



CASE STUDY

AT&T Roaming Wi-Fi Hub



An Innovative Solution for
Delivering Seamless, Secure
Global Wi-Fi Roaming

Industry: Telecom

CONNECTING
NETWORKS

ACCURIS CASE STUDY: AT&T Roaming Wi-Fi Hub

Users increasingly rely on their mobile phones wherever they are, and for this reason, even better, easier, less costly connectivity during international travel has been a holy grail in the telecom industry. Wi-Fi offload and roaming innovator Accuris Networks knew that making Wi-Fi networks work just like cellular networks for travelers was the way forward.

Communications leader AT&T -- long a proponent of Wi-Fi -- began building an international roaming offer utilizing Wi-Fi hotspots in 2012. Accuris Networks lent its AccuROAM technology to this solution. Positive response to this solution spurred its rapid expansion, with users liking its simplicity, flexibility, service and price. Now AT&T is enabling other carriers to offer this secure service to their customers and thereby avoid the difficult, costly task of building out Wi-Fi networks themselves.

THE OPPORTUNITY

Tourists, road warriors or just the average person are spoiled today by the ubiquity of good phone service in the United States, so much so, they expect such connectivity when they travel outside the country and are decidedly upset if they're slammed with a huge roaming bill when they get home. Given the fact that studies show smartphone owners alone spend an average of more than three hours per day using their devices, it's clear that a huge market exists for attractive international roaming solutions.

Gone are the days when users were content with pulling out roaming guides to calculate how to make calls and what they might cost. Switching out SIM cards from various foreign operators, if this is even possible, was troublesome and alas, a purchased SIM means not being able to use one's existing phone number; rather, the card includes an assigned number. Buying pay-as-you-go phones, which are rarely cheap, and don't always allow roaming. Fortunately, mobile providers offer international calling and data plans -- some via partners -- but the cost can be high.

“ The AT&T Wi-Fi Hub is a simple end-to-end solution to easily add Wi-Fi roaming to a carrier's portfolio. ”

A popular approach for using smartphones overseas is utilizing Wi-Fi hotspots. However, this can sometimes be challenging for users when it comes to choosing optimal Wi-Fi providers. Many cities have hotspot networks that travellers can join for a fee and there are worldwide Wi-Fi networks available but they're often expensive.

On the operator end, secure authentication as well as accurate charging and billing are troublesome issues associated with Wi-Fi hotspots. In terms of the former, the telecom industry -- particularly standards bodies such as the Wireless Broadband Alliance (WBA) and the Wi-Fi Alliance -- has put much effort into secure, useable hotspots. This is an element with key efforts like Hotspot 2.0. Unfortunately, a majority of networks today don't yet offer such authentication so seamless, secure access isn't yet the norm even though customer demand makes operators offer Wi-Fi access without these desirable elements.

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The Solution

With such wide smartphone penetration and huge growth in data usage, today's customers with their reliance on always being connected created a market situation ready for expansion.

To accommodate the huge swath of traveling users, AT&T's approach was to update its plans to incorporate overseas Wi-Fi hotspots located in the places travellers were more likely to frequent when on the road, like airports, hotels, cafes, shopping malls, corporate offices and more. International roaming packages with Wi-Fi were available for Android and iOS smartphones.

The new plans that included access to International Wi-Fi hotspots launched in 2012. But this was just the first phase in an ambitious longer-term solution, with AT&T building out a Wi-Fi footprint that would expand in terms of breath and depth of available hotspots. The company initially included International Wi-Fi in two of its three data roaming plans but there was more to come.

AT&T negotiated agreements with a multitude of networks, tying them together seamlessly and securely. "When travellers arrive at their location and turn on their phone, they want it to just work," explained an AT&T spokesperson. "Traveling customers are going to seek out Wi-Fi anyway so every company's goal should be to make it easier and seamless for them."

AT&T desired to use SIM authentication as a way to make Wi-Fi roaming more seamless and secure. AT&T achieved this goal through its partner Accuris

AT&T Wi-Fi Hub Service Highlights

- **Access to >1M carrier Wi-Fi hotspots in >30 countries**
- **SIM-based authentication**
- **Extension to GSM billing**
- **Support for range of access point types, security**

Networks, the industry leader in Wi-Fi offload and roaming. "We knew that these kind of effective roaming models only work if they are seamless and secure," noted Dave Reeder, Accuris Networks. "If we had to pass out user names and passwords to customers, that wasn't much different than what others were doing and subscribers wouldn't be that excited about it."

By utilizing SIM-based authentication via the Accuris Networks AccuROAM™ platform, customers accessing AT&T's International Wi-Fi hotspots are able to access Wi-Fi without needing to enter user names and passwords. Accuris Networks technology enables any type of Wi-Fi access technology to work as a full extension of GSM or CDMA networks for billing, policy and authentication -- not just for use with data services but for voice and messaging also. AT&T international roaming subscribers access the Accuris Networks server through an app that gives easy access to secure hotspots when abroad.

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Some other vendors can perform SIM authentication on Wi-Fi using a standard called EAP-SIM but the Accuris Networks approach goes beyond that and is unique. EAP-SIM only works with some networks such as ones upgraded to Hotspot 2.0 but the AT&T Wi-Fi Hub also authenticates on old legacy networks that don't support SIM in a capability dubbed WISPr1+. "It enables a non-Hotspot 2.0 visitor Wi-Fi network to perform SIM authentication," explained Reeder. "Without this capability, your Wi-Fi footprint is going to be significantly smaller. We're making legacy networks deliver on tomorrow's promise today."

With the Accuris Network solution, AT&T was able to take advantage of lower wholesale rates, cheaper network costs and pass on some of the savings to subscribers. With its international Wi-Fi roaming footprint established, the company changed its international plans -- called AT&T PassportSM -- in October 2014, embarking on a second phase in which unlimited Wi-Fi was made available in all plans along with a cellular data allowance, unlimited texting and competitive pricing for calling. Just a month after updating its plans last year, the number of roamers increased six-fold and the uplift is continuing.

AT&T saw the company's Wi-Fi footprint increased from approximately 40,000 hotspots in 15 countries to over 1 million hotspots in more than 30 countries.

The Next Phase

The most recent undertaking by AT&T related to Wi-Fi is the creation of the AT&T Wi-Fi Hub solution. This solution is a true Wi-Fi wholesale platform on had built-in barriers for operators; setting up direct Wi-Fi roaming agreements is a difficult, time-intensive process and the cost of acquiring the needed technology is high.

"Because of the rates that we were able to negotiate with our Wi-Fi partners, we are able to bring a one-stop solution to carriers in a cost-effective manner so that they can enjoy the increased usage and revenue that Wi-Fi roaming offers," said the AT&T spokesperson.

"The customer wins by getting access to better, easier, cheaper roaming. Carriers win by having an attractive offer for international travellers..."

Since the hub utilizes the industry-leading Accuris Networks SIM-based authentication technology, it provides carriers using this Wi-Fi ecosystem with the enormous advantage of including legacy networks in their offering. This is far superior to waiting for a time when networks have been upgraded to the most recent hotspot technologies. Among the many subscriber benefits is the ability to utilize the full power of their phones when traveling. Typically, users are inconvenienced when using data abroad. The cost of cellular data is high and Wi-Fi networks are sporadic.

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AT&T's carrier-focused Wi-Fi hub makes data more accessible to end users. Users can use Wi-Fi hotspots for data-intensive tasks without worrying about getting massive bills.

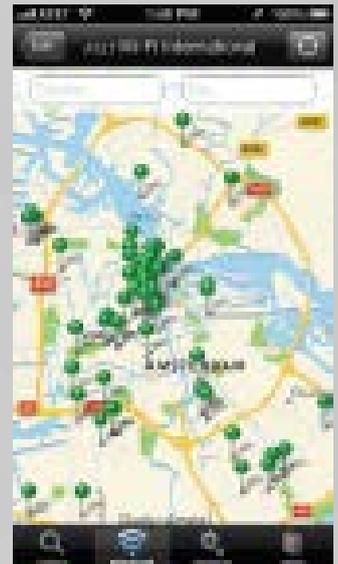
Carriers wishing to take advantage of the hub can be up and running quickly. "In just a few weeks," explained Reeder. "On the subscriber end, all they will need to do is download an app from their home carrier to get low-cost Wi-Fi roaming through a roaming package."

The Accuris Network technology has played a larger role in the solution beyond security. "The platform offers more than just international roaming and SIP," said Reeder. "It performs domestic offload, diameter routing and enables any carrier to continue to offer continuity of service for billing, charging and policies, those elements that carriers rely on in their home service."

A turnkey solution for international Wi-Fi roaming is a win-win proposition in today's competitive wireless industry. "Putting together this kind of Wi-Fi footprint isn't something that can be done overnight," explained the AT&T spokesperson. "The customer wins by getting access to better, easier, cheaper roaming. Carriers win by having an attractive offer for international travelers and we win by having a large enough ecosystem to get lower wholesale rates for roaming that results in less-costly service."

Smartphone users now see Wi-Fi as a natural extension of the current cellular service and because the cellphone has become such an integral part of life, taking the phone when traveling becomes a natural extension of using the phone.

The growth in Wi-Fi hotspots continues and new technologies such as Accuris Networks' authentication for NGH and Hotspot 2.0 bring the promise of a more seamless user experience. Accuris Networks and AT&T provide that promise today. Summing up, Reeder said "Joining the Wi-Fi hub is easy and any carrier looking to find out how customers are using the solution and how to get the most traction, should get in contact with us."



Wi-Fi roaming app
available from Google
Play, Apple App Store.

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