Troubleshooting Guide

Investigating Packet Drops

Packet drops can be investigated by viewing counters using the show interfaces counters command.

RX_ERR/TX_ERR includes all physical layer (layer-2) related drops, such as FCS error, RUNT frames. If there is RX_ERR or TX_ERR, it usually indicates some physical layer link issues.

RX_DRP include all layer-2, layer-3, ACL related drops in the switch ingress pipeline, drops due to insufficient ingress buffer.

TX_DRP include mainly the egress buffer related drop due to congestion, including WRED drop.

RX_OVR/TX_OVR counts the oversized packets.

Example:

admin@sonic:~$ show interfaces counters

Iface	RX_OK	RX_RATE	RX_UTIL	RX_ERR	RX_DRP	RX_OVR	TX_OK	TX_RATE	TX_UTIL	TX_ERR	TX_DRP	TX_OVR
Ethernet0	471,729,839,997	653.87 MB/s	12.77%	0	18,682	0	409,682,385,925	556.84 MB/s	10.88%	0	0	0
Ethernet4	453,838,006,636	632.97 MB/s	12.36%	0	1,636	0	388,299,875,056	529.34 MB/s	10.34%	0	0	0

Ethernet8 549,034,764,539 761.15 MB/s 14.87% 0 18,274 0 457,603,227,659 615.20 MB/s 12.02% 0 0 0

Ethernet12 458,052,204,029 636.84 MB/s 12.44% 0 17,614 0 388,341,776,615 527.37 MB/s 10.30% 0 0 0

Ethernet16 16,679,692,972 13.83 MB/s 0.27% 0 17,605 0 18,206,586,265 17.51 MB/s 0.34% 0 0 0

Ethernet20 47,983,339,172 35.89 MB/s 0.70% 0 2,174 0 58,986,354,359 51.83 MB/s 1.01% 0 0 0

Ethernet24 33,543,533,441 36.59 MB/s 0.71% 0 1,613 0 43,066,076,370 49.92 MB/s 0.97% 0 0 0

Physical Link Signa l

Use the following command to get optical signal strength. Note: not all types of links have such channel monitor values. The AOC and DAC cables do not have such values.

Generally, optical power should be greater than -10dBm.

Example:

admin@sonic:~$ show interfaces transceiver eeprom Ethernet12 --dom

Ethernet12: SFP detected

Connector : Unknown

EncodingCodes : Unspecified

ExtIdentOfTypeOfTransceiver : GBIC def not specified

LengthOM3(UnitsOf10m) : 144

RateIdentifier : Unspecified

ReceivedPowerMeasurementType : Avg power

TransceiverCodes :

10GEthernetComplianceCode : 10G Base-SR

InfinibandComplianceCode : 1X Copper Passive

TypeOfTransceiver : QSFP

VendorDataCode(YYYY-MM-DD Lot) : 2013-11-29

VendorName : MOLEX

VendorOUI : MOL

VendorPN : 1064141400

VendorRev : E th

VendorSN : G13474P0120

ChannelMonitorValues :

RX1Power : -5.7398dBm

RX2Power : -4.6055dBm

RX3Power : -5.0252dBm

RX4Power : -12.5414dBm

TX1Bias : 19.1600mA

TX2Bias : 19.1600mA

TX3Bias : 19.1600mA

TX4Bias : 19.1600mA

ChannelStatus :

Rx1LOS : Off

Rx2LOS : Off

Rx3LOS : Off

Rx4LOS : Off

Tx1Fault : Off

Tx1LOS : Off

Tx2Fault : Off

Tx2LOS : Off

Tx3Fault : Off

Tx3LOS : Off

Tx4Fault : Off

Tx4LOS : Off

ModuleMonitorValues :

Temperature : 23.7500C

Vcc : 3.2805Volts

StatusIndicators :

DataNotReady : Off

SONiC Tech-Support Dump

Generate a dump of troubleshooting data. This is similar to a "show tac" command on other devices. An archive file containing the dump will be saved to the device which can be sent to the SONiC development team for troubleshooting.

Example:

admin@sonic:~$ show techsupport

Isolate SONiC Device from the Ne twork

When there is suspicion that a SONiC device is dropping traffic and behaving abnormally, you may want to isolate the device from the network. Before isolating the device, please generate SONiC tech-support first.

You can shut down BGP sessions to neighbors using a form of the config bgp shutdown command. There are a few variations of this command, examples follow.

Shutdown BGP session with neighbor by neighbor's hostname:

Example:

admin@sonic:~$ sudo config bgp shutdown neighbor SONIC02SPINE

Shutdown BGP session with neighbor by neighbor's IP address:

Example:

admin@sonic:~$ sudo config bgp shutdown neighbor 192.168.1.124

Shutdown BGP sessions with all neighbors:

Example:

admin@sonic:~$ sudo config bgp shutdown all