



WBA OPENROAMING IETF PRESENTATION

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- OpenRoaming Secure / Seamless / Private
- OpenRoaming: Realized through Innovation and Industry Collaboration
- Mac Randomization
- OpenRoaming – Privacy Built-in
- How To Provision Users
- Provisioning via NFC
- OpenRoaming Provisioning - PC
- IOS Provisioning
- Android Provisioning



SEAMLESS

Zero-touch Wi-Fi onboarding, ensuring a user is always best connected

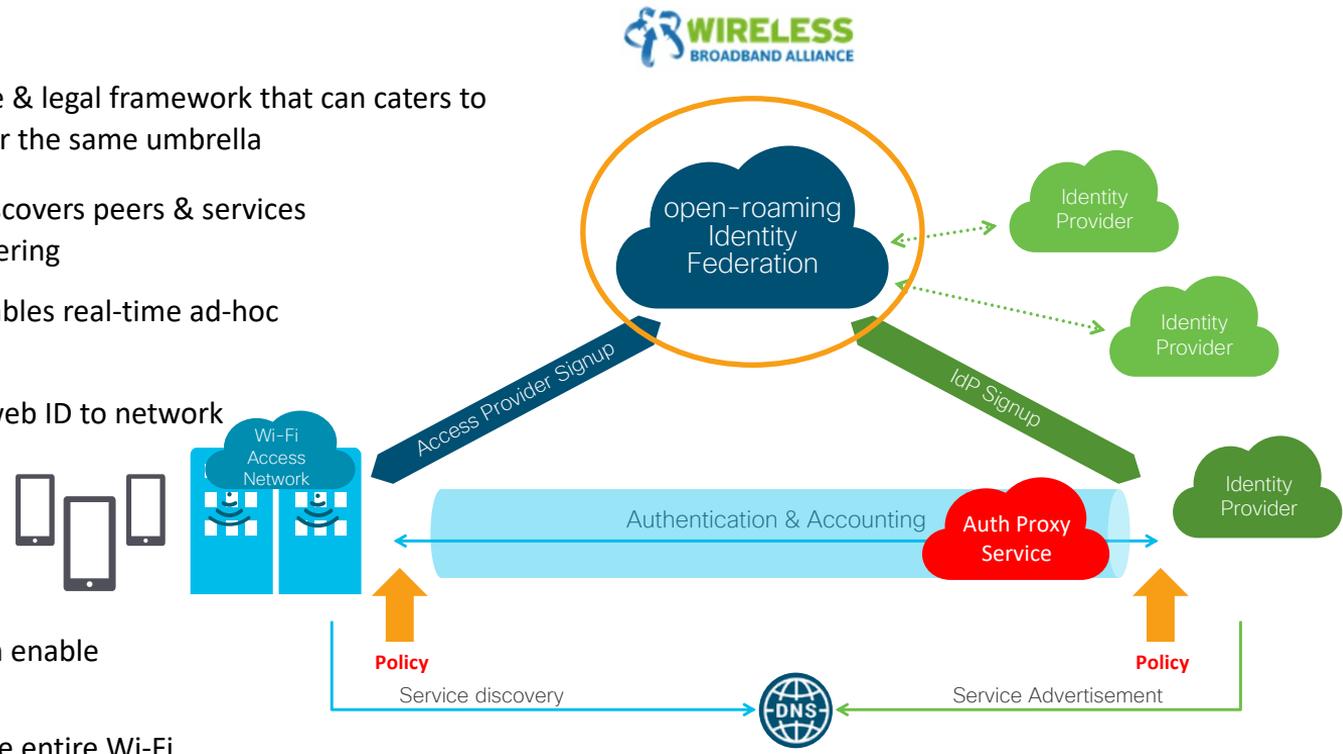
SECURE

Secure 802.1x-based authentication, WPA2/3 wireless data encryption

PRIVATE

Private by design. Anonymized roaming, personal information is only shared with user consent

- 1** Identity Federation architecture & legal framework that can cater to different business models under the same umbrella
- 2** Federation that dynamically discovers peers & services and allows for secure direct peering
- 3** Dynamic policy at the edge enables real-time ad-hoc roaming agreements
- 4** Proxy services connect cloud/web ID to network services



- 1** Device eco-system collaboration enable seamless end-user experience
- 2** Wireless standard to benefit the entire Wi-Fi ecosystem

What about Privacy? Mac Randomization

NETWORK:
Visibility into **visitor onboarding, visitor identity and analytics**, across applications that rely on MAC address as a unique identifier will be jeopardized as device manufacturers roll out MAC Randomization.



00:
A0:
A0: C9: 00:
C9: 14: A0:
14: C8: C9:
C8: 29 14:
29 C8:
29

USER:
The need for **privacy**. Having a persistent identifier that allows for tracking even if you have not authenticated to the network (no trust relation) violates privacy.

00:A0:C9: 14: C8: C9:

⁵

OpenRoaming – Privacy Built-in

1

Authentication is private

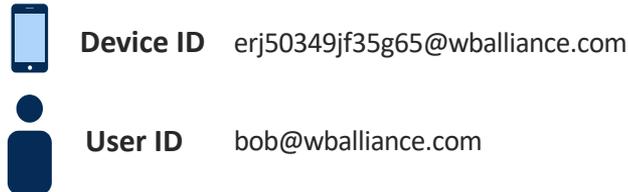
Secure and private authentication between user's device and IDP



2

User and device are identified in context

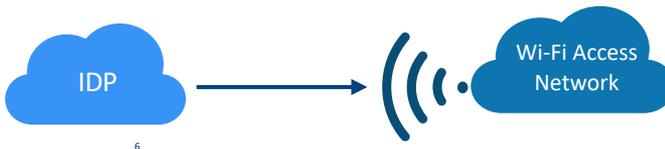
Identified with persistent Device ID and User ID with IDP context
IDP shares (anonymized) data in the secured path



3

IDP shares identities on the user's behalf

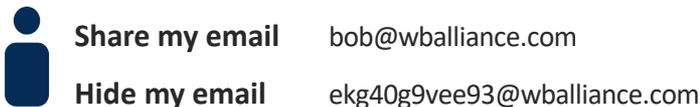
IDP manages identity and privacy for the user



4

Privacy with user consent

User controls privacy, identifiers are always persistent



Steps:

1. Provision device by installing the users' IDP credentials (e.g., app, profile, etc.).
2. Remove all current SSIDs used so that the device does not have any Wi-Fi access.
3. **The device automatically connects to an SSID with OR enabled.**
4. **When the first SSID is turned off and another OR-enabled SSID is turned on, the device connects to the new one automatically.**

The procedure is done securely and seamlessly with Hotspot 2.0 mechanism.



OpenRoaming Demo App

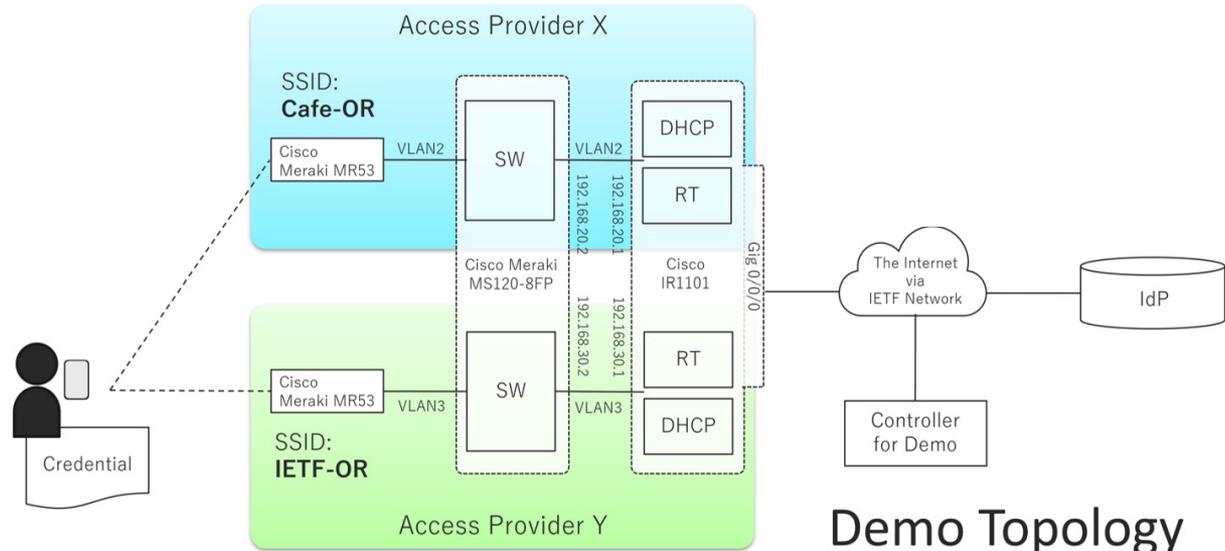


With the app,

iOS: Download the OpenRoaming Demo App into your phone from Apple App Store. Run it and login with your ID such Apple or Google.

Android OS: Find the SSID: "OpenRoaming" and click it. Login with your ID such as Google or Samsung. Or, download the App and do same as iOS.

You can visit the OpenRoaming signup page to check the ways more.
<https://wballiance.com/openroaming-signup/>

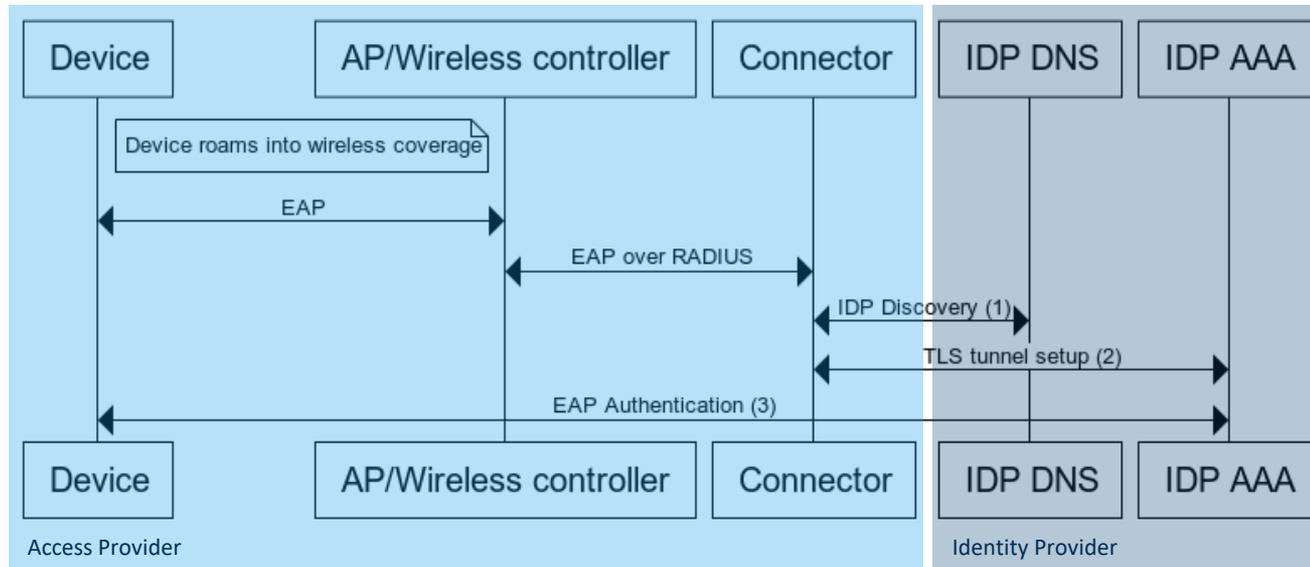


Demo Topology

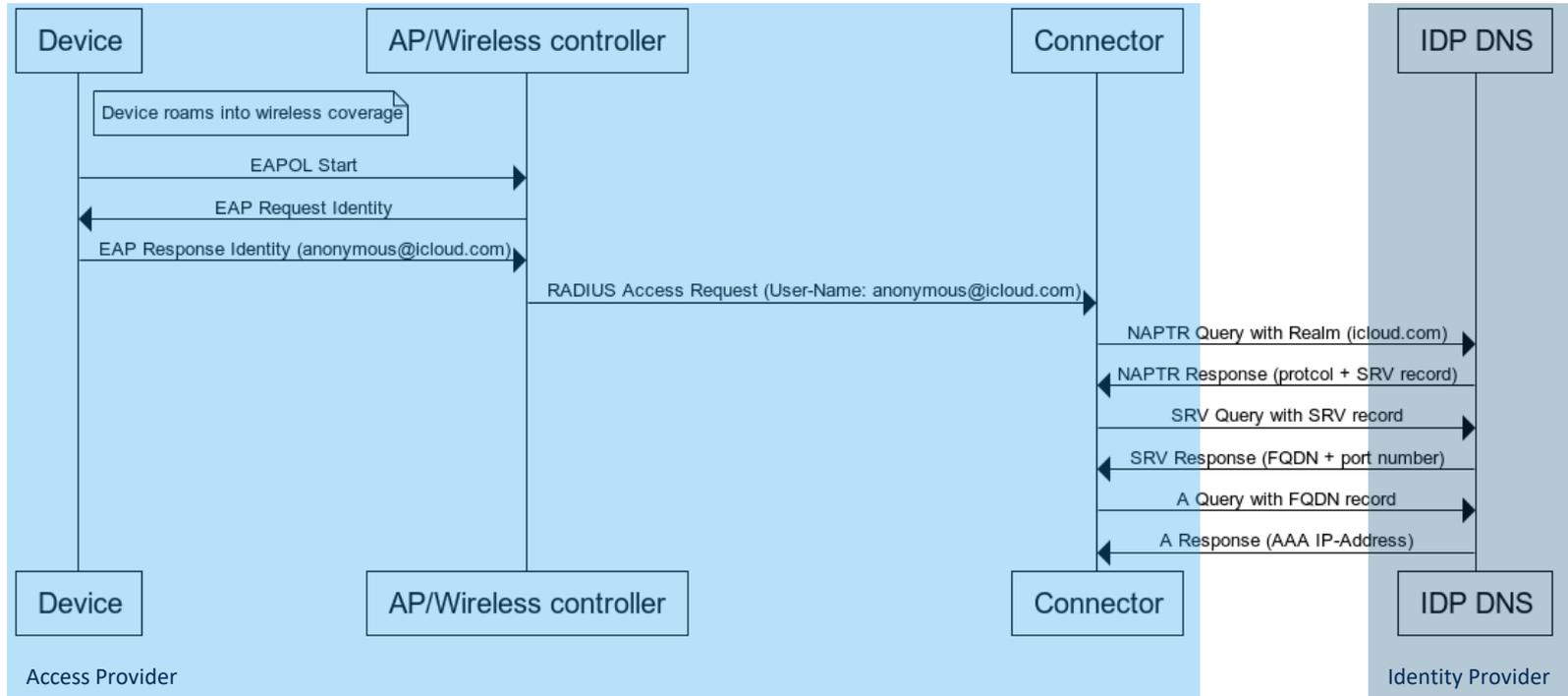
Thank You

Annex

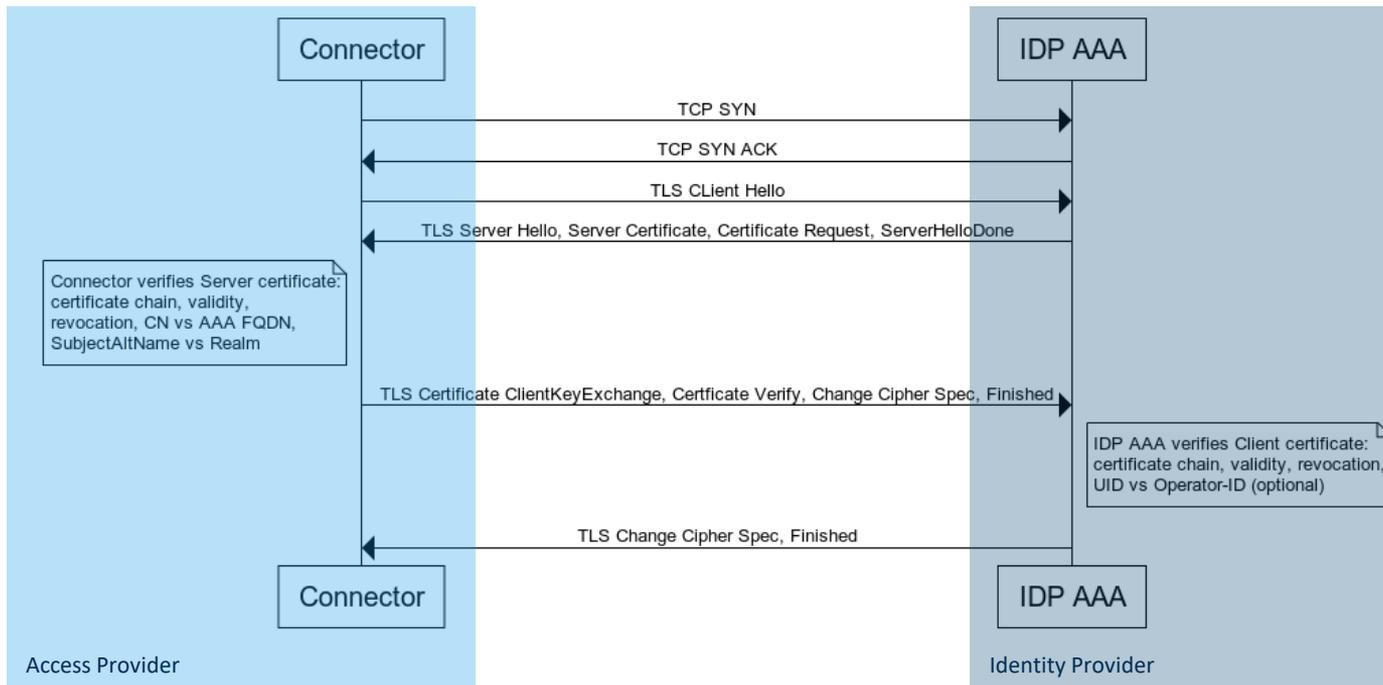
OpenRoaming Authentication and Accounting



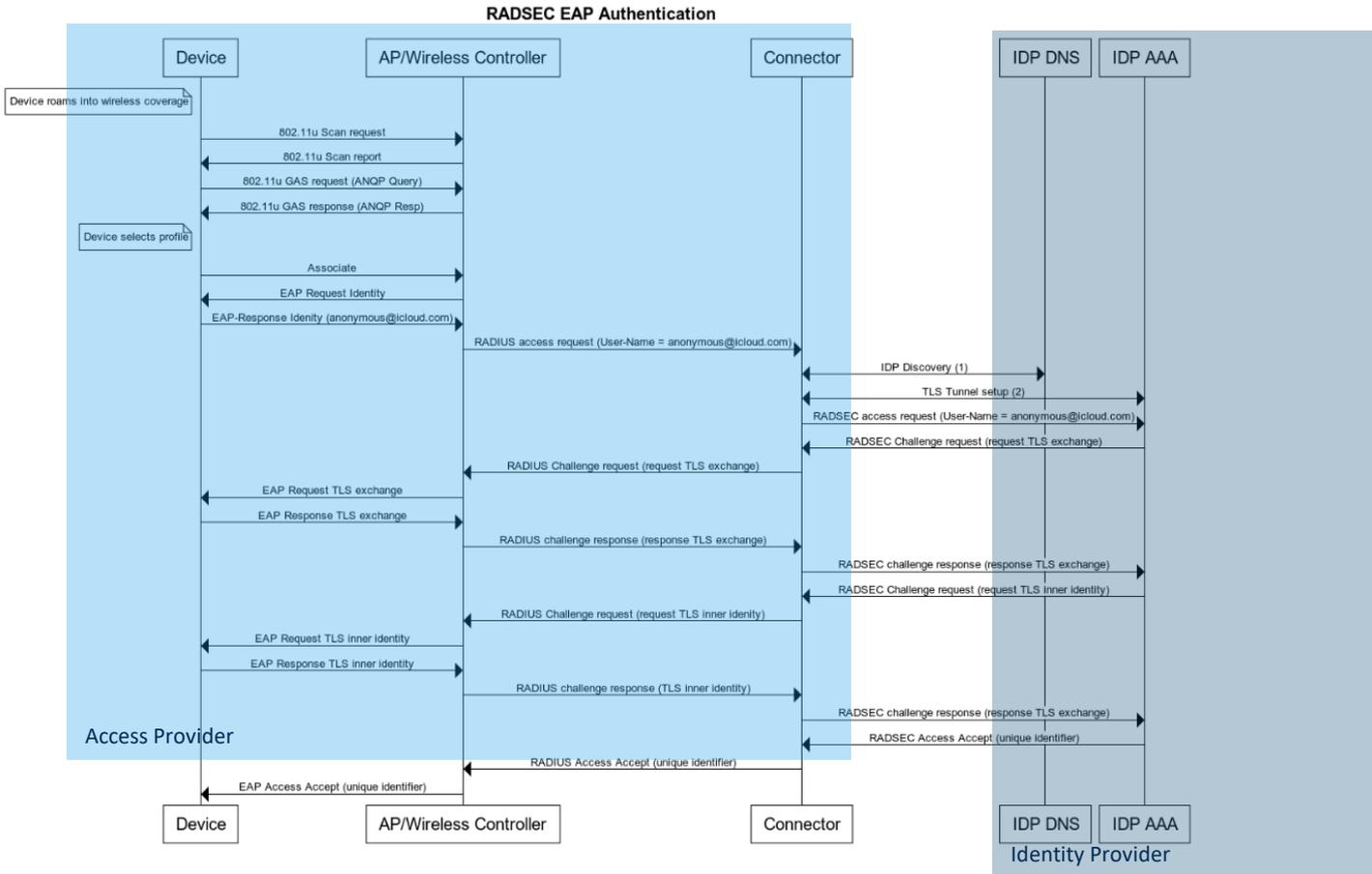
IDP Discovery



TLS Tunnel setup between AP and IDP



RADSEC EAP Authentication (3): EAP-TTLS

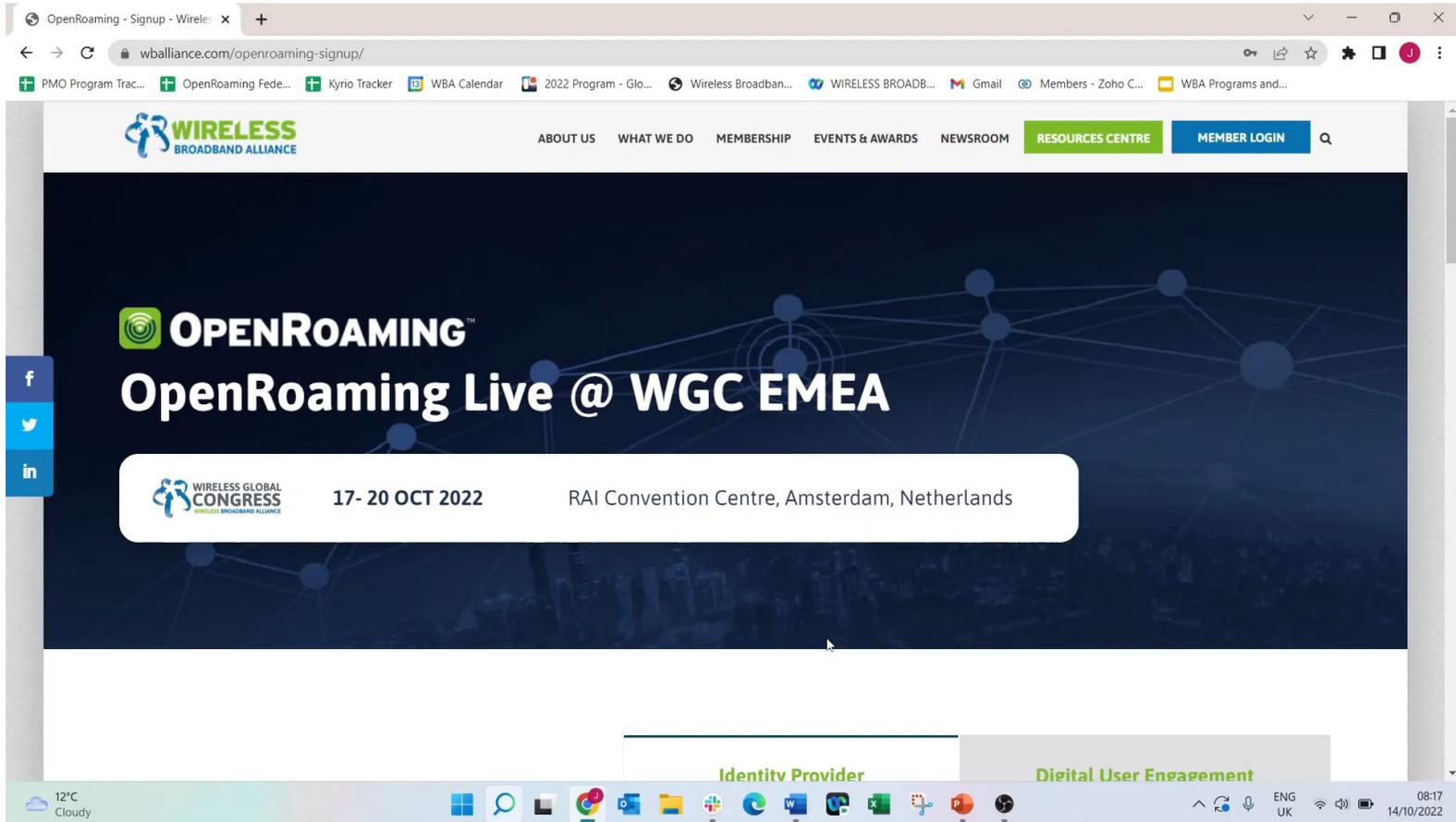




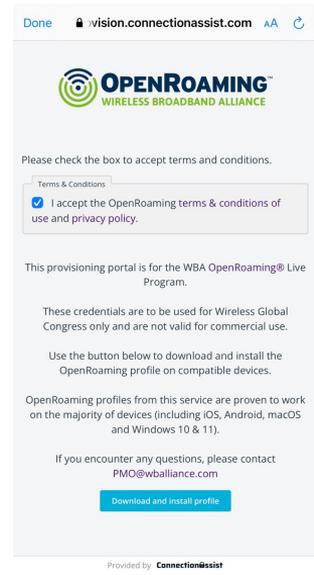
Please see here two video demos I have put together.

I started by configuring the NFC tag, once you have done that you can be redirected to whichever site you like. I have used the WBA provisioning portal and the online sign page as examples.

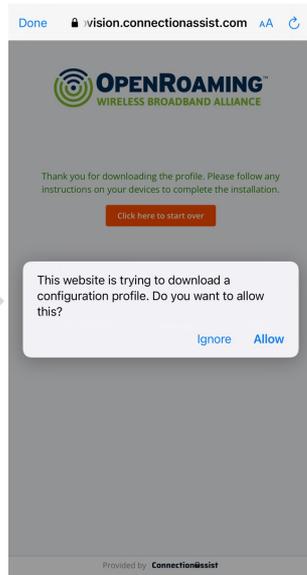




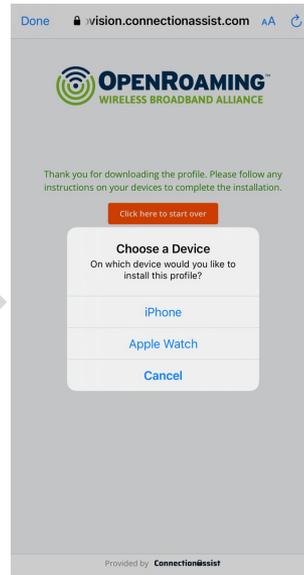
The screenshot shows a web browser window with the URL `wballiance.com/openroaming-signup/`. The page features the WIRELESS BROADBAND ALLIANCE logo and navigation links: ABOUT US, WHAT WE DO, MEMBERSHIP, EVENTS & AWARDS, NEWSROOM, RESOURCES CENTRE, and MEMBER LOGIN. The main content area is a dark blue banner with the text "OPENROAMING™ OpenRoaming Live @ WGC EMEA". Below this, a white box contains the event details: "WIRELESS GLOBAL CONGRESS" logo, "17- 20 OCT 2022", and "RAI Convention Centre, Amsterdam, Netherlands". On the left side of the banner, there are social media icons for Facebook, Twitter, and LinkedIn. At the bottom of the browser window, the Windows taskbar is visible, showing the system tray with weather (12°C Cloudy), time (08:17), and date (14/10/2022). The taskbar also displays several application icons, including Microsoft Edge, File Explorer, and various office applications. The text "Identity Provider" and "Digital User Engagement" is visible in the background of the banner.



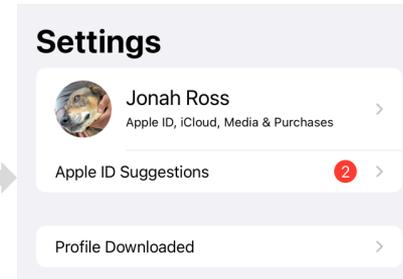
Download a profile of your choice onto your iPhone that will allow you to seamlessly connect to OpenRoaming



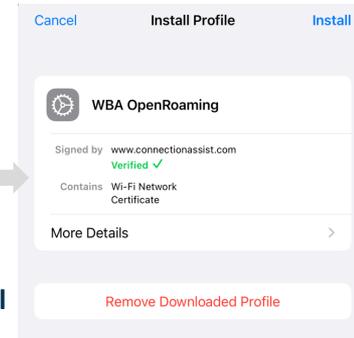
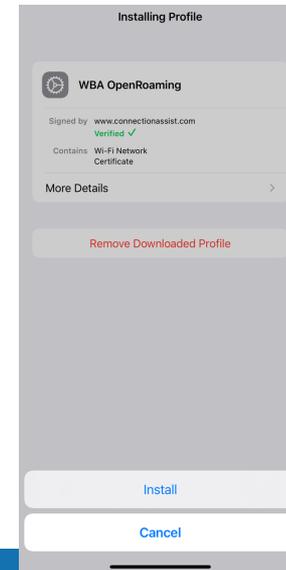
Allow the profile to be installed



Select iPhone



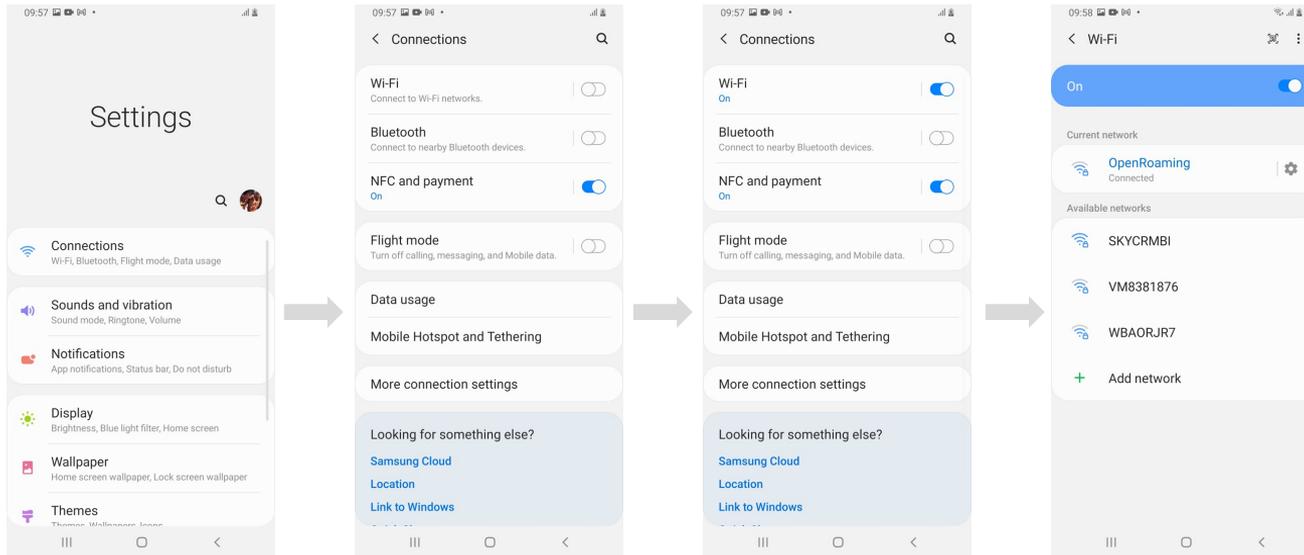
Access your iPhone settings and you will see 'Profile Downloaded'



Install the profile



Now once you go to your Wi-Fi settings it will connect seamlessly to the OR network



Android device connecting with a SamsungID

**A profile from: wballiance.com/openroaming-signup/
Can also be downloaded to provision your device**

