Open Source Alerting with CAP
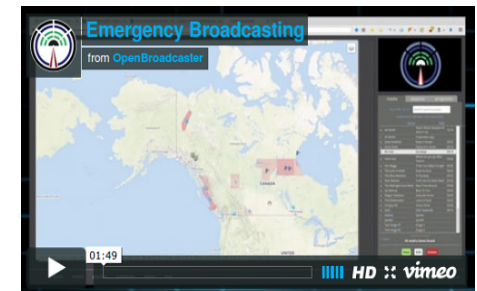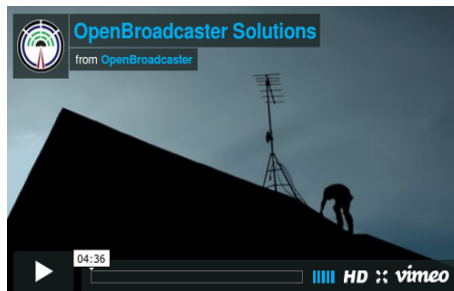
Unattended Emergency Broadcasting

Sawadee Cup!

Long time resident of northern Canada spending time in Thailand

Started the first commercial FM station in the Yukon in 1997

Worked together with the Yukon government for a pilot project to evaluate existing emergency EAS equipment using DSL internet and off grid C band satellite on CFET Radio

Developed an Open Source CAP web application utilizing local programmers, universities and hobbyists

Present

Canada's broadcast regulator made it mandatory for all Canadian broadcasters to carry CAP-CP emergency announcements

The Weather Network along with Pelmorex Media relay NAAD feeds of CAP issuers of weather related and environmental advisories such as a Alaska highway closures, Fire, Flood and Chemical spills

Broadcast sector includes commercial, community, indigenous, tourist information, development and faith based stations

US there are over 180 NAAD and in Canada there is presently 1

Historical

CAP is based on the ITU standard X.1303

We use a slight variation, CAP-CP that takes into account French language characters and accents

A couple of established EAS manufacturers from the US

Proprietary EAS systems based on "secret code" firmware

We documented our work so others can use

Challenge

Needed a solution to be secure, stable and accessible to operate in Southern Canada up to remote stations in the Kitikmeot region in the high Arctic

Run on commodity hardware from the local recycling centre

Energy efficient for Arctic locations where electricity costs upwards $2.00 Kw hour

Smaller rural stations that wish to carry CAP Alerts but are prevented for financial or technical capacity reasons

Benefits of Open Source Approach

Legendary LINUX reliability in thousands of mission critical roles

Sharing the source code of projects, the "Digital DNA" and blueprints makes it very difficult to inject Trojans and back door processes

Possible to build future modules and functionality for interoperability

Make things work together

Solution

Used CLF guidance document as a blue print for a CAP-CP alerting solution

Replicated the functionality of the industry standard alerting boxes

Linux based web application

Standalone operation with a plug and play solution

We did not have to ask one single question of Pelmorex

Technical

We access Pelmorex feeds from their TCP Socket and use RSS feeds to show alerts on Open Street map

HTML5 – Death of plugins

Gstreamer – Multimedia Framework

JACK, Pulse Audio and AES67\RAVENNA Support

Support for Audio as well as Visual Images over Video

Future Opportunities

Important community service especially for isolated regions

Draw to keep audience with relevant local material

Challenges for multilingual alerting in different dialects

Training, Innovation and technology development

Mobile Application opportunities for new media requiring CAP Alerting

Chok Dee!

www.openbroadcaster.pro

Made in Yukon