PSEC PROJECT OVERVIEW

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Project Background

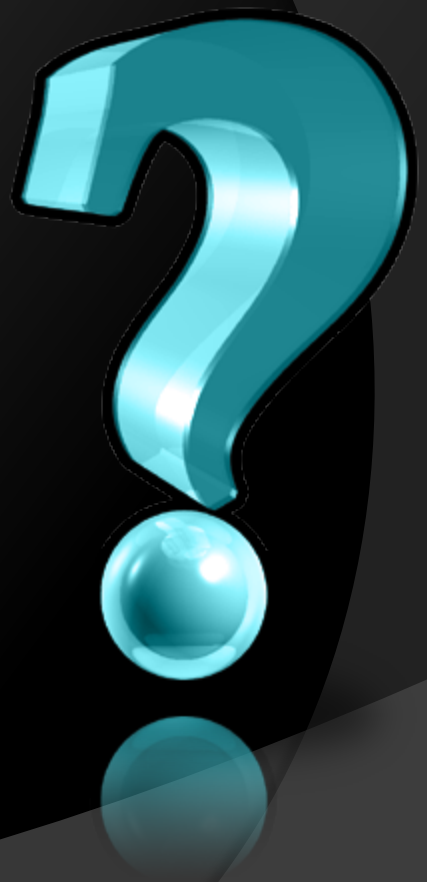
What is PSEC ?

- PSEC is the Public Safety Enterprise Communication Project and was created to develop a new radio system.

- It is a partnership between-
  - Riverside County Sheriff
  - Riverside County Fire (CAL FIRE)
  - Riverside County Information Technology (RCIT)
  - Riverside County Facilities Management
  - Motorola

Why do we need a new radio system?

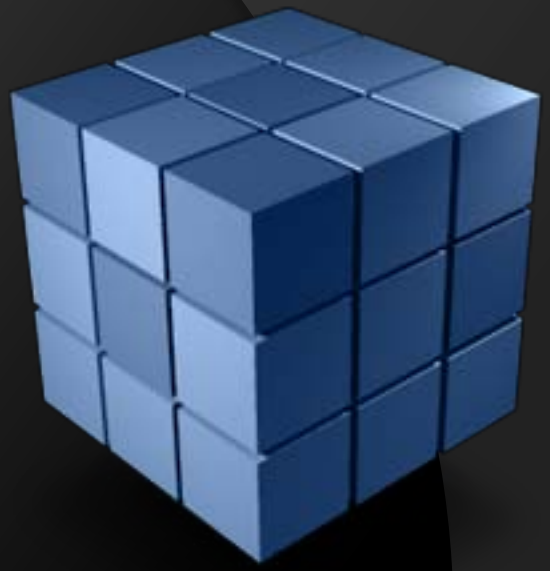
- Outgrown current system due to increased users because of population growth
- Officer safety issues
- Voice and data share infrastructure
- Radio coverage gaps
- Increased radio usage
  - Voice
  - Data



Evaluation Team

- Integrity was maintained throughout the process
- Nine evaluators were assigned to the PSEC team
  - Riverside County Sheriff's Department
  - Riverside County Fire Department
  - Riverside County Information Technology
- Relied on subject matter experts to validate details.

Project Specification



PSEC Project Deliverables

- Build a County-wide radio system
  - Restructure talkgroup plan
  - Continuous radio operation training
  - Radio policies and procedures
    - Operation
    - Functionality
    - Interoperability

Requirements

- Improve coverage
  - Increase voice and data capacity by separating into two systems
  - 95% area reliability outdoor portable on hip
    - 3.4 Delivered Audio Quality (DAQ 5.0 is max)
  - 95% geographic area coverage (currently it is approximately 60%)
  - Ensure radio coverage in-building penetration
  - Coverage for high priority buildings

Console Features

- MCC7500 IP Dispatch Consoles
- Graphical User Interface (GUI)
  - Functionality
- Patching
  - Talkgroup Merge
- GPS
- Emergency Activations
- Specialized Radio Keyboard (SRK)

Acceptance Testing

- 48,000 grids
- Six month effort
- 10 teams, or more
- 60 day reliability test

Training

- Training Needs Assessment
- Radio Basics
- Train Subject Matter Experts
- Interactive Training Tool Kit
  - Current
  - Consistent
  - Customizable
  - Ongoing

System Design

System Design

- Expands current voice and data capacity
- Fully trunked P25 Digital Encrypted 700/800MHz and VHF
  - Significant improvement for in-building coverage
  - Expanded geographic coverage
- 700/800 MHz and VHF radio frequency coverage
  - Seamless roaming
  - Aviation
- High Performance Data (HPD) of 34kbs to 96kbs
- Redundant Master Sites

System Design, continued

- Over the air programming (OTAP)
- Over the air rekeying (OTAR)
- 4.9 GHz wireless data network
  - Hot spots in all County Fire and Sheriff Stations
- Integrated GPS locator

Coverage

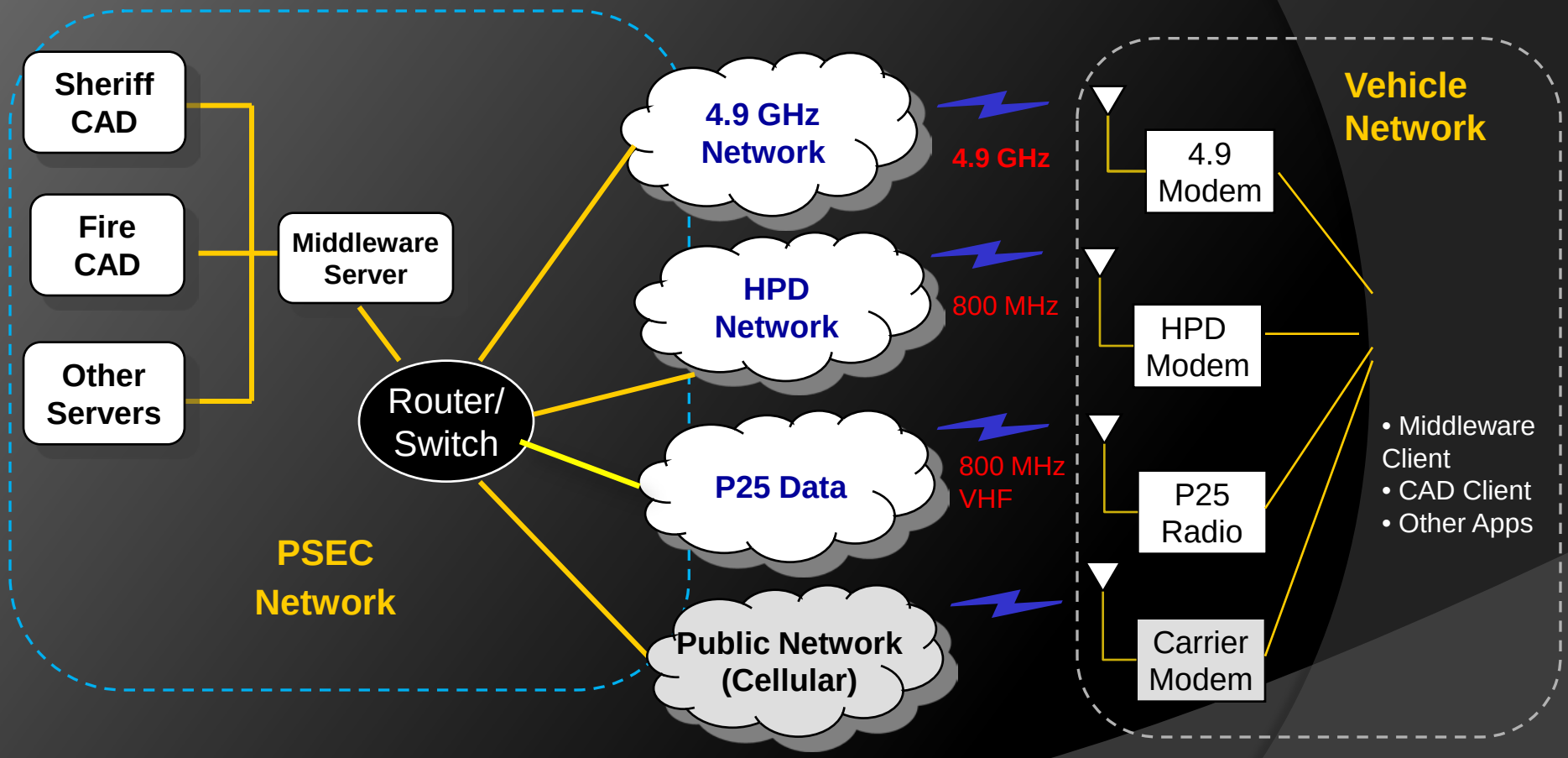
- Trunking Simulcast Technology at 700/800 MHz and VHF
- Meets 20 dB in-building and 10 dB in-building requirements (signal level)
- High priority buildings (Courthouses, stations, etc)
  - 48 Guaranteed Coverage
- 70 Physical, IP Voice Sites
  - 22 current sites
  - 48 new sites
- 27 High Performance Data (HPD) Sites (co-located with voice)

Sites

- 20 are existing sites and
  - 17 require upgrades ranging from a new tower, new shelter, electrical grounding replacement, HVAC, backup generator maintenance, or other maintenance.

- The site ownership is:
  - 22 sites are on Federal Land
  - 17 sites are County owned
  - 21 sites are leases
  - 10 sites are new purchases

Data Solution Overview



Interoperability

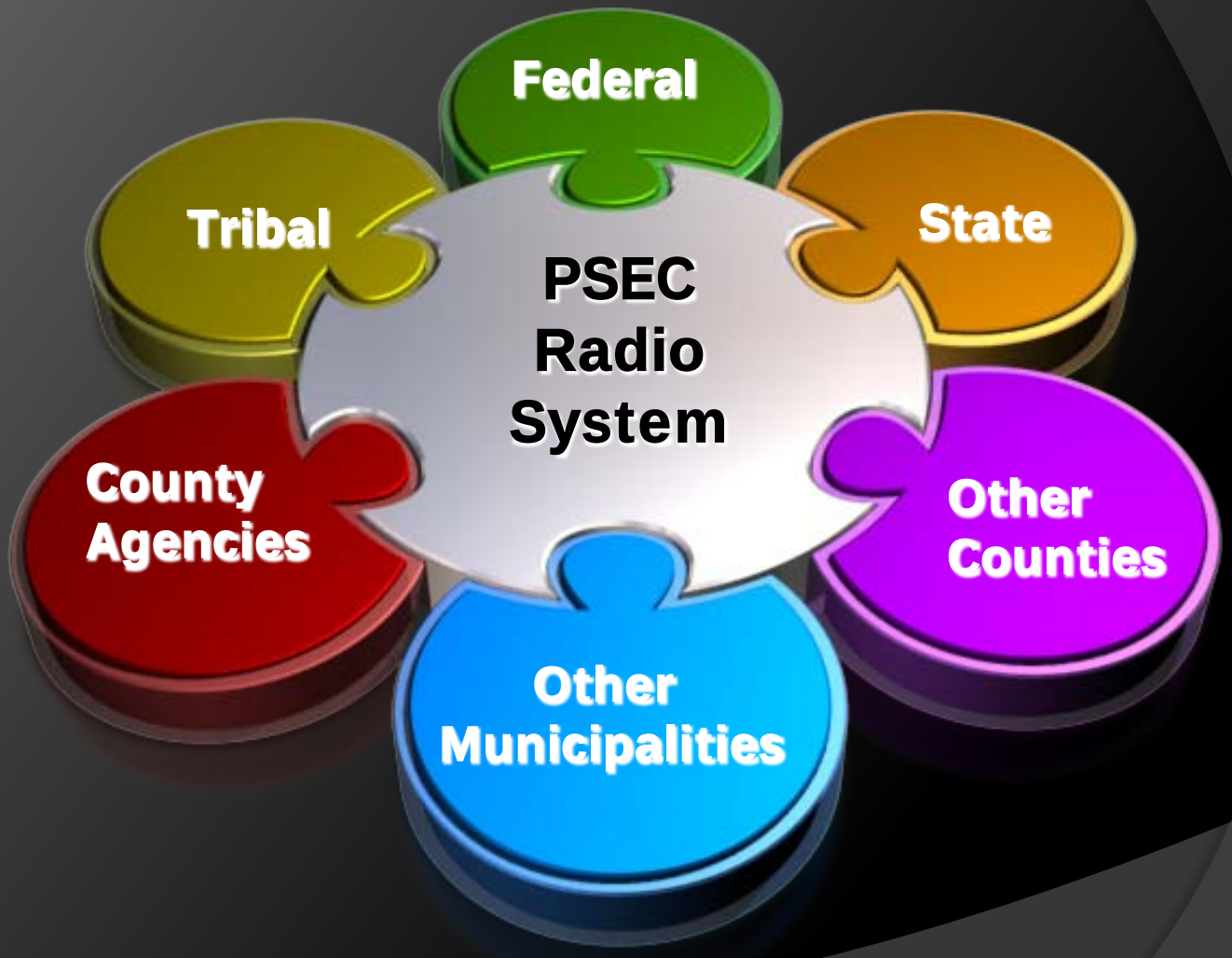
Interoperability

Level	Method	Fit
5	Standards-based Shared systems	Current Best Long-Term Solution (Project 25)
4	Proprietary Shared Systems	Full featured, wide area, Vendor specific
3	Mutual Aid Or Shared Channels	Short-Term System Modification
2	Gateway (Console patch)	Technically Simple Short-term Solutions
1	Swap Radios	

Operationally Inefficent

Time consuming

Interoperability Con't



Future Interoperability Goal

- Level 5- Standards-based radio system. San Bernardino, Orange, San Diego/Imperial, and Los Angeles radio systems will eventually be connected via a switch. La Paz and Yuma (Arizona) counties will also be connected.
- Allowing end users to roam on other agencies' systems seamlessly
- Future connectivity will require engineering and agreements

Future Interoperability

- **Submitted grant application for a microwave link between San Diego County and Riverside County, and enhancements to microwave link with San Bernardino County**

- **On-going meetings with Orange County, Los Angeles County, local agencies, state agencies, and federal agencies**

Officer Safety

- Addresses officer safety issues
  - Reliability
  - Ease of use
  - Increased coverage
  - Interoperability
  - Continuous Training
  - 4.9 GHz network
    - Opens the door for future applications such as video surveillance

Thank You