

# Differences Between Level 4 and Level 6 Interoperability

# Level 4 Interoperability

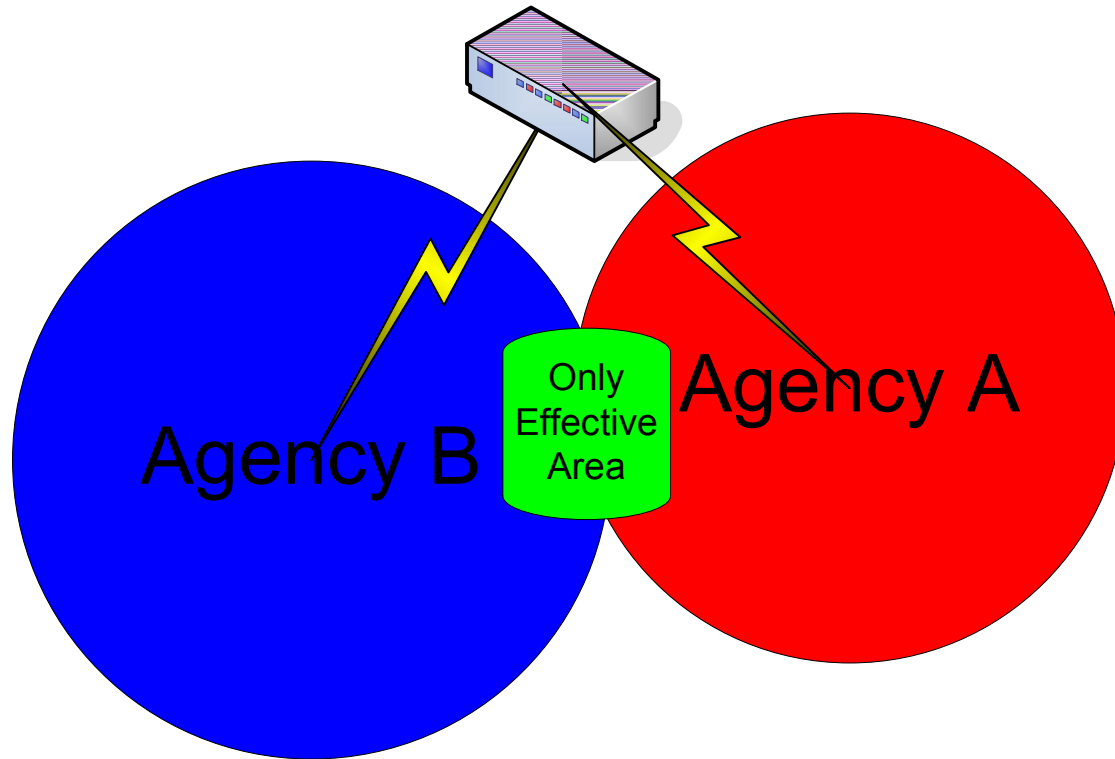
Gateway / Console Patching

Interoperability at Present

# Level 4 Interoperability

- Level 4 Interoperability allows the connection of systems, channels, and /or talkgroups through a console and/or gateway patch
- This type of system is today's required minimum for Interoperability

# Level 4 Diagram



# Level 4 Issues

- Requires some type of intervention to be set up/operational
  - Requires trained operator
  - Not as dynamic as higher levels
- Coverage Area issues—limited range
- No advanced Features—only audio
- Channel limitations/system loading
- Best for Tactical/On Scene or for Events

# Examples

Dallas PD and University Park PD get into a chase northbound on Central. The agencies are patched together so they can talk. Once University Park PD gets to the Collin County line, they can no longer transmit as they have exceeded the range of their radio system. They no longer have interoperability or even operability.

# Level 6 Interoperability

- Standards-Based Radio Systems
- Refers to use of Standard titled ANSI/TIA/EIAA-102
- Commonly referred to as Project 25, P25, or APCO Project 25

# Texas Level 6 Guidance

In the State of Texas 2007 Homeland Security Grant Program Award Letter, Approved Project Areas, Section 1

*“...The State Director of Homeland Security has identified the following overall priorities for the 2007 grant cycle*

*A. Ensure that all regions have programs underway to achieve Level Six Tactical Interoperability...”*

# Standards-Based Radio Systems

Level 6 Interoperability refers to a Standards Based Shared Radio System... more commonly known as Project 25.

Project 25 is a set of established standards for the way radio systems and radios talk to each other. Project 25 is not proprietary nor is it confined to one manufacturer... it is open source.

# LEVEL 6 INTEROPERABILITY

Most of us use a  
Standards-Based  
system every day  
and don't realize it.

?????



# Cell Phone Networks

- Modern Cell phones
  - Can connect to different networks seamlessly
  - Can continue talking even when switching towers without having to do anything to the unit
  - Simple to operate
  - Are not brand specific
    - Nokia on ATT Network...
    - Nokia on Verizon Network...

# Level 6 Radio Networks

- Works like the cell phone network
  - Radios continue talking even when switching towers without having to do anything to the unit
  - Radios roam between “networks” seamlessly
  - Simple to operate
  - Are not brand specific
    - Motorola on Tyco M/A-Com Network...
    - Kenwood on Motorola Network...

# Redundancy

- Hub of Project 25 is the switch
- If a switch fails, the radio tower sites take commands from an alternate switch, if they are connected to one...
- If the network loses connection with a tower, the tower still works.. It just does not go out into the network...

# System of Systems

- Interconnection of Systems
  - Results in Redundancy even for technical issues
  - Can be in different parts of state
  - One Event is Less likely all will be effected
- Everyone can be connected
- System can grow to add more systems in

# Level 6 Project 25

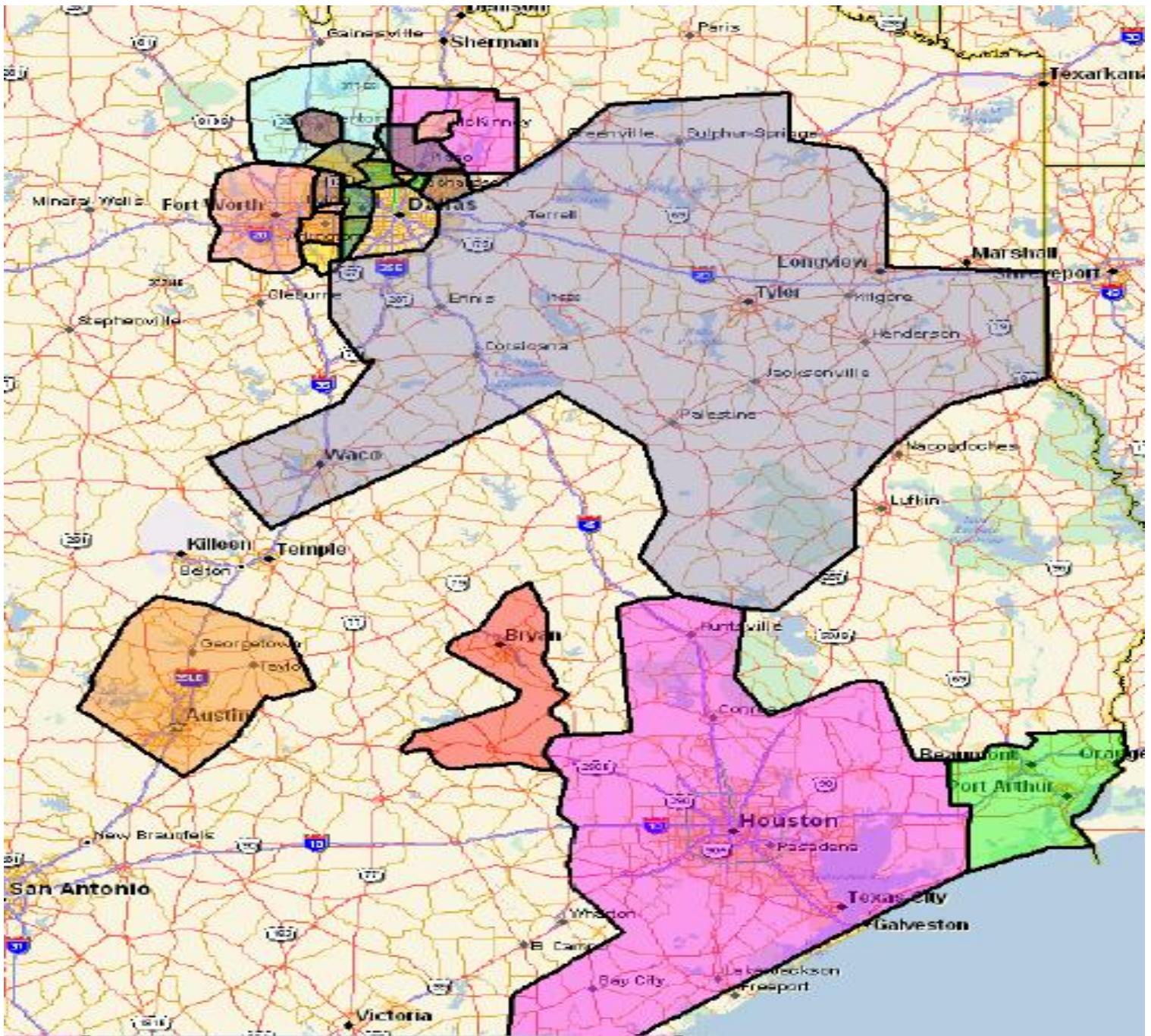
What is the advantage of a wide area Level 6 radio system?

It gives first responders the ability to work towards changing many different systems into one large system across the eastern half of Texas.

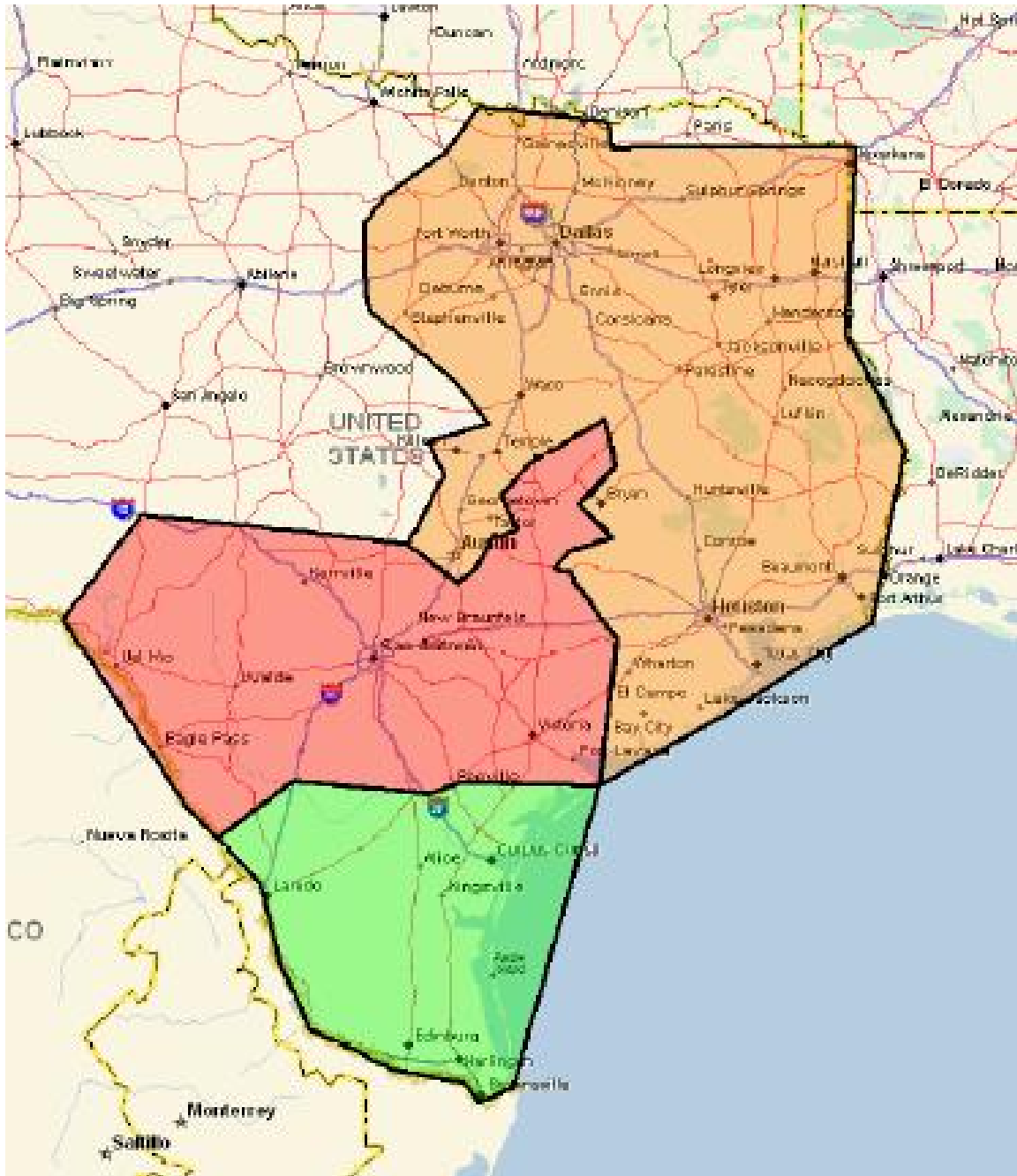
Map 1 shows where we are...

Map 2 shows where we can be...

# CURRENTLY



LEVEL 6



# QUESTION

**Why do first responders from the Dallas/Fort Worth area need to talk to someone in Houston or Austin?**

- Hurricane Evacuations
- Hurricane Recovery
- Man-made and natural disasters less significant but just as serious...
  - USAR Team responses
  - Large Grass Fires

# Day to Day

## Day to Day Usefulness

- Chases
  - Richardson bank robbery
  - Any Multi-City, Multi-County chase
- Multi-Alarm Fires
- Plane Crashes
- Simple Daily Mutual Aid Between Agencies
- Police Task Forces/Multi-Agency Details

# BOTTOM LINE

- This region has an opportunity to leverage assets and funds to address the state's requirement to begin transition to Level 6 Interoperability.
- For more on this opportunity, representatives from the Houston area request your attention for a little while longer.