



# Integrated Public Alert and Warning System

## IPAWS – OPEN Alerting Use Cases

### SIG Presentation

15 Feb 2012



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# IPAWS-OPEN Status

- ▶ **IPAWS-OPEN 3.01 is operational in TDL and Production.**
- ▶ **IPAWS-OPEN 3.01 production live connection to NOAA is in place. (Use care if you have a NOAA approved COG.)**
- ▶ **CMAS distribution is in place and will be rolled out slowly by the carriers.**
- ▶ **EAS is live. The EAS encoding devices are also slowly being rolled out.**
- ▶ **40+ Operational COGs and 5+ with alerting Authority designation (list is growing).**
- ▶ **Developer Documentation is available.**

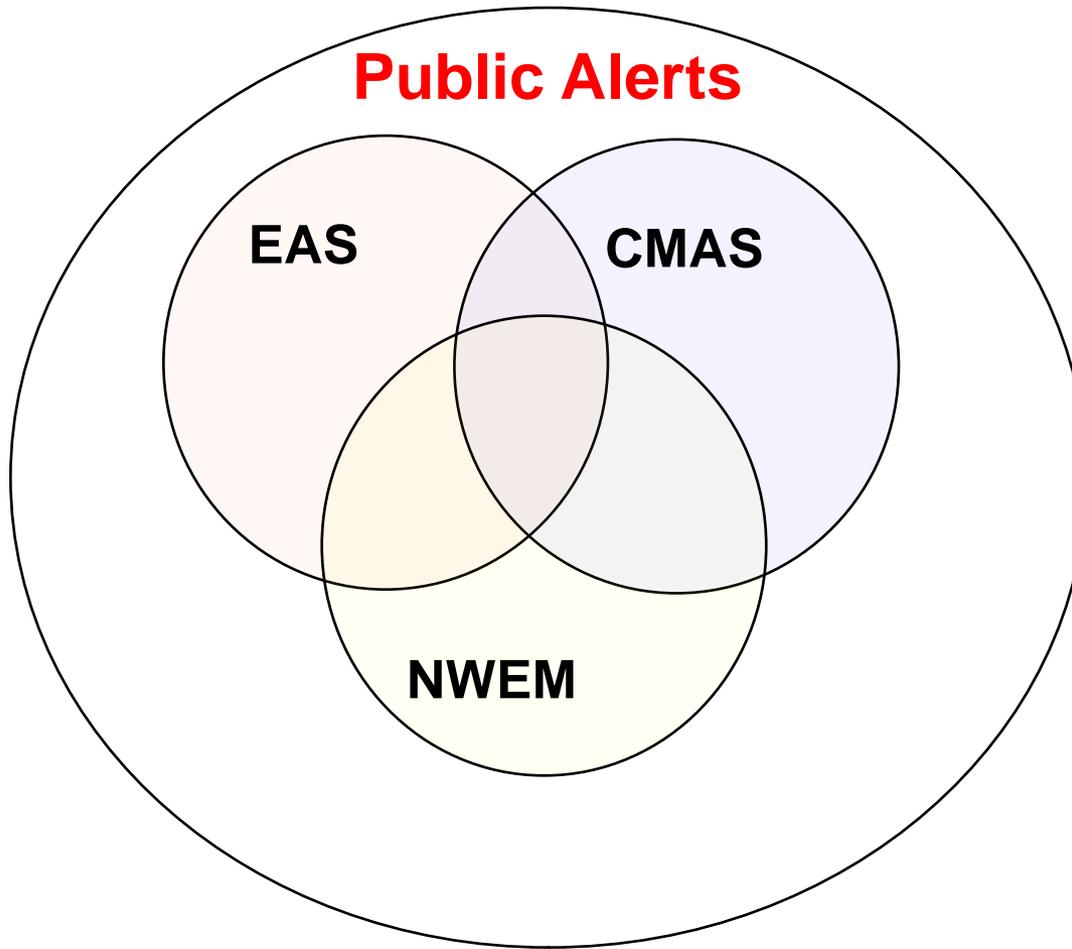


# Agenda

- ▶ A Venn Diagram description of CAP message content types in the iPAWS world.
- ▶ Three Use Cases – Internal, with Exchange Partners, with All
- ▶ Three scopes – Private, Public, and Public with IPAWS vetted delivery
- ▶ Nine variations in all – plus added variations related to IPAWS Dissemination Channel specifics.

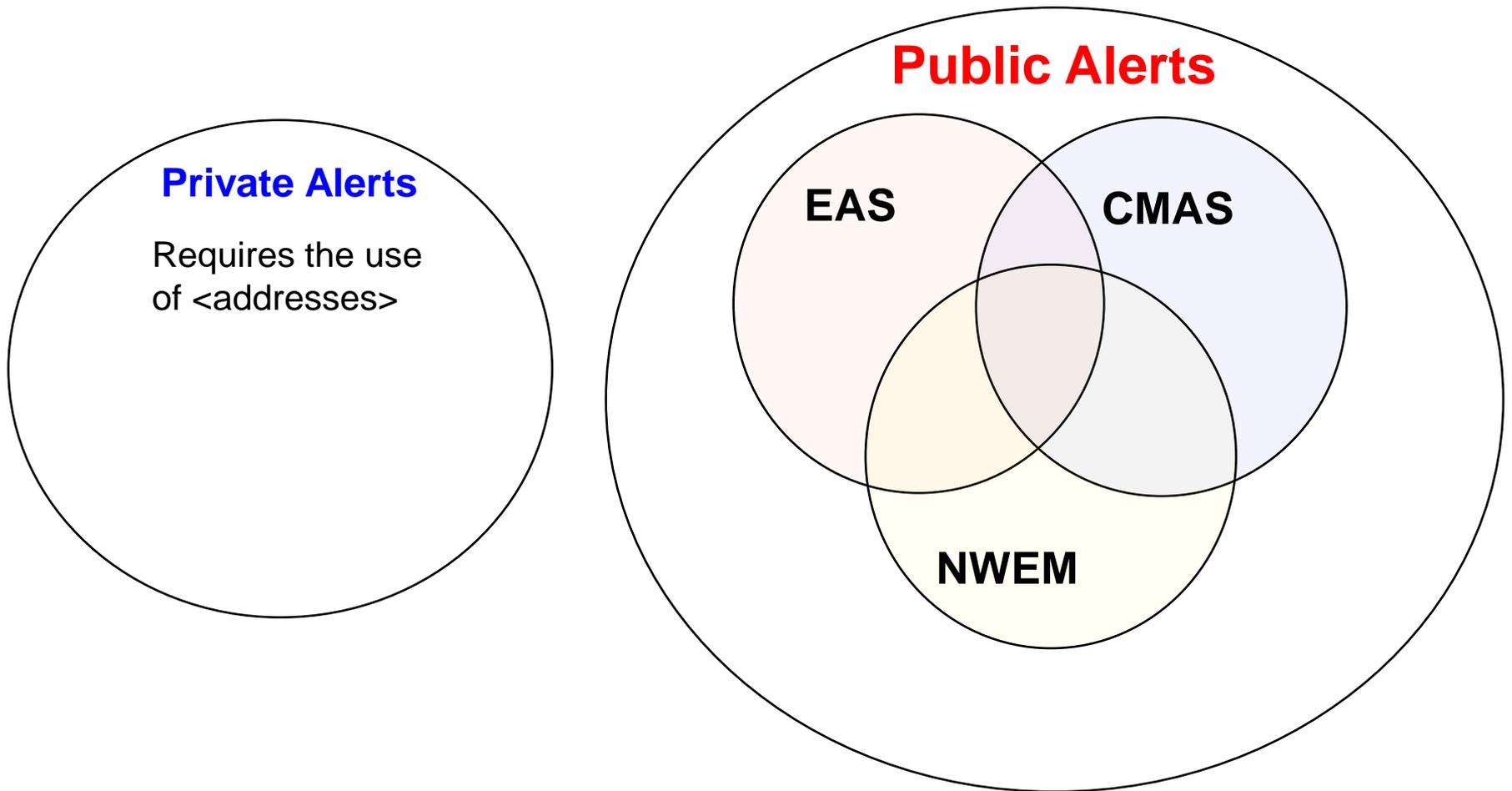
**(Somewhat technical – but primarily a functional discussion)**

# Public Alerting Space (IPAWS Domain)



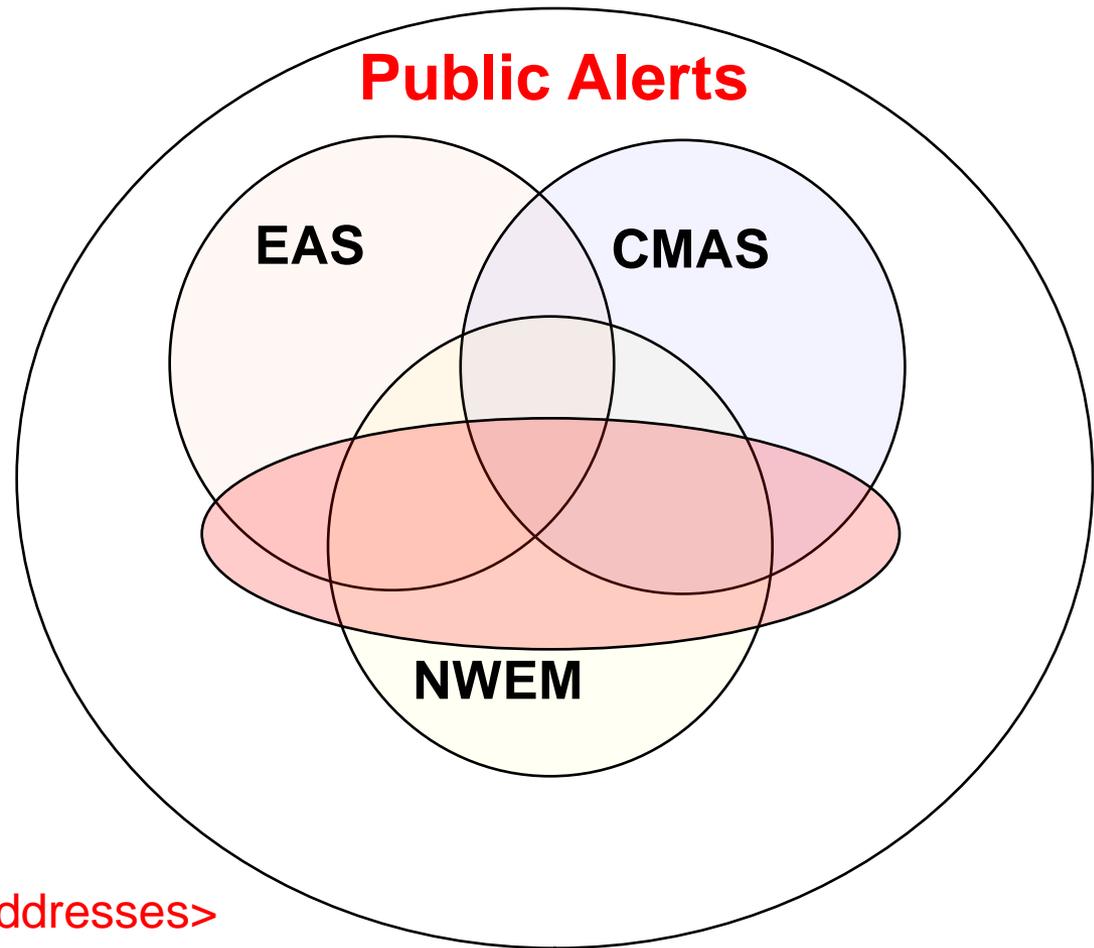
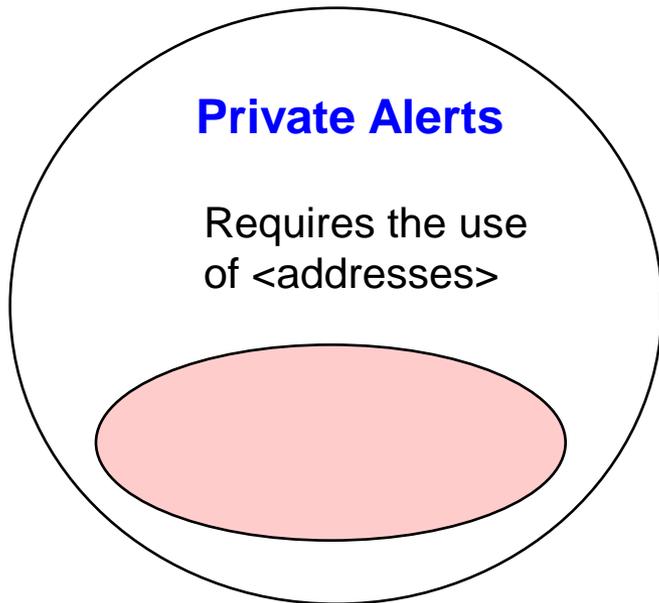
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# Public and Private Alerting Space (IPAWS Domain)



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# Directed Alerting (IPAWS COG ID in <addresses>)



COG Directed Alerts

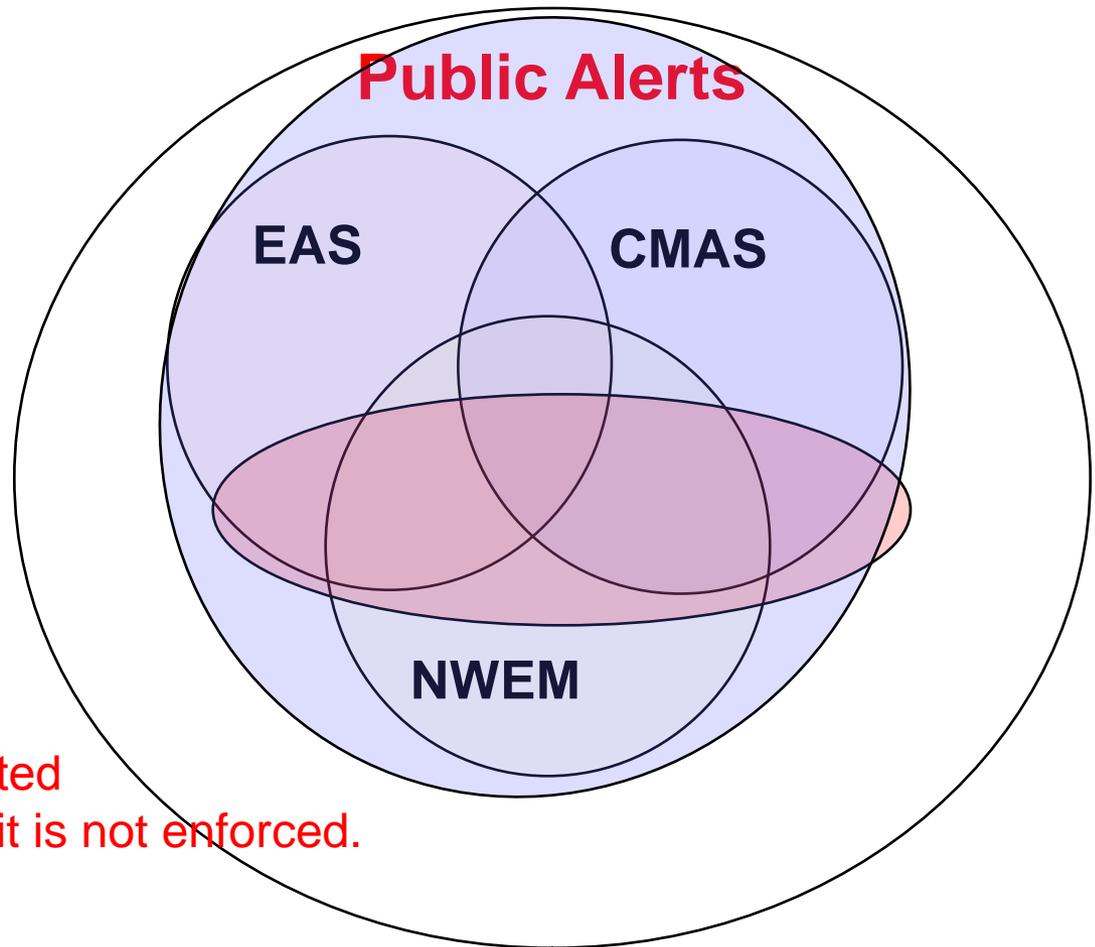
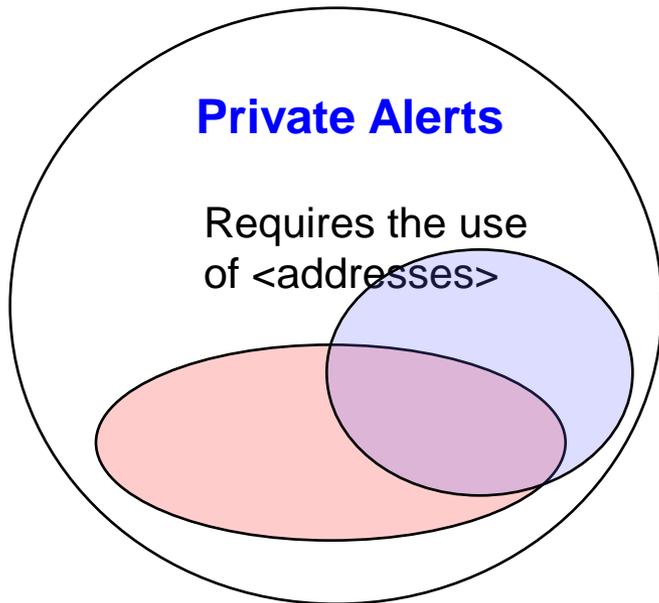
Example:

<addresses>999 100014 0</addresses>



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# Digitally Signed Alerts



1. All IPAWS “push disseminated
2. Others may be signed, but it is not enforced.

# Private Use Cases

**<scope>Private</scope>**

- ▶ **Pri 1 – Alert Within a Single Organization**
  - **<addresses>mycogID</addresses>**
- ▶ **Pri 2 - Alert to Other Known EM and Responder Organizations**
  - **<addresses>myCogID partnerCogID partnerCogID ... </addresses>**
- ▶ **Pri 3 - Alert of General Interest to All Emergency Managers, but not Appropriate for Distribution to the General Public**
  - **<addresses>0</addresses>**

# Public Use Cases without IPAWS Push Dissemination

## **<scope>Public</scope>**

- ▶ **Pub 1 – Alert Within a Single Organization – but may be sent by receivers to anyone**
  - **<addresses>myCogID</addresses>**
- ▶ **Pub 2 - Alert to Other Known EM and Responder Organizations – but without restriction on public redissemination**
  - **<addresses>myCogID partnerCogID partnerCogID ... </addresses>**
- ▶ **Pub 3 - Alert of General Interest to All Emergency Managers – left to the receiving Emergency manager whether to pass along or not.**
  - **<addresses>0</addresses>**

# Public Use Cases with IPAWS Push Dissemination

**<code>IPAWSv1.0</code>**

**<scope>Public</scope>**

**Digitally signed**

- ▶ **IPAWS 1 – Alert Within a Single Organization – but will be sent to EAS CMAS, or NWEM locally, based on content and permissions.**
  - **<addresses>mycogID</addresses>**
- ▶ **IPAWS 2 - Alert to Other Known EM and Responder Organizations – but will be sent to EAS, CMAS, or NWEM to all public, based on content and permissions.**
  - **<addresses>myCogID partnerCogID partnerCogID ... </addresses>**
- ▶ **IPAWS 3 - Alert of General Interest to All Emergency Managers – and will be sent to EAS, CMAS, or NWEM to all public, based on content and permissions.**
  - **<addresses>0</addresses>**



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## A Scenario to Consider

### How would the various use cases apply in this scenario?

**Explosion and structural fire at Golden Age Towers retirement home, corner of Bigelow Blvd. and Centre Ave. in Pittsburgh, PA. Three engine companies, one aerial unit, one HazMat unit, 5 EMS units on-scene. Structure has severe damage. Incident Command post established in the parking lot of Schenley High School across the street. High school is being evacuated. Occupants reported trapped on seventh floor and in elevator. Incident Commander requests immediate EOC activation to assist with public information, evacuation, sheltering and mutual aid for additional EMS units and search and rescue resources.**

## Use Case 1 – Alert Within a Single Organization

- ▶ May involve more than one software product or device type. Provides cross-platform communication using the CAP standard and IPAWS as middleware. You may post from one IPAWS-OPEN compliant system for retrieval by another user or even another user on a different compatible system that uses the same COG.
- ▶ Using your COG means only your COG can retrieve using the SOAP interface.
- ▶ Think of it as a dynamic alerting whiteboard accessible by all of the systems and users you control. **(EOC activation – personnel call-in)**
- ▶ Using “Public” scope means expressly allowing those who retrieve to send along as the deem fit. **(Local public dial-outs, direct public POCs)**
- ▶ Adding IPAWS criteria extends reach to IPAWS dissemination Channels. **(Local automated Public Warning Channels)**



## Use Case 2 – Alert Other Known EM and Responder Organizations

- ▶ Like in UC 1, may involve more than one software product or device type. Provides cross-platform communication using the CAP standard and IPAWS as middleware. You may post from one IPAWS-OPEN compliant system for retrieval by another user or even another user on a different compatible system.
- ▶ Post a private, directed alert only to the the COG(s) representing your information sharing partners. **(Support request, situation warning)**
- ▶ Think of it as an restricted access document that you allow to be accessed by specific other organizations. Putting their COG id in the <addresses> block allows that access.
- ▶ Using “Public” scope means expressly allowing those who retrieve to send along as they deem fit. **(Public dial-outs, direct public POCs)**
- ▶ Adding IPAWS criteria extends reach to IPAWS dissemination Channels. **(Auto-broadcast to targeted Multiple areas)**



## Use Case 3 – Alert of General Interest to All Emergency Managers and Responders

- ▶ Like in UC 1, may involve more than one software product or device type. Provides cross-platform communication using the CAP standard and IPAWS as middleware. You may post from one IPAWS-OPEN compliant system for retrieval by another user or even another user on a different compatible system.
- ▶ Post a directed alert to COG 0 (all COGs). Any user of the IPAWS SOAP Interface can retrieve the message.
- ▶ Think of it as a sort of “all points” bulletin within the IPAWS community. **(resource shortage beyond exchange partners ?? Do not SPAM!)**
- ▶ Using “Public” scope means expressly allowing those who retrieve to send along as the deem fit.
- ▶ Adding IPAWS criteria extends reach to IPAWS dissemination Channels. **(This scope is the formal IPAWS mission.)**



## Choosing (NOT) by Dissemination Channel

- ▶ **EAS** – Leaving EAS-ORG out of the message will cause restrict the message from EAS dissemination.

~~<parameter>~~

~~\_\_\_\_\_<valueName>EAS-ORG</valueName>~~

~~\_\_\_\_\_<value>CIV</value>~~

~~</parameter>~~

- ▶ **CMAS** – Using a ResponseType equal to “None” will restrict the message from being processed for CMAS.

~~<responseType>None</responseType>~~

- ▶ **MWEM** – Leaving out the specially required Time Zone parameter will restrict a message from being processed for NOAA Radio.

~~<parameter>~~

~~\_\_\_\_\_<valueName>itimezone</valueName>~~

~~\_\_\_\_\_<value>EDT</value>~~

~~</parameter>~~



## CAP 1.2 Sharing Mode Summary

CAP 1.2 Options	Private	Public	Public Plus IPAWS Push
Internal	Own COG members only	Own COG members with redistribution allowed	Own COG with IPAWS Channels added depending on permissions
Exchange Partners	Exchange partners Only	Exchange Partners with redistribution allowed	Exchange Partners with IPAWS Channels added depending on permissions
All	All COGs	All COGs with redistribution allowed	All COGs with IPAWS Channels added depending on permissions



## IPAWS Alerting Channels for Originators

CAP 1.2 Options	Permissions needed	Capability
COG-to-COG	Needs only an Operational COG.	Cap 1.2 post and retrieval using the IPAWS-OPEN SOAP Interface.
EAS	Added designation of COG as Public Alerting Authority	Authority to post applicable CAP messages for EAS Broadcast. (May be limited by Event Code and Geography.)
CMAS	Added designation of COG as Public Alerting Authority	Authority to post applicable CAP messages for Cellular Mobile Broadcast. (May be limited by Event Code and Geography.)
NWEM	Separately authorized by NOAA.	Authority to post applicable non weather related CAP messages for broadcast on NOAA Radio. Limited by NOAA designated Event Code and Geography.
Public Feed	TBD – Public Alerting Authority?	TBD – An internet feed of all Signed Public alerts???

# Summary

- ▶ **Developers:** These are the capabilities you can offer your origination client users.
- ▶ **Originators:** These are the capabilities that you should see in your clients. If you are offered a limitation of some sort, you may ask “Why?”
- ▶ **All:** There is some complication in all of this. Think through your requirements.
  - Cross platform interoperability within or between organizations?
  - Single creation multi-dissemination mode alerting?
  - Integration/federation of internal systems?
  - Permission determination and management (subject for a future discussion)?

# Comments and Questions

▶ **IPAWS Website** - <http://www.fema.gov/emergency/ipaws>

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