

Common Alerting Protocol (ITU-T X.1303)

ITU Asia-Pacific Regional Multi-stakeholder Forum on Emergency Telecommunications

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International Development Research Centre, Canada.



- ☐ Problem to solve
- ☐ What is CAP?
- ☐ How do we use it?
 - Country profile
 - Object Identifier
- ☐ Pilot studies
 - HazInfo
 - Biosurv
 - SAMBRO
 - FF4EDXL
- ☐ Conclusion
- ☐ Resources



Problem to solve in alerting/warning systems

- ☐ How do we manage the subscribers and publishers?
- ☐ How do we deliver early warnings in local language?
- ☐ How do we use available technologies?
- ☐ How do we disseminate alerts over multiple channels?
- ☐ How do we interoperate between incompatible systems?
- ☐ How do we effectively communicate the optimal content?
- ☐ How do we address the communication strategy?
- ☐ How do we accommodate upstream-downstream alerting?



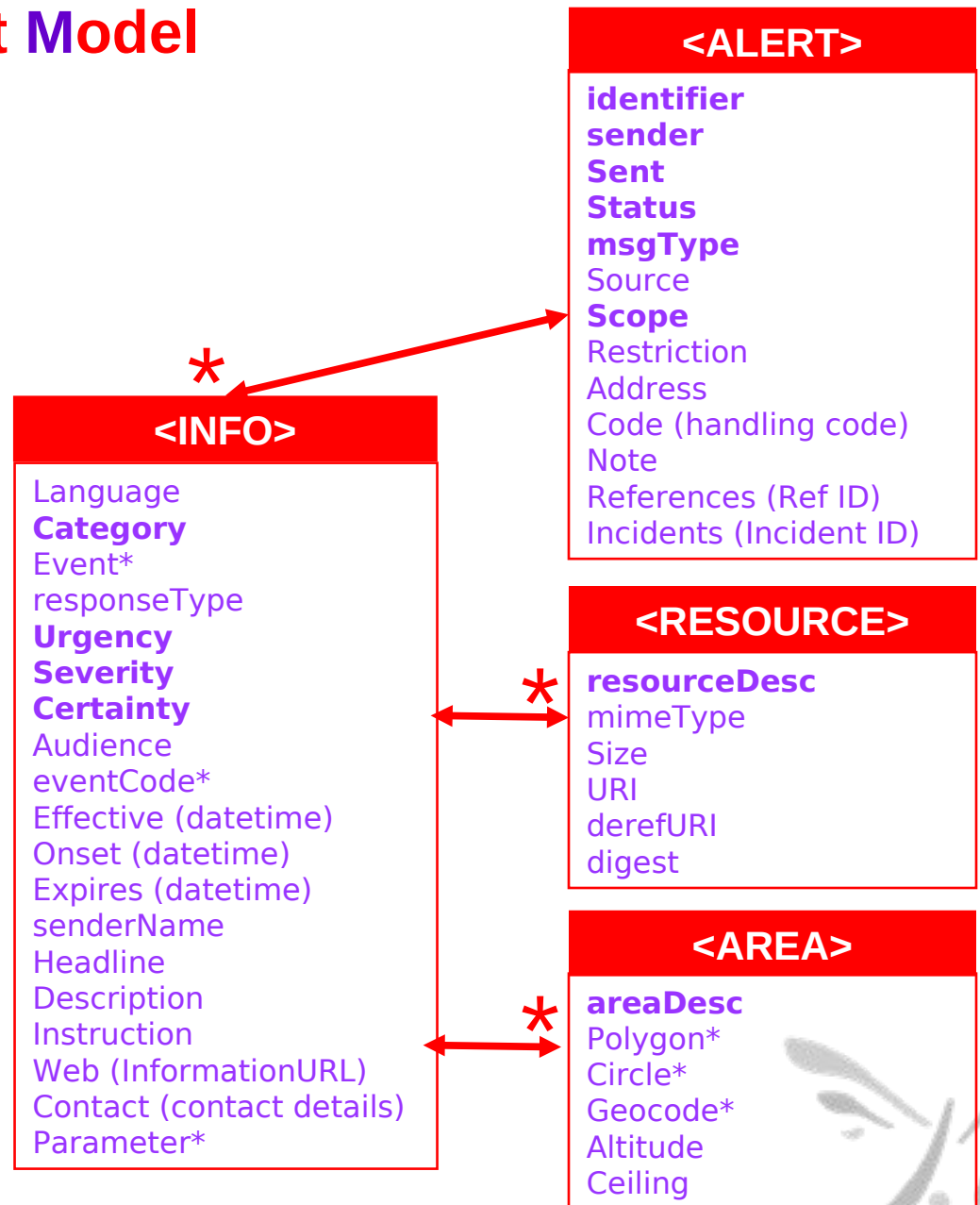
Common Alerting Protocol Overview

- ☐ XML Schema and Document Object Model
- ☐ Interoperable Emergency Communication Standard
- ☐ Specifically geared for Communicating Complete Alerts
- ☐ Capability for Digital encryption and signature X.509
- ☐ For “all-hazards” communication
- ☐ Recommended by ITU-T X.1303
- ☐ Incubated by W3C Emergency Information Interoperability Framework
- ☐ Can be used as a guide for structuring alerts
- ☐ Used by USGS, WMO, PTWC, Gov of CAN, USA, ...



CAP Document Object Model

- **<Alert>** block is the “envelop”
 - Identifies the message no., sender, message type, scope of audience, time sent
 - Contains one or more <info> blocks
- **<Info>** carries details of the audience, area, or time frame:
 - who, what, where, so what?
 - Multiple <info> blocks for each language
 - The <category> is for recipients to filter messages
 - <Urgency>, <Severity>, & <certainty> define the message priority
 - <Effective. and <expiration> date
 - Hazard <event> details and public <instructions>
 - <Contact> info
 - Additional technical <parameters>
- **<Area>** specific geographic target area for particular <info> block
- **<Resource>** additional information
 - include text, audio, or photos, maps, video files



Steps for setting up a CAP Country Profile

(1) Audience <Scope>

Alert First Responders only (i.e. closed user group)

Example: police, health workers, civil society, public servants

Alert Public (entire population)

Combination of First Responders and Public

step 1: alert First-Responders to give them time to prepare

Step 2: warn public

(2) Geographical Descriptions <Area>

Country wide

Province or State

District

Other – Geocodes or GPS polygons

(3) National <Languages>

English only or Chinese only or Malay only

English, Hindi, Chinese, and Malay

(4) Communications Technology?

Mobile phones – SMS, CB, Email, Applet

TV – Text, Audio, Visual

AM/FM Radio - Text, Audio

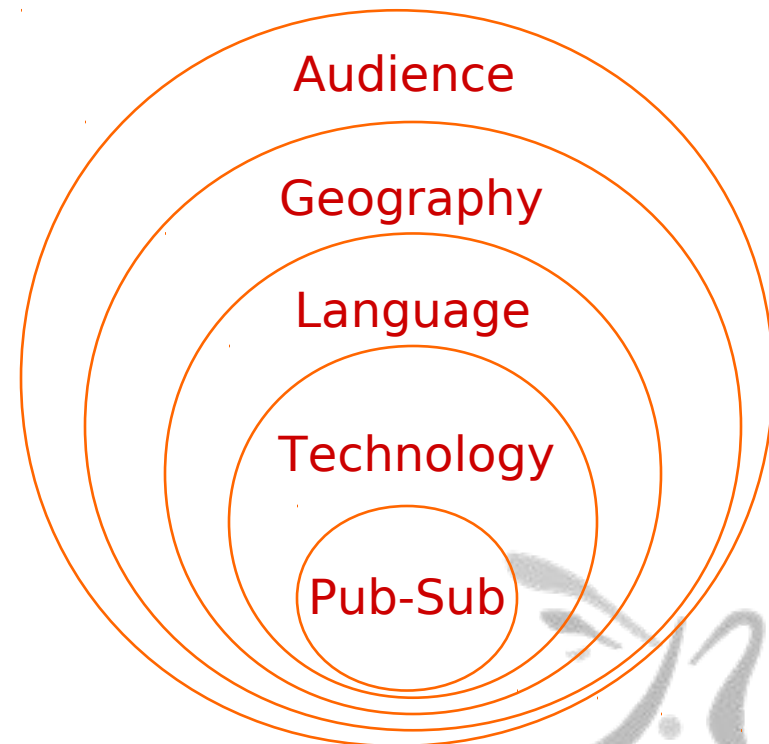
VHF/UHF Radio - Audio

Internet – HTTP, Email, Webservices

(5) Publisher Subscriber Rules (OIDs and EDXL-DE)

Who can publish what alerts in which jurisdictions?

Who can subscribe to what alerts in which jurisdictions?



WMO Register of Alerting Authorities

[joint-iso-itu-t\(2\)](#) [alerting\(49\)](#)

wmo (0)

child OIDs: [authority\(0\)](#) [country-msg\(1\)](#) [org\(2\)](#) [org-msg\(3\)](#)



OID description

[Format of this page](#)
[Modify this OID](#)
[Create a child OID](#)
[Create a brother OID](#)

OID:	[joint-iso-itu-t(2) alerting(49) wmo(0)]	(ASN.1 notation)
	2.49.0	(dot notation)
	/Alerting/WMO	(OID-IRI notation)

Description: [World Meteorological Organization \(WMO\)](#)

Information: In applications and services which support alerting, it is necessary to identify various information objects. Subsequent OIDs identify content included in alert messages or otherwise associated with the activity of alerting.

The procedures (and criteria for acceptance) for allocating subsequent arcs are described in [WMO/TD No. 1556](#) "Administrative procedure for registering WMO alerting identifiers."

WMO maintains a publicly accessible [Register of Alerting Authorities](#). In collaboration with the [WMO Public Weather Services Programme](#), entries in the WMO Register of Alerting Authorities shall be maintained by the editors designated by the Permanent Representatives (PRs) to the WMO of national WMO Members.

Tree display



- ☐ It is a way to uniquely identify national and international alerting authorities
- ☐ Messages originating from those authorities can be uniquely identified
- ☐ Typically used in the CAP <identifier>
- ☐ OID Repository Tree: <http://www.oid-info.com/cgi-bin/display?oid=2.49.0>
- ☐ List of organizations already registered with WMO: <http://www-db.wmo.int/alerting/authorities.html>
- ☐ For example:

WMO Register of Alerting Authorities [\[home \]](#)

- ☐ 2.49.0.0.144.0 Department of Meteorology
- ☐ 2.49.0.0.144.1 Hydrology Division, Department of Irrigation

Select one of the above 2 alerting authority records for Sri Lanka

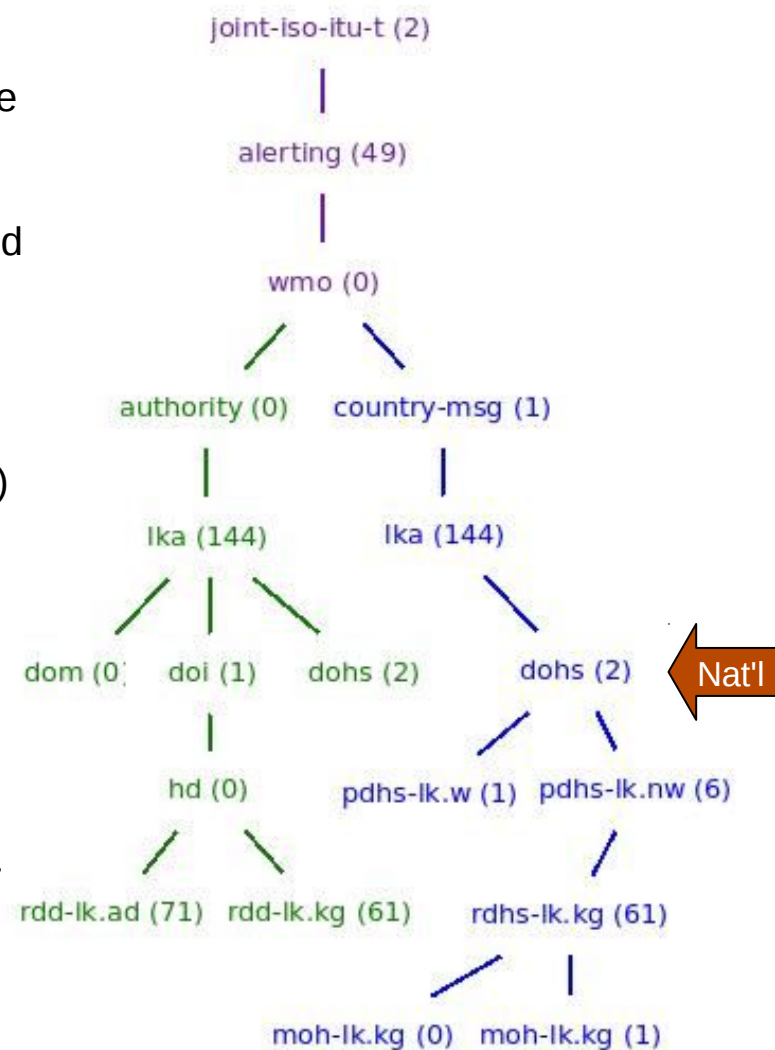
- ☐ Administrative procedure for registering an alerting authority:
http://www.wmo.int/pages/prog/amp/pwsp/documents/AIR_PWS-20.pdf

Use of OIDs: example of Sri Lanka

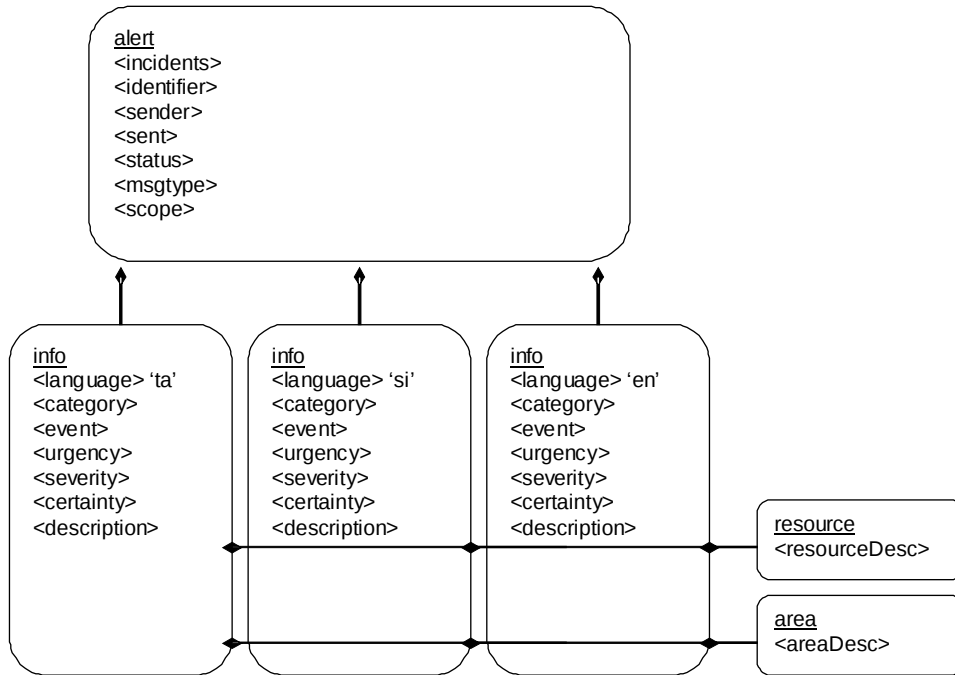
- 2.49.0.0.144 Sri Lankan alerting authority
- 2.49.0.1.144 alert from such an authority
- Department of Irrigation (doi (1)) can designate subordinate
- Regional Deputy Directors (rdd-lk.ad (71)) and (rdd-lk.kg (61)) are Hydrology Division subordinates
- Codes 'lk.ad' and 'lk.kg' are the HASC and integers '71' and '61' are ISO codes
- Wariyapola Medical Officer of Health (moh-lk:kg(1)) would carry the alert identifier 2.49.0.1.144.2.6.61.1
- identifier would carry a date and a message sequence; designation '20110601.001' encodes a date (June 1, 2011) and the message number one:
2.49.0.1.144.2.6.61.1.20110601.001

Dissemination rules

- 1) An authority may issue alerts to subordinate entities.
- 2) An authority may transmit alerts to other authorities of equivalent rank.
- 3) An agency must share alerts with its immediately superior authority.
- 4) An authority may view alerts issued or received by subordinates.
- 5) National authorities (those registered immediately under the 2.49.0.144 node may share alerts across borders or with international organizations.
- 6) Only national authorities may issue public warnings.



CAP Profile for Sri Lanka

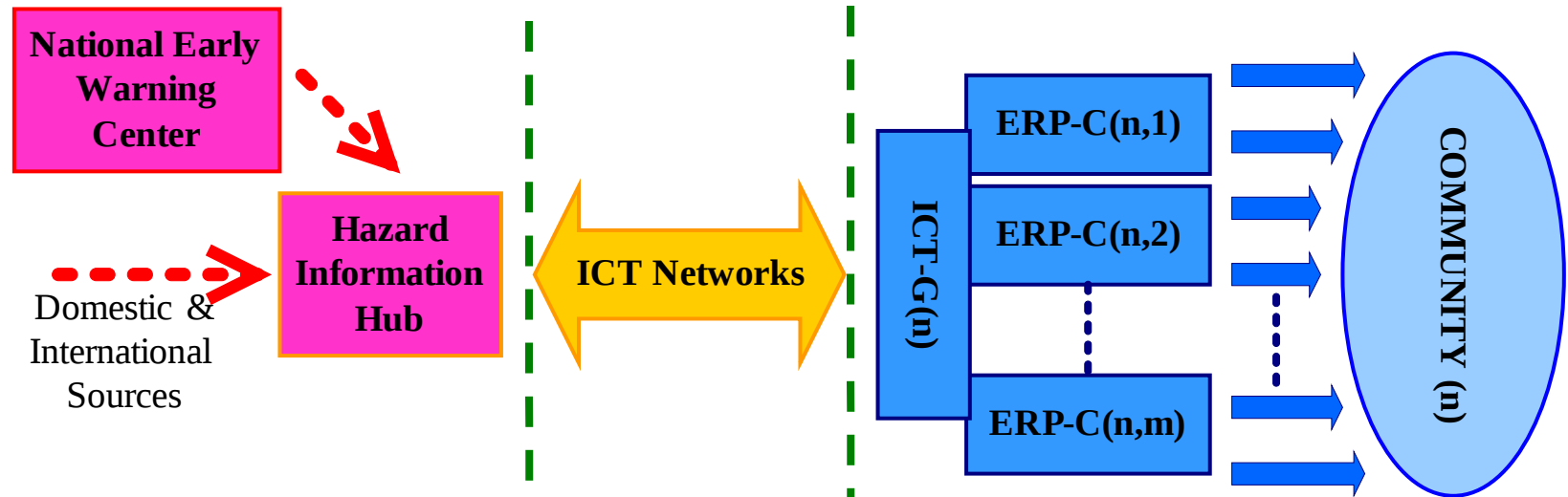


3 info segments to accommodate the 3 local languages: English, Sinhala, and Tamil.

Objectives of a CA-Profile

- ❑ Define policies and procedures for administering and operationalizing multi-hazard all-media alerts and warnings.
- ❑ Maintain a register of alerting authorities in the form of an OID.
- ❑ Specify message originators, dissemination channels, and recipients under the OID scheme.
- ❑ Categorize alerting authorities by location (typically administrative units) and event types.
- ❑ Define other constraints, rules and conventions applicable to the Country context
- ❑ Ensure the alerts, at least, make basic sense to recipients that are unaware of the profile restrictions.

Last Mile Hazard Warning System (HazInfo Project)



Sarvodaya Community Disaster Management Center (SCDMC)



Communications Providers



Sarvodaya Communities



HazInfo Terminal Device ratings

Measure	AREA	RAD	MOP	FXP	VSAT	AREA+ MOP	AREA+ FXP	AREA+ RAD
Language	1.00	0.15	1.00	1.00	0.15	1.00	1.00	1.00
CAP elements	0.95	0.70	0.70	0.80	0.70	0.95	0.95	0.95

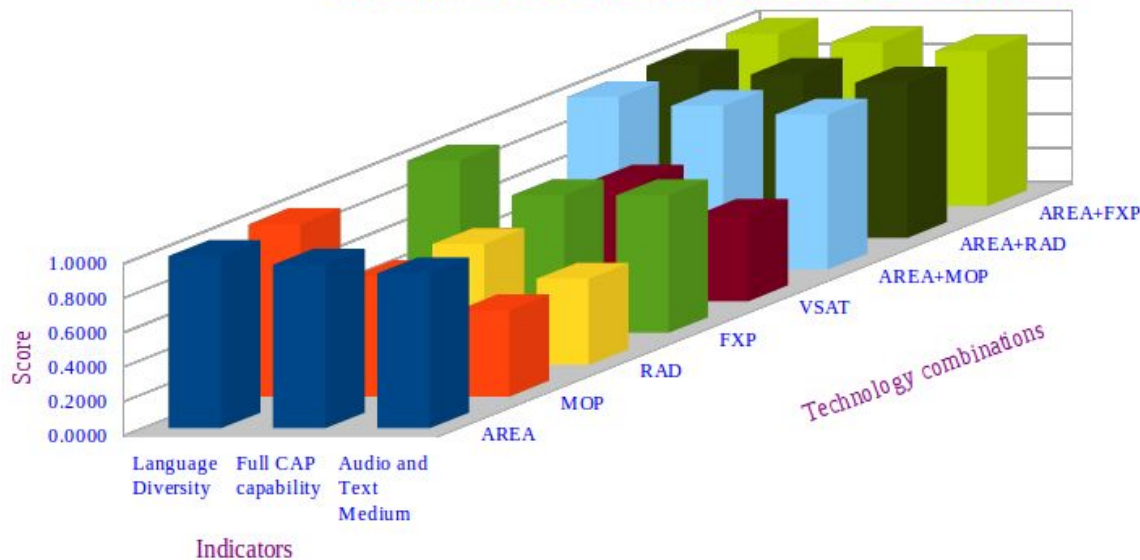
Multimedia

Effectiveness scores of technologies for CAP completeness

0.90 0.90

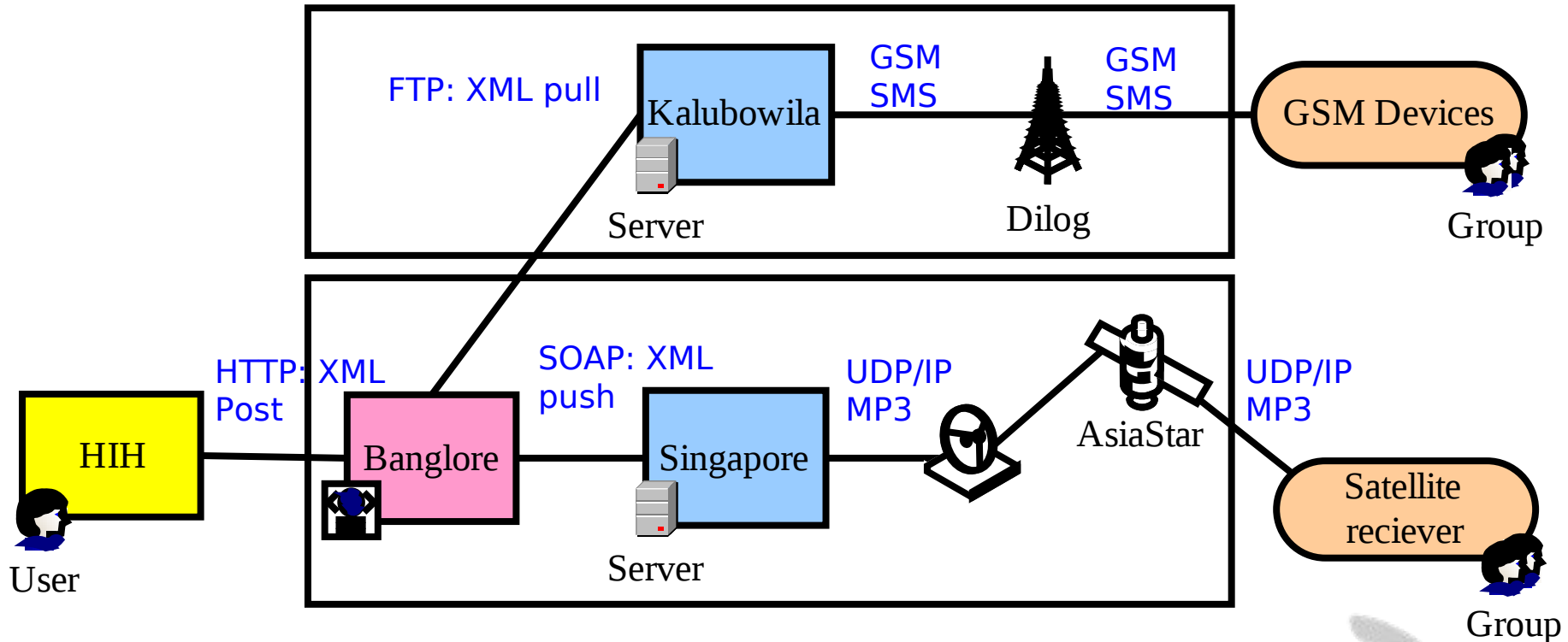
Rating

0.86 0.86



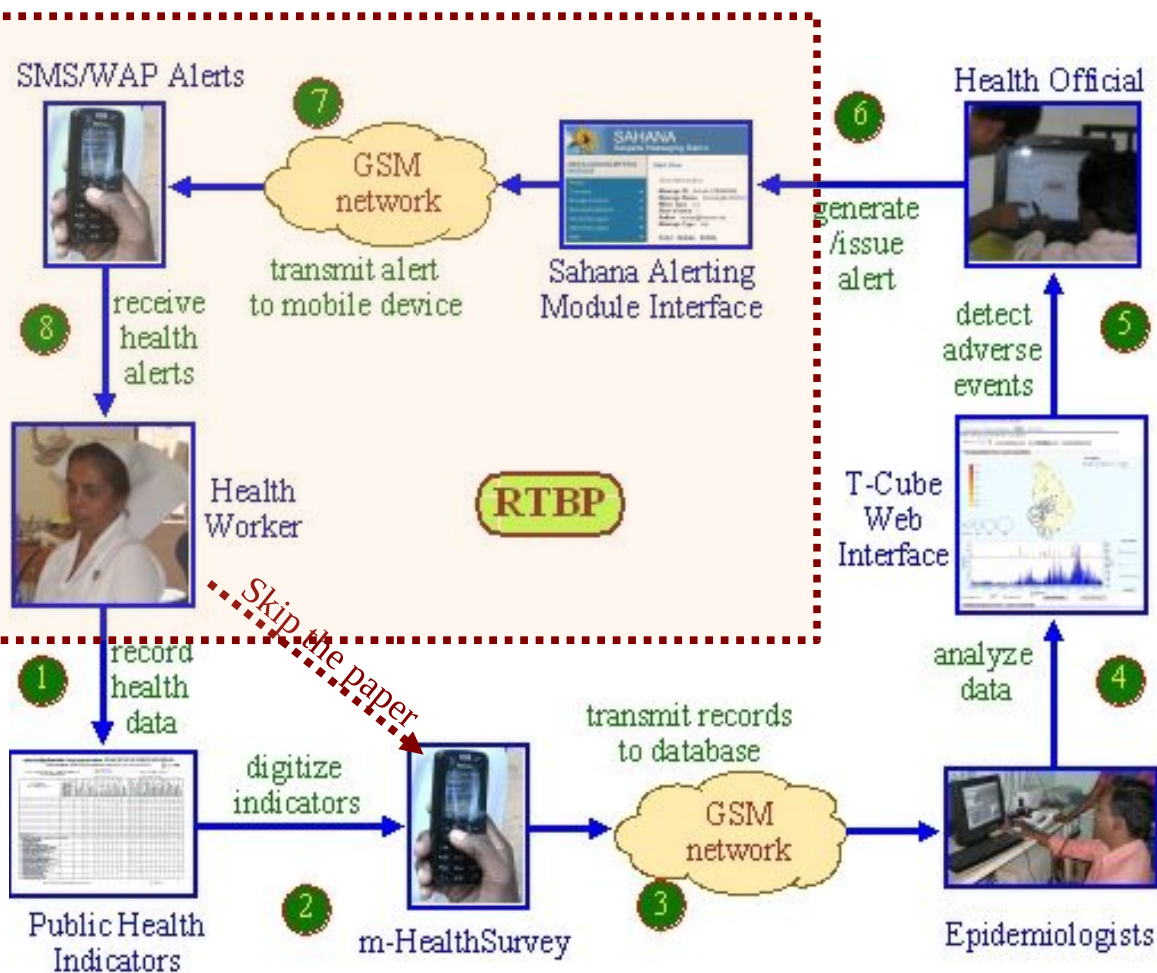
CAP Interoperability Testing

June 2007 between WorldSpace-Sankya and Dialog-Microimage



Real-Time Biosurveillance Program (RTBP)

Actors, processes, and information flow of the proposed data collection, event detection, and situational-awareness/alerting real-time program



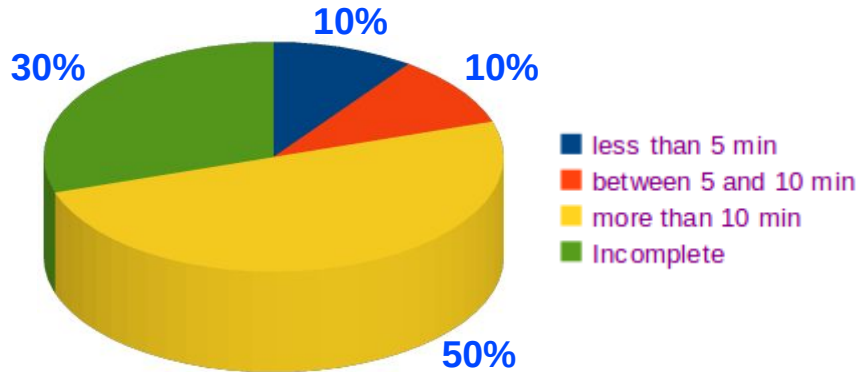
1. Health records first entered in paper
2. Then digitized by health workers using mobile phones.
3. Disease, symptoms, and demographic information transmitted across GSM mobile network to central database.
4. Data analyzed by trained staff at the disease surveillance units; In addition, automated event detection algorithms process a daily ranked set of possible disease outbreaks, which are presented to the staff.
5. List of possible outbreaks examined by epidemiologist to determine likelihood of an adverse event.
6. Confirmed adverse events disseminated to medical officers, health inspectors, nurses, and other health officials, within affected geographic area.
7. Condensed version of the alert pushed through SMS over GPRS channels to get immediate attention of the recipients.
8. More descriptive message emailed and published on the web (also accessible through mobile phone).

Messaging exercises with Sahana Alerting Broker

3 users in India and 5 users in Sri Lanka participated in the message dissemination exercises. Each user was presented with four varying scenarios in relation to escalating cases of diseases identified through TCWI and other sources.

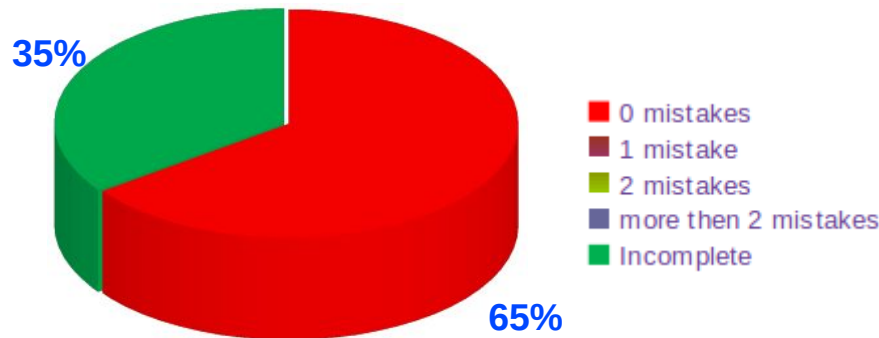


Percentage of messages sent on-time (benchmark time-to-completion was 5 minutes)



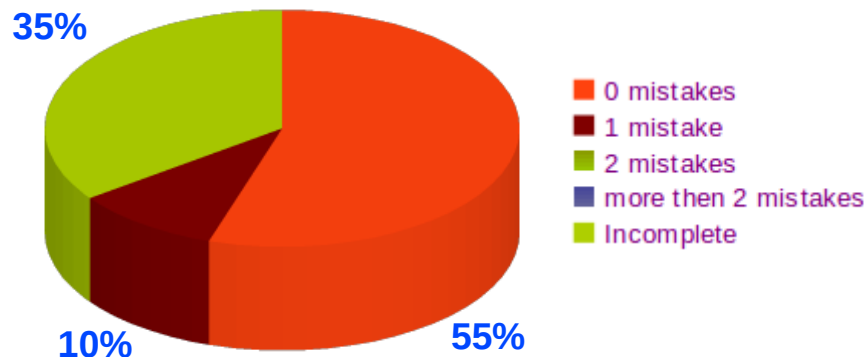
The security policy of the software, by default, is set to expire the session after 5 minutes to prevent unauthorized use, which forced the user to restart.

Accuracy of creating the messages with populating the common alerting protocol attributes of the software



Templates with pre-populated values and a clear structure helped the users with creating the messages

Correctly selecting the appropriate delivery channels targeting the intended recipients



It was easier to comprehend issuing of alerts but not the the same with issuing situational awareness messages such as the weekly top 5 diseases reports.



INDIA Exercises were incomplete; no results to discuss

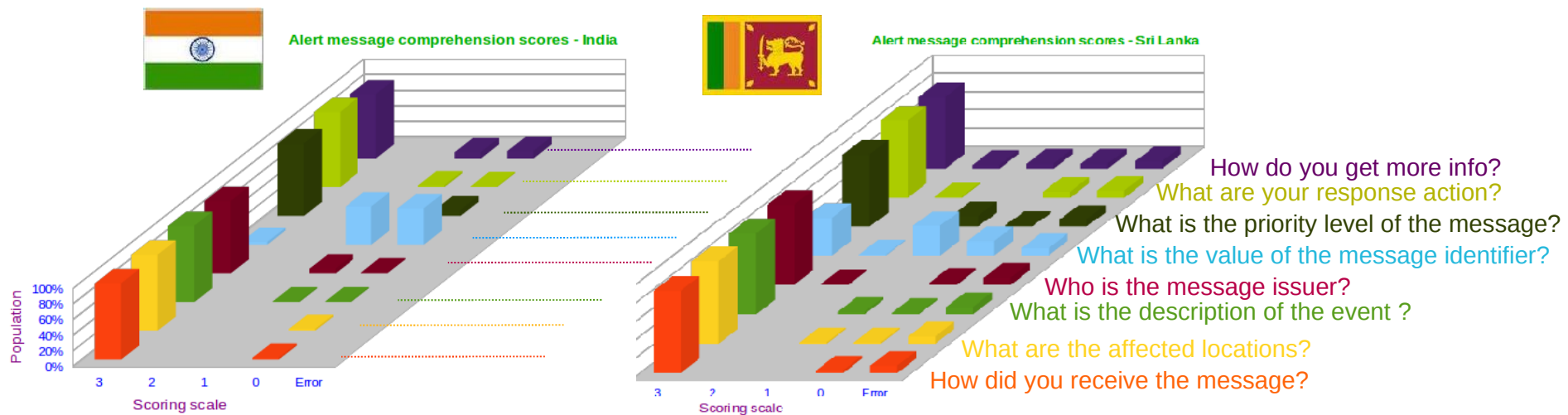
How easy was it for health workers to comprehend the alerts?

India = 23 and Sri Lanka = 19 health workers participated in the exercise.

4 alert messages of varying degrees of situation were issued to the health workers.

They were asked to complete a questionnaire for each message received.

A score of 3 → made no mistakes, 2 → made 1 mistake, 1 → made 2 mistakes, 0 → made => 3 mistakes, error → there was a technical error in receiving the message



Except for a very few exceptional cases, all were able to comprehend the message and identify the elements in the message (elements: message category, event, disease, affected – locations, gender, age groups, response – type & actions, reference – web link & hotline contact number)

A large population of the recipients could not determine the message-identifier, which is an element used to refer to the particular alert, which was caused by the SMS text truncating the message after 160 characters

Sahana (<http://www.sahanafoundation.org/>)

■ What is it?

- A free & open source portable web tool
- Sub-applications designed to address the common Disaster Management probs
- A RAD platform

■ Main Goals

- Bring Efficiencies to Disaster Coordination and Prompt Response
- Facilitate the effective information exchange between responders and beneficiaries
- Primary focus is to help victims



CAP-enabled Sahana Alerting Broker (SABRO)

MESSAGING/ALERTING MODULE
[Home](#)
[Consoles](#)
[Manage Contacts](#)
[Messaging Reports](#)
[Survey Messages](#)
[Stored Messages](#)
[Alert](#)
[New](#)
[View](#)
[Remove](#)
[Templates](#)
[Common Alerting Protocol](#)

SAHANA MAIN
[Sahana Home](#)
[Messaging/Alerting Module](#)
[User Preferences](#)

[Logged In](#)
User: sahana
[Logout](#)

Alert | Information | Resource | Area

Message Identifier:
 Sender:
 Status: ? HFI P
 Message Type: ? HEL P
 Source:
 Scope: ? HELP
 Language:
 Category:

 Event:
 Priority:
 Sender Name:
 Headline:
 Description:

Recipient List
Contacts

- Groups
 - Respers
- Individuals
 - Mfan
 - Nuwan_W
 - Mfan_M

Select Contacts

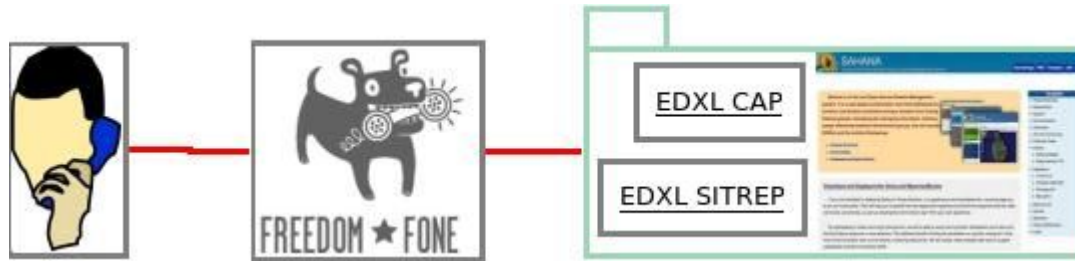
Select Delivery Type

Delivery Category	Delivery Type	Select
Short Text	SMS	<input checked="" type="checkbox"/>
	HF	<input type="checkbox"/>
	RDF	<input type="checkbox"/>
Long Text	Email	<input checked="" type="checkbox"/>
	Web	<input type="checkbox"/>
Voice Text	VoiceXML	<input type="checkbox"/>
	IVR	<input type="checkbox"/>

- ❑ Single input multiple output engine; channeled through multiple technologies
- ❑ Manage publisher /subscribers and SOP
- ❑ Relating the template editor with the SMS/Email Messaging module
- ❑ Do direct and cascading alert from a regional jurisdictional prospective
- ❑ Designing short, long, and voice text messages
- ❑ Addressing in multi languages



Freedom Fone and Sahana for voice-enabled alerting (WIP)



- ☐ Freedom Fone is an interactive voice-enabled software system: <http://www.freedomfone.org/>
- ☐ The project will investigate the design requirements for integrating Freedom Fone for exchanging voice-based CAP compliant messages
- ☐ One way is embedding the voice-based message as a <Resource> file in a CAP message
- ☐ Anticipated Challenges
 - Text to speech conversion
 - Unavailability local language translators
 - Natural language translation



THANK YOU

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Telecom sector contributes to LK economic growth, while prices decline 5 edit

Published by [samarajiva](#) April 12th, 2007 in [General](#).

The Central Bank of Sri Lanka's **2006 Annual Report** states that: "The GDP deflator, which measures the price changes of all goods, produced in the economy, increased by 10.3 per cent in 2006 compared with the rate of 9.9 per cent in 2005. High price increases were recorded in most sub-sectors except in mining and telecommunications, where prices were lower compared with the previous year. Higher fuel and material costs together with the depreciation of the Sri Lankan rupee during the year led to the increase in prices of most finished goods and services."

This is quite different from the spurious growth shown by government-owned enterprises driven by the higher rupee value of the output of the Petroleum Corporation which contributed to 90 per cent of the entire output of government-owned enterprises.

LIRNEasia researcher invited to ITU meeting on disasters in Alexandria, Egypt 0 edit

Published by [samarajiva](#) April 12th, 2007 in [Disaster](#).

Nuwan Waidyanatha, the Project Manager of the Last-mile HazInfo Project, has been

Latest Photos



About

Mission Statement: To improve the lives of the people of the Asia-Pacific by facilitating their use of information and communication technologies; by catalyzing the reform of the laws, policies and regulations to enable those uses; by building Asia Pacific-based human capacity through research,

Conclusion

CAP is a consistent, complete, multi lingual, and interoperable global emergency communication protocol

CAP offers standard guidelines for developing an inventory of emergency information templates and messages

CAP should be adopted by states and organizations for their public and closed-user-group exchange of emergency information

States or organization must first develop a CAP Profile in consultation with all involved stakeholders; as a first step – register alerting authorities

Profile should consider the target – audience (<scope>), jurisdictions <area>, <Language>, Technologies, and Country specific Publisher/Subscriber rules

Alerting agencies should adopt a “CAP Broker” for constructing and issuing CAP messages via “tested” technologies

Recommendation to Disaster Communications Technology Manufacturers – Make your equipment CAP compliant

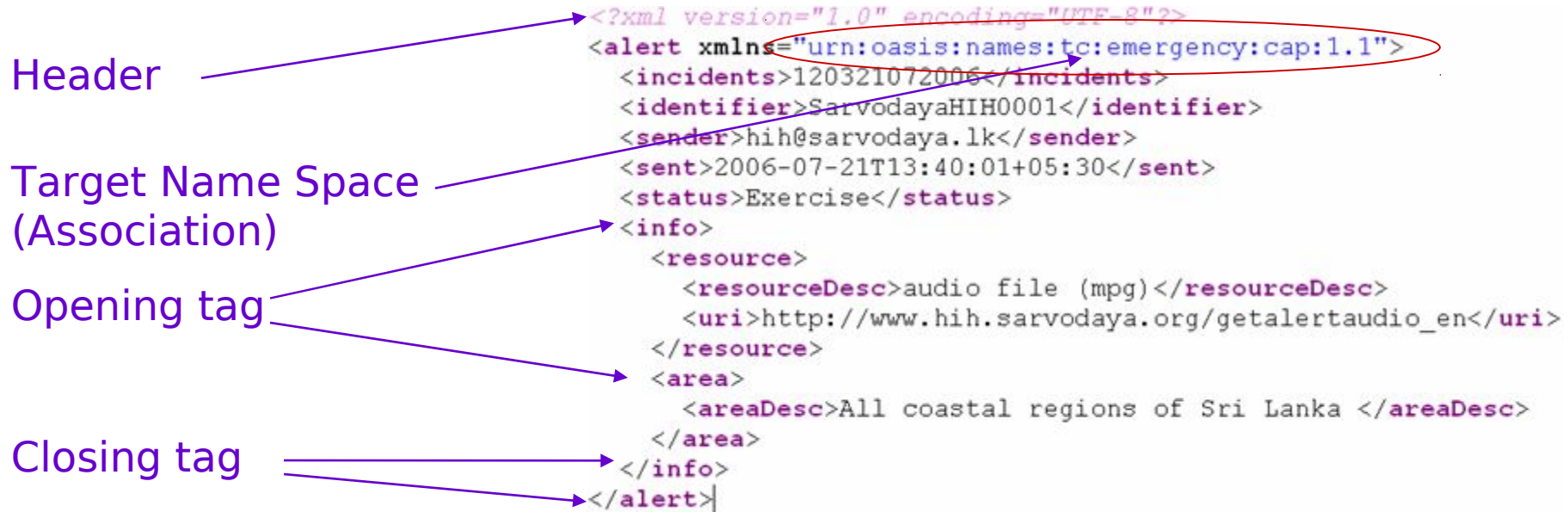


Resources

- 1) Video “Introduction to CAP”, Eliot Christian (WMO):
<http://www.youtube.com/watch?v=n0iKp60jttY>
- 2) Instructions for translating the video to local language:
http://www.wmo.int/pages/prog/www/ISS/Meetings/WIS-CAP_Geneva2011/video.zip
- 3) Video on the use of CAP in real-time biosurveillance pilot, Nuwan Waidyanatha (LIRNEasia): <http://www.youtube.com/watch?v=G7WOq5giddI>
- 4) CAP implementers workshop, WMO, Geneva, April 2011:
http://www.wmo.int/pages/prog/www/ISS/Meetings/WIS-CAP_Geneva2011/DocPlan.html
- 5) CAP Cookbook (wiki):
http://www.incident.com/cookbook/index.php/Welcome_to_the_CAP_Cookbook
- 6) ITU-T recommendation X.1303: <http://www.itu.int/rec/T-REC-X.1303/en>
- 7) TD No. 1556, Administrative Procedure for Registering WMO Alerting Identifiers (PWS-20): http://www.wmo.int/pages/prog/amp/pwsp/documents/AIR_PWS-20.pdf
- 8) OASIS EDXL suite of standards (including CAP): <http://www.oasis-open.org/standards#edxl>



eXtensible Markup Language (XML)



What is XML?

Markup language like HTML

Designed to carry and store data

Self descriptive

W3C recommendation – (http://www.w3schools.com/w3c/w3c_xml.asp)

Why Use XML?

Interoperable: xml data can be shared between incompatible systems

Well Formed: adheres to correct syntax

Validation: structure: Document Type Definition or XML Schemas

Accessibility: Document Object Model defines the text & attributes



Predefined values

<i>CAP Element</i>	<i>Predefined Values</i>
<i><Status></i>	Actual, Exercise, System, Test, Draft
<i><msgType></i>	Alert, Update, Cancel, Ack, Error
<i><Scope></i>	Public, Restricted, Private
<i><Language></i>	en, fr, si, tm, ... codes ISO 639-1
<i><Category></i>	Geo, Met, Safety, Security, Rescue, Fire, Health, Env, Transport, Infra, CNRNE, Other
<i><responseType></i>	Shelter, Evacuate, Prepare, Execute, Monitor, Assess, None
<i><Urgency></i>	Immediate, Expected, Future, Past, unknown



Prioritizing Messages in CAP

Priority	<urgency>	<severity>	<certainty>
Urgent	Immediate	Extreme	Observed
High	Expected	Severe	Observed
Low	Expected	Moderate	Observed

```

<info>
  <language>en_US</language>
  <category>Health</category>
  <event>notifiable disease incidence</event>
  <responseType>Monitor</responseType>
  <priority>low</priority>
  <urgency>Expected</urgency>
  <severity>Moderate</severity>
  <certainty>Observed</certainty>
  <effective>2010-08-12T11:41:00+05.30</effective>
  <onset>2010-08-06T11:41:00+05.30</onset>
  <expires>2010-08-16T11:41:00+05.30</expires>
  <senderName>Dr. W.G.C.Sampath</senderName>
  <headline>Escalating Chickenpox in Munamaldeniya</headline>
  <description>

```



Cyclone Bulletin used in HazInfo Exercises

Last-Mile HazInfo Simulation. No Repeat No Real Event is Effect

TROPICAL CYCLONE ADVICE NUMBER 001

Issued at 09:55 am on Monday, December 11, 2006

BY Sri Lanka Met Department

A **SEVERE CATEGORY 4 CYCLONE** is now current for AMPARA and MATARA District coastal areas. At **06:00 am** local time SEVERE TROPICAL CYCLONE MONTY was estimated to be **80 kilometres northeast of Ampara District** and moving southwest at **10 kilometres per hour**. Severe Tropical Cyclone Monty is expected to cross the coast in the vicinity of Ampara and Matara Districts during Monday. Gales with gusts to 180 kilometres per hour are likely in coastal communities in Ampara and Matara District during the day.

This is to **alert** the residents of Ampara and Matara District about the potential of a very **dangerous storm** tide as the cyclone centre approaches the coast. **Tides are likely** to rise significantly above the normal high tide mark with very dangerous flooding, damaging waves and strong currents.

Widespread heavy rain and further flooding are likely in southern parts of the Ampara and Matara Districts over the next few days.

Last-Mile HazInfo Simulation. No Repeat No Real Event is Effect.



Cyclone CAP Message used in HazInfo Exercises

```
<?xml version="1.0" encoding="utf-8"?>
<alert xmlns="urn:oasis:names:tc:emergency:cap:1.1">
  <identifier>HIH-2006-12-11T095500</identifier>
  <sender>hjh@sarvodaya.lk</sender>
  <sent>2006-12-11T09:55:00.0000000+06:00</sent>
  <status>Excercise</status>
  <msgType>Alert</msgType>
  <source>Last Mile Hazard Warning System</source>
  <scope>Restricted</scope>
  <restriction>Sarvodaya ICT Gaurdians</restriction>
  <info>
    <language>en-US</language>
    <category>Met</category>
    <event>Category 4 Cyclone</event>
    <responseType>Shelter</responseType>
    <urgency>Expected</urgency>
    <severity>Sever</severity>
    <certainty>Observed</certainty>
    <effective>2006-12-11T08:30:00 0000000+06:00</effective>
    <expires>2006-10-11T12:00:00 0000000+06:00</expires>
    <headline>A Sever Category 4 Cyclone in effect in Sri Lanka</headline>
    <description>At 06:00 am local time SEVERE TROPICAL CYCLONE MONTY was estimated to be 80 kilometers n
of Ampara District and moving southwest at 10 kilometers per hour. Severe Tropical Cyclone Monty is expected to cross
coast in the vicinity of Ampara and Matara Districts during Monday. Gales with gusts to 180 kilometers per hour are l
coastal communities in Ampara and Matara District during the day. This is to alert the residents of Ampara and Matara
District about the potential of a very dangerous storm tide as the cyclone centre approaches the coast. Tides are lik
rise significantly above the normal high tide mark with very dangerous flooding, damaging waves and strong currents.
Widespread heavy rain and further flooding are likely in southern parts of the Ampara and Matara Districts over the n
days. </description>
    <instructions>Last-Mile HazInfo Simulation. No Repeat No Real Event is Effect. </instructions>
    <area>
      <areaDesc>Ampara and Matara Districts of Sri Lanka</areaDesc>
    </area>
  </info>
</alert>
```



Automated Standard Message

“A <**event**> alert has been issued for <**areaDesc**> by <**senderName**>. Persons in this area are encouraged to <**responseType**>, and <**instruction**> (if fields . This event is rated as <**severity**>, and is <**certainty**>. Responsive action should be taken <**urgency**> . For more information about this event, visit <**URI**> or call <**contact**>.”



Example of Automated Standard Message

“A **Flood** alert has been issued for **North Western Province** by **Department of Irrigation and Water Resources**. Persons in this area are encouraged to **prepare**, and **stay away from demarcated flood zones**. This event is rated as **moderate**, and is **likely**. Responsive action should be taken in **future**. For more information about this event, visit **<http://www.ndmc.gov.lk/>** or call **2395521**.”



Evaluating Terminal Devices for CAP Completeness

<i>Value</i>	<i><u>Fuzzy rules for completing Profile requirements (Table 1)</u></i>
1.00	All sub elements that are contained in the <Alert> segment, which includes all the qualifier elements and <info> element as well as the <resource> and <area> sub elements
0.95	Mandatory elements described in the Profile for Sri Lanka, which are qualifier elements in the <alert> segment with at least the <urgency>, <severity>, <certainty>, and <description>
0.85	Qualifier elements of the <alert> segment and the <description> only
0.70	<description> only

0.50 Elements <category> and <event> only
 For a full description of the evaluation method refer to the “**HazInfo Technical Report**” -

<http://www.lirneasia.net/wp-content/uploads/2008/05/hazinfo-technical-report.pdf>

0.25 Mandatory sub elements of the <alert> segment only

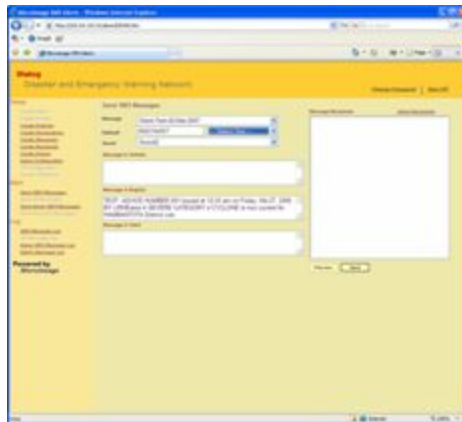
<i>Value</i>	<i><u>Fuzzy rule for Language Diversity (Table 2)</u></i>
1.00	Sinhala + Tamil + English
0.99	Sinhala + Tamil
0.95	Sinhala + English
0.80	Sinhala Only
0.38	Tamil + English
0.28	Tamil Only
0.15	English Only
0	Otherwise

<i>Value</i>	<i><u>Fuzzy Rule for Communication Medium (Table 3)</u></i>
1.00	Graphic + Audio + Text
0.95	Graphic+ Audio
0.90	Audio + Text
0.80	Audio
0.70	Graphic + Text
0.60	Graphic
0.50	Text only
0	Otherwise



Dialog DEWN Terminal Devices

Interface	HIH Monitor issued CAP Message	Receiver Device and {Medium}	ICT Guardian received Message elements
DEWN Internet Browse	<code><info></code> sub element with <code><Language></code> en <code><Description></code> ... {no size restriction} <code><Language></code> si <code><Description></code> ... {no size restriction} <code><Language></code> tm <code><Description></code> ... {no size restriction}	MP { Text } RAD { Text }	“Warning” <code><info></code> <code><Language></code> en <code><Description></code> A SEVERE CATEGORY 4 CYCLONE... <code><Language></code> si <code><Description></code> ...{sinhala} <code><Language></code> tm <code><Description></code> ...{tamil} {restricted by 140 characters}



WorldSpace Satellite Radio

Interface	HIH Monitor issued CAP Message	Receiver Device and {Medium}	ICT Guardian received Message elements
ANNY Internet Browser application (AREA)	All sub elements in <Alert> element and message in <Language>en only.	AREA - B {Text}	<msgType>Alert <Scope>restricted <Sender>hih <Status>exercise <Category>met <Urgency>expected <Severity> sever <Certainty>observed <Event>A SEVERE CATEGORY 4 CYCLONE ... {restricted 250 characters}
	<Description> with <Language>all... {no size restriction}	AREA - B {Audio}	<Description> A SEVERE CATEGORY 4 CYCLONE ...{no size restriction}



Public Internet Alert System

Interface

HHH Monitor issued CAP Message

Receiver Device and {Medium}

ICT Guardian received Message elements

IPAS
Internet
Browser

<Description> with
<Language>en only ...
{no size restriction}

Personal
Computer
{Text}

<Description> A SEVERE
CATEGORY 4 CYCLONE ... {no
size restriction}

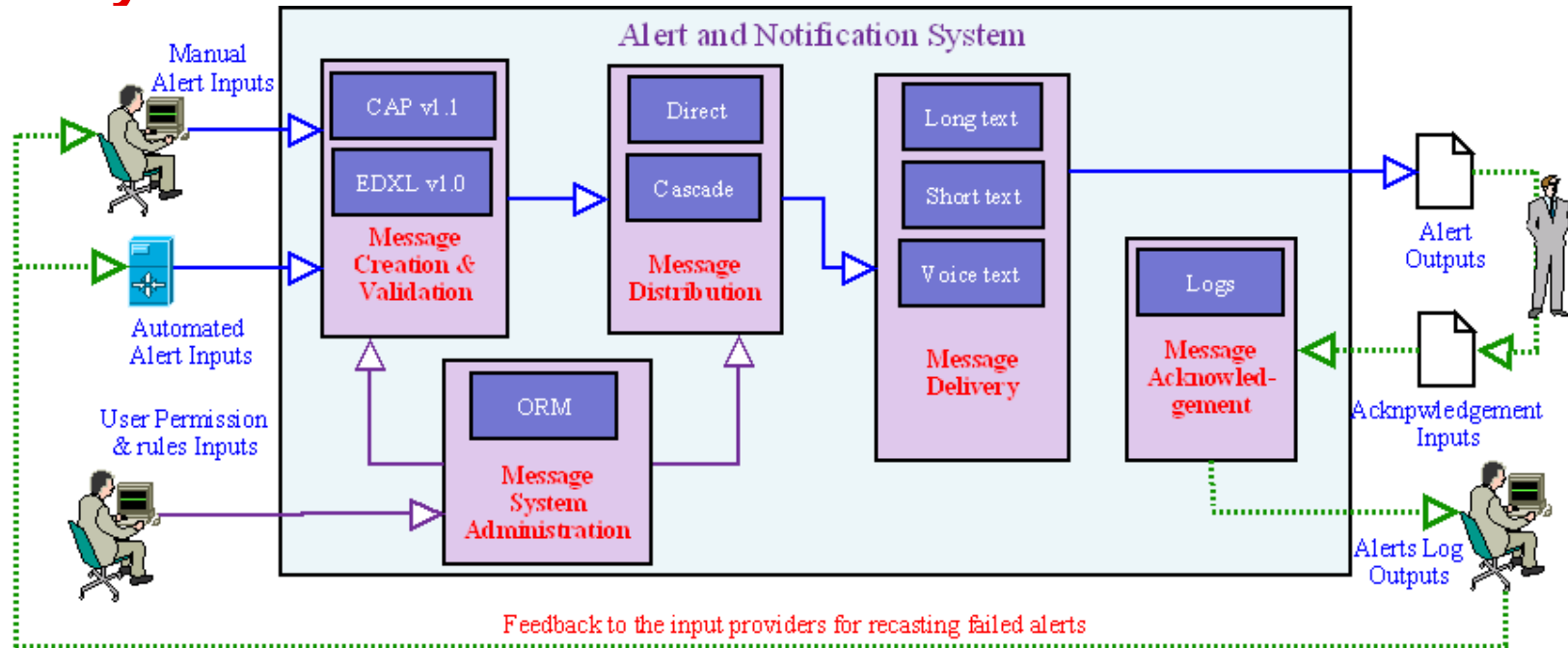


CDMA Voice Alerts

Interface	HIH Monitor issued CAP Message	Receiver Device and {Medium}	ICT Guardian received Message elements
CDMA 2000 1x_RTT	<Description> ... {no size and language restriction}	CDMA2000 1x_RTT Telephones {Audio}	<Description> A SEVERE CATEGORY 4 CYCLONE ... {no size restriction}



Sahana Alerting and Messaging Broker (SAMBRO) Subsystems



□ Inputs can be manual or automated

- Message creation & validation uses CAP v1.1 and EDXL 1.0 data standards
- Access control (permissions) and user rules are governed through the Organization Resource Manager (ORM)
- Direct alerts are sent to end user recipients and Cascade alerts are a system-to-system communication determined by the message distribution method
- Long-text, Short-text, and Voice-text are different forms of full CAP message for the ease of message delivery to various end-user terminal devices
- Message acknowledgement logs the recipient messages confirming receipt

STEP 1: select template and create message (or reuse message)

Alerts List

List

Name

[notify phi kuli 2010-03-05 a1](#)

[kuli phi aler 20100308 v1](#)

[kuli phi aler 20100308 v2](#)

[kuru phi 2010-03-07-v11](#)

[kuru phi 2010-03-07-v1](#)

[kuru phi 2010-03-07-v1](#)

[shoot wari moh 20100308 v1](#)

[shoot wari moh 20100308 v2](#)

Alert Information Resource Area

Message Identifier * ? HELP

Sender * ? HELP

Message Type * ? HELP

Status * ? HELP

Source * ? HELP

Scope * ? HELP

Restriction [Restricted] *

Optional

Code Enter space s

References

incidents

Alert Information Resource Area

Language

Category

Event * ? HELP

Priority

Optional

Sender Name

Headline

Description

Audience

Response Type

Effective Time Zone

Onset Time Zone

Expires Time Zone

Instruction

Web

Contact



STEP 2: select recipients, delivery channels, and view outputs

Recipient List

nuwan@lirneasia.net,
0094773710394

Contacts

Groups

- Wayamba_PDHS
- Kuli_PHIs
- Pann_PHIs
- Wari_PHIs
- Udub_PHIs
- Pann_MOs
- Kuli_MOs

Select Delivery Type

Delivery Category	Delivery Type	Select
Short Text	SMS	<input checked="" type="checkbox"/>
	HF	<input type="checkbox"/>
	RDF	<input type="checkbox"/>
	Email	<input type="checkbox"/>
Long Text	Email	<input checked="" type="checkbox"/>
	Web	<input checked="" type="checkbox"/>
Voice Text	VoiceXML	<input type="checkbox"/>
	IVR	<input type="checkbox"/>

Next -> Transform Message

Send Message

Converted CAP Output

Escalating chickenpox in
Katupotha: Actual Alert for
Katupotha area with priority
notifiable disease incidence
issued by ..

Converted Message: Short SMS

Converted CAP Output

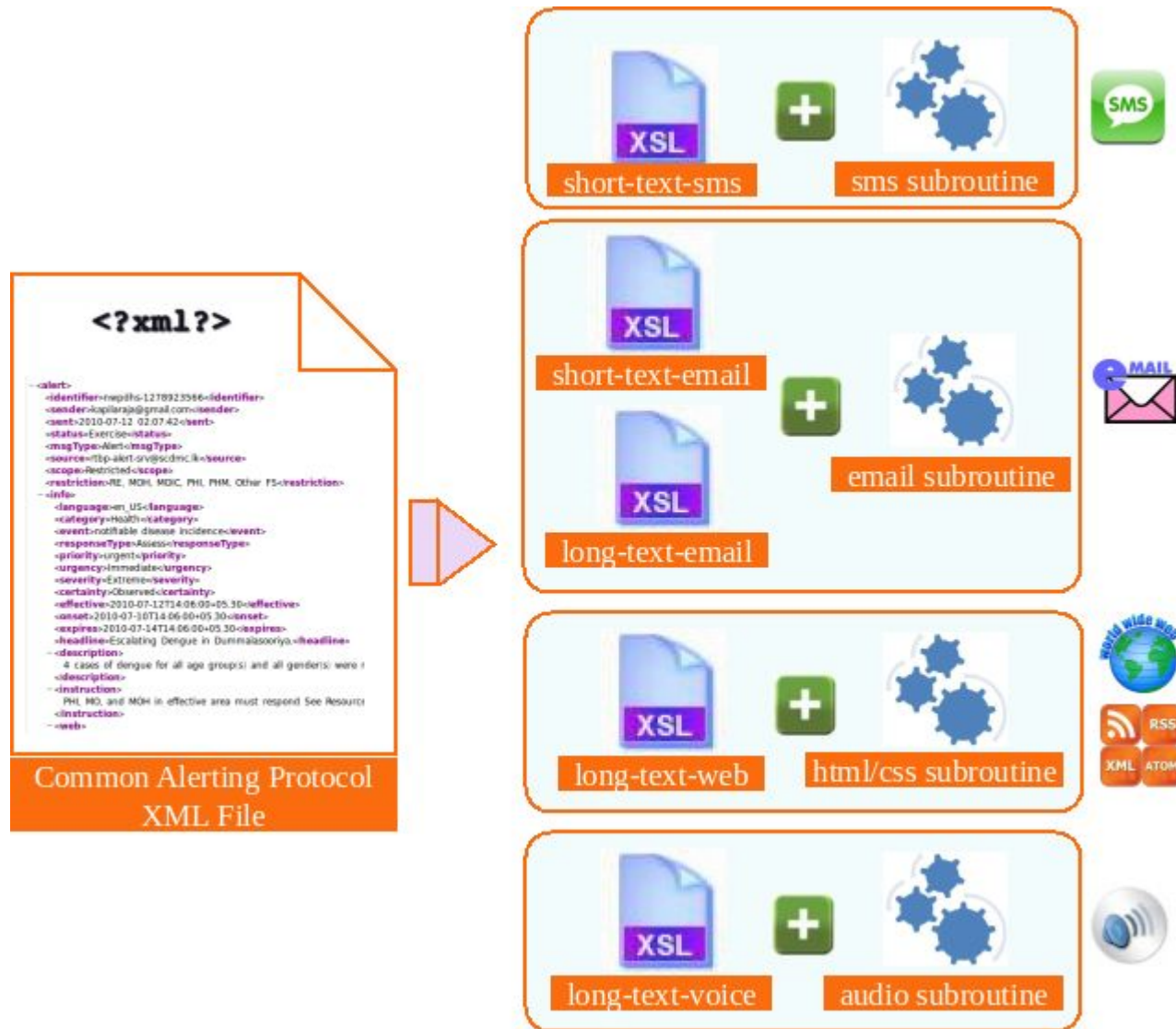
Health Actual Alert effective
for Katupotha!
A priority notifiable
disease incidence issued by

Converted Message: Long Email

Send Message



CAP (XML) → uses XSL to transform → delivery method



Example of style sheet template for SMS

<**headline**> : <**status**>

<**msgType**> for <**areaDesc**> area with
<**priority**> priority <**event**> issued by
<**senderName**>.

Msg: <**identifier**> sent on <**sent**>

Desc: <**description**>

More details

Web: <**web**>

Call: <**contact**>



Example output of style sheet generated SMS

Escalating mumps in Kurunegala district : Exercise Update for *Wariyapola-PHI* area with *low priority notifiable disease outbreak* issued by *Dr Hemachandra*.

Msg : *nwpdhs-1281246871* sent on *2010-08-08 11:08:57*.

Desc : *2 cases of Mumps for 15-20 age group and all genders were reported in Munamaldeniya.*

More Details

Web www.scdmc.lk

Call **2395521**



SABRO Screen – SMS & Email

Escalating chickenpox in Katupotha for Katupotha

Inbox | X



Samana Thetha to nuwan

[show details](#) 1:18 PM (51 minutes ago)



[Reply](#)



Health Actual Alert effective for Katupotha!

A priority notifiable disease incidence issued by

Headline: Escalating chickenpox in Katupotha

Message: nwpdhs-1282032795 from rtbp-alert-srv@scdmc.lk sent at 2010-08-17 04:08:11 is a Actual, Restricted (RE, MOH, MOIC, PHI, PHM, Other FS) Alert.

This category - Health - event is and is .

Description: 1 cases of chickenpox for 15=21 age group and all gender(s) were reported in katupotha.

Response Type: Monitor

Instruction(s): This is to notify PHI, MO, and MOH of the incidence NO ACTIONS required.

Alert is effective from: 2010-08-17T16:43:00+05.30 and will expire on: 2010-08-20T16:43:00+05.30

For more details use the following sources -

Web: http://www.scdmc.lk/index.php?mod=msg&act=view_recent_alerts

call: +94372222278



cap_alert.xml

2K

[Download](#)



SABRO Screen Shots

MESSAGING/ALERTING MODULE

- Home
- Contacts
- Message Templates
- Quick Messages
- Reports
- Surveys
- Disease Alerts
- View Alerts
- View All Alerts
- View Recent Alerts
- Alert Templates


MAIN MENU

- Messaging/Alerting Module
- Biosurveillance

Logged In

User: rtbp

[Logout](#)

 Click to Subscribe to RSS feed

Recently modified Alerts

[Top 5 WER](#)
2010-08-26 03:08:30
Category of **Health** and Message Type of **Alert**

By

Unknown Sender

[Escalating Chickenpox in Kurunegala District, Kurunegala-District](#)
2010-08-14 12:08:26
Category of **Health** and Message Type of **Alert**

Low

By

Dr. W.G.C.Sampath

[Escalating Chickenpox in Sandalankawa, Pannala-MOH](#)
2010-08-14 09:08:40
Category of **Health** and Message Type of **Alert**

Low

By

Dr. W.G.C.Sampath

[Escalating chickenpox in Bopitiya, Bopitiya-PHI](#)
2010-08-14 09:08:19
Category of **Health** and Message Type of **Alert**

Low

By

Dr. W.G.C.Sampath

[Escalating Chickenpox in Munamaldeniya, Udubaddawa-MOH](#)
2010-08-17 01:08:35
Category of **Health** and Message Type of **Cancel**

Low

By

Dr. W.G.C.Sampath

[Escalating Mumps in Kurunegala District, Wariyapola-PHI](#)
2010-08-08 11:08:57
Category of **Health** and Message Type of **Alert**

Low

By

Nuwan W.



SABRO Screen Shots



Alert

Identifier	nwpdhs-1281769557
Sender	chamindusampath@gmail.com
Sent	2010-08-14 12:08:26
Status	Actual
Source	rtbp-alert-srv@scdmc.lk
Scope	Restricted
Restriction	RE, MOH, MOIC, PHI, PHM, Other FS

Info

Language	en_US
Category	Health
Event	notifiable disease incidence
Response Type	Monitor
Priority	low
Urgency	Expected
Severity	Moderate
Certainty	Observed
Effective	2010-08-13T12:36:00+05.30
onset	2010-08-06T12:36:00+05.30
Expires	2010-08-18T12:36:00+05.30
Sender Name	Dr. W.G.C.Sampath
Headline	Escalating Chickenpox in Kurunegala District
Description	4 cases of Chickenpox for 06-14 and 15-21 age group(s) and female gender(s) were reported in PHI ares of Munamaldeniya(2 Cases), Bopitiya(1 case), Sandalankawa(1 case)in Kurunegala District
Instruction	This is to notify PHI, MO, and MOH of the incidence NO PREVENTIVE ACTIONS required.But tracing the patients and routing investigation procedures are recommended.