STANDARDISATION OF EMERGENCY COMMUNICATION INETROPERABILITY

-

POSSSIBLE OR NOT?

REDIRNET
Emergency Responder Data Interoperability Network

EPISECC

SecInCoRe

SECTOR

ETSI

ETSI - the European Telecommunications Standards Institute

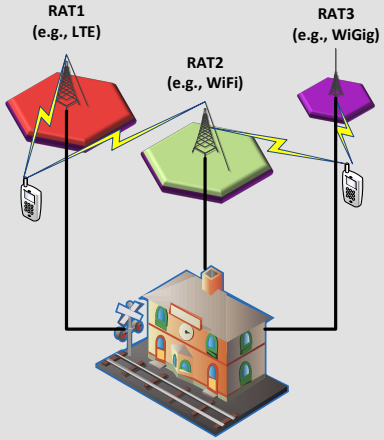
- Officially recognized by the European Union as a European Standards Organization
- Technical specifications and standards with global application
- Support to industry and European regulation
- Interoperability testing

› Objective:

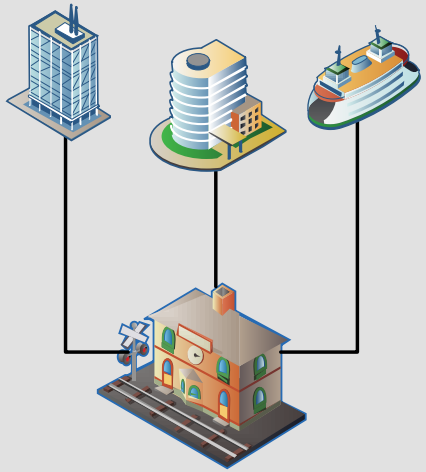
- Set-up a novel ETSI activity in a future key field
- First, attract a team of key experts
- Second, start an early phase activity (such as ETSI White Paper, Technical Report)
- Third, Develop normative Standards

ETSI –future directions, cross domain orchestration

- **Orchestration across verticals / technological domains**
- Improve efficiency across multiple domains, e.g. through network slicing, new management/ decision making approaches, etc.



- **Orchestration administrative domains**
- Improve interaction between distinct stakeholders



ETSI - Cross domain orchestration

- Originates from cloud computing (composition, stitching of HW/SW components, automated workflows)
- Automated adaptive resource management
- Centralized / Distributed Management and Decision Making
- Level of Centralization / Distribution typically depends on stakeholders and needs to be flexible
- Scale up/down resources dynamically without direct human intervention

Possible Focus Areas

- Cross-domain orchestration in multi-vendor environment is a key element to deploy services – related to NFV manager, Open Source MANO (OSM)
- Cross-provider/cross administrative domain or technologically characterised domain is part of 5G initiative
- Multi-tenancy, cross –domain is important

ETSI – additional topics

- New communication protocols
  - Possibly related to ISG NGP
- Semantics / Ontologies
  - Learnings from OneM2M may be taken into further domains

› Conclusion

- ETSI is an ideal platform for researchers, experts and industry stakeholders to meet and drive new technologies towards commercialization
- ETSI provides tools required to address new technologies in any phase of maturity – from concept to product standards

Standardisation activities

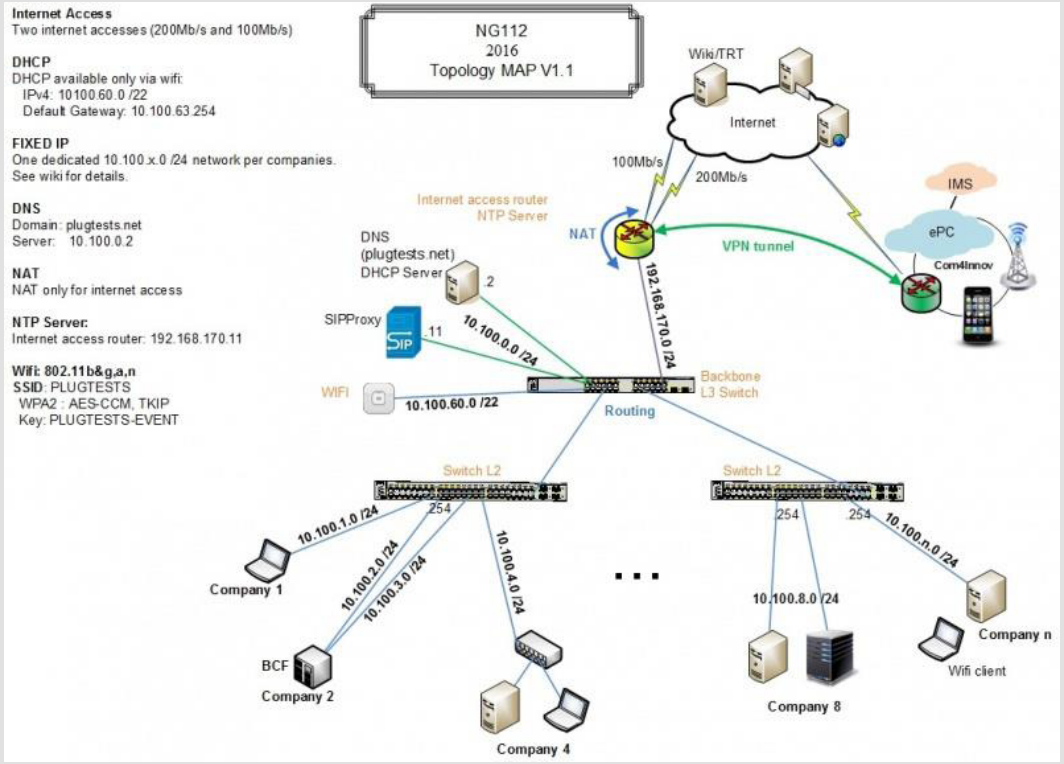
- **Member of IP6 ISG – IPv6 Industry Specification Group**
- **IP6 ISG will focus on integrating the IPv6 protocol into the next generation of mobile telecommunications, 5G systems, looking at the complete wireless network and the full spectrum of mobile wireless technologies.**
- **Contribution to: IPv6 Deployment in Safety & Emergency Sectors, IPv6-based Deployment Best Practices and Guidelines**
- **All members: Bell Mobility (CA), China Telecommunications (CN), Cisco Systems Belgium (BE), Cosmote S.A (GR), Hewlett-Packard (FR), Huawei Sweden (SE), Huawei UK (UK), University of Athens (GR), University of Luxembourg (LU)**
- **Participants: Beijing Internet Institute -BII - (CN), Celenium (US), Citkomm KDVZ (DE), China Unicom (CN), Microsoft (US), Nephos6 (US), Sixscape (SG), Instituto Superior Tecnico IST (PT), HOP Ubiquitous S.L. (ES), Device Gateway SA (CH), Technical University of Dresden (DE), VN Telecom Consultancy (US) and more**

Interoperability

- The trend towards a globally interconnected world, demonstrated by the potential huge growth in the Internet of Things (IoT) and Machine2Machine Communication (M2M), brings its own challenge for standardization and interoperability
  - Interoperability can be considered to be the ability of two or more systems or components to exchange data and use information
- The interoperability of products implementing standards can only be guaranteed if:
- Interfaces and architectures are fully defined
- Specifications are designed (rather than built ad hoc)
- The specified protocols are robust, flexible and efficient
- The specified behaviour, data formats and encodings are clear and unambiguous
- The context in which the specifications are used is fully understood
- Specifications are well maintained

NG112 plugtest, Interoperability testing

- **EENA (the European Emergency Number Association)**



Terminology in Crisis and Disaster Management

CEN Workshop Agreement

Georg Neubauer, AIT
http://www.ait.ac.at

Scope and Purpose

- Provision of an overview of existing terminologies and definitions applied in multiple domains of crisis and disaster management
- Overview on synonyms with the same or similar definitions
- Overview on different definitions for the same term
- Benefit: Support enhancement of mutual understanding of users/organizations applying different standards/taxonomies
- Benefit: Potential long term perspective: enhanced use of most suitable terms and definitions arising from multiple sources

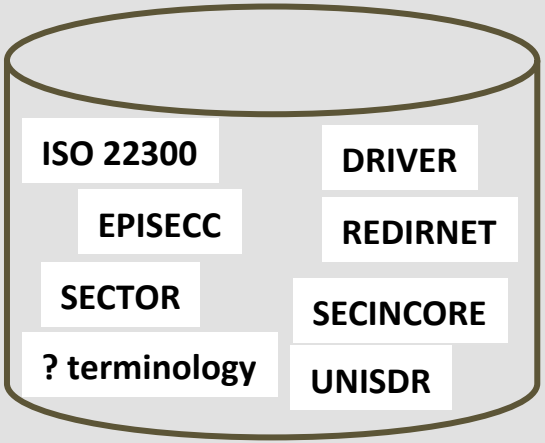
Scope and Purpose (Example)

Domain	Term	Definition	Standard/document	Intended Users
Societal security	disaster	situation where widespread human, material, economic or environmental losses have occurred which exceeded the ability of the affected organization (2.2.9), community or society to respond and recover using its own resources	ISO 22300 (2012)	not specified
not specified	disaster	A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.	UNISDR Terminology (2009)	authorities, pratictioners and the public
Natural disasters	disaster	no definition given	Disaster Category Classification and peril Terminology for Operational Purposes - Working paper 264 (2009)	user of EM-DAT and other databases
Natural disasters	climatological disaster	Events caused by long-lived/meso to macro scale processes (in the spectrum from intraseasonal to multidecadal climate variability)	Disaster Category Classification and peril Terminology for Operational Purposes - Working paper 264 (2009)	user of EM-DAT and other databases

Database of terminologies

Database based on the standard:

- **ISO 25964 - standard for thesauri and interoperability with other vocabularies**
- **SKOS (Simple Knowledge Organization System)**



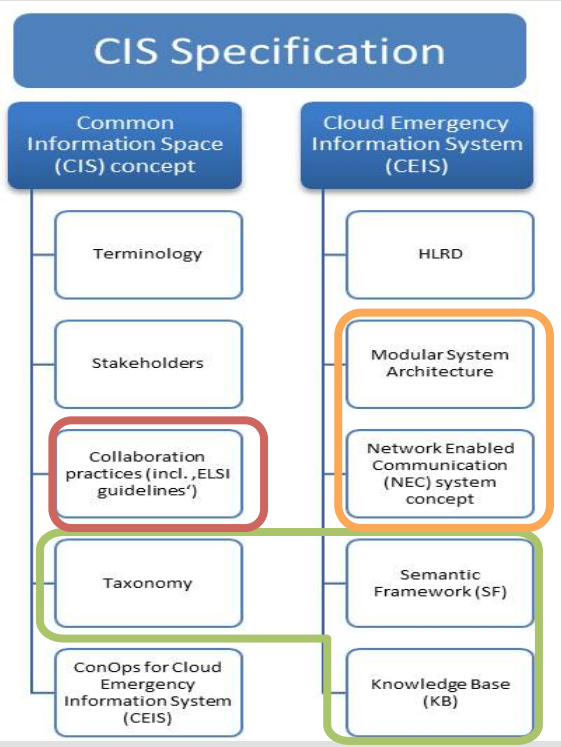
entering terms by WebProtege

Sources of existing terminologies:

- **ISO 22300 (2012)**
- **UNISDR Terminology (2009)**
- **…**

- **project proposals: EPISECC, DRIVER, REDIRNET, SECINCORE and SECTOR**
- **Another option: national project INKA**

Standardisation strategy



- Sustainability of Common Information Space (CIS) concept and its
- elements

Taxonomy and pan-European inventory
  - Terminology
  - Data models and templates

Network Enabled Communication (NEC)
  - Organisational concepts
  - Technical specifications

ELSI guidelines for design and use
  - Concepts and best practices
  - Visualisation and usability

- → Industry and domain (de facto) standards

Standardisation contributions

- Taxonomy of data sets, information management processes and information systems
  - Contribution to ISO TC 292, former ISO TC 223
  - Best practice descriptions for crisis management and business models
- Network Enabled Communication (NEC)
  - Secure local communications (mainly at an incident scene) → 3GPP
  - Communication within a Common Information Space (CIS) using a wide area network (e.g., the Internet) → cp. eduroam concept
- ELSI guidelines for design and use
  - Open portal being available as a de facto standard source
  - Implemented using OpenAtrium

Thank you!

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