

EdgeXOS Platform Notes

XRoads Networks

Edge Network Appliance Platform Notes

EdgeXOS PPPoE Configuration

How To Setup The EdgeXOS Using PPPoE Links

This document provides an overview as to how to use a PPPoE connection with the EdgeXOS appliances. PPPoE stands for point-to-point over Ethernet, and is commonly used with DSL links. XRoads Networks once supported PPPoE directly however it was found that internationally there were different implementations of the standard and thus at times the PPPoE link would become unstable.

Due to these stability issues, XRoads Networks decided that it was best to allow the ISP's DSL modem to terminate the PPPoE link and to simply pass the Layer-3 connectivity to the EdgeXOS appliance.

The following is a step-by-step process for installing a PPPoE connection.

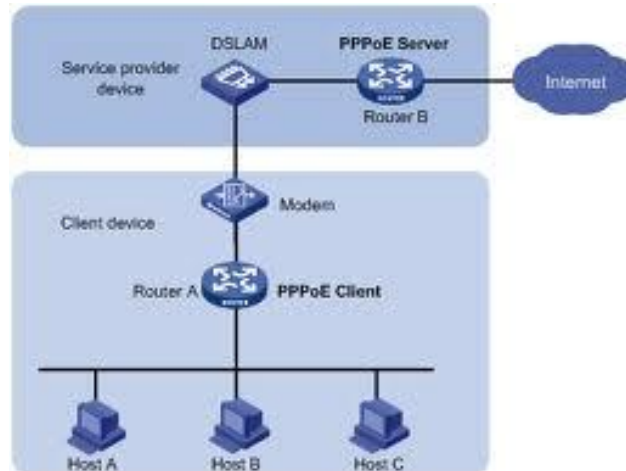
A) Setting Up The DSL Modem

As shown below, there are many different types of DSL modems, however when the ISP is using PPPoE they will all have the ability to terminate the PPPoE protocol and pass a private IP address to the LAN side of the modem. Technically in this configuration the modem is acting more like a router and is NATing the public IP address it receives via the PPPoE link to a private IP address which is passed to the EdgeXOS device on the LAN side of the DSL modem/router.



NOTE: If you have the option when ordering the DSL service, make sure to request a DSL modem/router or DSL router, over a device which ONLY supports bridging. Nearly all DSL services come with modem/routers today.

The following diagram demonstrates the typical installation for a PPPoE network:



However in this case the modem is now also acting as the router and terminating the PPPoE connection, i.e. it is acting as the PPPoE client.

When the DSL modem is used as a router, it will also need to be configured so that any public address that it receives on the WAN is forwarded via a One-to-One NAT mapping to a private address on the LAN side of the DSL modem/router.

The process used to configure the DSL device is different for each type of DSL device, however most provide a simple web-based interface which can be accessed in order to configure the PPPoE connection, switch the modem from bridge mode to route mode, and setup the NAT mapping.

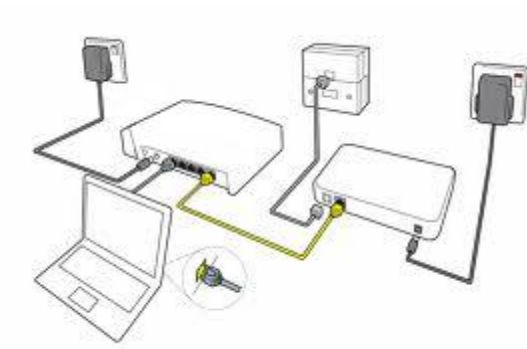
B) Address Configuration

It is recommended that you use a common private network for the LAN side of the DSL modem/router, for example 10.10.10.0/24, and use 10.10.10.1 for the DSL device and 10.10.10.2 for the EdgeXOS appliance.

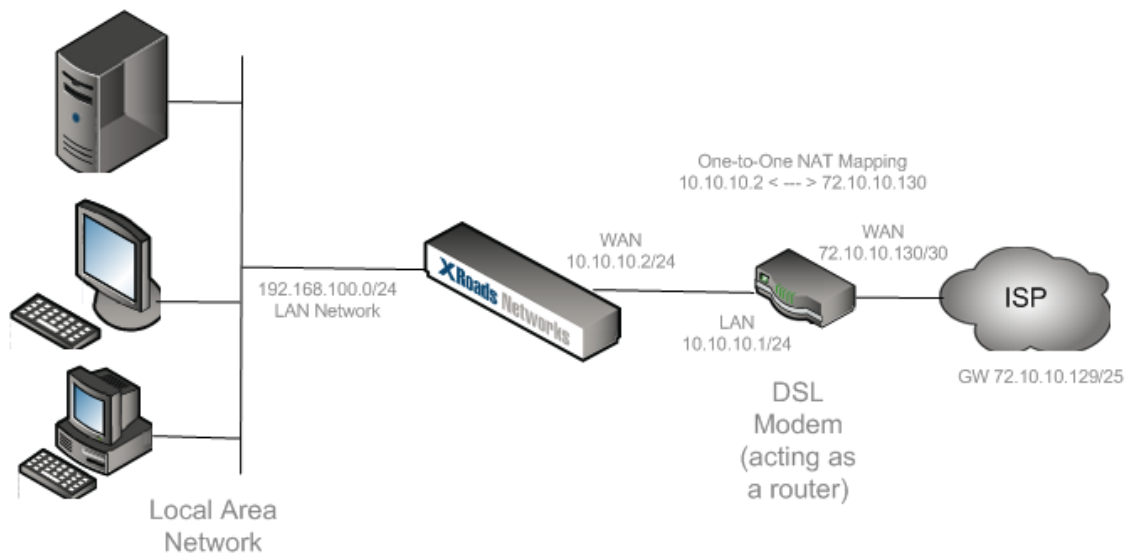
Then configure the one-to-one NAT rule on the DSL device to forward all traffic from the public IP address to the 10.10.10.2 address of the EdgeXOS appliance.

The following diagrams demonstrate how the network should look when this installation is performed correctly.

Physical Configuration



Logical Configuration



PPPoE Deployment Example