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# Emergency Alerting Systems WABE 2011

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What if...



# Agenda

- Introduction
- EAS & CAP-CP Protocol
- CRTC Decision 2011-438, MASAS
- Alert Systems:
  - Overview - how alerts are generated/received
    - Radio, Over-the-air TV, Cable, IPTV, Satellite
    - Sample Alert
- Products
  - SAGE, Trilithic, Alert FM
- Pelmorex – NAAD centre

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## About TRISPEC

- Wholly Canadian owned and operated National distributor/systems integrator.
- Offices located in Montreal, Toronto, Calgary & Vancouver offering sales, technical sales support, engineering services and warehousing services
- Trispec has been serving the Canadian telecommunications market since 1983
- Trispec also maintains an international presence in Europe providing design, installation, and project management services.

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## The First Emergency Alerting System ...



"It's my latest invention — I call it the 'Emergency Broadcast Warning System.'"



# CAP-CP

## ➤ **CAP = Common Alerting Protocol:**

- International specification developed by **OASIS (Organization for the Advancement of Structured Information Standards)**
- Allows emergency messages to be disseminated over existing & emerging public alerting systems in U.S.
- U.S. - Broadcast Radio & TV, Cable, et al. - required to upgrade equipment to receive CAP alerts under FCC rules Deadline = June 30, 2012.
- Wednesday Nov 9<sup>th</sup>, 2012 – National Test Day

## ➤ **CAP-CP = Common Alerting Protocol - Canadian Profile**

- CAP-CP - **compliant** with **OASIS CAP** protocol
- CAP-CP - not limited to any one alerting methodology. (CAP-CP is not biased to one method, channel, system, or sub-group of alerting stakeholders)
- Several vendors have developed CAP-CP compliant hardware for message reception and dissemination

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# CRTC & Decision 2011-438

- In 2009 - CRTC authorized the creation of a national system to quickly warn Canadians of severe storms and other events that could endanger lives.
- CRTC 2011-438 decision - Pelmorex to continue mandate to collect & distribute emergency alerts to participating cable and satellite systems, television and radio broadcasters & other media outlets. the new licence term provided that
- Pelmorex to ensure appropriate federal, provincial & territorial organizations, including Environment Canada, are authorized to issue alerts through its NAAD system by January 1, 2012
- Pelmorex to take all necessary steps to ensure the participation of broadcasters and broadcasting distributors in the provision of emergency alerts to Canadians

# CRTC & Decision 2011-438

- “64. The Commission considers **that liability ... lies first and foremost with the originator of the message.** ... holding a broadcasting licence is a privilege and that **broadcasters and BDUs have a duty to inform the public of imminent perils** as part of the operation of their undertakings. ...
- 65. The Commission reiterates that **the broadcasting system has a vital role to play** in the provision of emergency alerts to Canadians. It **continues to expect all television and radio undertakings, as well as BDUs, to voluntarily participate in the national public alerting system,** ...
- 66. To ensure that Canadians receive timely warnings of imminent perils, the **Commission will continue to monitor** the participation of broadcasters and BDUs in the national public alerting system. The Commission notes that **it may initiate a review in 2013 should further measures be required to ensure their full participation”**

# MasAS Situational Awareness System

## MASAS

- **Working group** – share information & alerts, between first response & emergency management agencies
- **Use open standards and an open architecture.**
- MASAS developer community **encourages participation of first responders, emergency management operators, etc.**
- Register & open an account at:
  - <http://tbs-sct.ircan.gc.ca/account/register>

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# Alerting has come a LONG WAY!!



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Broadband Wireless

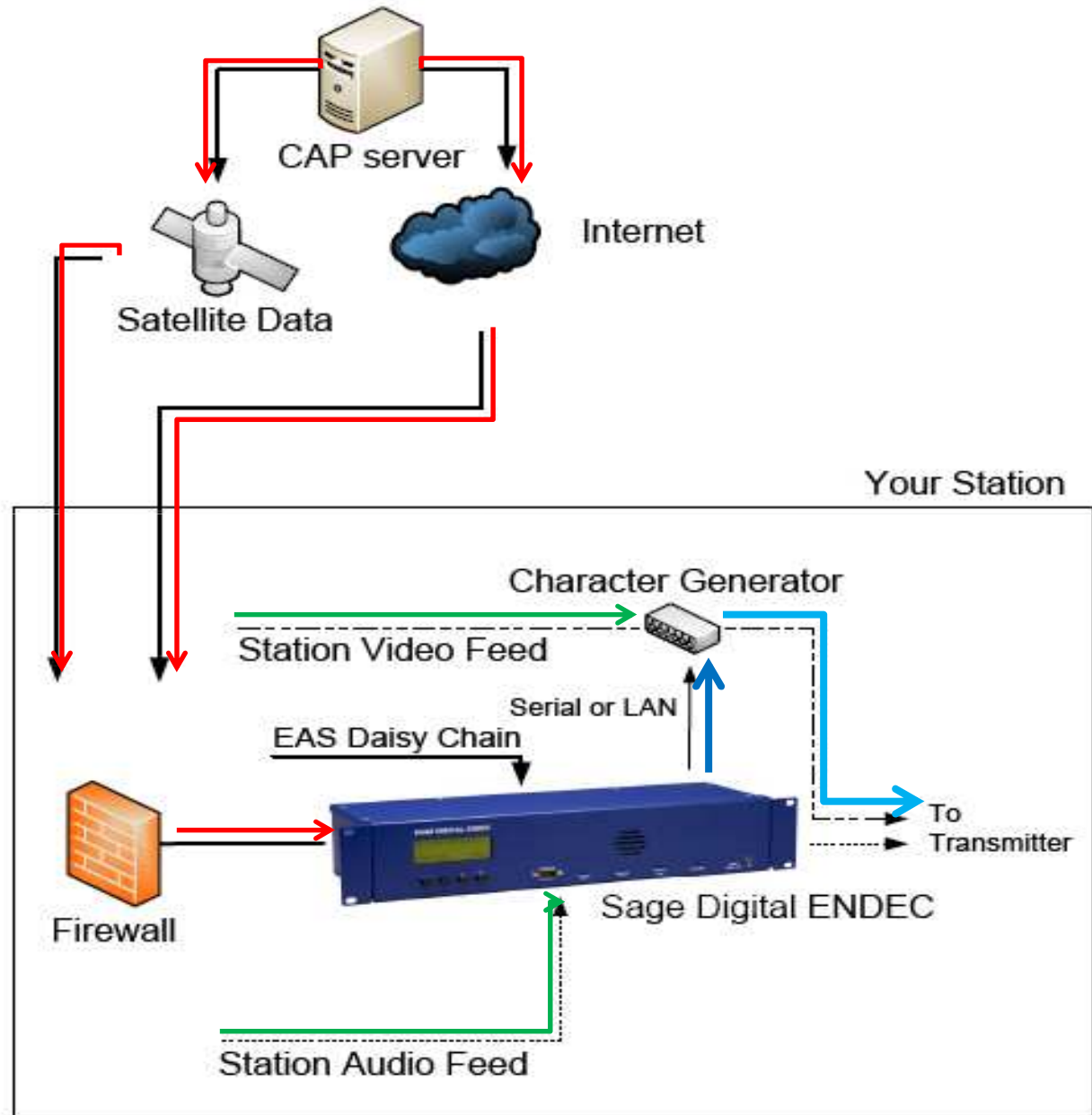
Test & Measure

IP

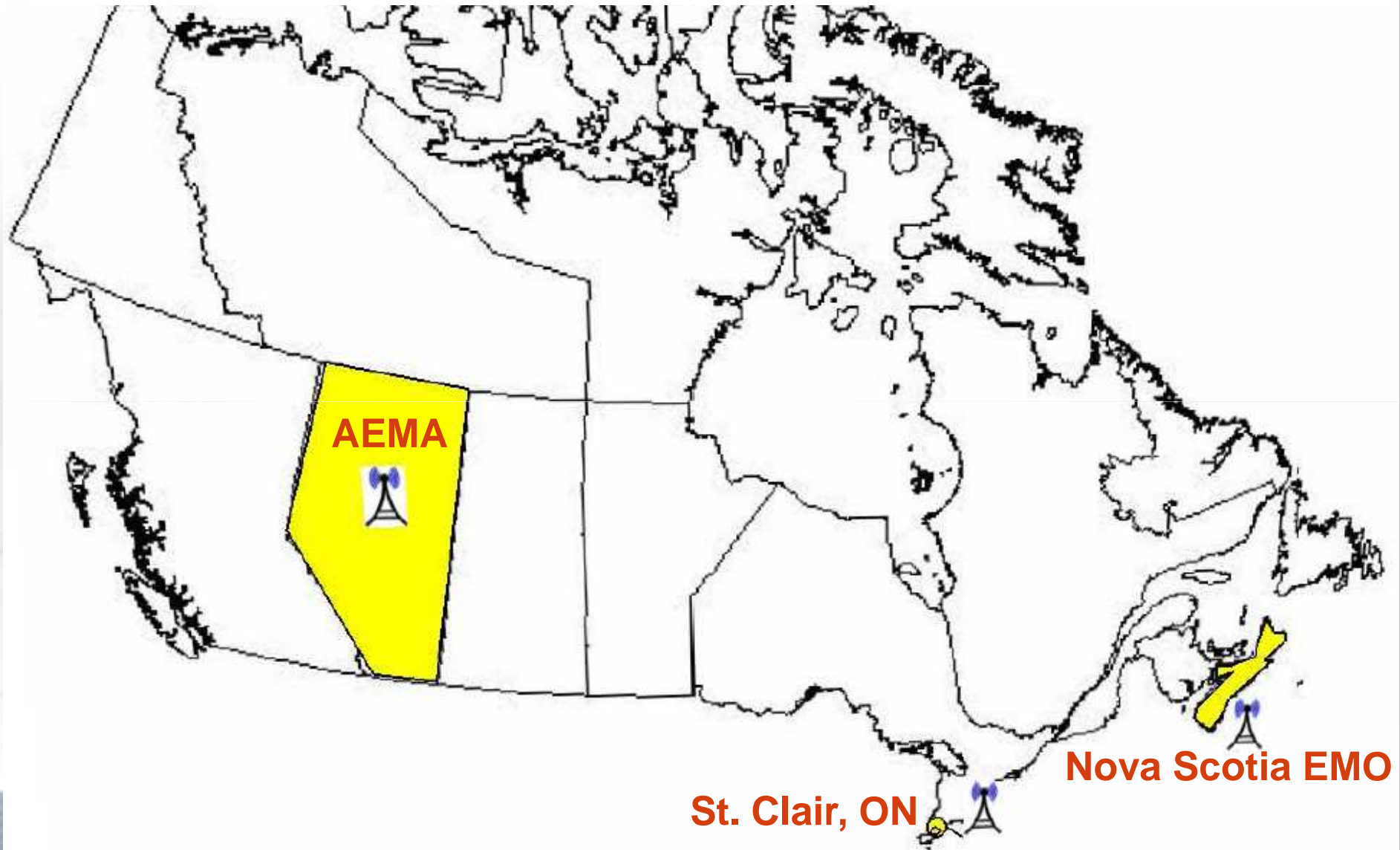
Outside Plant



# Overview of Alerting Network



# Current Canadian CAP-CP Deployments



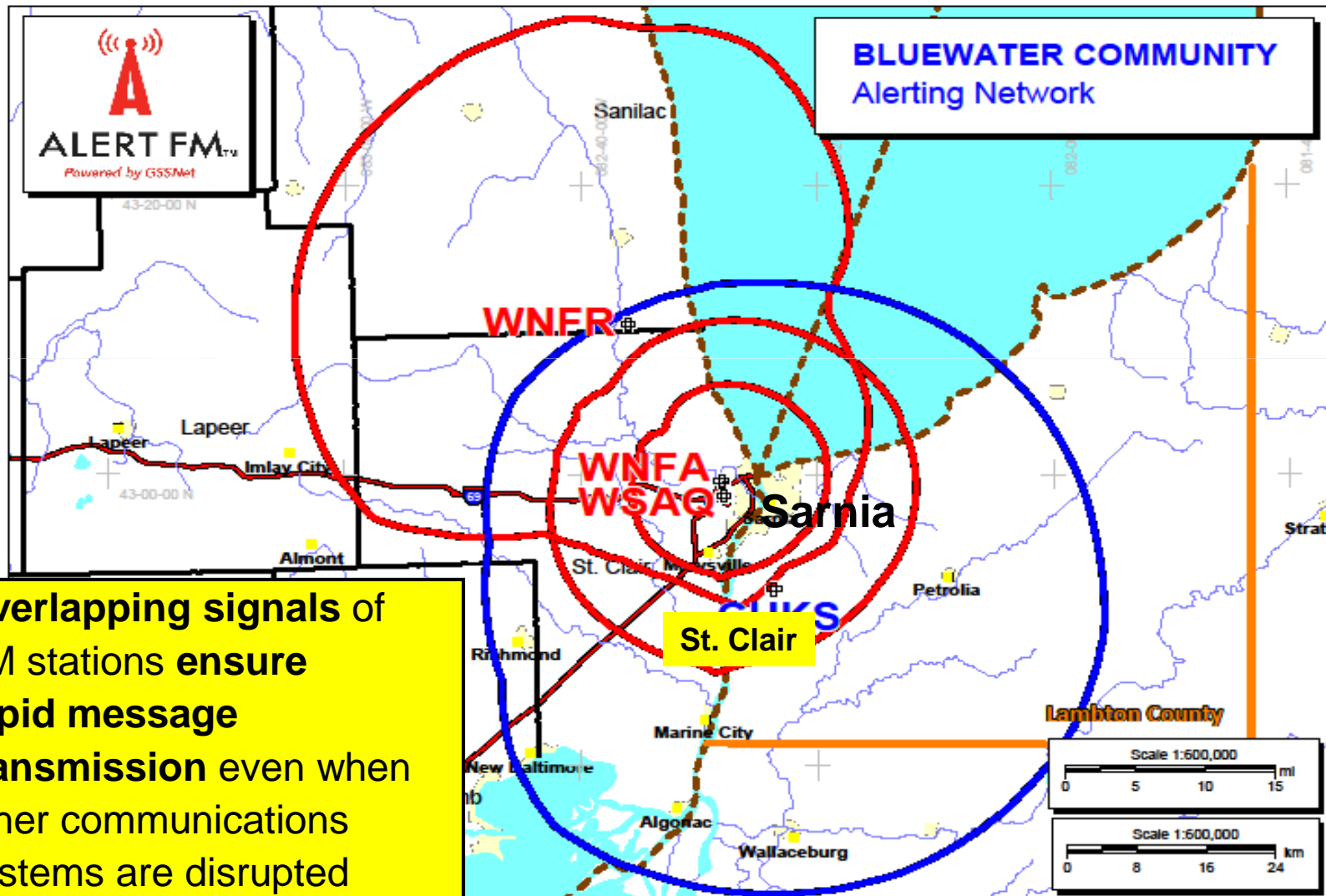


## ALERT FM – St Clair Township, ON

- Messaging delivered via existing **FM radio** infrastructure, SMS, and email
- Existing Customer Base
  - Over 90 current customers in U.S. and Canada
  - First Canadian system installed in St Clair Township, Ontario for “**Bluewater Notification Project**”
  - GSSNet installed in >250 FM stations in 14 states
  - State-wide system in Mississippi for MEMA
  - Regional, County, Tribal Nation, Corporate, University and Community College projects

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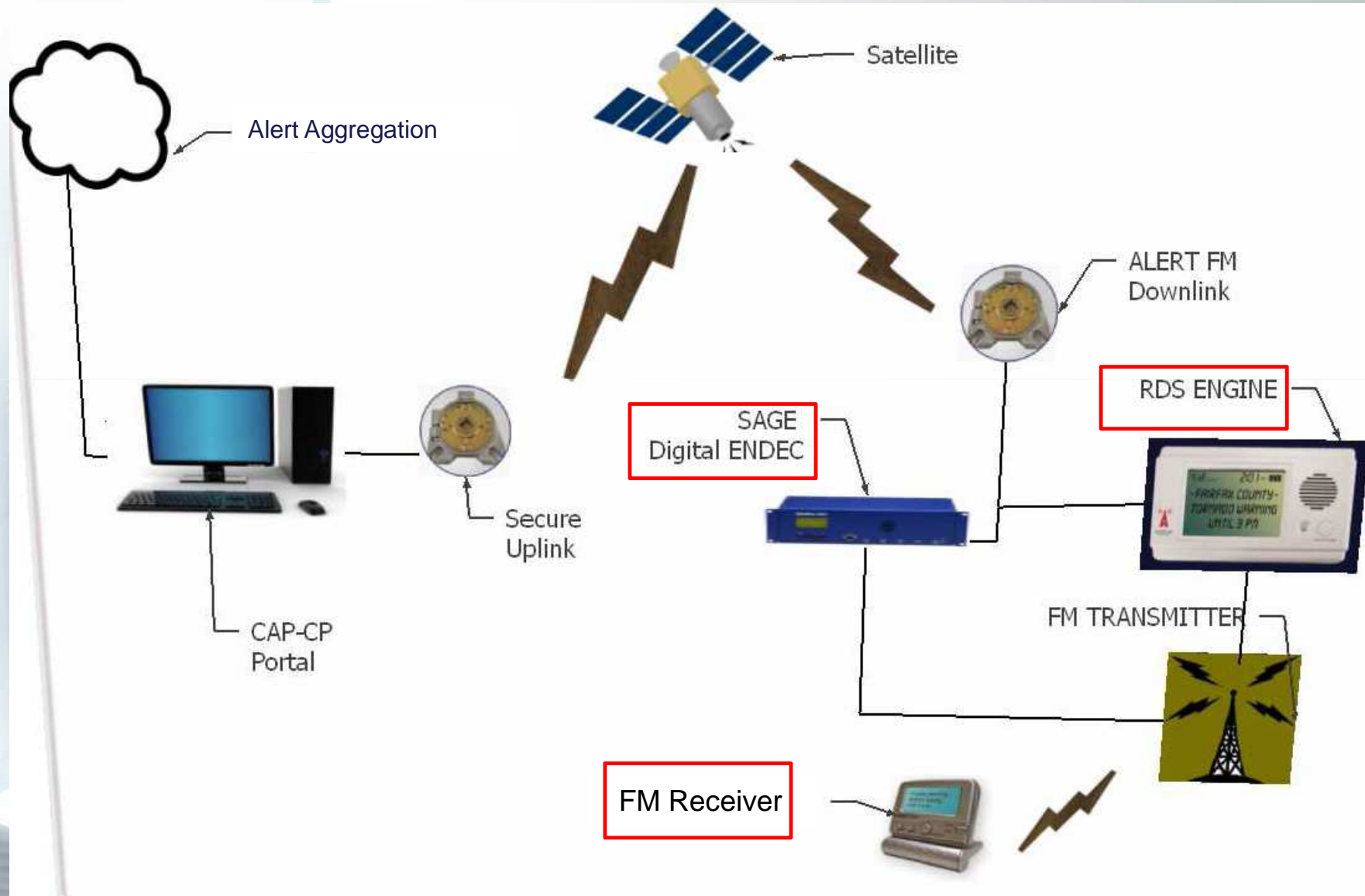
# Current St Clair Coverage Map



**Overlapping signals of FM stations ensure rapid message transmission even when other communications systems are disrupted**



# GSSNet Satellite Delivery Network





# ALERT FM Receivers

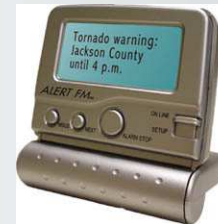
- Portfolio of fixed and mobile
- All addressable with at least 30 groups and services
- Automatically tune to the **strongest FM** (w GSSNet RDS) station in the area
- New functionality for automobile public display



**Nomadic**



**Mobility**



**Home use**

**Schools, Hospitals, Businesses, etc.**





# SAGE Digital ENDEC Front Panel

Users include:

- AEMA (including CBC)
- Nova Scotia EMO

Trials completed with:

- Rogers Media
- CHCH
- CBC



# SAGE Digital ENDEC Rear Panel



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## SAGE Digital ENDEC Capabilities

- Monitors Net Alerts (or NAAD) servers for valid messages
- Compares the data to user-programmed parameters like location and warning type.
- Detects FSK Header data at it's audio inputs.
- Compares the data to user-programmed parameters like location (filter) and warning type.
- Records the incoming speech until an end-of-message is detected
- Decides if the message should be played back.
- If so - Retrieves audio files associated with alert message and stores internally
  - Interrupts the station/system audio and plays received audio file
  - Injects RS-232 stream with alert text

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## ENDEC Capabilities continued

- Sends alert message text to character generator for TV display
- Can generate text-to-speech audio if no audio file sent with alert
- Automatic notification of alert messages if desired – email, SMS message, etc.
- Logs all activities (alerts, tests, etc)

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## Trilithic EASyCAP – for CATV, Broadcast Over-the-Air TV, IPTV markets

- CAP-CP Compatible
- Monitors Multiple CAP-CP Sources, such as Pelmorex Servers, NAAD
- Flexible & Expandable Open Architecture
- Supports Motorola and Cisco Server and Network Architecture
- Supports Broadcast Analog and DTV
- Text-to-Speech Capable



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# Trilithic EASyCAP

- DVS-168
  - Up to 8 DVS-168 devices can be configured to receive messages
  - Alert information, text, and audio is delivered using TCP sockets and FTP file transfer
  - Supported by Cisco (SA) DNCS, Evertz Logo Inserters Myrio middleware, and more
- SCTE-18
  - Up to 64 SCTE-18 devices can be configured to receive messages
  - Fully supports the 2007 revision of the specification,

## SNMP

SNMP will be supported for management monitoring systems. It will monitor the status and health of the hardware and software, monitor incoming and outgoing alert messages, and provide a limited amount of control to abort and originate messages.

## EMAIL

Alert messages and logs can be emailed to a list of configured recipients.

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## Pelmorex & Public Alerting

- Pelmorex has a long history of distributing public safety messages.
- The Weather Network & MétéoMédia have broadcast Environment Canada weather warnings since launching in 1988.
- They have also done pilot projects with a number of provincial authorities.
- Pelmorex also distributes warnings and other public safety messages over its websites, mobile products/services and through its social media.
- In June 2010 Pelmorex launched the National Alert Aggregation & Dissemination (“NAAD”) system.

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## NAAD Operation Centres 24/7/365 (Network Aggregation And Dissemination)

Two Operations Centres are fully operational  
and back-up to each other.





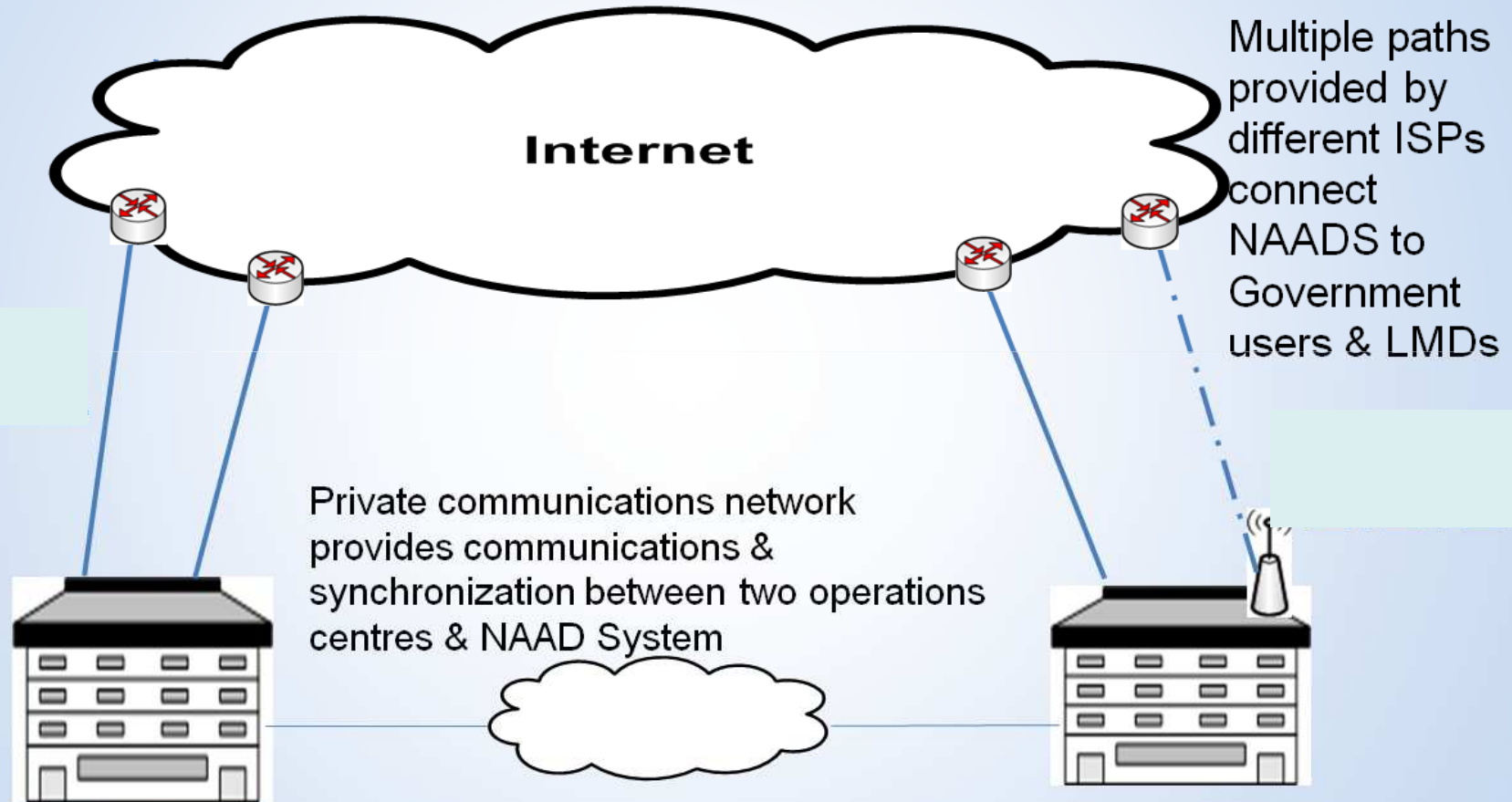
## Pelmorex's NAAD System

1. In accordance with CRTC Broadcasting Order 2009-340, Pelmorex established a National Alert Aggregation & Dissemination System [NAAD System], assisted by a Governance Council of public & private stakeholders.
2. Secure and reliable system that allows for the reception of Alert Messages from designated Authorized Government Users and the dissemination of those Alert Messages to Last Mile Distributors (LMDs) anywhere in Canada.
3. Pelmorex's NAAD System is an important component of the larger public alerting process.
4. The services Pelmorex provides are available and supported in both official languages.
5. Pelmorex does not charge any fee to Government or Last Mile Distributors.

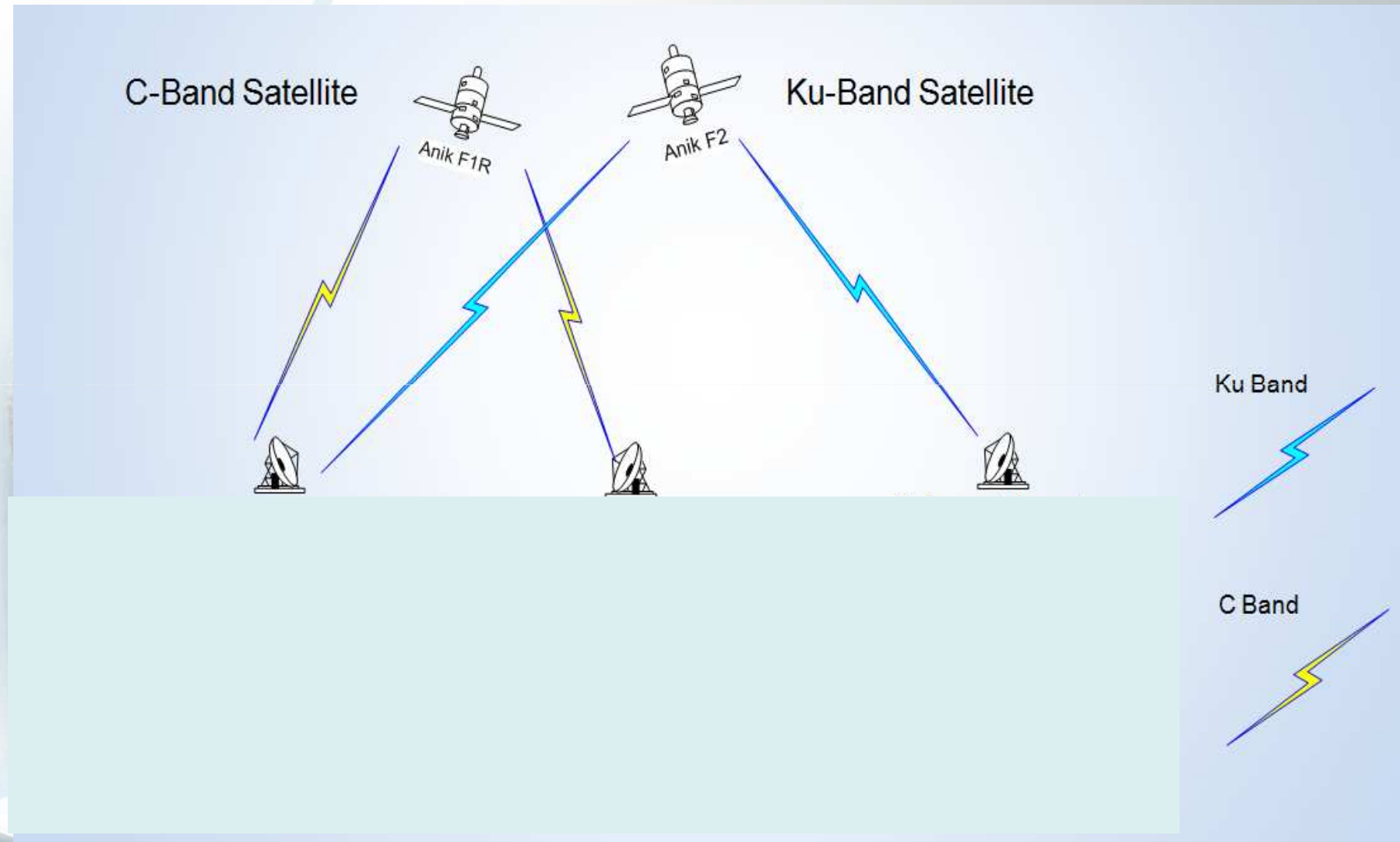
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# NAAD System Internet Network Fully Redundant



# TRISPEC™ NAAD Satellite Network = Full Redundancy





## Provincial & Territorial EMO are leads

- The User Management system gives government users complete control over who they permit to issue Alert Messages & the authority levels of each user.
- Government Users have complete control over the content of their Alert Messages within the standards set out in CAP-CP
- Government users can easily monitor their own alert messages and those of other Canadian jurisdictions.

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## Last Mile Distributors (LMDs)

Defined as anyone making Alert Messages available directly to the public.

- Includes but is not limited to cable TV and DTH satellite service providers, TV and radio stations, wire-line and wireless telecommunications carriers, ISPs and internet websites.
- Their distribution of Alert Messages is purely voluntary.
- LMDs can register to receive technical information and updates at: [www.alerts.pelmorex.com](http://www.alerts.pelmorex.com).
- Representation of LMDs is also accommodated on the Governance Council.
- Pelmorex provides support & seeks input and suggestions from LMDs and vendors providing products & services to assist them in making Alert Messages available to the public.

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## Pelmorex as of Dec '11

The NAAD System is fully operational.

Access agreements have been signed with:

- Newfoundland & Labrador
- Prince Edward Island
- Nova Scotia
- New Brunswick
- Ontario\*
- Manitoba
- Yukon Territory

Other jurisdictions expected to follow shortly.

*\*Ontario has also extended use of the NAAD System to Amber Alerts.*

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For Information on the  
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