

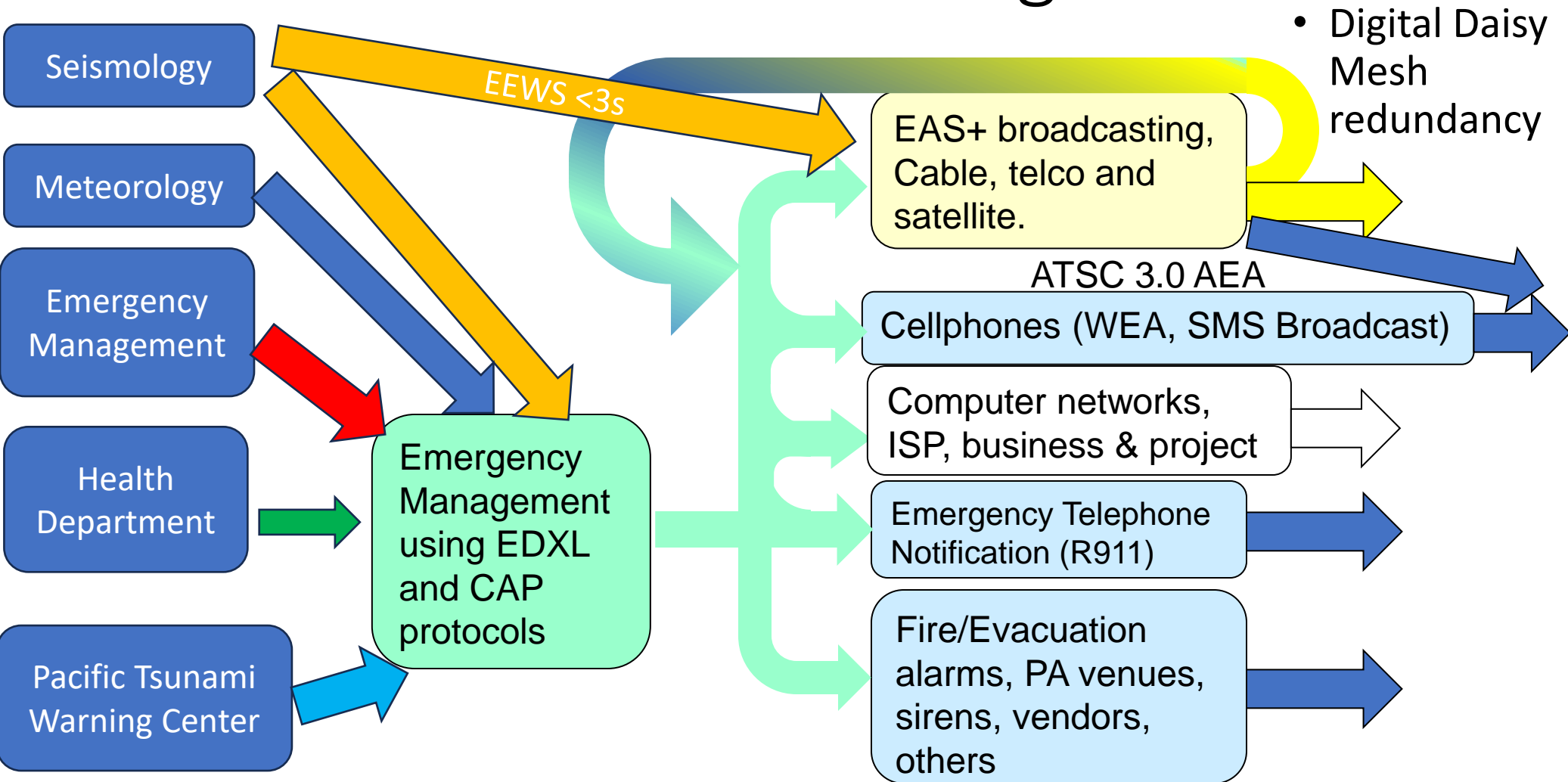
Simplified Integrated Public Warning

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Translations need to be checked by
trustworthy, competent translators.

IPW Introduction – 1 Diagram



Integrated Public Warning – 2

Goals

- All Alerts and messages to all possible devices
- Common Alert Protocol & EDXL-DE based
- Uses CAP Event Terms list, UNISDR, NAVTEX and some more
- EAS+ for lower data for digital radio broadcast
- ATSC 3 mobiles can receive TV & alerts
- Integration with Automation Systems for radio & TV Broadcasters
- Emergency Telephone Notification (R911)
- Fire Alarms & PA Systems (& Sirens)

Integrated Public Warning – 3

Goals

- Multilingual with Message Templates having translations. Some data can be automatically added, the user has to fill in other details
- By having a common definition worldwide, then the software in the consumer receivers can function worldwide.
- This volume design lowers costs
- Messages to selected jurisdictions, these may be UNLocode.
- Different receiver categories, e.g. First Responders can receive messages for exercises.
- Messages (not Alerts) may include flood maps and other data for First Responders

Integrated Public Warning – 4

Goals

- First Responders can have priority mobile access e.g. FirstNet or Wireless Priority Service.
- Emergency Telephone Notification (R911)
- Fire Alarms & PA Systems (& Sirens)
- Cybersecurity incorporated. For example, ransomware immunity (e.g. 11:11) because over 70% of ransomware encrypts the backup first. Zero Trust is another defense (possible with W11).
- Alerts and Messages can only be from authorized operators to their authorized area using special software. This includes the ability to draw a polygon on a map..

Integrated Public Warning – 5

Goals

- Computer applications are for special purposed, e.g. calculating hurricane and tsunami inundation, areas with different category wind speeds.
- Earthquake Early Warning within 3 seconds of detection. Expanding areas with countdown of arrival time possible to be delivered using added ability in the receiver software. ShakeAlert and Seismic Warning Systems technology.
- AI is 7 categories, with a 20% success of implementation.
- What else would you want? The software may add 2c to 50c to the receiver price of suitable receivers.

Integrated Public Warning – 6

Selectivity

- Selectivity is by language, jurisdiction, map polygon or circle to 0.00001° precision, receiver category, with some user selectivity as assigned to the Alert.
- For mobiles this is by cell antenna or segment (better may be possible using the mobile GPS location)
- For Broadcast, this is dependent on the receiver having the location accurate, which is new technology, and vehicle navigation is a step forwards
- First Responders can use alerts in exercises, familiarity!

Integrated Public Warning – 7

Progress

- A mobile that can receive ATSC 3 with alerts is shown below..Media One

Provision for disabled is needed..

The biggest hurdle is to develop

Fonts for the sign languages



ATSC 3 is being implemented in South Korea, USA, Brazil, India Jamaica and more. As TV is can deliver Ultra High Definition (4xHD) plus High Dynamic Range, Wide Color Gamut depending on the display. Also, may be immersive as Dolby Atmos or MPEG-H. Also, it is Internet Protocol, unlike DVB.

Integrated Public Warning – 8

Redundancy

- WEA and SMS Broadcast are used already for alerts to mobiles. There is no message type identifier presently for the mobile to readily assess whether this message and the one from ATSC 3 AEA are from the same origin or not, and to resolve whether there is additional content to convey to the recipient.
- During some floods and wildfires, there may be power outages or equipment damage to the cell infrastructure. That would prevent the delivery of WEA or SMS Broadcast messages. Therefore, redundancy would save lives. This has been a problem on a number of occasions, with hundreds of fatalities or more.
- In cities, there may be sensor systems, shotspotters and more that can be supervised by Emergency Management.

Small sample of the Message Templates

OET-185	space; 6 CME6	space weather	Other	J	Coronal Mass Ejection Tp=6 or G2	SC6	spaceC ME6	<input checked="" type="checkbox"/> Immediate	<input checked="" type="checkbox"/> Severe	<input checked="" type="checkbox"/> Observed	A severe space Coronal Mass Ejection Tp=6 or G2 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}. A severe space Coronal Mass Ejection Tp=6 or G2 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}.	A severe space Coronal Mass Ejection Tp=6 or G2 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}. Power systems: High-latitude power systems may experience voltage alarms, long-duration storms may cause transformer damage. Spacecraft operations: Corrective actions to orientation may be required by ground control; possible changes in drag affect orbit predictions.
OET-185	space; 7 CME7	space weather	Other	J	Coronal Mass Ejection Tp=7 or G3	SC7	spaceC ME7	<input checked="" type="checkbox"/> Immediate	<input checked="" type="checkbox"/> Extreme	<input checked="" type="checkbox"/> Observed	An extreme space Coronal Mass Ejection Tp=7 or G3 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}.	An extreme space Coronal Mass Ejection Tp=7 or G3 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}. Power systems: High-latitude power systems may experience voltage alarms, long-duration storms may cause transformer damage. Spacecraft operations: Corrective actions to orientation may be required by ground control; possible changes in drag affect orbit predictions.
OET-185	space; 8 CME8	space weather	Other	J	Coronal Mass Ejection Tp=8 or G4	SC8	spaceC ME8	<input checked="" type="checkbox"/> Immediate	<input checked="" type="checkbox"/> Extreme	<input checked="" type="checkbox"/> Observed	An extreme space Coronal Mass Ejection Tp=8 or G4 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}.	An extreme space Coronal Mass Ejection Tp=8 or G4 is observed for [County1] [State1] to [County2] [State2] {Incident_Time} immediately until [hh:mm] [am/pm] [Day]. {Details}. Power systems: Possible widespread voltage control problems and some protective systems will mistakenly trip out key assets from the grid. Spacecraft operations: May experience surface charging and tracking problems, corrections may be needed for orientation problems.

BCDR&E book cover Advance Review Copy

Business Continuity, Disaster Recovery, & Emergencies



Made Easier for You
with Alerting
by Frank W. Bell

with ATSC_NextGenTV, CAP_Event_Terms_list+, DAB+,
DRM, DRM2020, NAVTEX, FEMA-FCC, EAS+WEA, HD_Radio,
SMS_Broadcast, UNGDC, UNISDR/UNDRR.

This topic takes a considerable amount to describe..

The book to the left is one, plus a more technical detailed book, plus standards plus Message Templates for different languages and more.

For small countries, a simplified implementation is possible without selective alert delivery for a lower cost, with upgrading when justifiable This Advance Review Copy is available by sending an email with subject ARC to;

fbell@kynx.us <https://kynx.us>

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Organization Chart for EW4All 2030

Kybernetix