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Overview

The implementation of Link Aggregation (LAG) changes the behavior of "show port npu counters" and "show port utilization table" commands. The port commands are important for troubleshooting port and throughput related issues and so it is important to be able to properly interpret their output, especially since it is unintuitive when compared to non-LAG ports. The bottom line is that port npu counters for LAG on an individual port basis are not available and are reported for the entire LAG group only up to at least StarOS v18 which is the time of this writing. This could change in future releases.

Explanation

Due to design/ar

Because the implementation of LAG requires all the ports in the LAG to be active, "show port utilization table" reports utilization for all the LAG ports whether they are distributing (active) or agreed (standby) for both ASR 5000/5500. Sidenote: Normally agreed ports show no traffic, but there have been instances where the Rx and/or Tx direction of agreed ports are also carrying traffic (not the subject of this article but just pointing it out).

Meanwhile for non-LAG ports, there is a difference between what is reported for ASR 5000 vs. ASR 5500. ASR 5000 does not report utilization for standby ports, while ASR 5500 does report utilization for standby ports (even though those ports are operationally down)

Consistent with what has just been mentioned, "show port table" for LAG reports all the ports as operationally up, compared to non-LAG where only the active port of a port pair is operationally up.

For "show port npu counters", ALL LAG ports are listed, but the following is true:

- ASR 5000:

- the counters under the Master (configured) port are a TOTAL count across all the currently ACTIVE ports

- the counters for ALL other ports (including the master port's pair) are not relevant and should not be used

- ASR 5500:

- the counters under the Master port and its standby are a TOTAL count across all the currently ACTIVE ports (they will both report a similar but slightly different value - use either one)

- the counters for ALL other ports are 0s

For NON-LAG ports, only counters for active ports are reported. Standby ports are not even listed in the output at the NPU level (and never have been).

Example output

The output here is to support the previous explanations. It is based on hardware configurations as follows:

ASR 5000: LAG Ports 19/20, 23/26, 27/28, and non-LAG ports 21/37

ASR 5500: LAG Ports 5/ 10, 11, 15, 16; 6/ 10, 11, 15, 16, and non-LAG ports 5/28 & 6/28, 5/29 & 6/29

Reminder: Focus of this article are the counters for LAG ports.

ASR 5000

while for NON-LAG, only the active ports are listed and those values ARE relevant:

ASR 5500

Again, only active ports are listed by this command: