SNMP Trap to monitor EIGRP Adjacency change in Nexus 7000

Contents

Overview

The Nexus only supports two traps for EIGRP-MIB, cEigrpAuthFailureEvent and cEigrpRouteStuckInActive, but no SNMP traps for EIGRP neighbors up/down (cEigrpNbrDownEvent).

A viable workaround to generate SNMP traps to monitor EIGRP adjacency changes would be to configure two EEM scripts - one for Neighbor Up and one for Neighbor Down - triggered based on the syslog pattern.

Example

```
event manager applet EIGRP_TRAP_nbr_dwn event syslog pattern "EIGRP-5-NBRCHANGE_DUAL.*down" action 1.1 snmp-trap strdata "EIGRP Neighbor Down" event manager applet EIGRP_TRAP_nbr_up event syslog pattern "EIGRP-5-NBRCHANGE_DUAL.*up" action 1.1 snmp-trap strdata "EIGRP Neighbor Up"
```

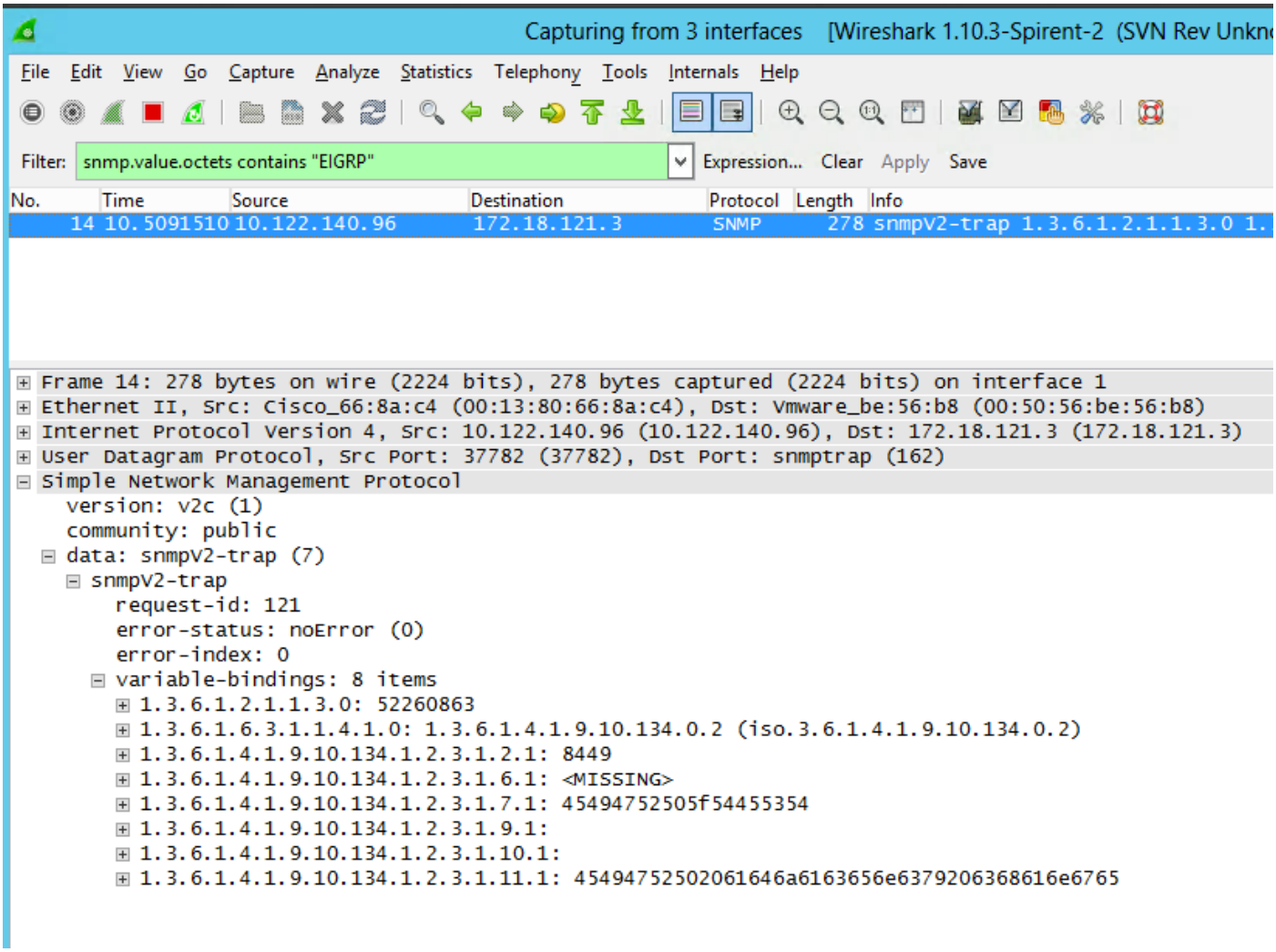
You can then test by flapping a Layer 3 interface (you may create a test SVI to verify as to not disrupt connectivity):

```
2017 Jul 12 15:51:06 N7K-AGG2 %EIGRP-5-NBRCHANGE_DUAL:  eigrp-10 [4049] (default-base) IP-EIGRP(0) 10: Neighbor 10.10.10.84
(Vlan1064) is down: holding time expired 2017 Jul 12 15:51:10 N7K-AGG2 %EIGRP-5-NBRCHANGE_DUAL: eigrp-10 [4049] (default-base) IP-EIGRP(0) 10: Neighbor 10.10.10.84
(Vlan1064) is up: new adjacency
```

Confirm that the Nexus is sending these out correctly by checking your SNMP Monitoring tool - Output may differ slightly depending on the tool used:

You may also review these SNMP traps via a Wireshark capture:

Note: Depending on the version of Wireshark, the string will not be in human readable text but can be filtered via "snmp.value.octets contains "EIGRP""



You can also verify that the Nexus is sending these upon the EEM triggering with Ethanalyzer - Example:

```
N7K-A-Admin# ethanalyzer local interface mgmt display-filter snmp limit-c 0 Capturing on mgmt0
2017-07-12 15:43:37.431067 10.122.140.96 -> 172.18.121.3 SNMP 278 snmpV2-trap 1.3.6.1.2.1.1.3.0
1.3.6.1.6.3.1.1.4.1.0 1.3.6.1.4.1.9.10.134.1.2.3.1.2.1 1.3.6.1.4.1.9.10.134.1.2.3.1.6.1
1.3.6.1.4.1. 9.10.134.1.2.3.1.7.1 1.3.6.1.4.1.9.10.134.1.2.3.1.9.1
1.3.6.1.4.1.9.10.134.1.2.3.1.10.1 1.3.6.1.4.1.9.10.134.1.2.3.1.11.1
```

> **Note**: Pre NX-OS 7.x does not give us the option of configuring "**snmp-server enable traps syslog**" which would in turn allow you to monitor the entire logging log itself then filter for the EIGRP messages. This feature was added in later releases, 7.x and later.