

Roaming Support of SMS Emergency Services

Orange

Outline

- Use of SMS Emergency Services Today
- Requirements for SMS Emergency Services
- Gap analysis in standards for supporting SMS Emergency Services
- Proposal

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Use of SMS for Emergency Services Today

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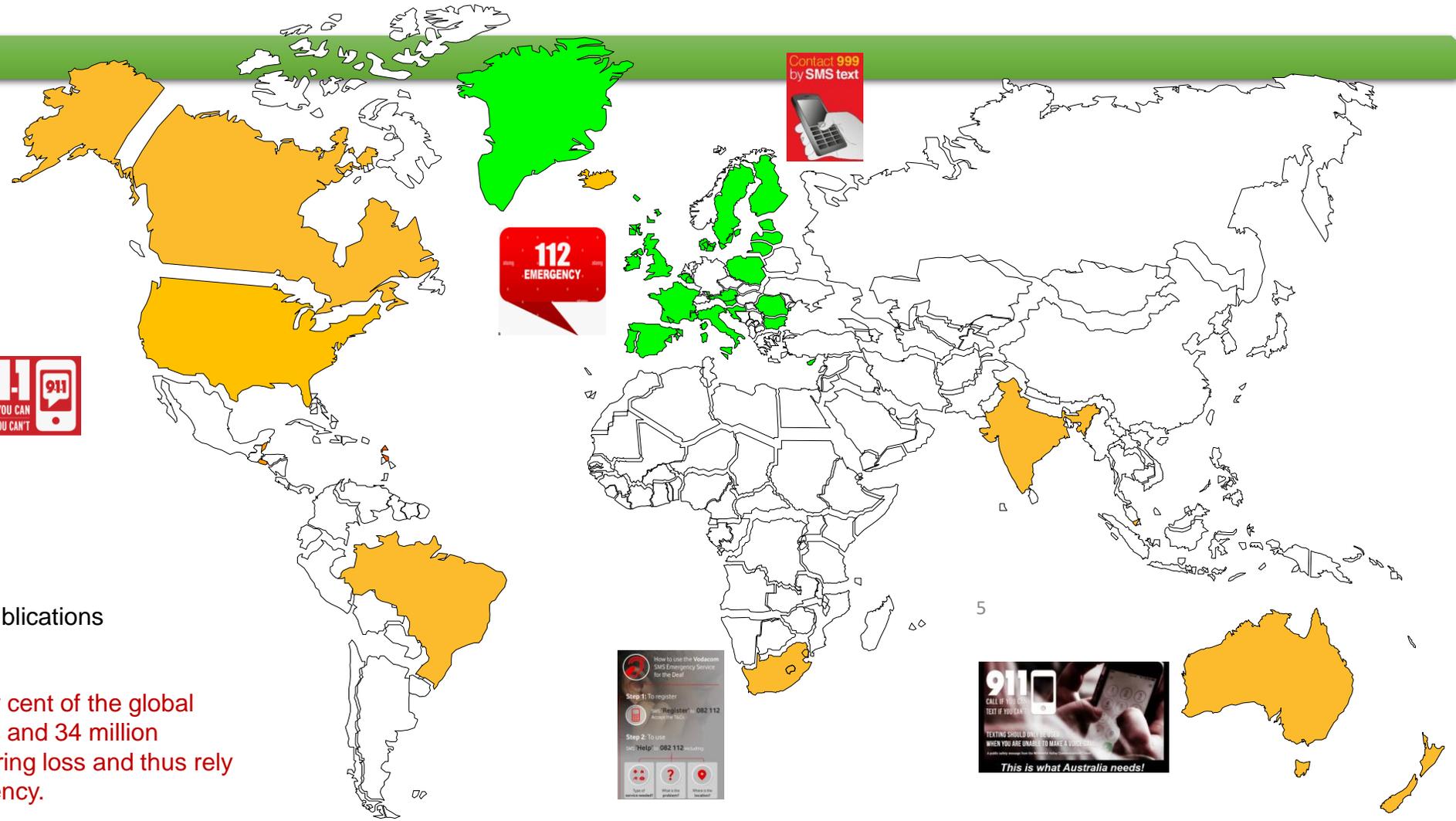
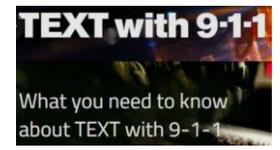
Emergency Text is mainly based on SMS (80%) in Europe

SMS to 112	11 countries (40%)
SMS to short nbr	6 countries (22%)
SMS to long nbr	5 countries (19%)
No SMS	5 countries (19%)

Source – EU Commission - 2019
- COCOM 19-04 - Implementation of the single European emergency number 112
– Results of the twelfth data-gathering round



Emergency Text using SMS is very popular in the world



- Sources:
- EU Commission - 2019
 - Examples of Internet publications

02 Mar 2021 — Over five per cent of the global population (432 million adults and 34 million children) have disabling hearing loss and thus rely on text messages for emergency.



Requirements for SMS Emergency Services

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Requirements for SMS Emergency Services

- EECC (European Electronic Communications Code) Recital 285 adopted in 2018 and must be transposed in the Member States by December 2020

*“end-users should be able to access emergency services through emergency communications free of charge and without having to use any means of payment, from any device which enables number-based interpersonal communications services, **including when using roaming services in a Member State**. Emergency communications are a means of communication that includes not only voice communications services, **but also SMS**, messaging, video or other types of communications, for example real time text, total conversation and relay services”*

- EECC Article 109(8) requires the EC, after consultation with BEREC, to adopt delegated act(s) to ensure compatibility, interoperability, quality, reliability and continuity of emergency communications in the EU.

- EU commission is preparing new requirements

- New regulation to be passed in 2022 and must be complied by 2025.

- GSMA Requirements:

- SMS design shall enable SMS for emergency service in case of roaming
- SMS shall be supported for emergency numbers such as 112 or 911 (other local emergency numbers could be considered as an option)
- SMS for emergency service shall use SMSoIMS based on LBO data connections in case of roaming instead of Home Routing (see annex 2)

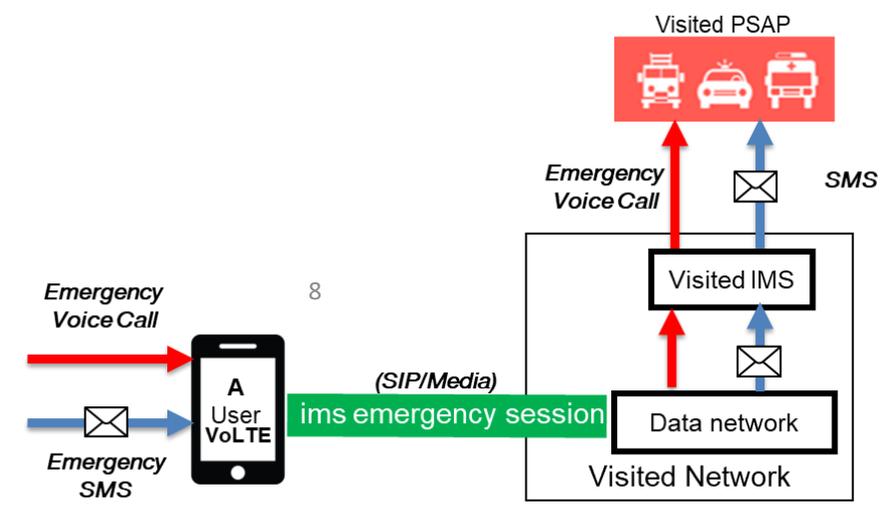
SMS to Emergency based on standards for Emergency Voice

Requirements on SMS to Emergency *(similar to emergency voice service)*

- 🌿 Prioritize Emergency SMS in case of network congestion
- 🌿 Emergency SMS must be routed to the PSAP in VPLMN in case of roaming
- 🌿 Avoid Emergency SMS barring issue
- 🌿 Emergency SMS free of charge
- 🌿 Minimize impact on devices and PSAP (UE and PSAP already manage SMS)
- 🌿 Provide location (AML – Advanced Mobile Location) service to emergency SMS
- 🌿 Reuse to transport also AML SMS to emergency center in case of roaming (in a standard way and no more in a proprietary way)
- 🌿 Emergency SMS reply via normal SMS-MT
- 🌿 Could be reused outside EU (US/Canada/Australia/...)
- 🌿 Simple design with limited impacts on network and devices (reusing IMS Emergency session – LBO mode - used for VoLTE emergency)

SMS to Emergency standard mechanism should be based on

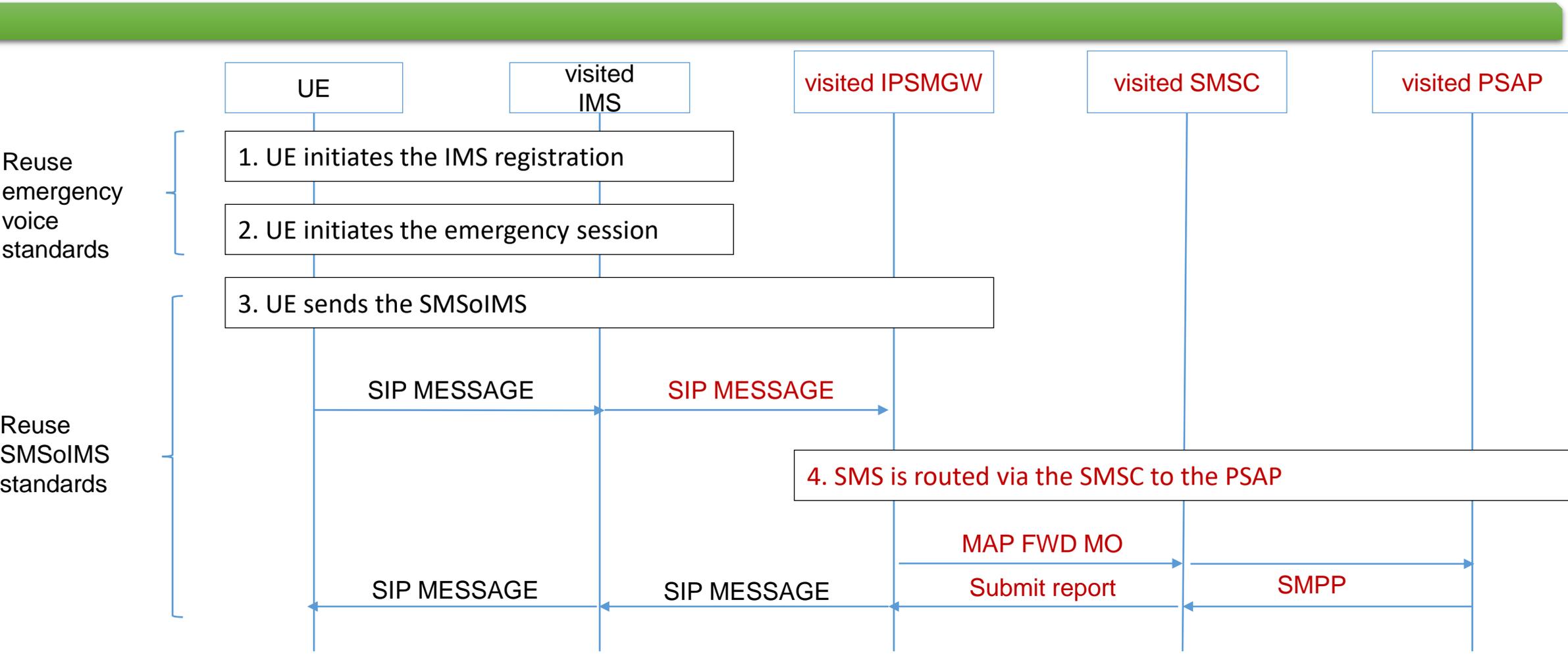
- SMS Emergency session based on emergency VoIMS
- SMSoIMS Emergency session on LBO not Home Routed





Gap Analysis in Standards for SMS Emergency Services

Gap Analysis in Standards for SMS Emergency Service (1/2)



Gap Analysis in Standards for SMS Emergency Service (2/2)

How to route an SMS towards the local SMS Centre and then to the PSAP for emergency services in the visited country, in particularly when the emergency message is originated and sent by the roaming UE via IMS-based communication services supporting the Home Routed traffic only.

- 📶 IMS registration for SMS to emergency centre.
- 📶 PSI of the SC of the IP-SM-GW: the UE (SM-over-IP sender entity) shall include in the SIP MESSAGE request the Public Service Identity (PSI) of the SC of the IP-SM-GW in the Request-URI and in the From header.
- 📶 NAS assumes that for emergency services, a specific access category is used
- 📶 SMS to emergency centre in case of UE in limited service state and no UICC in the UE
- 📶 Emergency number detection by the UE
- 📶 UE undetected SMS to Emergency Centre
- 📶 Translation of emergency numbers to emergency service URN
- 📶 Location information inside of the SMS to emergency centre
- 📶 PSAP selection in emergency call case, the E-CSCF is responsible for selection of the proper PSAP to handle the request. This selection is based on the information about the type of the emergency service the location information so as to select the PSAP emergency service local to the caller.
- 📶 Charging: similar approach regarding charging of SMS to emergency centre should apply as in the case of emergency calls. i.e., the user shall not be charged for SMS to emergency centre >

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 Proposal on the way forward

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SA endorses the necessary work in Release 18 to support roaming SMS to Emergency Service

- SA1 provides necessary requirements descriptions to the corresponding stage 1 specifications e.g. 22.101
- CT1 plans to start and lead a study on stage 3 work and stage 2 impact and coordinate with SA2 and CT4 when necessary.