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CANADIAN POLICE RESEARCH CENTRE

CENTRE CANADIEN DE RECHERCHES POLICIÈRES

Communications Interoperability

Technical Report

TR-11-2008

First Responder Voice Interoperability: Governance, Standard Operating Procedures and Technology

April 2008

Prepared by:

IDC Canada on Behalf of the London Police Service

For the:

Communications Interoperability Technology Interest Group
Canadian Police Research Centre

Acknowledgements

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First Responder Voice Interoperability:
Governance, Standard Operating Procedures and Technology

Executive Summary Results for CITIG Members

April 21, 2008

Prepared by:

IDC Canada Consulting

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Agenda

1. Project Objectives
2. Research Overview
3. Respondent Demographics
4. Current State of Voice Interoperability
5. Drivers of Voice Interoperability
6. Inhibitors of Voice Interoperability
7. Impact of Current State of Voice Interoperability
8. Key Findings
9. Recommendations

Project Objectives

To provide CITIG with in-depth, pan-national knowledge of the current level of voice interoperability as well as the key drivers and inhibitors to interoperability among first responders (police, fire, EMS and coast guard) as it relates to governance, standard operating procedures and technology requirements.

The proposed research will:

- Enable first responder stakeholder groups (police, fire, EMS and coast guard) to better understand where they align and diverge regarding interoperability at the governance, process/procedure and technology level.
- Assist public safety entities in reaching consensus on current challenges, next steps, reach an understanding of differing requirements within the first responder spectrum.
- Support CITIG in its efforts to make voice interoperability a priority.

Research Overview

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Multiphase Research Approach

Phase I: Project Kick-off (Jan. 29, 2008)

Phase II: Finalizing Project Parameters (-> Feb. 8)

- List of potential interview candidates was created
- Interview guide was drafted, reviewed, revised and approved

Phase III: Executive Interviews (-> Mar. 10)

- IDC conducted executive interviews with 30 first responders and those knowledgeable on the topic of interoperability

Phase IV: Analysis & Creation of Final Report (-> Mar. 30)

Phase V: Delivery of Final Report (March 31, 2008)

Respondents

Anthony DiMonte
Bill Bouwhuis
Brad Ward
Capt. Michael Glew
Clive Weighill
Dennis Shea
Frank Albert
Frank Pappone
Howard Snodgrass
Jean-yves Michaud
Jeff Nemrava
John MacKillican
Ken Luciak
Lloyd Addis
Lt Robert Bell
Luc Filion
Marc Toman
Marilyn Ward
Mario Harel
Mike Dube
Mike Harding
Mike Sanderson
Mike Webb
Randy Wolsey
Ron Dingwell
Sylvain Proulx
Terry Canning
Terry Owen
Tim Laidler
Todd Brown

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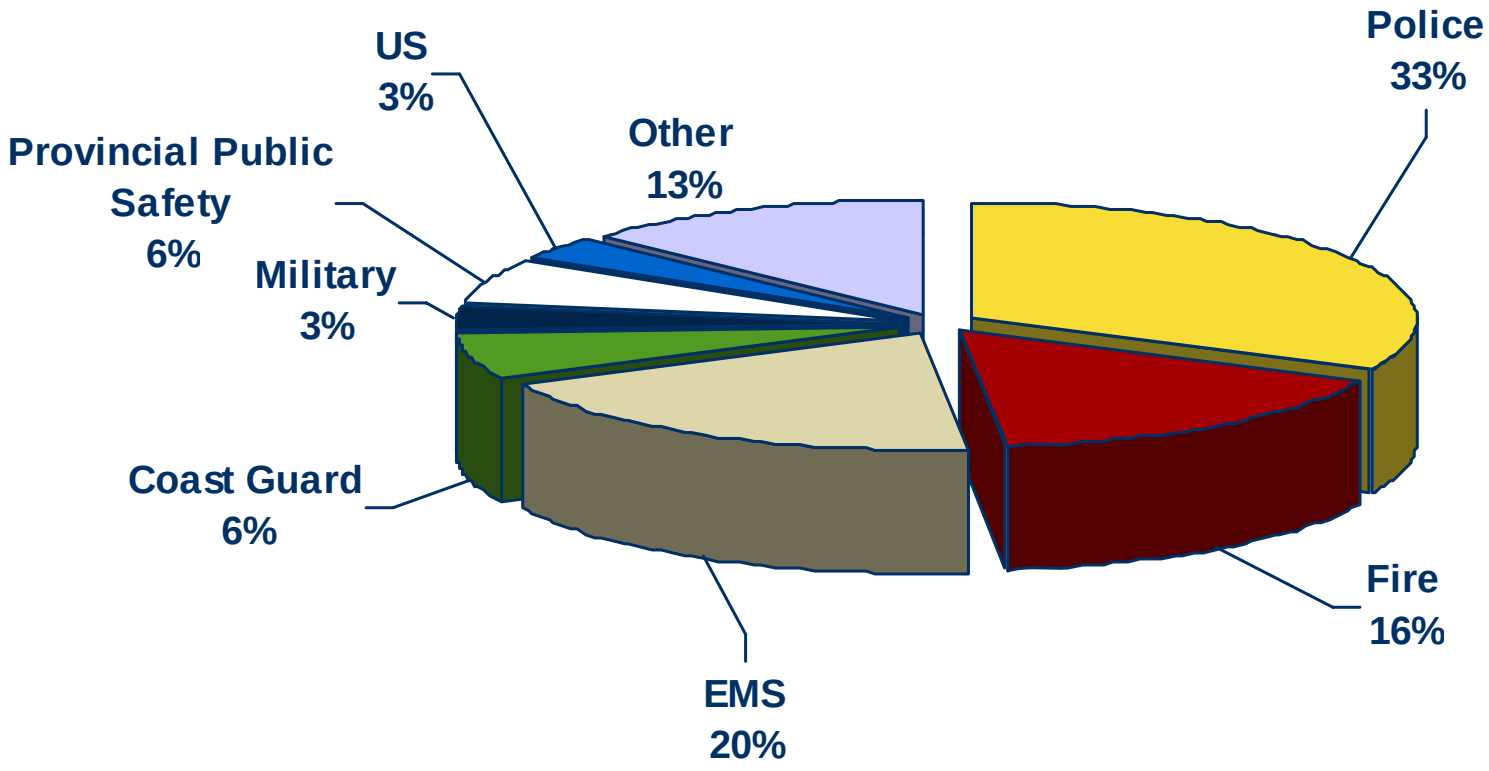
Respondent Demographics
First Responder Classifications



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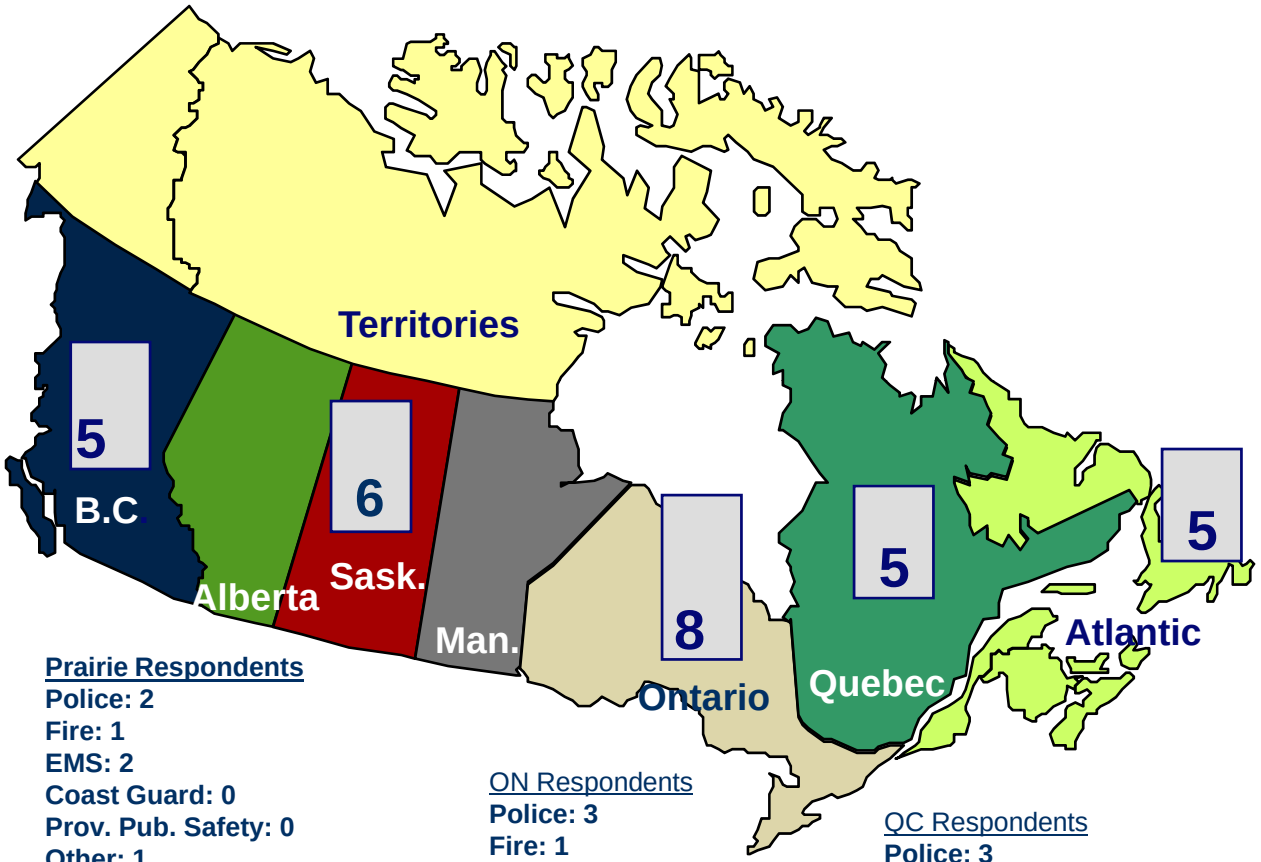
Source: CITIG First Responder Study, 2008
Note: Other includes respondents speaking from technical or national positions

Respondent Demographics
Provincial & First Responder Distribution



BC Respondents
Police: 1
Fire: 1
EMS: 1
Coast Guard: 1
Prov. Pub. Safety: 1
Other: 0

Prairie Respondents
Police: 2
Fire: 1
EMS: 2
Coast Guard: 0
Prov. Pub. Safety: 0
Other: 1

ON Respondents
Police: 3
Fire: 1
EMS: 2
Coast Guard: 0
Prov. Pub. Safety: 0
Other: 2

QC Respondents
Police: 3
Fire: 1
EMS: 1
Coast Guard: 0
Prov. Pub. Safety: 0
Other: 0

Atlantic Respondents
Police: 1
Fire: 1
EMS: 0
Coast Guard: 1
Prov. Pub. Safety: 1
Other: 1

US Respondents
Police: 0
Fire: 0
EMS: 0
Coast Guard: 0
Prov. Pub. Safety: 0
Other: 1

1

N=30
Source: CITIG First Responder Study, 2008
Note: Other includes respondents speaking from military, technical, provincial or national positions

Current State of Voice Interoperability

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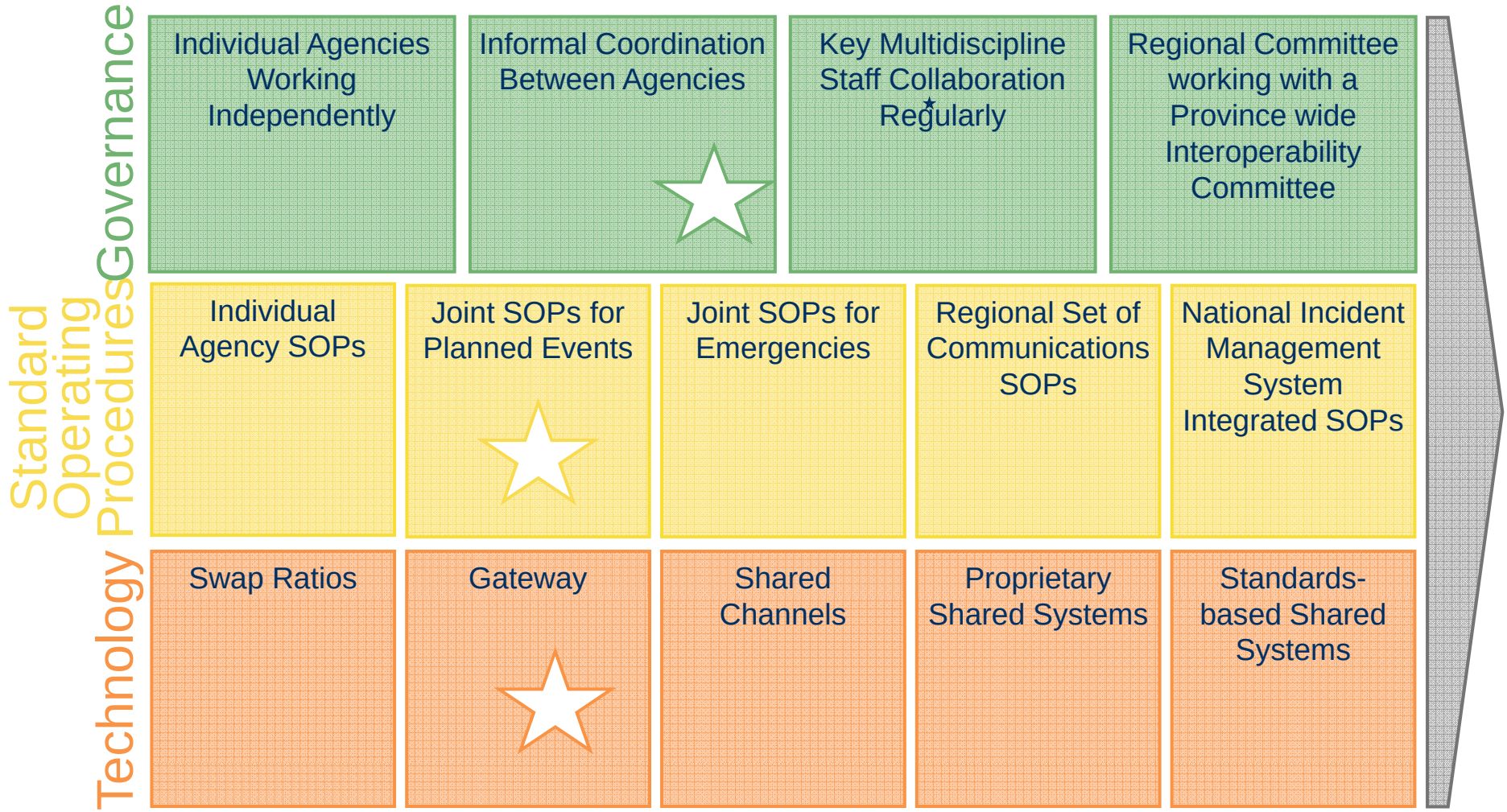
State of Voice Interoperability: Current State: Mean



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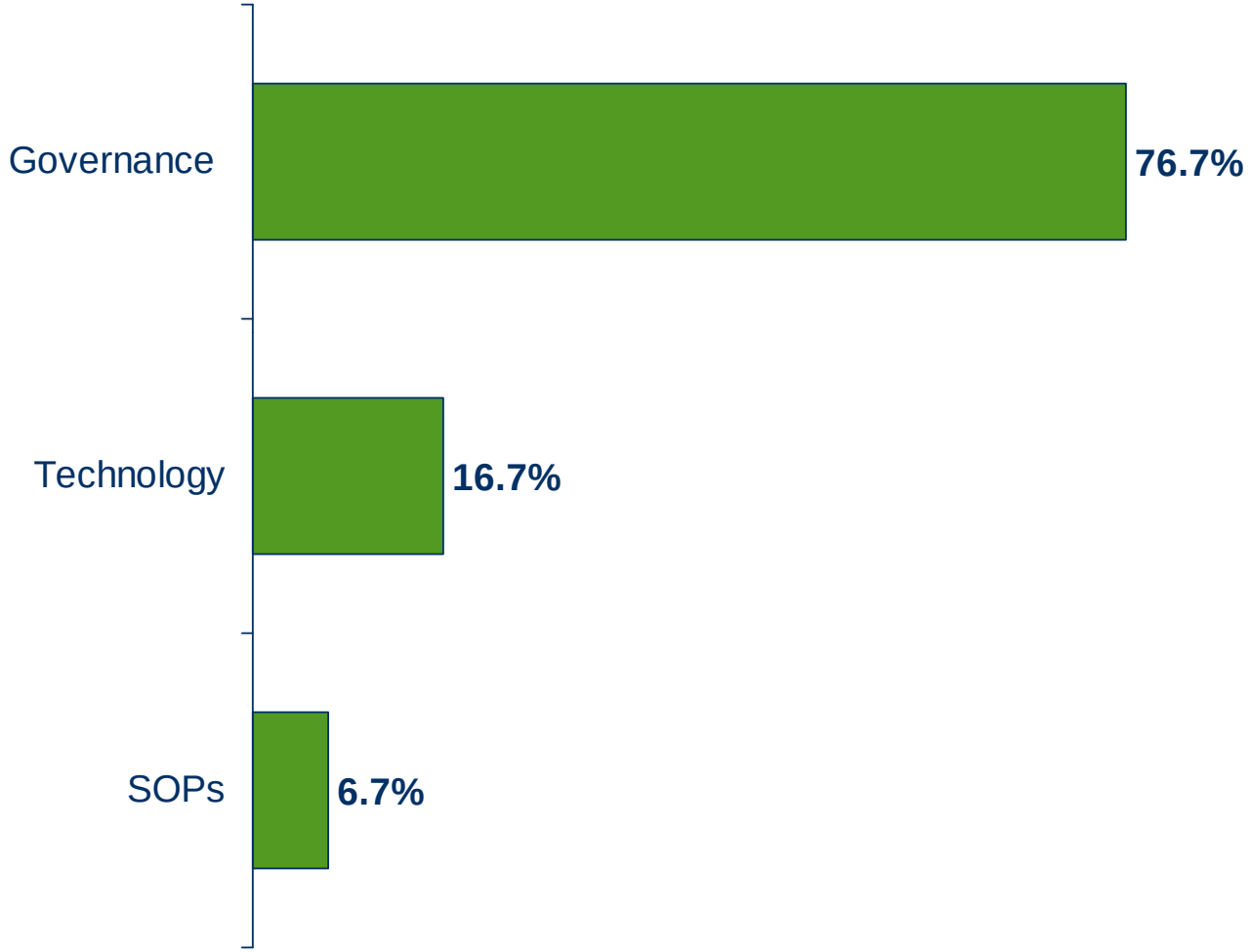
Source: CITIG First Responder Study, 2008

Most Important Priority



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Source: CITIG First Responder Study, 2008

State of Voice Interoperability Self-Rating (Overall)

"On a scale from 1-10, where 1 is low and ten is high, how would you rate your organization overall with respect to voice interoperability?"

Average Rating = 5.2

Drivers of Voice Interoperability

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Top Drivers of Voice Interoperability
Summary

- Enhancing public and responder safety
- Better risk management
- Growing world of joint response – inter-jurisdictional/ inter-agency need
- Large stakeholder adoption of P25 – domino effect
- Trying to lower the human and fiscal cost of suboptimal resource allocation through more efficient coordination and communication

Top Drivers of Voice Interoperability
Governance

- Enhancing public safety; improving responder safety
- Speeding response through coordination
- Deriving cost savings through rationalized response
- Improved working relationship with neighbouring agencies; perceived as a regional necessity or municipal must
- Individual leadership and involvement

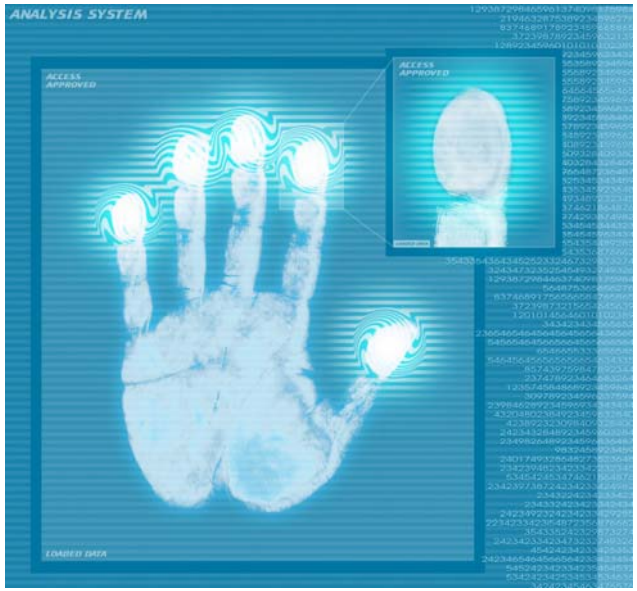
Top Drivers of Voice Interoperability
SOPs

- Designated individual champions and leaders
- Growing world of joint response
- Risk management
- Event History

Top Drivers of Voice Interoperability
Technology

- Enhanced inter-jurisdictional, inter-agency communication
- P25 migration and adoption
- Mass technological obsolescence
- Leadership
- Global events and drivers (Katrina, Homeland Security)

Inhibitors of Voice Interoperability



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Top Inhibitors of Voice Interoperability
Summary

- Strategic Direction - Vision & Leadership
  - Lacking federal coordination and leadership
  - Lacking coordination and leadership between agencies
  - Lacking coordination and leadership between jurisdictions
- Human Resources
  - Full-time dedicated HR
  - Lack of designated champions
- Fiscal
  - Technology costs are exorbitant
  - System is unsustainably under-funded
  - Fiscal resources do not accompany political commitment
- Organizational
  - Silos
  - Competing priorities
  - Differing organizational needs

Top Inhibitors of Voice Interoperability
Governance

- Lack of leadership
- Funding
- Competing Priorities
  - Turf protection/ turf wars
  - Organizational Silos
  - Geographical differences
- Lack of resources
- Complicated and varied reporting structure

Top Inhibitors of Voice Interoperability
SOPs

- Leadership Issues
  - Lack of Federal Presence and Commitment
  - Dedicated champions
- Lacking coordination between neighbouring agencies
- Resources
- Lack of funding

Top Inhibitors of Voice Interoperability
Technology

- Cost/ Funding/ Budget
- Leadership
- Organizational Inhibitors
  - Competing Priorities
  - Differing Organizational Needs
  - Silos/ Inter-disciplinary Coordination

Impact of the Current State of Voice Interoperability

"It all comes down to the coordination of the movement of people, places, and things. You can only do that through direct communications."

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Issues Resulting from Current State of Voice Interoperability
Top Issues

- **Hampered Response Capability**
  - **Longer response time**
  - **Capacity compromised**
- **Inefficient Resource Deployment**
  - **People**
  - **Equipment**
  - **Unavailable for other events**
- **Unacceptable Risk**
- **Increasing Scope, Decreasing Capacity**
  - **Multi- agency**
  - **Multi-jurisdictional**

The Impact of Current State (Substandard) Voice Interoperability

- Longer response times
  - Increased potential loss of life for the public and first responders
  - Increases magnitude of impact
- Increased costs given inefficient resource deployment
  - Human resources are unavailable to respond to other events
  - Infrastructure deployed ineffectively
- Less efficient overall risk management
  - Increased potential loss of life for the public and first responders
- Capacity decreases when most needed
  - In unplanned major events, the status quo is unable to accommodate the needed incorporation of a broader range of stakeholders and responders – results in further degraded response capability overall

PUBLIC AND FIRST RESPONDER SAFETY AT STAKE

Key Findings

Key Findings

Overall state of Voice Interoperability

- Canadian first responders rate their voice interoperability is only 5.2 out of 10

Drivers

- There is nothing common driving agencies and jurisdictions regarding interoperability

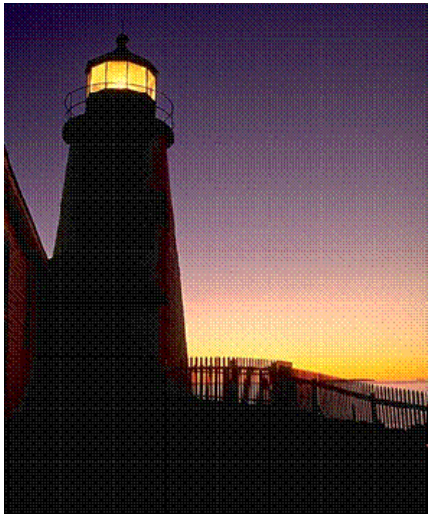
Inhibitors

- Lacking leadership, unsustainable funding, and competing priorities are viewed as the key inhibitors to interoperable voice communications

Impact of Current State of Interoperability

- Current state of interoperability threatens response times and capabilities, poorly/inefficiently deploys human and physical resources, and creates unnecessary risks, the magnitude of which becomes increasingly imperiled as the size of the event broadens.

Recommendations



First Responder Recommendations Summary

Short-term

- Strategic vision, leadership and fiscal support

Medium-term

- Sustainable funding and standardization

Long-term

- Best practice awareness, adoption and dissemination

First Responder Recommendations Governance

Short-term

- Leadership: need a national champion
- Dedicated focus on issue awareness
- Funding infusion

Medium-term

- Strategic vision
- Provincial support
- Sustainable Funding
- Single reporting line for public safety agencies: Fire, Police, EMS, CG

Long-term

- Formalized interoperability structure
- Sustainable funding

First Responder Recommendations SOPs

Short-term

- Leverage reusables (e.g. from NPSTC)
- Conduct more frequent exercises to identify operational gaps
- Stock-taking and alignment of workarounds
- Dedicated leadership and champions need to be appointed

Medium/ Long-term

- Fill gaps on the SOP matrix
- Leverage best practice templates
- Assign dedicated resources and leadership
- Need sustainable funding to create, implement, and maintain SOPs
- National initiative with a national set of standards
- Align technology: SOPs need to reflect technology choices.

First Responder Recommendations Technology

Short-term

- National spectrum policy for public safety: resolve with sufficient capacity for current and future needs
- Legislation or regulation to mandate strategic interoperability direction
- Fiscal leadership to drive a strategic interoperability plan forward
- Technology procurement coordination: leverage economies of scale, harmonize, standardize
- Develop and implement P25 across North America

Medium-term

- Standardized technology recommendations from national research body
- Recognize that interoperability is more than just voice, it includes data
- Prohibit vendor technology solution incompatibility
- Amalgamate first responders under one public safety organization
- Centralized communication/ co-location

Long-term

- Technology committee that assesses and makes recommendations re technologies
- Require economically feasible non-proprietary technologies
- Dedicated spectrum management for first responders

Appeals to Senior Leadership

'Communication is the most critical requirement in an emergency, and the weakest link'

"Anything that prevents first responders from communicating with each other to protect citizens is inexcusable."

"We need to focus in how we improve that weakest link – namely: communications. Interoperability is the way to improve that. It is not usually the toys we have in term of the equipment or we use in terms of response. It is not usually the training. Almost every single time its the communications."

"I spent quite few years teaching emergency management with our 3 agencies. One of the jobs I had was writing case studies. Every study I have ever done has indicated the weakest link was communications. If Minister Day wants to do something to fix this country's emergency response capability it would be to go after the weakest link first. That would be communication."

Appeals to Senior Leadership Cont….

'Communication is the most critical requirement in an emergency, and the weakest link'

"We look at large scale disasters like Katrina and we think it will never happen here but we need to tell the minister that as prepared as we are we are no where close to where we need to be."

"If there was a terrorist attack / mass casualty, the responders would be incapable of communicating with each other. This would be a national embarrassment."

"You can save lives by just giving someone the ability to communicate with someone else."

"It makes for more effective operations with no loss of time when you can talk to the people that you need to talk to. It also saves lives with search and rescue obviously. It is about speed of operations and speed of response."

Questions?

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