Guideline related to the use of a 3rd party router on the Proximus residential network

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1 Terminology

- “must” or “shall” is used to indicate a mandatory element.
- “should” is used to express a strong recommendation.

2 Introduction

Edpnet does not manage the fixed internet network mentioned, but offers its services through the Proximus network.

This document is provided as a reference guide for Equipment Manufacturers and End Users within the framework of the Decision of 26 September 2023 regarding the identification of the network termination point for broadband services. The information contained herein pertains to Proximus' network specifications.

The purpose of this document is to furnish insights into the current state of information and network specifications, serving as a guideline for third-party routers that might be deployed by end-users on the Proximus residential network.

Scope:

- This document provides details on the configuration requirements for third-party routers when interfacing with the Proximus residential network.
- It outlines the standards that must be adhered to by the third-party routers to ensure proper interoperability with the Proximus network.

Limitations:

- This document does not constitute a comprehensive router specification but specifically addresses essential points crucial for achieving interoperability with the Proximus residential network.
- The document does not cover the characteristics necessary for a modem to establish a connection to the physical line. For modem-specific requirements, please refer to the modem specifications provided separately:
  - DSL Modem Specification: “PXS_VDSLspecs”
  - ONT Specification: “PXSEndUser_ONTspecs_v03”

Usage Considerations:

- The information presented in this document is based on the current state of information and network specifications, subject to change. It is recommended to regularly check for updates and revisions.

Disclaimer: The guidelines outlined in this document are provided on an "as-is" basis. While every effort has been made to ensure accuracy, Proximus shall not be liable for any direct, indirect, incidental, consequential, or special damages arising out of the use of this information.

3 Basic Setup

3.1 Requirements

The following features must be supported by the router:

- VLAN Tagging on the WAN interface
- DHCPv4 (rfc 2131 and rfc 2132)
- SLAAC (rfc 4862)
- DHCPv6 (rfc8415, rfc3319, rfc3646, rfc4704, rfc5007 and rfc6221)
- IPv6 prefix delegation
- ARP (rfc 826)

The router must allow for the configurations described in the following paragraphs to be set by the end user.

3.2 Configuration

3.2.1 VLAN Tagging:

Proximus residential lines make use of a single VLAN (VLAN 20) for connectivity towards the network. The router must thus be configured so that its WAN interface encapsulates traffic in VLAN 20.

3.2.2 IP acquisition from the network:

IPv4 acquisition is done via DHCPv4.

IPv6 acquisition is done via SLAAC while IPv6 prefixes delegated for LAN use are acquired via DHCPv6. If the router supports IPv6 prefix delegation it should automatically use the provided Global IPv6 ranges to make them available on the LAN.

3.2.3 Keep alive:

To verify if a router is still connected to the network, the network will regularly send ARP messages to that router. The router will answer those ARPs.

3.3 Use of an external modem

If the router is connected to an external modem (e.g., DSL modem or ONT) by means of an Ethernet cable, the end user should make sure that the external modem is bridging traffic at the OSI Layer 2 level (this is the case for Proximus modems).

If the connection between the modem and the router is found to be unstable (packet loss), this might be due to one of the following elements:

- The Ethernet cable isn't properly plugged in.
- The Ethernet cable isn't adapted to the negotiated throughput. Make sure an Ethernet cable of the proper category is used (CAT 5E is good for connections up to 1 Gbps, CAT 6A or CAT 7 is to be used for connections up to 10 Gbps).
- Energy Efficient Ethernet is enabled.