Title: Disaggregating Network Packet Broker (NPB) using Programmable Chip and Open Source Software

Abstract:
High-end Network Packet Broker (NPB) is a proprietary and multi-million dollar network appliance to aggregate, packet-process and distribute traffic from production network to out-of-band network analyze tools. In this talk, we share an experience on P4 (a high-level data-plane programming language) and Barefoot Tofino (Programmable Ethernet Switching ASIC) to implement npb.p4-16. It includes not only basic features of NPB such as filtering and load balancing, but also Telco specific features including GTP inner header based load balancing and 64b h/w timestamping. Soon npb.p4-16 will include h/w metadata generation and GTP session aware traffic steering and load balancing which are now experimenting. We share our current status of npb.p4-16 going to production. Finally, we will introduce and want to discuss a research topic to support more advanced features such as regex matching and packet deduplication using FPGA.