Statement on the draft BEREC Guidelines on common approaches to the identification of the network termination point in different network topology

from

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We expressly welcome the fact that BEREC is concerned with determining the network termination point (NTP), the physical point at which an end-user is provided with access to a public communications network. The location of the NTP is decisive when it comes to whether end-users have a free choice of their terminal device or not, as well as for the competition in the TTE market.

A clear definition of the NTP at point A ensures the end-users' free choice of terminal equipment by preventing the network operators from arbitrarily determining the location of the NTP and thus extending their market power into the area of telecommunications terminal equipment. It furthermore fosters innovation and competition among the TTE manufacturers with regard to all categories of devices – from a single modem to a highly integrated terminal device with a modem, router, WiFi, VoIP etc. (IAD[1])

The VdS as representative of the insurance industry is a notified body for the technical supervision of alarm systems, alarm transmission technology and transmission routes as well as for the effective provision of supporting services.
For alarm transmission technology, there is an extensive European body of rules of CENELEC (for example EN50131, EN54-21, EN50136), as well as for the design of physical line terminations (e.g. IEC 60169-24, EN 61754-20).
The NTP is essential access to the public transmission networks for the technical facilities, which are intended to ensure the monitoring of frail people at home and possibly also the management of the housing/home infrastructure (eg access control, smart metering, smart grid, elevator monitoring).

With regard to the draft of the BEREC Guidelines on Common Approaches to the Identification of the Network Termination Point in different Network Topology we have the following comments and/or suggestions:

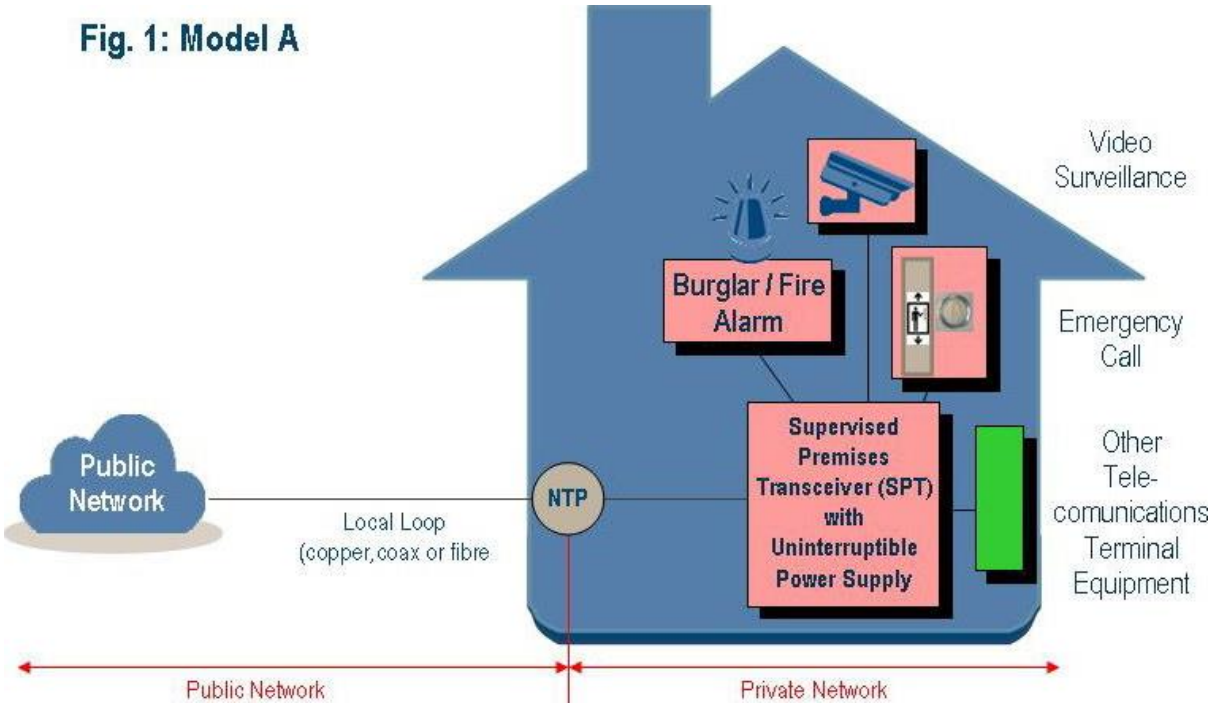
1 An Integrated Access Device (IAD) simultaneously supports multiple communications services such as telephony, Voice over IP (VoIP) and data services. For example, an IAD integrates a modem and a router; a modem, a router and VoIP; a modem, a router, a supervised premises transceiver (SPT) for alarm transmission systems, a modem, a router, a SPT with VoIP for emergency calls, etc).

1. **BEREC should clearly state in the guidelines that it supports point A as the NTP or make it even clearer that point A should be the rule when determining the NTP, regardless of the transmission technology.**

Various statements in the draft Guidelines indicate that, from BEREC's point of view, the NTP should normally be at point A. In this regard, we are in favor of BEREC expressly reiterating in the draft directive that the NTP under point A is the rule.
This would counteract a potentially inconsistent interpretation of the guidelines and clearly contribute to their consistent application by the national regulatory authorities.

We would like to explain this requirement by briefly outlining the advantages of a NTP at point A (p. 2) and the disadvantages of a NTP at point B (p. 3/4) or C (p. 5/6).

An NTP located at point A would have the following advantages:



- It gives the end-user complete freedom to choose and connect the alarm system equipment in their home that best meets their needs and desires.
- It clearly separates the public telecommunications network from the end-user's private network and home surveillance.
- It allows the end-user to use a highly available IAD for alarm transmissions with uninterrupted power supply (UPS). Direct access to the physical layer thus also allows transmissions in the event of a failed power supply.
- Direct access to the physical layer is the only way to timely detect physical attacks on the transmission path and initiate precautionary security measures for the monitored space.
- Direct access to the physical layer also provides the highest level of functionality in the case of cyber attacks. Security-by-design is an important foundation for SPT devices, to protect against attacks of organized crime.

- It ensures the lowest possible power consumption for the end-user. It extends the time within which a uninterruptible power supply (UPS) can ensure an alarm transmission.
- It reduces the total cost of ownership as far as possible as there is no rent for an obligatory terminal device.
- It creates a level playing field for European alarm system vendors and promotes competition in the home security market.
- Competition for the best terminal device encourages innovation at all technical levels. This in turn also has a positive impact on prices from which the end-user ultimately benefits.
- It makes possible the comprehensive participation of retailers in the value chain and adds value for system houses and consulting trade. This leads to more know how and support on all levels of the value-added chain.
- It allows unrestricted access to all services. VoIP connections are important for emergency calls from elevators etc.
- With a view to digital sovereignty, it safeguards the expertise and know-how of European alarm equipment manufacturers and vendors in Europe. This is particularly important for affordable technology that secures critical infrastructures against the network.

2. **The draft Guidelines should clarify the impact of the definition of the NTP at point B.**

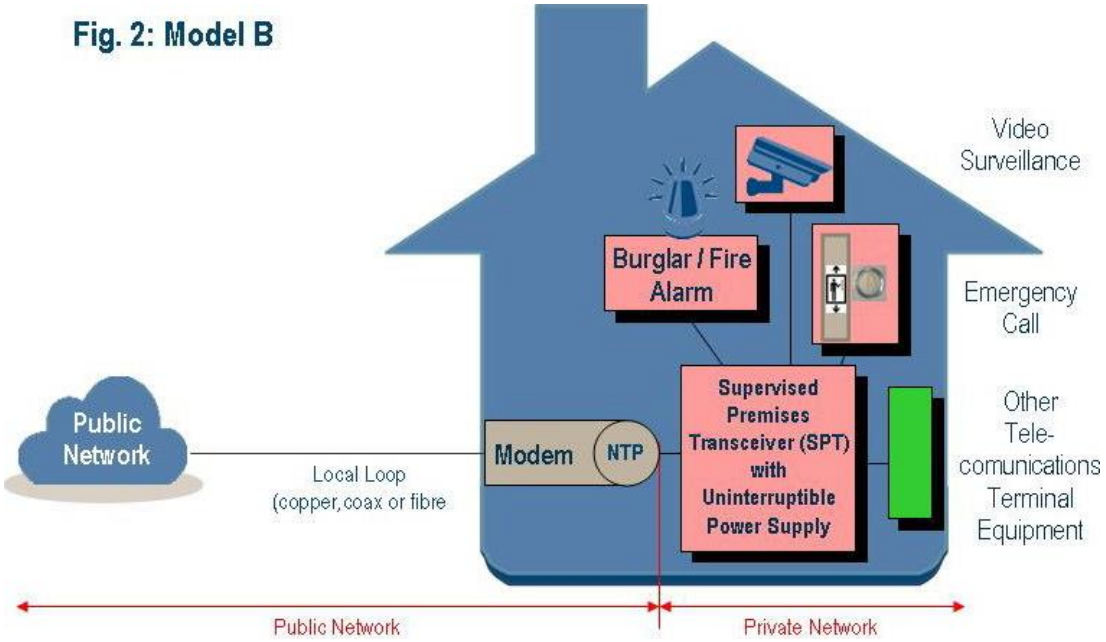
From the draft BEREC guidelines there is no doubt that the modem must be a so-called "standalone modem": Point 53. b. states that in model B, "[t]he NTP is the interface at the end-users' side of the modem". According to BEREC, the modem's properties represent the network termination, but it must not have any other functionalities such as switching, routing or WiFi. BEREC even gives examples of such a modem: a traditional DSL modem, fiber optic modem or cable modem. It follows from this that the modem in model B is necessarily a so-called "standalone modem" - i.e. explicitly no integrated device with the component "modem".

In the event that the NTP was defined at point B, this meant that the modem and router could not be integrated in one device (IAD). It is also not intended to "lead out" point B from an integrated device. This means that the "standalone modem" must NOT be replaced by an integrated device that is only switched to bridge mode.

This would then mean that in Model B the network operator would have to provide each of its customers with a "standalone modem" without further functionalities as the network termination, since the device would be part of its telecommunications network.

In our view, BEREC's comments so far do not make this sufficiently clear, especially as it would have devastating consequences for competition in the terminal equipment market; IADs could no longer be used and terminal equipment manufacturers would be deprived of their commercial basis. This increases the cost of the then required special technology for alarm transmission.

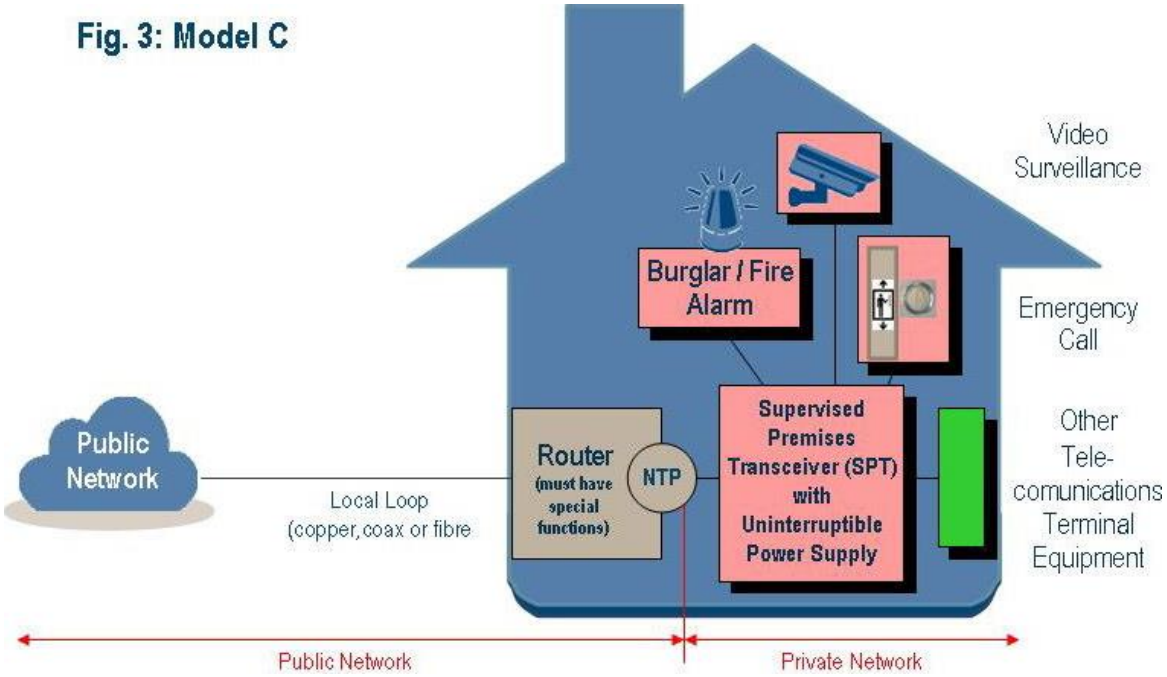
An NTP located at point B would have the following disadvantages:



- The end-user now has to use two separate devices – the standalone modem and another device for alarm transmission systems. Two devices comes with two power supply units and a more complex installation process. This reduces availability with increasing costs for units and power. end-user pays electricity for a device that is part of the public telecommunications network under the sovereignty of the provider and that they do not control.
- A self-powered modem that does not have an uninterruptible power supply (the typically standard for modem devices) interrupts alarms and emergency calls in the event of a power failure. No emergency aid is then possible.
- However, from a technical perspective, the standalone modem is in full retreat in practice. The road maps of all leading semiconductor manufacturers show an integration of the modem function with the voice function, the router function, a powerful processor and partly WiFi, security and other functions for a gateway.
- Having to connect SPT device behind a standalone modem would result there is no information of the physical line status available. Knowledge of the status of the subscriber line increases the availability of the alarm transmission system.
- Monocultures of standalone modems are attractive targets for hackers who want to take advantage of security vulnerabilities. In the event of a security incident, a large number of modem devices will be affected immediately.
- If the NTP is located at point B the market for SPT with an integrated modem (such as IADs) would de facto cease to exist because an integration of modem and other functionalities would be not allowed according to the draft BEREC Guidelines. In addition, the wholesale level, such as chip and component manufacturers as well as retailers and system houses would have significantly restricted markets.
- Increased investment costs for providers, as they would have to provide each of their customers with an obligatory modem with higher protection level, that meets customer needs for emergency calls, alarm transmission systems and smart metring / smart grid technology with common criteria requirements.

Not only an NTP located at point B, but **also an NTP located at point C would have disadvantages for end-users, competition in the TTE market, security etc.:**

Fig. 3: Model C



- If the NTP is at point C, the alarm transmission and the emergency calls depends on the correctly installed router, whose function must be reduced to a pure modem functionality. So there would be no difference to point B.
- The end-user now has to use two separate devices – the router and another device for alarm transmission system. It is a more complex installation process.
- A self-powered router that does not have an uninterruptible power supply (the typically standard for router devices) interrupts alarms and emergency calls in the event of a power failure. No emergency aid is then possible.
- The router in the end-user's premise is part of the public telecommunications network under the sovereignty of the provider. There are now 2 different responsibilities for the remote administration of alarm transmission technology. This can lead to uncontrolled behavior in alarm messages and problems with fault location. It will reduce the availability of the transmission link. Remote access by public network without check by a security control center jeopardizes the integrity and availability of the alarm transmission.
- The end-user has to pay the purchase or rental costs for the compulsory terminal, but ultimately has no sovereignty over it as it is part of the provider's public network. The routing function is useless in alarm transmission systems.

3. **BEREC should highlight the consequences of the different locations of the NTP on the TTE and SPT market**

The market for TTE with an integrated modem (such as IADs e.g. SPT) is the most popular and most important part of the TTE market in terms of customers, market volume and revenue and is therefore very important for many telecommunications terminal equipment manufacturers.

In the case of **model B**, the market for TTE with an integrated modem (such as IADs) could de facto cease to exist because the draft guidelines do not allow the integration of modems and other functionalities in this scenario. This will reduce the availability of alarm transmission systems.

In addition, the upstream suppliers of telecommunications terminal equipment, such as chip and other component manufacturers as well as retailers and system houses, would have significantly more restricted markets. Alarm transmission systems can only be affordable to a wide range of customers if they can rely on standard components of the IADs that meet the special requirements. This requires a broad provider market of chips and IAD components.

For network operators, Model B would also entail a considerably higher economic cost: they would have to provide all their customers with a "standalone modem" as a network component. This must be offered in different quality classes to support customer requirements with higher availability and security levels.

If the NTP is set at **point C**, the public telecommunications network ends behind the router. However, router functionality before an SPT interferes with secure alarm transmission.

Only in **model A** is a free, competitive market for IAD possible, in which the NTP is defined at point A, the public telecommunications network ends at the end of the "local loop", i.e. at the "socket on the wall". In this case, both routers and modems, which in the vast majority of cases are integrated into one device (IADs), are terminal devices.

For the terminal equipment market this meant, as BEREC rightly points out, a high degree of competition. Both the terminal equipment manufacturers could market IADs in the retail market and the network operators could market IADs to the end-user. End-users would then ultimately be able to choose the product that best meets their needs and desires.

Point A also has the following advantages with regard to the economic advantages, also in terms of the free internal market of the European Union: These include the comprehensive participation of trade in the value chain, innovative competition for the best terminal equipment. For example, the lively competition created by liberalisation in the telecommunications terminal equipment market has led to a wide range of innovative and high-performance products for connection to telecommunications networks. Only with the clear demarcation of telecommunications networks and terminal equipment a point A lively competition could develop in the market for telecommunications terminal equipment. This market is marked by short innovation cycles, a pronounced product diversity and - based on this - unrestricted freedom of choice for users. Free and open competition for the best terminal device secures jobs, creates innovative strength and secures Europe as a tech location, especially in the medium-sized sector of terminal device manufacturers.

4. **BEREC should consider the models A, B and C not only with regard to "objective technological necessities" of the network operators, but should also consider the necessities of the consumers who are in the focus of the freedom of terminal equipment or whose main addressees are.**

In the present draft, BEREC refers "only" to "objective technological necessities" relating to the "public network". Ultimately, only the technological nice-to-have of public network operators are taken into account, the view or the needs of the end-users are completely lacking. There is no technically justifiable difference as to whether a manufacturer on behalf

of a network operator designs and manufactures a modem or router for Model B or C, or a manufacturer develops this for model A based on published interface descriptions. The interface at Model A point is always present and is kept secret only for devices for B or C. A safety aspect is not recognizable for this secrecy.

We therefore argue that BEREC should also include "objective end-user necessities" as further evaluation criteria with regard to the models A, B and C.

In the objective technological necessities, BEREC fortunately already addresses end-user necessities such as security or data protection in individual areas.

However, we advocate that these existing criteria should be evaluated even more with regard to the end-user. In addition, we propose further evaluation criteria that are important for the end-user:

- **Digital sovereignty of the end-user (freedom of action and choice)**

The end-user's digital self-determination includes the possibility of action and choice. End-users throughout Europe already have the right to "use the devices of their choice".

In Model A, end-users have by far the greatest digital sovereignty. They can act independently and select and connect without restriction from a large number of innovative products on the market the terminal that best meets their wishes and needs.

The end-user has a clearly limited digital sovereignty with Model B. A modem is imposed on them over which they have no sovereignty. They only have the choice of a terminal connected to the modem, which, however, causes them additional electricity costs. Additional units reduce availability of the connection.

In model C, the digital sovereignty of the end-user is completely restricted. Alarm transmission systems require in model C special provider-provided technology for alarm transmission. This will significantly increase the costs of securing people and property.

- **Eco aspects / costs for the end-user**

connecting two devices in series (e.g. routers behind modems) would mean a significant increase in power requirements. With electricity prices also rising, this would have both environmental and economic disadvantages for the end-user due to the significantly higher costs involved.
With model A, using a highly efficient integrated device would be possible without any problems, considerably reducing power requirements. In addition, one of the selection criteria for the end-user could also be electricity consumption, which could also lead to more energy-efficient terminal equipment in the competition for the favor of the end-user.
For models B and C, the end-user has to pay the electricity cost of an additional device that they have not purchased. Cheap designs of power supply, common used in low-cost-modems or IAD, don't use energy-efficient technology. Units provided by network providers are usually low-cost-units.

In addition, the use of two terminals, especially at point B, results in double the amount of electrical waste and electronic equipment. If the end-user switches network operator, one provider's fully functional mandatory terminal may have to be replaced with the new provider's mandatory terminal, which would ultimately be completely unnecessary.

The amount of electrical waste could be significantly reduced by a more conscious use of electronic devices. The best solution in this respect would be to define the NTP at point A and thus the possibility of using a single, integrated terminal device.