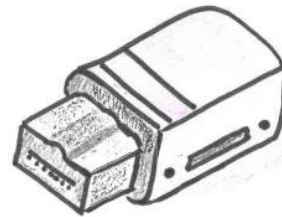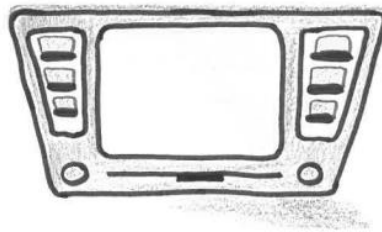ULD

Uses of mobile WiFi Access Points: Entertainment and Fun

Increasing use of WiFi Access Points in Vehicles

- Infotainment

- Internet connectivity (via cellular networks)

- Connecting Smartphones:

  - *Android Auto*
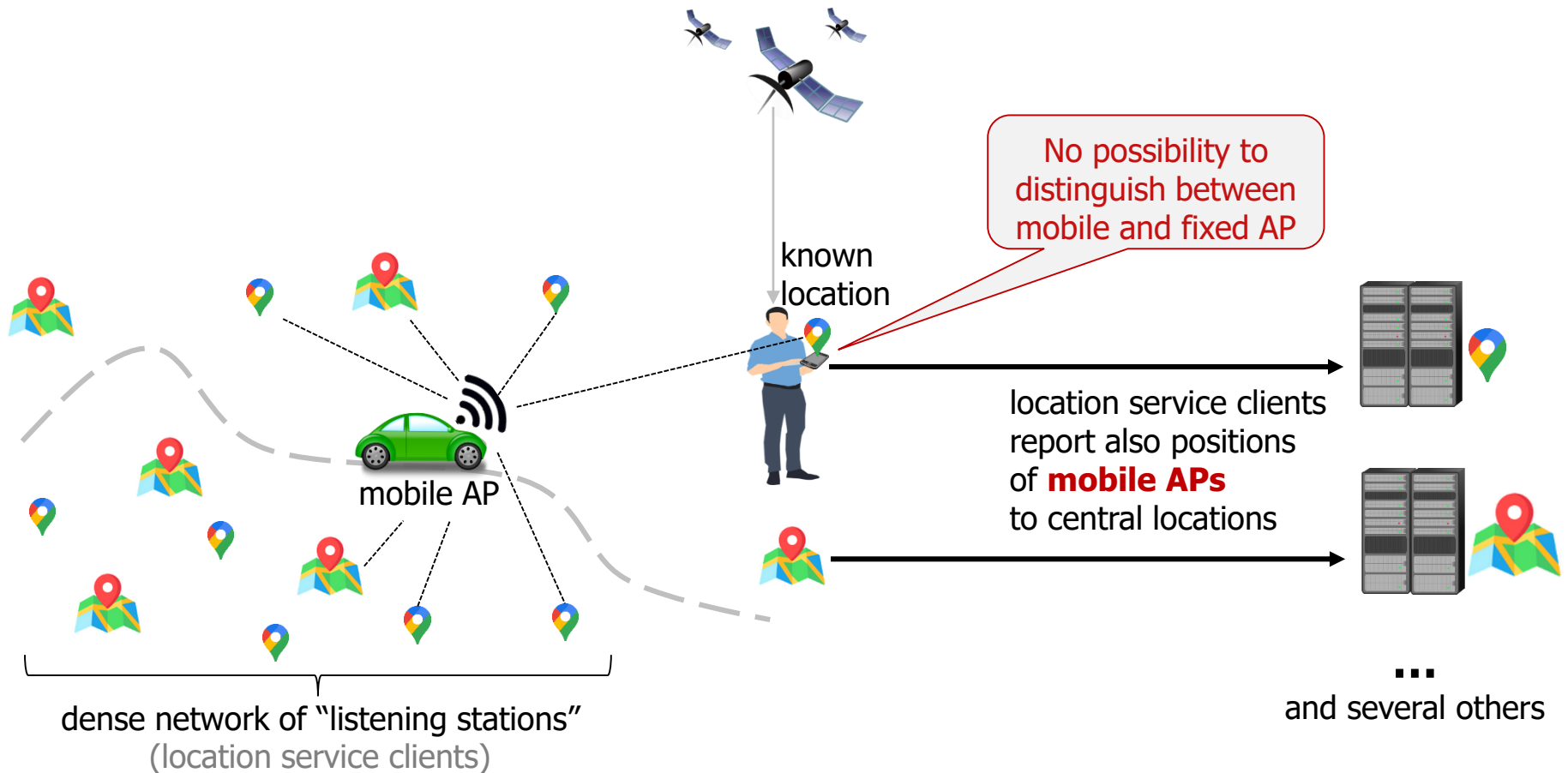 - *Apple CarPlay*

  } Bluetooth has insufficient bandwidth

Form factors:

WiFi identifiers never change
Ullmann et al: "**secondary vehicle identifiers**"

Location services systematically track (mobile) access points

No possibility to distinguish between mobile and fixed AP

known location

location service clients report also positions of **mobile APs** to central locations

mobile AP

dense network of "listening stations"
(location service clients)

...
and several others

Apple location logo from https://medium.com/swlh/add-a-map-to-your-app-with-mapkit-and-core-location-ios-swift-guide-8ea9c236d895

2

Recommendations

Context: WiFi tracking

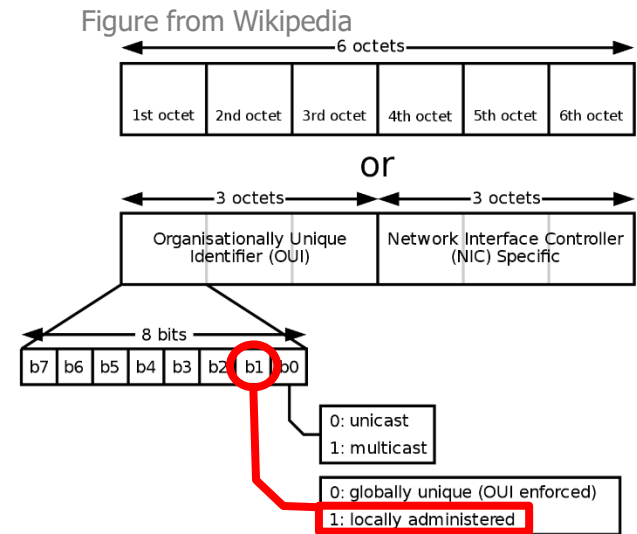*(mobile APs, location services)*

Who: IEEE P802E

Proposed Action:

Mandate to mark all mobile Access Points with locally administered MAC addresses

Benefits:

• Location service clients can then *recognize* and *exclude mobile APs* from processing

• Ongoing systematic, global tracking of mobile APs can be stopped

Figure from Wikipedia

Structure of a 48-bit MAC address
(source: Wikipedia)

Contact, Details, Acknowledgements

Detailed Report:

- https://uldsh.de/lstrack

Contacts:

- Marit Hansen

- Bud P. Bruegger   <uld613@datenschutzzentrum.de>

Acknowledgements: