JSNAP

Taking the pain out of Change Validation

Amanda Galligan - Workday

Agenda

- The night of the change!
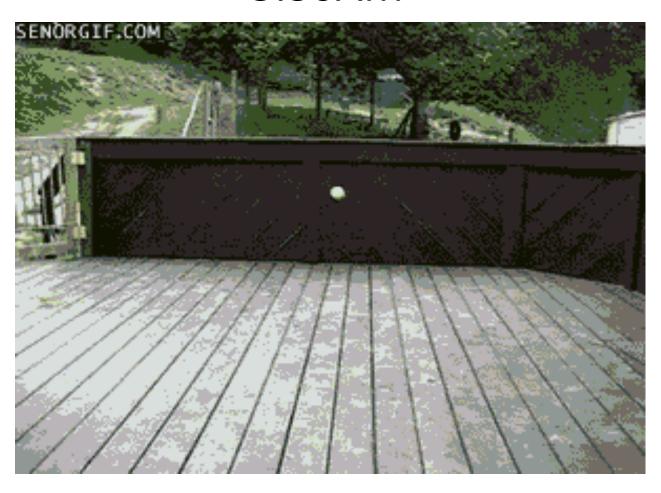
- Approaching a maintenance window change

- How does JSNAP help?

- Demo

Flying by the seat of your pants..

You think you have it all under control..
5.30AM

Approaching a maintenance change

- Good practices
  - Change control approval/review process
  - Effective monitoring
  - Backup of the running-config and or firmware
  - Capture baseline runtime-state – pre-check
  - Apply the change
  - Capture baseline runtime-state – post-check
  - Compare the pre-checks and post-checks
  - Rollback plan

Comparing pre-checks/post-checks

JSNAP and how it helps

- JSNAP (Juniper Snapshot Administrator)

- https://github.com/Juniper/junos-snapshot-administrator

- [https://www.juniper.net/support/downloads/?p=jsnap - sw](https://www.juniper.net/support/downloads/?p=jsnap)

- Take a snapshot of your environment run-time states and save it as XML. Parse using SLAX

- Compare PRE and POST XML and generate a human readable report on the differences.

JSNAP components

- SLAX scripts used to manipulate XML outputs produced by Junos.

- JUISE – Allows you to run SLAX scripts and debug on normal host as well as run NETCONF

- Config files – used to define checks that generate snapshots and the tests themselves

JSNAP sample tests

```
core.conf — juniper-snapshot-administrator/conf
 1   do {
 2       alarm-checks;
 3       system-alarm-checks;
 4       version-check;
 5       version-snapshot-check;
 6       ospf-checks-new;
 7       vrrp-checks;
 8       lldp-neighbor-checks;
 9       virtual-chassis;
10       spanning-tree-bridge;
11   }
12
```

```
12
13   lldp-neighbor-checks {
14       command show lldp neighbors;
15       iterate lldp-neighbor-information {
16           id lldp-remote-system-name;
17           list-not-less {
18               info LLDP Neigbor gone AWOL;
19               err " LLDP neighbor %s on local port %s is AWOL", lldp-remote-system-name, lldp-local-interface;
20           }
21           list-not-more {
22               info LLDP Neigbor been added ;
23               err " LLDP neighbor %s on local port %s is added", lldp-remote-system-name, lldp-local-interface;
24           }
25
26
27       }
28
29   }
```

JSNAP XML captured state


```
core.conf — juniper-snapshot-administrator/conf    10.170.29.3__lldp-neighbor-checks__pre-ash.xml  ×    set devices device cfw01.a11.az2.eng
19     <lldp-neighbor-information>
20  <lldp-local-interface>xe-0/0/8.0</lldp-local-interface>
21  <lldp-local-parent-interface-name>-</lldp-local-parent-interface-name>
22  <lldp-remote-chassis-id-subtype>Mac address</lldp-remote-chassis-id-subtype>
23  <lldp-remote-chassis-id>54:e0:32:82:f0:00</lldp-remote-chassis-id>
24  <lldp-remote-port-description>xe-0/1/0.0</lldp-remote-port-description>
25  <lldp-remote-system-name>asw011.lab.pls.wd</lldp-remote-system-name>
26  </lldp-neighbor-information>
27     <lldp-neighbor-information>
28  <lldp-local-interface>xe-0/0/9.0</lldp-local-interface>
29  <lldp-local-parent-interface-name>-</lldp-local-parent-interface-name>
30  <lldp-remote-chassis-id-subtype>Mac address</lldp-remote-chassis-id-subtype>
31  <lldp-remote-chassis-id>54:e0:32:8c:6d:80</lldp-remote-chassis-id>
32  <lldp-remote-port-description>xe-0/1/0.0</lldp-remote-port-description>
33  <lldp-remote-system-name>asw012.pls.lab.wd</lldp-remote-system-name>
34  </lldp-neighbor-information>
35     <lldp-neighbor-information>
```

```
[vagrant@dev4 lab]$ ../jsnap --check PRE-CHECK,POST-CHECK -t lab-dev-sw.txt ../conf/core.conf -s lldp-neighbor-checks
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
>>>
>>> TARGET: core001.lab
>>>
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
---------------------------------------------------------------------
CHECKING SECTION: lldp-neighbor-checks
---------------------------------------------------------------------
- TEST FAILED: LLDP Neigbor gone missing

 LLDP neighbor asw011.lab.pls.wd on local port xe-0/0/8.0 is down

+ TEST PASSED: LLDP Neigbor added
[vagrant@dev4 lab]$ []
```