

# Civic Location and Geospatial Coordinate Support in IPv6 ND

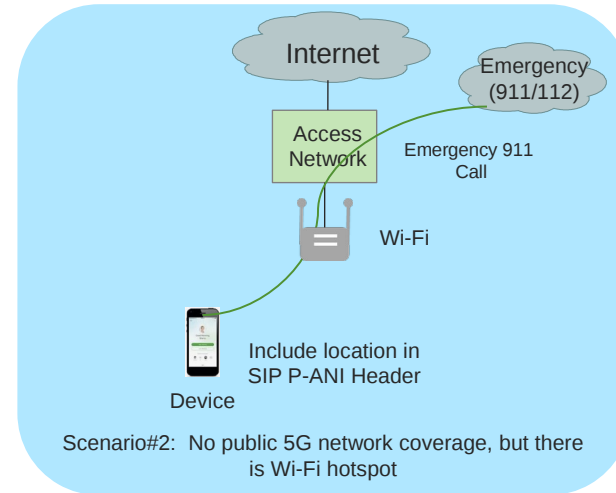
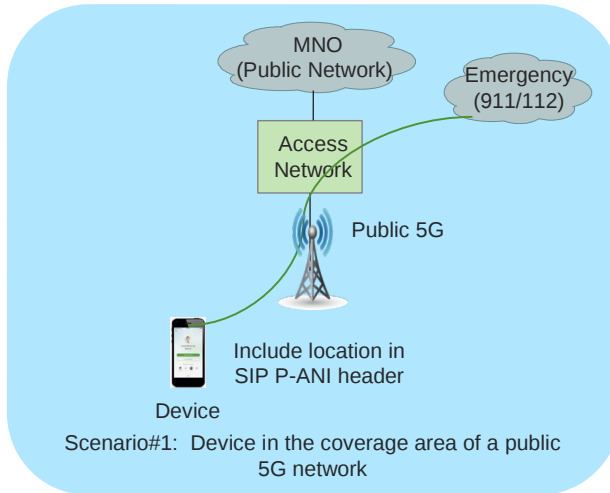
(<https://datatracker.ietf.org/doc/draft-gundavelli-6man-nd-location/>)

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# Motivation

- The physical location of a network device plays a crucial role in various applications, particularly in emergency calling, where precise caller location information is essential for prompt and effective emergency response. PSAP Selection and Caller location determination are the key functions in the emergency system which rely on user's location.



# Proposal Overview

- RFC 4676 has standardized DHCP options for delivering the Civic Location of the client, while RFC 6225 has defined DHCP options for delivering the Geospatial coordinates of the client. However, these corresponding options are missing in IPv6 Neighbor Discovery protocols.
- This proposal aims to address this gap by introducing the necessary options for IPv6 Neighbor Discovery to provide accurate location information.

# Approach-1: Define new IPv6 ND

## Options

Replicate the Civic Location [RFC4676] and Geospatial coordinate options [RFC6225] from DHCP as IPv6 Router Advertisement options [RFC4861]. Standardize these two new options.

Type	Length	Format ...
GEOLOC_OPTION		
...		

Type	Length	Format ...
GEOCONF_CIVIC		
...		

# Approach-2: Revive Universal RA

## Option

There was a proposal on defining a new Router Advertisement IPv6 ND message [I-D. troan-6man-universal-ra-option]. Its purpose is to use the Router Advertisement messages as opaque carriers for configuration information between an agent on a router and a host.

# Approach-3: Define a new PVD Option

- With the realization of IPv6 coloring in the form of PVD [RFC8801], we now have the option to contain these options under a PVD scope. But the location is not a domain specific property and cannot see how it be localized under a given PVD scope. Furthermore, define JSON elements for allowing the host to query the PVD URI.

# Next Steps

- Next version will include the option details. Approach is largely about replicating RFC 4676 and RFC 6225 semantics for use in IPv6 ND RA messages.
- We need some feedback from the working group.

# COMMENTS?

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