://ec.europa.eu/information\\_society/activities/roaming/tariffs/index\\_en.htm](http://ec.europa.eu/information_society/activities/roaming/tariffs/index_en.htm).

<sup>2</sup> Visiongain: The mobile roaming market 2012-2017: Operator Strategies, Opportunities and Challenges in the 3G and LTE era

fraud inhibit new sources of messaging revenue because of retaliation from other operators to fraud messages and spam. For example, partner networks may disconnect the transit connection, and the operator may face an immediate loss of revenue and increased customer complaints. Not all operators have taken concrete steps in combating such fraud attacks, simply because the return on investment is at its best indirect, making it difficult to make the case for the necessary CAPEX investment.

#### *Revenue leakage in SMS termination*

Operators frequently agree with some of their roaming partners to terminate P2P messages on each other's network for free with the expectation that the traffic between the networks will balance out. These agreements are typically a by-product of exchanging SS7 signaling for roaming purposes. However, some partner networks resell the mutually forgiven route to third party senders, such as SMS Aggregators. Due to such 'sponsor routes', the mutually forgiven route is exploited for free termination of non-P2P messages. Unpaid traffic leads to significant revenue loss for the operator on the receiving end; hence operators must monitor for imbalances in traffic to avoid such revenue leakage.

## **2. Know your network to boost margin**

The first step in boosting roaming margin is to understand the dynamics of one's own signaling traffic. As seen widely among operators of all sizes, there is only limited visibility into their roaming signaling traffic. As a result, operators may be unaware of how their signaling analytics can provide actionable data to help solve a number of issues such as poor roaming quality and traffic abnormalities and can help optimize roaming profitability.

For example, by monitoring (near) real-time roaming signaling traffic, operators can quickly react to unusual traffic deviations. These deviations occur due to anti-steering, network element faults, fraudulent messages and other reasons. By closely monitoring the signaling traffic, root causes for such problems can be easily detected thus making troubleshooting easier for operators.

One of the primary reasons for customer complaints lodged is poor roaming quality. Roaming experience can be impacted by a variety of factors, including connectivity to the roaming network, poor coverage, and handset incompatibility. This results in higher customer support costs and even a possible risk of churn since most countries allow visitors to buy local data SIM cards. Signaling analytics can report on network quality deterioration by capturing connectivity problems of the roaming subscriber. This enables operators to take pro-active measures to restore a high quality roaming experience by steering the customer to a network with good coverage, for example, or mitigate the negative effect by compensating the subscriber with discounts.

Traditionally, operators rely on TAP billing data to settle interworking usage. Recently, several operators had a number of billing disputes every month due to fraud attacks in theirs' or their partners' networks. In many of these cases, TAP billing data seems to have been insufficient in proving the operator's innocence in spite of being legally not at fault. In such situations, reports based on signaling analytics have provided the necessary supporting data to solve disputes saving tens of thousands of dollars for operators every month.

Signaling data is proving to be very valuable as it enables operators to take immediate control of their network. By monitoring signaling analytics operators can provide a best-in-class roaming experience, avoid costs due to billing disputes, simplify troubleshooting and be on top of what is happening in their roaming network.

### 3. Protect your network to boost margin

Having visibility into signaling traffic will reveal only part of the hidden profit zones; whereas maximization of profit will happen only when the operator's network is fully cleared of revenue and profit leaks. Therefore, it is not sufficient simply to know that there are revenue leaks and where and how they occur. But what is going to make that positive impact in the bottom line is to take action, i.e. protect the holes in the network caused by SMS fraud and sponsor routes.

An SMS firewall solution will provide the needed protection for the network and its subscribers against unsolicited and unwanted SMS traffic. Buying and implementing a firewall is usually an expensive and laborious task for an operator. However, a select number of signaling vendors in the industry offer cloud-based firewall protection that avoids large upfront investments for the operators and offers an OPEX model instead of CAPEX model. Many operators prefer the cloud-based protection model since the signaling vendors manage the firewall hardware on the operator's behalf, and it doesn't require disruptive integration into the operator's roaming network.

### 4. Be on top of the game with LTE roaming

LTE roaming brings with it an enormous opportunity for operators to recoup their investments in LTE networks. Mobile subscribers are going to be pampered with all the benefits that LTE has to offer in their home network, and demand for a consistent LTE experience while roaming on foreign networks will soon follow. Figure 2 shows the forecast for dramatic revenue growth for LTE roaming in relation to the traditional roaming revenue.

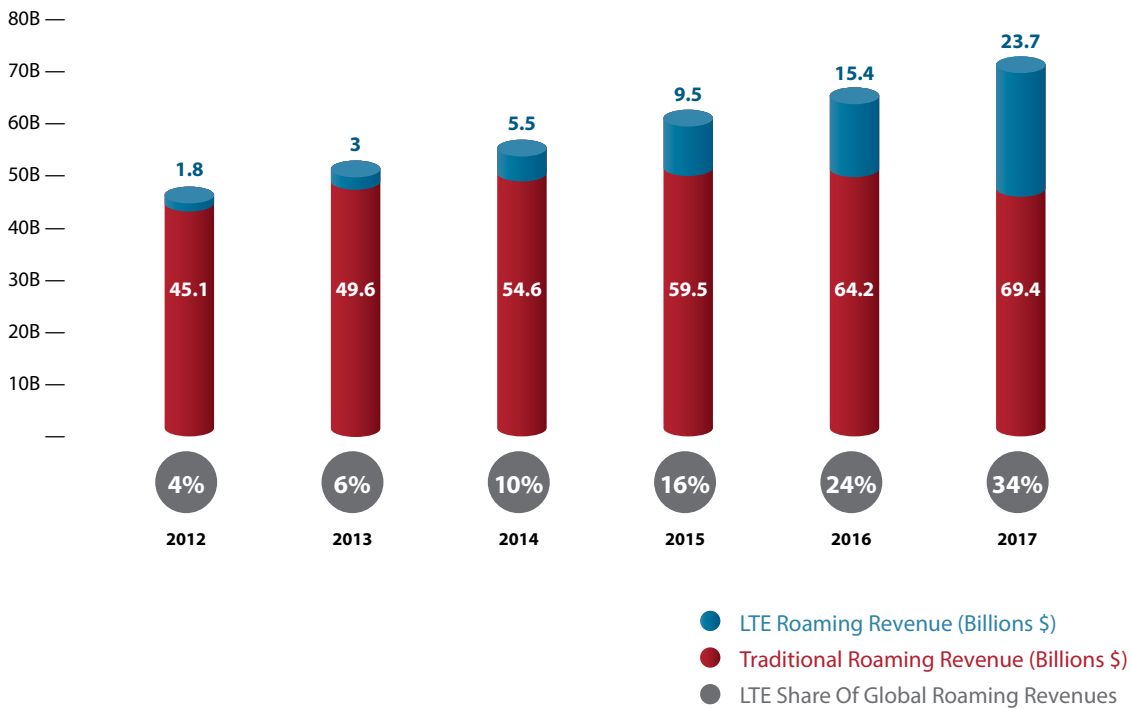


Figure 2: Global Roaming Revenues—LTE vs. Traditional Roaming Forecast 2012–2017 (US\$, Billions, % LTE)<sup>3</sup>

<sup>3</sup> Visiongain: The mobile roaming market 2012-2017: Operator Strategies, Opportunities and Challenges in the 3G and LTE era

It is essential for operators to jump on the opportunity to extend the LTE network for the inbound and outbound roamers as well. Global interoperability is significant for LTE's success, but there is still much to learn and end-to-end LTE roaming is not guaranteed as of today.

LTE roaming is challenging because it causes disruption in today's roaming business. Signaling in LTE is done completely differently than in 2G and 3G, as SS7 is replaced by Diameter and other IP technologies. As discussed in the iBasis-Infoma white paper 'Making LTE Roaming Work', different LTE networks across the world have different LTE vendors and different versions of Diameter. For years to come, interworking between different Diameter signaling implementations, local break-out challenges, fall-back and interoperability with 2G and 3G are going to be on top of the list of challenges to address. In addition to interoperability issues, challenges such as building and managing new bilateral agreements along with new interconnects and moving to an all-IP network make implementing LTE roaming a daunting task. The complexity in interworking must be addressed by signaling experts, especially for those also supporting legacy 2G and 3G networks. Thus, LTE roaming requires dedicated strategic attention to enable operators to maintain their focus on their core business.

## Conclusion

### **Let the experts do it for you!**

If the profit opportunities described in the sections above are to be exploited, operators must implement distinct revenue and margin-boosting strategies. Operators today face a variety of challenges, including having to balance resources between developing the next big thing such as LTE, HD Voice and RCS, and exploiting today's profit engine, i.e. SS7 signaling.

Fortunately for operators, the industry is armed with a few pioneers who have the vision, expertise and capability to help them eliminate revenue leakages and safeguard the profitability of their business. We think it is in operators' best interest to partner with vendors who not only have the expertise in extracting profits from existing businesses but also have the strategic inclination towards profitability of the 4G/LTE business. Allowing third party vendors to help with such complex challenges will enable operators to alleviate the burden and free-up internal resources to focus on growing their core business successfully.

## About iBasis Signaling Services

To continue being a thought leader not just in traditional voice business but also in the mobile business, including LTE interworking and roaming, iBasis has adopted a strategic focus to help operators gain maximum profitability in their international and roaming business today and going forward. Leveraging 15 years of IP and wholesale experience, iBasis offers a one-stop-shop that offers profit optimization by going the extra-mile in addressing roaming and international issues holistically. iBasis offers a suite of signaling products that offers reliable international connectivity and tools to monetize the value and intelligence captured in operator’s signaling network. The figure 1 below demonstrates the holistic approach of iBasis towards helping operators achieve profit maximization in their roaming and international business.

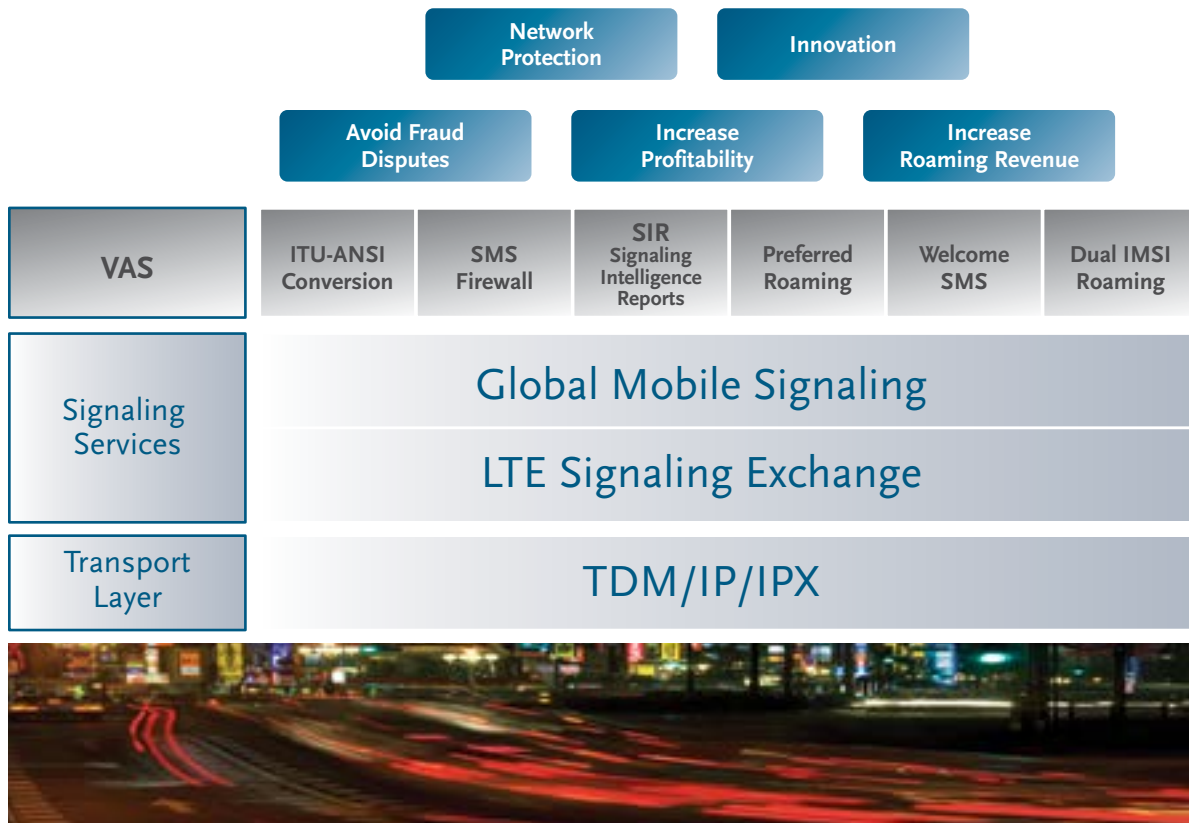


Figure 3: iBasis Signaling Suite of Services

## About iBasis

A wholly-owned KPN company, iBasis is a leading international voice carrier and provider of mobile data services. The company offers a comprehensive portfolio of voice termination services and data services, including messaging, signaling, roaming and an LTE Signaling Exchange, for many of the world's largest fixed and mobile operators, as well as "over-the-top" and voice-over-broadband service providers.



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