globalreach

FEDERATED ROAMING

Including WBA OpenRoaming™

Google Orion Wifi

eduroam

sales@globalreachtech.com

+ 44 20 7831 5630

INTRODUCTION

Given our increasingly connected world, the need to remain online as we move between shops, transport hubs, offices, restaurants, bars, coffee shops, hotels and outdoor spaces continues to grow. Today we expect reliable, uninterrupted connectivity without repeated logins, forms and passwords. Large-scale seamless federated roaming delivers this vision.

Wi-Fi use is growing - and fast. From 2018 to 2023, the number of global Wi-Fi hotspots is projected to grow at a 30 percent CAGR[1], going from 169 million to 628 million. This is good news for consumers and business users, but imagine the user experience improvement if each device were seamlessly and securely connected as we move around using a common set of standards.

The last few years have seen advances in Wi-Fi infrastructure, with progress in the field of roaming technology. Several Wi-Fi industry federations are now live, allowing users' devices to automatically switch between available networks, ensuring a strong, stable connection on-the-go.

"We like the term ubiquitous access."

They're also an easy way for public venues, like retail or food and beverage chains, shopping malls or city centres to sell Wi-Fi capacity to cellular carriers and MVNOs, delivering more connectivity in more places - seamlessly and automatically. WBA OpenRoaming™ and Passpoint® are two key enabling solutions that are expected to see widespread adoption.

1 Cisco Annual Internet Report 2018-2023

WHAT IS FEDERATED ROAMING?

For several years, there has been a shared industry vision for a future of connectivity where users connect quickly, automatically, and securely to a trusted Wi-Fi network wherever they are. Until recently, various barriers have made it difficult for carriers, public venues and enterprises to collaborate. Alongside other federations such as eduroam and Google Orion, OpenRoaming is an industry federated roaming standard managed by the Wireless Broadband Alliance (WBA), that makes this possible.

Think of it as a 'zero touch' Wi-Fi connectivity solution between members that include carriers, venues, identity providers and technology suppliers. It aims to automate and secure end-user roaming between different wireless networks - much like what happens today between cellular networks. Members sign up to a common set of terms and conditions to safely share credentials and access networks (for example the OpenRoaming standard).

When a customer tries to connect to a network, these rules tell their carrier if the network is also a member (it also tells the network if the customer is also from a carrier member). If it's a mutual match, the customer is auto-connected. This instant connectivity to a high-quality network not only creates happy customers, it can also provide a new revenue stream to the venue owner.

> **OpenRoaming brings together a federation of networks and identity providers, allowing users to join any network managed by a federation member. Companies who join OpenRoaming provide assurance that their Wi-Fi networks automatically interoperate between each other to deliver an automatic and secure connected Wi-Fi experience.**
>
> *The Wireless Broadband Alliance*

OPENROAMING MAKES THIS HAPPEN THROUGH:

☁ CLOUD FEDERATION

A federation of networks and identity providers under a common framework enables automatic roaming and user onboarding onto public and private wireless networks. Based on the WBA's Wireless Roaming Intermediary eXchange (WRIX) standards, it creates scale, the opportunity for different business models and new revenue streams without negotiating individual commercial agreements.

🔒 CYBERSECURITY

Federation members have increased security and compliance (compared with traditional Wi-Fi hotspots), using publicly-shared keys for robust authentication, onboarding, encryption and privacy. This allows for simple, secure and scalable Wi-Fi connections between OpenRoaming members, and automatic and secure roaming onto millions of global networks.

⚙ NETWORK AUTOMATION

An automated roaming consortium codes framework (RCOI) helps simplify configurations across thousands of networks and provides free and anonymous end-user access.

THE ROLE OF PASSPOINT

OpenRoaming uses Wi-Fi Alliance Wi-Fi CERTIFIED Passpoint®, another industry standard, to streamline access to Wi-Fi hotspots, removing the need for users to authenticate each time.

Passpoint automatically authenticates and onboards users to a wireless network or to an affiliate, saying goodbye to finding the Wi-Fi network name (the SSID), entering Wi-Fi passwords, and closing pop-up success screens. OpenRoaming eliminates this hassle and extends this concept, allowing enterprises and businesses to provide common Passpoint identity credentials, letting people and things connect to a large-scale global roaming network.

> "Passpoint is a foundational ingredient to global Wi-Fi roaming standards, reflecting the depth and breadth of that collaboration as a great solution for end users, network operators, and device vendors."
>
> *The Wi-Fi Alliance*

The success of OpenRoaming relies on scale. Once complementary networks from carriers, enterprises, public institutions, and municipalities overlap, passengers, residents, and guests can stay continuously connected as they move around from an airport, to the city centre, to a venue to a shopping mall, to a hotel, to a restaurant and more places.

Passpoint can be put in place using compatible Wi-Fi hardware or software. By using it as an enabling technology, customers can seamlessly connect to the internet as they move from store to store, or across a city whether travelling by taxi, train or bus.

OpenRoaming and Passpoint work collectively to enable seamless and secure inter-operator wireless roaming with or without formal commercial partnerships. The WBA says that organisations that manage a Wi-Fi CERTIFIED Passpoint-enabled network can become part of the WBA OpenRoaming federation.

> "WBA OpenRoaming transforms the Wi-Fi experience for consumers and businesses and ultimately opens up opportunities for broadband and Internet of Things (IoT) connectivity across business verticals, including retail, hospitality, education, smart cities, automotive and aviation, among many others. Devices simply connect automatically and securely onto the WBA OpenRoaming network."
>
> *Wireless Broadband Alliance*

BENEFITS

📶 ENHANCED INTERNET ACCESS

- Seamless, private and secure Wi-Fi access at any networked hotspot.

- Automatic connection and roaming at member Wi-Fi networks.

- No repeated Wi-Fi registrations, codes or vouchers.

💵 NEW REVENUE SOURCE

- Make money from existing wireless infrastructure offering carriers network access for capacity, offload and improve the voice experience using Wi-Fi calling.

- Integrate with existing platforms to allow venues to tailor content, loyalty programs, geofencing, marketing and analytics.

🔒 INCREASED SECURITY

- Protected and trusted end-to-end connections

- Safer network discovery and onboarding

- Stronger authentication

- Traffic encryption

STAKEHOLDER BENEFITS

ECOSYSTEM BROKERS

1. Provide an off-the-shelf solution using WBA OpenRoaming to connect network and identity providers.

2. Enlarge your services portfolio, grow your customer relationships, business and revenue.

3. Provide interconnection service, ID creation and other value-added services.

OPERATORS & IDENTITY PROVIDERS

1. Provides an automatic, secure Wi-Fi experience.

2. Delivers end-user access to millions of global Wi-Fi hotspots.

3. Increases customer satisfaction, value and relevancy of your services.

4. Keeps customers connected while reducing operating expenses using Wi-Fi offload.

NETWORK PROVIDERS & VENUES

1. A better Wi-Fi experience - solving and simplifying customer and visitor Wi-Fi authentication.

2. Provides automatic Wi-Fi access for billions of devices.

3. Creates new business opportunities with Wi-Fi roaming and offload.

4. Prepares your network for 5G convergence.

END USERS / CUSTOMERS

1. Improves consumer satisfaction with instant, secure connectivity across the world.

2. Enables end-user connections to all types of public Wi-Fi network - bars, coffee shops, outdoor spaces and more - wherever they are.
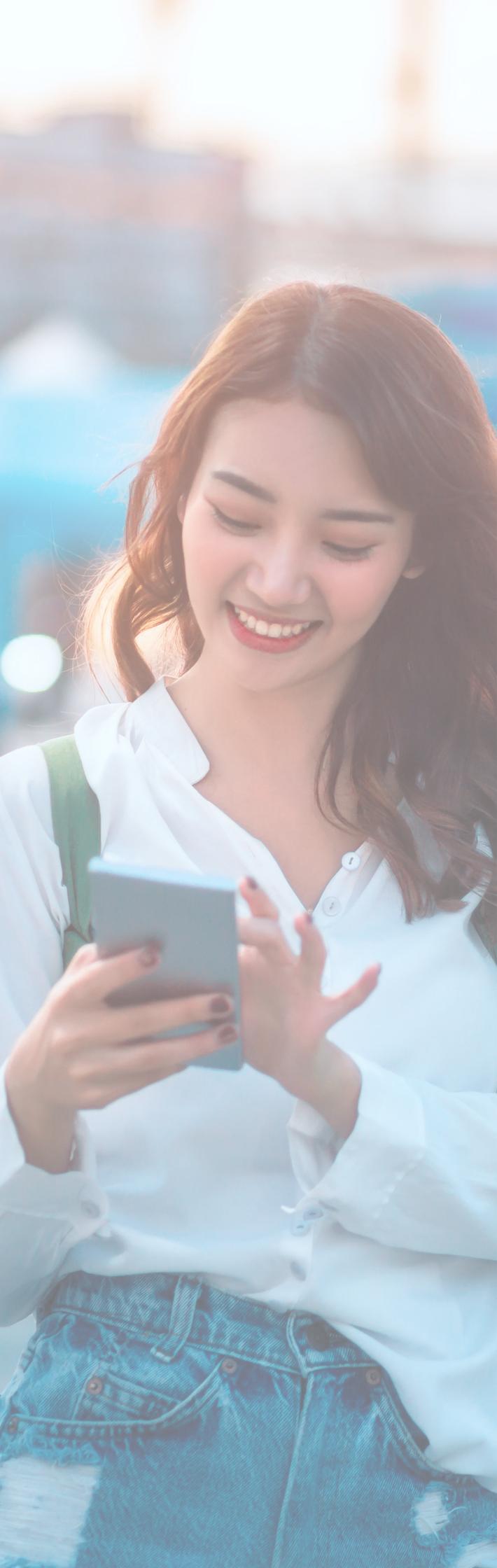
WHY GLOBALREACH TECHNOLOGY?

We're known for our carrier-grade Wi-Fi solutions across all industries, powering new opportunities in the 5G era. To make it quick and easy to put these ubiquitous Wi-Fi access models in place, we're working with leading carriers, enterprises and suppliers across the industry.

Expert

We've been at the forefront of Passpoint since it was introduced in 2012. Known for seamless connectivity best practice, with live networks enabling carrier offload in London and New York City, our services help cities and venues sell Wi-Fi capacity to cellular carriers. We are regularly consulted by governments and industry as active members of HTNG (Hospitality Technology Next Generation), the SAA (Seamless Air Alliance) and WBA.

We helped develop both the Passpoint and OpenRoaming industry standards, and were among the first WBA OpenRoaming supplier partners. Our technology has been used to showcase seamless connectivity for the WBA City Roaming Project, World Wi-Fi Day, Mobile World Congress and for delegates at the WBA Wireless Global Congress.

Secure

Our Passpoint technology provides an encrypted user credential and a secure connection to the network. We protect users' internet traffic and no PII is available outside the service provider's network. The Passpoint standard does not use a MAC address to identify users, accelerating deployment and compliance.

Interoperable

Our platform fully integrates with the main carrier roaming hubs and with any network or Passpoint-certified hardware. This allows for quick and easy interconnects and carrier data offload. In fact we already manage a number of federated roaming partnerships between carriers, mobile network operators (MNOs) and enterprises.

Scalable

Our cloud platform connects millions to some of the world's largest Wi-Fi networks. It can support large-scale roaming deployments, demand peaks and traffic variances, delivering billions of public Wi-Fi authentications every year.

Large-scale Passpoint roaming in NYC

AT&T uses GlobalReach's Passpoint solution to offload to Wi-Fi every day in New York City.

We operate many large-scale, award-winning public Wi-Fi services for the London Underground and Starbucks; city centre networks in central London, Philadelphia, and other cities; at airports, and on trains, boats and planes – all to keep users connected throughout their journeys.
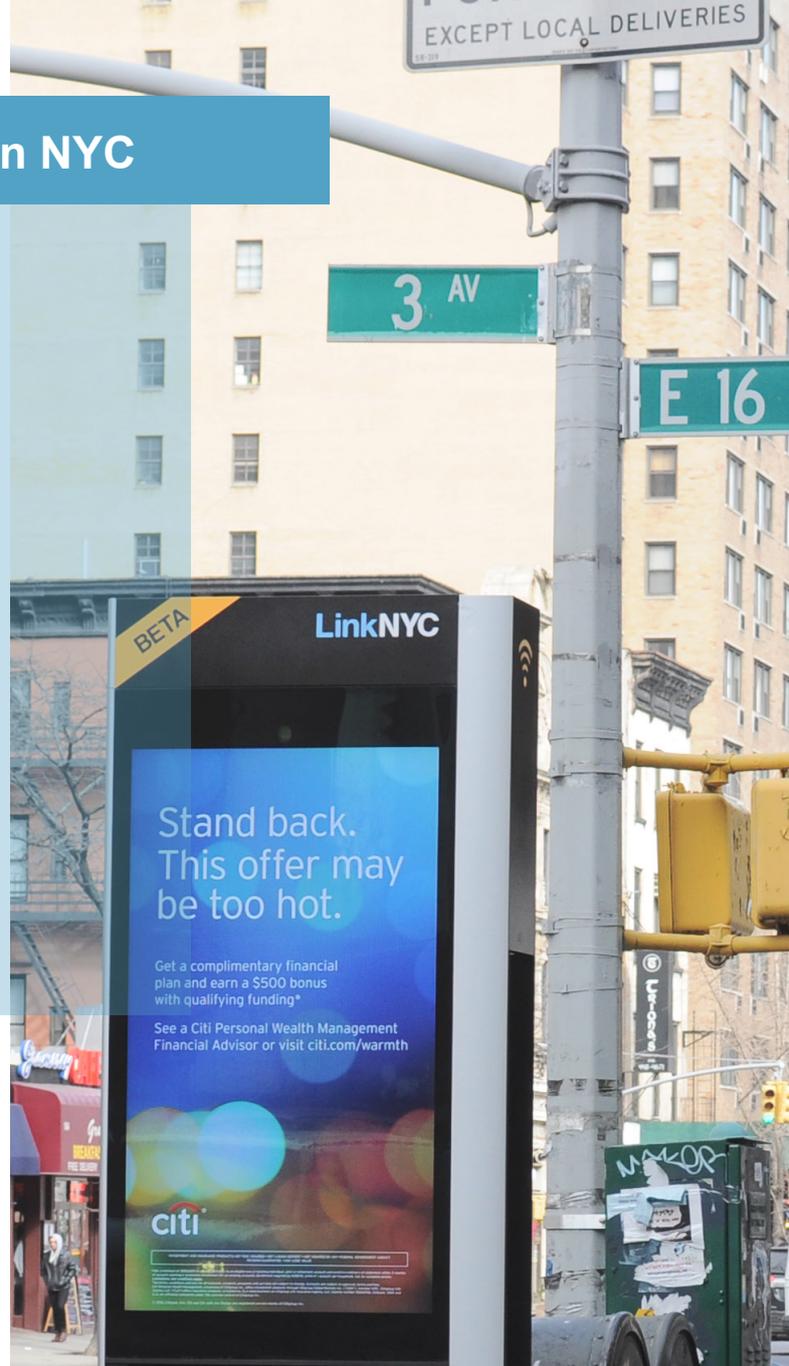
Talk to GlobalReach

Our services make it easy to be part of federated roaming, and we'll work with you to develop new business models.

Talk to us about the opportunity.

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