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|  | ASIA-PACIFIC TELECOMMUNITY |  |
| **The 25th Meeting of the APT Wireless Group****(AWG-25)** |  |
| 1 – 5 July 2019, Tangerang, Indonesia | 5 July 2019 |

 Source: AWG-25/OUT-16

Working Group on Service & Applications

**questionnaire ON how to alert the public by current public warning services in APT countries**

1. **Introduction**

The public warning message based on cell broadcast service (CBS) started to be provided over IMT networks (e.g., CDMA, GSM, UMTS, LTE) as one of alerting means in the mid-2000’s afterwards in countries such as Japan, Republic of Korea, the Netherlands and United States.

Following assumptions were taken when service requirements based on regulatory requirements and corresponding enabling technologies were specified in technical specifications of global standard bodies, i.e. 3GPP and 3GPP2.

- A device receiving a warning message is a mobile handset with a small screen that is capable of displaying a text-based warning message and that is held by a mobile user or near a mobile user.

- A dedicated sound rings to make a user with a mobile handset immediately recognize the reception of a warning message when a device receives a warning message.

- A user of a device receiving a warning message is able to understand the language used to describe a text-based warning message.

There are issues that were recently identified by the 3GPP work on ePWS (Enhancements of Public Warning Services)[[1]](#footnote-1) targeted to be completed to be standardized in 3GPP Release 16 technical specifications until March 2020. Example of such issues is as follows.

- Language issue: Foreigners might not know a local language of a country that they travel so it is useless to make foreigners take proper actions to avoid any risk from a disaster to be notified by a warning message even if such a warning message arrives at their devices on time.

- Human auditory perception issue: Countries that provide public warning messages over IMT networks may independently define different dedicated sounds according to their regulatory laws unless countries in the world made any agreement on dedicated sounds for warning messages over IMT networks. Different dedicated sounds used by different countries are likely for foreigners to immediately recognize that any serious disaster happens when they hear a different dedicated sound from what they hear in their countries when a warning message is received.

The number of disasters such as earthquake or fire continues to be increasing as well as potential risks faced by the public in APT member countries when they are travelling abroad, it is recommended to look into the current status of alerting means over IMT networks in APT member countries in order to identity any enhancements to address such issues for the safety of the public in APT member countries no matter where they are travelling.

1. **Objective of the Questionnaire:**

The objective of the questionnaire is as follows.

- To survey the current alerting means over IMT networks employed in APT member countries in order to identify the commonality and difference of alerting means over IMT networks among APT member countries

- To develop considerations on how to improve alerting means over IMT networks

- To examine development of APT Recommendation or Reports on how to enhance alerting means over IMT networks based on the global collaboration among APT member countries

1. **Responsible Group**

TG-PPDR Jointly with SWG IMT

1. **Rapporteur of the Questionnaire:**

Hyounhee Koo (Republic of Korea)

1. **Meeting at which the Questionnaire was approved:**

AWG-25 Document: AWG-25/OUT-16

1. **Target Responder:**

APT Members

1. **Deadline for Responses:**

APT Members are encouraged to respond at least 4 weeks before AWG-26, with possibilities to further add or update information before AWG-27.

**Questionnaire Part**

**Administration/organization Information and Profile:**

Name of organization : <please type your answer here>

Name of contact person : <please type your answer here>

Email Address : <please type your answer here>

My organization is a:

* 1. Regulator [ ]
	2. Operator [ ]
	3. Vendor [ ]
	4. Other [ ] <please describe your answer here>

**NOTE:** It would be greatly appreciated if you could provide any relevant information or considerations as much as possible. Please contact *Hyounhee Koo (email: st@synctechno.com)* if you need additional clarification or information on following questions to be answered considering natural or societal environment of your country.

**Questions:**

An alerting means over IMT networks is one of the most effective tools in terms of following aspects to make it possible for the people to make the best effort to take proper action for their survival and the reduction of their property damages from serious disasters such as earthquake or fire combined with strong wind.

- An alert sent by an authorized organization over IMT networks is capable of being arrived at mobile devices that are assumed to be almost always carried by people within a few seconds (e.g. 3 seconds in case of LTE system in some countries) no matter where they are in APT member countries or non-APT member countries that provide an alerting over IMT networks.

People from APT member countries are getting to increase to travel abroad and people from non-APT member countries have increased to travel in APT member countries with their mobile devices that support global roaming. Intuitive alerting presentation that is globally consistent and applicable will maximize the effect of alerting means over IMT networks enough to make the public recognize a disaster as soon as possible when the public are likely to face a disaster not only in APT member countries but also in non-APT member countries.

Following questions are to survey the regulatory laws/policies and the operation of alerting means over IMT networks in APT member countries that currently provide or in near future plan to provide public warning service over 2G, 3G, LTE or 5G system correspondingly.

**Question 1:** What kind of transmission media are employed as an alerting means to send a warning to the public in your country when a disaster happens? Please select all transmission media employed in your country.

What do your country think is the most effective transmission media as alerting means for the public safety considering natural or societal environment of your country?

① TV

② Radio

③ Siren

④ Satellite

⑤ IMT networks (e.g. 2G, 3G, LTE or 5G networks)

⑥ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 1:****The most effective transmission media :**  |

**Question 2:** What kind of disasters or risks are the most critical and important to be required to be immediately alerted to the public considering the natural or societal environment of your country?

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| **Answer of Question 2:** |

**Question 3:** Does your country employ an alerting means over IMT networks (i.e. 2G, 3G, LTE or 5G networks) that sends a warning message to mobile phones when a disaster happens?

① Yes, an alerting means over IMT networks is employed to send a warning message to mobile phones of people who are in the area where a disaster happens.

② No, an alerting means over IMT networks is not employed but it is planned that an alerting means over IMT networks is to be employed in near future.

③ No, an alerting means over IMT networks is not employed and it is not planned in near future.

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| **Answer of Question 3:** |

**Question 4:** (Please answer Question 4 only if the answer of Question 3 is ① or ②) What kind of IMT networks (plan to) support an alerting means over IMT networks in your country? Please select all networks used to support an alerting means over IMT networks in your country.

① 2G – CDMA network

② 2G – GSM/GPRS/EDGE network

③ 3G – CDMA network

④ 3G – WCDMA/HSPA network

⑤ LTE network

⑥ 5G network

⑦ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 4:** |

**Question 5:** [3GPP TS 22.268 technical specification](https://www.3gpp.org/DynaReport/22268.htm) specifies requirements on the kind of disasters alerted over IMT networks as follows.

*Warning Notifications shall be limited to those emergencies where life or property is at imminent risk, and some responsive action should be taken.*

What kind of disasters or risks are alerted over IMT networks via mobile phones to the public? (Multiple selections)

① Disasters that cause physically serious damages

② Potential risks that may cause serious issues to some people as informative alerts

③ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 5:** |

**Question 6:** What kind of enabling technologies or services are employed to support an alerting means over IMT networks in your country? Please select all enabling technologies/services employed in your country.

① SMS (Short Message Service)

② Email

③ SNS (Social Network Service such as Facebook or Twitter)

④ CBS (Cell Broadcast Service)

⑤ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 6:** |

**Question 7:** If your country provides a warning message that is broadcast over IMT networks, what kind of a warning system is employed as an alerting means over IMT networks?

① CBS (Cell Broadcast Service)

② Public Warning System (PWS) – Commercial Mobile Alerting System (CMAS)

③ Public Warning System (PWS) – Earthquake and Tsunami Warning System (ETWS)

④ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 7:** |

**Question 8:** [3GPP Release 9 TS 23.041 technical specification](https://www.3gpp.org/DynaReport/23041.htm) defined message identifiers from 4370 to 4382 for a local language in case of PWS-CMAS depending on the severity and urgency of a disaster. In addition, message identifiers from 4352 to 4356 were also defined in case of PWS-ETWS over IMT networks. In spite of that, it is observed that a single message identifier (e.g. 4371) only is currently used for all disasters to be alerted in some countries that employ PWS-CMAS.

What is a local language (mother language) currently used in a warning message over IMT networks?

If your country employs PWS (CMAS or ETWS) based on 3GPP technical specifications, what message identifiers are currently used to broadcast a warning message over IMT networks?

① A single message identifier for all disasters alerted over IMT networks.
 (Please answer what number is a single message identifier currently used in your country.)

② Several message identifiers for all disasters alerted over IMT networks.
 (Please answer what numbers are message identifiers currently used in your country.)

③ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 8:** Local language : Message identifiers currently used for local language :  |

**Question 9:** [3GPP TS 22.268 technical specification](https://www.3gpp.org/DynaReport/22268.htm) specifies requirements on language translation as follows.

*There shall be no requirement for language translation in the operator’s network or the UE.*

[3GPP Release 9 TS 23.041 technical specification](https://www.3gpp.org/DynaReport/23041.htm) defined message identifiers from 4383 to 4398 for additional language in case of PWS-CMAS depending on the severity and urgency of a disaster. In spite of that, it is observed that a message identifier defined for a local language is currently used to broadcast a warning message written in a local language and in additional language (i.e. foreign language) in some countries that employ PWS-CMAS.

If your country supports a warning message written in additional language (i.e. foreign language) as well as a local language of your country over IMT networks, please answer what kind of additional languages are supported as well as what message identifiers are currently used for a warning message written in additional languages.

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| **Answer of Question 9:** Additional languages :Message identifiers currently used for additional language : |

**Sub-Questions related to Question 9**

1) Pictogram symbols mapped to disasters may be one of efficient solutions to address language issues of a warning message if such pictogram symbols are globally standardized and applicable in the world over legacy network architecture and procedures of a public warning system. What kind of disasters are necessary to be specified as a pictogram for foreigners in your country or for your domestic people in other countries that provide alerting means over IMT networks?

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| **Answer of Sub-Questions related to Question 9:**  |

**Question 10:** [3GPP TS 22.268 technical specification](https://www.3gpp.org/DynaReport/22268.htm) specifies requirements on alerting sounds as follows.

*The PWS-UE shall support a dedicated alerting indication (audio attention signal and a dedicated vibration cadence) and be distinct from any other device alerts and restricted to use for Warning Notification purposes.*

*The alerting indication for a specific Warning Notification shall continue until suppressed by users' manual operation (e.g. by pushing keys). The frequency and duration of the continued alerting indication is mobile device implementation specific. This shall not suppress the alerting indication for subsequent Warning Notifications.*

Does regulation laws or policies on public warning specify alerting sounds of mobile phones when mobile phones receive a warning message sent from an authority organization in your country?

① No regulation laws/policies on alerting sounds. It is mobile phones implementation specific.

② No regulation laws/policies on alerting sounds but mobile operators have requirements for
alerting sounds of mobile phones.

③ Yes, regulation laws/policies specify requirements on alerting sounds.

④ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 10:**  |

**Sub-Questions related to Question 10**

1) Please describe what is specified on alerting sounds in your regulation laws/policies or mobile operators’ requirements.

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| **Answer of Sub-Question 1) related to Question 10:**  |

2) In addition, please provide the sound source for the purpose of the comparison on sounds used among APT member countries.

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| **Answer of Sub-Question 2) related to Question 10:**  |

3) How many alerting sounds are required to be used for warning messages in your country?

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| **Answer of Sub-Question 3) related to Question 10:**  |

4) How are alerting sounds mapped with disasters that are alerted in your country?

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| **Answer of Sub-Question 4) related to Question 10:**  |

**Question 11:**  [3GPP TS 22.268 technical specification](https://www.3gpp.org/DynaReport/22268.htm) specifies requirements on how to display a warning message when a warning message is received in mobile devices as follows as examples.

*It shall be possible for the Warning Notification to be displayed on the PWS-UE upon reception and without any user interaction.*

Does regulation laws or policies on public warning specify requirements on how to display a warning message (i.e. a user interface of mobile phones)?

① No regulation laws/policies on how to display a warning message. It is mobile phones implementation specific.

② No regulation laws/policies on alerting sounds but mobile operators have requirements on how to display a warning message.

③ Yes, regulation laws/policies specify requirements on how to display a warning message.

④ Others (If the answer selects ‘others’, please describe what it is.)

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| **Answer of Question 11:** Please describe what is specified on how to display a warning message in your regulation laws/policies or mobile operators’ requirements. |

**Question 12:** [3GPP Release 16 TS 22.268](https://www.3gpp.org/DynaReport/22268.htm) specified new requirements to address a language issue and other issues that didn’t exist when 3GPP first specified requirements of public warning systems in the year 2008 ~ 2009 but have been identified especially in 5G standardization that new form-type of mobile devices including IoT devices such as machines (e.g. elevator) and robots started to taken into account. In addition, new message identifiers are under standardization for IoT devices based on legacy network architecture and procedures of public warning system over IMT networks.

Please provide what aspects need to be taken into account for the public of your country who may face any disaster or risk in foreign countries that provide alerting means over 5G network.

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| **Answer of Question 12:**  |

**Sub-Questions related to Question 12**

1) Please describe what disasters are most serious in the perspective of “things” in your country that may be necessary to be taken into account when 3GPP specify new message identifiers dedicated to IoT devices based on common characteristics of disasters in the world.

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| **Answer of Sub-Question 1) related to Question 12:**  |

**Question 13:** Is your country interested in the global collaboration among APT member countries and other regional countries in order to define language-independent content such as pictogram mapped to a disaster included in a public warning message that the public intuitively recognize what is happening with? Please provide the contact person for the global collaboration among APT member countries and other regional countries.

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| **Answer of Question 13:**  |

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1. The attachment 2 provides the 3GPP standardization work of legacy public warning services that are provided over GSM/GPRS/EDGE(2G), UMTS(3G), LTE(4G) and 5G and the recent 3GPP standardization work of the enhancement of public warning services to address issues (e.g., the language issue for foreigners and issue related to IoT devices). [↑](#footnote-ref-1)