



Response to Radio Spectrum Policy Group Consultation

RSPG22-035 FINAL

Mobile technology evolution – experiences and strategies

Draft RSPG Report

7 January 2023

I. Introduction

1. MVNO Europe welcomes the RSPG's initiative to consult interested parties on its Draft Report entitled "Mobile technology evolution – experiences and strategies" – RSPG22-035 FINAL.
2. We note that this Draft Report primarily concerns the phasing-out of 2G and 3G networks, and the implications thereof.
3. MVNO Europe is pleased to provide its brief comments, with a focus on emergency communications.

II. MVNO Europe Comments

4. MVNO Europe welcomes the RSPG's analysis of the situation and challenges relating to the phasing-out of 2G and 3G networks. We regret, however, that the circumstances faced by (full) MVNOs is given insufficient attention (the only references to M(V)NOs are on pages 15 and 16 of the Draft Report). The situation of (full) MVNOs needs to be taken into account in order to ensure that all mobile services, including emergency communications, continue to function properly for all end-users when 2G and 3G networks are shut down.
5. Please allow us to emphasize that some (full) MVNOs route calls to emergency response centres (PSAPs).
6. Some (full) MVNOs encounter difficulties in obtaining adequate support from the mobile communications ecosystem (particularly but not limited to the case of MVNOs using their own IMSIs) with regard to the provision of Voice over LTE (VoLTE) and Voice over New Radio (VoNR). The same inadequacies and difficulties with regard to support for VoLTE/VoNR occur in some cases in roaming scenarios.
7. The situation regarding VoLTE/VoNR compatibility of mobile handsets is in some cases deeply problematic (devices without the required compatibility, devices with VoLTE not switched on by default, manual settings buried deep in complicated menus or SOC (System on a Chip, like ARM, Huawei, Qualcomm, Samsung and MediaTek) vendors blocking such services in the baseband software for unknown IMSIs).
8. Participation in the GSMA's NSX Settings Exchange by OEMs is not universal and not mandatory, and is thus insufficient to ensure that all MNO/MVNO and OEM combinations function appropriately.

9. In sum, implementation of VoLTE in and between networks and in handsets is not consistent, and some (full) MVNOs face particular difficulties.
10. This state of affairs affects the end-user experience and constitutes a real risk that emergency communications may not function as required in all cases once 2G and 3G networks are phased out. This risk has already materialized, albeit to a limited extent, notably in the context of European end-users roaming in the United States. The inability for end-users to make emergency calls is an issue that has been flagged by EENA¹ the European Emergency Number Association, and by various stakeholders, as requiring rapid action to avoid problems going forward. Indeed, there is currently doubt whether the industry is able to guarantee continued access to 112 considering the current status of VoLTE deployments combined with the fact that OEM handset vendors are not mandated by any legislation to make VoLTE available as a service in their handsets nor they are mandated to enable VoLTE and configure VoLTE emergency calling (enabling VoLTE is one step, but making sure the handset no longer attempts CSFB is a second step) on any network with any SIM.
11. In light of the points made in the previous paragraphs, MVNO Europe expresses its strong support for two suggestions made in the RSPG's Draft Report, and MVNO Europe asks the RSPG to place stronger emphasis on them in the conclusions of its Final Report:
- a) RED directive 2014/53/EU: It is imperative that a European Commission Delegated Act, in application of Art 3.3(b) and 3.3(g), mandates that all new devices support and enable VoLTE 'out of the box' for all IMSIs of all M(V)NOs on a formally standardised basis (avoiding the current wide variations in the way VoLTE is implemented). This should be done in a way to ensure formal standardisation of all forms of usage of VoLTE (and VoNR) (not solely for emergency communications).
 - b) Regulation 2018/858: It is urgent for this Regulation to be updated, to cover packet-switched eCall on a formally standardised basis (avoiding variations, and ensuring a long-term approach to avoid problems occurring again when future generations of mobile technology replace the anterior generations).
12. In addition to point 11 a) above, MVNO Europe considers that the RSPG's Final Report could usefully suggest that OEMs (of new and of existing devices that support VoLTE/VoNR), SOC vendors and Operating System providers (Android, iOS, Windows, Linux and derivatives in particular) should be required by the RED Directive Delegated Act to enable VoLTE/VoNR by default for all IMSIs of all M(V)NOs, i.e. with no requirement for M(V)NOs and/or end-users to

¹ <https://eena.org/knowledge-hub/press-releases/many-europeans-cannot-call-911-when-traveling-to-the-us/>

manually enable it. Where VoLTE/VoNR/VoWi-Fi is currently not enabled by default, the OEMs, SOC vendors and Operating System providers should be required to 'push' over-the-air firmware and/or software updates that turn on VoLTE/VoNR/VoWi-Fi. This is necessary because it is impossible for smaller operators such as MVNOs to intervene where needed to turn on VoLTE/VoNR on all devices of end-users that are making use of their services. As regards end-users, it is clear that it cannot be expected from all of them to turn on VoLTE/VoNR manually. This is simply too complicated for many end-users.

13. Furthermore, MVNO Europe considers that the RSPG's Final Report could usefully suggest that European Commission should take the opportunity of the RED Directive Delegated Act to promote (for instance in the accompanying Explanatory Memorandum) an important extension to Advanced Mobile Location (AML). The current AML standard (ETSI TS 103 625 V1.2.1) only enables transmission via SMS or HTTPS, thus requiring a functioning SMS Switching Centre (SMSc) or a working data connection with the end-users' device, also while the end-user is roaming. This is not always the case: an SMSc may fail, or fail to be reachable, and a data connection may not be available, e.g. if there is no working SIM card, if the user has turned off data while roaming, if prepaid credit has expired or if the user has been cut off for whatever reason, etc. If the AML standard were (mandatorily) extended, e.g. to NG.112 TS 103 479², to organize signalling via SIP/IMS, this would have major advantages (provided that modernized PSAPs are able to receive and process it), enabling AML to function even when no SIM card/active eSIM is in the handset, in case no data connection is available with the end-users' device, and removing a potential point of failure, which is the provider's SMSc or the roaming provider's SMSc. If AML relying on signalling via SIP/IMS would be (mandatorily) implemented, the information will always be relayed over the local SOS emergency APN of the VPLMN, which is able to deliver messages to the local PSAPs. In sum, introducing/mandating AML signalling via SIP/IMS would significantly boost the reliability of mobile caller location, removing failure scenarios that are widespread in the current AML implementations.

III. About MVNO Europe

14. MVNO Europe represents various types of Mobile Virtual Network Operators (MVNOs), with different business models, addressing consumers, business users (including start-ups/scale-ups)/medium/large businesses, the public sector, ICT service/systems integrators, and Internet of Things (hereafter 'IoT') markets, etc. <http://www.mvnoeurope.eu/members>

² NG.112 TS 103 479 specifies the high-level architecture of all-IP PSAP infrastructure and specifically opens the option of the LIS receiving via AML-1 and AML-2 (SMS and HTTP) but also location requests/reports via SIP signalling.

15. MVNOs currently represent +/- 10% of SIM cards in the European Union.
16. The term "virtual" refers to the fact that MVNOs do not control radio frequencies and related mobile physical infrastructure (antennas, base stations etc.). However, MVNOs do control the necessary hardware/software/resources to provide wireless/mobile services and may own other telecom infrastructures depending on the extent of their business model.
17. Our members provide mobile-only offers, fixed-mobile convergent offers and offers incorporating audio-visual media content, financial services, machine-to-machine communications, embedded data SIMs for tablets, laptops and other devices, connected mobility for vehicles, IoT in a broad sense, etc. Some of our members are also active on wholesale markets as MVNE (E=Enabler) / MVNA (A=Aggregator) supporting other companies and brands that provide wireless/mobile services. MVNO Europe does not represent branded resellers.
18. MVNOs contribute strongly to innovation and competition and provide clear Business to Consumer (B2C) and Business to Business (B2B) end-user benefits. MVNOs also contribute to financing mobile network infrastructure through payment of wholesale charges which assure revenues to Mobile Network Operators, whilst avoiding costly duplication of network assets.

IV. MVNO Europe Contact Details

Should you require any clarifications or further information on the elements and positions set out by MVNO Europe in this document, please contact:

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