

*EdgeXOS Platform Notes*

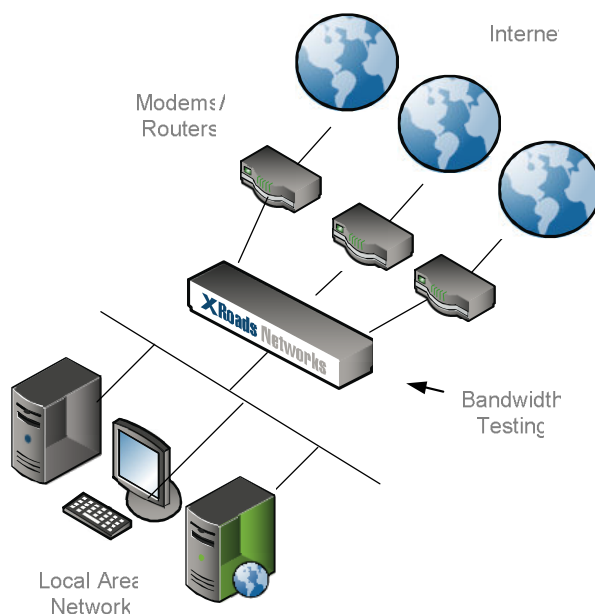
# **XRoads** Networks

Edge Network Appliance Platform Notes

EdgeXOS Slowness 101

## Overview Of Configuration Parameters That Might Cause Slowness

This document provides an overview of the configuration parameters which might cause what appears to be slowness when performing bandwidth testing through the appliance.



**Interface Rate-Limits:** One of the primary reasons for customers reporting slowness issues is if the rate-limits on their WAN links are not set correctly. The new default for these links is 10Mbps (10000), however some customers have them set lower. If you have a connection which is faster than 1.5Mbps, make sure the rate-limit settings match the links speed.

**Link Rates:**  Outbound  Inbound (kbit = thousands of bits per second: 1Mbps = 1000)

**Auto-Negotiation Issues:** Another widely found issue is with the port speed and duplex setting of an interface. If the port does not properly auto-negotiate then it is possible that the link will have line errors and/or collisions which will effect overall speed. Make sure you perform an AutoSense test to see what your interfaces are reporting. You should see that each link is 'OK' and no incrementing errors within the report (see below for an example).

lan negotiated 100baseTx-Full Duplex, link ok  
wan1 negotiated 100baseTx-Full Duplex, link ok

lan Link Encapsulation: Ethernet MAC Address: 00:90:FB:04:85:1C  
Interface addr:192.168.100.168 Broadcast Address:0.0.0.0 Subnet Mask:255.255.255.0  
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1  
IntStats: (since router reboot)  
RX packets:29235847 errors:16 dropped:84 overruns:5 frame:0  
TX packets:31639441 errors:0 dropped:0 overruns:0 carrier:0  
collisions:0 txqueuelen:1000  
RX bytes:329626791 (314.3 Mb) TX bytes:172229129 (164.2 Mb)

wan1 Link Encapsulation: Ethernet MAC Address: 00:90:FB:04:85:1B  
Interface addr:68.228.65.9 Broadcast Address:0.0.0.0 Subnet Mask:255.255.248.0  
UP BROADCAST NOTRAILERS RUNNING MULTICAST MTU:1500 Metric:1  
IntStats: (since router reboot)  
RX packets:356942652 errors:80 dropped:569 overruns:56 frame:0  
TX packets:42236303 errors:0 dropped:0 overruns:0 carrier:0  
collisions:0 txqueuelen:1000  
RX bytes:4046318121 (3858.8 Mb) TX bytes:2010317335 (1917.1 Mb)

**Bad Ethernet Cabling:** Even if you are 100% sure a cable works, always replace it when you are having speed issues. Many times a good cable can become bad simply by unplugging it and plugging it back in. The leads get worn... so check those cables.

**Session / Shaping Policies:** If you are having slowness issues, make sure that all policies have been checked and/or removed and that the session limits have also been disabled and/or increased to a point where traffic flows are no longer affected.

Session Limiting: ?  Enabled  Disabled (Limit Multi-Session Applications)

(Limit Max Sessions Per Second - Default '30')

**DoS Rules:** Many times traffic can be slowed due to DoS rules which are designed to limit some types of traffic for security reasons. If you are having slowness issues, try disabling the DoS controls to see if the speed improves.

(Limit [per second] DNS/DoS Control - Default '100')

(Limit [per second] Echo Responses - Default '100')

Enabled  Disabled (Deny ICMP Fragments)

Enabled  Disabled (Denial Of Service - Spoofing/SYN Flood filters)

(Limit [per second] SYN/DoS Control - Default '500')

(Limit [per second] SYN,ACK,FIN,RST Flags Set - Default '10')

(Limit [per second] Inbound Sessions - Default '25')

**Appliance Sizing:** Lastly, check the specifications on your appliance. Occasionally a customer does under purchase hardware, meaning the hardware they purchased does not match their requirements, or perhaps has outgrown their initial requirements.