



Signaling Location Information in RADIUS

White Paper Summary
November 2023



How to determine accurate location information for Wi-Fi APs



How to pass this information Northbound to RADIUS server



Document Findings in White Paper for Industry Influence and Use



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White Paper Goals:

- Location information is readily available in the cellular world. This group should determine, and recommend, the best ways to achieve this for the Wi-Fi world.
- Identify some key use cases
- Invite broad stakeholder input and discussion



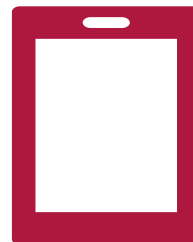
Network selection (Wi-Fi or cellular) based on AP location

Applicable where the IDP selects the network



Connected vehicle fleet

Offload to Wi-Fi saves costs and improves data transfer rates. The information which is regularly uploaded to the company contains delivery information and vehicle telemetry which is used for customer updates and internal analysis.



Roaming Hub Policy

This screening function requires the authentication request to contain sufficient information to determine the user's location. Roaming Hub metrics and reports for their IdPs will include connections accepted and rejected, per-location



Emergency call support for Mobile Virtual Network Operators

Providing location to the IdP may enable use-cases that close some of the gaps, such as indoors when GPS is not available



Emergency calling using the OpenRoaming architecture

A recent IETF Draft (Gundavelli, 2023) proposes using the WBA OpenRoaming architecture to facilitate emergency calling over non-cellular networks.



Floor Plans



GPS



Civic Location



Crowd
Sourcing

**RADIUS (in-band)
signalling using RFC
5580**

**WRIX-L out-of-band
signalling**

what3words

OpenRoaming legal framework

RFC 3693

. Requirements for access to location information are defined in RFC 3693 (Cuellar, 2004). In addition, the IdP's Terms and Conditions should explain that the IdP is able to track the user, in order to obtain prior consent.


General Data Protection Regulation (GDPR)

IDP Terms and Conditions


IdP's Terms and Conditions should explain that the IdP is able to track the user, in order to obtain prior consent.

The Bottom Line (Recommendations)


RFC 5580 in RADIUS Access-Request messages, using geo-location in accordance with the guidelines in this document.



Where geo-location is not available, RFC 5580 in RADIUS Access-Request messages, using civic address.



WRIX-L out-of-band file transmission with geo-location. This is not as timely as location information provided through RADIUS and thus may not be suitable for some use-cases.



WRIX-L with civic addresses is allowed, but not preferred. Where civic addresses are used, they should be highly granular, as defined in this paper.