LFN Developer and Testing Forum Jan 2020 OVP VNF Hacking Track

Overview

To get VNF vendors more comfortable with the OVP program for VNFs, the plan is to conduct a OVP VNF hacking track at the Jan 2020 LFN Developer and Testing Forum in Prague. This can hopefully start a virtuous cycle where more VNF vendors means more ONAP in production, which in-turn will drive more VNF vendors to interoperate with ONAP.

The broad tasks are:

- VNF vendor outreach – messaging, EUAG/MAC assistance, webinar, blog
- Test plan creation – test plan for VNF vendors
- Pre-testing – Make ONAP environments available 6 weeks before the event for VNF vendors to do pre-testing before they come to the event
- VNF hacking track – Onsite phase where vendors are free to do as little or as much testing as they feel comfortable with easy access to experts

Lead Volunteers:

- Lincoln Lavoie
- Amar Kapadia
- Pierre Lynch

Test Plan

- Test Plan

Testing Resources

Lab#1 Resources

The following labs have committed resources to support the hacking track.

Lab Name	Contact	Resources Available	Notes

UNH-IOL	Lincoln Lavoie <lylavoie@iol.unh.edu>
	
	Parker Berberian <pberberian@iol.unh.edu>
	
	Brandon Lo <blo@iol.unh.edu>
		1. ONAP El Alto Instance
		2. OpenStack Instance
		3. Lab as a Service (https://labs.lfnetworking.org)
			• Open Stack Details:
			  ◦ Version: 3.16.2 (Rocky)
			  ◦ Capacity (remaining beyond ONAP): ~40vCPUs, ~64gb ram
			  ◦ Horizon Dashboard: 192.168.122.220 (need VPN, admin / opnfv-secret-password)
			• ONAP El Alto
			  ◦ ONAP Dashboard: https://portal.api.simpledemo.onap.org:30225/ONAPPORTAL/login.htm (need VPN, demo / demo123456!)
			  ◦ Rancher Node: 132.177.253.53 (user ubuntu, SSH private key)
			• VPN Access: OpenVPN
			  ◦ Contact Parker Berberian for access
			• NF Upload: Either through the VPN connection, or by "pulling" them from the Internet into the instance
			• Hosting sVNFM/EMS: Depending on the size, it should be possible to install this on the UNH-IOL OpenStack cloud

UNH-IOL VPN Client File

Lab#2 Resources

Lab Name	Contact	Resources Available	Notes

Lenovo-US	Anand Gorti
	
	Eddy Raineri
	
	Stephen Gooch
		1. Lenovo NFVi + Wind River Titanium Cloud VIM (refer OPNFV Verification Program - NFVI Portal)	• HW details
			  ◦ Lenovo ThinkSystem SR630/SR650 servers
			  ◦ Lenovo ThinkSystem NE2572 /NE0152T switches
			• VPN Access: Cisco AnyConnect
			  ◦ Contact Anand Gorti for access
			• Wind River Titanium Cloud (OpenStack) details
			  ◦ Jumphost IP: 10.240.71.171 (need VPN access)
			  ◦ Controller IP: 172.22.27.9 (accessible through Jumphost)
			  ◦ Keystone v3 required
			  ◦ Contact Eddy Raineri

	Anand Gorti
	
	Amar Kapadia
	
	'Rajendra P Mishra (RP)' <rpmishra@aarnanetworks.com>
		1. ONAP Dublin instance
		2. OpenStack instance
			• HW details
			  ◦ Lenovo ThinkSystem SR650 servers
			  ◦ Lenovo ThinkSystem NE2572 /NE0152T switches
			• Aarna Networks ONAP Distribution (ANOD)
			  ◦ Contact 'Rajendra P Mishra (RP)' <rpmishra@aarnanetworks.com>

Note: The Lenovo lab resources will be available for testing to continue until Jan 31st.

Lab#3 Resources

Lab Name	Contact	Resources Available	Notes
LaaS	'Rajendra P Mishra (RP)' <rpmishra@aarnanetworks.com>	1. ONAP Dublin instance 2. OpenStack instance	• Contact 'Rajendra P Mishra (RP)' <rpmishra@aarnanetworks.com> to get access

Event Notes

Day 1 - Monday

- Participants: Lincoln Lavoie , Parker Berberian, Al Morton Ryan Hallahan Kanagaraj Manickam Ömer Zekvan YILMAZ Huseyin Aydin Brandon Lo Fahad Al Rhili
- Team 1:
  - Lead: Parker
  - Resource: UNH-IOL ONAP
  - VNF:
- Team 2:
  - Lead: RP
  - Resource: Lenovo / Wind River ONAP
  - VNF:
- Documentation:
  - Test Plan Document
  - How to run HEAT VNF test tools: https://wiki.onap.org/pages/viewpage.action?pageId=68546123
  - How to run TOSCA VNF test tools: https://wiki.onap.org/display/DW/OVP-VTP
- Notes:
  - Issue with ONAP talking to the OpenStack API on the UNH-IOL resource is partly solved.
    - API can be reached by the ONAP containers, but robot scripts are complaining the OpenStack API is using a self-signed certificate (http://132.177.253.66:30209/logs/0036_demo_init/log.html).

Day 2 - Tuesday

- Participants: Lincoln Lavoie , Parker Berberian, Ömer Zekvan YILMAZ Huseyin Aydin Brandon Lo, Sumesh Malhotra Fahad Al Rhili
- Since El Alto continues to not work, the team is recommending that VNF vendors test using manual testing https://onap.readthedocs.io/en/latest/submodules/vnfrqts/testcases.git/docs/OnboardInstantiateTests.html
- See RP for CLI commands to run these manual tests

Day 3 - Wednesday

- Participants: Lincoln Lavoie , Parker Berberian, Ömer Zekvan YILMAZ Huseyin Aydin Brandon Lo, Sumesh Malhotra Fahad Al Rhili
- CLI tests on Dublin working successfully; VNF vendors can/were able to run these to establish validation interop with ONAP
- El Alto automated scripts still not available due to ONAP El Alto not being fully up (09:20AM)

Day 4 - Thursday

- Participants: Parker Berberian , Lincoln Lavoie , Brandon Lo, Sumesh Malhotra, Ömer Zekvan YILMAZ , Huseyin Aydin Fahad Al Rhili
- Accomplishments
  - Got ONAP VVP testing (OOM Robot) running on two platforms.
  - Worked on running testing on 3 commercial VNFs through these systems.
  - Onboarded one of the VNFs through ONAP Dublin release.
  - VNF static (template) validation is passing on all 3 VNFs.
- Challenges
  - OPNFV XCI OpenStack setup provides HTTPS for OpenStack API by default, using self-signed certificates. Within ONAP, this requires adding the self-signed CA to multiple pods. Should a step be added to the documentation / installed to allow a CA to be imported as part of the process?
  - During ONAP deploy, the authentication keys should have been stored within correct formats for SO / Robot / etc. However, this seems to have failed during the install and required manual correction.
  - Repeatedly running e.g. the robot scripts while debugging can leak state into ONAP that requires manually cleaning databases. The option to rollback changes or having a “wipe clean” script for A&AI would be very useful.
  - Initialization of values for ONAP (i.e. subscriber, cloudowner, line of business, etc.) isn’t clearly defined in the process, and if / who is responsible for setting those values. For example “demo-k8s.sh onap init” will setup / provide one set of values, while the “instantiate-k8s.sh” for the VVP testing may
  - assume a different set of values. It’s unclear in the documentation if VVP tooling would create these values if they aren’t yet existing in ONAP.
  - VVP Validation false passed in the case where the vnf-details.json had a mismatch to the file name for the module preload file name.
  - Two entry points for testing VNFs, based on VNF template types can be confusing to the users.
  - Robot VVP script failures had to wait for timeout (i.e. script stopped) before logs became available to debug the issue.
  - Need to get some support from community to provide TOSCA based VNFs to run through the testing process.
- Next Steps
  - We (VNF participants) would like to continue debugging the testing next week (January 20-24), if the environments can be kept up.
  - For next DTF event, look into sending a weekly “briefing” email to all currently registered participants to point them to updated / latest resources, etc. This could also let them know about plugfest planning calls, etc. Need to have at least one pre-event call specific to the plugfest, to make sure resources are aligned, etc.

Past Activities

High-level status (chronological):

- August-26-2019: CVC green signal to proceed. View presentation.
- August-30-2019: Goal is to agree on the messaging. Proposed draft:
  - ONAP overview

    - ONAP xNF requirements
        - Direct/Heat approach
        - sVNFM/TOSCA approach
    - OVP overview
        - CNTT reference
    - Why is it important for VNF vendors to get involved with OVP – As operators move to common requirements, it is important for VNF vendors to be in sync with it, and VNF vendors need to be prepared for it
    - OVP VNF hacking track at the next LFN DDF/Plugfest details (CNF, PNF outside the scope of this event)
        - Rules of engagement – individual results will not be public. This is a safe zone. Amar to check with David McBride on the Plugfest rules.
        - Opportunity for VNF vendors to provide feedback on OVP to make it a better program.
        - Help & support available through 6 week pre-testing phase and at the event
    - Call-to-action: Invitation to attend Plugfest
- August-30-2019:
    - Use CNTT event to market to VNF vendors, Rabi to connect Amar to the right person
- Sept-13-2019:
    - Discuss LFN Board Slides for Plugfest OVP VNF Hacking Track Sept 19v2.pptx
    - Discuss Webinar title
    - Discuss steps required to create the test plan
- Oct-25-2019
    - Test plan development
    - Follow up with webinar attendees
    - Weekly/bi-weekly call setu