



ECC Recommendation (17)04

Numbering for eCall

Approved 22 November 2017

INTRODUCTION

eCall is a service designed for automotive vehicles to provide quick emergency response in case of a road accident or emergency, anywhere in the European Union. Its aim is to advance European citizens' protection and safety and to reduce fatalities caused by road accidents as well as related injuries and property loss.

A Regulation of the European Parliament and of the Council amending Directive 2007/46/EC was agreed in December 2014 concerning type-approval requirements for the deployment of the eCall in-vehicle system in all new passenger cars and light duty types of vehicles. The regulation requires all new type-approved car models to be equipped with eCall technology from 31 March 2018.

eCall is a 112 emergency call that can be generated either manually by a vehicle's occupants, by pressing a dedicated eCall button, or automatically, via activation of in-vehicle sensors when a road accident occurs. When activated, the eCall in-vehicle system establishes a voice connection directly with the relevant Public Safety Answering Point (PSAP).

Even if no vehicle occupant is able to speak, for instance due to injuries, a Minimum Set of Data (MSD) has been defined [1] and is sent to the PSAP over the voice connection. The MSD includes accurate location information (GPS geographic coordinates) on the crash site, the triggering mode (automatic or manual), the vehicle identification number, a timestamp as well as current and previous positions. This way, with this information, that is valuable for emergency responders, they can reach the exact location as soon as possible.

In order to provide with the above-mentioned eCall functionalities, the vehicles need facilities to communicate with the PSAP. This is carried out by means of mobile networks utilising physical SIM-cards or embedded SIMs (embedded Universal Integrated Circuit Cards – eUICCs). In order to provide the service, E.164 telephone numbers (at least to facilitate call-back) and E.212 International Mobile Subscriber Identity (IMSI) resources are needed.

To the extent national numbers are used for eCall, numbering plan managers and electronic communications network and service providers will need to cooperate closely so that a sustainable numbering solution can be implemented to ensure that the burden of providing numbering resources for eCall devices does not fall disproportionately on one, or a few, European countries. Issues around extra-territorial use of numbers and regulatory shopping (i.e. selecting the regulatory regime that is least demanding) need to be resolved in the context of a harmonised approach.

Considering that PSAPs, car manufacturers (Original Equipment Manufacturers – OEMs) and operators have concerns regarding regulatory certainty on the use of numbers for eCall, this Recommendation will provide guidance to administrations on how to address these concerns. This Recommendation will also take into account the use of eUICC technology [2] for eCall.

Numbering related concerns with eCall also include roaming and so called permanent roaming issues in light of the EU's roaming regulation and life cycle management of numbering resources in the event of a vehicle being written off or reaching end of life naturally (number recycling).

With the introduction of eCall there are other responsibilities than numbering that national authorities should accommodate and that is to ensure that the eCall discriminator/eCall flag is handled by the mobile network operators according to the Commission Recommendation 2011/750/EU.

eCall may be implemented in two different ways [3]. The first is referred to as the 112-based eCall service where eCalls are directly routed to the PSAP. The second is referred to as third party service supported eCall systems (TPS eCall services) where the first part of the eCall is routed to a service centre of an OEM and the second part is subsequently routed by the TPS service centre to the PSAP. Private eCall provision (i.e. TPS eCall services) is based on commercial agreements among the involved actors, including mobile operators and PSAPs. 112-based eCall is mandatory and the customer will be able to opt for either one of the two implementations at all times. In order to ensure continuity of the 112-based eCall service in all Member States throughout the lifetime of the vehicle and to guarantee that the 112-based eCall service is

always automatically available, all vehicles should be equipped with the 112-based eCall service, regardless of whether or not a vehicle owner opts for a TPS eCall service.

This Recommendation is concerned with the numbering aspects of eCall and addresses both implementations and the generic term “eCall” refers to both implementations in this document.

ECC RECOMMENDATION OF 17(04) ON NUMBERING FOR eCALL

“The European Conference of Postal and Telecommunications Administrations,

considering

- a) Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles;
- b) Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union;
- c) ECC Recommendation (11)03 on Numbering and Addressing for Machine-to-Machine (M2M) Communications;
- d) ECC Recommendation (16)02 on Extra-Territorial Use of E.164 Numbers – High Level Principles of Assignment and Use;
- e) Conclusions and recommendations from the European eCall Implementation Platform (EeIP) Lifecycle Management Task Force (LCM TF)¹;
- f) Commission Recommendation of 8 September 2011 on support for an EU-wide eCall service in electronic communication networks for the transmission of in-vehicle emergency calls based on 112 ('eCalls') – (2011/750/EU);
- g) that the numbering solution for eCall is independent of the chosen implementation of eCall;
- h) that the planned implementation of eCall requires SIM or eUICC installed in the vehicle;
- i) that the planned implementation requires E.164 and E.212 numbering resources;
- j) that the E.164 and E.212 numbering resources for eCall may include (i) national resources or (ii) global resources (assigned by ITU TSB). National resources may include resources from "home" country (domestic use) or from a third country (extra-territorial use or roaming);
- k) that global numbering resources (assigned by ITU TSB) or national resources from a third country (extra-territorial use or roaming) could be used for addressing eCall devices and these numbering resources need to be provisioned on electronic communications networks in Europe to facilitate call-back from the PSAP to the vehicle;
- l) that the OEMs may have signed an agreement with an operator to provide connectivity for eCall for the OEM's vehicles Europe wide rather than having agreements on a country-by-country basis;
- m) the use of over-the-air provisioning technology will facilitate the removal of barriers to operator switching in the future;
- n) that after the life-cycle of a vehicle the numbering resources used for eCall should be returned to the number reserve of the relevant numbering assignee.

¹ At time of public consultation, the LCM report was still in draft.

recommends

that CEPT administrations, when considering E.164 and/or E.212 numbering resources for eCall, should:

1. liaise with national stakeholders to facilitate the smooth introduction of eCall;
2. in cooperation with mobile network operators and OEMs, encourage the use of over-the-air provisioning technology for eCall implementation;
3. make available national numbering resources for eCall;
4. permit the extra-territorial use of their respective assigned national numbering resources for eCall;
5. permit the use of global numbering resources (assigned by ITU TSB) or national numbering resources from another country (extra-territorial use or roaming) within the national territory for addressing eCall devices and encourage operators to provision these numbering resources in their networks to facilitate call-back from the PSAP to the vehicle Europe-wide;
6. where E.164 numbering resources for global services (assigned by ITU TSB) or national numbering resources from another country are used, assignees should be aware that they are responsible for ensuring that the numbers are diallable Europe-wide;
7. where there is a risk of exhaustion in national mobile numbering ranges, consider the use of existing E.164 national M2M numbering ranges or introduce a new eCall numbering range;
8. ensure that numbering resources used for eCall services are recovered and recycled after a vehicle reaches end-of-life.”

Note:

Please check the Office documentation database <http://www.ecodocdb.dk> for the up to date position on the implementation of this and other ECC Recommendations.

ANNEX 1: LIST OF REFERENCE

This annex contains the list of relevant reference documents.

- [1] CEN Standard EN-15722 defines the minimum set of data (MSD) which is sent to the PSAP for pan-European eCall
- [2] Smart Cards; Embedded UICC; Requirements Specification (ETSI TS 103 383 V13.2.0 (May 2016)) and GSMA Remote Provisioning Architecture for Embedded UICC (eUICC) Technical Specification: Version 3.1 (May 2016)
- [3] Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the eCall in-vehicle system based on the 112 service and amending Directive 2007/46/EC