

# Are We On the Same Channel?

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- The Simple Basics:
  - Fighting fires (and bad guys) requires the real-time coordination of many resources, based on the best intelligence
    - Instantaneous situational awareness, decisionmaking, command and control, sometimes involving multiple agencies
    - And that requires flexible, functional, interoperable communications
  - What happens without that? Columbine High School, 1999
    - 12 fire and EMS, 6 sheriff's depts, 20 police depts, 2 helicopters
    - Children and teachers running from building covered in blood, shooters reported still inside, bombs reported throughout the school
      - And no one could talk to one another! Complete command and control breakdown
  - The wonder is that no one was killed by friendly fire!

# Failure of Interoperability: When Did We Know?

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- WTC 1993, Waco 1993, Oklahoma City 1995, 9/11 2001, Katrina 2005.....
- ...each followed by cries of alarm and promises to “fix the problem.”
- Money is allocated, task forces established, the FCC acts, memos are exchanged, meetings held, objectives established. Justice, Treasury and eventually Homeland Security get into the act.
- Calls for new technology to solve the problem, especially as new spectrum comes online (after DTV transition).
  - “If only we had mesh networks, or software defined radios, or ubiquitous WiFi, or shared spectrum, or....”

# They Must Really Want to Solve This, Right?

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- Intelligence Reform and Terrorism Prevention Act (P.L. 108-458)
  - Develop a comprehensive, national approach for achieving interoperability.
  - Coordinate with other federal agencies.
  - Establish appropriate minimum capabilities for interoperability.
  - Accelerate development of voluntary standards.
  - Encourage open architecture and commercial products.
  - Assist other agencies with research and development.
  - Prioritize within DHS for research, development, testing and related programs.
  - Establish coordinated guidance for federal grant programs.
  - Provide technical assistance.
  - Develop and disseminate best practices.
  - Establish performance measurements and milestones for systematic measurement of progress.
- So you are a first responder: you think help is on the way?

# So What Has Actually Been Accomplished?

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- Substantial Grants have been made
  - For example, Louisiana received \$25 million for emergency communications and another \$5 million specifically for interoperability...*pre-Katrina!* Net result?
    - But Alabama used it's grant money well
- SAFECOM (eventually within DHS) given overall responsibility, but no resources or authority
- Successive GAO reports and Congressional Committee reports (post-9/11, post-Katrina) scathing in criticisms of all parties to get their jobs done.
  - Simple example: SAFECOM in charge of standards but grant-making authority for equipment elsewhere in DHS, and no communication
- Bottom line: lots of Federal to-ing and fro-ing, but little action
  - But SAFECOM being somewhat effective in coordinating with states

# Is There No Hope?

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- Leave the rarefied air of the Beltway and find out what is going on “on the ground,” with real first responders.
- Interviews with firefighters @ Millville, DE Fire Department
  - Delaware an otherwise unremarkable state, and Millville is in Sussex County, the most rural of DE’s 3 counties. *Not the cutting edge*
- What do they have, how does it work, and does it solve their problems?
- 1992: State of Delaware signs contract for 800 Mhz digital trunked radio system for entire state; handover of system: 1998
  - Re-outfit 3 dispatch centers (by county) and state replaces all first responder radios with new at no cost to locals.
  - Training, training, training!
- System has been in operation since then

# So Does It Work? How?

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- Different counties assigned different channel banks (alho accessible from every radio in state), then further subdivided into county sections.
  - All standard channels go through dispatch center, except “Talk” channels which are direct radio-to-radio (like ITAC channels)
  - Each fire department knows the channels nearby fire companies use; when they report to a fire, they hook into the home company’s channel.
    - Operational vs. command and control
- “Mutual Assistance” channels between police and fire
- EMS, local police, fire, hospital ERs, State police, DelDOT, DNREC, DEMA all interoperable
  - Interoperable with Ocean City and Worcester Co, MD
- Does everyone know and respect chain of command? YES
- Does everyone know how to work the radios? YES
- Does this system solve the problems they think they have? YES

# Lessons Learned

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- Interoperability is a solved problem with established technology; all that's required is to do it; who takes the initiative, and why?
  - Some states have responded to the challenge and *solved their first responders problems* with existing and proven technology.
- There is always money; what do you choose to spend it on?
- The Feds are not leading; in fact, they are almost not in the game
  - If FEMA comes to Delaware, they had better be prepared to adapt to us.
  - Be nice if they could get an integrated system for their own law enforcement!
  - Be nice if they could get advanced radios for the military (JTRS)!
- Without local buy-in, no amount of Fed money will solve this.
- Without compelling systems and a real sales effort from the private sector, fancy new technology is a dead letter.
- ***What is the first responder question to which new tech is the answer?***