FAA Labs in a Distributed and Collaborative Environment to Support V&V

October 10, 2012
Distributed Simulation Demonstration

- Distributed testing environment demonstrated in August, 2012.
- Multiple aircraft simulators (located at 5 different facilities) flying within common airspace simulated by the NIEC Display Laboratory
  - NIEC Display Lab
    - Tower Simulator - DFW Center Tower
    - ATC Simulator – DFW TRACON
  - Five Individual Cockpit Simulators
    - NASA AMES Boeing 747
    - DoD NavAir Pax River RQ7 Shadow
    - Boeing Palmdale Boeing 737
    - Boeing Philadelphia V22 Osprey
    - FAA WJHTC Airbus 320
Successful Collaboration

• Shows “we can” have a more integrated Government and Industry platform to perform T&E activities
  • Tech Center Labs are integral part of that platform

• Shows “we can” overcome:
  • technical challenges of data exchange using different IT frameworks.
  • cultural challenges of working with different organizations outside FAA

• Multiple tools & protocols used to share data & voice
  • DoD’s Test Resource Management Center (TRMC)
  • Joint Mission Environment Test Capability (JMETC)
  • Test and Training Enabling Architecture (TENA)
  • Aviation SimNet
  • Voice over Internet Protocol (VoIP) using Plexsys equipment
Show Video
Lessons Learned

**Mostly Administrative / Cultural**
- Need to get agreements in place ahead of time
- Learned that some organizations need to figure out employees charge their time
- Learned about approval processes (e.g. OK to show video of each others capabilities)
- Intellectual Property Concerns

**Some Technical**
- IT Security
- Different networks and databases
  - Ways to address latency issues
Going Forward

• Keep momentum going by setting up future CRDA’s and possibly regular working groups

• Identify the key ATC and aircraft/avionics issues this capability could address
  • Can this capability can be leveraged across the whole acquisition lifecycle?

• Address intellectual property and security concerns