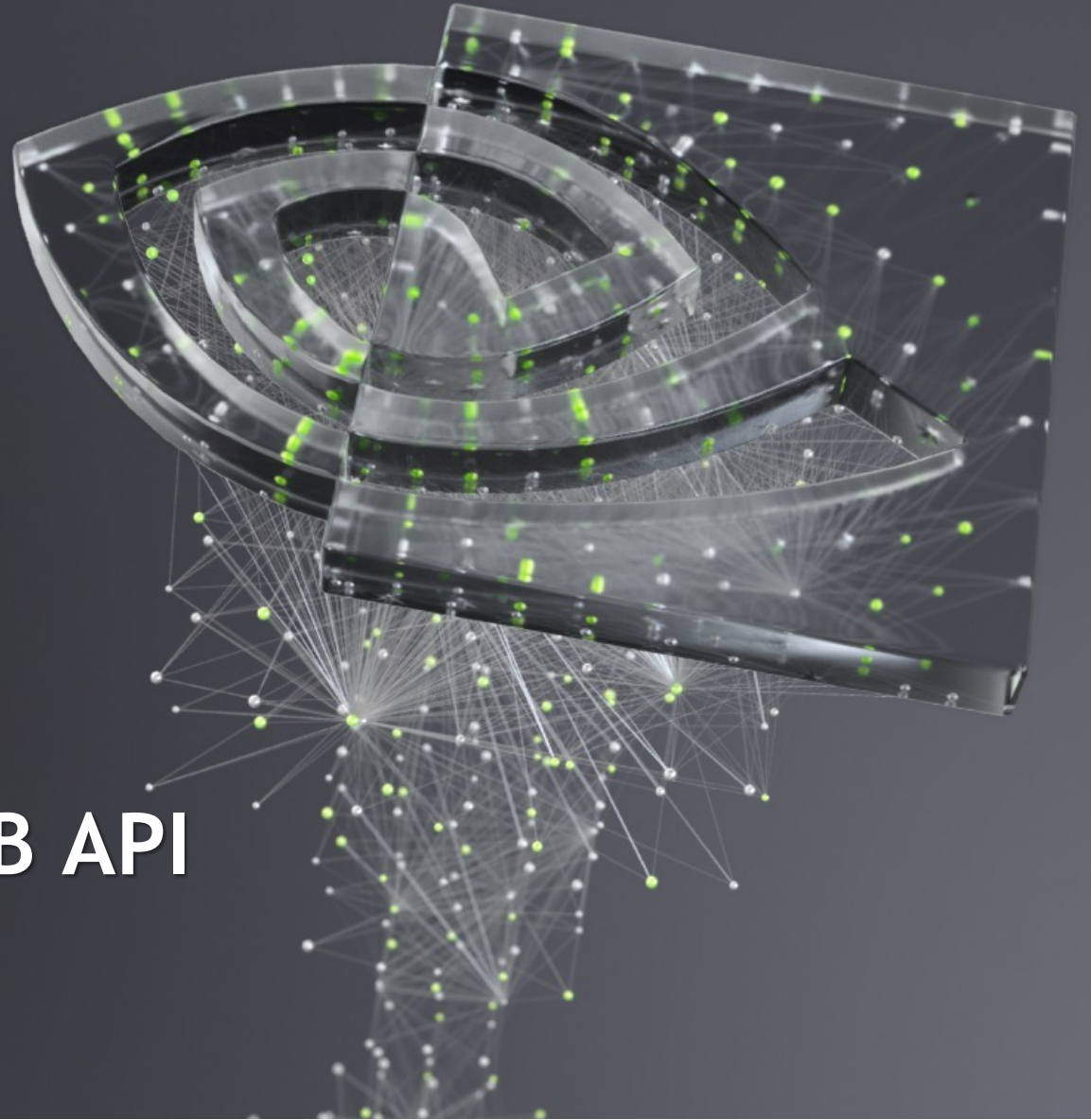




OPI NETWORKING NB API

Aug '22



OPI NB NETWORK API

What are the requirements?

There are 3 level of DPU concerning networking APIs :

1. Basic networking configuration (e.g. ports, MTU, IP) of both physical and virtual ports
2. Switch data-plane and flow configuration (e.g. NAT, policy forwarding)
 - Low frequency of updates with high propagation delay (e.g Pods/VM creation/deletion, tenancy changes)
3. DPU application API (e.g. Firewall)
 - Apps are written over multiple APIs, including vendor specific and standard ones (e.g P4, TC, DPDK, DoCA Flow)
 - A specific APP API will be chosen based on performance and HW efficiency (e.g packet rate, rule insertion rate)

Which ones are we aiming to define?

NVIDIA'S PROPOSAL

OPI will only standardize the NB API

Service implementation will be vendor specific

OVS is widely used in the cloud industry; therefore, we suggest to use its APIs:

- **OVSDB** for basic networking configuration
- **OpenFlow** for switch data-plane and flow configuration

DPU application API :

- Using **multiple APIs** - TC, DPDK, DoCA Flow, P4, etc.

