

The Evolving Technologies of Mobile Location

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History of 9-1-1 Location

1998 – Wireless Phase 1

- Routing of wireless 9-1-1 calls through native 9-1-1 network
- Provided callback number and cell location as MSAG address
- NCAS Did not require changes to CPE/CAD

2001 – Wireless Phase 2

- Provided more accurate X/Y location for outdoor calls
- Required changes to CPE/CAD to support location

2014 – Increased Accuracy

- Introduced increased accuracy requirements for indoor accuracy
- Provided the concept of Dispatchable Location for mobile calls
- Will Pass Dispatchable location and X/Y

Dispatchable Location

1. Nearby Address

- An address that is near where the call was placed
- The caller may or may not be at that address
- Lower Dispatchable Location Accuracy
- Similar accuracy to CAD based reverse-geocoding off X/Y

2. Likely Address

- 9-1-1 call was likely originated from this address
- Higher Dispatchable Location Accuracy
- Similar accuracy to a landline cordless phone

3. Associated Address

- The caller is associated with the address in some way (Home, Work, etc)
- The location is near where the emergency call was placed
- The Caller may be at the location but if they are not, someone at the location may have more information that can help.

Current efforts in standards

- At time of a 9-1-1 call, phones will scan for visible WiFi access point and Bluetooth Beacons (BLE)
- MAC address and signal strength will be reported to carrier location server
- Carrier location server will query NEAD with the strongest signals to look for a dispatchable location
- Will most likely will only return nearby addresses.

Evolution of Indoor Location

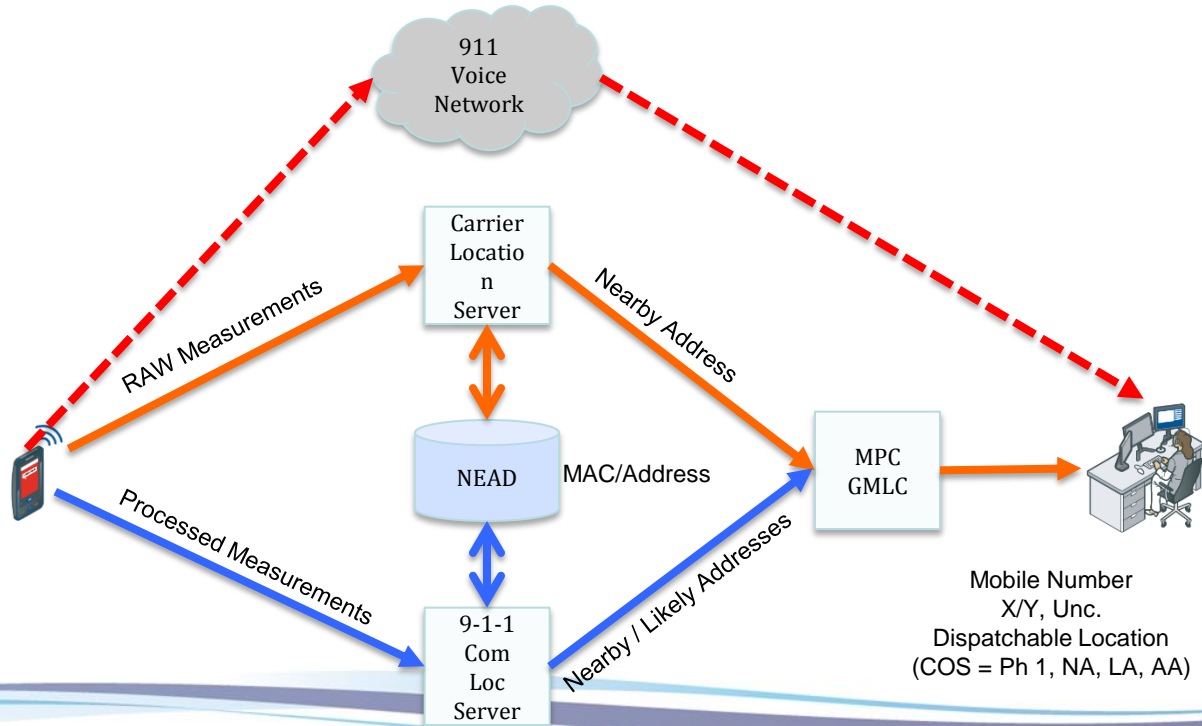
- Use commercial location to help assist 9-1-1 location
- User may opt out of increased 9-1-1 accuracy
- Using multiple data points can help distinguish between nearby address and likely address
- Privacy concerns can be reduced by all the data being stored on phone and only made available by handset during a 9-1-1 call

Determining Likely Address

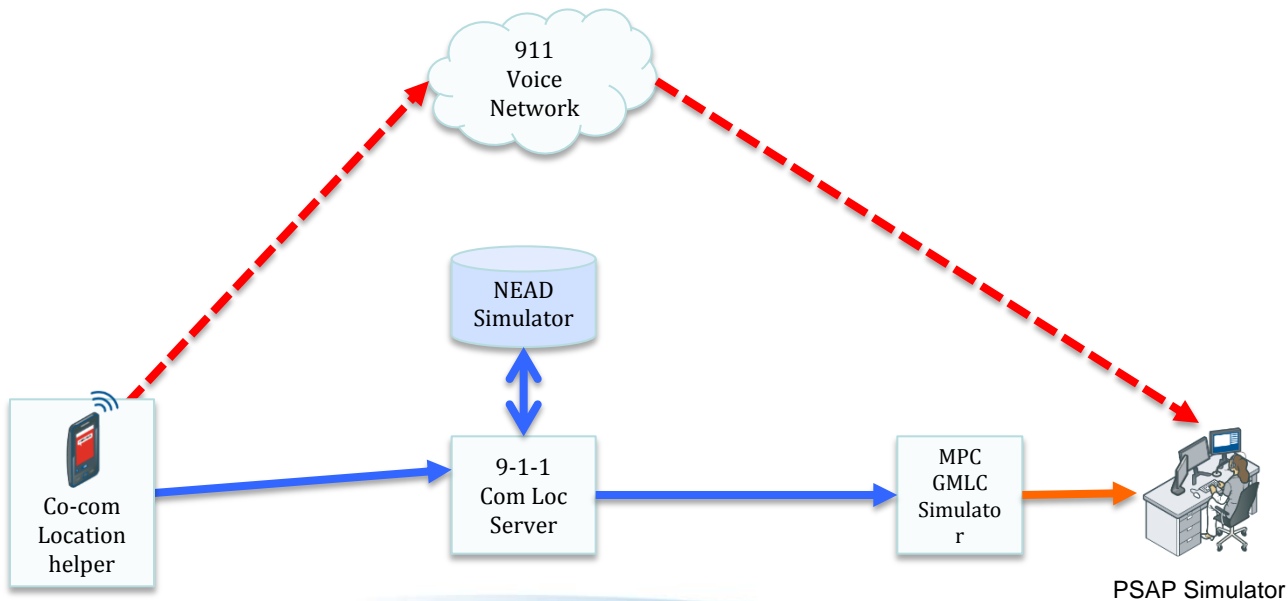
Using multiple data points, system can distinguish between nearby addresses and likely addresses

- Associated with a WiFi AP or BLE Beacon
- Address association
- User provided validation
- Historical information
- RF Surveying
- RF Curtain / GeoFencing
- Attached to private secured WiFi AP

Evolved Mobile Location



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Questions

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