SAFECOM: The Road to Interoperability

- Governance
- Standard Operating Procedures
- Technology
- Training & Exercises
- Usage
From day-to-day to high impact incidents, our Nation’s emergency responders too often cannot rely on their ability to communicate with one another across jurisdictions and disciplines. This limitation impedes emergency responders’ ability to respond effectively to emergencies at all levels. This significantly increases the risk of harm or death to both the responders arriving on scene and the victims relying on them for help.

SAFECOM’s philosophy supports the notion that the same interoperability solutions that are used daily for local emergencies should be scalable for response to any statewide incident as well as for natural disasters and terrorist attacks. If responders use interoperability solutions every day, the coordinated communications in response to any incident will be a natural instinct.

Happens almost daily but with relatively low consequences

The Problem: Local police, fire, and EMS cannot effectively communicate.

Impacts: - Lives at risk - Risk for redundant, uncoordinated response

Happens less often but when it does, there are higher consequences

The Problem: Local and state responders cannot effectively communicate across agencies and disciplines.

Impacts: - Lives at risk - Risk for redundant, uncoordinated response - Property, data, and infrastructure at risk - Health risks - Local business interrupted

Happens least often but when it does, there are very high consequences

The Problem: Local, tribal, state, and Federal responders cannot effectively communicate across agencies and disciplines.

Impacts: - Emergency responders’ and civilians’ lives at risk - Property, data, and infrastructure at risk - Risk for redundant, uncoordinated response - Local economy at risk

Interoperability solutions should be scalable to accommodate any incident.
Acronyms

Terms

EMS – Emergency Medical Services
The Local Community in Action:
The Heart of the Interoperability Universe

This model represents the local emergency responder cycle for planning and implementing interoperability solutions. It is at the heart of the national strategy for achieving interoperability. The Federal role is not to interfere with this cycle, but to support and enhance local activities in each of these phases.
The local emergency responder cycle for planning and implementing interoperability is at the heart of the national strategy for achieving interoperability. Coordinated Federal interoperability programs support and enhance activities in each of these phases. This support provides emergency responders with tools and guidance to ensure agencies and localities have the best information and resources available to improve interoperability today and plan for tomorrow.
Acronyms

Terms

R&D - Research and Development
This graphic depicts how SAFECOM efforts and programs support and enhance emergency responder activities.
Acronyms

Terms
- COML – Communications Unit Leader
- MOU – Memorandum of Understanding
- SOP – Standard Operating Procedures
- R&D – Research and Development

Program, Projects, and Tools
- PSAF – Public Safety Architecture Framework
- RCIPs – Regional Communications Interoperability Pilots
- SCIP Methodology – Statewide Communications Interoperability Planning Methodology
- SOR – Statement of Requirements
This graphic depicts how all Federal interoperability efforts and programs support and enhance emergency responder activities.
**Acronyms**

**Agencies**
- COPS – Community Oriented Policing Service
- DOJ – Department of Justice
- G&T – Office of Grants and Training
- ICE – Interoperable Communications Equipment
- ICTAP – Interoperable Communication Technical Assistance Program
- NGA – National Governor’s Association

**Terms**
- COML – Communications Unit Leader
- MOU – Memorandum of Understanding
- SOP – Standard Operating Procedures
- R&D – Research and Development

**Program, Projects, and Tools**
- CASM – Communications Assets Survey and Mapping
- PSAF – Public Safety Architecture Framework
- RCIPs – Regional Communications Interoperability Pilots
- SCIP Methodology – Statewide Communications Interoperability Planning Methodology
- SOR – Statement of Requirements
Achieving interoperability requires more than technology. Shifting all the elements requires a comprehensive, coordinated approach. Interoperability is a complex, strategic, technical, and cultural change.

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<thead>
<tr>
<th>Shift in Focus</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tbody>
<tr>
<td>Solo focus on technology for improved interoperability</td>
<td>Interoperability Continuum is shifting focus to all key factors</td>
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<thead>
<tr>
<th>Definition of Emergency Responder</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>Limited focus on traditional emergency responders (police, fire, EMS)</td>
<td>Recognition that planning &amp; response involves multiple agencies</td>
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<tr>
<th>Usage of Interoperability</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>View that interoperability is only needed for special events</td>
<td>Shift towards increased usage in some communities</td>
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<tr>
<th>Collaborative Planning/Governance</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>Communities plan independently</td>
<td>SCIP Methodology encourages collaborative statewide interoperability planning</td>
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<tr>
<th>Funding</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tbody>
<tr>
<td>Fragmented funding &amp; little guidance</td>
<td>Coordinated grant guidance included in major interoperability grants</td>
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<tr>
<th>Training &amp; Exercises</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>Communities train &amp; exercise independently</td>
<td>Some communities have conducted multi-agency tabletop &amp; functional exercises</td>
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<thead>
<tr>
<th>Technology</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>Fragmented, uncoordinated solutions</td>
<td>Patching devices &amp; shared radio channels allow communications across some local areas</td>
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<th>Standards</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tbody>
<tr>
<td>Limited standards complete &amp; published</td>
<td>Accelerating P25 standards</td>
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<tr>
<th>Industry</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<tr>
<td>Strained relationships between industry, government, &amp; emergency response community</td>
<td>Currently working together to develop solutions that meet emergency responder community's needs</td>
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<th>Spectrum</th>
<th>PAST Pre-’04</th>
<th>PRESENT ’04-’06</th>
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<td>Limited &amp; fragmented spectrum</td>
<td>Ongoing spectrum needs assessment</td>
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In 2009, additional spectrum on the 700 MHz band was allocated.
Acronyms

Terms
EMS - Emergency Medical Services
MHz - Megahertz

Program, Projects and Tools
SCIP Methodology – Statewide Communications Interoperability Planning Methodology
1. All US regions and jurisdictions use the Notional Exit Criteria for SAFECOM Continuum Capability Maturity Model to choose the appropriate target interoperability level, define the gap between where they are and where they need to be, and chart a course to close the gap.

2. States at high risk for natural disasters (e.g., Southern California and the Gulf States) have developed reliable interoperable solutions to minimize loss of life and property during flood and fire disasters.

3. High-threat metropolitan areas (e.g., New York, District of Columbia, and Los Angeles) have fully deployed and are routinely using interoperable voice and data capabilities.

Before SAFECOM, interoperability efforts were uncoordinated and spread across a variety of Federal agencies. SAFECOM was introduced as an intervention and driver for change. The program is a catalyst to accelerate change and improve interoperability. Interoperability will continue to improve beyond the life of the SAFECOM program. The program’s work will be complete when the continuum maturity model is a standard for achieving optimal levels of interoperability and when high natural disaster and terrorism targets are fully equipped to respond.

MAKING INTEROPERABILITY THE NORM!!

SAFECOM:
- Serving emergency responders
- Coordinate across Federal interoperability programs
- Partnering with industry

PRE
- The problem is REAL!!

DURING
- Intervention!!

POST
- Interoperability uses to increase!!

Notional Exit Criteria for SAFECOM

1. All US regions and jurisdictions use the SAFECOM Continuum Capability Maturity Model to choose the appropriate target interoperability level, define the gap between where they are and where they need to be, and chart a course to close the gap.

2. States at high risk for natural disasters (e.g., Southern California and the Gulf States) have developed reliable interoperable solutions to minimize loss of life and property during flood and fire disasters.

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SAFECOM:

**Mission:** SAFECOM works with its Federal partners to provide research, development, testing, and evaluation; guidance, tools, and templates on communications-related issues to local, tribal, state, and Federal emergency response agencies.

**System of Systems Philosophy:** Interoperability is norm and not exception.

**Open Architecture, Non-Proprietary Standards:** High natural disasters & terrorism targets equipped.

**Guiding Principles:** Practitioner-driven, System of Systems Philosophy, Emergency Responders, Gov't. & Industry working as a Coalition, Interoperability in norm and not exception.

**2003 Milestones:**
- May – SAFECOM Grant Guidance adopted in DOJ COPS and FEMA grants
- June – Held first Federal Interoperability Summit with more than 60 entities
- Dec – Led first ever emergency response strategic planning session

**2004 Milestones:**
- Apr – Published first national emergency response statement of requirements
- May – Improved emergency command-level interoperability capabilities in 10 high-threat urban areas with RapidCom
- Oct – Published SCIP Methodology; used by three State Interoperability Directors (VA, NV, KY) to establish and lead state planning efforts that are now funded

**2005-06 Milestones:**
- Apr 05 – Interoperability Continuum adopted as organizing structure for DHS G&T’s TIC Plan required of all urban areas
- May 06 – Administered Baseline Survey across the Nation

**2007-11 Milestones:**
- Regional planning nationwide
- Additional spectrum on 700 MHz band
- Open architecture non-proprietary standards

**2011 and beyond:**
- Joint Problem solving
- Seamless Interoperability

**SAFECOM Continuum Maturity Model:**
- Drives progression towards interoperability
- Interoperability is norm and not exception

**Principles:**
- Open Architecture
- Non-Proprietary Standards
- Emergency Responders, Gov’t., & Industry working as a Coalition
- Interoperability in norm and not exception
Acronyms

Agencies
COPS - Community Oriented Policing Service
DHS - Department of Homeland Security
DOJ - Department of Justice
FEMA - Federal Emergency Management Agency
G&T - Office of Grants and Training

Terms
MHz - Megahertz

Program, Projects, and Tools
SCIP Methodology - Statewide Communications Interoperability Planning Methodology
TIC Plan - Tactical Interoperable Communications Plan
Ideally, communities should align their cycles for planning and implementing interoperability solutions. However, there are common challenges that communities must overcome to collaborate and work towards regional interoperability. The SAFECOM Interoperability Continuum helps communities address all key aspects of the problem and overcome challenges. Some common challenges are listed below:

**Common Leadership Challenge:** Policy makers are not aligned with the needs for a region’s interoperability requirements and therefore do not commit the resources required.

**Common Governance Challenge:** Independent disciplines and jurisdictions have difficulty giving up authority in favor of a regional governing body.

**Common Standard Operating Procedures Challenge:** Lack of established protocol leads to confusion during incidents.

**Common Technology Challenge:** There is often limited coordination across disciplines and jurisdictions on technology procurement and ongoing life-cycle management and support.

**Common Training and Exercise Challenge:** Familiarity with using interoperability equipment is not second nature to emergency responders because training and exercises are not conducted broadly or frequently enough.

**Common Usage Challenge:** Emergency responders from different jurisdictions and disciplines often do not interact on a daily basis.