

Proposed 2022 Work Under LF Mentorship Program

Title: XDP performance studies for cloud-native NFV Usecases.

Questions to Answer:





1. Can this be an alternative to DPDK based solutions?
2. What are the parameters that affect the performance - Golden Configuration
3. What are the right test methodologies?
4. What are the right test-tools - Traffic Generators with test traffic measurements, Packet Forwarders, etc.

Duration: 3 to 6 months. 3 if full-time, 6 if part-time.

Expected Skillset: Linux and Linux Kernel. Some experience with data plane performance testing is desirable.

Number of Students: 1 or 2.

Related Works:

Title	Paper	Comments
Building Hybrid Virtual Network Functions with eXpress Data Path	 1570564079.pdf	SR
Performance Evaluation of eXpress Data Path for Container-Based Network Functions - Thesis	 master_Ö...2021.pdf	
An In-Kernel Solution Based on XDP for 5G UPF: Design, Prototype and Performance Evaluation	 Paper__A...ation.pdf	acm
Demystifying the Performance of XDP BPF	 hohlfeld2...fperf.pdf	FP

<p>A Framework for eBPF-Based Network Functions in an Era of Microservices</p>	 <p>2021-polycube.pdf</p>	
<p>Maryam Tahhan joins the (Net LOL) crew to talk XDP, AF_XDP, and fast networkinghttps://www.youtube.com/watch?v=7ZXbQldUwkl</p>		
<p>Intel plug-in for k8s</p>	<p>https://github.com/intel/afxdp-plugins-for-kubernetes</p>	