

# ***3GPP in Public Safety and Security***

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***what's cooking in 3GPP...***

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**Overview**

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# ***Safety & Security related work in 3GPP***

- **Priority Service, Rel-6**
- **Multimedia Priority Service, Rel-8  
(related study in Rel-7)**
- **Enhancements of VGCS for public authority officials, Rel-7 and further enhancements for Rel-8**
- **Transferring of emergency Call data Rel-8**
- **Study on support of a Public Warning System Rel-8**

***what's cooking in 3GPP...***

***- II -***

***The details***

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# ***Priority Service (Rel-6)***

**Originally initiated on US regional demand**

- for CS voice
- user initiates a call using the Priority Service dialling procedure:

**\*Service Code (SC) + Destination Number**

- **TR 22.950 Priority service feasibility study**

Priority Service allows qualified and authorized users to obtain priority access to the next available radio (voice or data traffic) channels on a priority basis before other PLMN users during situations when PLMN congestion is blocking call attempts. In addition, Priority Service supports priority call progression and call completion to support an “end-to-end” priority call

- **TR 22.952 Priority service guide**

Provides a "Guide" for Priority Service. The intent of this Guide is to describe how existing 3GPP specifications support the high-level requirements identified for Priority Service in TR 22.950.

# ***Multimedia Priority Service (Rel-7)***

**Multimedia requirements analogous to the CS case.**

- Use cases include VoIP, video, Push-to-Talk, email, instant messaging, file transfer ...**
- TR 22.953 Multimedia priority service feasibility study**
  - MPS is applicable to PS and PS/IMS based services in GERAN and UTRAN.**
  - A gap analysis suggests use of IETF RFC [4412] in IMS**
- TS 22.153 Multimedia priority service requirements**
  - Currently work in progress (version 0.2.0) in 3GPP SA1**
  - Describes requirements (session establishment, resource queuing..)**
  - Documents requirements of the Multimedia Priority Service necessary to provide an end-to-end service and to interwork with external networks where needed.**

# ***Enhancements of VGCS for public authority officials (Rel-7)***

## **Significant enhancements to (GSM) Voice Group Call Services**

- Privileged service subscriber (may pre-empt the current talker)
- Indication of emergency situations
- Support of SMS in and among groups and from external sources
- Display of talker information
- **Several CRs to TS 42.068 (VGCS) and related stage 2 and 3 specs**

# ***Enhancements for VGCS Applications*** (... the story continues) ***(Rel-8)***

## **Further enhancements to VGCS**

- Transmission of small amounts of application specific data within a short time period (500 ms)
- gather information on the identities of current listeners (for display to dispatchers and/or service subscribers)
- Parallel use of GPRS
- Recently several CRs to TS 42.068 (VGCS)

# *Transferring of emergency Call data*

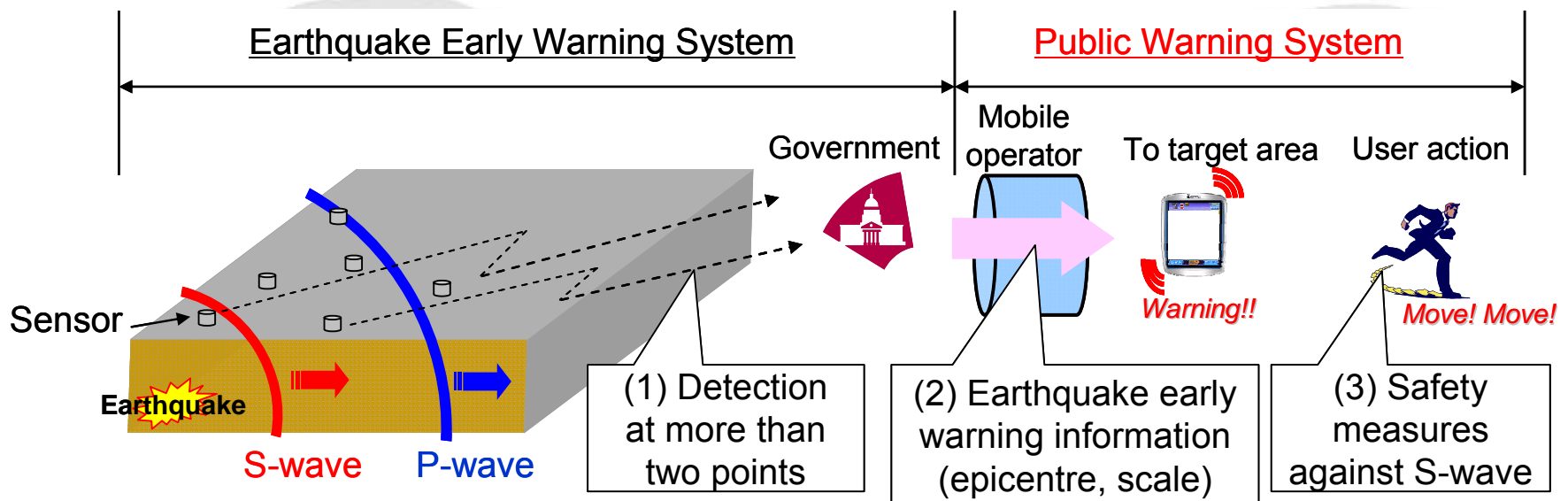
- **‘eCall’ was defined as a specific item in the scope of the eSafety initiative by the Commission for the European Communities (CEC).**
  - **In 3GPP SA1 a study in TR22.967 ‘Transfer of Emergency Call Data’ was created**
- **As part of the EU Commission eSafety initiative, ETSI MSG were requested to standardise the transmission of a Minimum Set of Data (MSD) sent from a suitably equipped vehicle to a Public Safety Answering Point (PSAP).**
  - **Several CRs to TS 22.101 (Service principles) and 22.105 (Services and service capabilities) have been drafted**

# *Study on support of a Public Warning System*

## Originally initiated on Japanese regional demand

- As an early warning information on earthquakes, tsunami
- Other use cases: chemical accident, tornado, nuclear accident, terrorist attack, national disaster ...
- PWS using the CS/PS domain over GERAN/UTRAN
- Delivery time of the most urgent PWS messages should be as short as possible (i.e. seconds)
- **TR 22.968 Study for requirements for a Public Warning System (PWS) Service**
  - Currently work in progress (version 0.4.0) in 3GPP SA1
  - (Will) take into account regional requirements: Japan, Europe (EMTEL), US (WARN act – requirements completed in 2008)

# PWS-SI - Basic example of an earthquake warning



- Primary wave: 7 km/sec, little destructive force
  - Secondary wave: 4 km/sec, highly destructive
- User alerted within seconds after P-wave - extinguishes gas stoves, opens doors, hides under the table ...

# ***PWS-SI***

## ***– particular aspects***

- **Duration of the delivery time**
- **Granularity of the distribution**
- **Information element and data volume**
- **User Interface**
- **Priority**
- **Support of roaming subscribers**
- **Support in ‘legacy’ handsets**
- **Alert Message Sources**
- **Periodic Testing Aspects**

# ***PWS-SI***

## ***– particular aspects (II)***

- **Gap Analysis on current services (work ongoing)**
  - SMS
  - CBS
  - MBMS
- **Additionally:**
  - Geographic size of alert area range from a few blocks to nationwide
  - Transmitted information type, volume and delivery time may vary depending on kind of alert

# Thank you !

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# *Work items*

- **Priority Service [SP-010739], Rel-6**
- **Multimedia Priority Service (PRIOR-EMR) [SP-060476], Rel-8**  
**[related study in SP-060329], Rel-7**
- **Enhancements of VGCS for public authority officials (EGCS) [SP-040304 ...], Rel-7**  
**- and for Rel-8: (EVA) [SP-060036]**
- **Transferring of emergency Call data [SP-050388, SP-060856], Rel-7, Rel-8**
- **Study on support of a Public Warning System (PWS-SI) [SP-060333], Rel-8**