

Interoperability into the Italian National Fire Corps Control Centres

Stefano Marsella*

Carlo Giammichele*

Marcello Marzoli*

**National Fire Corps, Italy*

Italian National Fire Corps



Italian National Fire Corps



Ministry of Interior

Italian National Fire Corps



18 Regional Directorates

100 Provincial HQ

700 Fire Stations

35.000 Firemen



Assisi, 9 May 2012 – International Workshop on Interoperability and Rescue

the interoperability layers



Knowledge/Awareness

the interoperability layers



the interoperability layers



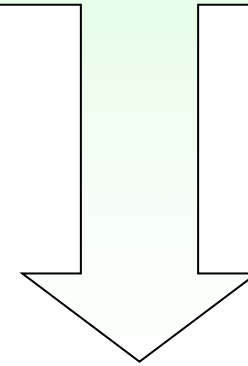
Political Objectives

Harmonised Strategy/Doctrines

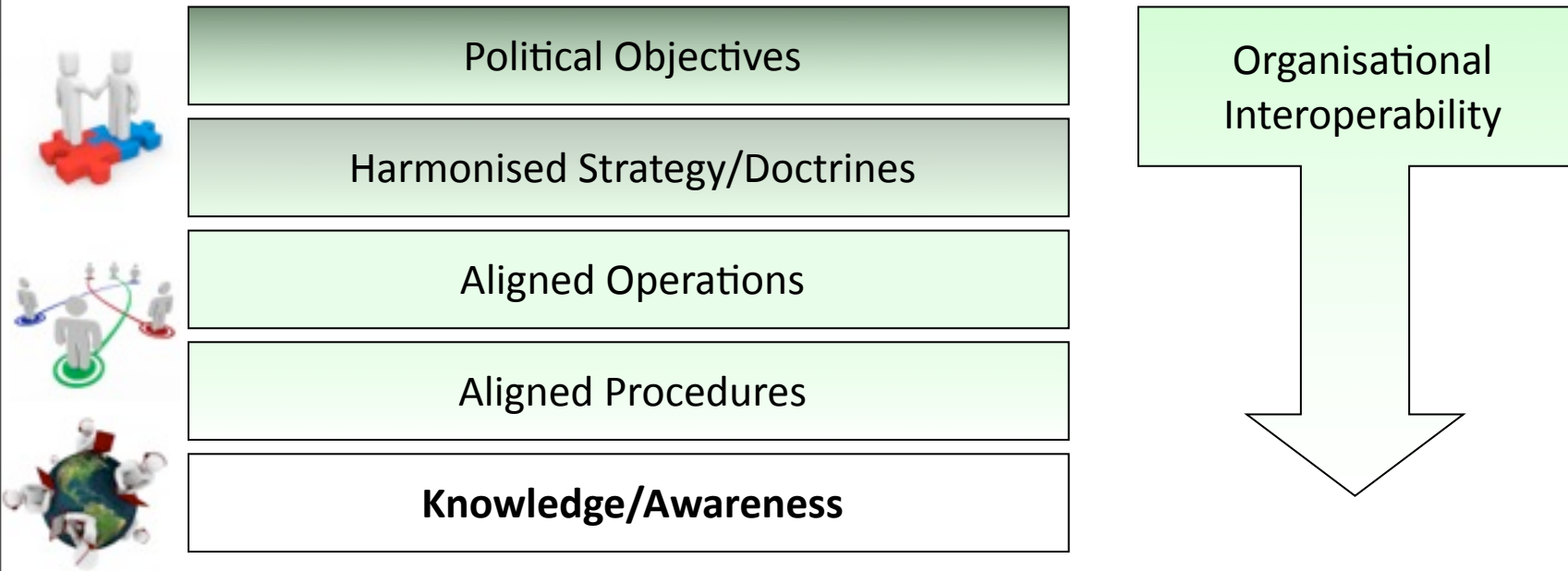


Knowledge/Awareness

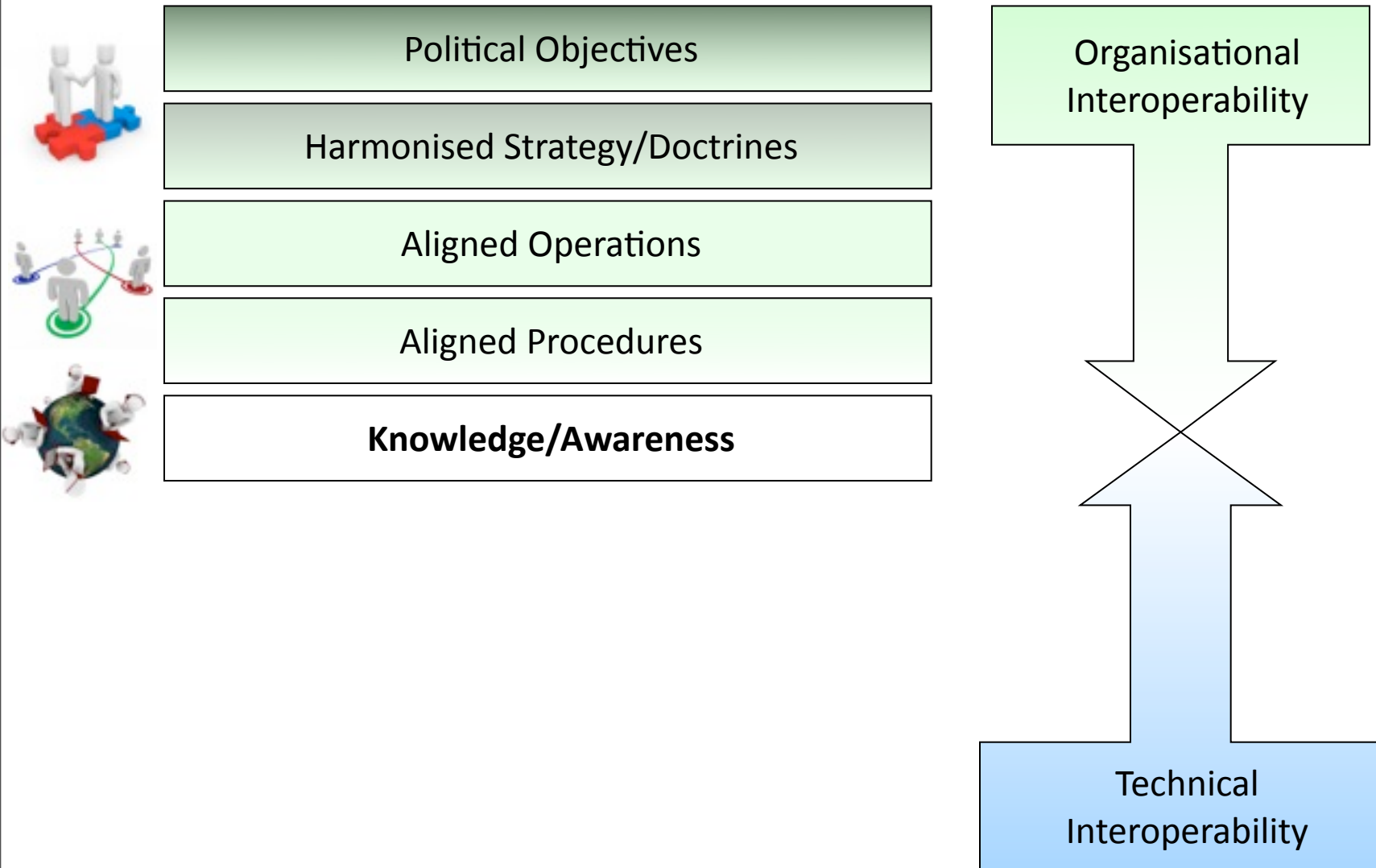
Organisational
Interoperability



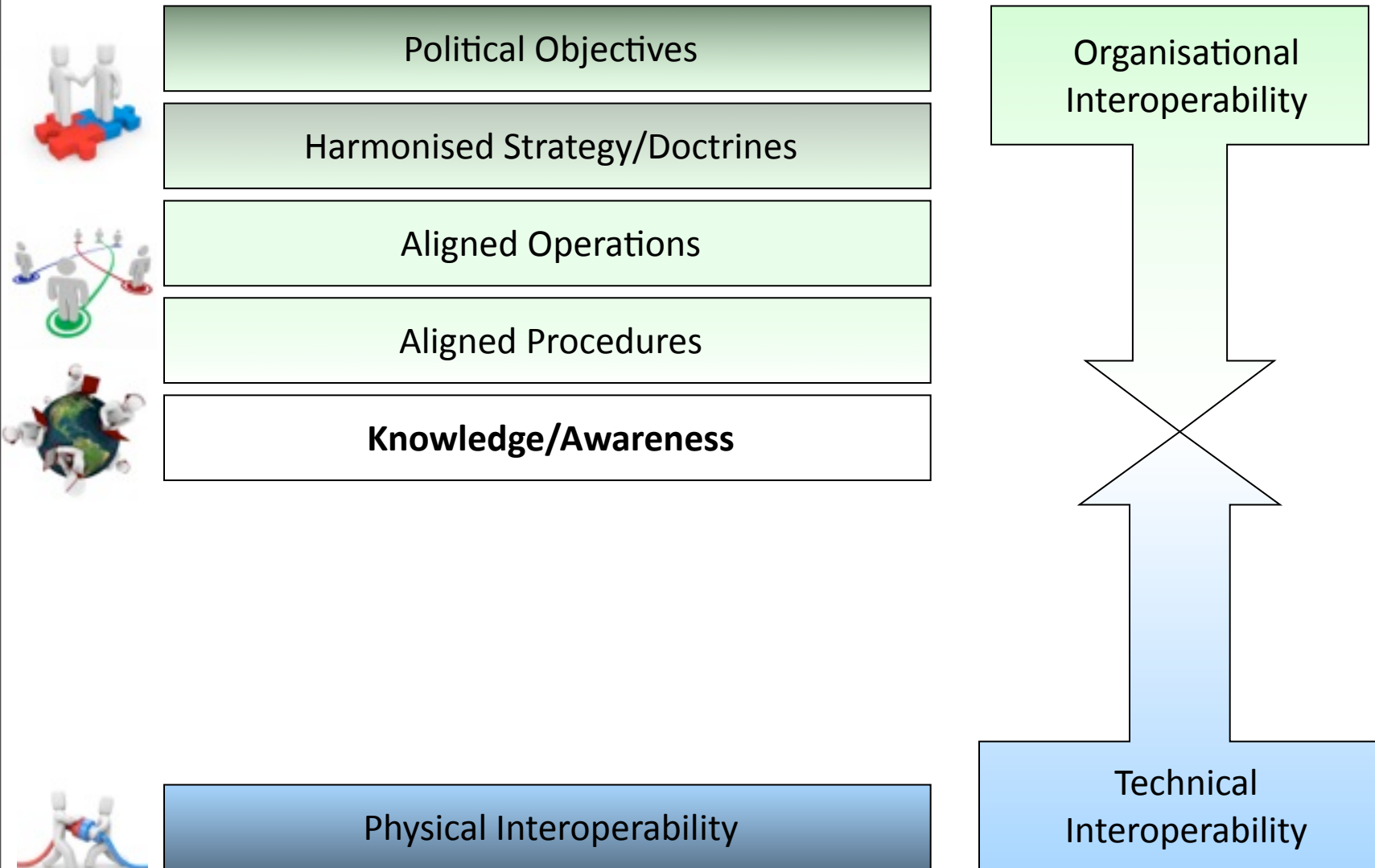
the interoperability layers



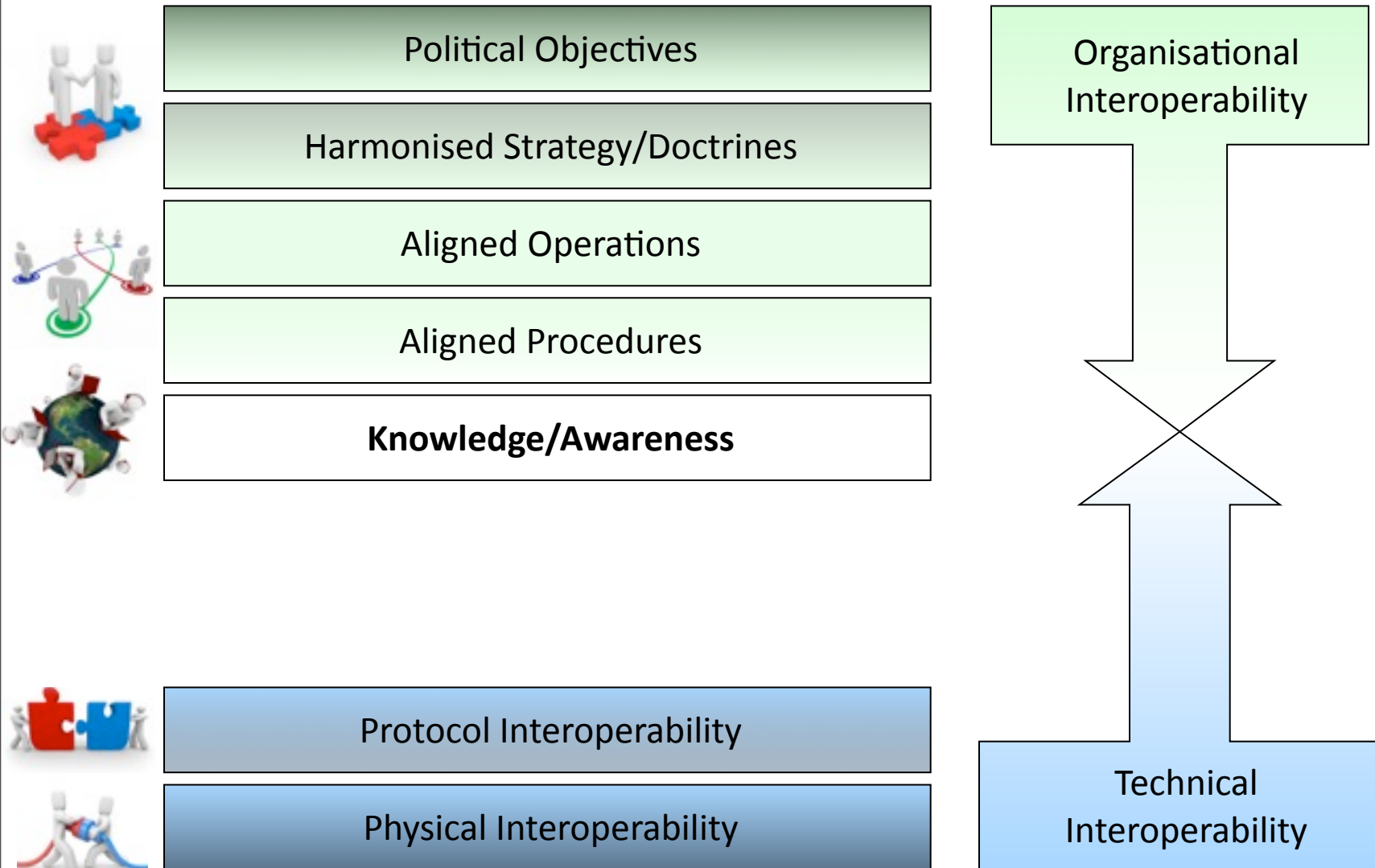
the interoperability layers



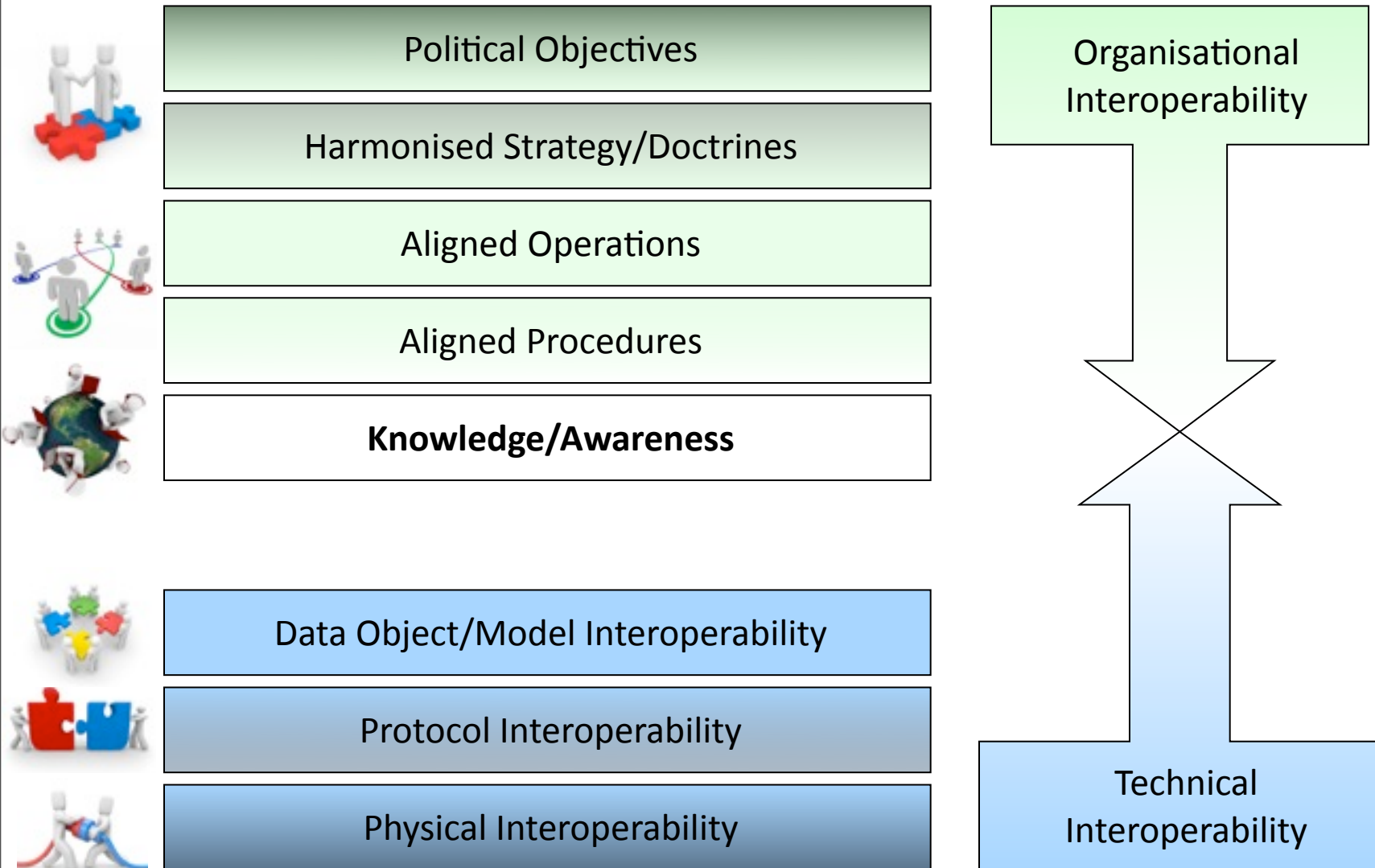
the interoperability layers



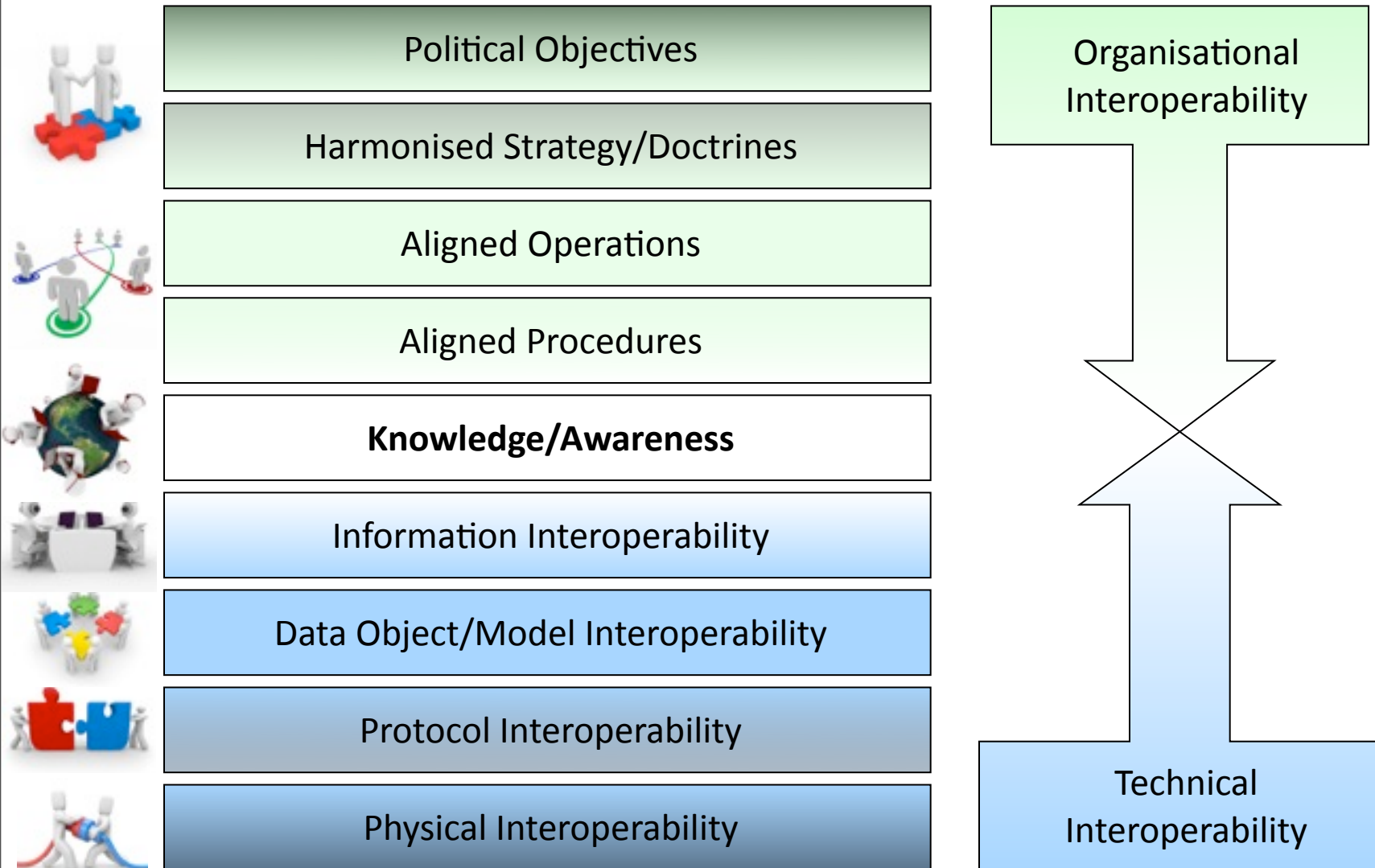
the interoperability layers



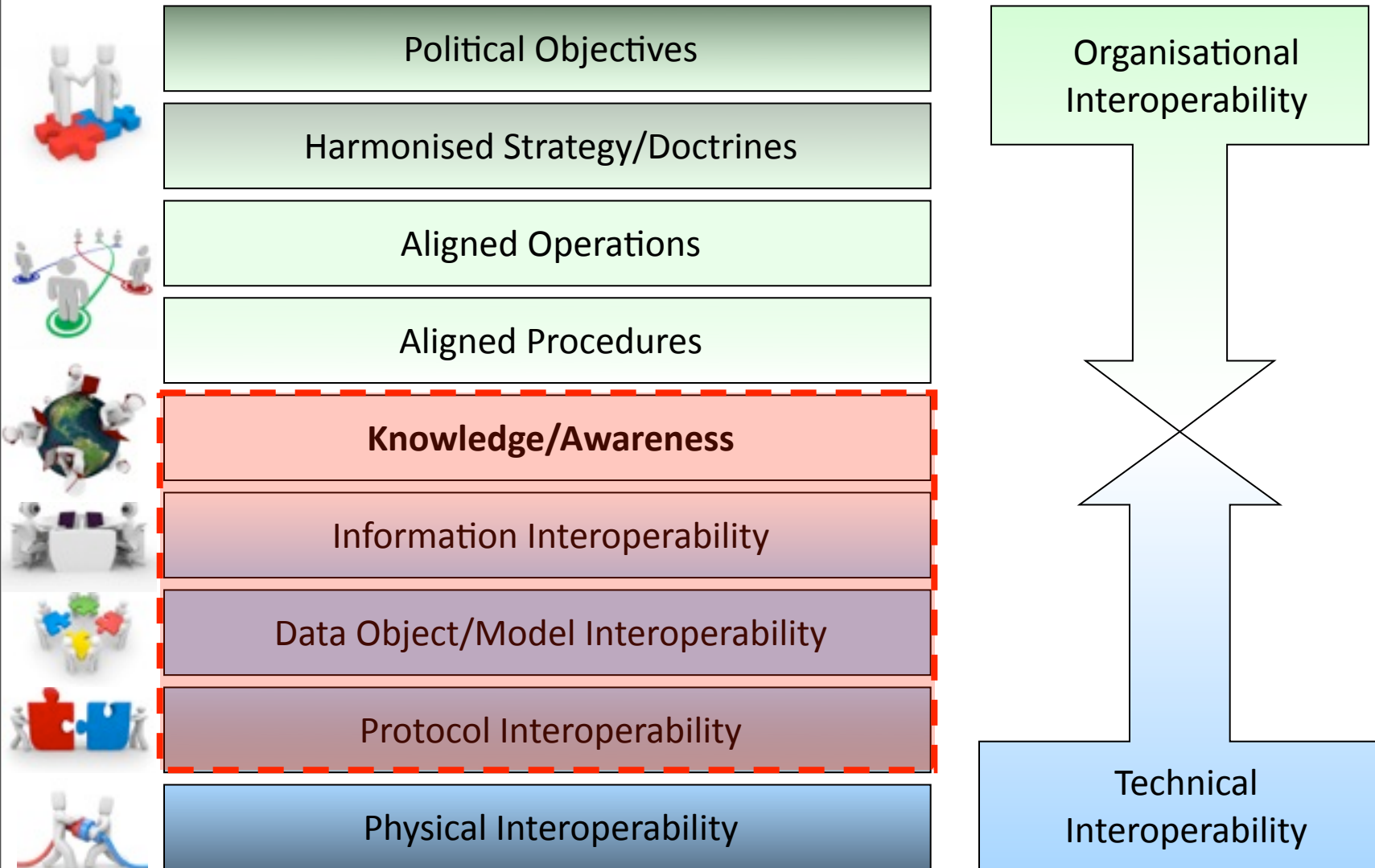
the interoperability layers



the interoperability layers



the interoperability layers



the problem



Aquila, 2009



London, 2005

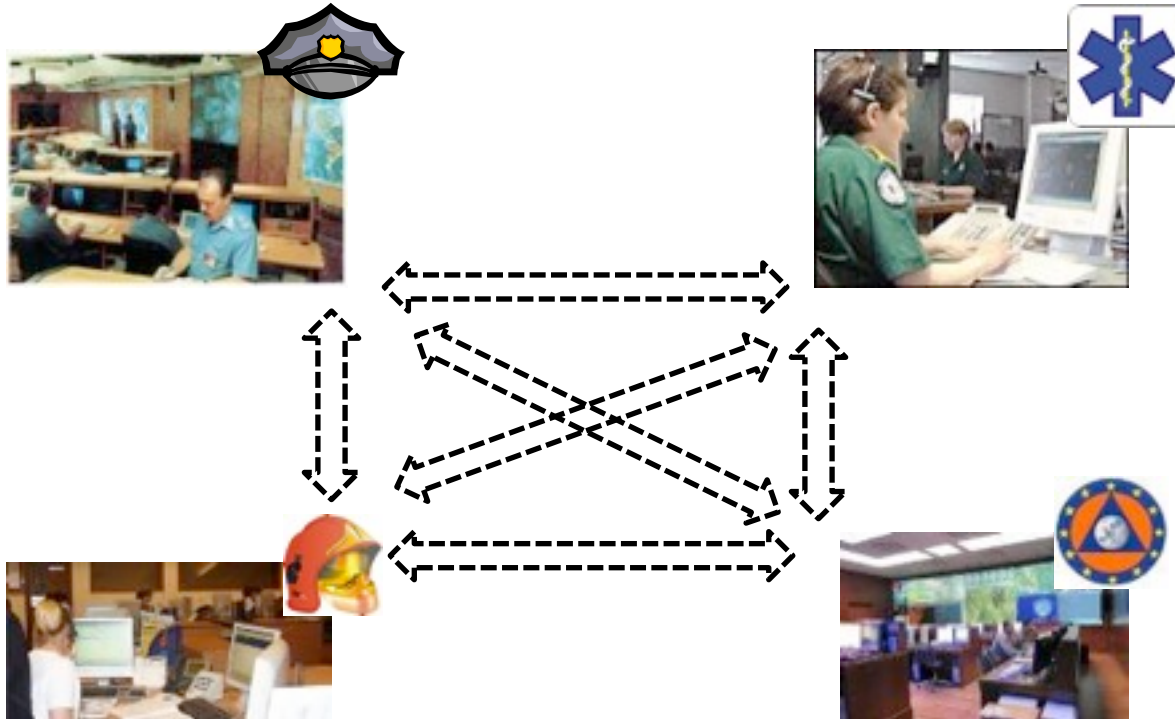


Calabria, 2009

Interoperability between Control Centres

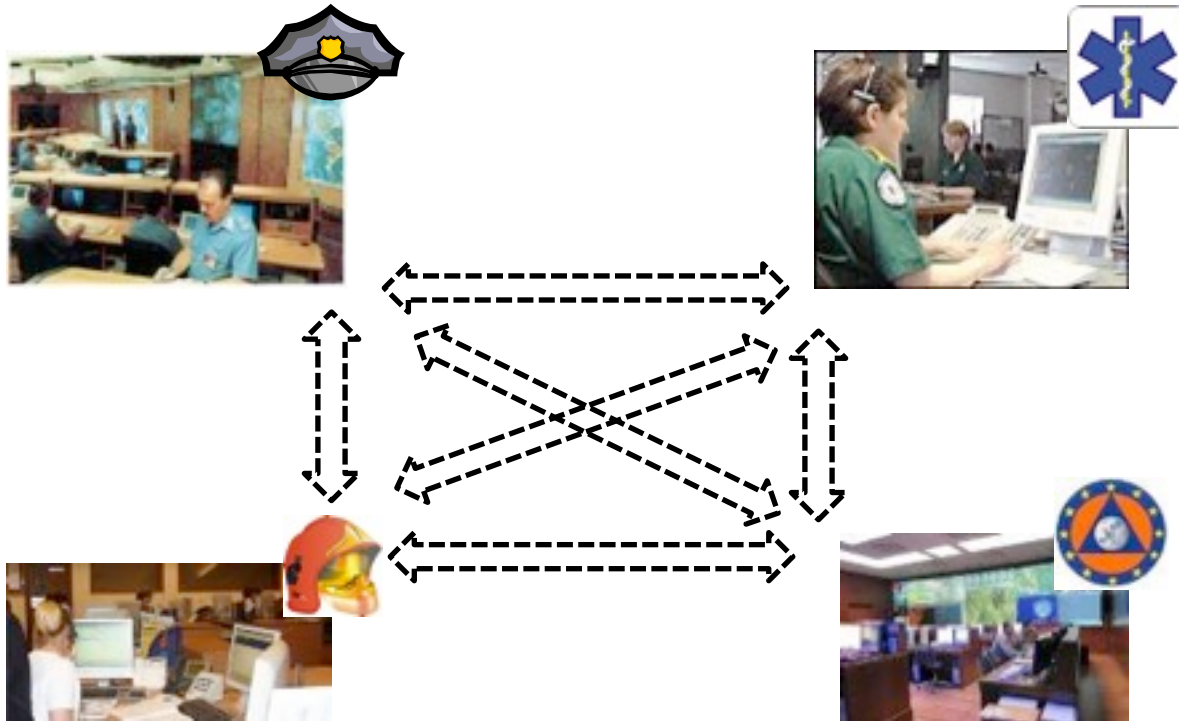
Interoperability between Control Centres

Since the first calls from citizens, the Control Centres of each rescuer interact by voice to build common operational pictures up



Interoperability between Control Centres

Since the first calls from citizens, the Control Centres of each rescuer interact by voice to build common operational pictures up



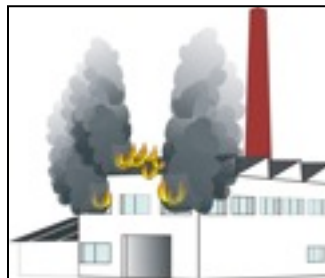
Notwithstanding the efforts such pictures often remain confuse, incomplete, contradictory

Interoperability between Control Centres



Interoperability between Control Centres

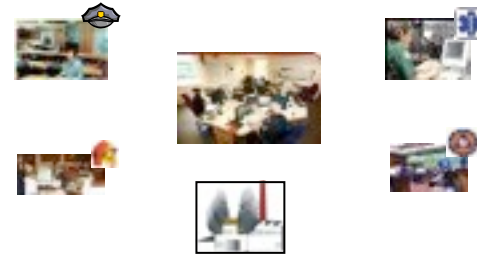
To solve the problem, many are pushing for one only Control Room able to coordinate the others and build one only operational picture



Interoperability between Control Centres

Interoperability between Control Centres

Even though a **unified control room** can solve the coordination problem btw the rescuers' directly involved



It is almost impossible to include all the cooperating organisations (e.g.)



Local Police

Technical Services



Local Volunteer Fire Brigades



Local Volunteer ambulance serv.



RN Squads



CB Squads



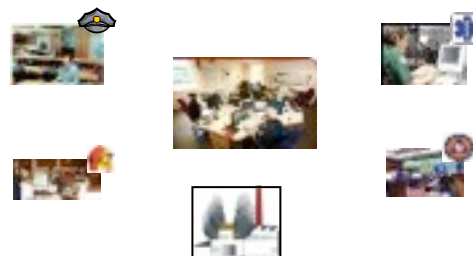
Bomb Squads



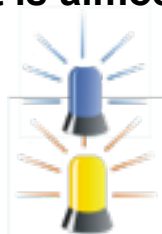
Emergency Assistance Numbers

Interoperability between Control Centres

Even though a **unified control room** can solve the coordination problem btw the rescuers' directly involved



It is almost impossible to include all the cooperating organisations (e.g.)



Local Police

Technical Services



Local Volunteer Fire Brigades



Local Volunteer ambulance serv.



RN Squads



CB Squads



Bomb Squads



Emergency Assistance Numbers

Not only for 'improper' mutual competition

But because they often need to have access to a different set of info
and cannot share all of their data with the others

Interoperability between Control Centres

Each rescuers' Control room need a different perspective of the same operational picture



Interoperability between Control Centres

Each rescuers' Control room need a different perspective of the same operational picture

Where a unified control room is implemented, firstly it build up the **common picture**, then filters are applied to build the **customised picture** to fulfill each rescuers needs

But **filtering is a tricky process**, valuable info can be cut off, whereas other info passed on could reveal itself unnecessary then confusing



Interoperability between Control Centres

Each rescuers' Control room need a different perspective of the same operational picture

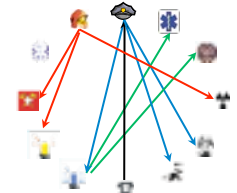
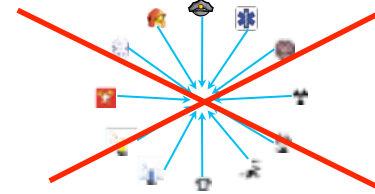
Where a unified control room is implemented, firstly it build up the **common picture**, then filters are applied to build the **customised picture** to fulfill each rescuers needs

But **filtering is a tricky process**, valuable info can be cut off, whereas other info passed on could reveal itself unnecessary then confusing



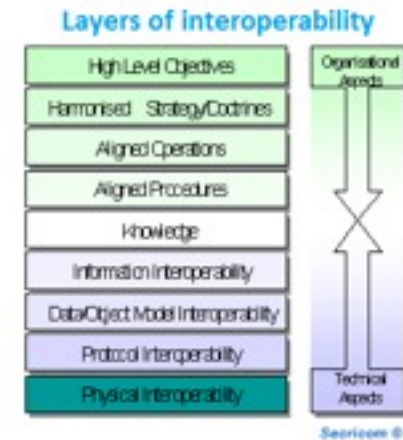
It is wiser to take a step back:

- avoid to centralise all the available info
- enhance the exchange of info between the existing control rooms



Interoperability between Control Centres

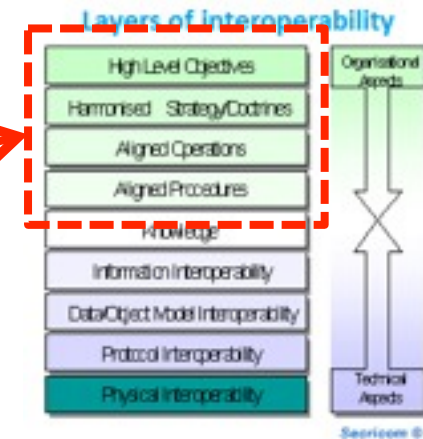
How?



Interoperability between Control Centres

How?

- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability

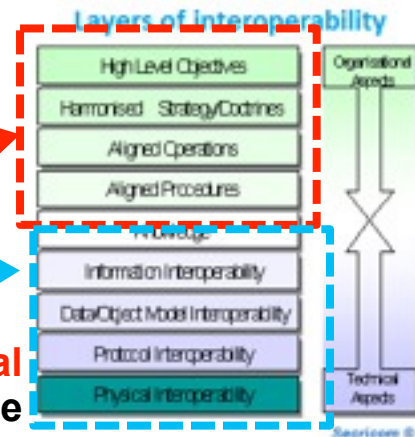


Securcom ©

Interoperability between Control Centres

How?

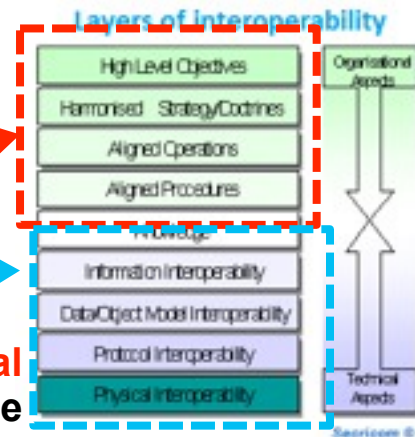
- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability
- Adopting open **standards and protocols** which enable the **multilateral** exchange of data and facilitate their subsequent **aggregation** on the receiver side
 - Common Alerting Protocol – **CAP** (OASIS)
adopted by the Department of Fire Corps of the Italian Ministry of Interior with Decree on 17 June 2008
 - Through secure **Atom feeds** which can be aggregated and read even through free tools (feed readers and internet browsers)



Interoperability between Control Centres

How?

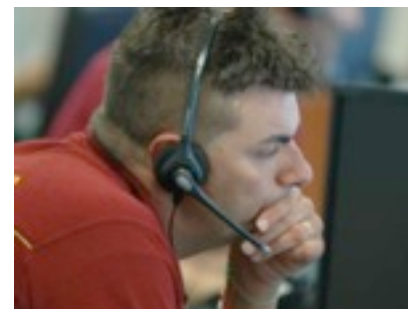
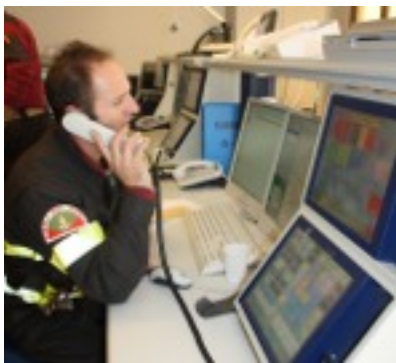
- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability
- Adopting open **standards and protocols** which enable the **multilateral** exchange of data and facilitate their subsequent **aggregation** on the receiver side
 - Common Alerting Protocol – **CAP** (OASIS)
adopted by the Department of Fire Corps of the Italian Ministry of Interior with Decree on 17 June 2008
 - Through secure **Atom feeds** which can be aggregated and read even through free tools (feed readers and internet browsers)



So as to let any Control Room free to

- maintain the consolidated **system in use enhanced** to make them **open** to the same standards and protocols
- exchange with the others only the data foreseen by the applicable regulation and **bilateral agreements**

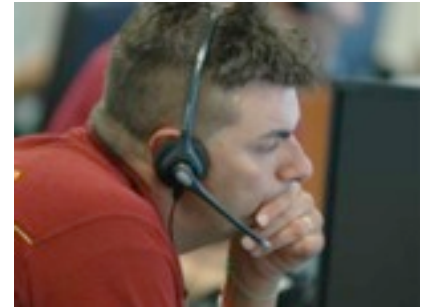
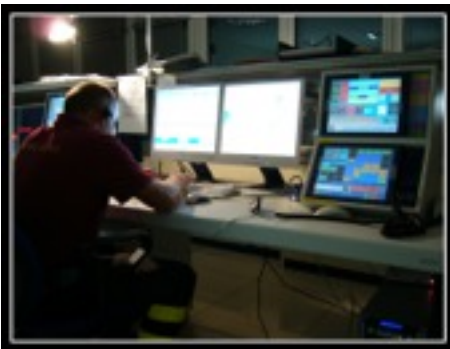
How:



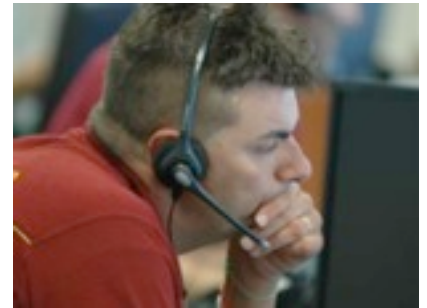
How:

**Control Centres use
sophisticated IT systems,**

but different ones

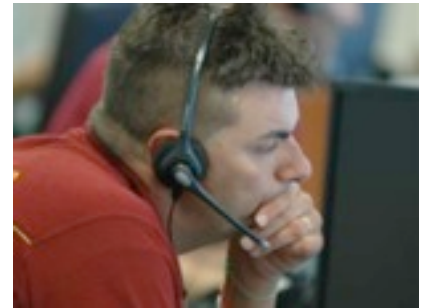


How



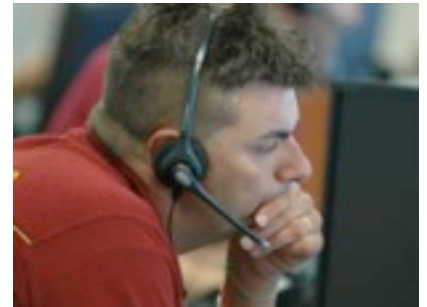
How

**One C&C collect info
from the citizens**

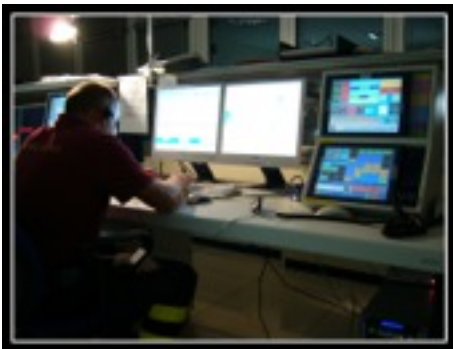


How

**One C&C collect info
from the citizens**



input data into their system

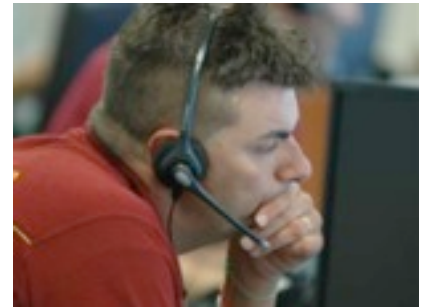


How

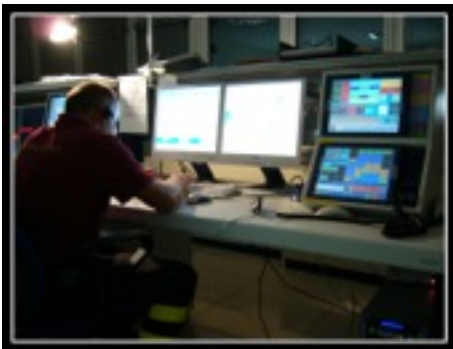
**One C&C collect info
from the citizens**



call the other C&C to pass the info

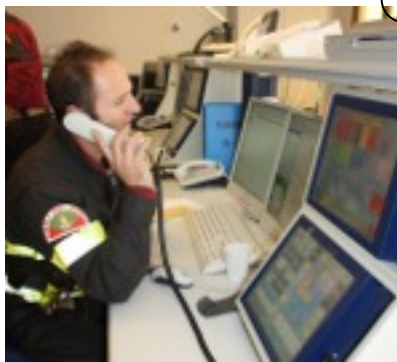


input data into their system

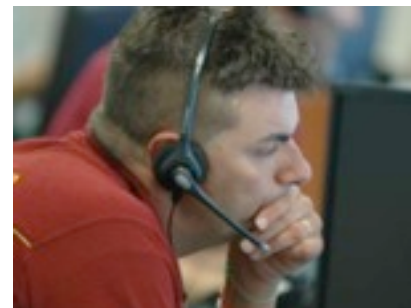


How

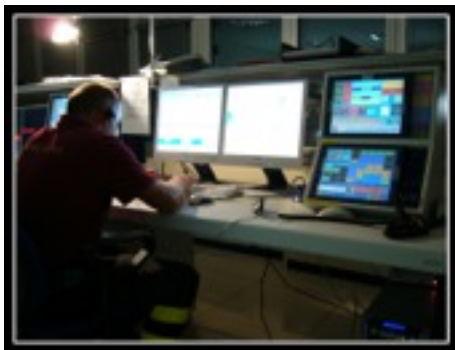
**One C&C collect info
from the citizens**



call the other C&C to pass the info



input data into their system



who input again data into his system



Why not to exchange data too?



Using voice as the only “communication device” seems ineffective

Why not to exchange data too?



Using voice as the only “communication device” seems ineffective

Cons: Time and accuracy lost in spelling names, roads, numbers

Plus: Consolidated procedures? Legal basis? Traceability?

Why not to exchange data too?



Using voice as the only “communication device” seems ineffective

Cons: Time and accuracy lost in spelling names, roads, numbers

Plus: Consolidated procedures? Legal basis? Traceability?

Only one real plus: it is the only “channel” fully interoperable

The challenge of integrated emergency management

- In spite of the efforts made in integrating emergency management, each and every involved Organisation makes use of its own Command and Control System, well adapted to their needs and procedures.

The challenge of integrated emergency management

- Unfortunately, such systems are NOT able to share data, or, in other words, are not interoperable
- As a consequence of this, operators are used to communicate in voice (typically by phone) even when sitting few meters away from each other



Assisi, 9 May 2012 – International Workshop on Interoperability and Rescue

- In 2006, the National Corps of Firemen started to work on the interoperability issue in the REACT project. Given the well established cooperation with 118 Health Services and other local Emergency Organisation, the Provincial Command of Venice was identified as their representative and responsible for the field trials.
- SUEM (Health Emergency Services) enters the trials as peer organisation for data sharing



interoperability: challenges left open

Aiming at an actual adoption of the interoperability concept in real operations, the main organisational challenges for Emergency Services are:

- To get authorisation by all decision makers of the organisations willing to share data; such authorisation should take the form of an agreement defining operational procedures, IT security and compliancy levels with in-force regulations and laws
- The integration of interoperability functionalities with existing legacy systems operating in command and control rooms
- The definition of agreed operational procedures for sharing data and information on events

Interoperability: possible new services

Being based on open standards, further specialised application can be designed, implemented and integrated. Generating, retrieving, displaying and analysing CAP messages can be adapted to several different scenarios:

- Multilingual Interfaces
- Geographic or thematic Integrations
- Applications for mobile devices
- Icon interfaces (e.g. 115-4-DEAF)

Interoperability in major disasters

Solution adopted by the Italian Civil Protection to allow interoperability between all the actors during the L'Aquila earthquake



L'Aquila Earthquake 6th April 2009

DICOMAC - Direzione Comando e Controllo

Interoperability as a daily challenge

Interoperability is: “The capability of organisations or discrete parts of the same organisation to exchange operational information and to use it to inform their decision making”.

Sir Chris Fox (Association of Chief Police Officers)

Interoperability as a daily challenge

Interoperability is: “The capability of organisations or discrete parts of the same organisation to exchange operational information and to use it to inform their decision making”.

Sir Chris Fox (Association of Chief Police Officers)

The Fire Corps Control Centre of Venezia exchange (by phone) location-related information with:

- 2 neighbouring Fire Corps provincial HQ,
- 1 National Police (Carabinieri) provincial HQ,
- 1 National Police (Polizia) provincial HQ,
- 1 Medical rescue district service,
- 1 Coast Guard provincial HQ,
- 1 Civil Protection regional authority,
- 1 Environmental regional authority,
- 43 Municipal Police authorities,
- 43 Civil Protection municipal authorities

beekeepers...

Interoperability as a daily challenge

Interoperability is: “The capability of organisations or discrete parts of the same organisation to exchange operational information and to use it to inform their decision making”.

Sir Chris Fox (Association of Chief Police Officers)

The Fire Corps Control Centre of Venezia exchange (by phone) location-related information with:

Almost no data is presently exchanged, as for many European colleagues

2 neighbouring Fire Corps provincial HQ,
1 National Police (Carabinieri) provincial HQ,
1 National Police (Polizia) provincial HQ,
1 Medical rescue district service,
1 Coast Guard provincial HQ,
1 Civil Protection regional authority,
1 Environmental regional authority,
43 Municipal Police authorities,
43 Civil Protection municipal authorities
beekeepers...

Interoperability as a daily challenge

Interoperability is: “The capability of organisations or discrete parts of the same organisation to exchange operational information and to use it to inform their decision making”.

Sir Chris Fox (Association of Chief Police Officers)

The Fire Corps Control Centre of Venezia exchange (by phone) location-related information with:

Almost no data is presently exchanged, as for many European colleagues

2 neighbouring Fire Corps provincial HQ,
1 National Police (Carabinieri) provincial HQ,
1 National Police (Polizia) provincial HQ,
1 Medical rescue district service,
1 Coast Guard provincial HQ,
1 Civil Protection regional authority,
1 Environmental regional authority,
43 Municipal Police authorities,
43 Civil Protection municipal authorities
beekeepers...

Data exchange is not something new. So, what is blocking it?

Interoperability as a daily challenge

Interoperability is: “The capability of organisations or discrete parts of the same organisation to exchange operational information and to use it to inform their decision making”.

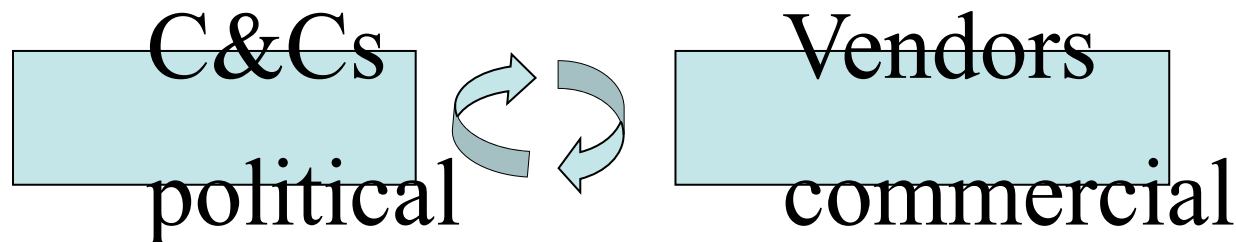
Sir Chris Fox (Association of Chief Police Officers)

The Fire Corps Control Centre of Venezia exchange (by phone) location-related information with:

Almost no data is presently exchanged, as for many European colleagues

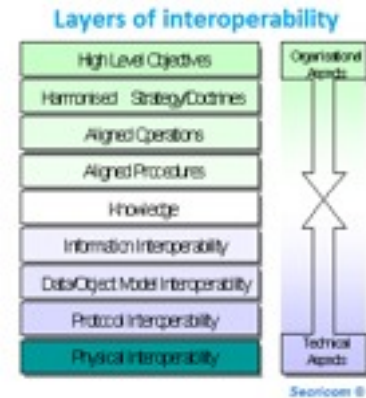
2 neighbouring Fire Corps provincial HQ,
1 National Police (Carabinieri) provincial HQ,
1 National Police (Polizia) provincial HQ,
1 Medical rescue district service,
1 Coast Guard provincial HQ,
1 Civil Protection regional authority,
1 Environmental regional authority,
43 Municipal Police authorities,
43 Civil Protection municipal authorities
beekeepers...

Data exchange is not something new. So, what is blocking it?



National Fire Corps strategy for interoperability

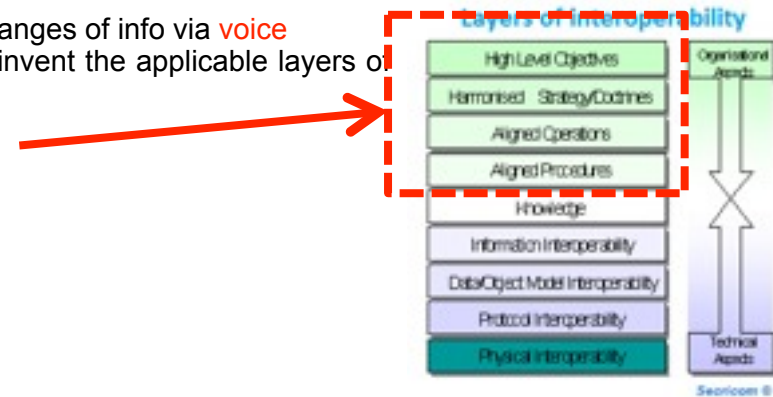
How to kick off a wide-spread, operational interoperability ?



National Fire Corps strategy for interoperability

How to kick off a wide-spread, operational interoperability ?

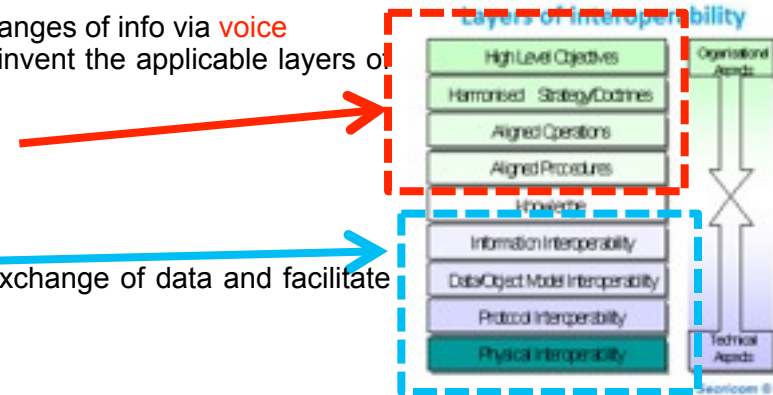
- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability



National Fire Corps strategy for interoperability

How to kick off a wide-spread, operational interoperability ?

- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability
- Adopting open **standards and protocols** which enable the **multilateral** exchange of data and facilitate their subsequent **aggregation** on the receiver side
- Common Alerting Protocol – **CAP** (OASIS) adopted by the Department of Fire Corps of the Italian Ministry of Interior with Decree on 17 June 2008
- Through secure **Atom feeds** which can be aggregated and read even through free tools (feed readers and internet browsers)

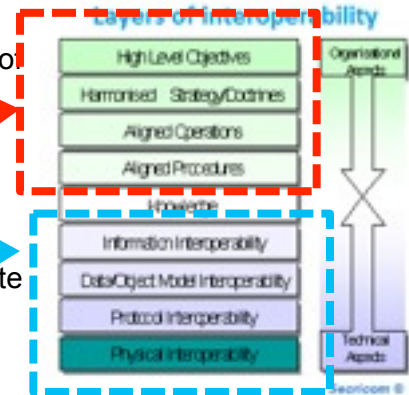


National Fire Corps strategy for interoperability

How to kick off a wide-spread, operational interoperability ?

- Maintaining the well-established **operational procedure** in use
 - we have now a consolidated interoperability for multilateral exchanges of info via **voice**
 - we can support them with parallel **data** exchange avoiding to reinvent the applicable layers of interoperability

- Adopting open **standards and protocols** which enable the **multilateral** exchange of data and facilitate their subsequent **aggregation** on the receiver side



- Common Alerting Protocol – **CAP** (OASIS) adopted by the Department of Fire Corps of the Italian Ministry of Interior with Decree on 17 June 2008
- Through secure **Atom feeds** which can be aggregated and read even through free tools (feed readers and internet browsers)

So as to let any Control Room free to

- maintain the consolidated **system in use enhanced to** make them **open** to the same standards and protocols
- exchange with the others only the data foreseen by the applicable regulation and **bilateral agreements**

Common Alerting Protocol (CAP)

The Common Alerting Protocol (CAP) is a simple, standardized XML data format used to exchange information about a broad range of warnings and emergencies by:

Common Alerting Protocol (CAP)

The Common Alerting Protocol (CAP) is a simple, standardized XML data format used to exchange information about a broad range of warnings and emergencies by:

U.S. Department of Homeland Security (DHS)

U.S. Geological Survey (USGS)

Government of Canada

Italian National Fire Corps

Common Alerting Protocol (CAP)

The Common Alerting Protocol (CAP) is a simple, standardized XML data format used to exchange information about a broad range of warnings and emergencies by:

U.S. Department of Homeland Security (DHS)

U.S. Geological Survey (USGS)

Government of Canada

Italian National Fire Corps

The CAP standard defines a type of document called an *alert*, which is used to exchange information about geological, meteorological, public health and safety, rescue, law-enforcement, environmental, transportation, infrastructure, and terrorist warnings and events.

Common Alerting Protocol (CAP)

The Common Alerting Protocol (CAP) is a simple, standardized XML data format used to exchange information about a broad range of warnings and emergencies by:

U.S. Department of Homeland Security (DHS)

U.S. Geological Survey (USGS)

Government of Canada

Italian National Fire Corps

The CAP standard defines a type of document called an *alert*, which is used to exchange information about geological, meteorological, public health and safety, rescue, law-enforcement, environmental, transportation, infrastructure, and terrorist warnings and events.

Such alerts can be generated either manually by incident responders or automatically by monitoring and sensing equipment, and they can be distributed using a variety of means.

Web feeds: Atom and RSS

Syndication formats such as Atom and RSS comprise one distribution channel for CAP alerts that's growing in popularity.

Web feeds: Atom and RSS

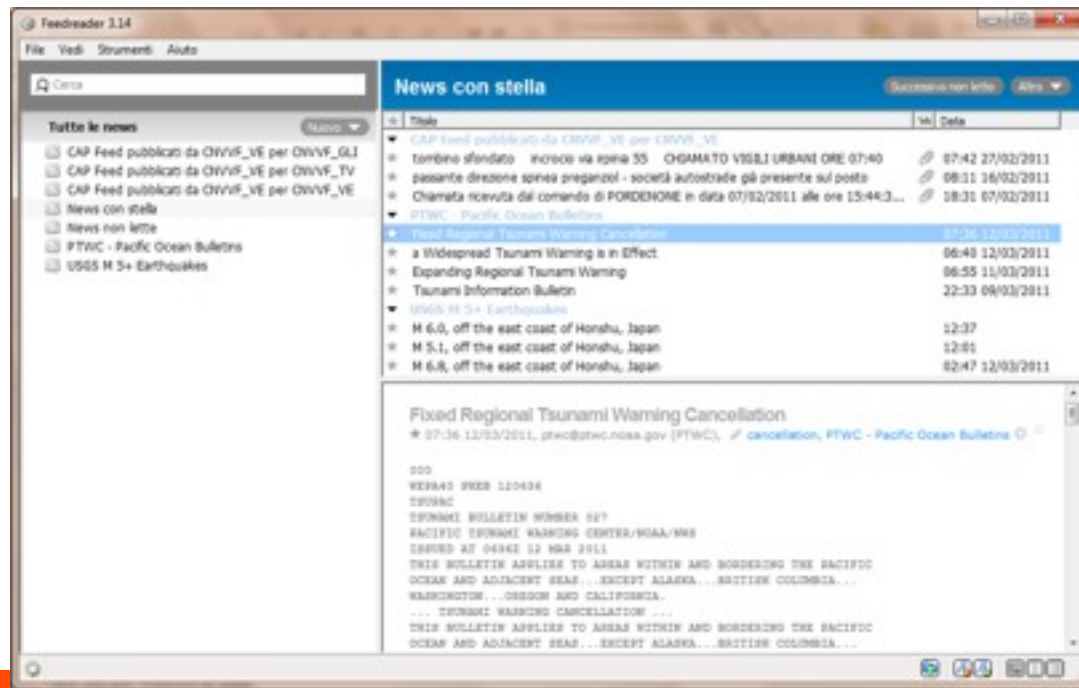
Syndication formats such as Atom and RSS comprise one distribution channel for CAP alerts that's growing in popularity.

The Atom Publishing Protocol is a mechanism to publish and manage collections of resources. While originally designed as a way to post new entries to weblog software, the protocol is well suited as a way to manage nearly any kind of Web-based content.

Web feeds: Atom and RSS

Syndication formats such as Atom and RSS comprise one distribution channel for CAP alerts that's growing in popularity.

The Atom Publishing Protocol is a mechanism to publish and manage collections of resources. While originally designed as a way to post new entries to weblog software, the protocol is well suited as a way to manage nearly any kind of Web-based content.



Assisi, 9 May 2012 – International workshop on interoperability and Rescue

Practical experience into the Fire Corps PSAPs

The Fire Corps has 103 HQs & PSAPs in Italy.
80 of which equipped with the same proprietary
Emergency Management System (SO115).



Practical experience into the Fire Corps PSAPs

The Fire Corps has 103 HQs & PSAPs in Italy. 80 of which equipped with the same proprietary Emergency Management System (SO115).

The Fire Corps IT has recently released the first operational version of SO115 which implements this model of interoperability.

From now on this same version will be distributed to all of them.



Practical experience into the Fire Corps PSAPs

The Fire Corps has 103 HQs & PSAPs in Italy. 80 of which equipped with the same proprietary Emergency Management System (SO115).



The Fire Corps IT has recently released the first operational version of SO115 which implements this model of interoperability.

From now on this same version will be distributed to all of them.

A specific 'interoperability service' has to be enabled under request of the Commander, as soon as the first formal agreements are signed with those first responders' organisations which consent to the data exchange.



National Fire Corps first experience

The first operational experience was set up in Venezia, which has reached agreements to interoperate with the Regional Civil Protection and the Municipal Civil Protection

National Fire Corps first experience

The first operational experience was set up in Venezia, which has reached agreements to interoperate with the Regional Civil Protection and the Municipal Civil Protection

Civil Protection Veneto Region

Civil Protection Municipality of Venezia

National Fire Corps first experience

The first operational experience was set up in Venezia, which has reached agreements to interoperate with the Regional Civil Protection and the Municipal Civil Protection

and is drafting further 17 agreements to interoperate with PSAPs and Control Centres

Civil Protection Veneto Region

Civil Protection Municipality of Venezia

Civil Protection Province of Venezia

Carabinieri HQ Venezia (112 PSAP)

Autostrade per l'Italia (Motorway Administrator)

Municipal Police Venezia

Environment Authority Veneto

COA (Control Centre Motorway Police)

National Police HQ Venezia

National Fire Corps HQ Treviso

National Fire Corps HQ Padova

National Fire Corps HQ Rovigo

National Fire Corps HQ Pordenone

National Fire Corps HQ Udine

Motorway Police Venezia

Autovie Venete (Motorway Administrator)

CAV (Motorway Administrator)

Ambulance Venezia

Coast Guard Venezia

National Fire Corps first experience

The first operational experience was set up in Venezia, which has reached agreements to interoperate with the Regional Civil Protection and the Municipal Civil Protection

and is drafting further 17 agreements to interoperate with PSAPs and Control Centres

Basing on these first experience, the present estimates for a full fledged interoperability approximate 1,500/2,000 bilateral channels open to exchange operational data between the National Fire Corps and the cooperating first responders

Civil Protection Veneto Region

Civil Protection Municipality of Venezia

Civil Protection Province of Venezia

Carabinieri HQ Venezia (112 PSAP)

Autostrade per l'Italia (Motorway Administrator)

Municipal Police Venezia

Environment Authority Veneto

COA (Control Centre Motorway Police)

National Police HQ Venezia

National Fire Corps HQ Treviso

National Fire Corps HQ Padova

National Fire Corps HQ Rovigo

National Fire Corps HQ Pordenone

National Fire Corps HQ Udine

Motorway Police Venezia

Autovie Venete (Motorway Administrator)

CAV (Motorway Administrator)

Ambulance Venezia

Coast Guard Venezia

Side applications: 115-4-deaf

Thanks to the implemented interoperability it was possible to customise the CAP generator with an interface dedicated to deaf citizens needing rescue from firemen.

Side applications: 115-4-deaf

Thanks to the implemented interoperability it was possible to customise the CAP generator with an interface dedicated to deaf citizens needing rescue from firemen.



Side applications: 115-4-deaf

Thanks to the implemented interoperability it was possible to customise the CAP generator with an interface dedicated to deaf citizens needing rescue from firemen.



Even if it does not assure the performance of Real-Time-Text or Total-Conversation, it allows the rapid deployment of affordable Nation-wide deaf-dedicated rescue services

A screenshot of the '115-4-deaf' application interface showing a grid of emergency service buttons. The buttons are: 'FUOCO INCENDIO' (flame icon), 'INCIDENTE STRADALE' (car crash icon), 'ACQUA ALLAGAMENTI' (water drop icon), 'PROBLEMI SANITARI' (cross icon), and 'SOS ALTRE EMERGENZE' (SOS text icon). Below these, there are two more buttons: 'ROTTURA TUBO ACQUA' (water drop icon) and 'ALLAGAMENTO DA MALTEMPO' (cloud and water icon). Below the buttons, there's a form with fields for 'Indirizzo' (Address) and 'Note' (Notes). The address field contains the text 'Via Monte Senario 98, 00141 Roma'. There's a checkbox labeled 'URGENTE' and a 'Invia' button. At the bottom, there's a footer text: 'Powered by IES Solutions Copyright © 2011 made with'.

Past and present difficulties and feedbacks

—

Past and present difficulties and feedbacks

- ❑ Inertia: “we call by phone, it works, no need to make changes”

Past and present difficulties and feedbacks

- ☐ Inertia: “we call by phone, it works, no need to make changes”
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”

Past and present difficulties and feedbacks

- ☐ Inertia: “we call by phone, it works, no need to make changes”
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”

Past and present difficulties and feedbacks

- ☐ Inertia: “we call by phone, it works, no need to make changes”
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
- ☐ Possible overflow of alerts: long cue of unmanned alert

Past and present difficulties and feedbacks

- ☐ Inertia: “we call by phone, it works, no need to make changes”
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
- ☐ Possible overflow of alerts: long cue of unmanned alert
- ☐ Possible information leaks (blue light services)

Past and present difficulties and feedbacks

- ☐ Inertia: “we call by phone, it works, no need to make changes”
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
- ☐ Possible overflow of alerts: long cue of unmanned alert
- ☐ Possible information leaks (blue light services)
- ☐ Possible entry point for malware

- ☐ Inertia: “we call by phone, it works, no need to make changes”
 - ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
 - ☐ Possible overflow of alerts: long cue of unmanned alert
 - ☐ Possible information leaks (blue light services)
 - ☐ Possible entry point for malware
- It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)

- ☐ Inertia: “we call by phone, it works, no need to make changes”
 - It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - Understanding minor errors prevent the major ones
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
- ☐ Possible overflow of alerts: long cue of unmanned alert
- ☐ Possible information leaks (blue light services)
- ☐ Possible entry point for malware

- ☐ Inertia: “we call by phone, it works, no need to make changes”
 - It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - Understanding minor errors prevent the major ones
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
 - Best way to trim the procedures in use
- ☐ Possible overflow of alerts: long cue of unmanned alert
- ☐ Possible information leaks (blue light services)
- ☐ Possible entry point for malware

- ☐ Inertia: “we call by phone, it works, no need to make changes”
 - It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)
- ☐ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - Understanding minor errors prevent the major ones
- ☐ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
 - Best way to trim the procedures in use
- ☐ Possible overflow of alerts: long cue of unmanned alert
 - Alert accepted only when the operator send an acknowledge
- ☐ Possible information leaks (blue light services)
- ☐ Possible entry point for malware

- ❑ Inertia: “we call by phone, it works, no need to make changes”
 - It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)
- ❑ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - Understanding minor errors prevent the major ones
- ❑ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
 - Best way to trim the procedures in use
- ❑ Possible overflow of alerts: long cue of unmanned alert
 - Alert accepted only when the operator send an acknowledge
- ❑ Possible information leaks (blue light services)
 - With blue light services start unidirectional ... however CAP foresees encryption et alia
- ❑ Possible entry point for malware

- ❑ Inertia: “we call by phone, it works, no need to make changes”
 - It is true that it works, but it shows its limits with micro and maxi emergencies (i.e. Sarno)
- ❑ Unconfessable fears: “if my operators go wrong, better not to leave written evidence”
 - Understanding minor errors prevent the major ones
- ❑ Conflict of jurisdiction: “the others could offload their responsibilities onto us”
 - Best way to trim the procedures in use
- ❑ Possible overflow of alerts: long cue of unmanned alert
 - Alert accepted only when the operator send an acknowledge
- ❑ Possible information leaks (blue light services)
 - With blue light services start unidirectional ... however CAP foresees encryption et alia
- ❑ Possible entry point for malware
 - Open to only professional entities - internet security strategies

How to Do it?

Leveraging on Fire Corps experience:

How to Do it?

Leveraging on Fire Corps experience:

- ✓ The Italian Fire Corps CAP Profile is published: <http://www.vigilfuoco.it/aspx/Page.aspx?IdPage=4554>

How to Do it?

Leveraging on Fire Corps experience:

- ✓ The Italian Fire Corps CAP Profile is published: <http://www.vigilfuoco.it/aspx/Page.aspx?IdPage=4554>

On going initiatives:

How to Do it?

Leveraging on Fire Corps experience:

- ✓ The Italian Fire Corps CAP Profile is published: <http://www.vigilfuoco.it/aspx/Page.aspx?IdPage=4554>

On going initiatives:

- Public Cookbook on “Data exchange between Control Centres based on CAP+Web-feeds”

How to Do it?

Leveraging on Fire Corps experience:

- ✓ The Italian Fire Corps CAP Profile is published: <http://www.vigilfuoco.it/aspx/Page.aspx?IdPage=4554>

On going initiatives:

- Public Cookbook on “Data exchange between Control Centres based on CAP+Web-feeds”
- European CAP Profile

How to Do it?

Leveraging on Fire Corps experience:

- ✓ The Italian Fire Corps CAP Profile is published: <http://www.vigilfuoco.it/aspx/Page.aspx?IdPage=4554>

On going initiatives:

- Public Cookbook on “Data exchange between Control Centres based on CAP+Web-feeds”
- European CAP Profile
- European Object Identifiers (OIDs) Registration Authority

Corpo Nazionale
dei Vigili del Fuoco



***Thank you
for your attention!***

stefano.marsella@vigilfuoco.it
carlo.giammichele@vigilfuoco.it
marcello.marzoli@vigilfuoco.it

Assisi, 9 May 2012 – International Workshop on Interoperability and Rescue