Navigating Interoperability and Other Challenges

Growing out of the standalone EMSIPB Medicom radio systems by following the APCO Project 25 roadmap.

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EMSIPB Public Safety Communications SME

Who am I?

- Public Safety Professional
  - ER Technician – Detox and Psych
  - Deputy Sheriff
  - University Public Safety Officer
  - Firefighter
  - Transit Police Lieutenant
  - FBI Hostage Negotiator as DHS/ICE CDDO
  - Colorado Ranger
- Electrical Engineer
  - Radio systems
  - Critical infrastructure
  - Certified by most OEMs as a systems engineer

The challenges:

- Portions of the EMSIPB radio systems are getting old.
- The systems never really covered all areas.
  - Portions have gone away, making mattes worse.
- The systems are standalone.
  - We are communicating, but struggle to interoperate easily.
    - Lahaina made the need for easy, very apparent.
  - We can’t share resources between these systems, even though it is all within EMSIPB.
- EMSIPB contract providers become the odd man out.

The solutions:

- Follow the known best practices.
  - Standards:
    - P25
    - ICS
    - NIFOG
    - SCIP
- Use what is available.
- Pool resources.
- Don’t reinvent the wheel.
- Make it someone else’s problem…

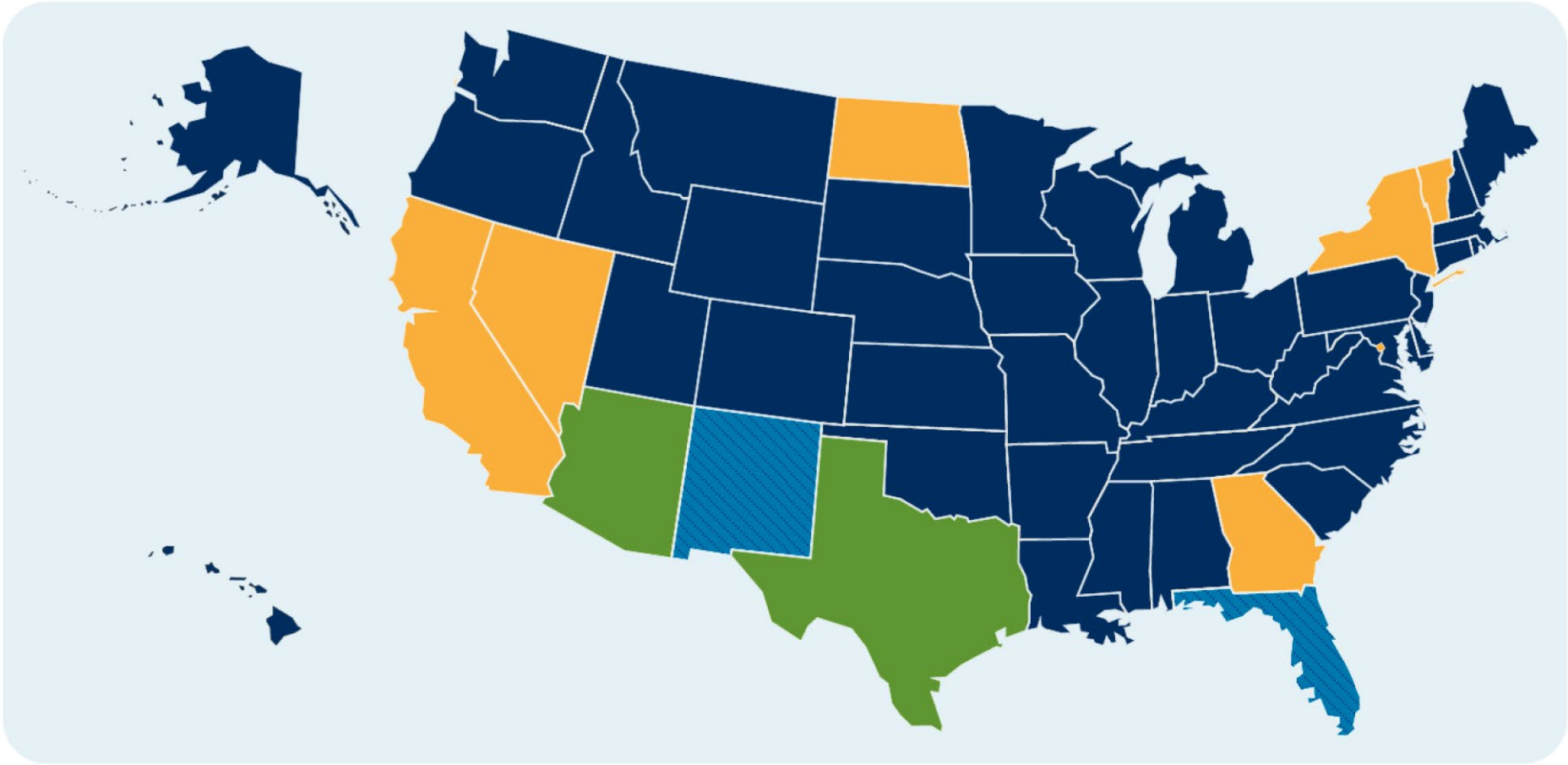
United States P25 Systems

38
P25 statewide systems

8
Existing P25
non-statewide systems

2
In-progress statewide
P25 systems

2
P25 statewide
system of systems



A single solution that solves it all:

- The Hawaii Wireless Interoperability Network (HIWIN.)

Follow the known best practices.

Standards:
P25
ICS
NIFOG
SCIP

- HIWIN was built following industry best practices.
- HIWIN is fully compliant with the APCO P25 standards.
  - No proprietary features.
- HIWIN is recognized by the SCIP as the preferred interoperability platform.
- HIWIN is configured per the SCIP fleet map and numbering scheme.
- HIWIN is properly documented per the ICS standards.
  - A standard ICS217a on the fly.

Use what is available.

- HIWIN is already built and in use.
  - Used by:
    - Department of Public Safety
    - DLNR
    - FBI
    - Homeland Security
    - National Park Service
    - Many others…
- New sites are already planned.
- P25 standard ISSIs are already in place to the willing counties.
  - Other connections are in plate to others, and to federal agencies.

Pool resources.

- State agencies, such as EMSIPB, contribute to the greater good by using HIWIN.
  - Saving significant expenditure, as opposed to spending millions to deploy their own duplicate coverage.

Don’t reinvent the wheel.

- Significant engineering is required to build a new radio system; even as a direct replacement to an existing one.
  - Use of an system which already exists avoids this time and expenditure.
- Proprietary offerings can be tempting. However, they come with all of the downfalls that existed before the P25 standard came to be.
  - Are you SURE that vendor will be here in 10 years.
  - Are you SURE their product will last that long.
    - Not only durability but planned obsolescence.

Make it someone else's problem…

- Why should EMSIPB deal with microwave links, fiber optics, radio towers and other non-patient focused matters like that.
  - Let that be OETS's problem.
    - They are already doing it.
    - They are really quite good at it.
    - They like it.

Don’t put all your eggs in HIWIN’s basket.

- Standards like the SCIP and the NIFOG exist for a reason.
  - Example – Lahaina.
- The other end of interoperability – the user equipment.
- Other systems exist, and should be easily and rapidly useable by the boots on the ground.
- It’s not a perfect world, multiple radio bands are in use.
  - VHF
  - UHF
  - 700MHz
  - 800 MHZ

Another lesson from Lahaina
Multi-band P25 radios.

- No longer a new to the market and very expensive luxury.
  - All major manufacturers are offering them.
- Fully P25 compliant, and vetted.
  - Works on all P25 radio systems.
- Allows resources from any island to be used on any other island.
  - Even if the county systems are down.
  - Even if the HIWIN system is down.
  - Even if we have fallen back to doomsday measures.
- Just remember to avoid reliance on proprietary features.
  - Example, the DES encryption that bit agencies.

Questions?

Thank you for your time.