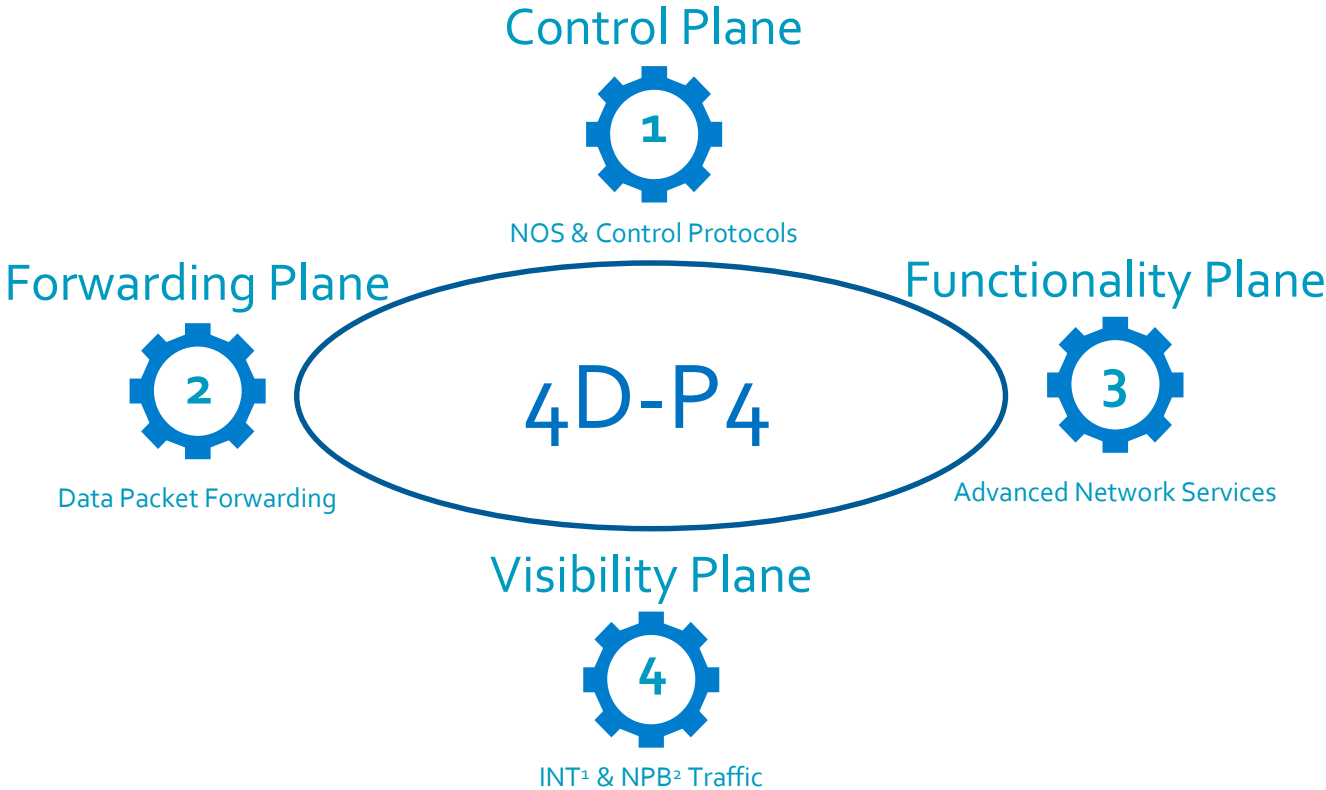




The 4-Dimensional P₄ Switches Basic Introduction

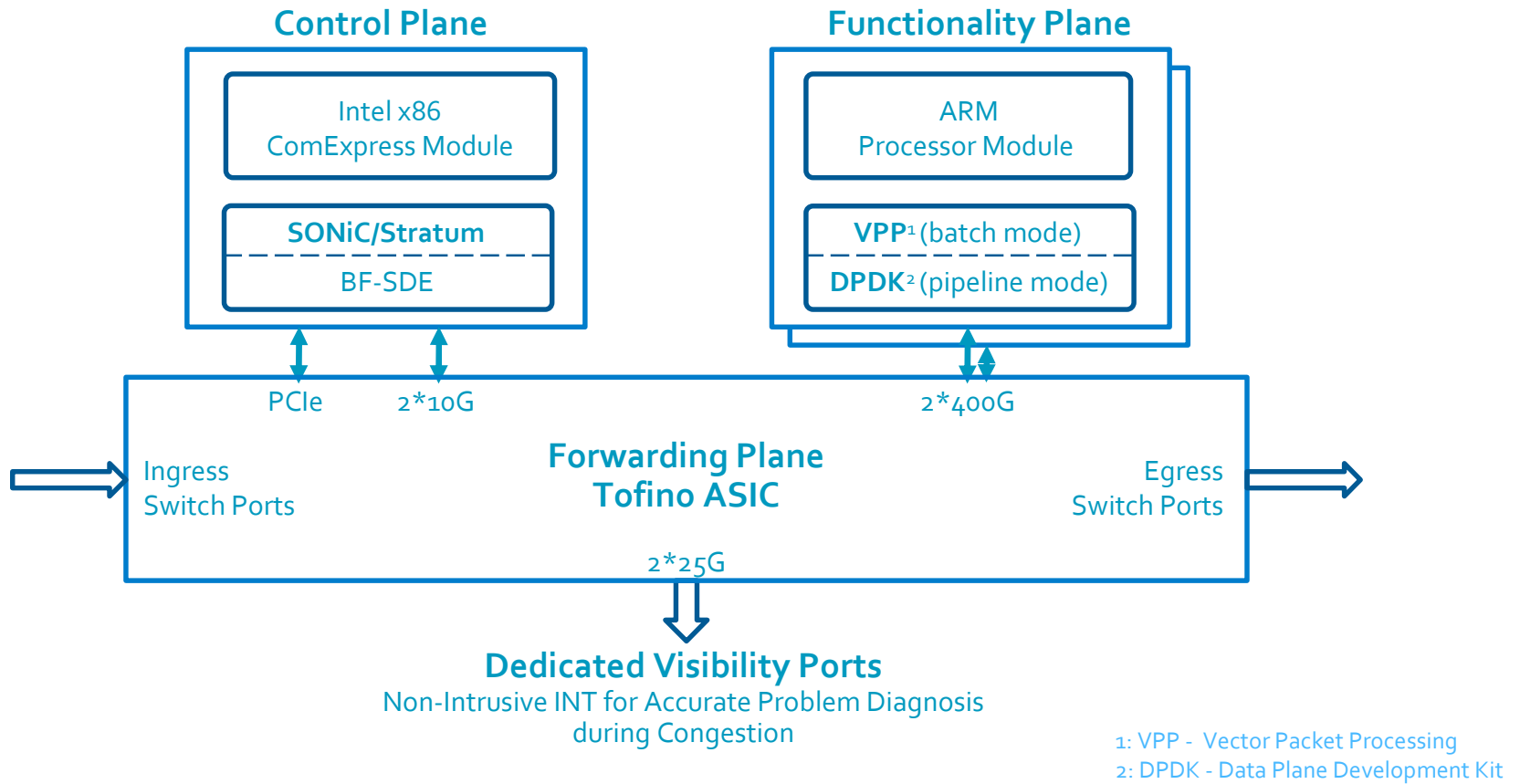
Paul Chang
CTO, AsterFusion Data Technologies

4D-P₄ Switch - Dimensions



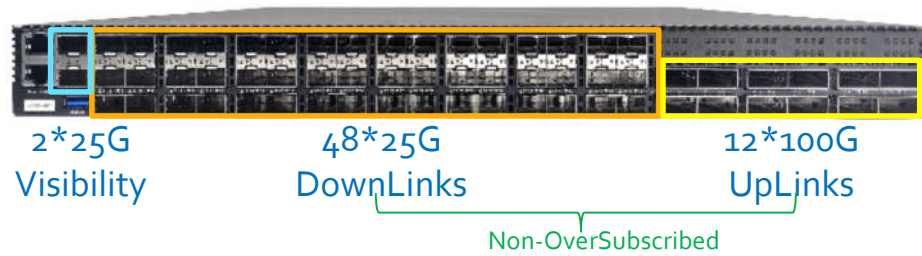
1: INT - Inband Network Telemetry
2: NPB - Network Packet Broker

4D-P4 Switch - Architecture

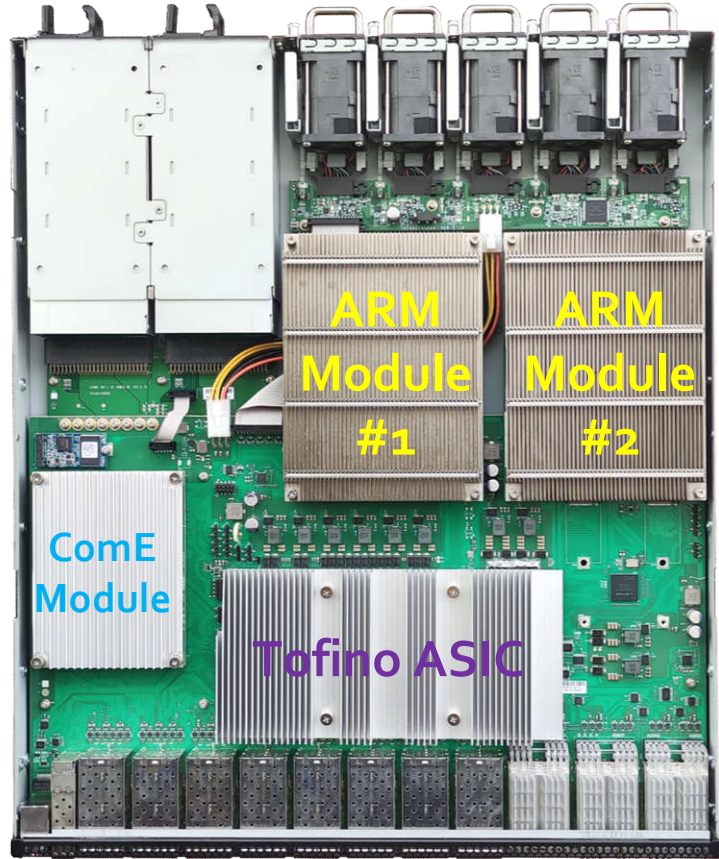
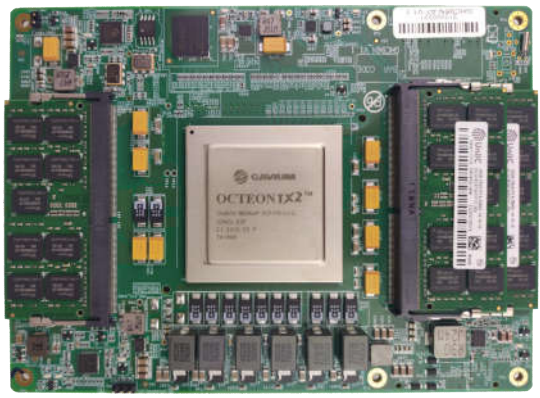


4D-P4 Switch - Product

X312P-48Y-T



ARM Module
Octeon TX2: g670 + upto g6-GB DDR4



4D-P4 Switch - Services

Network Services	Forwarding Plane	Functionality Plane	Visibility Plane	Control Plane
Fabric μ Burst Mitigation	Regulated Traffic	Overflow Traffic	INT & SPAN	SONiC
10-Million Flows SLB	10^{10} Data Flows	10^{11} Trans Flows	INT & SPAN	SONiC
HCI ¹ NFV Gateway	SFC ² Flows	NFV Services	SPAN	SONiC
5G-UPF MEC ³ Switch	uLLC, eMMB	10^{11} mMTC, DownLink-eMMB	SPAN	PFCP
Compr. NPB Switch	INT: PostCard NPB: Flow Aggr/LB, etc	NPB: SSL, DeDup Obfuscation, etc	INT & NPB	Stratum

1: HCI - Hyper-Converged-Infrastructure

2: SFC - Service Function Chaining

3: MEC - Multi-access Edge Computing

4D-P4 Switch - Product Line

Switching Platforms



	X312P	X532P	X564P
Deployments	TOR/Access (2 pluggable ARM modules)	Spine/Aggregation	
Connections	12*100G+48*25G+(2*25G) ¹	32*100G+(2*25G) ¹	64*100G+(2*25G) ¹

¹: Visibility Ports

Software Frameworks



Open Software	Control Plane SONiC/P4-RunTime	Functionality Plane DPDK/Debian	Fabric Controller OpenStack/VMware
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4D-P₄ Switch - Summary

Combination
of
4D-P₄ Switches & Open Software Frameworks



Innovation Platform
for
Intellectual Property & Investment Protection



Thank You

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<https://asterfusion.com/index.php/en/>