Pooled Fund Study Review

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Agenda

- Review project goals and objectives
- Review Task 1 deliverable
- Review Task 2 deliverable
- Preview Task 3 deliverable

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Project Goals and Objectives

The Goal of this project is to develop the foundational knowledge necessary to inform the pooled fund study members on the certification issues, providing the information necessary to support the future development of a certification program for Connected Vehicle hardware and software for standards compliance and interoperability

Objectives:

- To review general certification practices
- To review the current activities associated with Connected Vehicle certification
- To prepare a recommended set of next steps and action items necessary to create a certification procedure for Connected Vehicle hardware and software for standards compliance and interoperability

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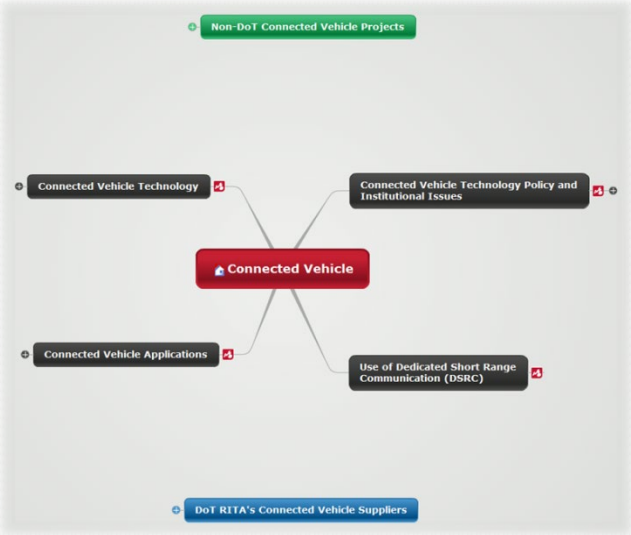
Task 1

- Mapping the Connected Vehicle Landscape
  - Objective: The objective of Task 1 is to provide a summary view of the interconnected initiatives that comprise the Connected Vehicle Community
  - Deliverable: Interactive Mindomo map



- Organizational Connections
- Subject Matter Connections
- Embedded Content

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Task 2

- Overview of the Connected Vehicle Certification System
  - Objective: To provide a summary view of work efforts and outcomes specific to certification programs for the Connected Vehicle program
  - Deliverable:
    - Summation of foundational elements of relevant certification programs as models for CVCS
    - Overview of CVCS
      - Organizational Design
      - Certification Structure
      - Process

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Certification Foundational Elements

- Analyzed three certification program of relevant communication protocols
  - WiMax
  - CDMA
  - Bluetooth
- Program Elements
  - Organizational Design
  - Technology Infrastructure
  - Financial Models
  - Program Attributes

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Organizational Design

- Oversight Committee
  - Strategic direction
  - Supervision over implementation
  - Cross-industry representation
  - Balanced between supply chain (User, Vendor, Operator)
- Policy Committee
  - Develops policy and procedures
  - Process flow
- Technical Committee
  - Technical aspects of test specifications
  - Establishing requirements and accrediting testing facilities

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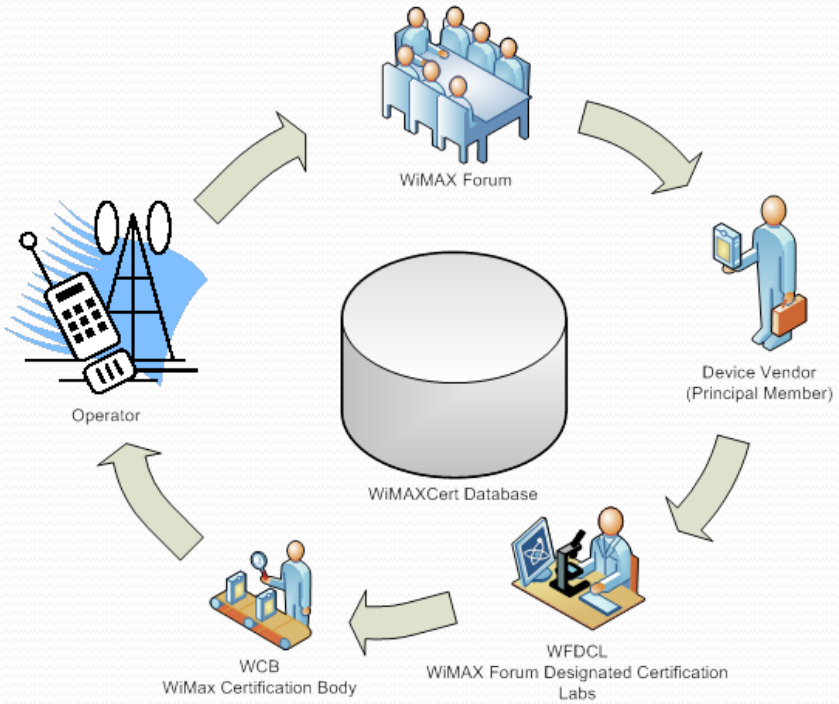
Technology Infrastructure



Automate hand-offs between roles of the process

- Vendor
  - Application submittal
  - Testing requirements
  - Testing Results
- Testing facility
  - Receive application
  - Receive test plan
  - Provide cost quotation
  - Input testing results
- Certification Body
  - View applications in system
  - Receive test data from lab
  - Communicate with vendor
- Infrastructure Owner
  - View QPL for purchasing

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Financial Model

- Must support strategic direction of organization and provide balance of cost efficiency and sustainability of program
  - Licensing Fee – paid by vendor
  - Certification Body Fee – paid by vendor
  - Testing Fees – paid by vendor
  - Authorized Lab Fees – paid by testing facility
  - Membership Fees – All organizational members
  - Device Fee – paid by vendor
  - Test plan fee – paid by testing facility

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Program Attributes

Adaptable

- Program must have ability to add or subtract technical requirements without disrupting overall certification scheme
- Needs to support flexible deployment of protocol

Accessible

- Minimize cost of certification across supply chain while maximizing the benefits of certification
- If process is too cumbersome and inefficient the cost of certification will outweigh the benefits and become barrier of deployment
- Look to technology as bridge between roles for communication efficiency and content repository

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Connected Vehicle Certification System Overview

- DoT vision for Connected Vehicle - “bring connectivity to the U.S. surface transportation system through the application of powerful advanced wireless technologies – which can enable transformative change.”
- Any device; Any application; Any protocol
- Greenfield project – Current programs for specific protocol, but no singular certification program that identifies requirements for each of these protocols to operate in an interdependent environment
- CVCS - Certification system that houses multiple certification programs

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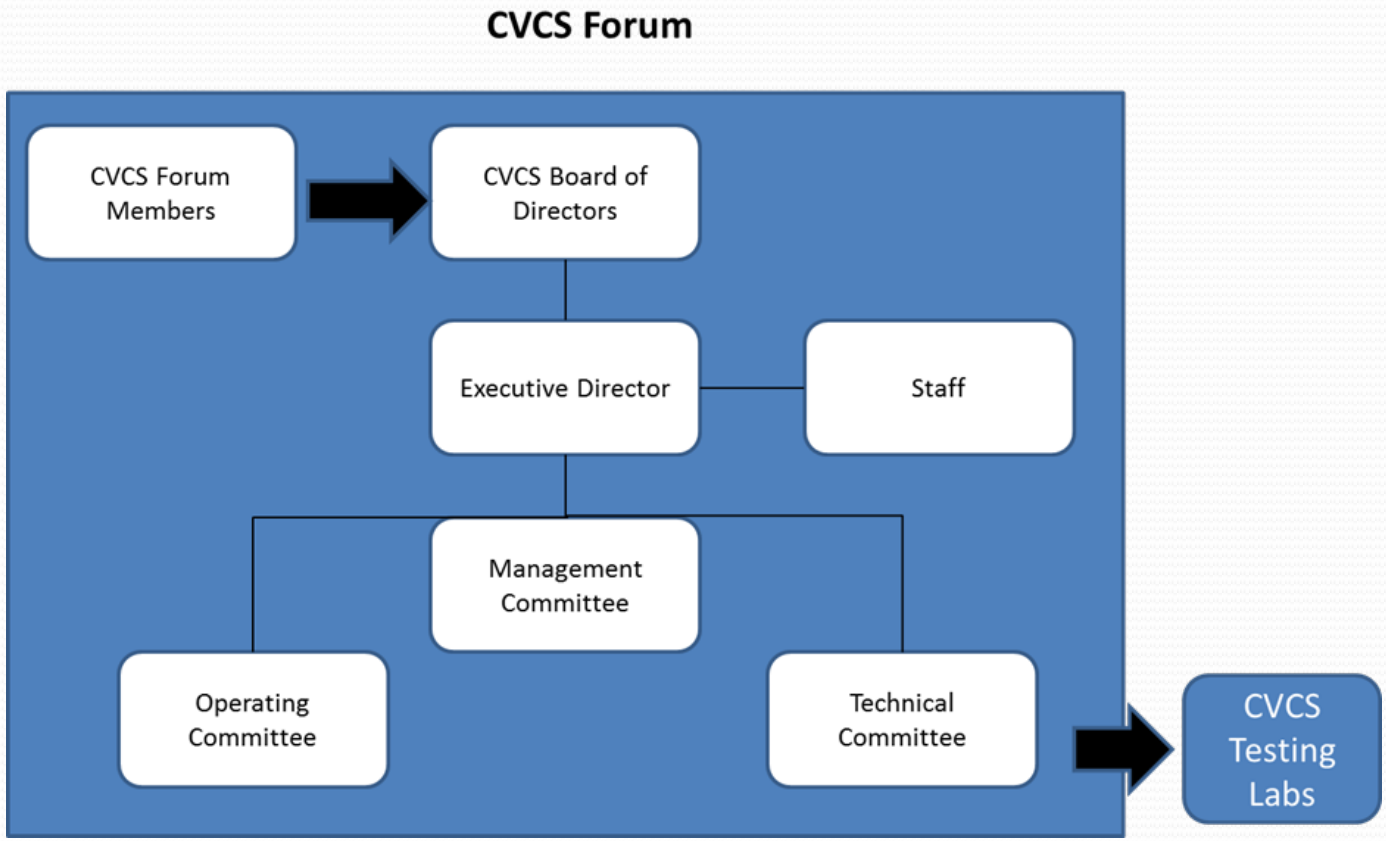
CVCS Organizational Structure



CVCS Organizational Structure

- Membership
  - Open to all interested and affected parties of the Connected Vehicle environment
  - Cross section of roles
- Board of Directors
  - Develop and approve organizational policies, bylaws and strategic direction
- Executive Director
  - Member of the board and chair of the ‘implementation committees”

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CVCS Organizational Structure

- Operating Committee
  - Responsibilities revolve around the procedures, forms and guidance documents
- Technical Committee
  - Technical aspects of the certification program
- Management Committee
  - Responsible for the approval and implementation of the outputs of the Operating and Technical Committees
    - Approves new profiles, endorsements from technical committee
    - Approves organizational procedures developed by Operating Committee
    - Second level of appeals for both technical and procedural grievances

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CVCS Certification Structure

- Hierarchical structure to support a certification system of multiple certification programs
  - Profile – highest level of classification; Network, Device/Protocol, Service/Application
  - Endorsement – A Profile may house several Endorsements to further segregate differences to better define specific requirements. Safety; Mobility; Environmental
  - Class – An Endorsement may have several classes to define specific requirements

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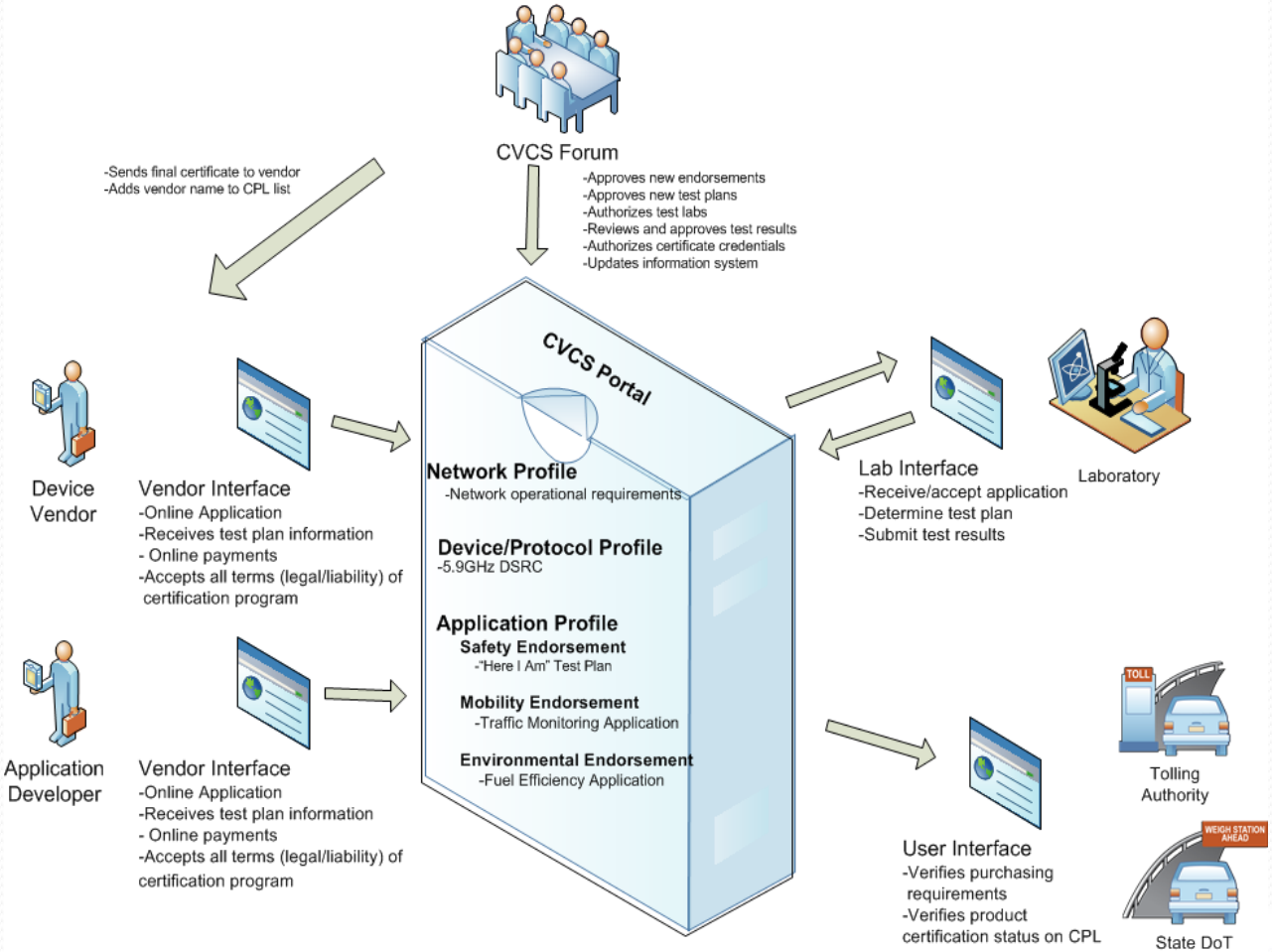
CVCS Process



Task 3 Preview

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Task 3 State and Local Needs Assessment

- Review Federal and State Initiatives
- Identify State Needs
- Identify Gaps between States
- Identify Gaps between Federal and State
- Create a Survey to Gather State Feedback on Gaps

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Review Federal and State Initiatives

- Federal Initiatives
  - Consult OmniAir Members
  - Discussions with US DOT staff
  - Review Existing Documentation
- State Initiatives
  - Conduct Interviews with Pooled Fund States
  - Conduct Interviews with other Active States

Needs and Analysis Assessment

- Develop a Comparison Matrix
- Identify Gaps and Needs
- Tag Most Important Gaps
- Create and Administer the Survey
- Analyze Survey Results
- Document Survey Results and Recommendations

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