

Switch ASIC programmability in hybrid mode

Abstract - Programmable switch ASIC allow the data plane of switches to support new technologies, like VNF offloading, customized tunnels and In-band telemetry

In this talk we will propose a new concept “ASIC programmability in hybrid mode”

Keeping all the legacy HW pipeline and control protocol functional E.g routing, bridging ... while providing a way to extend it

We will discuss hybrid mode motivation and use cases,

Requirements from the HW switch ASIC, programing language, data plane API and Network OS in order to achieve this goal

In addition we will present a demo of this concept using Mellanox programmable switch ASIC, P4-16 programing language, SAI Flex API and SONIC Open network OS

Speakers:



Matty Kadosh is a principle architect at Mellanox where he works on various networking components focusing on switch ASIC programmability.



Alan Lo is a senior software architect at Mellanox Israel working on Data Center architecture and programmable dataplanes. Previously, he spent 7 years at Cisco as a subject matter expert in compilers, DPI and security applications. He developed hard -time systems at KOR/Mercury systems and 3D CAD libraries at Spatial/Dassault. He holds a PhD in Chemistry and a MSc. In Computer Science from the University of Colorado at Boulder.



Guohan Lu leads the software engineering team responsible for Microsoft Software for Open Networking in the Cloud (SONiC). He works closely with various switch and ASIC vendors in the OCP community on SONiC and SAI development. Previously, he was a researcher in Microsoft Research focusing on Data Center Network architecture and protocols.