


Welcome
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ETSI WG SatEC (Satellite Emergency Communications)

Special Task Force STF473:

Alert Message Encapsulation

-  Activities are currently focused on 3 topics
 - Definition of reference concepts for the use of satellite in disaster situations
 - **Use of satellite communications for public warning systems (STF 473)**
 - Use of satellite communications for restoring/establishing communication capabilities in a disaster area (STF 472)

Multiple Alert Message Encapsulation over Satellite (MAMES)

Definition of a powerful encapsulation whose main purposes are to:

- Embed other alerting standards (e.g. POCSAG, CAP), to support transmission over satellite;
- Provide a multi-semantic representation of the alert,
 - allowing the interpretation by automated devices with limited capabilities (displays, audio-sounds, bottom line rendered text in TV programmes, etc);
- Fit in the main SatCom and SatNav systems (e.g. Galileo Public Regulated Service);
- Provide enhanced capabilities such as:
 - the possibility to work over unidirectional links,
 - an increased reliability by adapting to the traversed network,
 - selective activation (based on space-time coordinates),
 - integrity verification and sender authentication, etc.

Outputs:

- an ETSI Technical Specification (TS): MAMES
- an ETSI Technical report (TR): MAMES integration on existing space segments

Overview of Task 1

- State of the art of Alerting Systems and Protocols

Overview of Task 2

- Candidate SatCom and SatNav Systems for the Delivery of Alert Messages

Overview of ongoing Task 3

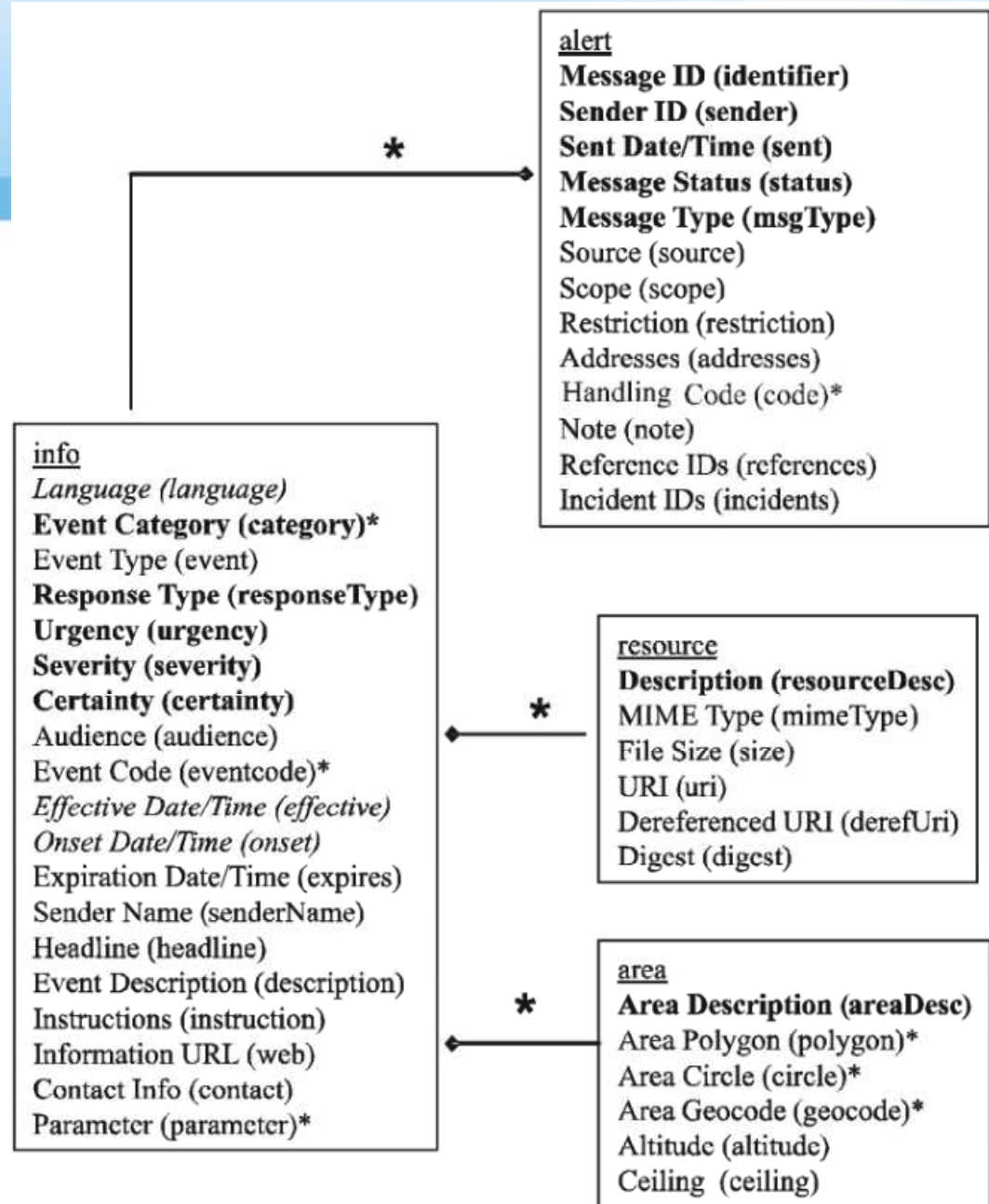
Overview of Alerting Techniques

Relevant existing systems

- Paging Systems Used For Alert Communication
- Dedicated Alerting Systems
- Alert Message Protocols
 - CAP

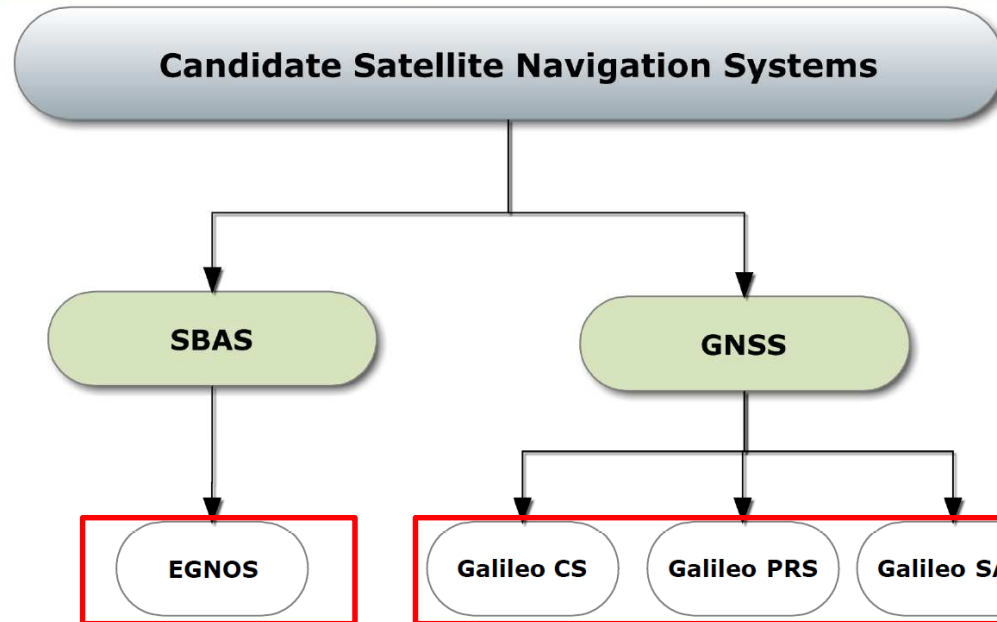
Common Alerting Protocol

- Composed of four main elements:
 - **Alert**
 - **Info**
 - **Resource**
 - **Area**
- Specification open to any implementation, but XML is the most widespread:
 - Dedicated XML schema available
- ASN.1 specification also available, not really used though



- **Identification of candidate Satellite Communication (SatCom) and Navigation (SatNav) systems and open standards for the delivery of alert message**
- **Definition of the operational contexts: MAMES scenarios**
- **Identification of the main building blocks of the defined scenarios**

Candidate Satellite Navigation Systems



EGNOS Main Features:

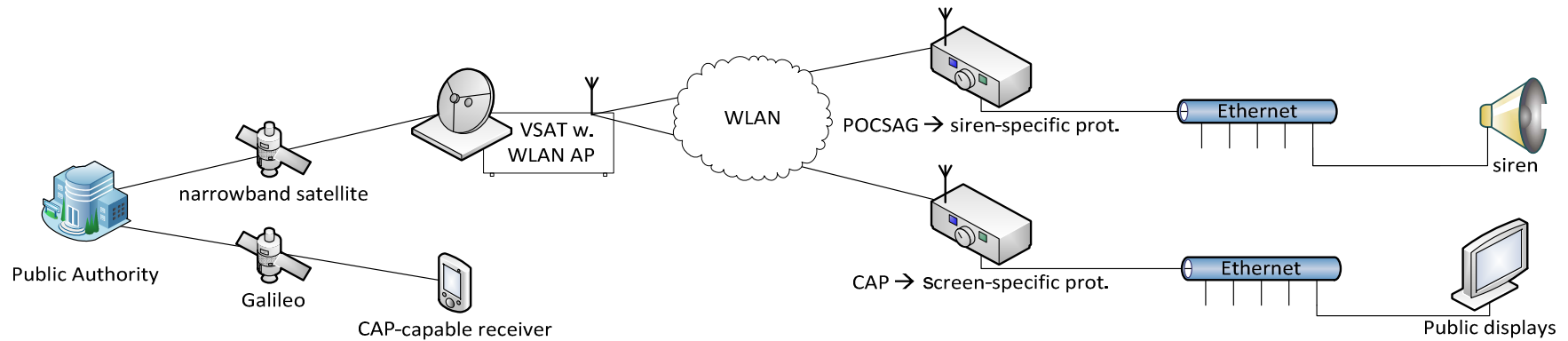
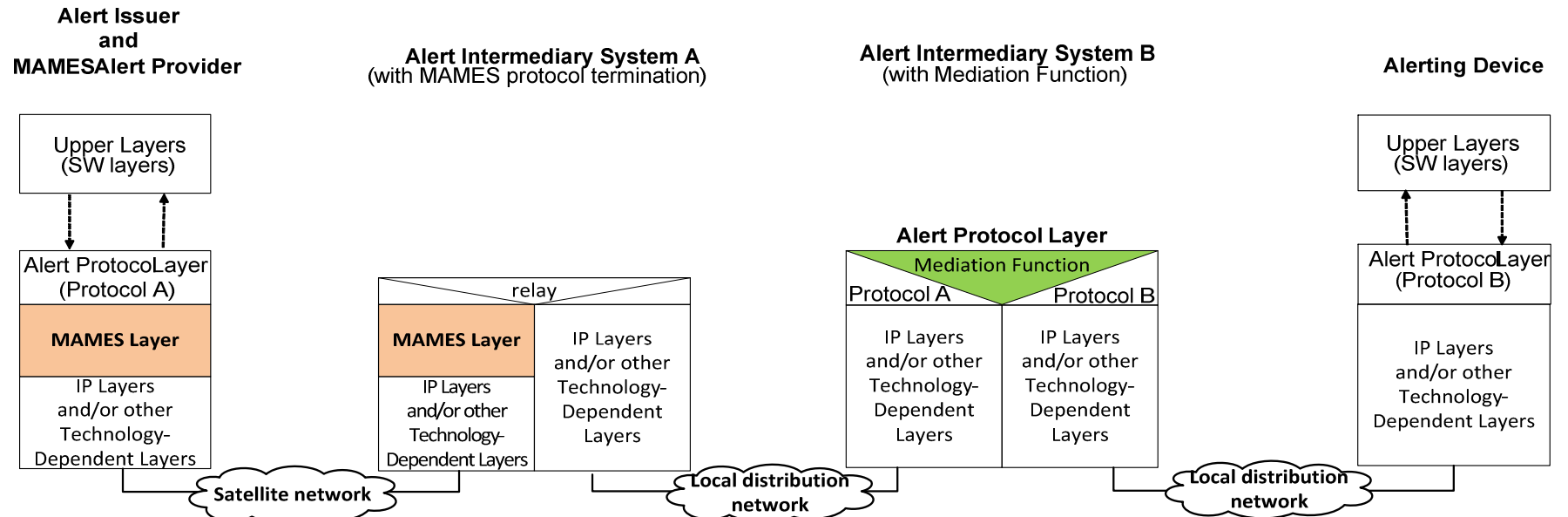
- Coverage over Europe, the Mediterranean Sea and Africa (3 GEO satellite)
- Overlay system based on a network of ground stations and GEO satellites
- Enhances GPS/GLONASS
- Already Operational

Galileo Main Features:

- Global Coverage (30 MEO satellites)
- Developed for civilian use
- Independent European system, compatible/interoperable with GPS and Glonass
- New positioning and data broadcasting capabilities (new potential applications)
- Wide range of services

- **Terminology and definitions are being consolidated**
- **Requirements definition is about to be closed**
- **Functional architecture is work in progress**
 - Select the set of Alert Protocols to be supported (e.g. CAP)
 - Define how to address different terminal rendering capabilities
 - Define a set of “enhancers” (e.g. fragmentation, forward error protection, authentication)
 - Define whether and how to use simultaneously different satellite (wireless) transmission media
- **Protocol detailed design will start in July ‘14**

Application scenario, with protocol stacks



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Comments and inputs from PSCE are VERY welcome.

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