

Developing The Most Interoperable Voice System in North America-A Case Study

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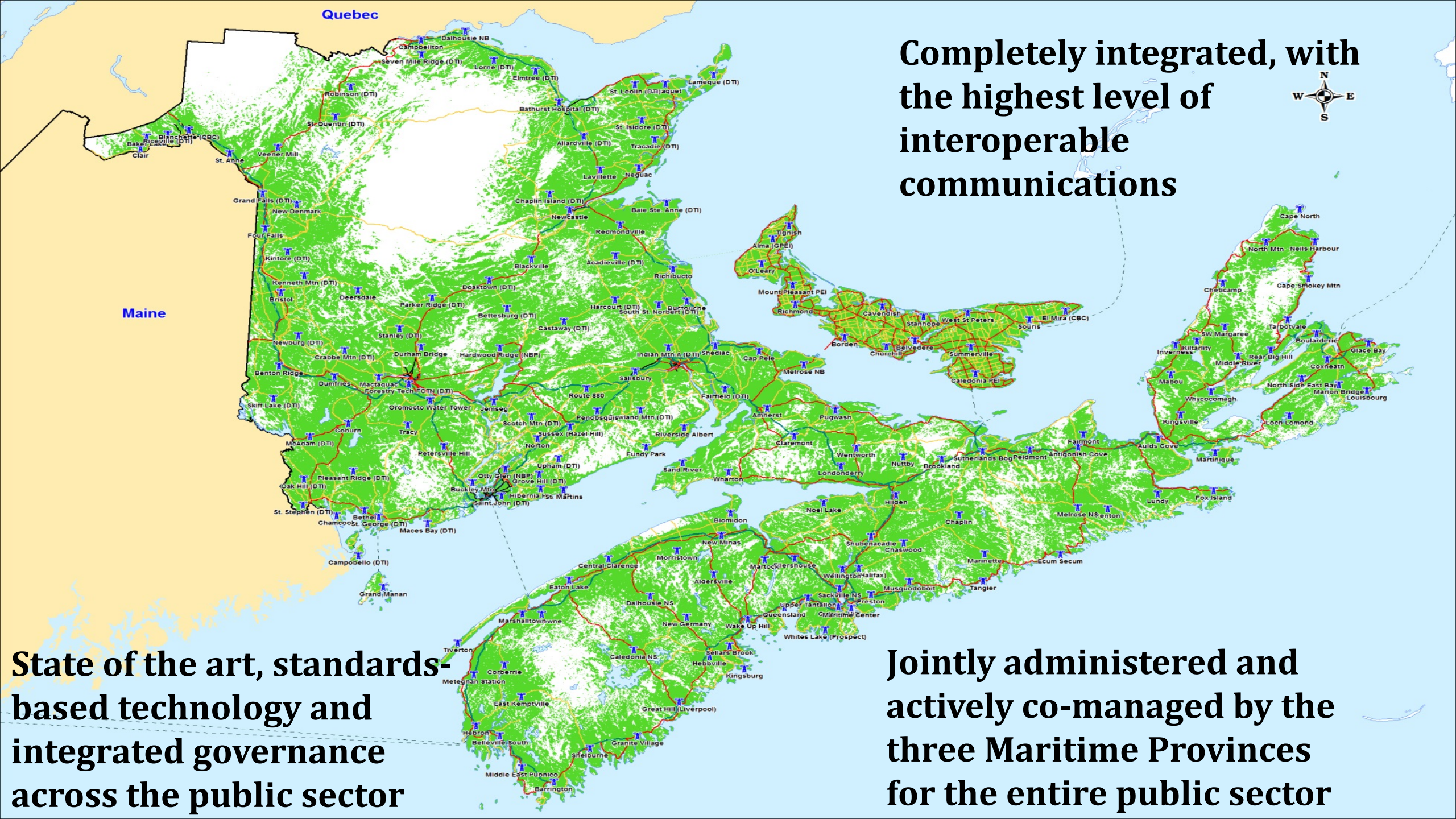
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First,

Let's start at the end





Completely integrated, with the highest level of interoperable communications



State of the art, standards-based technology and integrated governance across the public sector

Jointly administered and actively co-managed by the three Maritime Provinces for the entire public sector

MPSN Users New Brunswick



Provincial
Departments



"J" Division



NB Volunteer Public Safety



Fredericton

Municipalities



Ambulances



Canada

Federal Departments



MPSN Users Nova Scotia



Provincial
Departments



“H” Division



NS Volunteer Public Safety



Municipalities



Ambulances



Federal Departments

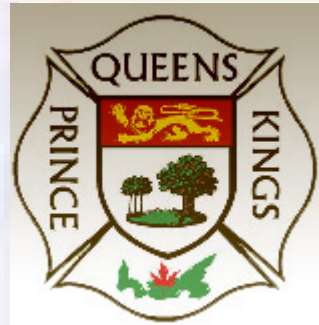
MPSN Users Prince Edward Island



**Provincial
Departments**



"L" Division



PEI Volunteer Public Safety



Municipalities



Ambulances

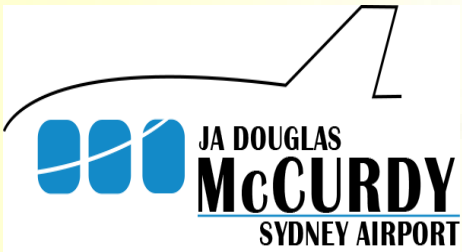


Federal Departments

MPSN Users Others



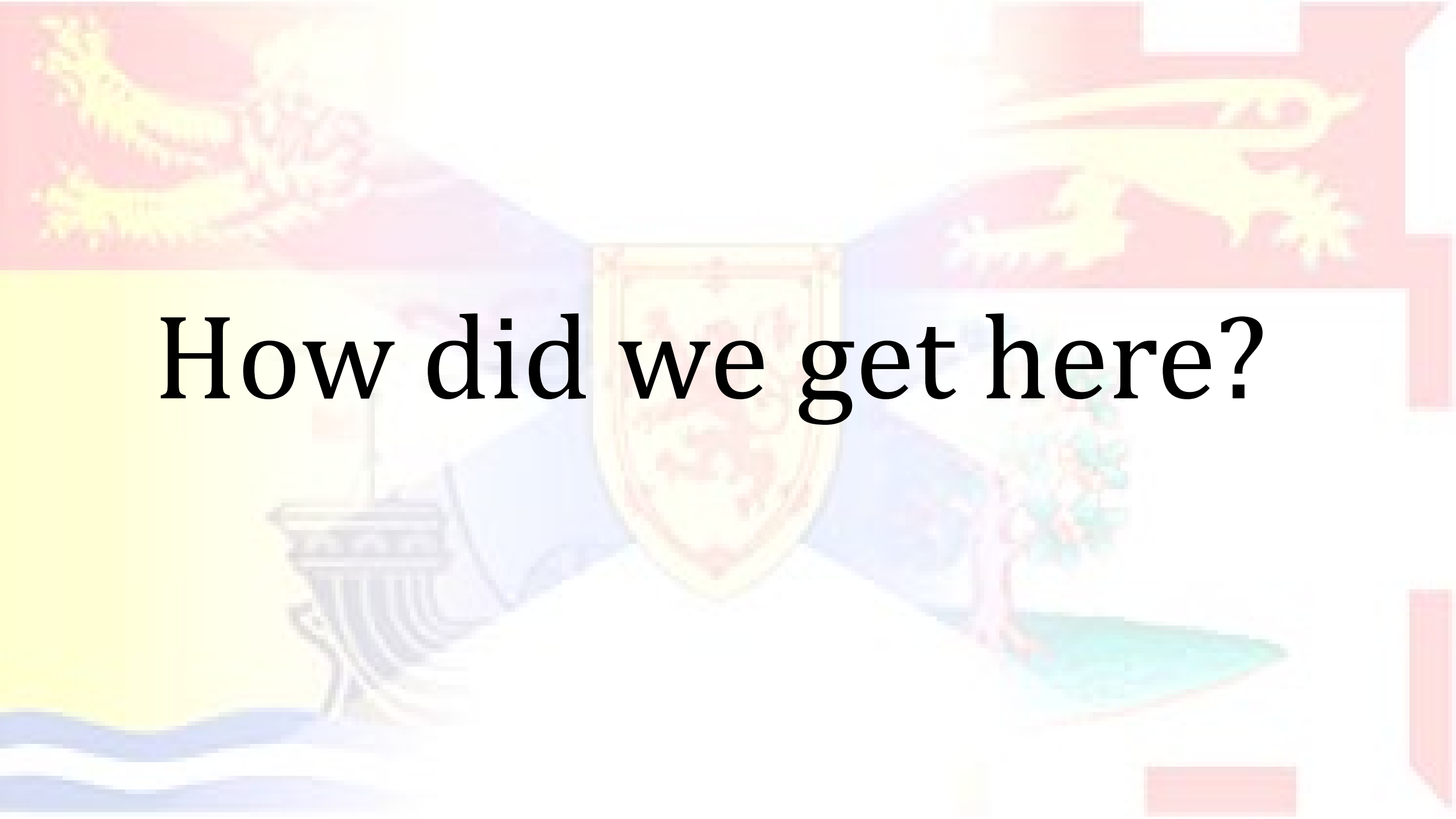
Airports



Transport Links



Commercial
public safety
support



How did we get here?



Swiss Air 111

September 2nd,
1998



Moncton RCMP Shootings

June 4th, 2014



PEI Schools Bomb Threat September 20th, 2016

**A need for “interoperable”
communications between
and among field staff**



**To coordinate multi-agency
emergency events**

**A need for “interoperable”
communications between
and among field staff**



**For normal, non-emergency
day to day communications**

**A need for “interoperable”
communications between
and among field staff**



**For day to day coordination
of human and material
field resources for public
works**

Interoperability is important...but there's more

A need to avoid duplication of public investment in public safety communications networks



Project 25
Technology Interest Group

**A 2018 survey showed 800+ publicly funded
public safety communications networks across
the United States and Canada**

80+ such systems in Texas

50+ in Florida

20+ Ontario

**Not all systems are
compatible/interconnected**



Project 25
Technology Interest Group

A 2015 survey showed 800+ publicly funded public safety communications networks across the United States and Canada

Lack of shared/interconnected public safety solutions not optimal in terms of spending

Many systems are incompatible-poorly coordinated response/danger to responders & public



**The Maritime
Province's answer to
this is:**

**The Maritimes
Public Safety Network**



State of the Art, Motorola Astro 25, IP based, two zone network

99.95% availability

Wide mobile and portable coverage

Redundant hot standby master switching

Supporting 29 master dispatch facilities and backups



**Supported, monitored and
maintained, 7-24-365 by
Bell Mobility**

**Part of Bell's national
radio P-25 standard
radio services, with
90,000 subscribers
across Canada**



Bell
Mobility

Unique, first of its kind

**Only Multi-jurisdictional
public safety radio
system in North America**

**Integrated, fully
interoperable**



Jointly administered by three separate provinces:

- **Common training**
- **Common onboarding**
- **Common best practices**
- **Common technical procedures**
- **Common administrative procedures**
- **Common management**
- **Common talkgroups**

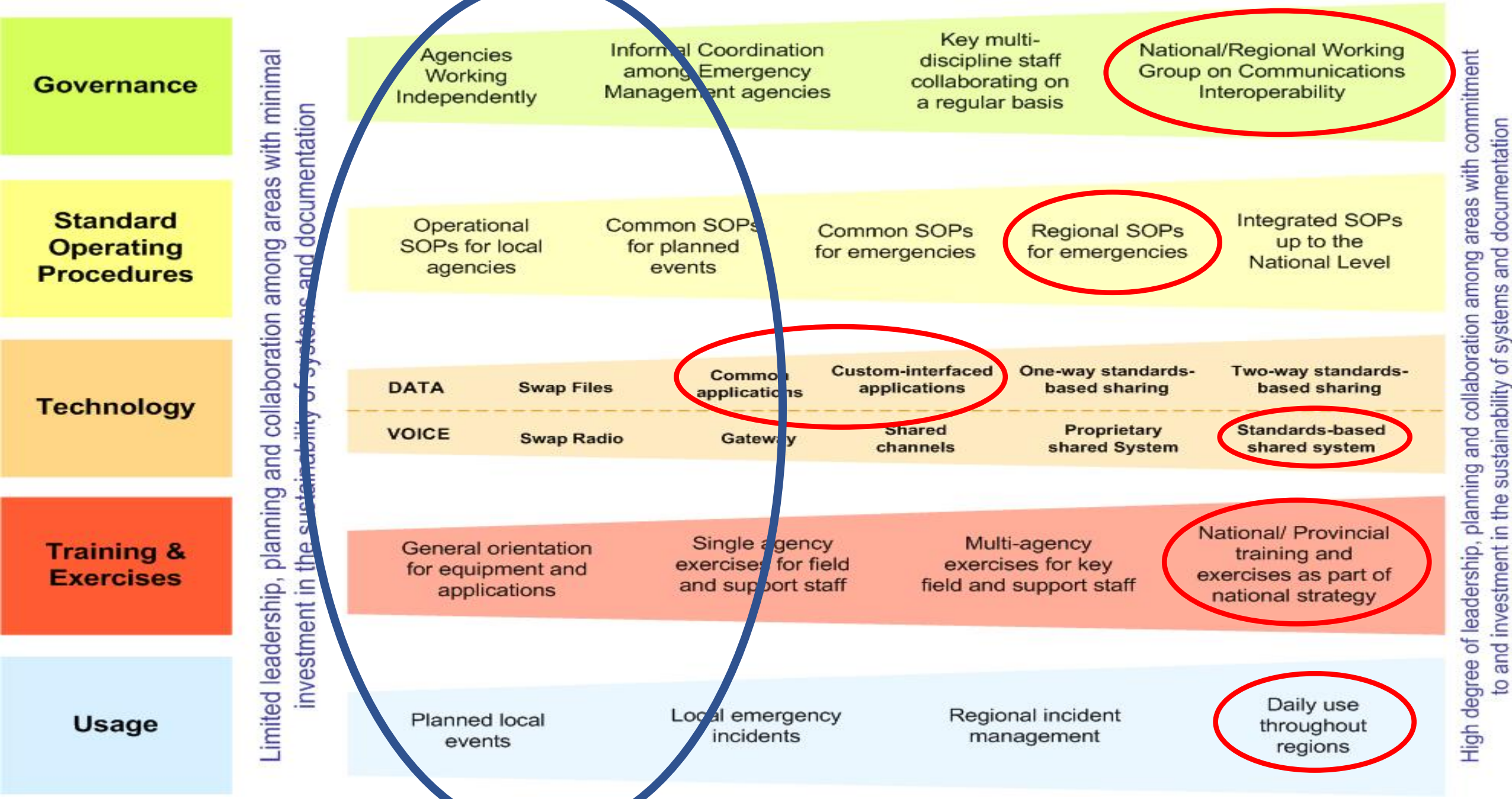


Jointly administered by three separate provinces:

- **Common fleetmap coordination**
- **Common vendor relationship management**
- **Integrated user governance**
- **Most interoperable system in N. America**



Canadian Communications Interoperability Continuum



Limited leadership, planning and collaboration among areas with minimal investment in the sustainability of systems and documentation

High degree of leadership, planning and collaboration among areas with commitment to and investment in the sustainability of systems and documentation

Interoperability Measures

- A Cross Jurisdictional Strategy
- Driving Interoperability to all parts of the public service
- Tight Asset Management
- Specific Interoperability Investments



Interoperability Measures

A Cross-Jurisdictional Strategy:

- All levels of government need field communications interoperability for Public Safety (PS) and Public Works (PW)
- Cross-jurisdictional, multi-agency events in which interoperable comms is important is becoming the norm
- North American jurisdictional scan (PTIG Survey) shows significant duplication of investments in multiple networks without practical communications interoperability



Interoperability Measures

A Cross-Jurisdictional Strategy:

- The Provinces had to lead because :
 - Each had a direct financial/operational interest in provincial departments, the RCMP, and municipalities (65-70% of total user base)
 - There was growing need for interoperability between Provincial and Federal departments and municipalities
 - Duplicated public investments in this area a non-starter. Only a shared system could be cost justified in an economically challenged region



Interoperability Measures

Driving Interoperability to all parts of the public service :

- An Integrated Public Sector Contract Model:
 - Provinces make long term SLA commitment to provider to establish shared, richly functional network for core users (RCMP/Vols/Depts)
 - Service Provider sells network capacity to municipal/federal users with pricing based on only “incremental” infrastructure needed
 - In exchange for long term SLA commitment, PNS negotiated concessions from provider, most of which drove very wide scale interoperability



Interoperability Measures

Driving Interoperability to all parts of the public service:

- An Integrated Public Sector Contract Model:
 - Provinces accept “stewardship” role on behalf of all public sector users
 - Enshrined in contracts
 - Establishing a corporate unit to manage this shared service focused on interoperability:
 - Corporate Management of PS frequencies/system user priorities
 - Quality Management of the vendor
 - Risk Assessment and Mitigation
 - Deployables development and management
 - Centralized Asset Management



Maritime Public Safety
Interlocking Contract
Administration Model

3 Provincial Master Agreements:

- *Provincial agencies
- *Volunteer Public Safety
- *RCMP

Interoperable PS Voice Communications

40+ Additional Authorized Users (AAU) Service Level Agreements:

- *Municipalities:
Police/Fire/Public Works/Transit
- *Government of Canada:
DND/DFO/CBSA/CWS/Parks Can.

Coordination:

- Asset Management
- User Training
- Governance
- User Facilitation
- Dispatch
- Mobile Communications Support

Contract Administration:

- Vendor Relationship
- Tech. Due Diligence
- Risk Management
- Strategic Planning

Interoperability Measures

Tight Asset Management for all:

- Centralized Asset Acquisition Management
- Mandatory Mutual Aid Talkgroups
- Mandatory Law Enforcement Interoperability Talkgroups
- Regional (Cross-Border) Talkgroups
- Extensive Asset Documentation
- Extensive quality controls and testing



Interoperability Measures

Specific Interoperability Investments:

- Volunteer Seeded Radio Programs:
 - Provinces establish formulas for giving (at no cost) portable and mobile radios to Volunteer Fire, Ground Search and Rescue Teams, Municipal EMO organizations, and the Canadian Red Cross
 - Airtime/Maintenance free
 - Asset Management free
 - On site training /retraining free
 - Governance
 - Approx. \$25 million initial capital investment in radios across region, and \$7 million per year in airtime/maintenance and related services



Interoperability Measures

Specific Interoperability Investments:

- Establishing a managed encryption service:
 - Policing/Enforcement agencies growing need for encrypted communications :
 - Need for secure communications
 - Protecting against disclosure of personal or restricted information
 - RCMP evolving security standards
 - Lack of managed encryption a threat to wide scale interoperability
 - Provinces acquire an Advanced Encryption Standard (AES) Key Management Facility (KMF)



Interoperability Measures

Specific Interoperability Investments:

- Establishing a managed encryption service:
 - Developing an RCMP/DSE approved standard operating procedure for encrypted users
 - Establishing Law Enforcement Mutual Aid Talkgroups (3 encrypted/3 non-encrypted)
 - RCMP hosts KMF in secure facility
 - RCMP performs technical administration
 - KMF currency reports
- Of 21,000 radios in the region, 8,000 support encrypted communications for 12 organizations



Interoperability Measures

Why did it Work?

- Evolved out of an earlier tri-province, failed procurement project
- Hard lessons were learned, that made the MPSN version work:
 - A focus on interoperability and shared solutions
 - Relationships matter
 - Understanding the competitive marketplace
 - Its all about what the users needs





Questions?