

2023-02-08 Agenda and Minutes

New Time: 6AM Pacific Wednesday. 3PM CET, 2PM GMT, 1930 India time US is on Standard Time. Pacific time is UTC+0800.

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Attendees

[Al Morton](#) [Sridhar Rao](#) Federica Minh-Ngoc Tran – asks if we can review the paper again.

Agenda

main topics today: What does this new year mean for ViNePerf? What are the possibilities for the project?

Item	Desc	who	Notes/minutes
	What does this new year mean for ViNePerf?	All	<p>Sridhar Rao Focus on completing the benchmarking activity (former Intern project)</p> <ul style="list-style-type: none">• Student projects should help them - feed the background info along with working sessions <p>Where are we now, regarding the eBPF and XDP and AF_XDP (similar to SR-IOV) has CNI and Device Driver plug-in:</p> <ul style="list-style-type: none">• Intern could not run apps on the L2 Pod, so no forwarding possible.• Maryham - FOSDEM talk on CNDP Forwarder• https://conferences.sigcomm.org/sigcomm/2021/files/papers/3452296.3472914.pdf is a good background paper• Connectivity options include AF_XDP CNI, OVS with AF_XDP Module (built with the module while you build OVS or Calico), and Calico with AF_XDP Module.• Student could build a forwarding program for the L2 Pod <p>Al Morton Many blocking issues with Intern, did not get to the more interesting benchmarking work.</p> <p>No Orinoco Release - focus on the benchmarking instead.</p> <p>@Federica might propose a student project, but need to understand the next steps first.</p> <p>There are updates needed to the student project proposals from last year.</p> <p>We will not participate in the LF Intern program this year.</p>

Discussion: Contribution on Containerized network benchmarking in BMWG session IETF-115	All	<p>08 Feb 2023 Invite Minh-Ngoc Tran to a future meeting, to check if our comments were adopted.</p> <p>11 Jan 2023 Review with Minh-Ngoc Tran</p> <p>Draft: https://www.ietf.org/archive/id/draft-dcn-bmwg-containerized-infra-09.html</p> <p>Slides: Considerations for Benchmarking Network Performance in Containerized Infrastructure</p> <p>https://datatracker.ietf.org/doc/draft-dcn-bmwg-containerized-infra/</p> <p>yangun@dcn.ssu.ac.kr Sirdhar will contact.</p> <p>mipearlksa1307@dcn.ssu.ac.kr presented at IETF-115</p> <p>Comments: ETSI TST009 scenarios were preliminary and not tested. The draft extends these scenarios with Pod inside VM.</p> <p>Sridhar Rao Tested many similar scenarios - performance difference among with VM and without VM is negligible. Not really necessary to test. Minh needs to check this with colleagues Sridhar will share our teams results - part of Daniele's work. The reason people run VMs is for security reasons and resource isolation -WHEN Containers did not supply.</p> <p>Parameters section: Cannot use a CNI independent of the Networking model (SRIOV or user space determines this)</p> <p>Some Networking models listed are not relevant when performance is the priority. Are these even applicable when performance matters? maybe not. For example, their networking model includes Kernel space switching will perform poorly. Minh replies that ALL the Models are included. Need to categorize into good/bad perf. Minh agrees.</p> <p>Performance Impacts: Major example is Number of Cores, which is not included in the Draft. Please add this. Minh agrees.</p> <p>Section 3 clarify the use of Containers and Pods - used interchangeably now. need to clarify</p> <p>Section 3 Some generalizations about CNI are not correct - Some CNI do not use user namespace</p> <p>Figure 1 What is Container Engine? is it Container Run-time.</p> <p>4.2 Some duplication on Container Network Plugin? Agree. Can use different CNI with same network Model - no difference. The SR-IOV networking model would make a big difference with other models, but CNI not so much. The Vswitch and the Networking model are closely tied together (Models with VPP are not possible with OVS, for example).</p> <p>Section 4.3 CNI does not create it's own switch functions Also, which of 5 networking models does Calico fall. Figures in Section 4.3. Normal Calico does not use eBPF Calico should fall in section 4.3.1 figure, but needs to be fixed. (remove "VSwitch") and add Kernel routing tables in the user space vswitch block.</p> <p>There was a Cilium eBPF scenario that was in the slides - this is not possible with the traffic gen and DPDK.</p>
Intern Update	S h i v a n k	<p>11 Jan 2023</p> <p>has connectivity working - should be finished by tomorrow.</p> <p>author of eBPF bridge says has same problem.</p> <p>Need to use Ansible for automation-this is key. There were some version issues, need older version?</p> <p>Plan is to Finish-up by Friday 13 Jan 2023 . We hope it will go well for you!</p>
Nile		<p>Need to update with changes in December (12/2 for stable/nile was too early).</p> <p>https://gerrit.opnfv.org/gerrit/c/releng/+73805</p>
UNH transition	All	<p>Given that our Pod terminated (time-out) is there any way to recover? Or better to start from scratch?</p> <p>Can automate the IP adrrs assignments for all the traffic links - How? Can Config.YAML really work? or is Ansible better?</p>
Testbed - IXIA support	S r i d h a r / A I	<p>Tim Gresham asks for resolution on this.</p> <p>If we can get it, do we want it? No good without license! So, is a license still valid or available for update?</p> <p>THEN - need to ship and install in UNH, get working there - IXIA help to do this.</p> <p>04 May 2022</p> <p>Trevor Cooper says connected and powered on, but we still might have a license issue. Need Pierre's help.</p> <p>11 May 2022 this activity seems to have stalled ...</p> <p>Pod 19 also not accessible - Dan Xu.</p>

(summary: items 5,6,and 7 lack the necessary automated address discovery feature, defer)

see [Nile Release Schedule](#) [Nile Release Progress page](#) M4 currently due on Dec 9, M5 due on Dec 16

1	Update OS versions https://jira.anuket.io/browse/VINEPERF-673	Tasks: 1. DPDK 2. Qemu 3. Operating Systems 4. Containers	Tasks 1, 3, and 4 have been completed/merged. Not doing 2. DONE		
2	Automate setting up eBPF-based CNIs - xdp, cilium, calico. https://jira.anuket.io/browse/VINEPERF-677	setup - xdp, cilium, calico.	Patch submitted patch, will request review.		
3	Improve the ViNePerf Build Stability https://jira.anuket.io/browse/VINEPERF-675	Starting from the build to the 3 environments 1. baremetal 2. openstack and 3. K8s	Testing in-progress: either run in OS or K8s - 2 and 3 are challenging and 3 is the priority.		
4	eBPF Metrics Collection https://jira.anuket.io/browse/VINEPERF-674	Task: Develop Tool to collect metrics from eBPF programs.	Existing tool, just running it with a script Skywalking from Apache skywalking-rover possible eBPF plugin in collectd - propose for barometer or KDDI -		
	<u>Tasks below are deferred from Moselle - likely Defer Again because container networking support is poor and requires significant work-arounds.</u>				
5	Epic-VINEPERF-652:Enhance XTesting-ViNePerf Integration	Moved to Next Release	depends on 7		
6	Task-VINEPERF-658:Enhance framework for XTesting-K8s Usecase	Partially done (reading results from output), Deployment tool.	1 task remains		
7	Task-VINEPERF-654:XTesting-ViNePerf Integration Enhancement - Kubernetes	Will not implement due to limitations with CNIs. Moved to Next release - if CNIs support this.	Need CNI to add flows automatically in Switches (Userspace-CNI, supports DPDK, OVS, VPP). Major impediment to integrate with X-Testing Sridhar will check with Xavier if ARP resolution is supported in Prox as a switch TBD		