U.S. DOT Connected Vehicle PlugFests

Southeast Michigan Connected Vehicle Test Bed 2014 Project Public Meeting

October 29, 2013 Webinar

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Topics to Cover

- What is a PlugFest?
- Why PlugFests?
- How are PlugFests organized?
- Who should attend?
- When and where will they take place?
- Next steps
What is a PlugFest?

- As understood by the IT community:
  “An event during which devices are tested for interoperability with emerging standards”

- Opportunity for connected vehicle developers and researchers to:
  - Learn about connected vehicle technology
  - Create new applications
  - Test their implementations under real-life road conditions

- Participants bring their own devices (BYOD) for interoperability testing

Source: http://www.ringdna.com/blog/buyod programas create mobile app adoption
Why PlugFests?

USDOT-RITA VISION:

“Harness the collective abilities of [stakeholders] to transition [connected vehicle] technology toward full deployment by allowing for the exchange of information, the sharing of deployment lessons learned, developing a common technical platform, and expanding test bed options for users.”
How are PlugFests Organized?

- Vendor to vendor test sessions assess the level of interoperability and the correct understanding of the base standard requirements for the Southeast Michigan Connected Vehicle Test Bed Deployment
- Classroom training and lab environment providing connectivity, instruction, and facilities
- Multiple day event replicated at test bed sites across the country
How are PlugFests Organized? (cont.)

- Testing will take place at various test beds
  - Data Logging
  - Standards Validation/ Lessons Learned
  - Interface Development Support
- Participants will transmit messages over the air
- Available equipment includes:
  - Roadside Equipment (RSEs) – DSRC
  - Test vehicles equipped with Vehicle-Awareness-Devices (VADs)
  - SPaT enabled intersections
  - Access to backhaul network
Scope of PlugFests

- **Primary (Initial) Focus is on technical (syntactic) interoperability:**
  - Two or more systems are capable of communicating and exchanging data
  - Guarantees the correct transmission of data
- **Secondary Focus on semantic interoperability (at a later date):**
  - Ability to automatically interpret the information exchanged meaningfully and accurately

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<th>Phase</th>
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| **Phase 1: V2I Interoperability** | • Architecture – Level 0  
• Primary focus on infrastructure interface testing  
• Based on SE MI Deployment Project |
| **Phase 2: Application Development** | • Use of connected vehicle data, RDE data, microsite and other data inventories  
• Based on SE MI Deployment Project Architecture Layer 1  
• Second/Third Round Plugfests will focus or feature app and security testing |
| **Phase 3: Security Interoperability** | • “Hackathon”  
• Ensure trust, counter-cases, intrusion attempts |
Proposed Schedule

- Inaugural PlugFest: January 2014, Turner Fairbank Highway Research Center, VA
- Midwestern PlugFest: March 2014, Novi, MI
  - Kick-Off ITS World Congress Demonstrators Tech Support
- Western PlugFest: June 2014, Palo Alto, CA
- Bimonthly World Congress Mini-Fests:
  - May 2014 – Novi, MI
  - July 2014 – Detroit, MI
  - Mid August 2014 – Detroit, MI
    - World Congress Demonstrator Preparation
- Hackathon: Early November 2014/January 2015, Novi, MI
Target Participants

- Tier 1 and 2 automotive suppliers
- Wireless community and DSRC equipment manufacturers and solution providers
- Vehicle application developers and network users, interested in data
- University research centers
## Key Preparation Activities

1. **PlugFest FAQs and Reference Materials**
   - Will be published in advance of Plugfest - before January 2014
   - Specific standards and tests documentation/reference materials posted to webpage

2. **Informal Industry Interviews/Webinar**
   - Pre-screening questionnaire will be issued in coming month to:
     - Screen participants
     - Identify testing priorities (from a set list of options)
     - Capabilities
     - Platforms – hardware, software and UI

3. **Mandatory Registration and Prequalification**
   - Affiliated Test Bed Agreement must be signed before testing

4. **Venue/Logistics**
   - Coordination between USDOT and Affiliated Test Beds
   - Develop requirements for additional venues/equipment, etc.
Why Should You Attend?

- Test your implementations together with experts and help ensure interoperability across multiple implementations and standards
- Get support from experienced connected vehicle deployment experts to improve your equipment
- Learn how to integrate open standards implementations into your software project
- Provide feedback and discuss with experts which features are needed for your applications or use cases
- Develop personal relationships with leading developers and open source project experts in the industry

To Learn More…

- PlugFest Information
  http://www.its.dot.gov/testbed.htm

- Event Registration:
  www.itsa.org/plugfest

- Point of Contact:
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