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International Wi-Fi Roaming

Winning Strategies to Construct Wi-Fi/Cellular Data-Roaming Offers for Retail Subscribers

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What is international Wi-Fi roaming?

International Wi-Fi roaming refers to a service that extends Wi-Fi connectivity to users who travel to locations outside their domestic service's footprint and wish to use Wi-Fi hotspots as if at home.

Operators that are pursuing an active international-Wi-Fi-roaming strategy aim to enable access to as broad a footprint of Wi-Fi hotspots in as many foreign locations as possible in a simple and easy-to-use manner, to ensure a positive user experience for customers.

International Wi-Fi roaming is not a new concept, and frameworks designed to facilitate such a service have been in existence since the first phase of public Wi-Fi growth. Efforts to standardize international-Wi-Fi-roaming agreements were accelerated by the establishment of the Wireless Broadband Alliance in 2003, and the first commercial Wi-Fi agreement between member companies of the WBA followed as early as 2004.

But the commercial success of roaming propositions built on intercarrier agreements using technical frameworks such as WISPr and, more recently, WISPr 2.0 has been limited when measured in terms of end-user adoption and the overall scale of income generated relative to the unquestionable market potential of international Wi-Fi roaming.

A large number of factors have hampered the development of international Wi-Fi roaming, including a general lack of customer awareness, surprisingly high costs for customers, the slow and limited expansion of roaming footprints and – most of all – the substandard user experience that has faced customers wishing to roam onto Wi-Fi hotspots when traveling internationally. Until recently, it has been far too difficult, confusing and frustrating for customers to discover and successfully connect to hotspots via a roaming service provided by their domestic communications-service providers (CSPs).

Wireless Broadband Alliance (WBA), an industry association set up to promote the development of public Wi-Fi on networks owned by operators. The expanded membership of the WBA and the huge increase in its addressable footprint of hotspots, to more than 5 million worldwide as of April 2013, has undoubtedly contributed to the encouraging momentum behind such activities.

> Until recently, it has been far too difficult, confusing and frustrating for customers to discover and successfully connect to hotspots via a roaming service provided by their domestic CSP.

The sluggish progress made by established Wi-Fi-network operators in striking roaming agreements opened the door for the emergence of Wi-Fi roaming hubs and aggregators, such as iPass, Trustive and Boingo. These companies have invested significant amounts of time and resources to stitch together large numbers of Wi-Fi networks to build global hotspot footprints that far exceed the scale of roaming footprints reliant exclusively on bilateral intercarrier agreements.

How do strategies to enter the international-Wi-Fi roaming market differ?

The main focus of Wi-Fi-network operators in terms of international Wi-Fi roaming is to develop intercarrier roaming across premium public Wi-Fi hotspot footprints, an activity that falls under the umbrella of the initiatives managed by the

The activities of the Wireless Broadband Alliance are focused on removing the technical barriers to international Wi-Fi roaming. A joint task force announced in March 2012 marked an important partnership between the WBA and the GSMA, with the aim of developing technical and commercial frameworks for Wi-Fi roaming and setting the foundation for greater interworking between cellular and Wi-Fi roaming. In February 2013, the WBA publicized the successful completion of network assessments by several of the world's leading Wi-Fi operators as part of its Interoperability Compliance Program (ICP), an initiative aiming to streamline the common frameworks used to underpin Wi-Fi roaming among WBA member companies more efficiently and consistently.

The Wi-Fi-network-operator community is supportive of building an ecosystem on the basis of ICP-compliant networks and intercarrier roaming agreements through the WBA, but this should

not mask concerns that have been publicly voiced by some about the expected commercialization timeline of Wi-Fi roaming propositions reliant on the deployment of infrastructure and devices compliant with the Next-Generation Hotspot and Passpoint programs. Many operators have already commenced the rollout of NGH-compliant equipment in their networks, and many more are committed to doing so in the next two to three years; however, the complete changeover and modernization of networks will take considerable time for all but the most aggressive and heavily spending operators.

So the speed at which next-generation hotspots are rolled out, together with the uncertain availability and rate of adoption of Passpoint-capable devices by users, will undoubtedly limit the overall reach, addressable market and consistency of experience of such roaming propositions in the short and medium term, in spite of all industry efforts to accelerate momentum.

This time-to-market challenge is leading some players to examine alternative options that can bridge this gap and enable them to successfully capture and monetize the opportunity that exists for Wi-Fi roaming.

Looking beyond the traditional Wi-Fi roaming model of building a global footprint through individual bilateral agreements between Wi-Fi network operators, a number of alternative approaches have emerged to enable Wi-Fi roaming and to meet the demand of international travelers for Wi-Fi connectivity, including hubbing and crowdsourcing.

Arguably, the most significant moves around international Wi-Fi roaming have been the establishment of a number of interesting commercial partnerships (see fig. 1) between CSPs and global Wi-Fi aggregators, such as iPass, Boingo and Devicescape, for the purpose of targeting the market for outbound international Wi-Fi roaming services. Such agreements differ from the more traditional bilateral roaming agreements that Wi-Fi aggregators might have signed with national Wi-Fi-network operators that were limited to facilitating roaming across each other's footprints as opposed to any joint service or proposition development.

Fig. 1. Selected outbound international Wi-Fi-roaming-partnership announcements, Apr-13

Country	Operator	Partner	Date announced
China	China Telecom	iPass	Feb-11
South Korea	SK Telecom	iPass	May-11
Brazil	Oi	iPass	Apr-12
Japan	KDDI	iPass	Jun-12
France	Bouygues	Devicescape	Jun-12
Thailand	DTAC	Deutsche Telekom	Jun-12
Kuwait	Zain	iPass	Sep-12
South Africa	AlwaysOn	iPass	Sep-12
UAE	Etisalat	iPass	Oct-12
Japan	NTT DoCoMo	Boingo	Dec-12
Saudi Arabia	STC	iPass	Feb-13
US	AT&T	Boingo	Apr-13
Singapore	M1	iPass	Apr-13

Note: This list refers only to announcements covering partnerships for the specific purpose of outbound international Wi-Fi roaming. It might exclude partnership agreements established to enhance domestic Wi-Fi roaming.

Source: Informa Telecoms & Media

Why are CSPs exploring a partnership-based strategy to improve their positions in international Wi-Fi roaming?

This considerable momentum behind partnership-based approaches to international Wi-Fi roaming for CSPs can be attributed to two key market drivers: a desire to accelerate the time-to-market of international-Wi-Fi-roaming services, and a desire to leverage the knowledge about best practice learned by Wi-Fi-roaming-service providers.

1. Accelerate the availability of attractive international-Wi-Fi-roaming services

Those operators that can bring differentiated Wi-Fi roaming propositions to market early can exploit first-mover advantage to capture the demand that exists among international travelers for an improved roaming experience. By partnering with third parties, operators can both accelerate the availability of new propositions and avoid the hefty investment inherent in a do-it-yourself approach.

2. Leverage the best practice learned from existing partnerships
By leveraging the best practice that third parties have learned from their existing partnerships, operators can mitigate the risk of making costly mistakes and improve the likelihood of building propositions with proven market potential. The support offered to operators by aggregators in areas such as application development, marketing strategy and proposition building form a key part of the value of a partnership-based strategy in international Wi-Fi roaming and are important reasons why more and more partnership deals are being struck.

What types of players are seeking to partner with CSPs to bring their international-Wi-Fi-roaming services to market?

There are three types of potential partners for operators seeking to accelerate the time-to-market of international-Wi-Fi-roaming propositions built on the services offered by third-party players:

1. Premium public-Wi-Fi aggregators: Players in this category effectively act as roaming hubs that offer partner customers access to extensive global footprints of premium public Wi-Fi hotspots that have been painstakingly aggregated through dedicated commercial roaming agreements with significant numbers of local Wi-Fi-network operators. iPass is the largest of these players, with a global footprint in excess of 1.2 million hotspots, and Boingo (600,000) and Trustive (500,000) have also aggregated large networks.

2. Community residential Wi-Fi aggregators: Players in this category have built global networks of hotspots by enabling users to pool their privately owned residential hotspots into a global community network that can be accessed by any other member of the community service. Fon is the largest – and only global – player in this segment and has built a network of 8 million residential hotspots, and domestic networks have been created by local CSP such as Ziggo in the Netherlands and Free in France.

3. Crowdsourced long-tail public Wi-Fi: Players in this category have built large global networks of hotspots by crowdsourcing free and publicly accessible hotspots into a single network. Such networks are typically curated in order to exclude hotspots that are not open to users or that suffer from a compromised user experience. There is typically no contractual relationship between the hotspot owner and the service aggregator. Devicescape is the largest player in this market and has a curated network that exceeds 12 million hotspots worldwide.

Although all three approaches offer a way to deliver an international Wi-Fi roaming service to customers of CSPs, not all Wi-Fi roaming services are created equal. If operators wish to make the best-fitting partner choice, it is critical for them to develop a clear understanding of the major differences that exist between each of the three types of players that offer solutions for Wi-Fi roaming and to ensure that the value proposition of the player they choose is aligned to the intended corporate objectives of a roaming strategy that leverages Wi-Fi.

The footprints of players targeting the Wi-Fi roaming market vary in five key ways:

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1. Footprint-aggregation model: The approaches adopted by different players in Wi-Fi roaming vary according to the model used to aggregate hotspots into a single network. The classic approach, as promoted by the Wireless Broadband Alliance, is based on bilateral agreements negotiated individually between network operators. The inherent complexity of adopting such an approach created the market opportunity for hubbing providers that negotiate agreements with Wi-Fi network operators that can then be leveraged by any players connecting to the hub. More recently, crowdsourcing models have been adopted to pool both long-tail public Wi-Fi and residential Wi-Fi into huge global networks.

2. Types of hotspots: Most approaches are focused on building a global footprint of premium public Wi-Fi hotspots, typically those owned by incumbent CSPs or pure-play Wi-Fi-network operators, but others have focused on aggregating long-tail public Wi-Fi hotspots or residential hotspots.

3. Size of footprints: The size of the footprint covered by Wi-Fi-roaming-service providers varies significantly. Long-tail public Wi-Fi hotspots have been aggregated into networks incorporating several millions of hotspots, while smaller premium public Wi-Fi aggregators have built networks that number in the hundreds of thousands.

4. Quality and consistency of end-user experience: Perhaps the most important factor to take into account is quality and consistency of end-user experience, especially in terms of network performance. Premium-public-Wi-Fi aggregators are typically better placed to be able to ensure a solid and consistent experience, given the fact that such footprints are predominantly composed of managed, high-grade networks.

5. Type of relationship with venue owner: Relationships between Wi-Fi-roaming-service providers and the owners of hotspots that have been pooled into a global footprint vary to a significant degree. Whereas the aggregation of premium public Wi-Fi hotspots (e.g., iPass or Boingo) is based on formal contractual agreements between underlying hotspot-venue owners and the roaming-service provider, there might be no form of agreement at all in crowdsourced models, where hotspots might have been pooled without the knowledge or consent of the hotspot owner. The extent and nature of the agreement between the Wi-Fi-roaming-service provider and the hotspot owners is an important factor affecting the way that hotspots can be used, the types of services that can be offered across the hotspots and, more importantly, how they can be monetized.

Fig. 2: Key selection criteria for CSPs when assessing approaches to international Wi-Fi roaming

Criteria	Key considerations
Footprint size, quality and relevance	What is the size of the hotspot footprint? What is its geographic reach? Is the footprint aligned to key travel destinations of the local customer base? Are the locations high-quality and are they aligned to the highest-demand venues?
Business models	What are the commercial terms of partnerships? How much flexibility exists to experiment with monetization models?
Investment costs	What upfront and ongoing costs are likely to be incurred? How do investment requirements compare to alternative solutions?
Time to market	How quickly can an attractive commercial proposition be launched? What are the timelines to deploy additional features and services?
Proposition development	How involved are partners in helping build commercial propositions? What technical support is available? Is any support available for marketing activity?
Addressable market	Is the solution limited to certain operating systems (e.g., Android or iOS)? Can the solution address all device types (e.g., Wi-Fi-only devices)? What is the overall geographic reach of the footprint? How large is the addressable market and how quickly will it grow over time?
Platform capability and flexibility	Can the solution support different customer segments (e.g., enterprise)? Can the solution support multidevice propositions? How scalable is the platform? What authentication models are supported? What level of billing flexibility is available?
User experience	How consistent is the network experience (speed and capacity)? How simple are the steps to get connected?
Customer support	What level of support do partners offer to end-users? How scalable is the support in terms of volume or geographies?
Branding	Is the partner open to offering a white-label solution? Is the partner open to jointly branded solutions?

Source: Informa Telecoms & Media

Having built a detailed understanding of the basic characteristics of different Wi-Fi roaming services, operators must assess potential partners on the basis of a variety of technical, strategic and commercial factors that will ultimately determine their ability to build and bring to market the right types of propositions for their target customers.

What are the key considerations for operators seeking to build a Wi-Fi roaming strategy?

When building a partnership-based strategy to enter the international-Wi-Fi-roaming market, operators must take into account a range of factors (see fig. 2) that affect a potential third-party partner's approach to Wi-Fi roaming. These criteria span all aspects of the overall development of a value proposition, including business model, time-to-market, service development and investment.

It is these criteria that will ultimately determine the types of service that operators will be able to bring to market, how quickly they can do so and the potential to monetize and profit from future offerings.

Importantly, the different approaches to meeting the international-Wi-Fi-roaming needs of customers are not mutually exclusive. Operators should pursue multiple options to meet the immediate needs of users – and they are actively doing so – but at the same time, they should lay the

foundations for enhanced Wi-Fi roaming capabilities in the future.

Why has the industry witnessed an acceleration of activity in international Wi-Fi roaming in recent quarters?

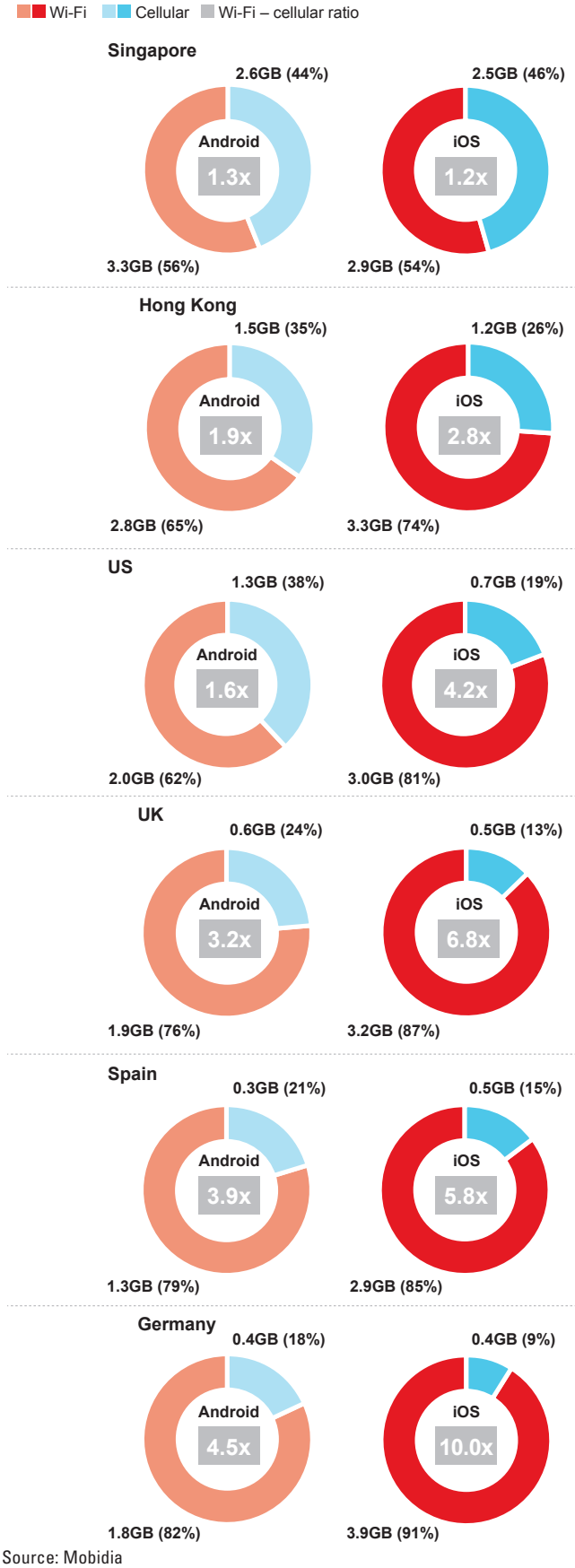
2012 witnessed an acceleration of activity in pushing forward the technical and commercial development of international Wi-Fi roaming, and this momentum has continued in the first half of 2013. In fact, there is a palpable sense of urgency underpinning the rapid pace of change in international Wi-Fi roaming that has been fueled by a number of demand-side factors. These include robust growth in international travel, evolving user dependency on Wi-Fi and a desire to exploit international Wi-Fi roaming to build new revenue streams in parallel to existing cellular data-roaming propositions.

Several important market drivers have served to accelerate this trend globally:

International travel is recording healthy growth globally

According to the United Nations World Tourism Organization, international tourist arrivals exceeded 1 billion for the first time in 2012, equating to 3.8% year-on-year growth from 2011. The volume of international tourism is set for robust growth again this year, with the UNWTO forecasting an increase of 3-4% in 2013. Since each international trip represents a potential roaming event, the addressable market for international

Fig. 3: Smartphone-originated data-traffic distribution by OS, selected countries, May-12 (MB per month)



Source: Mobidia

Wi-Fi roaming has never been greater.

As the adoption of smartphones continues to rise within markets and customer segments globally, so does consumer and enterprise dependence on Wi-Fi. And it is becoming increasingly clear that these users are coming to expect their in-home or in-office Wi-Fi experience to be replicated wherever they go and at every point in their day-to-day life, both domestically and when traveling internationally.

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Huge global investment in and expansion of Wi-Fi networks operated by CSPs

An investment boom is driving the rapid expansion of domestic Wi-Fi networks around the globe. Given the high levels of capital being spent, operators are eager to explore any new business models, such as outbound and inbound international Wi-Fi-network roaming that can enable more-effective monetization of their investments.

Wi-Fi is now established as the primary form of connectivity to smartphones and other connected devices

The importance of Wi-Fi to the everyday smartphone user experience is now beyond question. Far from being a technology that is used to back up cellular networks or "offload" during periods of congestion, Wi-Fi is now firmly established as the primary means of data connectivity for a large and growing base of users. According to studies conducted by Informa Telecoms & Media in partnership with Mobidia, Wi-Fi typically accounts for between 65% and 85% of total smartphone-originated data traffic, depending on the model of smartphone and the user's country of residence (see fig. 3).

There are a number of reasons for operators to adopt Wi-Fi as part of their international roaming strategy, but three stand above all others:

1. Attract, retain and increase wallet share in high-value customer segment

The quality of experience enjoyed by customers is emerging as a key battleground for domestic competition among CSPs. Since customer experience has become a key differentiator in terms of both attracting and retaining customers, operators simply cannot afford to risk the customer dissatisfaction and negative media coverage generated by "bill shock" horror stories. Operators are eager to address this issue by bringing to market solutions that offer consumers both an enhanced experience and, importantly, peace of mind to consume data without fear of incurring unexpected bills.

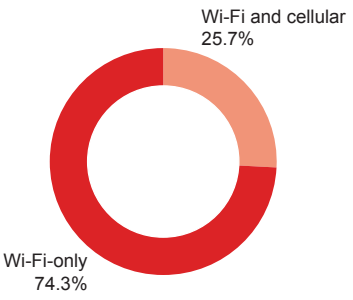
The clear preference of international travelers has been to meet their connectivity needs by finding and choosing their own Wi-Fi hotspots in visited locations, ensuring that CSPs lose out almost entirely on any Wi-Fi-related expenditure overseas. The provision of more-attractive international Wi-Fi roaming services is therefore an opportunity to recapture wallet share and, more importantly, to capture a slice of indoor usage and spend.

2. Monetize the opportunity around Wi-Fi-only devices

"There has been rapid growth in the adoption and usage of Wi-Fi-only devices (such as tablets) among international travelers. According to Informa Telecoms & Media forecasts, more than 162 million tablets will be shipped in 2013, of which around three-quarters (74%) are expected to ship with Wi-Fi as the only form of connectivity (see fig. 4). The emergence of cheap, Android-based tablets has served to increase the proportion of tablets that are solely reliant on Wi-Fi for connectivity, as has the uptick in the cost of adding cellular connectivity due to the emergence of LTE.

This market is currently a major missed opportunity for operators,

Fig. 4: Global, tablet shipments by connectivity type, 2013



Note: 1,517 respondents.
Source: Informa Telecoms & Media

since they have not established an effective means to monetize usage on Wi-Fi-only devices. The opportunity is especially notable because the emergence of commercially available technology to authenticate users on Wi-Fi-only devices and enable usage to be measured, billed and charged by the operators opens up the possibility for operators to capture a share of spend for Wi-Fi-only devices and, given the size of this segment, open a potentially significant new line of revenue. Operators should also be wary of the potential future cost of not supporting these devices if subscribers choose to seek out competitive offerings from players that are able to bundle all device types, including Wi-Fi-only devices, onto a single roaming plan.

3. Exploiting Wi-Fi to increase the profitability of cellular data roaming

The bundling of Wi-Fi into an integrated cellular/Wi-Fi data-roaming proposition provides operators with an opportunity to pursue a strategy to increase the profitability of data roaming not only by stimulating incremental spend but by reducing the cost of wholesale cellular data-roaming payments. Since every megabyte of cellular data consumed when roaming incurs a wholesale cost to the domestic CSP, the profitability of a roaming user effectively falls when the user consumes more data. If operators are able to maintain the level of spend by users while finding ways to reduce their usage of their bundled data allowance, there is a clear opportunity to increase profitability at the user level. This strategy is explained in more detail later in the white paper.

Why is international Wi-Fi roaming such a ripe opportunity for CSPs?

iPass has conducted a detailed global survey into the data-roaming habits of more than 1,500 international travelers, creating an important source of insight into the device-ownership trends, usage behavior and spending patterns of this important and high-value segment of users (see box). The survey results inform two key sections of this white paper: They are used to assess the size of the opportunity open to CSPs of integrating Wi-Fi into their international-data-roaming strategies, and to identify key considerations for CSPs looking to build new and appealing roaming propositions leveraging Wi-Fi.

The survey data reveals three important insights that serve to quantify the size of the international-Wi-Fi-roaming market and validate the fact that it is a genuine opportunity for CSPs.

1. International travelers are already heavily reliant on Wi-Fi to connect a multitude of devices, including smartphones, tablets and e-readers

Nothing has played a greater role in stimulating the need to be connected when traveling than the rise in smartphone adoption and, in parallel, the growing penetration of tablets and other much-valued Wi-Fi-enabled devices, such as e-readers. The more that users travel with devices that are heavily dependent on Internet access, the greater their need to access high-quality, affordable connectivity at their destination.

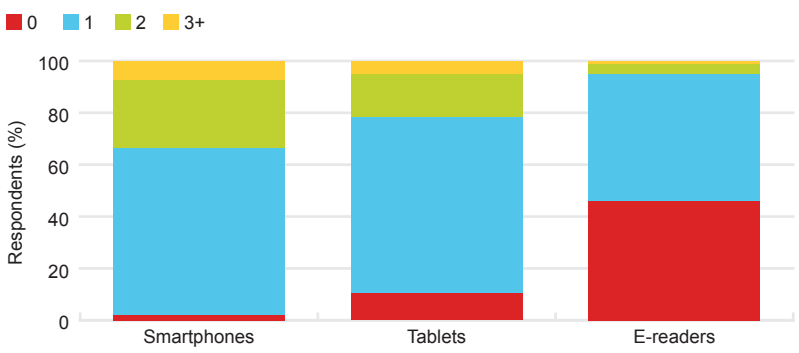
According to the iPass International Data Roaming Survey, 98% of respondents own at least one smartphone (see fig. 5), and over one-third (33.8%) of respondents travel with two or more. High levels of smartphone adoption were recorded across all geographies, including key emerging markets such as Brazil, India and China, but this should not be a surprise given the undoubtedly strong correlation between international travelers and the highest-value customer segments.

The fact that multiple-smartphone ownership is so common among international travelers reinforces the point that international-Wi-Fi-roaming propositions should allow for usage across multiple devices if

iPass International Data Roaming Survey

The International Data Roaming Survey was conducted by iPass over a four-week period during February and March 2013 and received 1,787 responses from 188 countries and territories, with the EU (38%) and the US (33%) accounting for the largest proportions of respondents. Of the respondents, 1,517 were international travelers. The objective of the survey was to gather information on end-user behavior and preferences related to the role of Wi-Fi when traveling internationally. The target demographic was smartphone and tablet users who travel internationally, whether for business or leisure. Readers should take into account the potential bias of the sample base when interpreting the results of the survey. Further details about the sample demographic can be requested from iPass.

Fig. 5: Number of portable devices owned by international travelers, by type



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

they are to match the behavior of the target user segments. Clearly, the importance of multiple-device support goes beyond enabling connectivity across multiple smartphones and should take into account the other Wi-Fi-enabled devices that are now frequently carried abroad by travelers. The rise of tablets as an important travel companion is underlined by the findings of the survey, which revealed an average 89.7% penetration across the total respondent base, and impressively high figures in markets as diverse as Israel (82.5%), France (70.8%) and Singapore (92.9%).

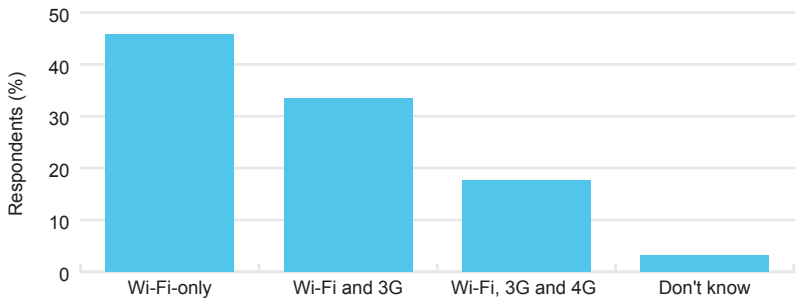
Perhaps the most important point when it comes to the tablet market, relates to the inbuilt connectivity capabilities of these devices. In spite of the clear value of wide-area cellular-network connectivity to users who spend time on the road, the survey found that almost half (45.7%) of the tablets owned by international travelers support only Wi-Fi (see fig. 6). This percentage is set to increase in the future, given the expected growth in shipments of Wi-Fi-only tablets in 2013, according to Informa's forecasts.

2. International travelers are already spending large amounts on Wi-Fi when abroad

Operators considering international-Wi-Fi-roaming strategies should be encouraged by the opportunity to capture a share of their customers' existing spend on Wi-Fi during international trips. It is apparent that international travelers incur significant connectivity expenses. According to the survey, almost one-third of respondents have spent US$50 or more for Wi-Fi access on a single overseas trip (see fig. 7). While there continues to be a major shift toward free-to-end-user Wi-Fi, high prices for Wi-Fi are still common in many locations, especially in key venues such as hotels and airports.

It is not surprising that international travelers have, on occasion, incurred significant one-off costs to obtain Wi-Fi access when overseas, but it is also clear that travelers are regularly spending significant amounts on Wi-Fi when traveling. The survey results strongly validate the fact that there is entrenched user spending behavior on Wi-Fi that can be tapped by CSPs providers to create new revenue streams. Just under 70% of travelers will typically spend US$20 or more on an average international trip, and one in five spend US$50 or more.

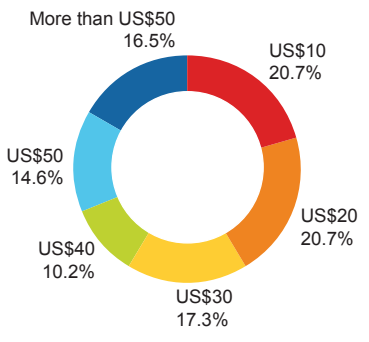
Fig. 6: Wireless-network connectivity of tablets owned by international travelers



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

Fig. 7: What is the maximum amount you've ever spent for Wi-Fi access over the duration of one international trip?



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

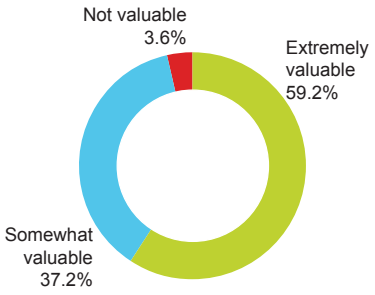
The spread in spending levels among respondents indicates an opportunity to build tiered offerings that enable operators to tap into the varying spending behavior of different customer groups.

3. International travelers perceive high value in an international-Wi-Fi-roaming service, but most don't yet subscribe to one

When presented with the possibility of an international-Wi-Fi-roaming service, consumers accord it a very high level of perceived value. Asked to assess the value of a service that offers unlimited access to a broad global network of Wi-Fi hotspots, six out of 10 survey respondents perceived the proposition to be extremely valuable (see fig. 8), with just a tiny proportion (3.6%) questioning the potential value. Users who did not attach value to an international-Wi-Fi-roaming service cited a preference to find Wi-Fi themselves, the broad availability of free Wi-Fi and the option to buy local SIM cards as key reasons.

In spite of the high perceived value of such services, only a small proportion of respondents (31.7%) were found to have already subscribed to an international-Wi-Fi-roaming service (see fig. 9). Given the potential bias in the sample set, the size of the untapped market is likely to be even greater. In all, it is clear that not only is there a strong interest in the value of an international-Wi-Fi-roaming service, but users are already incurring considerable costs to obtain Wi-Fi access abroad. Taken together, it adds up to a market opportunity that is ripe and ready to be disrupted by new propositions.

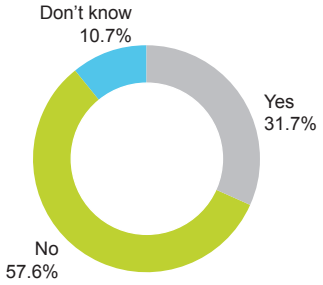
Fig. 8: How valuable would an international Wi-Fi roaming service be to you?



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

Fig. 9: Do you currently subscribe to an international Wi-Fi roaming service?



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

How can operators create business value from international Wi-Fi roaming?

Although the survey has shown that opportunities definitely exist for CSPs in tapping into customers' usage of and spend on Wi-Fi when traveling internationally, operators must think carefully about how to ensure that a Wi-Fi roaming service will create value.

There are six key ways that operators can create business value from international Wi-Fi roaming, through direct monetization, indirect monetization and cost-reduction strategies.

1. Interoperator-tariff cost reduction

If the wholesale cost of Wi-Fi data bought from roaming partners via interoperator tariffs (IOTs) is lower than the equivalent cost of wholesale cellular data, operators can reduce their IOT costs by creating integrated cellular/Wi-Fi data bundles at a similar price to stand-alone cellular data-roaming options and boost profitability at the user level by exploiting the fact that users prefer to consume (lower-cost) Wi-Fi data before using (more expensive) cellular data.

2. Drive sales of high-value integrated cellular/Wi-Fi roaming bolt-ons

The bundling of an inclusive amount of Wi-Fi data in an integrated cellular/Wi-Fi data-roaming proposition adds perceived value to such packages. If such bundled propositions are priced higher than stand-alone cellular data-roaming options, operators can use Wi-Fi as a value-added service to upsell customers to more-expensive plans.

3. Capture wallet share from Wi-Fi-only devices

Operators typically generate zero incremental revenue when their subscribers use Wi-Fi-only devices when traveling overseas, given the tendency of users to search out and spend on locally provided hotspots. This equates to a major missed monetizable opportunity. By creating propositions for their customers that can be used across both cellular-connected and Wi-Fi-only devices, operators have a major opportunity to capture wallet share from a previously closed-off market segment.

4. Improve roaming-centric customer experience

Operators are battling years of entrenched negative perception of the cost and general experience of cellular data roaming. "Bill shock" caused by the high cost of cellular data roaming is a major source of customer dissatisfaction and, consequently, churn. Affordable Wi-Fi roaming options can give customers peace of mind when traveling and help prevent bill shock, greatly improving the customer experience.

5. Drive customer acquisition through service differentiation

Operators that capture first-mover advantage can claim a position as an innovation leader and use it to differentiate their service propositions from those of competitors. In highly competitive domestic markets, any possibility to create genuinely different propositions can be an effective tool to drive customer acquisition.

6. Generate incremental roaming revenue via Wi-Fi access fees

Operators can generate stand-alone revenue streams for international Wi-Fi roaming by tapping into user willingness to spend on Wi-Fi when traveling overseas and charging one-off or recurring fees for access to an aggregated global footprint of Wi-Fi hotspots.

To be able to capitalize on the opportunities for value creation that are emerging in international Wi-Fi roaming, operators need to ensure that services are constructed appropriately to meet any updated corporate strategic objectives and the specific needs of users who have already started to build established patterns of usage when traveling abroad with their smart devices in tow.

What are the most important end-user insights that can help CSPs build attractive Wi-Fi-centric roaming propositions and exploit the opportunities to create business value?

Based on an in-depth analysis of both actual and intended end-user behaviors and their related purchasing patterns and intentions, it is possible to identify five key success factors for CSPs hoping to build successful international-Wi-Fi-roaming propositions.

1. Segment propositions to ensure that tariff structures and pricing models are aligned with variations in user behavior and willingness to spend

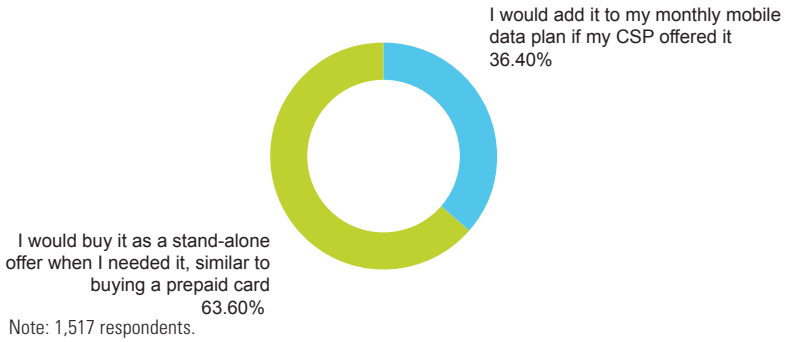
Developing, trialing and commercializing a single proposition is an understandably attractive first move, but in the longer term, a one-size-fits-all approach is unlikely to capture the full potential of the Wi-Fi roaming opportunity. Operators should therefore think early on about segmenting their portfolio to better align tariff structures with variations in buying preferences, user behavior and, more importantly, user willingness to spend and perceived value.

An important choice that operators should consider offering their customers is a range of pay-as-you-go and subscription models. Pay-as-you-go propositions typically take the form of daily or weekly passes, and subscriptions are usually added to monthly bills on a recurring, ongoing basis, either with or without a fixed-term contract.

When asked to express a preference between the two models, survey respondents showed a clear preference for the greater flexibility offered by pay-as-you-go models, with 63.6% opting for such a service (see fig. 10). But there is also clearly a market for subscriptions, especially among regular travelers. Fifty-five percent of users who travel frequently (10 or more times a year) would prefer to add a monthly Wi-Fi roaming service to their existing cellular subscription.

As operators go about building and segmenting a portfolio, they should also pay consideration to the structure

Fig. 10: Purchasing preferences of international travelers between pay-as-you-go and subscription models

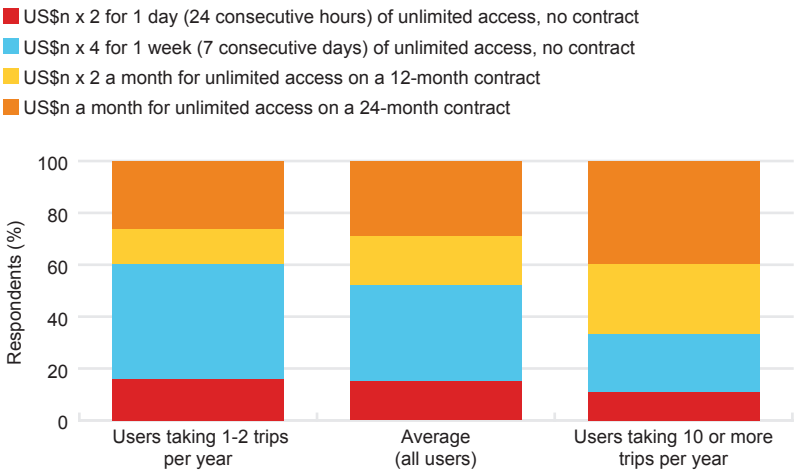


Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

of different models, in particular the lengths of pay-as-you-go passes offered to customers. Daily and weekly data-roaming passes are increasingly emerging as service offerings for customers, and the survey provides evidence to validate the underlying assumptions of such service launches. When respondents were asked to state their preference among a range of daily, weekly and monthly propositions, weekly was the most popular option (see fig. 11). The fact that users tend to favor a weekly pass is not surprising, given that international trips most frequently last a business week or longer (see fig. 12).

Fig. 11: Purchasing preferences among international travelers for different Wi-Fi roaming plans



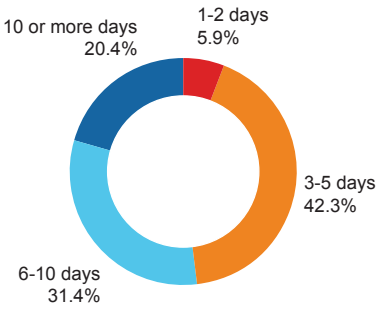
Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

These responses underline users' willingness to commit to a contract with a regular spending commitment over 12 or 24 months. The survey indicated a strong market opportunity for affordably priced contract options, with respondents effectively equally split in terms of their preference between plans that include a recurring contractual commitment and those that do not. The appeal of a recurring spending commitment at a much lower rate than more-flexible pay-as-you-go passes is far greater among frequent travelers: Two-thirds (66.8%) of respondents who travel 10 or more times a year would commit to a contract plan, compared with just 38.5% of infrequent travelers (1-2 trips per year).

An additional consideration should be whether to offer unlimited Wi-Fi to customers or apply volume- or time-based caps to Wi-Fi data quotas. Although unlimited offerings are undoubtedly more appealing to customers and can underpin attention-grabbing marketing messages, it is questionable whether this approach will maximize the profitability of a Wi-Fi roaming proposition, especially where operators are exposed to wholesale Wi-Fi data costs based on either volume or time. Building on the importance of effective segmentation of offers, operators should consider tiering inclusive Wi-Fi data volumes based on spending commitments and perhaps reserve unlimited Wi-Fi for only the highest-value options. Such an approach not only circumvents the potential value dilution of a one-size-fits-all approach to inclusive Wi-Fi volumes, but could be used to upsell customers to high-value packages.

Fig. 12: Typical duration of travelers' international trips



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

2. Integrate Wi-Fi allowances into cellular-data-roaming propositions to capture the perceived value of Wi-Fi among international travelers

Operators should strongly consider creating bundled propositions to take advantage of the perceived value of Wi-Fi among travelers. Presented with a range of data-roaming propositions that include both stand-alone cellular data and integrated cellular/Wi-Fi bundles, users show a clear preference for integrated packages (see fig. 13). What is more, when packages were presented without any associated pricing, respondents expressed a clear preference for a larger amount of inclusive data – a clear sign that there is underlying demand for tariff plans that permit considerable consumption when overseas.

There is also strong evidence that users not only value the inclusion of Wi-Fi in an integrated roaming bundle but are prepared to pay a premium to acquire such a service. According to the survey, almost 40% of international travelers would be prepared to pay a premium of 10% or more for a bundle that

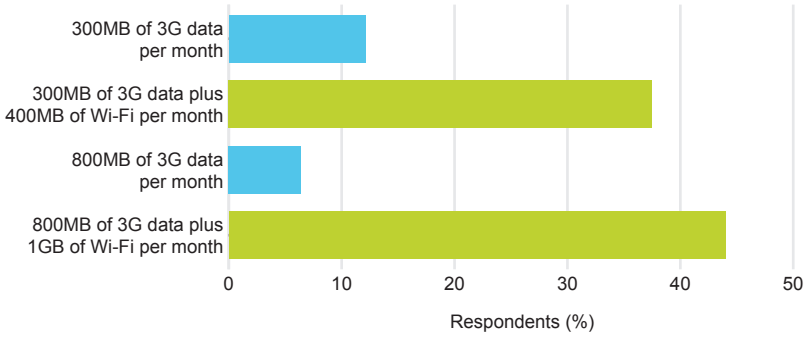
included a limited volume of Wi-Fi data in addition to the cellular-data allowance (see fig. 14).

People are clearly willing to spend on Wi-Fi when roaming, albeit to varying degrees, a fact that is underlined by respondents' opinions about the maximum they would be prepared to pay for Wi-Fi access during a typical international trip. Almost one-third of travelers (32%) are prepared to spend a maximum of US$10 per trip, and four in 10 (39.3%) are prepared to commit to US$40 or more, with just over 15% willing to spend above US$50 (see fig. 15).

The survey results also quantified the variations in price sensitivity among business and leisure travelers, with those roaming for business reasons demonstrating a greater willingness to spend larger amounts for Wi-Fi access than those traveling exclusively for leisure purposes.

Unsurprisingly, when the set of bundled data-roaming propositions outlined in fig. 13 is presented to users with prices attached, there is a clear shift in the purchasing intentions of survey respondents (see fig. 16). Although users might prefer access to large bundles, they demonstrate restraint in terms of spending in order to manage costs. Nonetheless, the survey revealed that a material number of users are prepared to spend a significant sum on a larger bundle of inclusive cellular/Wi-Fi data.

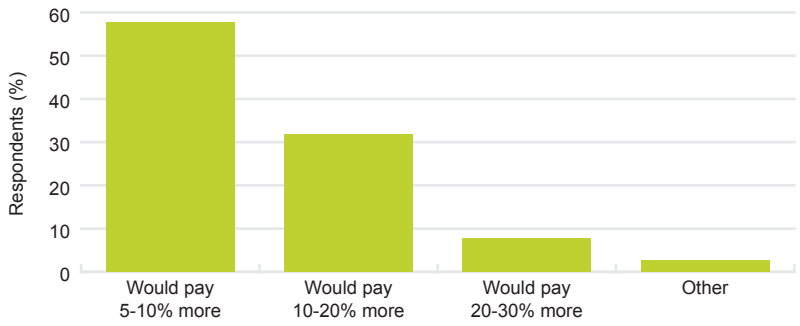
Fig. 13: Preferences of international travelers for stand-alone cellular and integrated cellular/Wi-Fi data-roaming propositions, excluding prices



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

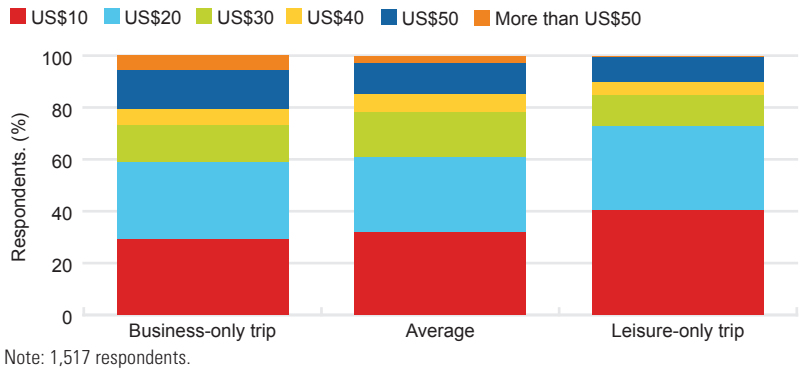
Fig. 14: Travelers' willingness to spend a premium to acquire a data-roaming bundle that includes Wi-Fi



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

Fig. 15: Maximum likely spend for Wi-Fi access on a typical international trip



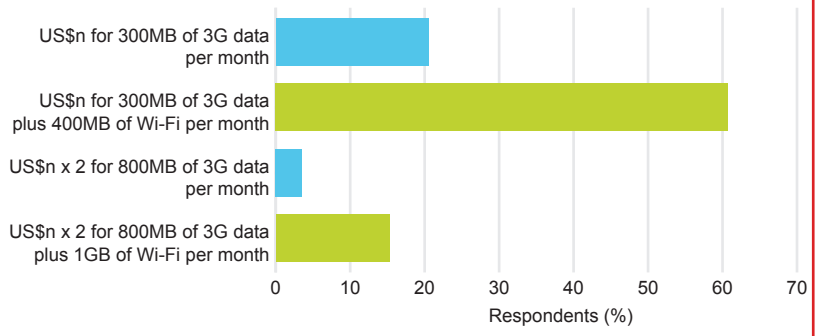
Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

3. Use integrated bundles to underpin an IOT-cost-reduction strategy and increase the profitability of cellular data roaming

When asked how they would consume the inclusive data quotas of an integrated cellular/Wi-Fi roaming service (e.g., a bundle including 300MB of cellular data and 400MB of Wi-Fi), respondents revealed an overwhelming preference to use Wi-Fi first whenever it is available and to reserve inclusive cellular-data quotas for occasions when Wi-Fi is not available (see fig. 17). Users' preference to use Wi-Fi as the primary form of connectivity whenever possible is a strong validation of the potential to use

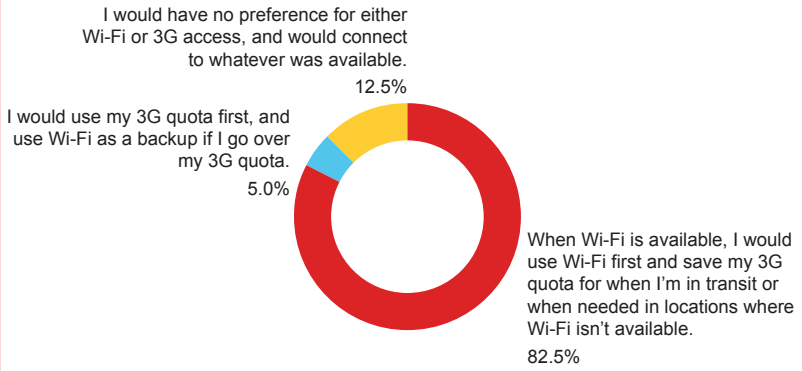
Fig. 16: Preferences of international travelers for stand-alone cellular and integrated cellular/Wi-Fi data-roaming propositions, including prices



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

Fig. 17: Likely behavior of international travelers subscribed to an integrated cellular/Wi-Fi data-roaming bundle



Note: 1,517 respondents.

Source: iPass International Data Roaming Survey, Apr-13

integrated cellular/Wi-Fi bundles as a strategy of reducing costs linked to IOTs, an important and emerging business model for operators developing advanced strategies for international data roaming.

Since every megabyte of cellular data consumed when roaming incurs a wholesale cost to the domestic CSP, a roaming user becomes less profitable the more data is consumed. If operators are able to maintain the same level of spend while finding ways to reduce use of the inclusive data allowance, they have a clear opportunity to increase profitability at the user level.

It is important to note, however, that this is a strategy that is viable only in cases where operators do not dilute incoming spend – through maintaining the same (or a higher) price for an integrated cellular/Wi-Fi bundle – and, most crucially, in cases where the wholesale cost of Wi-Fi roaming data is lower than the wholesale cost of cellular data.

4. Maximize the addressable market by targeting the key device and platform types owned and used by international travelers

A variety of solutions for international Wi-Fi roaming are dependent on smartphone applications for service delivery, but these have typically been limited to just two platforms: iOS and Android. Although these two are the dominant smartphone operating systems globally, operators and their third-party partners will need to carefully examine the growth of competing platforms and assess the optimum time to extend support beyond iOS and Android to maximize the addressable market.

But the ecosystem of Wi-Fi-enabled devices that are critical to the day-to-day needs of international travelers and, therefore, the opportunity for operators is far greater than just smartphones. Operators should examine the potential that exists beyond smartphones to monetize Wi-Fi usage on Wi-Fi-only devices, such as tablets. This should include building offers that enable customers to make use of Wi-Fi roaming services across all of their devices, rather than tying them exclusively to a per-device basis.

5. Develop a clear understanding of travel patterns to exploit opportunities in a targeted fashion

An analysis of data on travel routes released by the UN World Tourism Organization together with data that can serve as a proxy for the relative availability of public Wi-Fi in different countries can be used to identify opportunities to build targeted Wi-Fi roaming solutions. Specifically, the ripest opportunities can be identified by correlating travel routes that carry the largest volume of international trips with countries that have high deployment of Wi-Fi (see fig. 18). In addition to having a critical mass of travelers and high availability of Wi-Fi at the travel destination, building a compelling offering for a given travel route relies on factors such as the

Density of premium public Wi-Fi infrastructure

High Medium Low

Fig. 18: The 100 highest-volume international travel routes, 2012

Rank	Country of origin	Country of destination	Number of trips
1	Hong Kong	China	79,357,701
2	Macau	China	23,690,767
3	Canada	US	21,337,000
4	US	Mexico	18,554,616
5	China	Hong Kong	13,599,768
6	Mexico	US	13,491,000
7	Singapore	Malaysia	13,372,647
8	Germany	France	11,648,128
9	US	Canada	11,595,363
10	Germany	Austria	10,929,670
11	UK	Spain	10,569,661
12	Germany	Italy	9,874,509
13	Germany	Spain	9,030,697
14	Russia	Ukraine	9,018,487
15	UK	France	8,932,520
16	France	Spain	8,498,430
17	Italy	France	7,986,946
18	Netherlands	France	6,496,711
19	Switzerland	France	5,666,834
20	Spain	France	5,467,370
21	Taiwan	China	5,263,014
22	France	Italy	4,982,877
23	China	Macau	4,703,663
24	Germany	Turkey	4,557,460
25	South Korea	China	4,185,398
26	Moldova	Ukraine	4,071,785
27	Netherlands	Germany	4,035,783
28	Italy	Spain	3,766,597
29	Japan	China	3,658,169
30	France	UK	3,633,000
31	Russia	Turkey	3,425,608
32	US	France	3,325,324
33	Saudi Arabia	Bahrain	3,320,188
34	Japan	South Korea	3,289,051
35	Japan	US	3,249,569
36	Switzerland	Italy	3,235,773
37	Austria	Italy	3,205,214
38	UK	US	3,137,423
39	UK	Ireland	3,090,222
40	Germany	Netherlands	2,978,000
41	Netherlands	UK	2,947,000
42	US	UK	2,846,000
43	Netherlands	Spain	2,776,058
44	US	Italy	2,714,583
45	Spain	Italy	2,610,373
46	Indonesia	Singapore	2,592,222
47	US	Puerto Rico	2,586,600
48	Kuwait	Saudi Arabia	2,578,541
49	Ireland	UK	2,574,000
50	Russia	China	2,536,321

Sources: UNWTO and Informa Telecoms & Media

Fig. 18: The 100 highest-volume international travel routes, 2012

Rank	Country of origin	Country of destination	Number of trips
51	Malaysia	Thailand	2,492,034
52	UK	Italy	2,333,404
53	Switzerland	Germany	2,301,482
54	Germany	Hungary	2,287,000
55	Germany	Greece	2,240,481
56	UK	Germany	2,227,595
57	China	South Korea	2,220,196
58	US	Germany	2,163,759
59	Indonesia	Malaysia	2,134,381
60	US	China	2,116,144
61	Saudi Arabia	Kuwait	2,063,815
62	Germany	Denmark	2,055,025
63	Germany	Switzerland	2,038,680
64	UK	Greece	1,934,454
65	UK	Portugal	1,925,256
66	Netherlands	Belgium	1,920,003
67	UK	Netherlands	1,864,006
68	Iran	Turkey	1,863,655
69	Spain	UK	1,836,000
70	Russia	Egypt	1,832,388
71	Germany	US	1,823,797
72	Netherlands	UK	1,788,000
73	Portugal	Spain	1,787,705
74	Belgium	Spain	1,779,073
75	France	Morocco	1,775,961
76	Netherlands	Italy	1,758,978
77	Argentina	Uruguay	1,723,005
78	Poland	Ukraine	1,720,104
79	China	Thailand	1,704,800
80	Jordan	Saudi Arabia	1,666,814
81	China	Taiwan	1,666,562
82	Germany	Croatia	1,661,346
83	South Korea	Japan	1,658,073
84	Netherlands	Austria	1,644,620
85	Libya	Tunisia	1,642,620
86	Hong Kong/China	Macau	1,632,010
87	Argentina	Brazil	1,593,775
88	UK	Turkey	1,592,735
89	Thailand	Laos	1,579,941
90	China	Singapore	1,577,522
91	Canada	Mexico	1,563,146
92	Zimbabwe	South Africa	1,553,008
93	Italy	Germany	1,538,369
94	UAE	Saudi Arabia	1,531,429
95	Leosotho	South Africa	1,526,597
96	Italy	UK	1,526,000
97	Brazil	US	1,508,279
98	Spain	Andorra	1,507,111
99	Singapore	Indonesia	1,505,588
100	France	US	1,504,182

Sources: UNWTO and Informa Telecoms & Media

friendliness of the local operator environment and the existence of favorable economics for Wi-Fi relative to cellular.

Which CSPs have already launched international Wi-Fi retail propositions, and what lessons can be learned from first-movers?

The commercialization of international-Wi-Fi-roaming propositions by CSPs is still in an early phase, but it is possible to build an initial understanding of the opportunities for operators by analyzing the in-market propositions of the first-movers (see fig. 19). Asia Pacific has recorded the highest level of commercial activity to date, and commercial propositions have also been launched in the Middle East (Zain, September 2012), North America (AT&T, April 2013) and Brazil (Oi, April 2012). All operators share the common strategic objective of generating business value from the opportunities that exist in Wi-Fi roaming, but the services that have been brought to market vary markedly in terms of structure, target segments, monetization and the benefits marketed to end-users.

In order to understand the lessons in best practice, it is important to assess each of these elements to identify the benefits of different approaches and business models.

Target segments

Companies offering international Wi-Fi roaming most frequently target the consumer postpaid segment, but it is clear that operators also see opportunities to encourage prepaid users to take up their services, especially in emerging markets. The enterprise market is an obvious target for operators, given the service's value to international business travelers, but although some operators (e.g., M1 and PCCW) have focused on this segment from the outset, others have not.

Fig. 19: Selected commercially available international Wi-Fi roaming services launched by communications-service providers, Apr-13

Country	Operator	Wi-Fi branding	Model	Inclusive data		Fees	Devices	Primary target segment(s)	Notes
				Cellular	Wi-Fi				
US	AT&T	Wi-Fi International	Integrated cellular/Wi-Fi data-roaming bolt-on	300MB	1,024MB	US$60	iOS, Android	Consumer	
	AT&T	Wi-Fi International	Integrated cellular/Wi-Fi data-roaming bolt-on	800MB	1,024MB	US$120	iOS, Android	Consumer	
Singapore	M1	Wi-Fi Roaming	Daily pay-as-you-go pass	n/a	Unlimited	S$12	iOS, Android	Consumer, enterprise	Asia Pacific, North America, Latin America. Postpaid users only.
	M1	Wi-Fi Roaming	Daily pay-as-you-go pass	n/a	Unlimited	S$19	iOS, Android	Consumer, enterprise	Rest of the world. Postpaid users only.
Kuwait	Zain	Zain Pass	Monthly pass	n/a	Unlimited	KD13	iOS, Android	Enterprise	Postpaid users only.
Hong Kong	PCCW	Wi-Fi Roaming	Pay-per-minute	n/a	n/a	HK$1-2	iOS, Android	Consumer, enterprise	Per-minute price varies from HK$1-2 dependent on destination country.
Japan	KDDI	Au Wi-Fi SPOT	Pay-per-minute (up to a maximum daily charge)	n/a	n/a	¥27	Smartphones, tablets, laptops	Consumer	Maximum daily charge of ¥1,480, equivalent to 55 minutes. Users must subscribe to cellular data roaming package to be eligible.
	NTT DoCoMo	World Wing Wi-Fi	Value-added service added to cellular-data-roaming bolt-on	24.4MB	n/a	¥1,980	Smartphones, tablets	Consumer	Available to all users of Global Pake-Hodai. Users exceeding 24.4MB of cellular data will be charged a maximum daily amount of ¥2,980.
Thailand	DTAC	DTAC data roaming	Roaming bolt-on (daily)	25MB	Unlimited	THB350	iOS, Android	Consumer	Per day
	DTAC	DTAC data roaming	Roaming bolt-on (weekly)	500MB	Unlimited	THB2,599	iOS, Android	Consumer	Per week

Source: Informa Telecoms & Media

Key marketing messages

Those operators that have brought commercial international-Wi-Fi-roaming propositions to market have chosen a variety of messages to highlight their services' key benefits (see figs. 20 and 21), which comprise affordability, flexibility, simplicity, availability and peace of mind.

AT&T's marketing (see fig. 22) focuses on the affordability, flexibility and simplicity of its proposition; NTT DoCoMo has chosen to highlight the simplicity of its service and the peace of mind it brings to users; and Zain emphasizes the affordability of its service and the size of the hotspot footprint available to customers. DTAC's marketing (see fig. 22) is particularly noteworthy for the fact that it cleverly uses the logos of several high-profile brands to promote the value and relevance of its hotspot footprint to its customers.

Structuring propositions to maximize perceived value and addressable market

The structure and characteristics of Wi-Fi roaming propositions vary along six key dimensions.

1. One-size-fits-all vs. tiered propositions: Has the operator launched a single proposition or adopted a tiered model with varying options available to end-users?

2. Unlimited vs. volume-/time-limited usage: Does the proposition include unlimited Wi-Fi usage or is it restricted by volume or time?

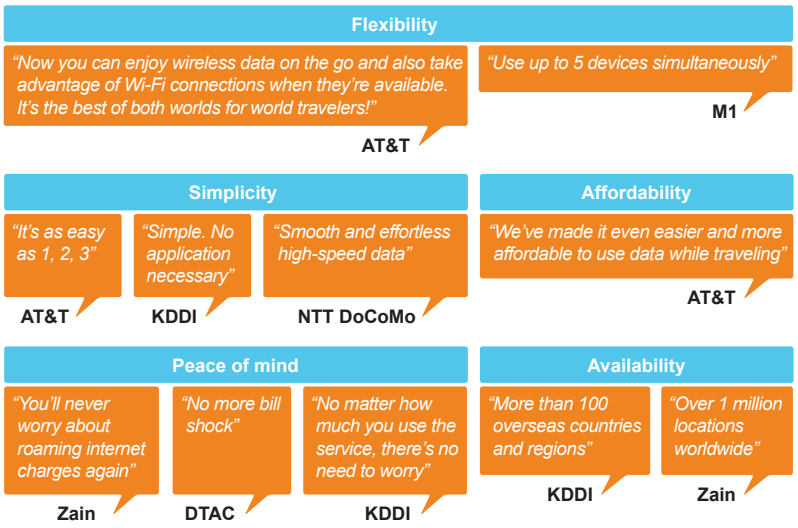
3. Integrated vs. stand-alone models: Does the proposition include integrated cellular/Wi-Fi data or is it a stand-alone proposition limited to Wi-Fi only?

Fig. 20: Key benefits used by CSPs to promote the value of international Wi-Fi roaming to end-users

Country	Operator	Affordability	Flexibility	Simplicity	Availability (footprint)	Peace of mind
US	AT&T	■	■	■		
Japan	NTT DoCoMo			■		■
Thailand	DTAC				■	■
Japan	KDDI			■	■	■
Singapore	M1	■	■		■	
Kuwait	Zain	■			■	

Source: Informa Telecoms & Media

Fig. 21. Examples of marketing messages used by CSPs to promote international Wi-Fi roaming, Apr-13



Source: Operator websites

Fig. 22: Online marketing for Wi-Fi data-roaming plans for AT&T and DTAC

Sources: AT&T, DTAC

4. Pay-as-you-go passes vs. recurring monthly subscriptions: Is the proposition available on a pay-as-you-go basis (e.g., daily or weekly passes) or on a subscription basis?

5. Device-centric vs. user-centric models: Is the service limited to a single device or are users able to use it across multiple devices that they own?

6. Global vs. regional pricing: Do prices vary in different regions, or is there a single global price applicable to all roaming destinations?

It is important to emphasize that although operators can choose from among different characteristics when designing a service, these features are not mutually exclusive. Operators can build tiered offerings that incorporate a mixture of some or all the elements outlined above (see fig. 24).

Creating business value

Varied business-value drivers underpin the structure of international-Wi-Fi-roaming propositions (see fig. 25). Service differentiation and an enhanced customer experience are key drivers for all operators, but while some have sought to directly monetize Wi-Fi by charging incremental service fees, others have preferred to simply use Wi-Fi as a value-added service to stimulate sales of higher-value cellular-data-roaming plans.

Those operators that have chosen to create integrated offerings also stand to benefit from the potential to reduce IOT costs associated with cellular data roaming, assuming that the wholesale rates for Wi-Fi charged by roaming partners are lower than those incurred for cellular data roaming.

Importantly, operators are not restricted to creating value along a single line, and the right proposition structures can generate incremental business value in multiple ways.

Fig. 23: Key characteristics of selected commercially-available international Wi-Fi roaming models

Operator	One-size-fits-all or tiered portfolio	Unlimited or volume-/time-limited Wi-Fi usage	Integrated cellular/Wi-Fi bundled service or standalone Wi-Fi service	Pay-as-you-go passes or recurring monthly subscriptions	Device-centric or user-centric charging	Global or regional Wi-Fi pricing
AT&T	Tiered portfolio	Volume-limited	Integrated cellular/Wi-Fi bundled service	Recurring monthly subscription	User-centric model	Single global Wi-Fi price
NTT DoCoMo	Tiered portfolio	Unlimited	Integrated cellular/Wi-Fi bundled service	Recurring monthly subscription	User centric	Single global Wi-Fi price
DTAC	Tiered portfolio	Unlimited	Integrated cellular/Wi-Fi bundled service	Pay-as-you-go daily or weekly passes	Not known	Single global Wi-Fi price
KDDI	One-size-fits-all	Time-limited	Integrated cellular/Wi-FI service, but additional per-usage fees apply to Wi-Fi	Recurring monthly subscription	Not known	Single global Wi-Fi price
M1	One-size-fits-all	Unlimited	Standalone Wi-Fi service	Pay-as-you-go daily pass	User-centric (up to 5 devices)	Variable regional pricing for Asia-Pacific and Rest of the World
Zain	One-size-fits-all	Unlimited	Standalone Wi-Fi service	Recurring monthly subscription (no contract)	User centric	Single global Wi-Fi price

Source: Informa Telecoms & Media

Fig. 24: Key business value drivers of selected international Wi-Fi roaming propositions, Apr-13

	Oi	AT&T	NTT DoCoMo	DTAC	KDDI	M1	Zain
Generate incremental roaming revenue via Wi-Fi access fees					■	■	■
Capture wallet share from Wi-Fi-only devices	■						
Drive sales of high-value integrated cellular/Wi-Fi roaming plans	■	■	■	■	■		
Improve roaming-centric customer experience	■	■	■	■	■	■	■
IOT cost reduction	■	■	■	■	■		
Drive customer acquisition through service differentiation	■	■	■	■	■	■	■

Source: Informa Telecoms & Media

Concluding remarks and recommendations for CSPs

- Wi-Fi roaming is a major business-value opportunity for operators, thanks to the strong adoption of and reliance on Wi-Fi-enabled devices by the overwhelming majority of international travelers. Users now expect Wi-Fi to be available wherever and whenever they travel, whether at home or overseas. Importantly, it is clear that international travelers already regularly spend large sums of money to secure Wi-Fi access when abroad, a revenue opportunity that has not been successfully captured by operators to date.

- If operators wish to succeed in the international-Wi-Fi-roaming market, they need to focus on building propositions that clearly meet user demand for transparent, simple and flexible offerings at an affordable price. Operators can maximize the addressable market and spending on Wi-Fi roaming by building a segmented portfolio of offers that target different customer segments and cover a range of device types. They should offer the flexibility of a variety of pay-as-you-go passes (daily, weekly and monthly) alongside subscription models, allowing for single- or multiple-device usage and offering both stand-alone Wi-Fi access and integrated cellular/Wi-Fi models.

- Operators must carefully consider whether to attach a direct premium to Wi-Fi or position bundled Wi-Fi roaming as a free value-added service to enhance the value of existing propositions. Operators that have chosen not to attach a premium to the service can monetize their investment by encouraging adoption of cellular data-roaming services among "silent" roamers, upselling customers to higher-value packages or benefiting indirectly from the improved experience offered to customers through greater loyalty and lower churn, and lower IOT costs.

- If operators hope to derive business value from offering an improved customer experience and, importantly, avoiding "bill shock," it is imperative that the terms of propositions are presented as transparently as possible. Operators should provide a clear overview of the hotspot footprint (e.g., numbers and locations of hotspots), device support (e.g., device types and operating systems covered), charging models (e.g., inclusive data volumes and which time zone is used to delineate daily passes) and the expected user experience (e.g., best-effort data rates).

- Operators should carefully consider whether to offer Wi-Fi on an unlimited basis. Unlimited models risk exposing operators to inflated wholesale-cost settlements where any roaming agreement has been negotiated on a volume- or time-limited basis. Building on the importance of segmenting offers, operators should consider tiering inclusive Wi-Fi data volumes based on spending commitments and reserve unlimited Wi-Fi for only the highest-spending customers. Such an approach not only keeps the value of inclusive Wi-Fi volumes from being diluted, but could be used to upsell customers to high-value packages.

- By bundling Wi-Fi into an integrated cellular/Wi-Fi data-roaming proposition, operators can increase the profitability of data roaming by both stimulating incremental spending and reducing the cost of wholesale cellular-data-roaming payments. Integrated propositions, moreover, should be viewed by operators as an excellent means of preventing any potential cannibalization of existing cellular-data-roaming revenues.

- Operators seeking to use Wi-Fi roaming as a means of presenting themselves as innovation leaders must enter the sector before their domestic competitors. The opportunity offered by Wi-Fi roaming exists now, and the operators that move the quickest will be best positioned to capture a competitive advantage.

- Operators should examine the value of a partnership-based strategy when entering the international-Wi-Fi-roaming market, to benefit from time-to-market advantages and leverage the know-how and experience of partners to bring attractive commercial propositions to market in a cost-effective way.

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