

The Italian profile (guidelines) of the CAP, CAP IT, the implementation of the public warning system in Italy and IT-Alert

2020 Common Alerting Protocol (CAP)
Training and Implementation Workshop

ITU, Geneve - 30/09/2020

Stefano Calabrese
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Presidency of the Council of Ministers - Civil Protection Department

- ✓ **The National Civil Protection Service of Italy**
- ✓ **CAP IT the Italian profiles (guidelines) of Common Alerting Protocol**
- ✓ **IT-Alert**
- ✓ **Italian Alert Hub**

Italy: a Country prone to disasters

Stefano Calabrese

Earthquake

Most of Italian territory is prone to seismic risk



Volcanoes

10 volcanoes, 2 active and 8 quiescent.
Vesuvio and Campi Flegrei at very high risk



Hydraulic and Hydrogeological risk

82% of Italian municipalities are exposed to hydro-geological risk



Forest Fires

30 % of the Italian territory is exposed to the risk of forest fires

Tsunamis

Italy has been affected by historical tsunamis



Drought

Due to climate change the drought risk has increased





PROTEZIONE CIVILE
Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile

1982

Establishment of
the **Department**
of Civil
Protection

1992

Law 225
Establishment of
the National Civil
Protection
Service

2018

Leg.D. 1
02.01.2018
Italian Civil
Protection Code

From **1992 to 2018**
the civil protection
System has evolved
through other
regulatory
measures



“To safeguard human life and health, goods, the national heritage, human settlements, animals and the environment from both natural or man-made disasters”.

Disaster cycle management and main activities

Stefano Calabrese

FORECASTING

Risk scenario
identification and
study

OVERCOMING EMERGENCY

Resumption of
normal living
conditions



PREVENTION AND PREPAREDNESS

Risk reduction

EMERGENCY MANAGEMENT

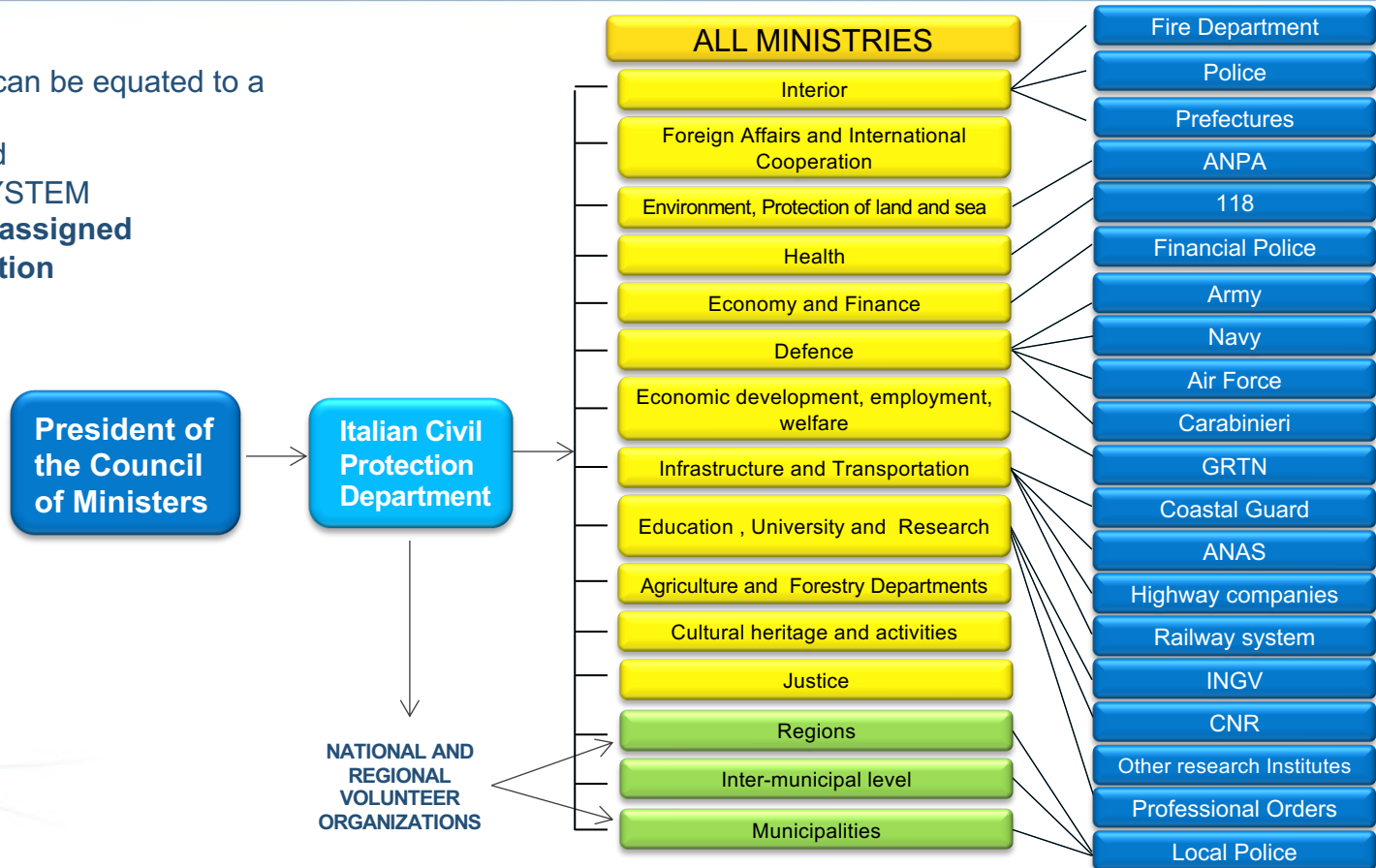
Relief and assistance

A system based on functions

Stefano Calabrese

Civil protection in Italy can be equated to a **FUNCTION** within a COMPLEX and COMPREHENSIVE SYSTEM and **NOT** TO A TASK assigned to a single administration

Organisational structure during an emergency



Given the conformation and the number of components of the Civil Protection System, communications and communication methods are crucial both from a semantic and a technological point of view. The Department of Civil Protection, in order to favor the exchange of information and the applicative and semantic interoperability, adopts the Open Standards.



Open Standards are standards made available to the general public and are developed (or approved) and maintained via a collaborative and consensus driven process. Open Standards facilitate interoperability and data exchange among different products or services and are intended for widespread adoption.



We are member of OASIS since September 2020

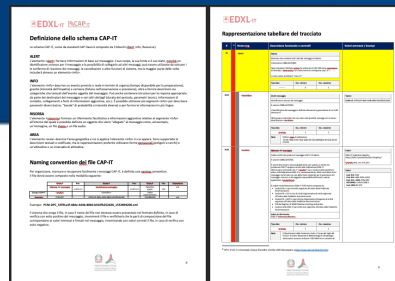


One of the first initiatives in terms of interoperability and open standards is the proposal to issue Italian CAP profile (guidelines) approved by OASIS.

Why an Italian profile (guidelines) of Common Alerting Protocol?

The CAP is a widely used standard all over the world, our goal is to strictly adhere to the standard by defining it for **Italian specificities** by defining **controlled vocabularies** for the correct translation of the information in english language contained in the CAP messages, for a representation and homogeneous interpretation of the information, the definition of **geodata** and **specific parameters** and **event** for use on the Italian territory.

CAP IT should work anywhere!



Specific rules and Recommendations

- ✓ Naming convention file
- ✓ Sender
- ✓ Event
- ✓ ...



Controlled Vocabularies

- ✓ Italian (and linguistic strains) translation for English string defined in CAP standard
- ✓ Specific data



Geodata

- ✓ Polygon and Geocode data

<param>

Parameters

- ✓ Specific parameters used for messages delivered in Italy



Federation Registry

- ✓ Sender code and name
- ✓ Public key cert of signing key (x509)
- ✓ Other technical informations

These Italian specifications of the *Common Alerting Protocol* have the sole purpose of organizing CAP messages on the Italian territory and do not invalidate the standard to which they strictly refer.



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  administration="Presidenza del Consiglio dei Ministri - Dipartimento della Protezione Civile">
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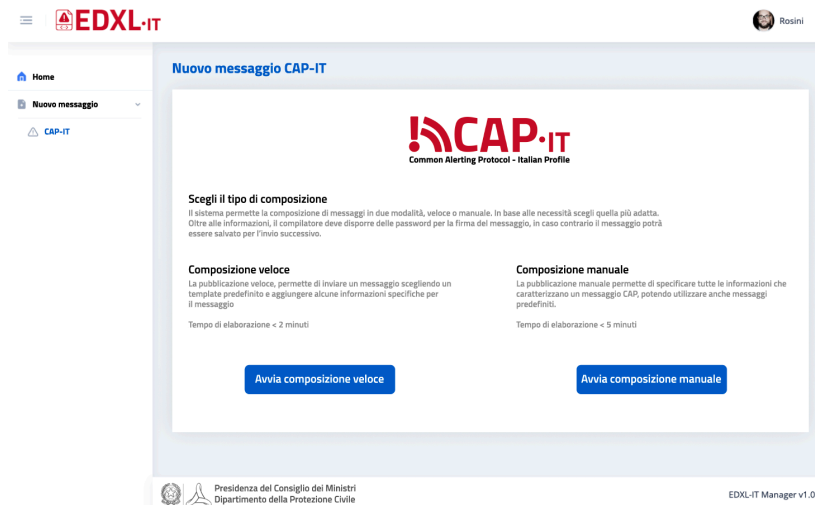
...



```

AlertHub-IT-FederationRegistry-Entity
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```



EDXL-IT

Home

Nuovo messaggio

CAP-IT

Nuovo messaggio CAP-IT

!CAP-IT
Common Alerting Protocol - Italian Profile

Scegli il tipo di composizione
Il sistema permette la composizione di messaggi in due modalità, veloce o manuale. In base alle necessità scegli quella più adatta. Oltre alle informazioni, il compilatore deve disporre delle password per la firma del messaggio, in caso contrario il messaggio potrà essere salvato per l'invio successivo.

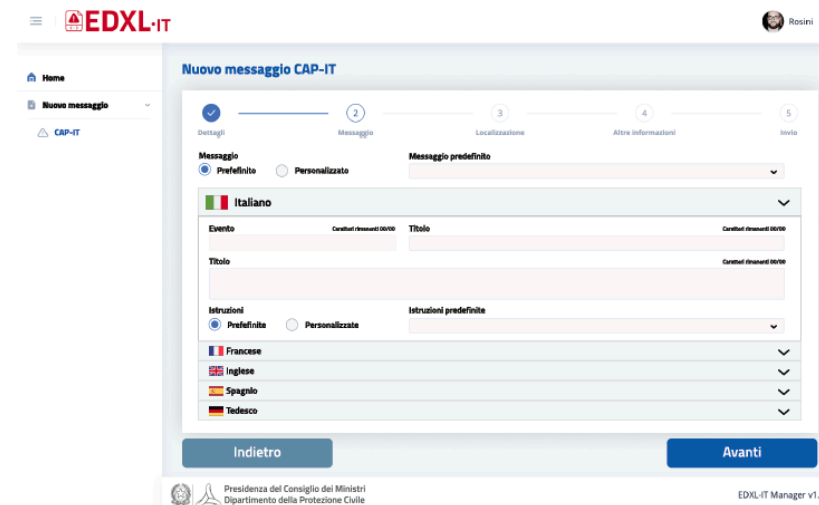
Composizione veloce
La pubblicazione veloce, permette di inviare un messaggio scegliendo un template predefinito e aggiungere alcune informazioni specifiche per il messaggio.
Tempo di elaborazione < 2 minuti

Composizione manuale
La pubblicazione manuale permette di specificare tutte le informazioni che caratterizzano un messaggio CAP, potendo utilizzare anche messaggi predefiniti.
Tempo di elaborazione < 5 minuti

Avvia composizione veloce **Avvia composizione manuale**

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EDXL-IT

Home

Nuovo messaggio

CAP-IT

Nuovo messaggio CAP-IT

1. Dettagli 2. Messaggio 3. Localizzazione 4. Altre informazioni 5. Invia

Messaggio ☒ Prefinito ☐ Personalizzato

Messaggio predefinito

Italiano

Evento Caratterizzato da: 00/00 **Titolo** Caratterizzato da: 00/00

Titolo Caratterizzato da: 00/00



Istruzioni ☒ Prefinito ☐ Personalizzato

Istruzioni predefinite

Indietro **Avanti**

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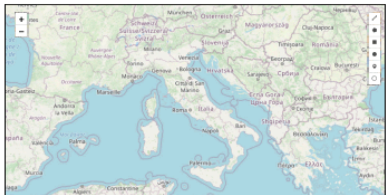
[Home](#)
[Nuovo messaggio](#)
[CAP-IT](#)

Nuovo messaggio CAP-IT

Dettagli
 Messaggio
 Localizzazione
 Altre informazioni
 Invio

Categoria localizzazione predefinita
 Localizzazione predefinita


Cerca





Localizzazioni definite

Localizzazione	Tipi localizzazione	Dest. localizzazione
localizzazione 1	Prigioni	00000-00000-00000
localizzazione 2	Circo	123456-123456
localizzazione 3	Genocidio	004321-004321

[Indietro](#)
[Avanti](#)


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Nuovo messaggio CAP-IT

Dettagli
 Messaggio
 Localizzazione
 Altre informazioni
 Invio

Il messaggio CAP-IT è corretto ed è pronto per essere firmato ed inviato

Specificare la firma e i canali di pubblicazione della risorsa o salvare il messaggio per inviarlo successivamente o per farlo prendere in carico ad un soggetto abilitato all'invio e la firma. Il salvataggio permette anche di definire il messaggio come template.

[Ricontrolla messaggio](#) [Salva](#)

Firma

Il messaggio prodotto può essere firmato con una delle firme predefinite sul sistema (necessaria la password) o firmate con altri sistemi scaricando e ricaricando il file.

Firma predefinita

[Firma](#)

Canali di pubblicazione

I canali di pubblicazione devono essere definiti esplicitamente. Alcune firme non sono abilitate per tutti i canali e i messaggi potrebbero essere scartati.

☐ EDXL-IT Hub (rsa/atom - api - github)
☐ IT-alert Cellbroadcast
☐ IT-Alert App
☐ IT-Alert Web


Scarica

PCN DFC_51591617-48b6-4d6b-8860-3010f0212628_1552894200.xml

Carica file firmato

[Carica](#)

[Indietro](#)
[Invia messaggio](#)


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EU-alert is the European Public Warning Service



On December 2018, the European Parliament and the European Council published a new directive, EU 2018/1972, on the European Electronic Communications Code (EECC). The new article, Article 110, requires all EU member states to have an effective public alarm system by June 2022.

The EU-Alert standard is ETSI TS 102 900 V1.3.1

Currently the active countries are:

Netherlands – Greece – Lithuania – Romania

Italy under activation



It's described by the Decree of the President of the Council of Ministers of 19 June 2020: "Methods and criteria for activating and managing the IT-alert service". This decree implements the Directive (EU) 2018/1972, of the European Parliament and of the Council, of 11 December 2018, which establishes the European Code of electronic communications and, in particular, article 110 relating to the provisions concerning the establishment of public warning systems in the Member States.

IT-alert is the public warning system of civil protection. It's a multichannel system that will send messages through Cellbroadcast, App and WebServices.



Cellbroadcast



App



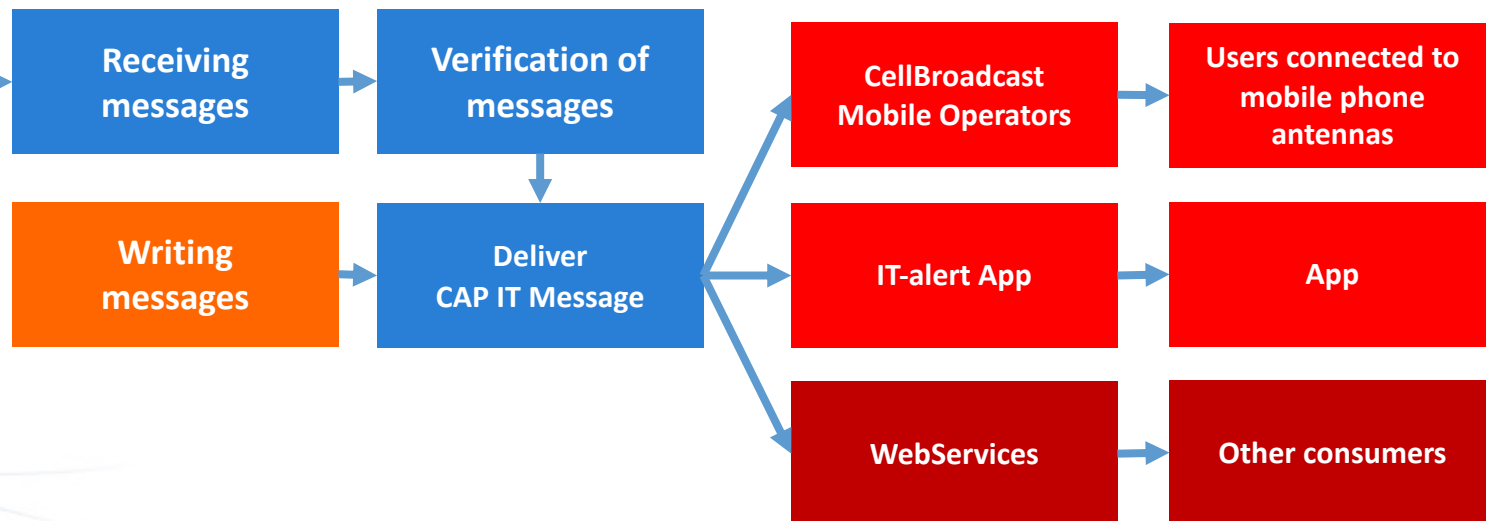
WebServices

Type of messages:

Automatic – Semi-automatic - Manual

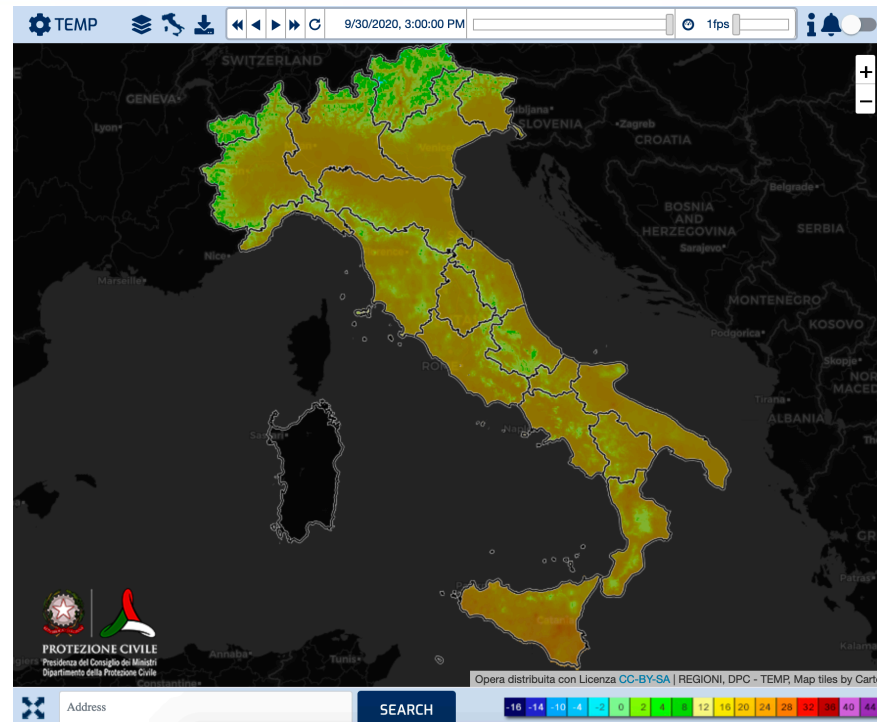
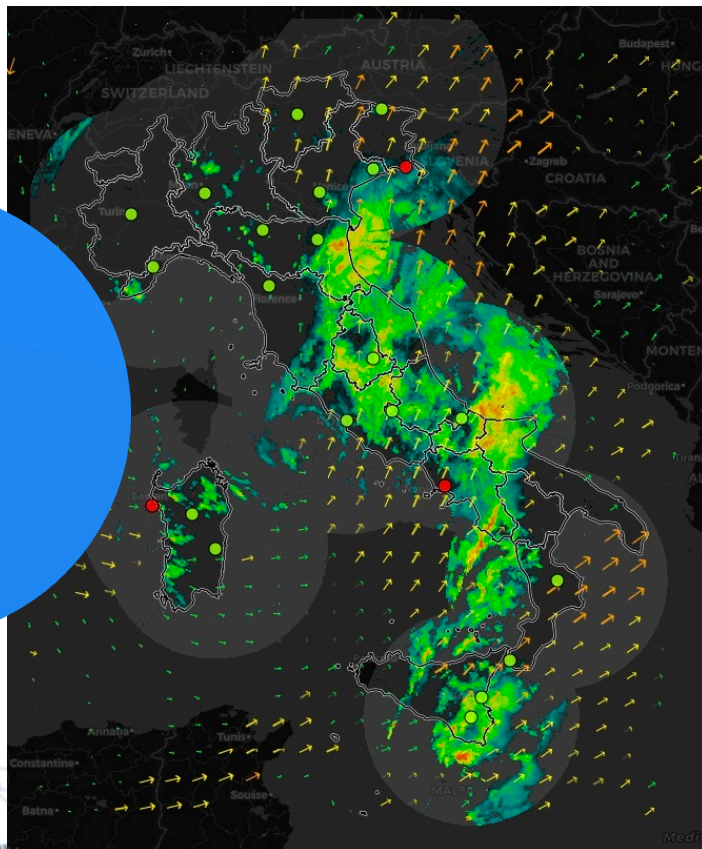
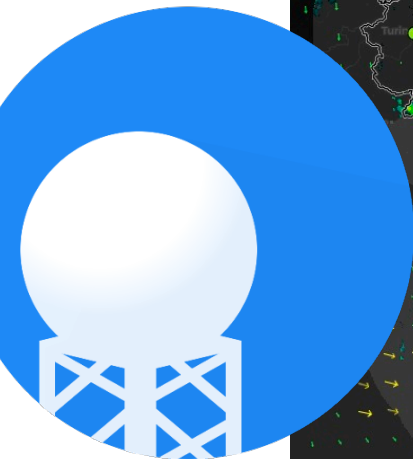
Systems that send CAP messages:

- INGV Tsunamis
- DPC radar platform



DPC Italy Radar Map

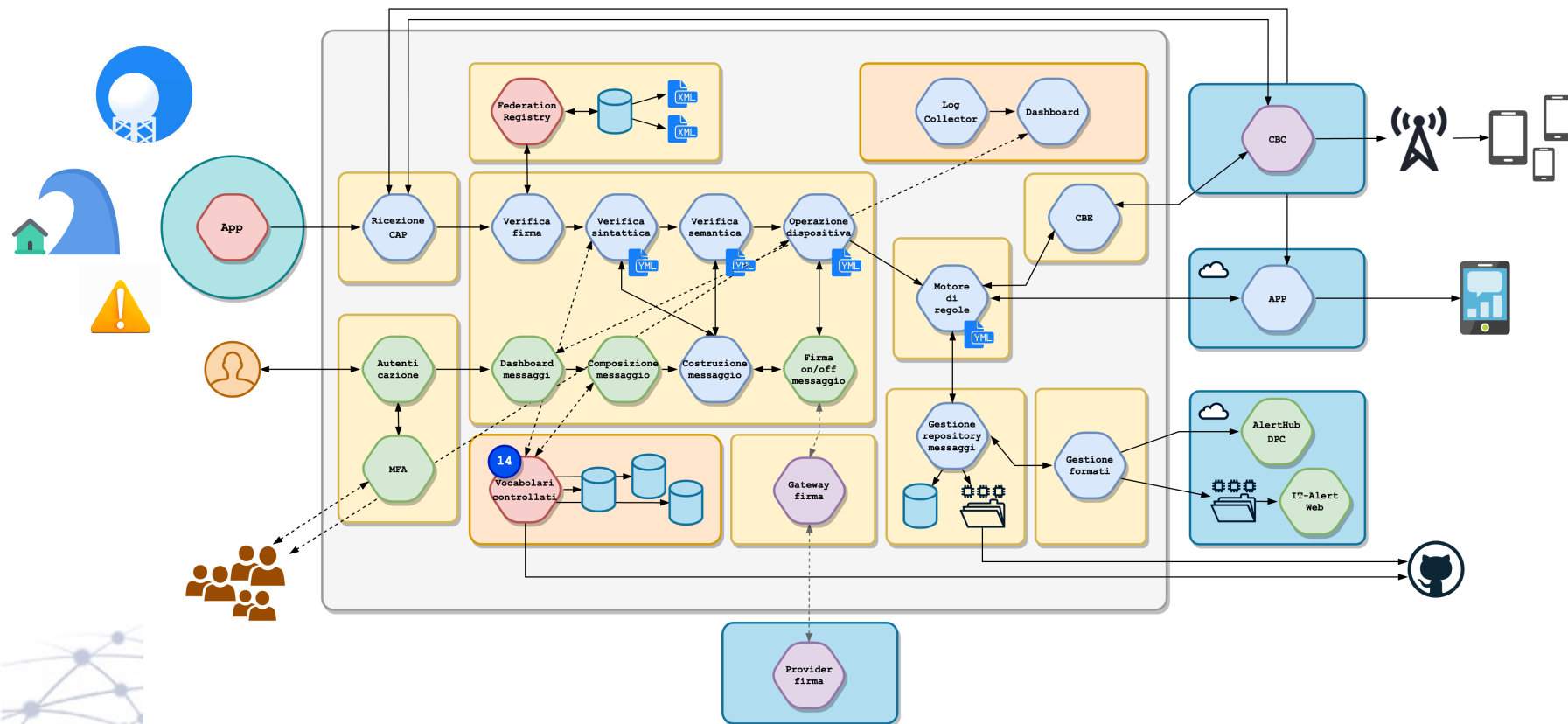
Umberto Rosini



<http://www.protezionecivile.gov.it/radar-dpc/#/pages/dashboard>

IT-alert architecture

Umberto Rosini



EU-Alert standard compliance

Compatibility with mobile phones of foreign citizens in Italy and vice versa

Timeliness

Possibility of reaching a very large number of users in a very short time

Geographical location

Based on the distribution of the mobile network telephone cells

No additional load on the network

The messages also arrive in case of saturation

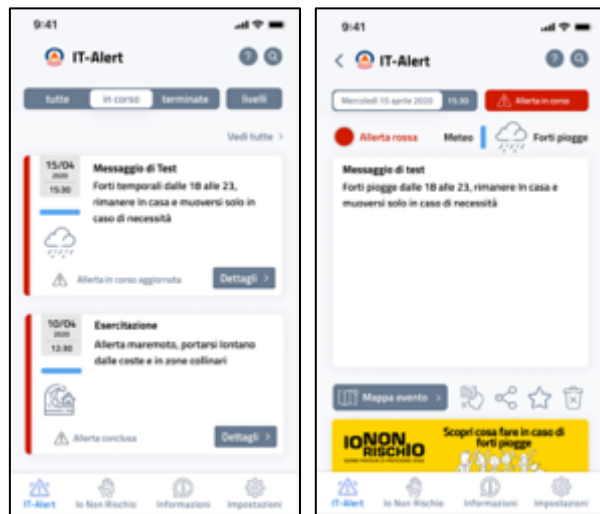
One-way information flow

It does not impact user privacy

No action

No preventive action by users is required



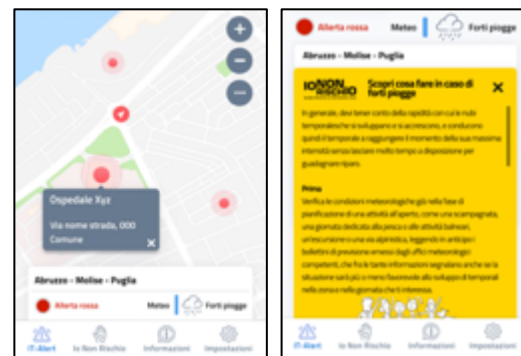


Functionalities

- Message consultation based on geolocation or defined locations
- Insights into the good civil protection practices of the "I don't risk" initiative (www.iononrischio.it)
- Map display with indication of the affected areas
- No authentication and user profiling

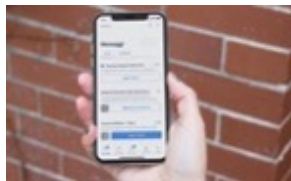
Technological aspects

- Native IOS / Android app and web version
- Hybrid on-premise / cloud architecture based on microservices



Interoperability

- ✓ IT-alert uses the **Common Alerting Protocol (CAP)**, Italian profile (guidelines) **CAP IT**
- ✓ **RSS / Atom channels** (standard methodology for emergency messages), **API Rest** and **GitHub** platform

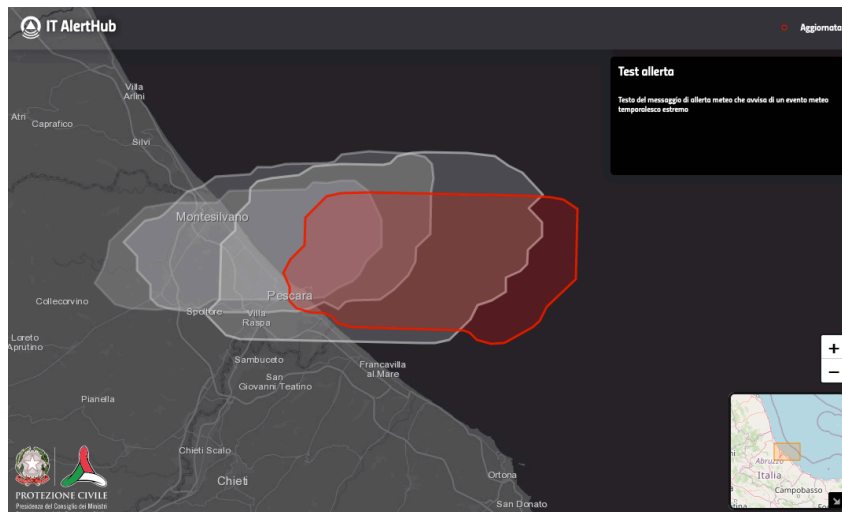


Use cases

- ✓ App "IO" (the Italian App of Public Services www.io.italia.it) and regional civil protection apps and web sites / services
- ✓ Streaming on TV and Radio and on road / motorway led signs
- Control and intervention systems on the territory (civil protection, firefighters, law enforcement, municipalities)

The Italian AlertHub is released to aggregate alerts and alarms from different entities both used by IT-alerts and in other contexts and to allow the reuse of the CAP messages delivered.

We will reuse and we will contribute to the Filtered Alert Hub Project!



Thank you!



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THANK YOU