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Input on the draft BEREC guidelines on NTP

Dansk Energi welcomes the opportunity to comment on the draft BEREC Guidelines on common approached to the identification of the network termination point (NTP) in different network topologies.

For fixed line internet access services (copper, fibre or coax), the draft guidelines shall assist the NRA's assessment of whether there is an objective technological necessity for terminal equipment to be considered as part of the public network ('obligatory equipment') meaning that, end-users are not able to replace the equipment provided by the network operator with their own equipment. According to BEREC, there are three different NTP locations for internet access services at the end-user: point A, B and C.

Introductory comments:
Dansk Energi is a non-commercial interest organisation for Danish energy companies, including the regional electricity utilities (DSO's). The regional utilities – commonly owned by consumers (corporately owned or owned by a fund held by consumers) started to deploy all-fibre networks in the mid-2000's. Today, the fiber-utilities are the main challenger to the incumbent operator (TDC) on fixed broadband improving competition and VHC-coverage in many parts Denmark – not least in rural areas. Denmark has the second highest ranking of fibre coverage of rural areas in the EU28 (DESI Report 2019).

The fiber-utilities have launched a commercial opening of their networks for access seekers (service provides) - based on equal and non-discriminatory conditions. The fiber-utilities have entered a number of wholesale agreements based on Layer 2 bitstream products for the mass consumer market.

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The Ethernet outputs (RJ 45) on the media converter - providing network termination for service providers, but no other functionality like routing, switching and WiFi - is considered being the optimal network termination point (NTP) in the wholesale agreements between the fibre network operators and service providers.

Specific comments:

BEREC points out in section 2.1, that the term 'NTP' refers to the point of access to the public network for end-users only – as defined in the EECC, Art. 2(9).

BEREC states, that previously, according to the definition in the Framework Directive (Art. 2(da)) the term NTP applied to access to the public network not only for end-users but also for network operators and service providers.

Dansk Energi finds it unclear how to define the agreed termination point between fibre operators and service providers in Denmark - in light of the new definition of the term NTP, which apparently do not include wholesale open access networks and service providers.

To support a continued strong development towards commercial open fibre networks in Denmark, we kindly ask BEREC to clarify the possible locations of NTP in wholesale open access networks.

Dansk Energi will in the following describe the technological necessity (and advantages) of locating the NTP interface at the end-users' side on the media converter (point B), meaning that, the media converter is part of the public network (obligatory equipment):

1. First of all, the fiber-utilities must ensure that thy can provide the right wholesale products for the end-user installation and the control via the media converter is essential.

2. All service providers are demanding the media converter / ONT solution. No one is asking to for an NTP location at point A or point C.

3. With point B, the fiber-utilities have the opportunity to make operational tools available for service providers (much easier troubleshooting).

4. Service providers can't differentiate their own services to end-users if the fiber-utilities do not supply a Layer 2 product. The Layer 2 solution makes it possible for

service providers to deliver own router functionality.

5. The focus of the network owner is stability and security in the network which is best achieved through point B.
   a) The risk is minimized for unknown equipment connected to the network (‘aliens’)
   b) Service providers often have great focus on the customer experience inside the house, including WiFi-coverage, design, voice control, smart home etc. Point B provides the best opportunities and freedom for service providers to deliver products that best suit their business.
   c) Choosing point C as NTP would create a conflict of interest between the net-operator and service providers as they have a very different focus. In this case, service providers will have to wait for the net-operators to optimize products, e.g. new WiFi standards. Service providers will be forced to support all technology-changes by the network operator

6. 6. The price of end-user installation can be kept down for both service providers and net-operator:
   a) The net-operator can make use of cost optimization, including scale.
   b) The service provider will only need to install end-user equipment that does not have complex SFP (fiber) modules etc. which would increase the costs. This is especially relevant for PON, but also for transmission on single fiber optics. Service providers are also able to reuse their equipment when customers churn (equipment can be sent back and forth between different customers, because the installation can be done by the customer themselves).

7. Fiber-operators can’t support multi-customer installations unless they can deliver at point B. This is a significant driver for customer experience.

8. Fiber-operators can’t deliver CATV (RF) to customers without point B (Ethernet fiber optic to RF media converter)

Yours sincerely
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