



Connected Vehicle PlugFest  
San Antonio, Texas

**USDOT SCMS Overview**

May 8, 2017

# Agenda

---

- ✓ Motivation for SCMS
- ✓ SCMS Roadmap
- ✓ PlugFest Security Certificates
- ✓ SCMS Support for CV Pilots
- ✓ Enrollment into the SCMS QA Environment
- ✓ Documentation Available



# Motivation for SCMS

**Connected vehicles** have the potential to transform the way Americans travel through the creation of a safe, interoperable wireless communications network.

**V2V safety applications** can alert the driver and help prevent crashes by issuing safety warnings.

In order to realize the benefits of V2V applications, a **system must be in place that users can trust**. BSMs must have:

Integrity – the message was not modified between sender and receiver

Authenticity – the message originates from a trustworthy and legitimate device

Privacy – the message must appropriately protect the privacy of the sender



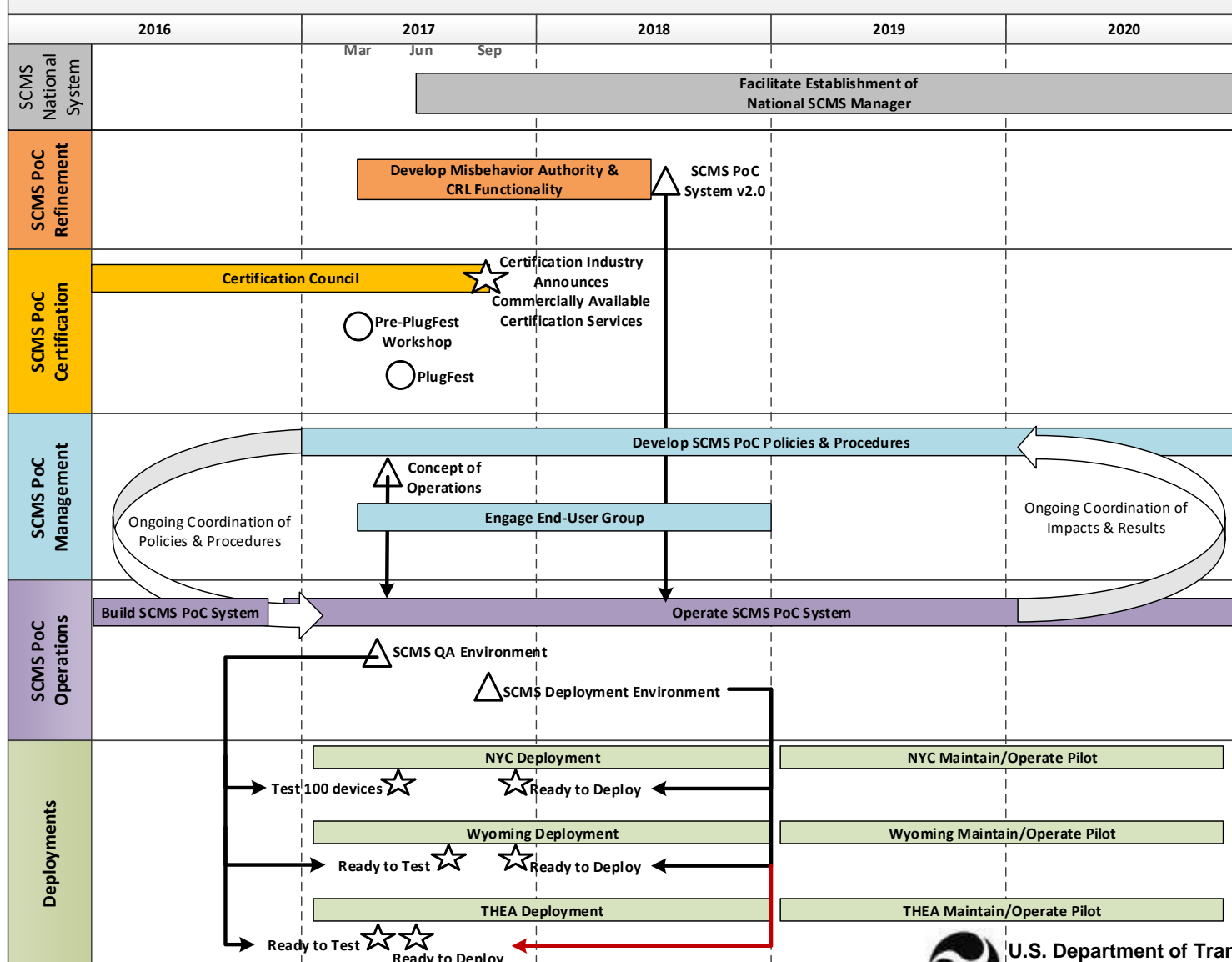
## Safety Application Examples:

- Forward Collision Warning (FCW)
- Intersection Movement Assist (IMA)
- Electronic Emergency Brake Light (EEBL)
- ...and many others.

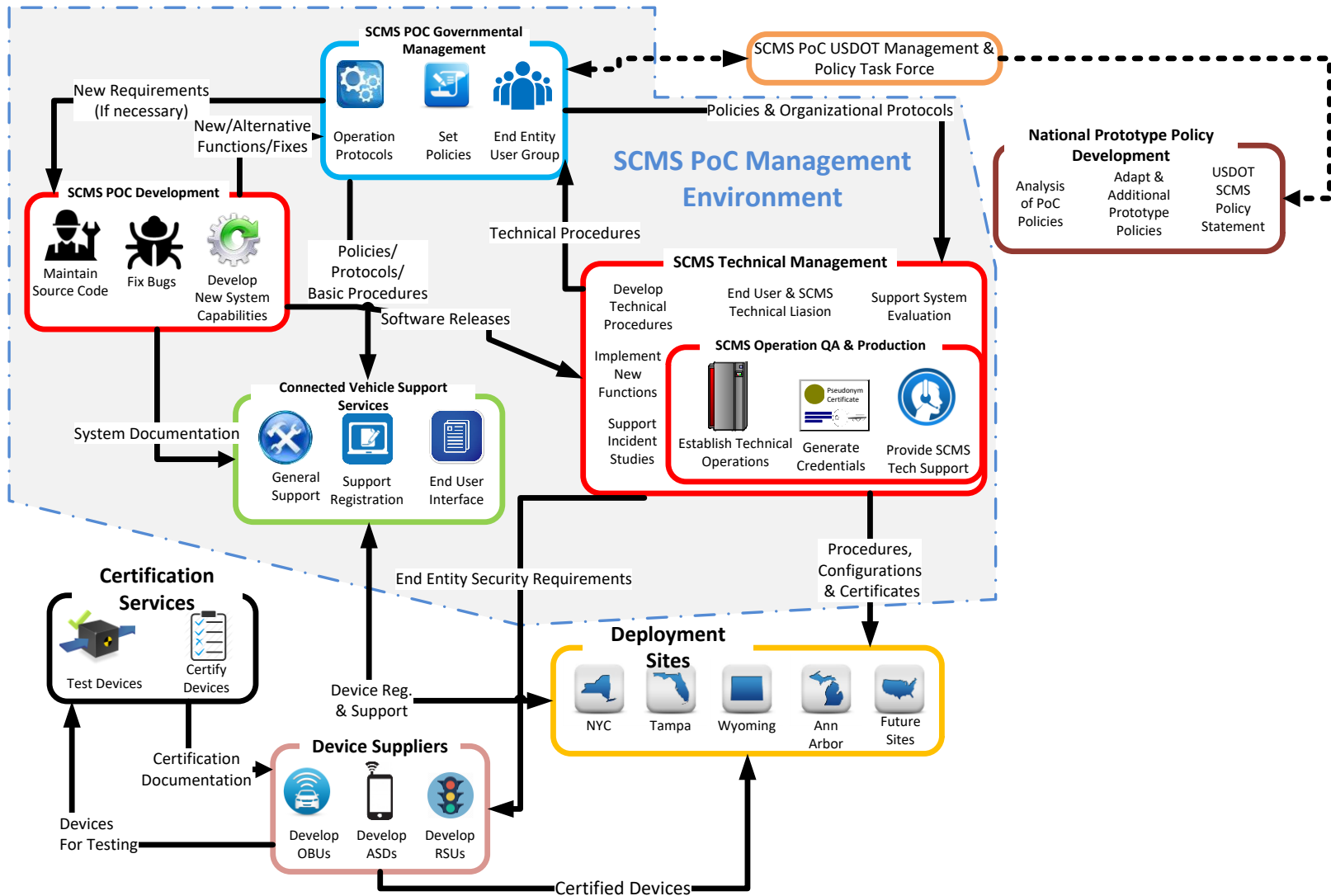


# SCMS Roadmap

## Security Credential Management System Roadmap



# SCMS POC Environment



# PlugFest Security Certificates

---

INTEGRITY Security Services is providing free use of their commercial Certificate Management Service (CMS) to issue **test credentials** for both on-board (OBU) and road-side (RSU) secure communication and capability development in support of this PlugFest.



**Certificates provided at this PlugFest are not compatible with the SCMS.**

The **SCMS QA Environment** will be available on **May 19, 2017**. Device Manufacturers are encouraged to submit enrollment requests in preparation for requesting SCMS security certificates.



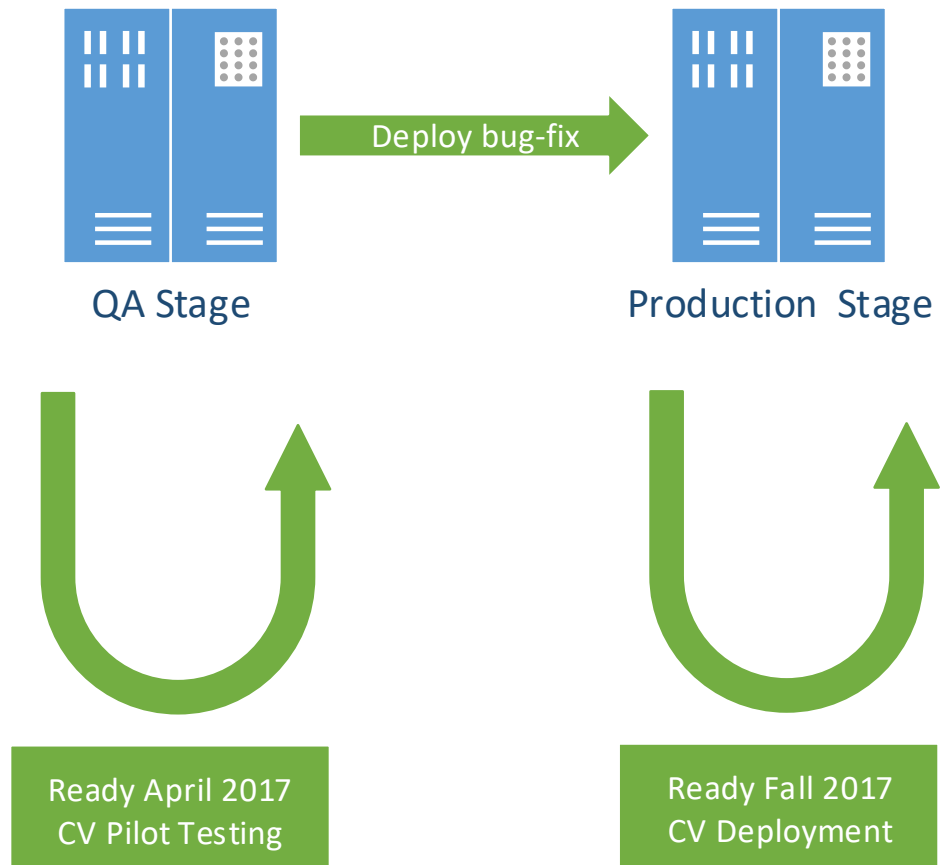
# CV Pilots

*The SCMS POC will support USDOT research deployments, beginning with the CV Pilot Deployment sites.*

## SCMS Support of CV Pilots

- Testing begins April 2017
- Deployment in Fall 2017
- 5 year duration
- All CV Pilot certificates will expire at the end of project duration
- Every EE must conform to J2945/1 when sending BSMs

## SCMS Environments



# Enrollment into the SCMS

---

**Enrollment** is the **entry point** to the SCMS

- Potential users submit an enrollment request to the USDOT.
- Criteria is being developed for authorizing users.
- A certification process will ensure that devices meet program requirements and perform as intended.

**Enrollment Certificate** is a ticket for admission to the SCMS

- Enrollment Certificate = long term (life of device)
- Every EE must be provisioned with an Enrollment Certificate as part of the bootstrapping process
- Enrollment environment governed by SCMS Manager policy

## **Manual Enrollment Process**

- Requires a secure environment (defined by policy)
- Manual process will be utilized for initial deployment
- Later versions of the system will implement an automated process





# Enrollment into the SCMS QA Environment

---

***SCMS QA System will be available starting May 19<sup>th</sup>***

## SCMS QA Enrollment Process

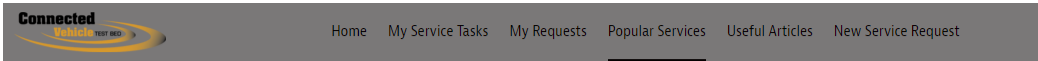
1. Device Needs
2. SCMS QA Enrollment Form

### 1. Device Needs

- **Vendor generates verification key pair in secure environment**
  - Private Key is used to sign the enrollment certificate request (CSR)
  - Verification key pair generated using approved algorithm
- **Vendor generates an enrollment certificate request (CSR) for each device**
  - Request permissions must be stated (PSIDs, SSPs, Geographic Region)
- **Vendor writes the CSR to a file format that can be placed in a flat file, collecting all device requests, and attached to the SCMS QA Enrollment Form in a ZIP file**



# SCMS QA Enrollment Request



## Popular Services

Cannot find a

### Equipment Loans

Equipment Loan Request

All Equipment Loans items (1)

### General Support

OBU / RSU configuration support  
Request CVCS Webtools Account (U...  
Request Delphi OBU connector parts  
Request the current operational ...  
Schedule a visit/tour of the CVC...

All General Support items (5)

### SCMS - POC

NEW! Request SCMS POC certificat...  
NEW! Request SCMS POC certificat...  
SCMC POC test link-do not use

All SCMS - POC items (3)

Select Options

## •Sample of Form Questions

Vendor Name \*

Vendor Point of Contact Name \*

Vendor Point of Contact Email Address \*

Number of OBU Devices Requesting Enrollment \*

Number of RSU Devices Requesting Enrollment \*

Number of Back Office Devices Requesting

## 2. SCMS QA Enrollment Form

In order to participate in the SCMS QA Environment, **Vendors must complete an Enrollment Request via the Connected Vehicle Core Systems Service Desk.**

The Enrollment Request process is not online yet. It will be rolled out in the coming weeks, ahead of May 19 SCMS QA launch.

**Vendors can register for an account at <https://cvcs.samanage.com/welcome.portal>.**

More information will be available soon.



# Documentation

---

For documentation on the technical requirements for end-entities to interface with the SCMS, please visit

<https://wiki.campllc.org/display/SCP/SCMS+CV+Pilots+Documentation>.

For additional information on the Connected Vehicle Pilots, please visit

<https://www.its.dot.gov/pilots/>.

To understand the research and thinking leading up to the current V2V communications environment and SCMS development, please refer to

<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/readiness-of-v2v-technology-for-application-812014.pdf>.



# Stay Connected

---

## Contact for SCMS

Kevin Gay, ITS JPO

[Kevin.Gay@dot.gov](mailto:Kevin.Gay@dot.gov)

## Contact for CV Pilots Program

Kate Hartman, Program Manager

[Kate.Hartman@dot.gov](mailto:Kate.Hartman@dot.gov)

