envision
the future of emergency communications
9-1-1 Location Accuracy and the Apps Ecosystem

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Where is your emergency?
“Why can Uber find me, but 9-1-1 can’t?”
A Visit with the FCC

- Another day, another advocacy push
- Ready to return to the office
- Headed to the ground floor lobby to summon my Uber
- Wait, what’s the FCC’s address?
Carriers are using DBH location technologies.

In September, CTIA announced the major wireless carriers will be adding new location-based tools - device-based hybrid solutions - to existing wireless 9-1-1 location technologies by the end of this year.
Supplemental Location Solutions

- Supplemental solutions such as the RapidSOS Clearinghouse can offer features and capabilities designed to supplement information traditionally provided with 9-1-1 calls (ALI).
- In June, Apple announced a partnership with RapidSOS to make device-based location information available to PSAPs through integrations with 9-1-1 call handling, CAD, and mapping solutions.
- This information can be helpful but supplemental data solutions are not presently offered under the FCC’s regulatory oversight.
  - What of reliability, accuracy, outage notifications, security, sustainability?
  - APCO, NENA, and CTIA jointly expressed several concerns to the FCC.
Questions to Ask

• How does the accuracy of the supplemental location information compare to ALI?
  • How do the accuracies compare when the call is delivered vs after rebid?
  • Will the difference in accuracy change over time, for example, as wireless carriers increasingly use device-based location information available from Apple iOS and Android devices?
  • When is location information provided? Only from some devices? Only with a specific degree of confidence/uncertainty (ex – x meters at 90% confidence vs <50 meters at x% confidence)?
  • For any claims made about location accuracy, what methodology was used to support the claims?
Questions to Ask

• What is the sustainability model for the supplemental location information provider?
  • If the service is “free” to PSAPs, how does the company stay in business?
  • What constraints are there, if any, on the company’s use of the data related to 9-1-1 calls?
  • What data, if any, does the company receive about 9-1-1 calls as a result of the PSAP’s decision to receive the supplemental information?
Questions to Ask

• What steps has the company taken to ensure the integrity and security of the data?
• What mechanisms are in place to ensure the reliability of the solution?
• What liability will the company accept? If a location is false or not provided after the PSAP has come to rely on the information, who will accept responsibility?
• What kind of notification, if any, will the PSAP receive if the supplemental location service experiences an interruption?
Location, Location, Location…..and....
9-1-1 Mobile Apps

- Misleading claim: The app can “pinpoint” user locations.


**Bottom Line:** Apps are not ready to replace 9-1-1.
Apps

Applications

FirstNet Managed Interoperability

FirstNet Deployed Applications

PSEN Deployed Applications

PSEN Managed Interoperability

User Services

FirstNet Deployed User Services

Network Services

FirstNet Deployed Network Services

PSEN Deployed Network Services

Examples

- Advanced multimedia telephone
- Video
- PTT Apps
- Fire situational awareness, etc.
- Computer-Aided Dispatch
- Cellular Telephony
- Video
- Direct-mode PTT (not for launch)
- Messaging, etc.
- Location
- Service Discovery
- DNS
- Identity
- Dynamic QoS, etc.
Scenarios and Goals for the Continuum of PS Response
Basic Architecture and Apps

PSAP

NG9-1-1

Data

LMR

Voice

Application

Pipe

App <-> Human <-> App

Pipe

Application
Environment

• Secure communications are a core requirement for PSAPs.
• How do we provide access control, authentication, auditing, confidentiality, data integrity, physical security, for applications and the IoT they are part of?
• High level network requirements include services, device management and identity management.
• Services may be provided by a central authority and delivered through either centralized or distributed service mechanisms.
• May want to consider the concept of a “trusted zone” and a “trusted vulnerable zone”. How do we “vet” apps?
There’s an App for that….right?

D.O.T.

Emergency Management

N-1-1

Media, Private Institutions

PSAPs

NLETS, NOAA, FEMA, DHS

Fusion Centers

Police, Fire, EMS Response Agencies

Hospitals, Poison Control
Questions?

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