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**Question(s):** 1/2

Geneva, 11-12 July 2017

**Ref.:** SG2-TD196/GEN**Source:** ITU-T Study Group 2**Title:** LS on 3GPP and ITU-T SG2 work on MTC/M2M/IoT identifiers

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**LIAISON STATEMENT****For action to:** -**For comment to:** 3GPP**For information to:** -**Approval:** ITU-T SG2 management (24 July 2017, by correspondence)**Deadline:** 24 November 2017

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**Keywords:** M2M, IoT, naming, addressing, identification**Abstract:** This document proposes a liaison to be sent to 3GPP in order to request some clarifications on certain 3GPP documents, and in order to provide information on work in ITU-T Study Group 2 on naming, addressing, and identification for machine-to-machine communications (M2M, also referred to as MTC) and for the Internet of Things (IoT)

ITU-T Study Group 2 Question 1/2 (SG2 Q.1/2) is currently studying certain aspects of naming, addressing, and identification issues related to machine-to-machine communications (M2M, also referred to as MTC) and for the Internet of Things (IoT).

In particular, SG2 Q.1/2 is considering what, if any, changes should be made for the assignment criteria for non-geographic E.164 numbers (Recommendation E.164.1) and E.212 identifiers (Recommendation E.212). At this stage, it is envisaged that the code 878, at present allocated to Universal Personal Telecommunications (UPT) services could be repurposed as a code for M2M/IoT (without prejudice to the use of 882 and 883 codes for M2M/IoT).

In the course of its work, SG2 Q.1/2 took note of the following 3GPP documents:

- 3GPP TS 23.003 V15.0.0 (2017-06-19), Numbering, addressing and identification (Release 15)
- 3GPP TR 22.988 V14.0.0 (2017-04-05), Study on alternatives to E.164 for Machine-Type Communications (MTC) (Release 14)
- 3GPP TS 22.368 V14.0.0 (2017-03-24), Service requirements for Machine-Type Communications (MTC); Stage 1 (Release 13)

We find these documents to be valuable and we will take them into account in our future work. We would appreciate being informed of any work that might revise or expand on those documents, or any other documents related to M2M/MTC/IoT identification.

Regarding document TR 22.988, we would request clarification on the meaning of the following paragraphs found in section 9.1:

The use of ITU-T E.164 International Network country calling codes (e.g. 882 and 883) with existing interpersonal MSISDN ranges can also be used to overcome MSISDN shortage for MTC device addressing.

In some territories new regulation has been enforced which prohibits the use of MSISDNs from existing interpersonal number ranges for MTC services, (e.g. Netherlands).

On the basis of the text of the second paragraph above, we understand that “interpersonal number ranges” refers to E.164 numbers under geographic country codes, that is, national numbers.

If that understanding is correct, then we do not understand what is meant in the first paragraph by “the use of ... International country codes with existing interpersonal MSISDN ranges” (we emphasize the word that is puzzling us). How can an international number under, for example, 882 be used with (at the same time? in conjunction with?) a national number?

We would appreciate your clarifying the intent of the first paragraph above.

Also with respect to TR 22.988, we note section 5.1.5, which states:

“Device identity” portability may need to be supported for MTC Devices in some cases or be irrelevant depending on the applicable national regulatory requirement, (for applicability of number portability to M2M, see ECC report on M2M numbering <http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCREP153.PDF> ).

Based on our internal preliminary discussion, it appears that there may be two different types of portability, with different requirements:

- a) Carrier provider switching: the ability for an M2M Service Provider to change the provider of connectivity for the service it is providing while using the same number. (An M2M Service Provider is an entity that provides M2M devices and their associated services, e.g. a connected smartwatch).
- b) End-user portability: the ability of the user of an M2M device to change the service provider and/or the connectivity provider while using the same number.

Consideration of these issues raises a related but separate topic, as it appears that there may be a need for universal implementation of non geographic country code numbers. In order for a device to work using the same number, at no extra cost to the end-user, when the device moves (permanently or temporarily) from one geographic area to another, including moving from one country to another, there needs to be assurance that the non geographic country code is widely implemented. This is not the case at present and its implementation requires further study.

We would appreciate your consideration of the issues outlined above and how they could be applied to use cases (in particular the use cases presented in the cited documents, but also any other use cases that you may consider relevant).

We look forward to receiving your comments, before the next SG2 Q.1/2 meeting which will take place in Geneva, Switzerland, 27 November-1 December 2017.

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