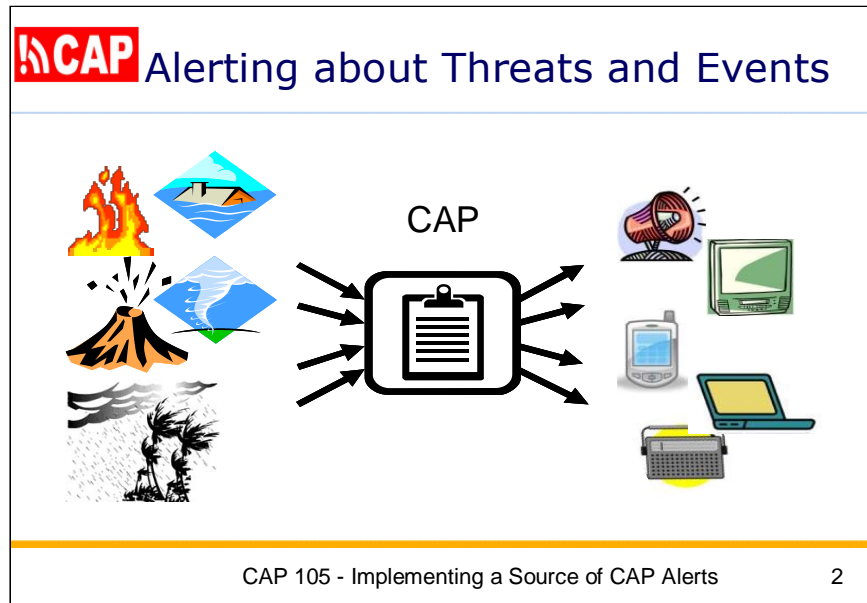




Implementing a
Source of CAP Alerts

The title of this presentation is “Implementing a Source of CAP Alerts”.



Remember this diagram—it shows CAP as a standard form for certain information on just about any kind of hazard threat or event.

The key requirement of CAP-enabled alerting is that alerting authorities disseminate alerting information in CAP format.




Learning Objectives

On completion of this session, you should be able to:

1. Explain how to implement a set of CAP alert files that is publicly accessible on a given Internet host source.
2. Describe the significance of CAP versions and profiles, and how a CAP alert XML file can be validated against a particular XML Schema.
3. List some organizations that have implemented CAP and can be contacted for advice on implementing sources of alerts.
4. Describe an example situation wherein access to CAP sources might be restricted to access only within the local emergency management community.
5. Give an example of how an authorized user could be authenticated for access.
6. Describe how users would have secure access to CAP alert sources.

Here are the Learning Objectives for this session.



Presentation Outline

- 105.1 Putting CAP Alert Files on a Public Internet Host
- 105.2 Validating CAP by Schema Version and Profile
- 105.3 Security, Authorization and Authentication
- 105.4 Dissemination Options Beyond Web Browser Access


CAP 105 - Implementing a Source of CAP Alerts

4

Here is an outline of this presentation.

The first topic is titled: Putting CAP Alert Files on a Public Internet Host

We'll start by making a CAP alert by simply editing a text file.



Example Alert: Power Failure

- For this example, the alerting situation is a Power Failure
- Copy text from an [EM template](#) for CAP “**headline**”, “**description**” and “**instruction**” elements

headline	Electrical power failure at [LOCATION]
description	[LOCATION] is experiencing power failure. All buildings and facilities are affected.
instruction	Remain calm. There is NO need for an evacuation. Drive carefully as traffic lights might be off. Turn off air conditioners and heavy machinery. Follow instructions from local authorities and listen to news media for further information.

CAP 105 - Implementing a Source of CAP Alerts
5

For this example, we’ll assume the alerting situation is a power failure.

We have a collection of templates giving text to be used in three of the CAP alert elements.

Here, we need to insert the Location applicable to the alert.

headline: Electrical power failure at [LOCATION]

description: [LOCATION] is experiencing power failure. All buildings and facilities are affected.

Describing the Alert Area (text)

Use text to describe the alerting area
[LOCATION] in the template,
 CAP element “**capAreaDesc**”

capAreaDesc	<u>Geneva, airport to lake and river</u>
headline	Electrical power failure at <u>Geneva, airport to lake and river.</u>
description	<u>Geneva, airport to lake and river,</u> is experiencing power failure. All buildings and facilities are affected.

In my example, the power failure has affected a part of Geneva. Here is descriptive text for that area: “Geneva, airport to the lake and river”.


CAP		CAP Category and Event									
category	Geo	Met	Safety	Security	Rescue	Fire	Health	Rescue	Env	Infra	Other
event	power failure										

CAP 105 - Implementing a Source of CAP Alerts 7

There are 11 values we can select for the CAP “category” element, and we can select multiple values if desired.

Here I have highlighted in yellow the “Infra” (infrastructure) category, which is appropriate for a power failure event.

In the CAP “event” element, we will just enter the words “power failure”.

 CAP Urgency, Severity, Certainty

Urgency	Severity	Certainty
Immediate	Extreme	Observed
Expected	Severe	Likely
Future	Moderate	Possible
Past	Minor	Unlikely
Unknown	Unknown	Unknown

CAP 105 - Implementing a Source of CAP Alerts 8

Now we also need to select values for each these three elements:

- urgency (time available to prepare)
- severity (intensity of impact)
- certainty (confidence in the observation or prediction)

From the CAP Data Dictionary, the values for urgency are:

- “Immediate” - Responsive action should be taken immediately
- “Expected” - Responsive action should be taken within the next hour
- “Future” - Responsive action should be taken in the near future
- “Past” - Responsive action is no longer required


The values for severity are:

- “Extreme” - Extraordinary threat to life or property
- “Severe” - Significant threat to life or property
- “Moderate” - Possible threat to life or property
- “Minor” – Minimal to no known threat to life or property

The values for certainty are:

- “Observed” – Determined to have occurred or to be ongoing
- “Likely” - Likely ($p > \sim 50\%$)
- “Possible” - Possible but not likely ($p \leq \sim 50\%$)
- “Unlikely” - Not expected to occur ($p \sim 0$)


In my example, the power failure has already begun, so we select “immediate” for urgency. The power failure is expected to be minimally disruptive, so we select “minor” for severity. And, for certainty we select “observed” because this is not a prediction but a report of an observed situation.

 CAP Status, MsgType, Scope		
Status	MsgType	Scope
Actual	Alert	Public
Exercise	Update	Restricted
System	Cancel	Private
Test	Ack	
	Error	

CAP 105 - Implementing a Source of CAP Alerts 9

These next three elements will usually be set the same way.

- for status we select “actual” because we assume our example message is not an exercise, part of the system reporting, or a test.
- for msgType we select “alert” because this alert is not modifying any previous alert
- for scope we select “public” as distinct from restricted to a particular audience or private to a particular individual.



CAP Identifier, Sender, Sent

- Identifiers of alerts from official alerting authorities should start with urn:oid:2.49.0.1
- This example alert is from Switzerland (ISO 3166 country code 756), specifically SIG, the Swiss utilities company (pretend registered as 756.1)

identifier	urn:oid:2.49.0.1.756.1.2015.09.22.8.30.00
sender	power-outage@en.sig-ge.ch
sent	2015-09-22T06:30:00+02:00

CAP 105 - Implementing a Source of CAP Alerts
10


Identifiers of alerts from official alerting authorities should start with “urn:oid:2.49.0.1”, followed by the specific identifier of the registered alerting authority.

This example alert is from Switzerland, country code “756”, and it is issued by SIG (the Swiss utilities company), which we pretend is registered as “756.1”.

Appended to the unique identifier, here we have the date and time the alert is issued: September 22, 2015, at 8:30 am local time.

For the **sender** element, we use an e-mail address.

For the **sent** element, we provide the date and time issued, here in UTC (2 hours earlier than Geneva).




Draft CAP Alert

```

<?xml version="1.0" encoding="UTF-8"?>
<cap:alert xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1">
<cap:identifier>urn:oid:2.49.0.1.756.0.2012.10.20.8.30.00</cap:identifier>
<cap:sender>eliot.christian@meteoswiss.ch</cap:sender>
<cap:sent>2012-10-20T08:30:00-00:00</cap:sent>
<cap:status>Actual</cap:status>
<cap:msgType>Alert</cap:msgType>
<cap:scope>Public</cap:scope>
<cap:info>
<cap:category>Infra</cap:category>
<cap:event>power failure</cap:event>
<cap:urgency>Immediate</cap:urgency>
<cap:severity>Minor</cap:severity>
<cap:certainty>Observed</cap:certainty>
<cap:senderName>Eliot Christian</cap:senderName>
<cap:headline>Electrical power failure at Geneva, airport to lake and river.</cap:headline>
<cap:description>Geneva, airport to lake and river, is experiencing power failure.
  All buildings and facilities are affected. </cap:description>
<cap:instruction>Remain calm. There is NO need for an evacuation. Drive
  carefully as traffic lights might be off. Turn off air conditioners and
  heavy machinery. Follow instructions from local authorities and
  listen to news media for further information.</cap:instruction>
<cap:area>
  <cap:areaDesc>Geneva, airport to lake and river</cap:areaDesc>
</cap:area>
</cap:info>
</cap:alert>

```

Putting together these values we selected, here is the CAP alert in its XML format. This can be just entered with any text editor and then saved with a file extension of “.xml”.



Putting Your Alert on a Web Site


To add the draft alert to a Web site, you could simply add a hyperlink to it:

```
<a href="cap-2015-09-22-08-30-00.xml">  
Geneva Power Outage Alert (2015-09-22 08:30)</a>
```

CAP 105 - Implementing a Source of CAP Alerts 12

To add this draft alert to a Web site, you could just add a hyperlink to that file.

Here I'll click on the link to show what your users would see.



```

<?xml version="1.0" encoding="UTF-8"?>
<cap:alert xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1">
  <cap:identifier>urn:oid:2.49.0.1.756.1.2015.09.22.8.30.00</cap:identifier>
  <cap:sender>power-outage@en.sig-ge.ch</cap:sender>
  <cap:sent>2015-09-22T06:30:00+02:00</cap:sent>
  <cap:status>Actual</cap:status>
  <cap:msgType>Alert</cap:msgType>
  <cap:scope>Public</cap:scope>
  - <cap:info>
    <cap:category>Infra</cap:category>
    <cap:event>power failure</cap:event>
    <cap:urgency>Immediate</cap:urgency>
    <cap:severity>Minor</cap:severity>
    <cap:certainty>Observed</cap:certainty>
    <cap:senderName>Contact SIG Geneva (power outage)</cap:senderName>
    <cap:headline>Electrical power failure at Geneva, airport to lake and river.</cap:headline>
    <cap:description>Geneva, airport to lake and river, is experiencing power failure. All
      buildings and facilities are affected. </cap:description>
    <cap:instruction>Remain calm. There is no need for an evacuation. Drive carefully as traffic
      lights might be off. Turn off air conditioners and heavy machinery. Follow instructions
      from local authorities and listen to news media for further information.</cap:instruction>
    - <cap:area>
      <cap:areaDesc>Geneva, airport to lake and river</cap:areaDesc>
    </cap:area>
  </cap:info>
</cap:alert>


```

CAP 105 - Implementing a Source of CAP Alerts
13

Here is the CAP alert as visitors would see it.

Although this does have all of the information and is important from a processing perspective, you do not want visitors to see raw XML.

Alert with Stylesheet



Electrical power failure at Geneva, airport to lake and river.

Identifier: urn:oid:2.49.0.1.756.1.2015.09.22.8.30.00
Sender: power-outage@en.sig-ge.ch
Sent: 2015-09-22T06:30:00+02:00
Status: Actual
Message Type: Alert
Scope: Public

Category: Infra
Event: power failure
Urgency: Immediate
Severity: Minor
Certainty: Observed
Sender Name: Contact SIG Geneva (power outage)

Headline: Electrical power failure at Geneva, airport to lake and river.
Description: Geneva, airport to lake and river, is experiencing power failure. All buildings and facilities are affected.


Instruction: Remain calm. There is no need for an evacuation. Drive carefully as traffic lights might be off. Turn off air conditioners and heavy machinery. Follow instructions from local authorities and listen to news media for further information.

Description: Geneva, airport to lake and river


CAP 105 - Implementing a Source of CAP Alerts
14

To make a CAP alert easier to read by a human visitor, we can add a line to the CAP alert to reference an XML Stylesheet.

You may find it's not too hard to use an example stylesheet and customize it for your own site.



Presentation Outline


- 105.1 Putting CAP Alert Files on a Public Internet Host
-  105.2 Validating CAP by Schema Version and Profile
- 105.3 Security, Authorization and Authentication
- 105.4 Dissemination Options Beyond Web Browser Access

CAP 105 - Implementing a Source of CAP Alerts

15

The next topic is:

Validating CAP by Schema Version and Profile



CAP Versions and Profiles

- Two versions implemented widely
- Most common version: [1.1 \(2005\)](#) ; newest [1.2 \(2010\)](#)
- Most CAP servers accept 1.1; many accept both 1.1. and 1.2
- Major change from 1.1 to 1.2: two more “responseType” values

Shelter	Execute	Assess
Evacuate	Avoid	AllClear
Prepare	Monitor	None

CAP 105 - Implementing a Source of CAP Alerts 16

Most CAP servers accept version 1.1; many accept both 1.1. and 1.2. The major change from version 1.1 to 1.2 was the addition of two more “responseType” values: “avoid” and “allClear”.

Compatibility across Versions


- Pay close attention to the CAP Data Dictionary provided in the official specification for the CAP version that you are implementing.
- Specification may have compatibility notes, e.g., Version 1.1 has this note for “certainty” element:
For backward compatibility with CAP 1.0, the deprecated value of “Very Likely” SHOULD be treated as equivalent to “Likely”.
- The namespace attribute of the top-level element (“alert”) in the CAP XML specifies the version, e.g.
`<cap:alert
xmlns:cap="urn:oasis:names:tc:emergency:cap:1.1">`

CAP 105 - Implementing a Source of CAP Alerts

17

Pay close attention to the CAP Data Dictionary provided in the official specification for the CAP version that you are implementing.

The version of CAP being used is given in the namespace attribute of the top-level element (“alert”) in the CAP XML.



CAP Profiles

- In addition to conformance with a CAP version, an alerting authority may be required to also make alert comply with a CAP Profile
- A Profile puts additional constraints on a CAP alert, but first the CAP alert **MUST** be valid to a CAP version
- CAP Profile examples: U.S. Integrated Public Alert and Warning System (IPAWS), Canadian Profile, Australian Profile, German Profile, etc.
- A set of good practice recommendations about CAP alerts is also published at [Google Public Alerts](#)

CAP 105 - Implementing a Source of CAP Alerts 18

In addition to complying with a CAP version, an alerting authority may be required to also make its alert comply with a CAP Profile.

In the case of Canada, for instance, the CAP Profile addresses the requirement for alerts to be in French as well as English.

A Profile puts additional constraints on a CAP alert, but first the CAP alert **MUST** be valid to a CAP version.

A set of good practice recommendations about CAP alerts is also published at Google Public Alerts.

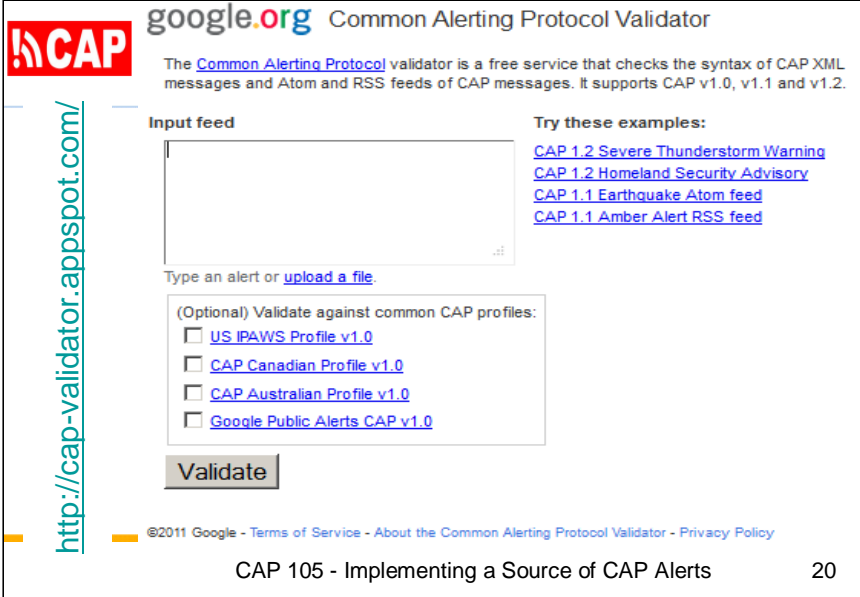
Assuring Your Alert is Valid CAP

- Because the CAP alert is represented in XML, the tools of XML are used to assure that the content is correct
- The first check is whether the CAP alert file conforms to the rules for “well-formed” XML
- The CAP alert file must also conform to rules given in the XML Schema for the CAP version
- A CAP alert file that fails validation can be rejected completely (not processed at all)
- ALWAYS VALIDATE CAP MESSAGES

Because the CAP alert is represented in XML, the tools of XML are used to assure that the content is correct.

The CAP alert file must also conform to rules given in the XML Schema for the CAP version.

A CAP alert file that fails validation results in an alert NOT sent to many people who should have been alerted, so it is **very important** to always validate CAP messages!



The screenshot shows the Google CAP Common Alerting Protocol Validator interface. At the top left is the CAP logo. The main heading is "google.org Common Alerting Protocol Validator". Below this is a description: "The [Common Alerting Protocol](#) validator is a free service that checks the syntax of CAP XML messages and Atom and RSS feeds of CAP messages. It supports CAP v1.0, v1.1 and v1.2." The interface includes an "Input feed" text area with a "Type an alert or [upload a file](#)." link below it. To the right, under "Try these examples:", there are four links: "CAP 1.2 Severe Thunderstorm Warning", "CAP 1.2 Homeland Security Advisory", "CAP 1.1 Earthquake Atom feed", and "CAP 1.1 Amber Alert RSS feed". Below the input area is a section for optional validation against common CAP profiles, with four checkboxes: "US IPAWS Profile v1.0", "CAP Canadian Profile v1.0", "CAP Australian Profile v1.0", and "Google Public Alerts CAP v1.0". A "Validate" button is positioned below these options. The footer contains the copyright notice "©2011 Google - [Terms of Service](#) - [About the Common Alerting Protocol Validator](#) - [Privacy Policy](#)" and the page number "20". A vertical URL "http://cap-validator.appspot.com/" is visible on the left side of the page.

Here is an online validator from Google that supports CAP versions 1.0, 1.1, and 1.2.

The Google CAP validator prompts for you to either paste the CAP XML directly into the text box or to use the upload link. So, let's go ahead and run this using the CAP alert we just created.

The screenshot shows the 'Common Alerting Protocol Validator' interface. At the top left is the CAP logo. The main heading is 'google.org Common Alerting Protocol Validator'. Below this is a description: 'The Common Alerting Protocol validator is a free service that checks the syntax of CAP XML messages and Atom and RSS feeds of CAP messages. It supports CAP v1.0, v1.1 and v1.2.'


The 'Input feed' section contains a text area with the following XML code:


```
<?xml version="1.0" encoding="UTF-8"?>
<cap:alert xmlns:cap="urn:oid:2.49.0.1.756.0.2012.10.20.8.30.004/cap:identifier">
<cap:sender>eliot.christian@meteoavis.ch</cap:sender>
<cap:sent>2012-10-20T08:30:00-00:00</cap:sent>
<cap:status>Actual</cap:status>
<cap:msgType>Alert</cap:msgType>
<cap:scope>Public</cap:scope>
```


Below the input area, there is a 'Validate' button. To the left of the main interface, the word 'Valid' is written vertically. Below the 'Validate' button, the 'Result' section shows 'Valid!' in a green box.

At the bottom of the screenshot, the text 'CAP 105 - Implementing a Source of CAP Alerts' and the page number '21' are visible.

This CAP alert is well-formed XML and valid as CAP version 1.1.



Presentation Outline

- 105.1 Putting CAP Alert Files on a Public Internet Host
- 105.2 Validating CAP by Schema Version and Profile
-  105.3 Security, Authorization and Authentication
- 105.4 Dissemination Options Beyond Web Browser Access

CAP 105 - Implementing a Source of CAP Alerts

22

The next topic is:
Security, Authorization and Authentication

Now we are shifting our focus: from a specific alert to more general features of the whole alerting system.

Reliability, Security and Authentication

- Depending on the alerting (e.g., life-critical, politically sensitive), alerting systems might be targeted by attempts to disrupt service or to falsify information
- Every alerting authority should have policy, procedures, and technology in place to assure appropriate reliability and security of its systems that support public and private alerting functions
- Certain positions typically require special access (e.g., to create or to issue actual alerts) and persons in those positions need to be authenticated

CAP 105 - Implementing a Source of CAP Alerts

23

Not all alerting systems are life-critical or politically sensitive, but there certainly are cases where alerting systems might be targeted by attempts to disrupt service or to falsify information. And, all Internet hosts are targeted by malware that probes randomly.

A separate issue concerns alerting systems being overwhelmed even without harmful intent. This can occur when a threat or event generate broad interest and the alerting host receives a flood of traffic--the same effect as a distributed-denial-of-service attack.

Every alerting authority should have policy, procedures, and technology in place to assure appropriate reliability and security of all systems that support its alerting functions.

We will look at the usual situation where certain positions require special access, such as the authority to create or to issue actual alerts. Persons who are in those positions need to be authenticated before they are given access to restricted functions.



Roles of Authorized Users

- Tomcat “Web container” can authenticate authorized users by requiring a password
- Tomcat “web.xml” defines security roles for each application, e.g. CAP Editor app:

```
<security-role>
  <role-name>composer-cap</role-name>
</security-role>
<security-role>
  <role-name>approver-cap</role-name>
</security-role>
```

CAP 105 - Implementing a Source of CAP Alerts

24

There are many mechanisms to implement security and it is likely that your Internet hosting service has particular procedures that must be followed.

A commonly used security mechanism is “container-managed security” and the most common Web container is Apache Tomcat.

Tomcat has configuration parameters for each application in a “web.xml” file. This file also defines security roles.

Here the user must be authenticated as a member in the authorized role. That authentication could require a fingerprint scan, a card key, or other credentials.

In my example, we’re assuming that Tomcat is set to perform a password challenge.



Password Authentication

roles and users defined in tomcat-users.xml file


```
<tomcat-users>
  <role rolename="composer-cap"/>
  <user username="composer@email.com"
        password="test" roles="composer-cap" />
  <role rolename="approver-cap"/>
  <user username="approver@email.com"
        password="secret" roles="approver-cap" />
</tomcat-users>
```

CAP 105 - Implementing a Source of CAP Alerts


25

Because the password mechanism is built into the Tomcat Web container, the system administrator of the Internet hosting service manages the actual list of authorized users in a file known as “tomcat-users.xml”.

Using this mechanism, whenever someone tries to access the application associated with the web.xml file, the host system will produce a dialog box with the password challenge .



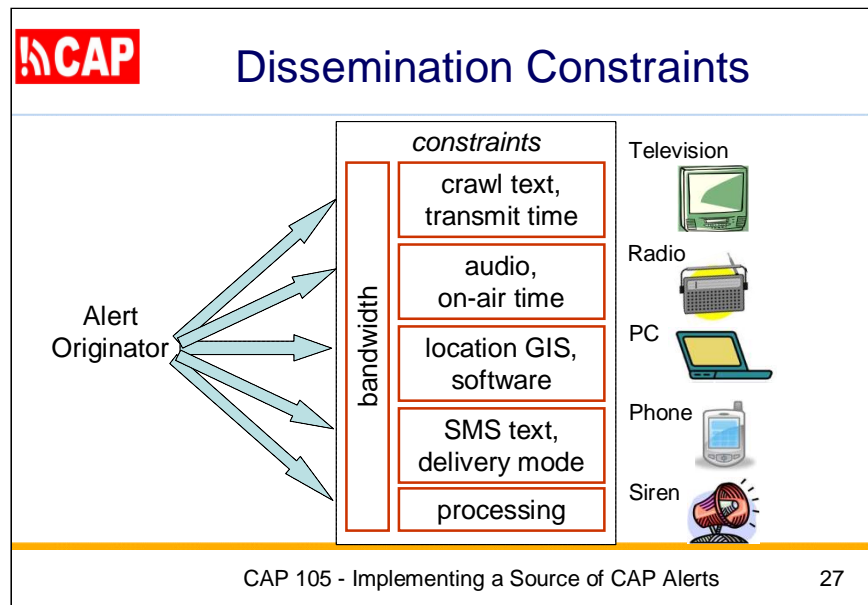
Presentation Outline

- 105.1 Putting CAP Alert Files on a Public Internet Host
- 105.2 Validating CAP by Schema Version and Profile
- 105.3 Security, Authorization and Authentication
-  105.4 Dissemination Options Beyond Web Browser Access

CAP 105 - Implementing a Source of CAP Alerts 26

Of course, putting a CAP alert on a Web page is only one among many ways that people can be alerted.

In the next part of this training session, we'll take a quick look at some of these dissemination mechanisms.



A local “last mile distributor” receiving alert information in CAP format needs to convert it for presentation to the public:

Here we want to keep in mind a distinction between "interactive media" and "non-interactive media".

With interactive media, message recipients are able to access referenced information sources external to the message. With non-interactive media, recipients have very limited or no ability to access referenced information sources that are external to the message.

Traditional radio, television, and Fax transmissions are typical of non-interactive media,

E-mail and Internet communications are typical of interactive media.



Alerts over Radio and Television

- An audio alert is far larger than its corresponding text
- Send audio files only to distributors who must have them; send only the languages they will broadcast
- “crawl text” for television cannot exceed 1800 characters (total, all languages)

CAP 105 - Implementing a Source of CAP Alerts

28

If the alert message must be audio, size is important because audio is vastly larger than the corresponding text. For instance, the U.S. Emergency Alert System requires that an audio alert message cannot be longer than two minutes. This long-standing constraint is built into the existing hardware.

Given that the audio alert message must be of a quality to assure intelligibility, such audio files can be megabytes in size, even with compression. Accordingly, audio files ought to be transmitted only to those distributors who must have them. When alerts are in multiple languages, audio files should be packaged so that distributors get only those audio files they actually need to broadcast.

In the case of television, it is common to display an emergency alert as “crawl text” that scrolls across the television screen as an overlay to the program being broadcast. Receiving devices constrain the crawl text for public alert messages to not exceed 1800 characters.



Leveraging Text-to-Speech

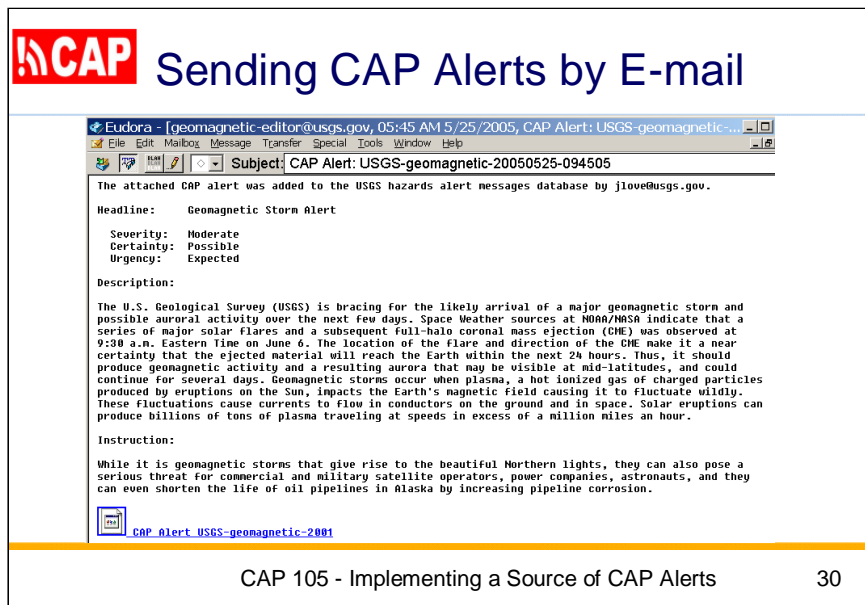
- Text-to-speech processing can generate an audio message using relevant text in CAP alert
- If different text-to-speech processors produce audio of uneven quality, perform text-to-speech at message origination rather at “the last mile”
- As quality issues get solved, text-to-speech will be a crucial technique for alert dissemination

CAP 105 - Implementing a Source of CAP Alerts

29

Alerting equipment and software should be able to generate a quality audio message by picking out relevant text in the CAP alert.

However, different text-to-speech processors produce audio of uneven quality. Once the text-to-speech quality issues are solved, text-to-speech will become an even more crucial technique to minimize the sizes of alert messages and reach everyone at risk.



CAP Sending CAP Alerts by E-mail

Eudora - [geomagnetic-editor@usgs.gov, 05:45 AM 5/25/2005, CAP Alert: USGS-geomagnetic-...]

File Edit Mailbox Message Transfer Special Tools Window Help

Subject: CAP Alert: USGS-geomagnetic-20050525-094505

The attached CAP alert was added to the USGS hazards alert messages database by jlooe@usgs.gov.

Headline: Geomagnetic Storm Alert


Severity: Moderate
Certainty: Possible
Urgency: Expected

Description:

The U.S. Geological Survey (USGS) is bracing for the likely arrival of a major geomagnetic storm and possible auroral activity over the next few days. Space Weather sources at NOAA/NWSA indicate that a series of major solar flares and a subsequent full-halo coronal mass ejection (CME) was observed at 9:30 a.m. Eastern Time on June 6. The location of the flare and direction of the CME make it a near certainty that the ejected material will reach the Earth within the next 24 hours. Thus, it should produce geomagnetic activity and a resulting aurora that may be visible at mid-latitudes, and could continue for several days. Geomagnetic storms occur when plasma, a hot ionized gas of charged particles produced by eruptions on the Sun, impacts the Earth's magnetic field causing it to fluctuate wildly. These fluctuations cause currents to flow in conductors on the ground and in space. Solar eruptions can produce billions of tons of plasma traveling at speeds in excess of a million miles an hour.

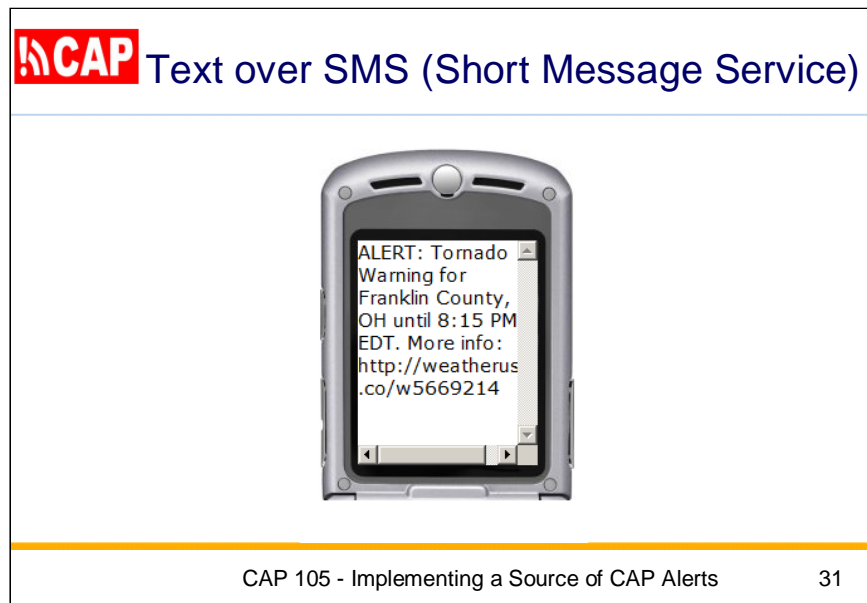
Instruction:

While it is geomagnetic storms that give rise to the beautiful Northern lights, they can also pose a serious threat for commercial and military satellite operators, power companies, astronauts, and they can even shorten the life of oil pipelines in Alaska by increasing pipeline corrosion.

 CAP_alert_USGS-geomagnetic-2001


CAP 105 - Implementing a Source of CAP Alerts 30

Here we see a CAP alert being provided as an attachment to an email message.



“Smart phones” can receive full CAP alerts. For other cellular telephones, the Short Message Service (SMS) provides a way to receive text alerts that originated as CAP. The CAP “headline” element is specifically designed to be sent over SMS.

Here we see an alert for a tornado warning, giving the place and time frame, plus a Web reference for additional information.



Dissemination by Fax

THE NATIONAL WEATHER STATION, INC. • SNOW & ICE FORECAST

FORECAST MADE AT: TAMU ON AND DATE: TUESDAY 12/20/05 12:00 PM
 FORECAST MADE AT: TAMU ON AND DATE: TUESDAY 12/20/05 12:00 PM
 NEXT FORECAST WILL BE SENT AT: 11AM DATE: 12/20/05

General Summary and Forecast:

SNOW WILL BEGIN AT 8AM TO 8AM THIS MORNING, BECOME HEAVY BY 11AM NOON AND CONTINUE THROUGH THE AFTERNOON INTO TONIGHT. ACCUMULATIONS: 8-10". Snow will taper off to flurries later tonight, by 10PM-1AM. Very windy today into tonight will produce blowing and drifting snow. Cold but less windy tomorrow with some sunshine.

THE FOLLOWING INFORMATION SHOWS DETAILS ON THE INCOMING OR CURRENT STORM

<p>STORM TYPE</p> <p><input type="checkbox"/> 29 INTERMITTENT SNOW</p> <p><input type="checkbox"/> 30 OCCASIONAL SNOW</p> <p><input type="checkbox"/> 31 SNOW FLURRIES</p> <p><input type="checkbox"/> 32 SNOW SHOWERS</p> <p><input type="checkbox"/> 33 SNOW SQUALLS</p> <p><input type="checkbox"/> 34 SLEET</p> <p><input type="checkbox"/> 35 FREEZING RAIN</p> <p><input type="checkbox"/> 36 SNOW CHANGING TO SLEET</p> <p><input type="checkbox"/> 37 SNOW CHANGING TO FROG. RAIN</p> <p><input type="checkbox"/> 38 SNOW CHANGING TO RAIN</p> <p><input type="checkbox"/> 39 ICE CHANGING TO RAIN</p> <p><input type="checkbox"/> 40 ICE CHANGING TO SNOW</p> <p><input type="checkbox"/> 41 RAIN CHANGING TO SNOW</p> <p><input type="checkbox"/> 42 RAIN CHANGING TO ICE</p> <p><input type="checkbox"/> 43 BLOWING AND DRIFTING SNOW</p> <p>PRECIPITATION START TIMES</p> <p><input type="checkbox"/> 44 SNOW: 8AM-10AM TODAY</p> <p><input type="checkbox"/> 45 SLEET:</p> <p><input type="checkbox"/> 46 FROG. RAIN:</p> <p><input type="checkbox"/> 47 RAIN:</p> <p>PRECIP. ENDING TIMES</p> <p><input type="checkbox"/> 48 SNOW: 10PM-1PM TONIGHT</p> <p><input type="checkbox"/> 49 SLEET:</p> <p><input type="checkbox"/> 50 FROG. RAIN:</p> <p><input type="checkbox"/> 51 RAIN:</p> <p>DURATION OF STORM</p> <p><input type="checkbox"/> 52 10-14 HOURS</p> <p>STORM INTENSITY</p> <p><input type="checkbox"/> 53 LESS THAN 1/2 INCH PER HOUR</p> <p><input type="checkbox"/> 54 1/2 TO 1 INCH PER HOUR</p> <p><input type="checkbox"/> 55 OVER 1 INCH PER HOUR</p> <p><input type="checkbox"/> 56 OVER 2 INCHES PER HOUR</p> <p><input type="checkbox"/> 57 UNUSUAL HEAVY OR EXTREMELY HEAVY RAIN</p> <p><input type="checkbox"/> 58 UNUSUAL HEAVY OR EXTREMELY HEAVY SNOW</p> <p><input type="checkbox"/> 59 UNUSUAL HEAVY OR EXTREMELY HEAVY SLEET</p> <p><input type="checkbox"/> 60 UNUSUAL HEAVY OR EXTREMELY HEAVY FROG. RAIN</p> <p><input type="checkbox"/> 61 UNUSUAL HEAVY OR EXTREMELY HEAVY RAIN</p>	<p>SNOW ICE ACCUMULATION</p> <p><input type="checkbox"/> 29 DUSTING SNOW BY 8AM-8AM Today</p> <p><input type="checkbox"/> 30 1-2" SNOW BY 10AM-NOON</p> <p><input type="checkbox"/> 31 3-5" SNOW BY 2PM-4PM Today</p> <p><input type="checkbox"/> 32 6-10" SNOW BY 8PM-10PM Ton.</p> <p><input type="checkbox"/> 33 * ICE BY</p> <p><input type="checkbox"/> 34 * ICE BY</p> <p>POTENTIAL OF SNOW</p> <p><input type="checkbox"/> 35 % CHANCE OF DUSTING</p> <p><input type="checkbox"/> 36 % CHANCE DUSTING TO 1"</p> <p><input type="checkbox"/> 37 % CHANCE OF 1" TO 3"</p> <p><input type="checkbox"/> 38 % CHANCE OF 3" TO 6"</p> <p><input type="checkbox"/> 39 90% CHANCE OF OVER 6"</p> <p><input type="checkbox"/> 40 50% CHANCE OF OVER 12"</p> <p>HEAVY SNOW WILL BEGIN</p> <p><input type="checkbox"/> 41 AT 11AM-NOON TODAY</p> <p><input type="checkbox"/> 42 AT 8PM-1PM TONIGHT</p> <p>TYPE OF SNOW</p> <p><input type="checkbox"/> 43 DRY</p> <p><input type="checkbox"/> 44 WET</p> <p><input type="checkbox"/> 45 MELTING</p> <p><input type="checkbox"/> 46 WET BECOMING DRY</p> <p><input type="checkbox"/> 47 DRY BECOMING WET</p> <p>DRIFTING SNOW</p> <p><input type="checkbox"/> 48 NONE</p> <p><input type="checkbox"/> 49 LIGHT</p> <p><input type="checkbox"/> 50 MODERATE</p> <p><input type="checkbox"/> 51 SEVERE</p> <p><input type="checkbox"/> 52 DRIFTING TO: 1-2 FEET</p> <p>TYPE OF RAIN</p> <p><input type="checkbox"/> 53 SEVERE FREEZING</p> <p><input type="checkbox"/> 54 FREEZING</p> <p><input type="checkbox"/> 55 COLD BUT NO ICING</p> <p><input type="checkbox"/> 56 WARM</p>	<p>TEMPERATURES & WINDS</p> <p><input type="checkbox"/> 57 TODAY: TUESDAY</p> <p>TEMP: 8AM: 10°-12 NOON: 15°</p> <p>EPK: 15°</p> <p>WIND DIRECTION: E</p> <p>WIND SPEED: 15-20 MPH</p> <p>WIND BECOMING:</p> <p><input type="checkbox"/> 58 TONIGHT AND OVERTNIGHT:</p> <p>TEMP: 8PM: 14° MONIGHT: 12°</p> <p>EPK: 11°</p> <p>WIND DIRECTION: NW</p> <p>WIND SPEED: 15-20 MPH</p> <p>WIND BECOMING:</p> <p><input type="checkbox"/> 59 TOMORROW: WEDNESDAY</p> <p>TEMP: 8AM: 8° 12 NOON: 22°</p> <p>EPK: 18°</p> <p>WIND DIRECTION: NW</p> <p>WIND SPEED: 10-20 MPH</p> <p>WIND BECOMING:</p> <p>UNTREATED ROAD CONDITIONS</p> <p><input type="checkbox"/> 60 MAIN ROADS TODAY THROUGH TONIGHT: SNOW COVERED</p> <p><input type="checkbox"/> 61 SECONDARY ROADS TODAY THROUGH TONIGHT: SNOW COVERED</p> <p>WEATHER FOLLOWING THE STORM</p> <p><input type="checkbox"/> 62 FREEZE</p> <p><input type="checkbox"/> 63 HARD FREEZE</p> <p><input type="checkbox"/> 64 MELTING</p> <p><input type="checkbox"/> 65 FREEZE THEN MELTING</p> <p><input type="checkbox"/> 66 MELTING THEN FREEZE</p> <p>NEXT STORM IS DUE</p> <p><input type="checkbox"/> 67 FRESH</p> <p><input type="checkbox"/> 68 REFORM TYPE: SNOW OR ICE</p> <p>GENERAL OUTLOOK (NEXT 10 DAYS)</p> <p><input type="checkbox"/> 69 COLDER FOR THE NEXT 10 DAYS</p>
--	--	--

Comments:

GUSTY WINDS WILL PRODUCE LOW VISIBILITY AT TIMES TO ZERO TO 1/2 MILE TODAY INTO TONIGHT, ADDING TO THE DIFFICULTIES OF THE OVERALL STORM.

CAP 105 - Implementing a Source of CAP Alerts

32

Here we see a service that sends out FAX pages for weather alerts.

CAP News Feed Example (MS IE)

Current Watches, Warnings and Advisories for the United States Issued by the National Weather Service

You are viewing a feed that contains frequently updated content. When you subscribe to a feed, it is added to the Common Feed List. Updated information from the feed is automatically downloaded to your computer and can be viewed in Internet Explorer and other programs. [Learn more about feeds.](#)

[Subscribe to this feed](#)

Severe Thunderstorm Warning issued October 01 at 8:40AM EDT until October 01 at 8:45AM EDT by NWS

Today, October 01, 2012, 4 minutes ago | w-nws.webmaster@noaa.gov →

...THE SEVERE THUNDERSTORM WARNING FOR SOUTHERN WALTON COUNTY WILL EXPIRE AT 745 AM CDT... RELAY REPORTS OF SEVERE WEATHER TO THE NATIONAL WEATHER SERVICE IN TALLAHASSEE AT (8 5 0) 9 4 2 8 8 3 3. OR...YOU MAY CONTACT THE NEAREST LAW ENFORCEMENT AGENCY OR YOUR COUNTY EMERGENCY MANAGEMENT. THEY WILL RELAY YOUR REPORT TO THE NATIONAL WEATHER SERVICE.

<http://alerts.weather.gov/cap/us.php?x=0> viewed with Microsoft Internet Explorer

CAP 105 - Implementing a Source of CAP Alerts 33

For those who have access to the Web, news feeds are the preferred dissemination mechanism.

Here we see a CAP news feed offered by the U.S. National Weather Service, as it appears to a Web visitor with Microsoft Internet Explorer.

 News Feed Example (Firefox)

Subscribe to this feed using  Live Bookmarks Always use Live Bookmarks to subscribe to feeds.

Current Watches, Warnings and Advisories for the United States Issued by the National Weather Service

[Flood Advisory issued September 30 at 1:18PM AKDT until October 01 at 4:00PM AKDT by NWS](#)
Sunday, September 30, 2012 5:18 PM

THE NATIONAL WEATHER SERVICE IN ANCHORAGE HAS ISSUED A * FLOOD ADVISORY FOR... KENAI RIVER FROM KENAI LAKE TO THE MOUTH OF THE KENAI * UNTIL 400 PM AKDT MONDAY * WATER LEVELS WILL REMAIN HIGH BUT CONTINUE TO FALL ON THE

<http://alerts.weather.gov/cap/us.php?x=0> viewed with Firefox browser

CAP 105 - Implementing a Source of CAP Alerts 34

And here we see the same CAP news feed with the Firefox browser.



Review of Key Points

- Putting CAP Alert Files on a Public Internet Host
- Validating CAP by Schema Version and Profile
- Security, Authorization and Authentication
- Dissemination Options Beyond Web Browser Access

CAP 105 - Implementing a Source of CAP Alerts

35

These are the Key Points of this presentation:


- Putting CAP Alert Files on a Public Internet Host
- Validating CAP by Schema Version and Profile
- Authorization and Authentication of Users and Editors
- Example of CAP Alert Sources
- Dissemination Options Beyond Web Browser Access



What have you learned?

1. Explain how to implement a set of CAP alert files that is publicly accessible on a given Internet host source.
2. Describe the significance of CAP versions and profiles, and how a CAP alert XML file can be validated against a particular XML Schema.
3. List some organizations that have implemented CAP and can be contacted for advice on implementing sources of alerts.
4. Describe an example situation wherein access to CAP sources might be restricted to access only within the local emergency management community.
5. Give an example of how an authorized user could be authenticated for access.
6. Describe how users would have secure access to CAP alert sources.

Now that you have completed this session, you should be able to perform the objective tasks.



Reference Links

- [CAP References \(PrepareCenter.Org\)](#)
- [CAP Implementations by Country](#)
- [CAP Video \(10 minutes, made by IFRC\)](#)
- CAP Training Courses - contact me
Eliot Christian eliot.j.christian@gmail.com

CAP 105 - Implementing a Source of CAP Alerts 37

Here are some key reference links concerning CAP.