911 Applications Workshop:
Panel 3: The Future of Apps in the 911 Ecosystem

May 8th, 2015

Roger S. Marshall

ATIS ESIF Industry Advisor

Sr. Member of Technical Staff

TeleCommunication Systems, Inc. (TCS)

Making Connections that Matter®

TCS TeleCommunication Systems
Enabling Convergent Technologies®

ATIS Standards – Considering what is "Smart"

Alliance for Telecommunications Industry Solutions

- **Challenges for Public Safety Smart Apps**
  - **Smartphone Penetration (60-80% does not equal 100%)**
  - **Various operating systems and user interfaces**
  - **Changing hardware capabilities and different software releases**
  - **Commercial location not equivalent to emergency location**
  - **User experience skewed by "Always On" location apps**
  - **Emergency location is calculated once the call is initiated (not before)**
  - **Which 911 apps are certified and how is 911 app certification done**
  - **Privacy concerns**
  - **Security is a fundamental requirement – and significant concern – on all sides**

ATIS Standards – Considering what is "Smart"

Alliance for Telecommunications Industry Solutions

- **Progress toward Future Smart Apps for 911**

    – **Published ATIS J-STD-110, 110.a, 110.01 for SMS-to-9-1-1 support emergency text requests**

    – **Updated work to ATIS J-STD-110 provides support for MMS text**

    – **Future ATIS work item includes OTT (Over The Top)**

    – **Call routing and delivery architectures have and will continue to evolve in order to support multimedia interaction for smart devices**

ATIS – Emergency Services Standards Development

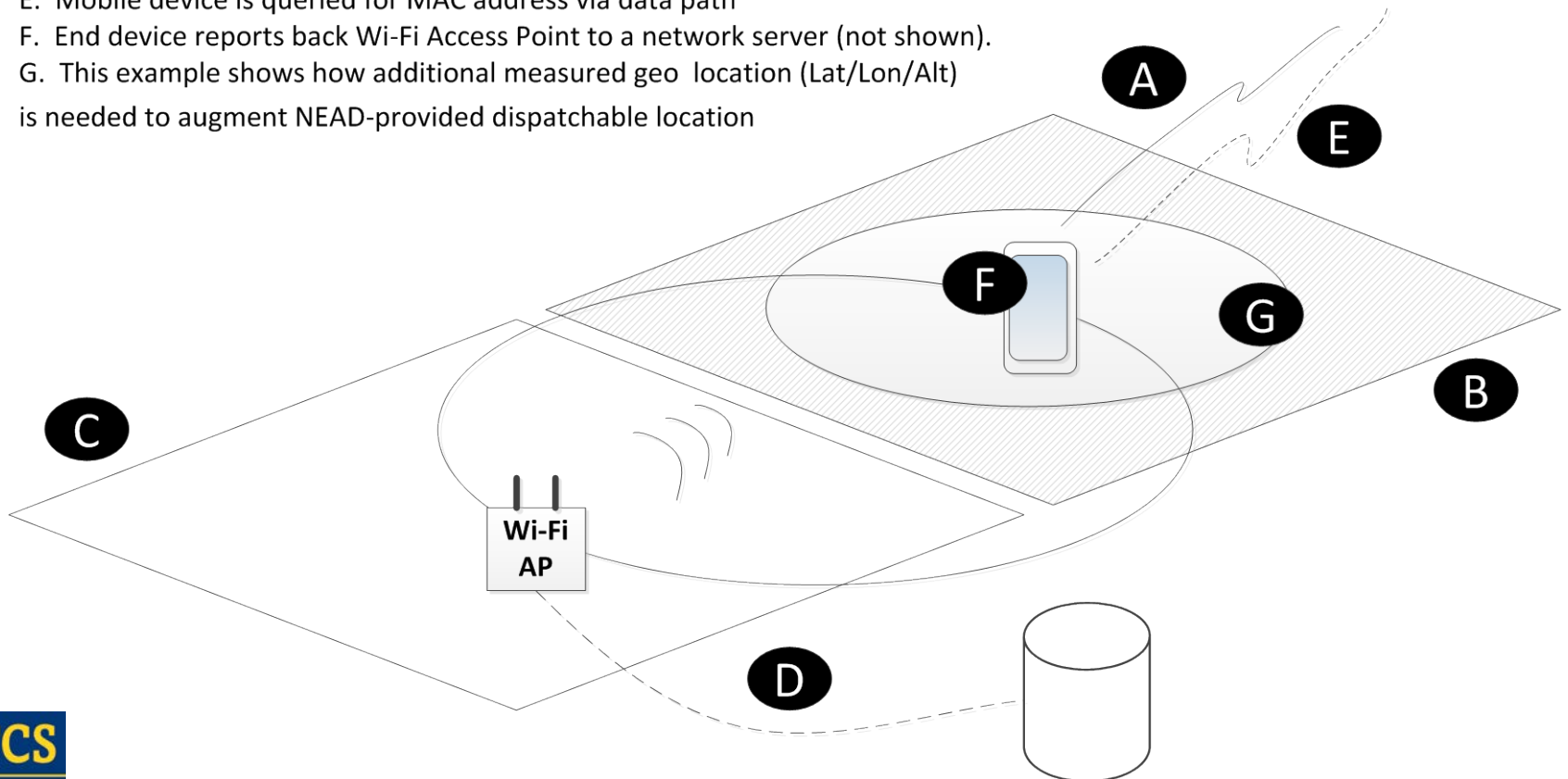Alliance for Telecommunications Industry Solutions

- **ESIF – Emergency Services Interconnection Forum**
  - **Emergency Service & Methodologies (ESM)**
  - **Next Generation Emergency Services (NGES)**
  - **IP Multimedia Subsystem for 911***

- **WTSC – Wireless Technologies and Systems Committee**
  - **SMS to 9-1-1***
  - **Procedures for IMS Origination and ESInet***
  - **Emergency Location (ELOC)***
  - **Systems and Networks (SN)**

- **ATIS.org**

*Multi-committee ATIS activity

ATIS Emergency Location Task Force

Standards development activity is underway to provide a viable standard architecture that merges together different types of location technologies

A. Mobile E9-1-1 call initiation
B. Footprint representing the emergency caller's **dispatchable address**, Example: 123 Main Street, Building 1, Room 101…
C. Adjacent property, Example: 123 Main Street, Building 1, **Room 102**…
D. Wi-Fi Access Point civic address (C) is provisioned into the National Emergency Address Database (NEAD)
E. Mobile device is queried for MAC address via data path
F. End device reports back Wi-Fi Access Point to a network server (not shown).
G. This example shows how additional measured geo location (Lat/Lon/Alt)

is needed to augment NEAD-provided dispatchable location

Wi-Fi AP

ATIS Coordination with other Standards Bodies

Alliance for Telecommunications Industry Solutions

- **APCO International – www.apco.org**

  – **APPCOMM, a Repository for Public Safety Applications (appcomm.org)**

  – **Recently published Fact Sheet and Whitepaper (4/27/2015)**

- **NENA National Emergency Number Association**

  – **Public Safety Considerations for Smartphone App Developers (nena.org)**

    ▪ **Direct Communication with 9-1-1, Notifying Friends and Family, GPS and 9-1-1 Location**

  – **NENA 08-003 "i3" Standard for NG9-1-1 Emergency Services**

- **IETF – Emergency Context Resolution with Internet Technologies**

  – **ECRIT, https://tools.ietf.org/wg/ecrit/**

  – **Geopriv, https://tools.ietf.org/wg/geopriv/**

Questions

Roger S. Marshall
Sr. Member of Technical Staff
TeleCommunication Systems, Inc.
206.792.2424 (o) | 206.240.3556 (m)

2401 Elliott Avenue Suite 200, Seattle WA 98121

rmarshall@telecomsys.com

@telecomsys

www.telecomsys.com