



RTR

Wir stehen für Wettbewerb und Medienvielfalt



BEREC Report „Location of the Network Termination Point“

Wilhelm Schramm

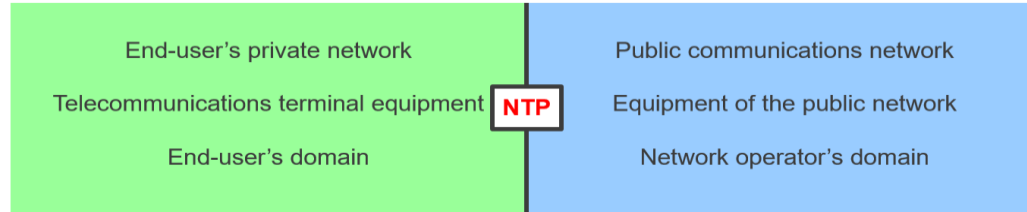
https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8252-berec-report-on-the-location-of-the-network-termination-point

12. Oktober 2018 - Regulierungsdialog



Introduction (1)

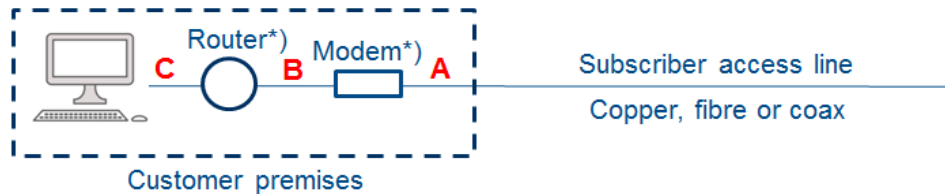
- According to the European Electronic Communications Code (EECC, recital 19) “*the network termination point (NTP) represents a boundary ...*”



Source: BEREC

- The location of the NTP has an impact on whether an equipment is part of the public network or part of the telecommunications terminal equipment (TTE)

Internet access service



*) In case the NTP is at point A or C, router and modem may be integrated in one device.



Introduction (2)

- Several legal provisions at the EU level are related to the topic “NTP” e.g.:
 - Definition of the term “NTP” (EECC Art. 2(9))
 - The right of end-users of internet access services to use the terminal equipment of their choice (Regulation (EU) 2015/2120 Art. 3.1)
- Market participants (e.g. network operators, end-users) may interpret these legal provisions differently
- NRAs and also other national authorities may therefore issue legal provisions which explicitly define the NTP location
- In the future, the definition of the NTP location by NRAs will be harmonised through the guidelines which BEREC has to prepare (EECC Art. 61(7))



Objective

- **Objectives of the report:**
 - To give an overview of the definition of the NTP location in the EU
 - To analyse the legal provisions of NRAs or other national authorities which define the NTP location in general (i.e. for all NTPs)
 - To examine Layer 2/Layer 3 wholesale access products imposed by NRAs with regard to characteristics which may have an impact on the NTP location
- **Goals:**
 - Get a deeper insight into the legal provisions of NRAs (and other national authorities) on the NTP location
 - Foster the exchange of experiences between NRAs
 - Not: to be normative or to recommend best practice



Overview of the definition of the NTP location in the EU



Overview of the definition of the fixed NTP location in the EU

Fixed NTP location defined in general? (28)	
Yes (5)	
NRA (2)	No (23)
CY, IT	ONAs (3) DE, LV, NL*)
(AT) BE, BG, CZ, DK, EE, ES**),FI**), FR, GR, HR, HU, IE, LT, LU, MT, PL, PT, RO, SE, SI, SK, UK	

NRA does have the legal power to define the fixed NTP location in general? (23)	
Yes (13)	
CZ, ES, FI, FR, GR, HR, HU, LT, LU, PT, RO, SK, UK	No (10)
	(AT) BE, BG, DK, EE, IE, MT, PL, SE, SI

NRA does have the legal power to define the fixed NTP location in individual disputes? (28)		
Yes - All (13)		Yes-IAS (2)
Decision taken?		No (13)
No (13)	No (2)	
CY, CZ, ES, FI, FR, GR, HU, IT, LT, LV, RO, SI, SK	(AT) SE	BE, BG, DE, DK, EE, HR, IE, LU, MT, NL, PL, PT, UK

*) In preparation **) Fixed NTP defined in general for passive, not for active infrastructure⁹

— Fixed NTP is typically located at a point which allows end-users to use their own modem/router (point A or B).



Overview of the definition of the mobile NTP location in the EU

Mobile NTP location defined in general? (28)	
Yes (3)	No (25)
ONA (3) IT, LV, NL*)	AT BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GR, HR, HU, IE, LT, LU, MT, PL, PT, RO, SE, SI, SK, UK

NRA does have the legal power to define the mobile NTP location in general? (25)	
Yes (13)	No (12)
CY, ES, FR, GR, HR, HU, IE, LT, LU, PT, RO, SK, UK	AT BE, BG, CZ, DE, DK, EE, FI, MT, PL, SE, SI

NRA does have the legal power to define the mobile NTP location in individual disputes? (28)		
Yes - All (13)	Yes-IAS (2)	No (13)
Decision taken?		
No (13) CY, CZ, ES, FI, FR, GR, HU, IT, LT, LV, RO, SI, SK	No (2) AT SE	

*) In preparation



Legal provisions in the five countries (CY, DE, IT, LV, NL*) which defined or plans to define the NTP location in general

*) In preparation



Authority, legal instrument and main reasons

- **Authority and legal instrument**
 - Different authorities (parliament, ministry, NRA) defined the NTP location
 - Different legal instruments (law, guidelines, regulation) were used
- **Year when the legal instrument entered into force**

03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18
IT*)			LV									CY	DE		NL**) IT*)

*) In 2003 Government Legislative Decree, in 2018 NRA Decision

***) Planned Guidelines

- **Main reasons for the definition of the NTP location:**
 - To provide clarity on the NTP location (all 5)
 - To enable end-users to use the TTE of their choice (DE, IT (fixed), LV, NL)
 - To respond to significant complaints from market players (DE, IT(fixed), NL)



Stakeholders and their positions

- **Stakeholders involved:**
 - Network operators and service providers and depending on the main reasons also CPE manufacturers, consumers and further stakeholders
- **Main positions of the stakeholders – in case a main reason was to enable the end-users to use the TTE of their choice:**
 - Point A: CPE manufacturers and consumers
 - Point B or C: network operators/service providers



Definition of the fixed NTP location (1)

- **Definition of the fixed NTP location:**
 - Point A (CY, DE, IT, NL)
 - Point A, B, C or somewhere else depending on the ownership of the equipment (LV)
- **CPE/modem end-users are allowed to use:**
 - All modems/routers which fulfil the characteristics of the NTP (no restriction to a white list or certification) (CY, DE, IT, NL)
 - The use of own modem/router is only possible if offered voluntarily by network operators or service providers (LV)
- **Interoperability between public network and CPE/modem:**

Reasons why interoperability can be ensured	Cyprus	Germany	Italy	Netherlands
Suitable definition of the characteristics of the NTP	X	X		X
Disconnection of equipment harming the network	X	X		X
CPEs/modems have to comply with standards			X	



Definition of the fixed NTP location (2)

- **Simplicity of network operation:**
 - Network operators and/or service providers complained that network operation is more difficult (DE, IT, NL),
 - Increase of complexity of network operation does not justify to limit the freedom of end-users to use the CPEs/modems of their choice (DE, IT, NL)
- **Security and data protection**
 - Network operators complained that security issues in the public network may be caused by the CPE/modem of the end-users (DE, IT)
 - End-users complained that in case NTP would be at point B or C network operators may get access to their private data (DE)
 - End-users are responsible for the damage they caused and have to pay compensation
 - Network operators have the possibility to disconnect such CPEs/modems (or request such a permission from the NRA)



Location of the mobile NTP

- Definition of the mobile NTP location: Mobile NTP is at a point which allows end-users to use their own mobile equipment (all 3 – IT, LV, NL*)
 - With removable SIM card (e.g. mobile phone) and also
 - With non-removable SIM card (e.g. IoT device)



L2 WAPs and L3 WAPs imposed by NRAs (14 countries¹⁾)

1) AT, BE, CZ, DK, FR, GR, HR, HU, IE, LT, LU, MT, PT, SI



L2/3 WAPs available on copper-based access lines

- Nearly all L2 WAPs and L3 WAPs allow ANOs to use their own CPE including modem
- Therefore, ANOs are able to provide retail services with an NTP at point A (or B, C)
- About two third of the L2/L3 WAPs allows ANOs to use any CPE which fulfils the requirements of the SMP operator
- The other third allows ANOs to use CPEs which are on a white list



L2/3 WAPs available on fibre-based access lines

- About half of the L2 WAPs and L3 WAPs allows ANOs to use their own CPE including modem
 - In these cases, ANOs are able to provide retail services with an NTP at point A (or B, C)
 - About half of them allows ANOs to use any CPE which fulfils the requirements of the SMP operator
 - The other half allows ANOs to use CPEs which are on a white list
- Nearly all other L2 WAPs and L3 WAPs allow ANOs to use their own CPE excluding modem which enables ANOs to provide retail services with an NTP at point B (or C)



Conclusions



Conclusions

- Only in some countries there was the need to define the NTP location
- In case of the fixed NTP, it seems this was driven mainly by
 - End-users who demanded to be able to use their own CPE
 - The need to define the demarcation line between public network infrastructure and private in-building network infrastructure (1 country - CY)
- In most cases
 - The fixed NTP is located at point A
 - End-users are allowed to use all CPEs (including modem) which fulfils the characteristics of the NTP
- The report also constitutes a comprehensive basis for the guidelines on the topic “location of the NTP” that BEREC has to adopt (EECC Art. 61(7))



RTR

Wir stehen für Wettbewerb und Medienvielfalt

Auf Wiedersehen!



Backup



Legal provisions

- EECC Art. 61.7: “by 18 months after the date of entry into force of the EECC, in order to contribute to a consistent definition of the location of NTPs by NRAs, BEREC shall, after consulting stakeholders and in close cooperation with the Commission, adopt guidelines on common approaches to the identification of the NTP in different network topologies. NRAs shall take utmost account of those guidelines when defining the location of NTPs.”
- EECC Art. 2(9): ‘network termination point’ means the physical point at which an end-user is provided with access to a public electronic communications network, and which, in the case of networks involving switching or routing, is identified by means of a specific network address and may be linked to an end-user's number or name