

CAP Alerting for Broadcasters

**2020 CAP Implementation Workshop
September 28 - 30 2020**

Presented by Rob Hopkins and Vincent Maggard

About OpenBroadcaster

- Open Source Broadcast Automation LPFM IPTV
- OpenBroadcaster Inc was started in 2005.
- We care about open source software.
- We care about the needs of broadcasters.



Our Passion

OpenBroadcaster's mission is to develop open source products and services for broadcasters of any size, working in analog or digital environments.

RadioRob

- Radio Enthusiast
- Longtime resident of Northern Canada
- Develops open source CAP client software
- CRTC licensed radio broadcaster



SE Asia Community Radio



Typical Station

- Play out computers running Win7/XP infected with malware
- Lacking reliable method of remote access to transmitters\studios or mixing boards
- Cannot automatically distribute CAP emergency messages after hours from district or national governments
- Scarce funding to continue running community radio stations in disaster situations
- Station volunteers already have IT skills using smartphones and social media



Cox's Bazaar - Bangladesh

- 900,000+ Rohingya refugees at Cox's Bazaar and Teknaf.
- Internet blackout.
- Limited access to FM radio a few hours a day.
- Effectively distributing COVID info is challenging due to high illiteracy rates.



RSPD Radio Komodo Islands - Indonesia

- 17,508 Islands
- Prone to tsunamis
- Volcanic eruptions
- Flooding sinking cities



What we wish to do

Enable distribution and scheduling of CAP generated messages to a network of regional community radio stations.

Monetize financial sustainability of SE Asian community radio sector by facilitating tools for National governments to relay CAP messages through one single web portal process.

About Vincent

- Software coding for several years including alerting systems and broadcast automation.
- Radio host
- Creator of Eastern Kentucky Indie Radio.



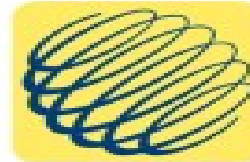
CAP Alerting in Canada

Alert Ready

The Weather Network by Pelmorex



ALERT READY
EMERGENCY ALERT SYSTEM



**The Weather
Network**

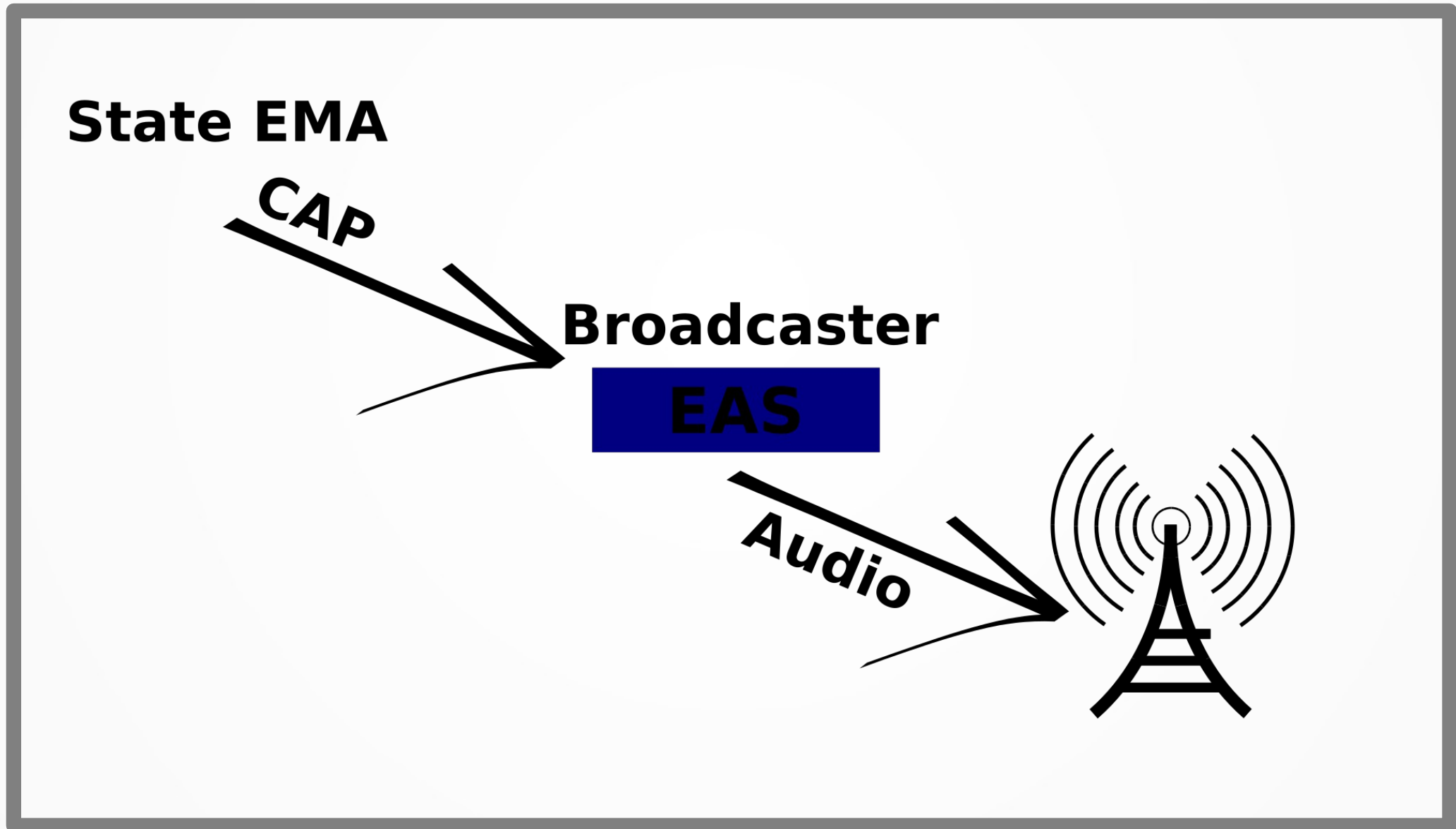
CAP Alerting in United States

Emergency Alert System

- EAS is a system used by broadcasters in the US to carry alert messages.

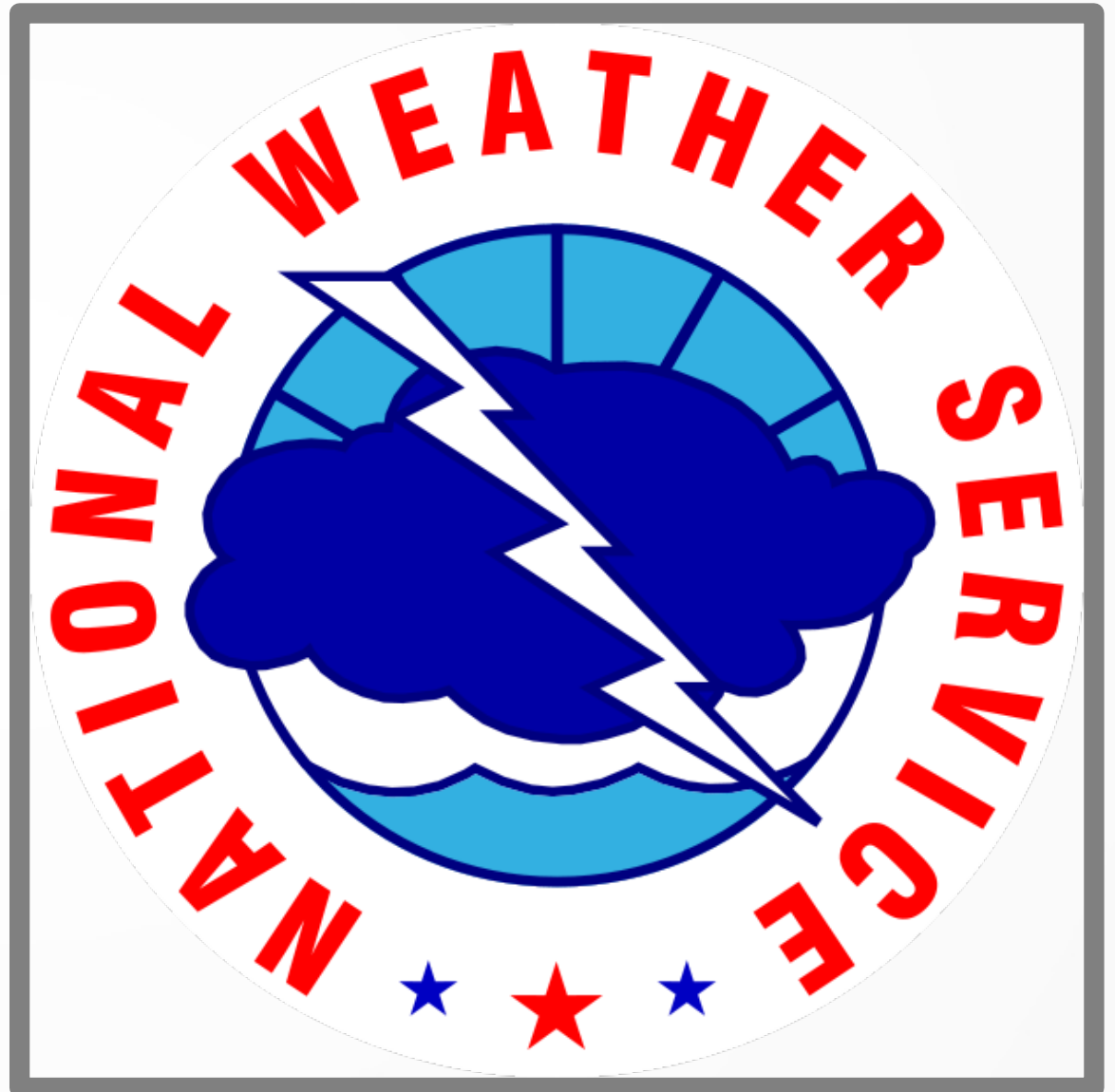


CAP in the Emergency Alert System




EAS and Alert Ready in action

- NWS alerts are some of the most common alert messages.
- Fires and floods
- Thunderstorm and tornado warnings



OBPlayer Alert Ready Receiver

OpenBroadcaster

OpenBroadcaster Player Dashboard

The admin password is set to the default. Please go to the HTTP(S) Admin tab and change it.

StatusSummaryAdminSync/MediaSourcesOutputsStreamingEmergency AlertsLocation MapHTTP(S) AdminLive Assist

RestartFullscreen (N/A)

Enable Emergency Alerts☒

Location Geocode

Primary Language

Primary Voice (for TTS)

Secondary Language

Secondary Voice (for TTS)

Alert Repeat Interval (in minutes)

Plays Per Alert (0 = no limit)

Truncate Long Alert Messages☐

Play Moderately Severe Alerts☐

Advanced Settings

Save

Alerting System Tests

Test Alerts

Inject Alert

Active Alerts

Last Heartbeat Received: 00:11 min

Alerts Will Play In: 29:35 min

No Active Alerts

Cancel Alerts

Expired Alerts

No Expired Alerts

OpenBroadcaster Player is released under [Afero GPL v3](#). Downloads and updates available at [support.openbroadcaster.com/obplayer-updates](#). Self-help instructions available at [wiki.openbroadcaster.com/obplayer](#).

AWS POLLY TTS

OpenBroadcaster Player Dashboard - Chromium

Not secure | 192.168.1.9:23233/alertdetails.html?id=473E9B47-D474...

Details of 473E9B47-D474-B3F1-9765-1AFED0761075

Identifier: 473E9B47-D474-B3F1-9765-1AFED0761075

Sender: Lab CAP SERVER

Sent: 2020-09-17T17:23:00-05:00

Codes: profile:CAP-CP:0.4
layer:SOREM:1.0

Status: actual

Message Type: alert

Scope: public

Language: en-CA

Event: testMessage

Urgency: Immediate

Severity: Extreme

Certainty: Observed

Expires: None

Sender Name:

Headline: Test Message.

Description: This is a test message.

Instruction: (none)

Parameters: layer:SOREM:1.0:Broadcast_Immediately: Yes

Event Codes: profile:CAP-CP:Event:0.4: testmessage

Attached

Resources:

footer_message [openbroadcaster.com](#). [footer_license](#).

AWS POLLY Voices

- Multiple language support
- Many language accents in both genders
- Some voices are bilingual

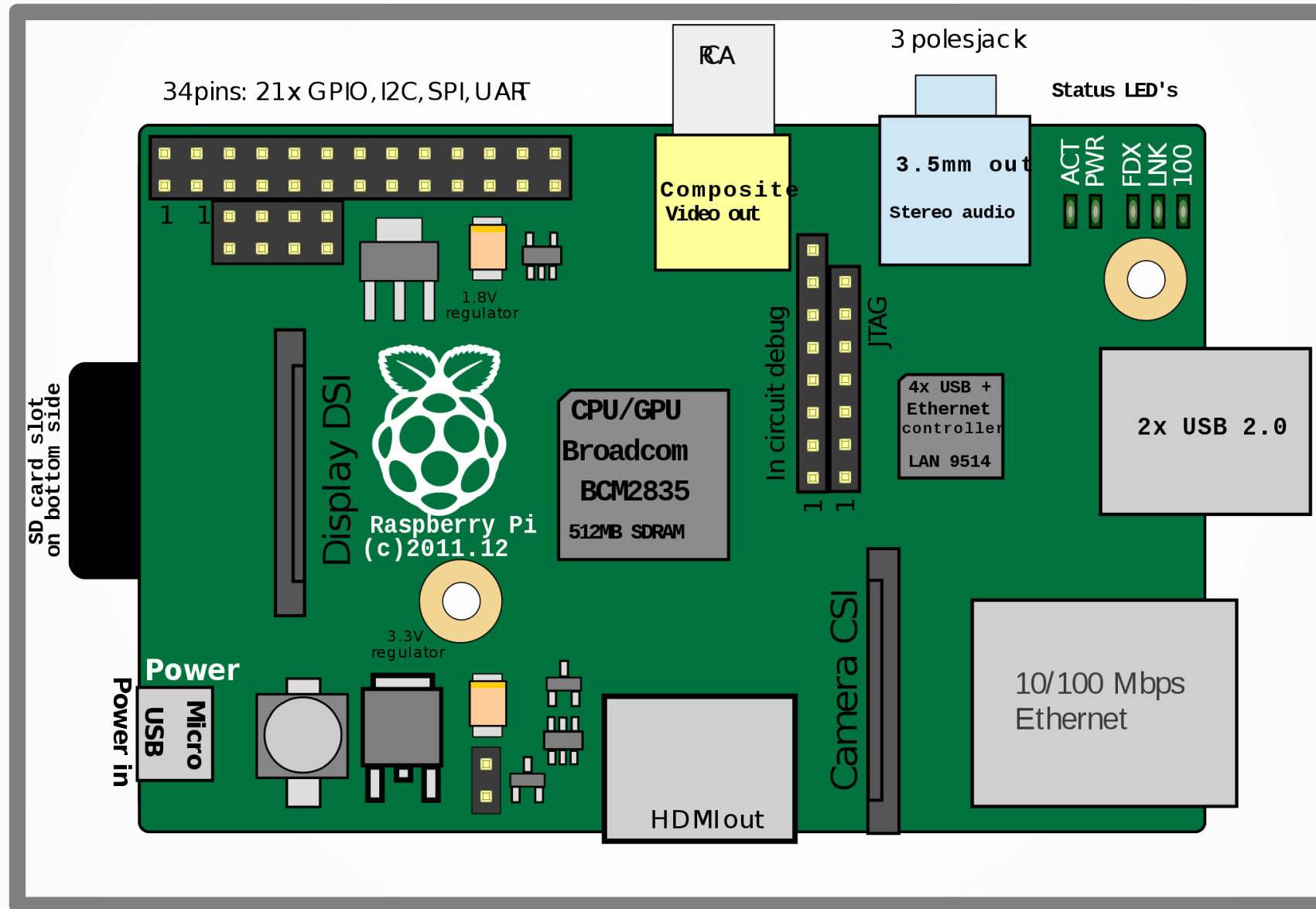
For more info visit

<https://aws.amazon.com/polly/>

AWS Polly Costs

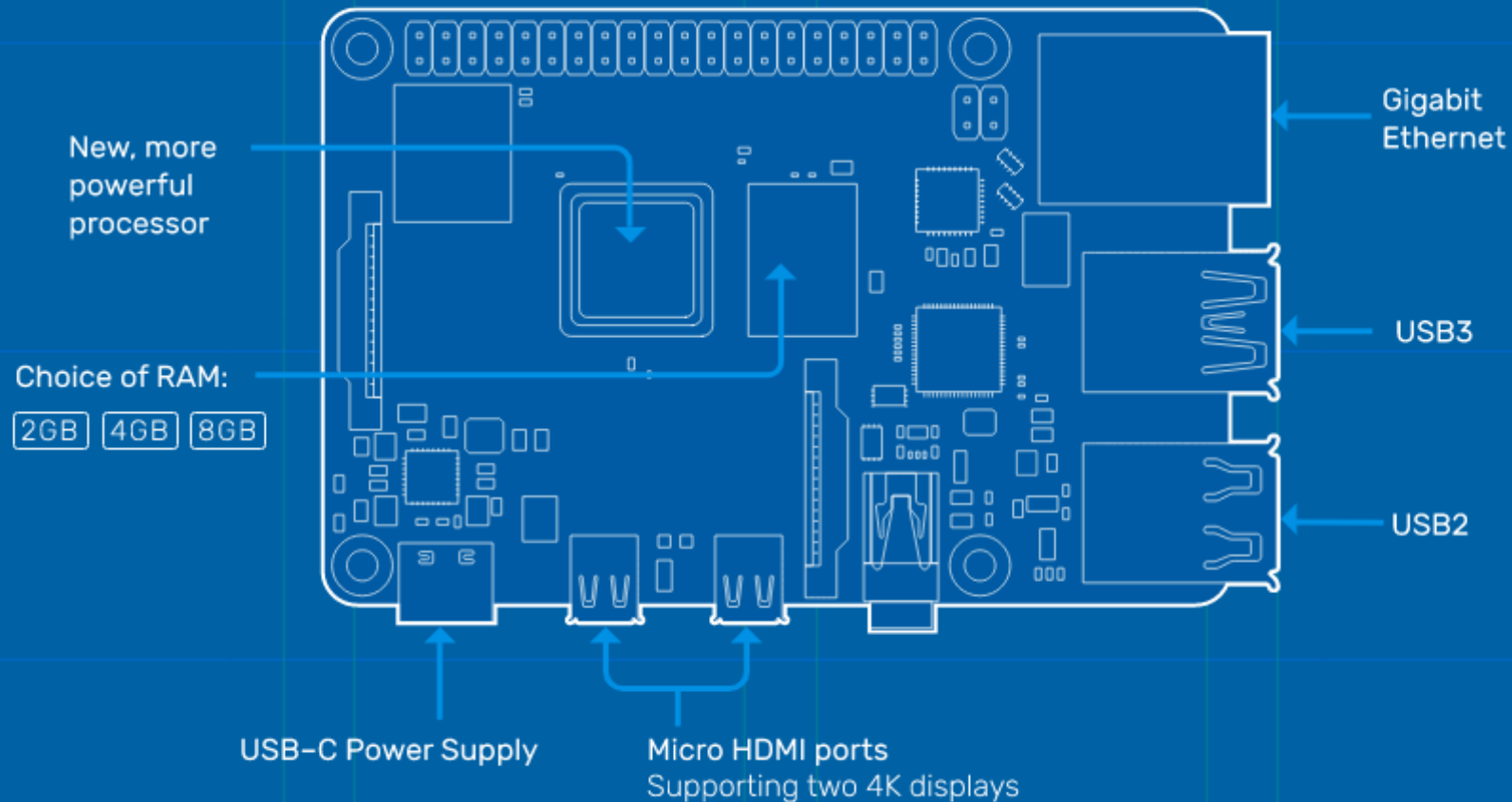
Example	Text Length	Speech Duration	Standard TTS Cost	Neural TTS Cost
1,000 requests, 1,000 characters per request	1 million characters	~23 hours, 8 min	\$4.00	\$16.00
10,000 requests, 100 characters per request	1 million characters	~23 hours, 8 min	\$4.00	\$16.00
2016 Amazon Shareholders Letter	1.3k characters, single page	~1 min. 40 sec	\$0.005	\$0.021
Average email message	~3.1k characters	~4 min	\$0.01	\$0.05
Typical news article	~6.5k characters, three pages	~9 min	\$0.03	\$0.10
"A Christmas Carol" by Charles Dickens	~165k characters, 64 pages	~3 hours 50 min	\$0.66	\$2.64
"Adventures of Huckleberry Finn" by Mark Twain	~600k characters, 224 pages	~13 hours 50 min	\$2.40	\$9.60

Raspberry Pi 3



Raspberry Pi 4

Raspberry Pi 4 Tech Specs



Raspberry Pi 4

- Wireless 2.4 and 5.0 GHz 802.11ac Bluetooth 5.0
- Gigabit wired network
- USB 3 up to 8 GB of Ram
- Independent Dual Micro HDMI 4K output

PYRATE Hardware

DIY Broadcast Projects

EditTrack

Pyrate Box Radio

Easy to install firmware image to instantly turn your low cost Raspberry Pi radio super computer into a powerful broadcast appliance written in Python 3. It's simple; just download and copy the self-installing IMG firmware to an SD card. Pop the card into your Raspberry Pi (ver 2 - 3), boot up, and you're in the broadcasting business!


The Pyrate Box comes complete with the following features:

- ▶ Observer for total broadcast automation. Includes online media library, community play lists, scheduler with permissions matrix to manage your volunteers
- ▶ Obplayer dashboard creates a streaming mount point of easily scheduled content you create with "drag and drop " smart play lists. Send a LIVE scheduled stream to Youtube with a mix of video and slides.
- ▶ Configured Icecast streaming media server for both audio and video to set up an easy online radio station or streaming video channel.
- ▶ CAP based emergency alerting for audio and visual unattended EAS messages with the Canadian Alert Ready network.
- ▶ Support for most modern audio, image and video codec
- ▶ RTP/Livewire support for AXIA digital consoles

Read the current [Release Notes](#)

We wish to support experimenters and educational DIY Maker space broadcast projects and experimenters with an inexpensive Pyrate Box Radio image and you are always free to check out our DIY [Open Source](#) broadcaster downloads page to get started with license free software.

Get started with Pyrate Radio

Raspberry Pi Radio

- Custom Raspberry Pi software IMG with CAP player/server code pre-installed
- CAP implementation workshop participants may have a no charge evaluation copy.

Indigenous language - Adding Languages

Alert Languages

Languages

Code	Language Name	Alerts	
TST	Test	0	<div>View</div> <div>Delete</div>

Add Language

account

media

playlists

schedules

admin

help

Indigenous language - Configuring

Alert Languages

Alerts

Update Alerts

Close Alerts

Tier I	Tier II	Event Code	
administration		admin	<div>Drop Media Here</div>
air quality		airQuality	<div>Drop Media Here</div>
animal health		animalHealth	<div>Drop Media Here</div>
animal health	animal disease	animalDiseas	<div>Drop Media Here</div>

account

media

playlists

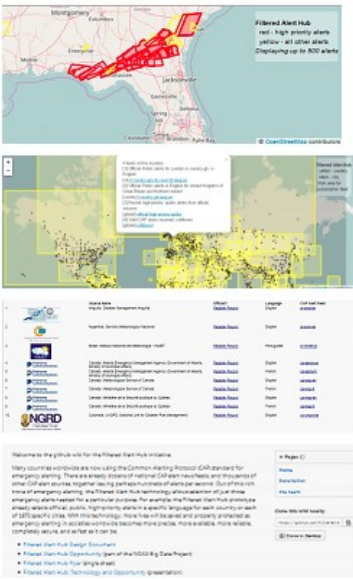
schedules

admin

help

Filtered Alert Hub

Filtered Alert Hub: Introduction



The cloud-based Filtered Alert Hub aggregates emergency alerts worldwide. Click [here](#) for recent alerts.

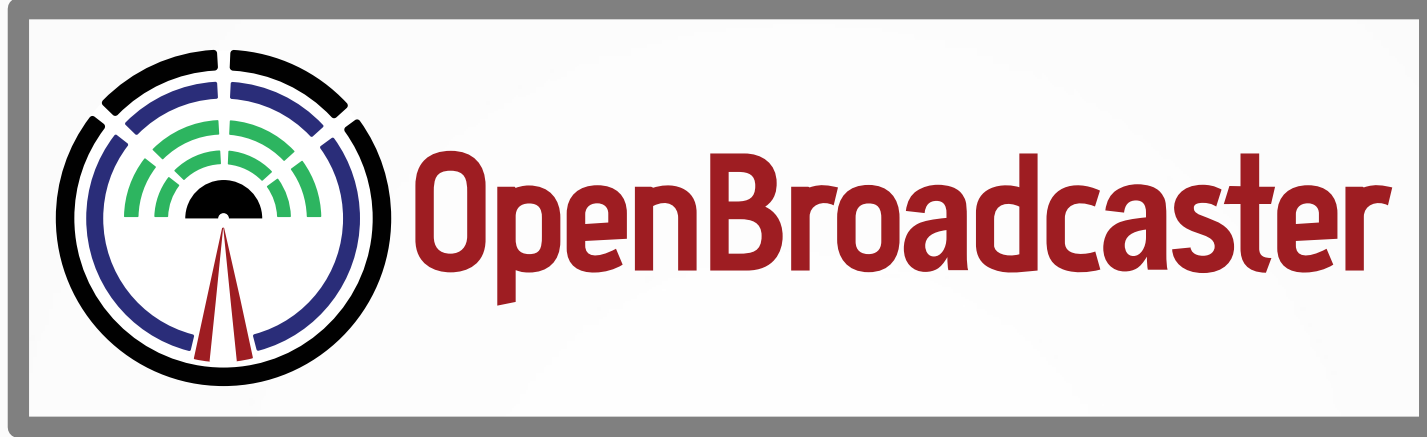
This Hub allows for filtering aggregated alerts to fit a particular purpose. For example, the prototype now makes a separate news feeds containing official, public, high-priority alerts in a specific language for each country and each of 1870 cities. Click [here](#) for these feeds.

At present, the prototype gathers alerts from 96 sources, and more are expected in the coming months. Click [here](#) for current alert sources.

Development of the Filtered Alert Hub is part of the NOAA Big Data Project. Click [here](#) for the project Wiki, and to access the free, open source software.

Filtered Alert Hub





Thank You!

<https://openbroadcaster.com>