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September 2023

TCCA White Paper

Legal and Regulatory aspects regarding the realisation of Quality of Service, Priority and Pre-emption (QPP) in commercial networks

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Issued by TCCA's Legal and Regulatory Working Group (LRWG), September 2023.

Table of Contents

Contents	2
List of Abbreviations.....	3
1. Executive Summary.....	4
2. Introduction	4
3. Description of the public safety services need for QPP	5
4. Legal aspects connected to QPP and the principle of net neutrality	6
4.1 Applicability on commercial network operators	6
4.2 Applicability on services for PPDR.....	6
4.3 General legal consequences.....	7
4.4 Exemptions from the prohibition on traffic management measures.....	7
5. Legal Solutions	8
5.1. National legislation on QPP.....	8
5.2. Conclusions regarding legal solutions	8
6. Conclusion and recommendations.....	8
ATTACHMENT 1 – Extract of articles in the TSM Regulation.....	10
ATTACHMENT 2 – Extract from BEREC Guidelines.....	12
ATTACHMENT 3 – Examples of existing legal solutions on QPP.....	13

List of Abbreviations

3GPP	3rd Generation Partnership Project: Standards organisation for mobile telecommunications
BEREC	Body of European Regulators for Electronic Communications: Body in which the regulators of the telecommunications markets in the European Union work together
EUCCS	EU critical communication system: The EUCCS will link EU member States' communication systems for public security and safety and supplement them with an EU-level component, allowing for their full interoperability
IAS	Internet Access Services: Internet access can be provided using different broadband technologies including satellite, cable, telephone wires, wireless or mobile connections
MCCG	Mobile Critical Communication Group: Expert group of the EU Directorate General Home with the mission to establish the EUCCS
MCX	Mission Critical Services: LTE/5G-based mission-critical communications solution (MC Voice, MC Data, MC Video)
MNO	Mobile Network Operator: A telecommunications service provider organisation that provides wireless voice and data communication for its subscribed mobile users
NRA	National Regulatory Authorities
PPDR	Public Protection and Disaster Relief: PPDR services are provided by a service or agency, recognised as such by the national administrations, that provides immediate and rapid assistance in situations where there is a direct risk to life or limb, individual or public health or safety, to private or public property, or the environment
QoS	Quality of Service: A set of technologies that work on a network to guarantee its ability to dependably run high-priority applications and traffic under limited network capacity. QoS technologies accomplish this by providing differentiated handling and capacity allocation to specific flows in network traffic. This enables the network administrator to assign the order in which packets are handled and the amount of bandwidth afforded to that application or traffic flow
QPP	Quality of Service (QoS) / Priority / Pre-emption / Access Class Barring: QPP shall be interpreted in accordance with TCCA definition of QPP version 20230509 where QoS represents the overall service performance. Measures include latency, jitter, packet loss, throughput, availability. Priority represents the network capability, which enables a user's service to take precedence over another user's service resources. Pre-emption represents the network capability that permits taking over resources from other services. In addition, Access Class Barring (ACB) has been added to the definition in this White Paper and represents access to the network.
TCCA	The Critical Communications Association
TSM	Telecom Single Market: With Regulation (EU) 2015/2120 ("TSM Regulation"), the European legislator has defined network neutrality and the best-effort principle in law. Network neutrality within the meaning of the TSM Regulation exists when the Internet access provider treats all traffic in a network equally

1. Executive Summary

In Europe, it is expected that most operators of broadband networks for Public Protection and Disaster Relief (PPDR) will cooperate with commercial network operators to provide either full or partial PPDR services. In this situation, mission-critical communications are made reliant on the availability of Mobile Network Operators' (MNOs) and their respective networks. This white paper discusses how European regulation on net neutrality may affect Public Safety Operators that utilise radio coverage from commercial MNOs.

It is widely accepted that Quality, Priority and Pre-emption (QPP)¹ is critical to secure effective mission-critical communication using commercial networks. The 3GPP standard and technical solutions currently available in the market support this. However, there is a concern whether it is possible to provide QPP-services without breaching European regulation on net neutrality (Telecom Single Market (TSM) Regulation²). Without QPP the PPDR users will have no priority above other mobile network users and may – if the traffic in the network is heavy – be prevented from communicating with other PPDR users.

The conclusion of this TCCA white paper is that the principle of net neutrality in Article 3 of the TSM Regulation is likely to be deemed applicable to Mission Critical Services (MCX) for PPDR users if those services are reliant on the use of public networks. Since the regulation entails a general prohibition on traffic management measures, this is expected to affect the QPP-services. However, there are exemptions from this prohibition for when such measures are necessary in order to comply with national legislation in accordance with European Union law.

Some EU/EEA countries, such as Finland, have already adopted national rules to enable the use of QPP services under an exemption under the TSM Regulation. Others are at the starting point of assessing the legal possibilities.

Based on the findings addressed in this white paper, TCCA believes that modifications to the existing regulations at EU-level will help to secure MCX for public safety organisations across Europe. The TSM Regulation should entail an explicit exemption for public safety operators. The BEREC³ guidelines should be specified similarly. For future regulation, the mission-critical communications community's needs should be included from day one. This would also secure the development of harmonised MCX across countries, including the readiness to support operational mobility for PPDR users.

Under the current European regulation, each individual country should act, creating national rules to allow traffic management measures in favour of users of public safety services. Those national regulations should at least contain the prioritisation of PPDR services in commercial networks. Additionally, provision for national roaming and a technical specification for how prioritisation and pre-emption can be implemented could be added to regulation, but this is not within the scope of this paper.

2. Introduction

Countries all over Europe are planning to or have already started implementing broadband services for public safety, resulting in dedicated mission-critical narrowband networks beginning to be replaced by mission-critical broadband networks. In most cases, the operators of the PPDR networks have already entered or will enter into cooperation agreements with national commercial MNOs to provide either full or partial services to cover the required geographical area. With this situation, mission-critical communications are made reliant on the availability at all times of the MNO networks.

Regarding the provision of PPDR broadband services using commercial networks, one essential functional need is to ensure that MCX have access to Quality of Service, Priority and Pre-emption (QPP) mechanisms in the network, so that PPDR users can perform their tasks irrespective of circumstances. QPP entails the right to be prioritised above other traffic in the mobile network, which may be crucial for the PPDR users to perform their work. However, in principle, the net neutrality regulation (TSM Regulation) does not allow such prioritisation of one user group. Since the networks will be shared with commercial users and consumers, there may be challenges to provide these mechanisms both from a technical and legal point of view.

¹ See 'Definition of Quality of Service, Priority and Preemption (QPP)', Version 20230509, TCCA, 2023. <https://tcca.info/documents/CCBG-Definition-of-QPP.pdf/>

² 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

³ BEREC: Body of European Regulators for Electronic Communications

TCCA's white paper Public Safety prioritisation on commercial networks issued in 2019 discussed this principle of net neutrality set out in the EU regulation and national legislation and how it may affect the possibility to offer certain functionalities. Based on this, the white paper concluded that public safety operators "need to consider net neutrality depending on the specificities of the regulation and laws in each country".

In 2020, TCCA established its Legal and Regulatory Working Group (herein referred to as 'the Working Group') with representatives from several governmental authorities in Europe. In this white paper, the Working Group further elaborates on the legal aspects concerning implementation of QPP mechanisms initially raised in the 2019 white paper, specifically:

[Can the EU regulation on net neutrality be deemed applicable to PPDR services?](#)

[How can the MCX need for QPP be addressed based on the existing regulation?](#)

[Is there a need for legal and regulatory changes to ensure that QPP is implemented?](#)

In the following chapters, we will address the need for QPP and assess legal aspects concerning QPP and the principle of net neutrality in the TSM Regulation. Furthermore, we will give an overview of the current legal solutions in selected countries and a conclusion with recommendations on how to approach the aspects in question.

The scope of this white paper is limited to the principle of net neutrality set out in Article 3 of EU regulation. However, it is acknowledged that some countries under European Union Law may have chosen to adopt a more stringent national legislation that provides additional layers to the legal aspects addressed here.

The white paper is intended for governments such as public safety agencies, communication authorities and regulators operating within EU and EEA on a national and European level. However, MNOs and governments outside the EU and EEA region may also find it to be relevant.

3. Description of the public safety services need for QPP

Similar to dedicated narrowband networks, there is a fundamental need for good and reliable network coverage and capacity from commercial networks when these are used for MCX. However, in certain circumstances, it is likely that there may be bottlenecks in the communication networks, both governmental and commercial. Particularly in crisis situations, there may be an exceptionally high load on the networks, either locally (e.g. in the case of major incidents/disasters) or over a wide area (e.g. in the case of natural catastrophes). The bottleneck may also be aggravated if the technical infrastructure is affected and not fully operational. In these critical situations, life-saving communications must be maintained. For this purpose, the following measures can be considered indispensable:

- Any critical life-saving communications shall have guaranteed quality of service as well as precedence, and the principles of prioritisation and pre-emption shall be applied.
- Prioritisation and pre-emption shall also apply during roaming.
- The prioritisation and pre-emption mechanism shall act end-to-end across a network, i.e. apply to all network elements such as the radio access network, the core network and application servers.
- Critical communications users falling into higher classes in Access Class Barring (ACB) (10-14) shall be granted access immediately.

In TCCA, these measures are referred to as QPP, including ACB:

- **Quality of service:** Represents the overall service performance. Measures include latency, jitter, packet loss, throughput, availability.
- **Priority:** Represents the network capability, which enables a user's service to take precedence over another user's service resources.
- **Pre-emption:** Represents the network capability that permits taking over resources from other services.
- **Access Class Barring (ACB):** Represents access to the network. The technical standards use ACB with classes from 0 to 14. When congested the network can refuse or delay the access to certain classes.

⁴ See 'Definition of Quality of Service, Priority and Preemption (QPP)', Version 20230509, TCCA, 2023. <https://tcca.info/documents/CCBG-Definition-of-QPP.pdf/>

⁵ https://tcca.info/documents/2019-June_TCCA_Public_Safety_Prioritisation.pdf/

⁶ Cf. TCCA White Paper on Public safety prioritisation on commercial networks, section 6.2 Net Neutrality.

The QPP mechanisms enable networks to offer mission-critical services, including comprehensive control of network resources, ensuring performance of critical applications. QPP mechanisms are used to allow the end-to end KPIs defined for MCX to be met.

In order to enable efficient cross-border cooperation between the Public Safety Services in different countries, we consider the measures essential both on a national and international level.

4. Legal aspects connected to QPP and the principle of net neutrality

In terms of the European Union, it is important to understand how the principle of net neutrality impacts possible and/or efficient achievement of the needs for QPP described above.

The principle of net neutrality is regulated in Regulation (EU) No. 2015/2120 (TSM Regulation) laying down measures for access to the Open Internet. The regulation aims to establish common rules to safeguard the equitable and non-discriminatory treatment of traffic in the provision of internet access services and related end-user rights. Furthermore, it aims to protect end users while ensuring that the internet ecosystem can continue to function as an engine of innovation.

In this chapter, we will elaborate on the TSM Regulation's applicability and effect on PPDR. Firstly, it will be described how the TSM Regulation can be deemed applicable. Secondly, it will be addressed what kind of effect the regulations could have on MCX.

The interpretations are based on the BEREC's Guidelines on the *Implementation by National Regulators of European Net Neutrality Rules* of 9th of June 2022 (BEREC Guidelines/BOR 22 (81)). For extracts of articles and sections in the TSM Regulation and BEREC Guidelines referred to below, see Attachment 1 and 2.

4.1 Applicability to commercial network operators

The TSM Regulation applies to "providers of electronic communications to the public". This is defined as undertakings providing public communications networks or publicly available electronic communications services, cf. Art. 2.1 of the TSM Regulation. According to the BEREC Guidelines, electronic communications services to the public are services that are available to any customer who wants to subscribe to such a service, cf. section 10 BoR 22 (81).

4.2 Applicability to services for PPDR

The TSM Regulation applies to internet access services and other related services. According to the legal definition in the regulation, an "internet access service (IAS)" is understood to be a publicly available electronic communications service that provides access to the internet and thus connections to virtually all termination points of the internet, regardless of the network technology used and the terminal equipment employed, cf. Art. 2 No. 2 TSM Regulation.

If a service doesn't fall within the TSM Regulations definition of an IAS it could fall within the definition of "other services which are not internet access services", cf. Art. 3 No. 5 TSM Regulation. In some context the term is also referred to as "specialised services", cf. section 101 BoR 22 (81).

In the case of specialised services, the transmission quality (Quality of Service - QoS) is optimised with regard to certain quality parameters (e.g., delay, delay fluctuation or packet loss) on the basis of an agreement between the service provider and the network operator. According to the regulation, the optimisation must be necessary in order to meet the requirements of the service in question for a specific quality level, cf. Art. 3 No. 5 TSM Regulation.

Based on this, the question is if the services for PPDR could be qualified as (IAS or "specialised services").

The qualification as an IAS or as a specialised service depends on the range of the planned use cases. There are scenarios in which PPDR will need access to the internet, e.g. to access publicly available information which could be necessary for the success of an operation. However, typically, the PPDR services will be specialised services, since the real time applications for PPDR will need a higher QoS than IAS for end users, e.g. mission critical voice, mission critical video and mission critical data services. Those services are not typical IAS, but services which are required to successfully manage PPDR which need faster and more reliable connections and aspects such as higher frame rates.

⁷ Link to BEREC guideline: https://www.berec.europa.eu/sites/default/files/files/document_register_store/2022/6/BoR_%2822%29_81_Update_to_the_BEREC_Guidelines_on_the_Implementation_of_the_Open_Internet_Regulation.pdf

4.3 General legal consequences

The principle of net neutrality is regulated in Article 3 of the TSM Regulation. In art. 3 No. 3 TSM Regulation it is stated that:

“3. Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.

The first subparagraph shall not prevent providers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.”

MNOs would need to implement traffic management measures to guarantee QPP for PPDR. If applicable, the TSM Regulation could therefore potentially be considered as prohibiting QPP for PPDR since the regulation entails that every end user would need to be treated equally in commercial networks. Furthermore, any traffic management measure would need to be transparent and non-discriminatory. These principles are mandatory and cannot be deviated through any commercial agreements.

Network operators may be allowed to offer QPP by treating PPDR as specialised services, but even those services are restricted to a certain degree, cf. art. 3 No. 5 TSM Regulation where it is stated that:

5. Providers of electronic communications to the public, including providers of internet access services, and providers of content, applications and services shall be free to offer services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

Providers of electronic communications to the public, including providers of internet access services, may offer or facilitate such services only if the network capacity is sufficient to provide them in addition to any internet access services provided. Such services shall not be usable or offered as a replacement for internet access services, and shall not be to the detriment of the availability or general quality of internet access services for end-users.

The BEREC Guidelines section 102 BoR 22 (81) define the following conditions for specialised services:

- the network capacity is sufficient to provide the specialised service in addition to any IAS provided;
- specialised services are not usable or offered as a replacement for IAS;
- specialised services are not to the detriment of the availability or general quality of the IAS for end-users

In specific situations, it may be difficult to implement services for public safety as specialised services without having any kind of effect on the service quality of other end users, as the TSM Regulation requires. Even though MCX are typically characterised through their short time use, they would have an influence on IAS in case of large scale emergencies or major public safety operations. In that regard, it is possible that such services would be to the detriment of the availability or the general quality of IAS.

4.4 Exemptions from the prohibition on traffic management measures

The main principle in the TSM Regulation is that traffic management measures are prohibited for IAS. However, the TSM Regulation provides an exemption for traffic management measures regarding IAS in case of national or EU-legislation, cf. Art. 3 No. 3 section 3. In recital 13 of the TSM Regulation, public safety is explicitly named as a possible exemption through national legislation:

First, situations may arise in which providers of internet access services are subject to Union legislative acts, or national legislation that complies with Union law (for example, related to the lawfulness of content, applications or services, or to public safety), including criminal law, requiring, for example, blocking of specific content, applications or services. [...]

To summarise, there is an exemption from the general prohibition on traffic management measures (which QPP services would classify as) in the provision of IAS, if these measures are necessary to comply with Union legislative acts or national regulation in accordance with Union law. It is not further specified in the TSM Regulation or in the BEREC Guidelines if the exemption in Art. 3 No. 3 TSM Regulation also could make the provision of specialised services lawful under the regulation. This is unclear considering that another section in the article states that such services only are allowed as long as they are not detrimental to the availability and general quality of the IAS offered by the MNO, cf. Art. 3 No. 5 TSM Regulation.

5. Legal Solutions

5.1. National legislation on QPP

As part of the assessment of QPP, the Working Group has gathered information regarding different countries' legal solutions for providing QPP in commercial networks. The information has been gathered from governments in Finland, Belgium, France, Norway and Great Britain, cf. Attachment 3 for a summary of the legal solutions in each country.

As shown in the attached summary, only a few of the countries, such as Finland, have regulated QPP for MCX-services through national legislation. Other countries are still at the starting point of looking into legal solutions for this. Furthermore, different countries seem to interpret the applicability of the principle on net neutrality and exemptions in the TSM regulation differently.

Implementation of traffic measures such as QPP through national regulation will have the advantage that the MNOs will be committed to offer Priority and Pre-emption more attuned to the needs of public safety forces.

The requirements for national roaming is another element of network access, which may need further regulation. This is not further discussed in this paper but may be addressed in the future.

5.2. Conclusions regarding legal solutions

The Working Group's general perception is that there is a possibility to create national legislation regarding the provision of QPP services that is in accordance with the TSM Regulation. It needs to be assessed as to how these national legislations can be construed to ensure that the QPP services in question fall under the exemption, but some conditions seem to be clear. Firstly, the national legislation should include an obligation to provide QPP services. Secondly, such regulation needs to stipulate that these traffic management measures should not be in effect longer than necessary.

In order to minimise the effect on non-PPDR users, national regulation could contain requirements for MNOs to report on situations where the capacity of public networks has decreased due to this service and, if applicable, include obligations to expand their capacity.

To make sure that these legislative measures at a national level have the desired effect, the Working Group considers it necessary to seek clarification on the extent of the exemption in Art 3.3. of the TSM Regulation, particularly in relation to the specialised services as they are described in Art 3.5 in the same regulation. Such clarification should be obtained from relevant authorities, such as the NRAs and BEREC. The Working Group suggests that each country contacts their NRA, which then can seek the relevant clarification from BEREC if applicable.

An alternative would be to adjust the TSM Regulation to include an explicit exemption from the prohibition on traffic management measures when service is provided for the needs of PPDR-users.

6. Conclusion and recommendations

Up to this point, only a few countries have adopted a legislative/regulatory solution that takes into account the needs of PPDR services. There are indications that different countries may interpret the TSM Regulation on net neutrality differently. In some countries, the possibility to prioritise PPDR by national law has not yet been considered, which could lead to an equal treatment of PPDR and other end users even in emergency situations. A similar solution in each country will be preferable for PPDR cross-border communication needs.

To circumvent different interpretations of the regulation, and by extension enable the PPDR operators to operate effectively, an exemption to the TSM Regulation seems to be more favourable. This would enable MNOs to comply with TSM Regulation while also providing QPP to PPDR operators. It would also facilitate cross-border cooperations at international level.

Until such changes to the regulation are in effect, it is recommended to promote cooperation between countries to develop a common understanding of the TSM Regulation, including its applicability, so that the challenges can be addressed. Similarly, speaking with one voice will help to address the issues at EU level and initiate eventual change process/clarification of the existing regulation. One possible body to approach for suggestions is the Mobile Critical Communication Group (MCCG) of the European Commission's Directorate-General for Migration and Home Affairs (DG Home), which is charged with the establishment of the EUCCS (EU Critical Communication System). Furthermore, the Working Group suggests that each country contacts their NRA, which then can seek the relevant clarification from BEREC if applicable.

As time is of the essence and law changes normally take time, national projects are encouraged to prioritise this work.

For future regulations, the mission critical communications' needs should be included from day one. This would also secure the development of harmonised MCX across countries including readiness to support operational mobility for our PPDR users.

ATTACHMENT 1 – Extract of articles in the TSM Regulation

Extract of relevant articles from Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 (TSM Regulation)⁸ :

Article 2

Definitions

For the purposes of this Regulation, the definitions set out in Article 2 of Directive 2002/21/EC apply. The following definitions also apply:

- (1) ‘provider of electronic communications to the public’ means an undertaking providing public communications networks or publicly available electronic communications services;
- (2) ‘internet access service’ means a publicly available electronic communications service that provides access to the internet, and thereby connectivity to virtually all end points of the internet, irrespective of the network technology and terminal equipment used;
- (3) ‘regulated intra-EU communications’ means any number-based interpersonal communications service originating in the Member State of the consumer’s domestic provider and terminating at any fixed or mobile number of the national numbering plan of another Member State, and which is charged wholly or partly based on actual consumption;
- (4) ‘number-based interpersonal communications service’ means number-based interpersonal communications service as defined in point (6) of Article 2 of Directive (EU) 2018/1972 of the European Parliament and of the Council (1).

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- (1) Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (OJ L 321, 17.12.2018, p. 36).

Article 3

Safeguarding of open internet access

1. End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service.

This paragraph is without prejudice to Union law, or national law that complies with Union law, related to the lawfulness of the content, applications or services.

2. Agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by providers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1.
3. Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.

The first subparagraph shall not prevent providers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.

⁸ Link to the TSM regulation: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02015R2120-20181220>

Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:

- (a) comply with Union legislative acts, or national legislation that complies with Union law, to which the provider of internet access services is subject, or with measures that comply with Union law giving effect to such Union legislative acts or national legislation, including with orders by courts or public authorities vested with relevant powers;
 - (b) preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;
 - (c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.
4. Any traffic management measure may entail processing of personal data only if such processing is necessary and proportionate to achieve the objectives set out in paragraph 3. Such processing shall be carried out in accordance with Directive 95/46/EC of the European Parliament and of the Council (1). Traffic management measures shall also comply with Directive 2002/58/EC of the European Parliament and of the Council (2).
5. Providers of electronic communications to the public, including providers of internet access services, and providers of content, applications and services shall be free to offer services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

Providers of electronic communications to the public, including providers of internet access services, may offer or facilitate such services only if the network capacity is sufficient to provide them in addition to any internet access services provided. Such services shall not be usable or offered as a replacement for internet access services, and shall not be to the detriment of the availability or general quality of internet access services for end-users.

(2) Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (OJ L 281, 23.11.1995, p. 31).

(3) Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) (OJ L 201, 31.7.2002, p. 37).

ATTACHMENT 2 – Extract from BEREC Guidelines

Extract of BEREC Guidelines on the Implementation of the Open Internet Regulation (BoR 22 (81))⁹.

BoR 22 (81) section 10

10. Electronic communication services or networks that are offered not only to a predetermined group of end-users but in principle to any customer who wants to subscribe to the service or network should be considered to be publicly available. Electronic communication services or networks that are offered only to a predetermined group of end-users could be considered to be not publicly available.¹²

¹² For further discussion of publicly available services, see for example case E-6/16 Fjarskipti v Icelandic Post and Telecom Administration, judgment of 22 December 2016 in the EFTA Court.

BoR 22 (81), section 101:

101. These providers are free to offer services referred to in Article 3(5), which BEREC refers to as specialised services, only when various requirements are met. Article 3(5) provides the safeguards for the provisioning of specialised services which are characterised by the following features in Article 3(5) first subparagraph:

- they are services other than IAS services;
- they are optimised for specific content, applications or services, or a combination thereof;
- the optimisation is objectively necessary in order to meet requirements for a specific level of quality.

BoR 22 (81), section 102:

102. Their provision is subject to a number of conditions in Article 3(5) second subparagraph, namely that:

- the network capacity is sufficient to provide the specialised service in addition to any IAS provided;
- specialised services are not usable or offered as a replacement for IAS;
- specialised services are not to the detriment of the availability or general quality of the IAS for end-users.

⁹ Link to the guideline: https://www.berec.europa.eu/sites/default/files/files/document_register_store/2022/6/BoR_%2822%29_81_Update_to_the_BEREC_Guidelines_on_the_Implementation_of_the_Open_Internet_Regulation.pdf

ATTACHMENT 3 – Examples of existing legal solutions on QPP

Below is a summary of existing legal solutions on QPP in Finland, Belgium, France, Norway and United Kingdom. The information has been provided by the governmental authorities in the countries.

A. Finland (Erillisverkot)

In Finland there was comprehensive legal framework related preparation of Virve 2 implementation. Changes were needed in act on electronic communications services to ensure QPP functionalities and national roaming for PPDR users and other critical communication users. There is also a section in the safety net act for obligation for PPDR users to use of Virve 2 services. EU 5G toolbox has also been integrated and regulation on critical parts of the communication networks to ensure secure communication against cyber treats etc. In addition, there is regulation from ministry of transport and communications for user organisations which are allowed to use Virve and Virve 2 services in Finland. Below is a summary of said regulation.

Act on the Operation of the Government Security Network (amended on 2019, Section 12: The service provider of network and infrastructure services of the Government Security Network is responsible for ensuring that its operations continue as undisturbed as possible in the event of disruptions to normal conditions or in exceptional circumstances by means of contingency plans and advance preparations of operations, as well as other measures. There is also a section in the Act on the Operation of the Government Security Network, which obliges PPDR users to use Virve 2 services.

Exceptional circumstances are defined in the Emergency Powers Act which also includes special provisions on authorities' powers during exceptional circumstances. In other words, this Act includes provisions which may be taken via decision of the Finnish Parliament into use under exceptional circumstances in case the legislation for normal conditions doesn't provide sufficient means for ensuring protection of the population and for securing its livelihood and the country's economic life, maintaining the legal order, fundamental rights and human rights, and securing the territorial integrity and independence of the kingdom. For example, under certain exceptional circumstances, the Ministry of Transport and Communications of Finland can decide on the privilege of communications necessary for the vital functions of society in public communications networks.

For the operation of future PPDR-services in commercial mobile networks under normal conditions, in Finland a comprehensive legislative work was done for Virve 2 implementation. Changes were needed in to the Act on Electronic Communications Services (see chapter 29a) to ensure QPP functionalities and national roaming for PPDR users and other critical communication users. For example (see section 250b in chapter 29a) the provider of network services - this is commercial network operator - relating to public authority communications shall ensure the availability of services in situations of congestion of the communications network by providing the authorities' subscriptions priority access to the service in relation to other subscriptions (high priority service access) and by allocating or transferring network resources to the authorities' subscriptions in situations of congestion (admission control and pre-emption).

The Act (see section 250 in chapter 29a) also states that the Ministry of Transport and Communications decides on the user groups and, where necessary, on the number of subscriptions after hearing the Ministry of Finance. The provider of a communications service relating to public authority communications - this is Erillisverkot Oy - grants the individual subscriptions of the authorities to authorities from among the user groups referred to in subsection 1 of the same section - hence specified authorities - and to other users upon their proposal.

The overall operation, reliability, security and for example continuity of commercial telecommunication operations is regulated in the Act on Electronic Communications Services. This law lays down general provisions for telecom operators and mandates Finnish Transport and Communications Agency (Traficom) to give supplementing technical regulations to the operators. For example, Traficom has for example issued the flowing regulations. Each regulation, which is legally binding document, is also supplemented with explanatory notes on the reasoning and implementation of each provision in the regulation:

- Regulation on resilience of communications networks and services and of synchronisation of communications networks (available in Finnish, Swedish and English <https://www.finlex.fi/fi/viranomaiset/normi/480001/47143>)
- Regulation on Disturbances in telecommunications services (available in Finnish, Swedish and English <https://www.finlex.fi/fi/viranomaiset/normi/480001/42167>)
- Regulation on critical parts of a communications network (available in Finnish, Swedish and English <https://www.finlex.fi/fi/viranomaiset/normi/480001/47015>)

B. Belgium (ASTRID)

Royal Decree on radio access in the 700 MHz frequency band (28.11.2021):

“national PPDR roaming”: national roaming using the radio access network of a public mobile operator, for voice and data communications for public safety and security, civil protection and disaster relief purposes.

Each 700 MHz operator must provide national PPDR roaming for ASTRID at its own expense no later than two years after acquiring the rights of use.

For this purpose, the 700 MHz operator shall support the mechanisms and services standardized in 3GPP ...:

1°...

2°...

3°...

4° support priority and pre-emption mechanisms for the benefit of ASTRID users such as:

a) QCIs (QoS Class Identifiers);

b) reservation of at least 3 ARP (Allocation and Retention Priority) values;

c) access class blocking and associated reservation of some specific access class values (at least classes 12 and 14).

The mechanisms and services standardised in 3GPP as included in the paragraph 1° to 4° may be further determined by an order of the Minister of Telecommunications and the Minister of the Interior defining the technical specifications and the frequency bands to be supported.

In determining the price for voice, SMS and data consumption, the cost of implementing and supporting national PPDR roaming for the benefit of ASTRID may not be charged by the 700 MHz operator.

There has been a 700MHz MFCN band auction in 2022 and this resulted in 4 operators obtaining usage rights. These 4 operators will be obliged to offer the national PPDR roaming, which includes the defined priority and pre-emption mechanisms above, on all frequency bands for which they have usage rights. As at least 3 are national public mobile communication operators with usage rights in (almost) all MFCN bands, the scope of the above text is a lot wider than the 700MHz MFCN band.

C. France (French Ministry of Interior)

Act No. 2023-22 of January 24, 2023 (amending the Act on Post and Electronic Communications): All operators of a public access radio network shall provide roaming to their networks to the operator of the electronic communications network of the rescue and security services. This service is the subject of an agreement in which the technical and price conditions of the service provision are specified.

In the event of congestion, the operators “selected in the public tender to meet the needs of the operator of electronic communications networks of emergency and safety services” should grant priority access to the interconnected publicly accessible networks to the critical high-speed mobile communications.

D. Norway (the Norwegian Directorate for Civil Protection)

Priority in mobile networks is currently regulated in the Norwegian Regulation on Priority in Mobile Networks.¹⁰ According to the regulation, the mobile operators must offer priority subscription to users with critical social function (kritiske samfunnsfunksjoner) that have been granted priority access by the National Communications Authority. Hence, the regulation is limited to line switched telephone connection.

In order to comply with the technological developments, a new regulation on priority in mobile networks will apply from September 2023. The new regulation will enable priority in all mobile networks, independent of future generations of mobile networks (XG) and will also apply for data and messages. However, the new regulation applies to the current user group and does not open up for further categorisation and prioritization within the group.

¹⁰ Forskrift av 21 oktober 2013 nr. 1241 om prioritet i mobilnett.

Furthermore, in comparison with the existing Norwegian critical communication network (Nødnett) that is considered to fall outside the scope of net neutrality in the TMS regulation, cf. article 3 (3) (a), it has not been clarified whether or not the principle of net neutrality applies for the new critical communication network.

The National Communications Authority has emphasised that there may be a need for further regulation in order to meet the need for priority in “new Nødnett”. The National Communications Authority is in the starting point of initiating the regulatory work that will be carried out in cooperation with DSB. In other words the legal solution still remains to be seen.

E. United Kingdom (Home Office)

Rules aimed at protecting the principle of the open internet (also referred to as the ‘net neutrality rules’) were agreed by the EU in 2015 when the UK was still a member and came into force at the end of April 2016. [1] Following the UK leaving the EU (and the end of the transition period), the rules, with minor alterations, became part of UK domestic law at the end of 2020.

Ofcom is conducting a review of the UK’s net neutrality framework. In September 2022 it published a consultation¹¹ proposing revised guidance about how the rules should apply. Ofcom is currently considering responses to the consultation and hopes to publish a statement on its revised guidance in autumn 2023.

Under the proposed guidance, it is likely that the Emergency Services Network (ESN) would be considered to be outside the scope of the net neutrality rules on the basis that it is not a publicly available service.

¹¹ <https://www.ofcom.org.uk/consultations-and-statements/category-1/net-neutrality-review>

