

The Development of CAP in China Public Emergency Alerting System(CPEAS)

**Training Workshop on Synergized Standard
Operating Procedures (SSOP)**

Nanjing, China

Qing Dai (daiqing@cma.gov.cn)

National Meteorological Information Center, CMA

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China Public Emergency Alerting System (CPEAS)

Allows the authorities of China to notify people under all emergency circumstances which are divided into four categories including :

- ❑ natural calamity
- ❑ accident disaster
- ❑ public health emergency
- ❑ social safety

- Authorized By Emergency Response Office of State Council
- Built by China Meteorological Administration (CMA)

Why (CMA) China Meteorological Administration

1. Rich in experience of alerting publishing
2. Possesses branches all over the whole nation
(**1** State-level, **31** Province-level, **342** Prefecture-level, **2379** County -level)
3. Vertical and Horizontal network advantage
4. Facilitated satellite resource for back-up
5. Multi-dissemination channels

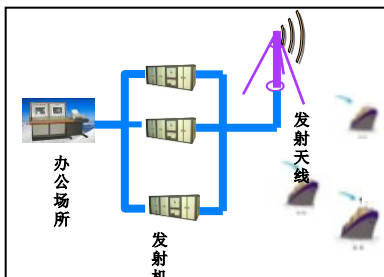
Dissemination methods of CMA



Mobile Phone Message
Customer **130 million**



TV Weather Forecast
A total of **3300 programs**



Marine Weather Radio
National-level **3**, local **5**



<http://www.xn121.com/>
Agriculture Service Website



<http://www.weather.com.cn/>
Rank **No.1** Service Website
in China

Met Departments
Multi-Method,
Wide Coverage



Met Info. Service Station
45,000



Weather Voice Telephone
Over **53 million** times per month



Warning Horn
179,000

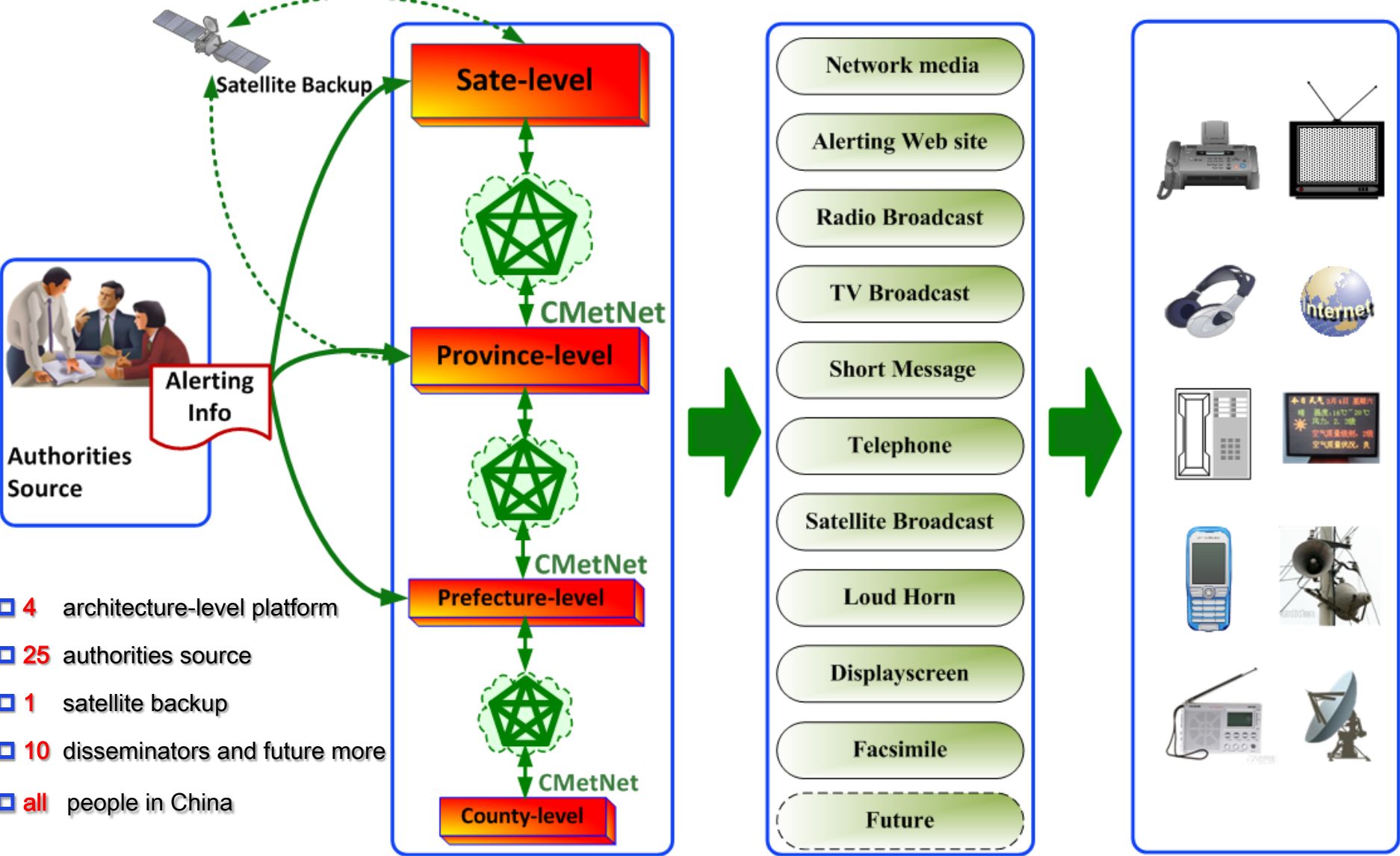


Electronic Display
70,000



铜陵市钟鸣镇金山村书记
肖帮群
那个风把那个村全埋在泥里了
国家气象信息中心
Rural Info. Workers
550,000

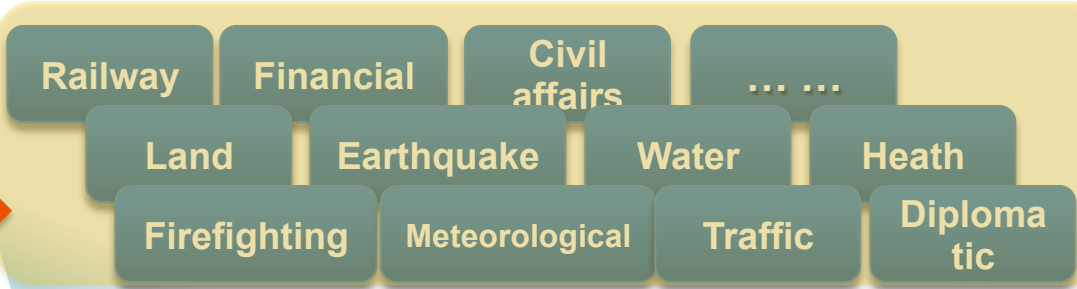
CPEAS Architecture



- 4 architecture-level platform
- 25 authorities source
- 1 satellite backup
- 10 disseminators and future more
- all people in China



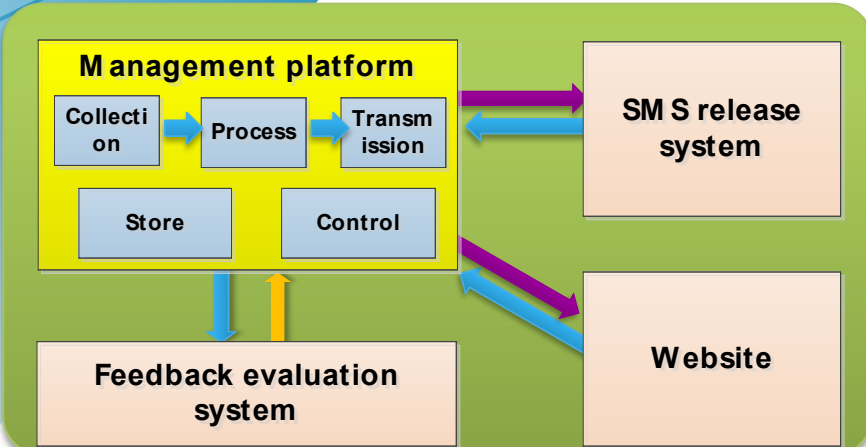
25 ministries and commissions



2
"Vertical"



China Public Emergency Alerting System



3

- Network media
- Alerting Web site
- Radio Broadcast
- TV Broadcast
- Short Message
- Telephone
- Satellite Broadcast
- Loud Horn
- Display screen
- Faeximile
- Future

A variety of means to people



Screenshot of the management platform

国家突发事件预警信息发布系统 国家级预警信息发布中心

首页 | 信息发布 | 空间分布 | 统计监视 | 数据管理 | 业务配置 | 系统管理

预警信息录入

预警信息审核

预警信息签发

预警信息应急办签发

预警信息复核

重要通知录入

重要通知审核

重要通知签发

上级下发信息

下级备案信息

基本信息(必填项)

事件类别: * [] 预警级别: * 红色预警[级特别重大] 信息类型: * 首发信息

发布单位名称: * 国家级预警信息发布中心 发布时间: * []

影响范围: * 限制300字以内

信息内容: * 限制1500字以内

其它信息(选填项)

发布对象(必选项)

发布范围行政区划: * [] 选择发布范围 地图框选发布范围

策略名称: 无 匹配策略 自定义

人工选择: 邮件 传真 电子显示屏 大喇叭 手机短信 互联网

附件信息(选填项)

<input type="checkbox"/>	序号	扫描件名称	类型	大小	是否是发布批文	操作

Main Functions:

Collection, Processing, Transmission, Storage, Sharing, Monitoring

What is CAP?

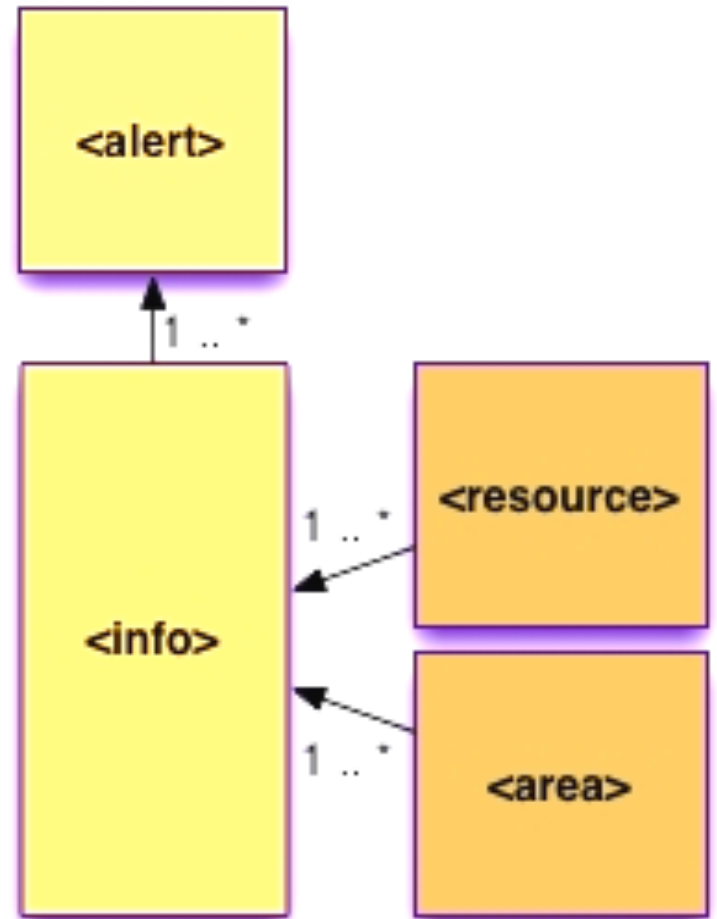
The Common Alerting Protocol (CAP) is a standard message format designed for All-Media, All-Hazard, communications:

- **over any and all media** (*television, radio, telephone, fax, highway signs, e-mail, Web sites, RSS "Blogs", ...*)
- **about any and all kinds of hazard** (*Weather, Fires, Earthquakes, Volcanoes, Landslides, Child Abductions, Disease Outbreaks, Air Quality Warnings, Beach Closings, Transportation Problems, Power Outages, ...*)
- **to anyone:** the public at large; designated groups (civic authority, responders, etc.); specific people

Structure of a CAP Alert

CAP Alert messages contain:

- Text values for human readers, e.g., "headline", "description", "instruction", "area description", etc.
- Coded values are useful for filtering, routing, and automated translation to human languages

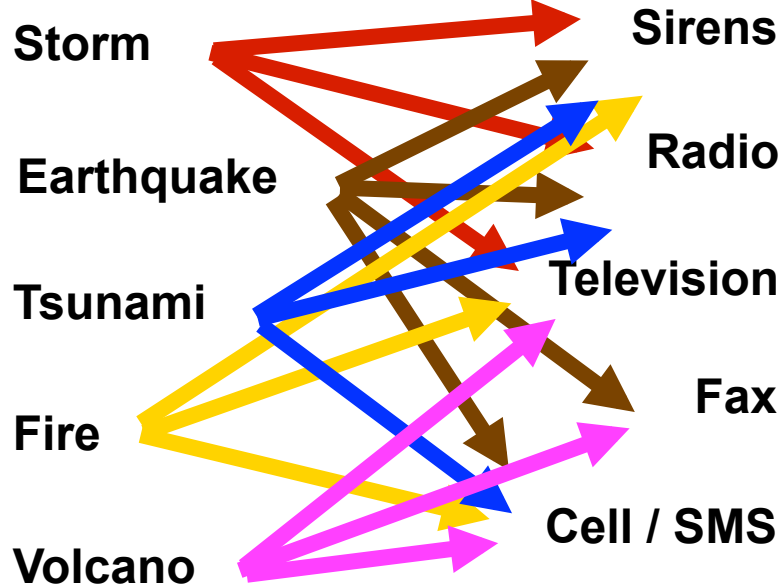


Why CAP (Common Alerting Protocol)

Different Systems → **Across** → **Different**

Another City / Province / Country

One City / Province / Country



Region

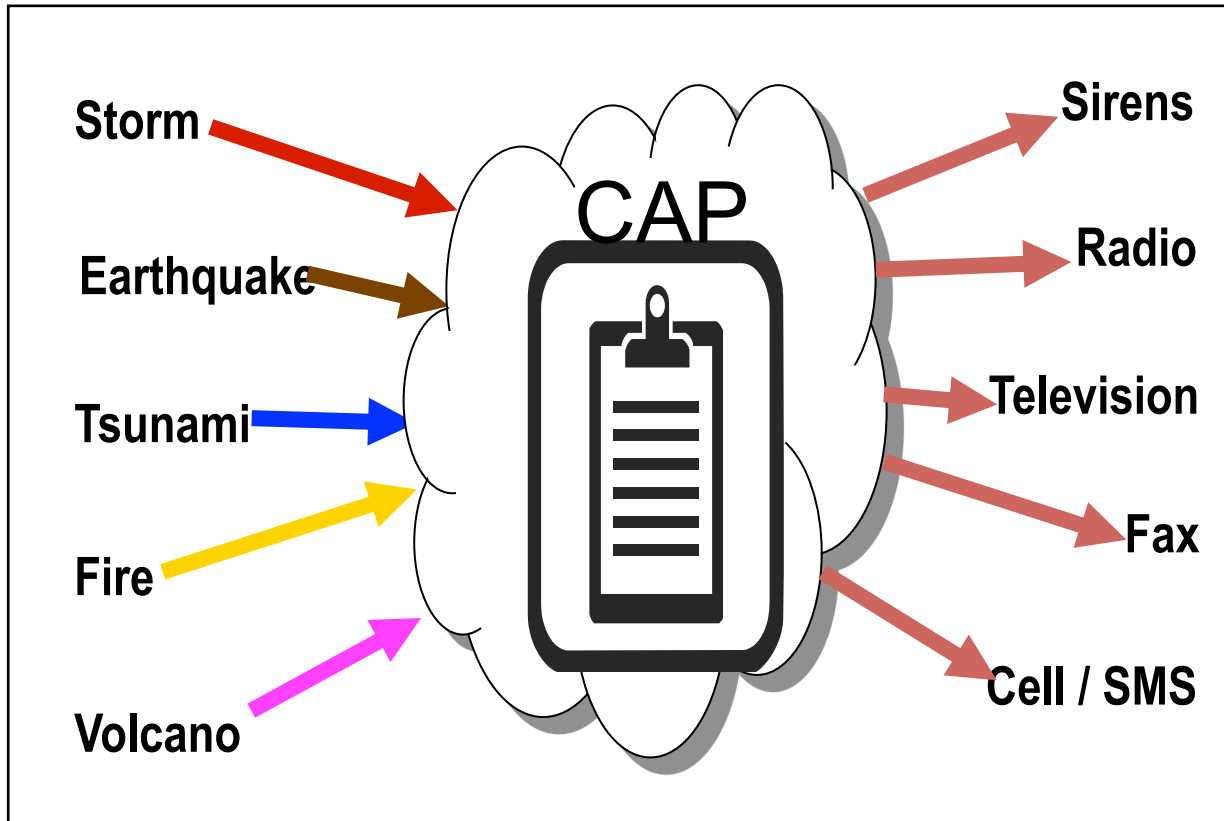
Hazard

Media

Why CAP (Common Alerting Protocol)

CAP Message Format

Any City / Province / Country



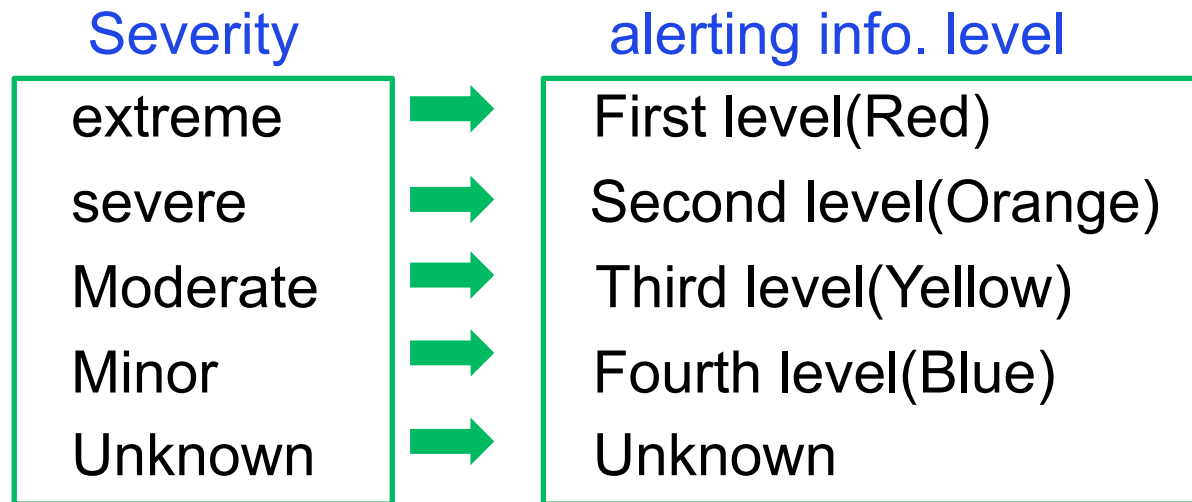
CAP Localization

1. Modification
2. Innovation
3. Explicit definition
4. Enhancement
5. Demonstration

1. Modification

e.g.

Define **alerting information levels** according to <National Master Plan for Responding to Public Emergencies> issued by Emergency Response Office of State Council in China.



Typhoon



Rainstorm



High Temperature



2. Innovation

Define publishing strategy

- based on **CAP Item**: alerting category and severity(alert info. level)
- automatically match publishing methods and objects
- according to emergency prediction scheme

3. Explicit definition

e.g.

Re-define the item "Headline" and automatically generated:

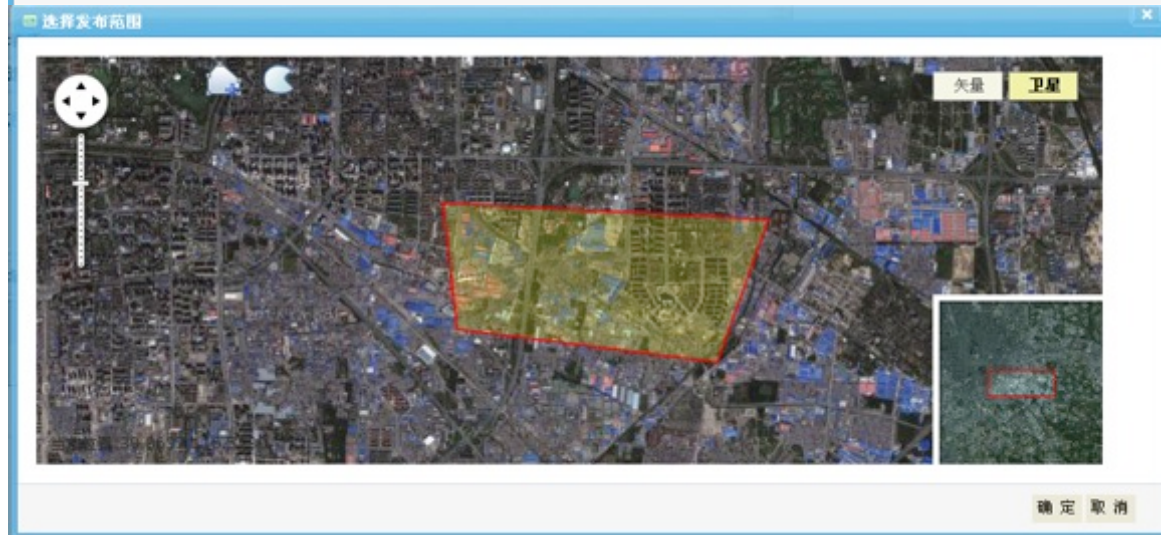
<sender> + "publish" + <severity> + <eventType> + "alerting"



CMA publish a red snowstorm alerting

4. Enhancement

Geography indication includes both GIS polygons and geocodes.



5. Demonstration

CAP

Authorities

Input Interface of Alerting Publishing

*信息 ID	中国气象局-中央气象台-20101016-093000		
*发送者 ID	Liming@CMA.gov.cn		
*信息发起时间	2010-10-16T09:30:00		
*信息状态	演练信息		
*信息类型	首发信息		
说明	此信息为演练信息,收到信息后无需任何操作		
*发布范围	限制	等级	应急责任人
			区域 北京
关联预警信息			
关联事件			

<Alert>



TV Broadcast

*事件类别	自然灾害	*事件类型	台风	语言	zh-CN
*紧急性	临近	*严重性	一级	*确定性	确定发生
*发生时间	下午四点				
事件标题	厦门市台风红色预警				
事件描述	今年第13号台风“鲇鱼”16时减弱为强热带风暴,中心位于漳浦境内,中心最大风力11级,七级风圈半径150公里。目前“鲇鱼”以每小时10-15公里的速度向偏北方向移动,厦门地区今天夜间:阴有中到大雨,岛外山区有大雨到暴雨;明天白天:多云到阴天有阵雨,岛外北部山区有大雨,偏南风5-6级,阵风7-8级转3-4级。				
关键词	17级				
应对措施类别	准备				
应对措施说明	1. 停止集会,停课,停业(除特殊行业外); 2. 回港避风的船舶要视情况采取相应措施,妥善安排人员留守或者转移到安全地带; 3. 加固或者拆除易被风吹动的搭建物,人员应当呆在防风安全的地方。当台风中心经过时风力会减小或者暂时一段时间,切记强风将会突然吹袭,应当继续留在安全处避风,危房人员及时转移。				
网络资源	http://www.weather.com.cn/alar/zhyj/10/1176542.shtml				
联系人	中国气象局某某司某某处 李明				
联系方式	010-87654321				

<Info>

*区域描述	福建省厦门市		
区域代码	350200	海拔	
圆形区域		最大海拔	
多边形区域			

<Area>

*附件描述	台风“鲇鱼”路径图
后缀类型	Jpg
附件大小	84k
附件上传	浏览...

<Resource>



Facsimile



Disseminators

```
<?xml version = "1.0" encoding = "UTF-8"?>
<alert xmlns = "urn:oasis:names:tc:emergency:cap:1.2">
<identifier>CMA-NMC-20110126-174400</identifier>
<sender>CMA</sender>
<sent>2011-01-26T17:44:00</sent>
<status>Actual</status>
<msgType>Alert</msgType>
<scope>Public</scope>
<info>
<language>en-US</language>
<category>natural calamity</category>
<event>typhoon</event>
<urgency>Immediate</urgency>
<severity>1st level</severity>
<certainty>Likely</certainty>
<senderName>Liming – NMC-CMA</senderName>
<headline>typhoo will make landfall in Xiamen</headline>
<description> In Xia Men District, winds today from the west at 60,
gusting to 80. Tonight, west winds at 60 km/h, gusting to 80, then
diminishing to 30. On Sunday, winds will be from the west at 30
km/h. <description>
<instruction> 1. Suspend all school, bussiness and gathering
(except necessary industry) 2. Fishing vessels should seek shelter.
3.Stay away from the shoreline and not to engage in water
sports.</instruction>
<contact>Mr. Luojie, Beijing at 010 87654321</contact>
</info>
.....
</alert>
```

CMA public a **1st level typhoon** alerting.

Screen Publishing

Web Publishing

```
<?xml version = "1.0" encoding = "UTF-8"?>
<alert xmlns = "urn:oasis:names:tc:emergency:cap:1.2">
<identifier>CMA-NMC-20110126-174400</identifier>
<sender>CMA</sender>
<sent>2011-01-26T17:44:00</sent>
<status>Actual</status>
<msgType>Alert</msgType>
<scope>Public</scope>
<info>
<language>en-US</language>
<category>natural calamity</category>
<event>typhoon</event>
<urgency>Immediate</urgency>
<severity>1st level</severity>
<certainty>Likely</certainty>
<senderName>Liming – NMC-CMA</senderName>
<headline>typhoo will make landfall in Xiamen</headline>
<description> In Xiamen District, winds today from the
west at 60, gusting to 80. Tonight, west winds at 60 km/h,
gusting to 80, then diminishing to 30. On Sunday, winds
will be from the west at 30 km/h. <description>
<instruction> 1. Suspend all school, bussiness and
gathering (except necessary industry) 2. Fishing vessels
should seek shelter. 3.Stay away from the shoreline and
not to engage in water sports.</instruction>
<contact>Mr. Luojie, CMA at 010 87654321</contact>
</info>
.....
</alert>
```

Typhoo will make landfall in Xiamen

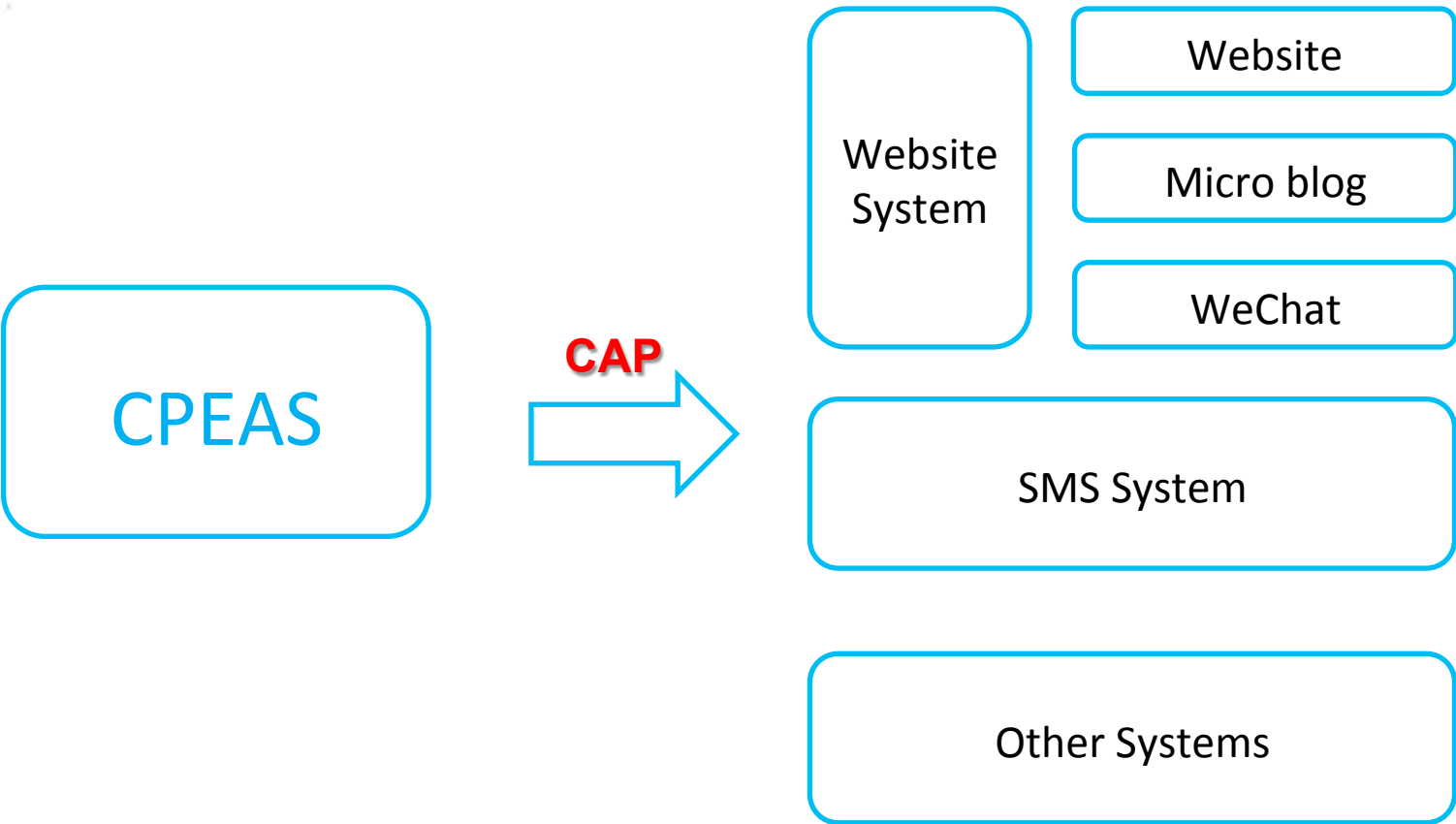
CMA public a 1st level typhoon alerting. In Xiamen District, winds today from the west at 60, gusting to 80. Tonight, west winds at 60 km/h, gusting to 80, then diminishing to 30. On Sunday, winds will be from the west at 30 km/h.

Instruction:

1. Suspend all school, bussiness and gathering (except necessary industry)
2. Fishing vessels should seek shelter.
3. Stay away from the shoreline and not to engage in water sports.

Contact: Mr. Luojie, CMA at 010 87654321

CPEAS dissemination interface



国家突发事件预警信息发布系统

首页 预警信息 通知公告



国家突发事件预警信息发布系统

政府应急

应急动态

- 中国气象局启动应急响应 应对第... 09-06
- 环保部：14个重点城市空气质量过... 09-05
- 湖南启动今年首个全省性防汛防... 09-04
- 中央气象台发布今年首个高温黄色预... 09-03
- 民政部启动“广东洪灾”紧急救助... 09-03
- 国家质检总局启动突发事件应急... 09-03
- 国土资源部启动地质灾害应急... 09-03
- 国家防总：启动重大防汛... 09-03
- 上半年地球同步轨道卫星发射... 09-03

公共安全

微博(2100)

12379国家预
18分钟前 来自:未

广西壮族自
[IV级/一般]



转发

12379国家预
23分钟前 来自:未

12379

12379国家预
警[IV级/一般]

聊城气象
[IV级/一般]

泰安气象
[IV级/一般]

海口市气
[IV级/一般]

海南省气
[IV级/一般]

宿迁市气
[IV级/一般]

12379预警发布中心

请输入正确的城市或省份名称
查询，如：“北京”、“廊坊”、
“昭通”等省市地区

5月12日 下午15:10

防灾减灾日
5月12日




5-12 防灾减灾日

自2009年起，每年5月12日设立为全国“防灾减灾日”。

查看全文

5月30日 下午14:44

最新预警 预警知识 更多服务

Alerting Website

Microblog

Wechat

Portal Website

Internet Media

SMS system



短信发布平台



预警接收

预警处理

数据上传

发布策略

用户管理

网关配置

管理统计

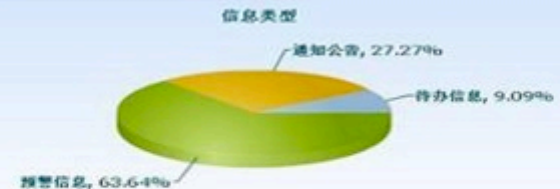
系统监控

系统管理

通知公告

序号	信息标题	发送时间	发送状态	操作
1	关于安全保障工作的通知	2012-10-22 22:12:00	成功	查看

信息类型统计



发送类型	信息数量 (个)	发送成功数量 (条)	成功接收数量 (条)
待办信息	1	1	1
通知公告	3	8	8
预警信息	7	10	10
合计	11	19	19

预警信息

序号	信息标题	发送时间	发送状态	操作
1	气象局发布暴雪事件蓝色...	2012-10-22 22:12:00	成功	查看

系统运行状况

cpu基本信息
CPU总量: 38304

Main Features:

- Unified national early warning number—12379
- Connected to the 3 major telecom operators of China
- Group management

Future plan

- I. **Update** to a completely **4-level** dissemination system, consists of national level, provincial level, city level and county level
- II. **Promote** the **dissemination coverage** and **receiving capacity** of countryside and remote areas
- III. **Integrate** more **Dissemination Methods**, such as **Mobile Phone App**, **Beidou satellite alerting publishing system**, etc.

All based on CAP...

Thank you.