

ARM NEOVERSE

The Cloud to Edge Infrastructure Foundation
for a World of 1T Intelligent Devices

Jack Liu, Arm China
11/29/2018

Arm #1 market share in Infrastructure!



- Top-of-Rack Switches



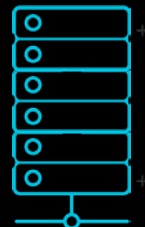
- Cellular Base Stations



- Gateways

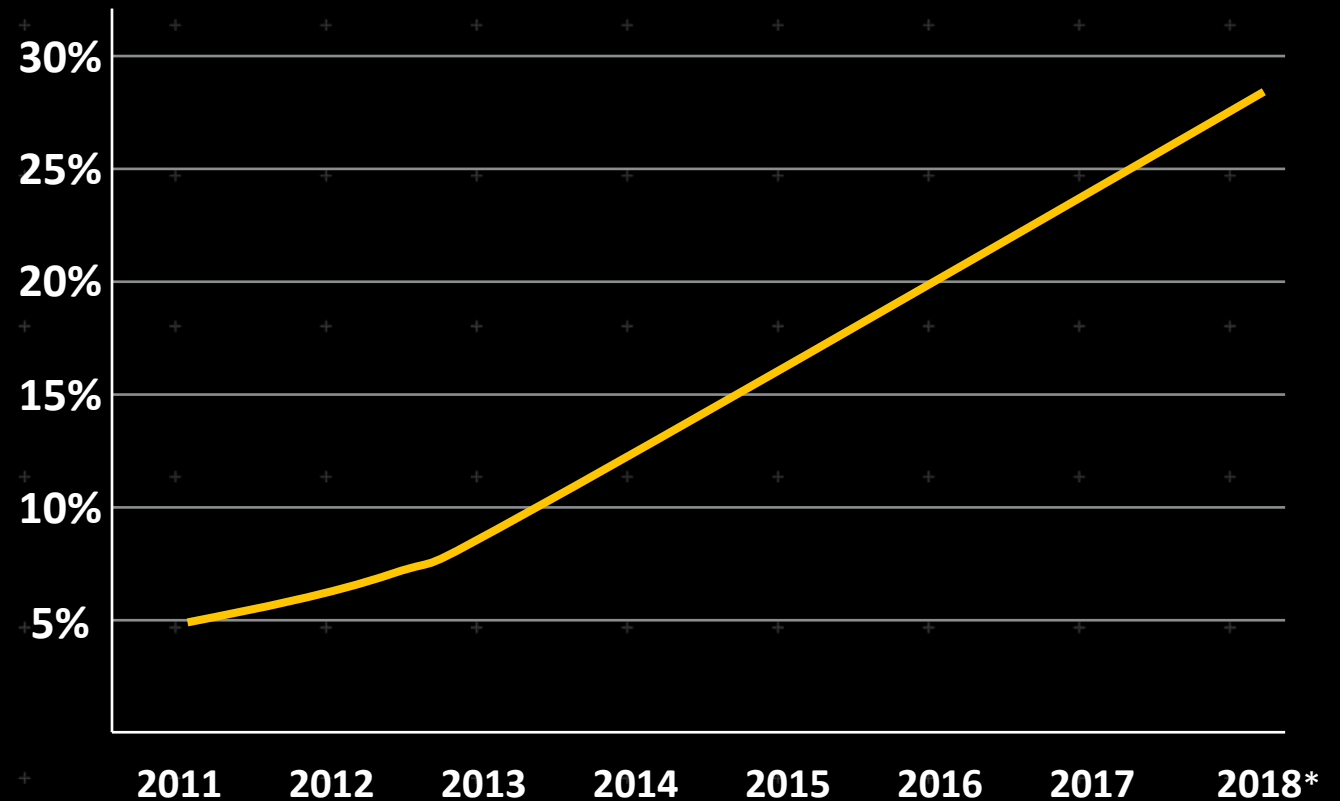


- WAN Routers



- Servers

Infrastructure Processor Unit Market Share



Source: IDC and Arm *thru 6/2018

What is Arm Neoverse?

What?



- A new vision - the cloud to edge infrastructure foundation for a world of 1T intelligent devices.
- A new brand - dedicated to infrastructure, a new brand as Arm Cortex.
- A new roadmap of processors dedicated to infrastructure and achieving 30 percent annual system performance gains
- Broad ecosystem support from microarchitecture to hardware, software, tools, and services

Why?



- To enable a new cloud to edge infrastructure designed to support the demands of a trillion intelligent devices

arm NEOVERSE

The Cloud to Edge Infrastructure Foundation for a World of 1T Intelligent Devices



High Performance, Secure IP and Architectures



Diverse Solutions and Ecosystem



Scalable from Hyperscale to the Edge

arm NEOVERSE

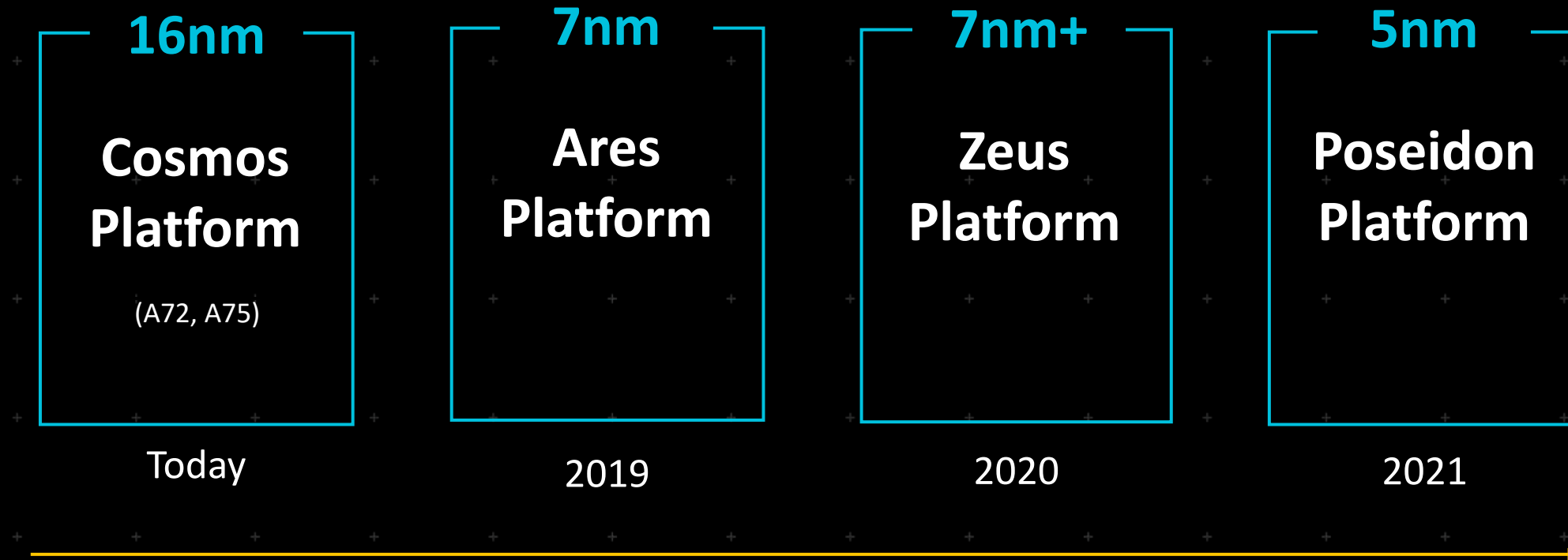
The Cloud to Edge Infrastructure Foundation for a World of 1T Intelligent Devices

High Performance, Secure IP and Architectures

Diverse Solutions and Ecosystem

Scalable from Hyperscale to the Edge

Arm Neoverse Infrastructure IP roadmap leverages world-class process technology



~30% per Gen Faster Performance & New Features



arm NEOVERSE

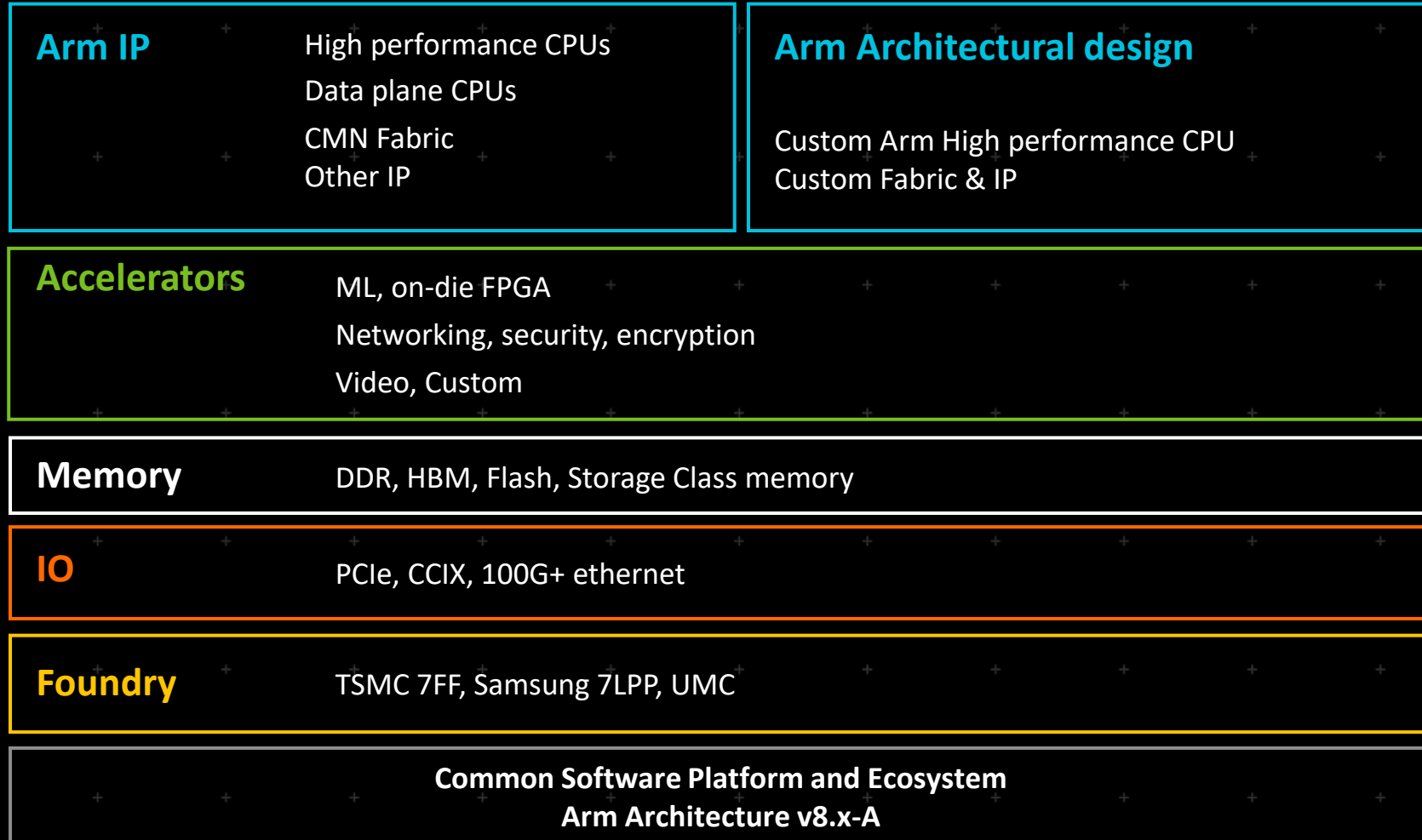
The Cloud to Edge Infrastructure Foundation for a World of 1T Intelligent Devices

High Performance, Secure IP and Architectures

Diverse Solutions and Ecosystem

Scalable from Hyperscale to the Edge

Broad SoC system design options within Arm Ecosystem





arm NEOVERSE

The Cloud to Edge Infrastructure Foundation for a World of 1T Intelligent Devices

High Performance, Secure IP and Architectures

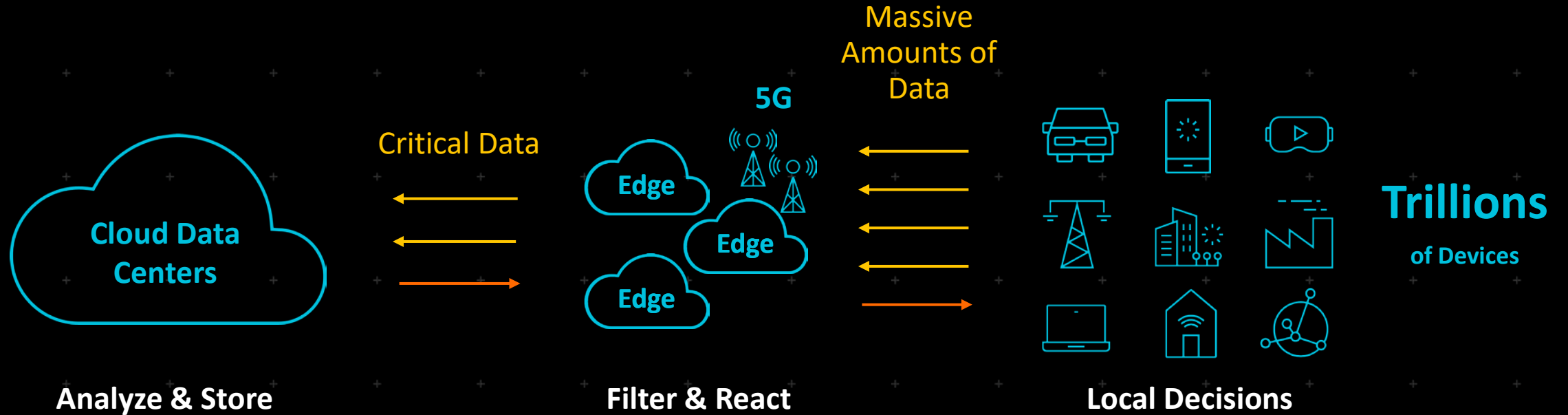
Diverse Solutions and Ecosystem

Scalable from Hyperscale to the Edge

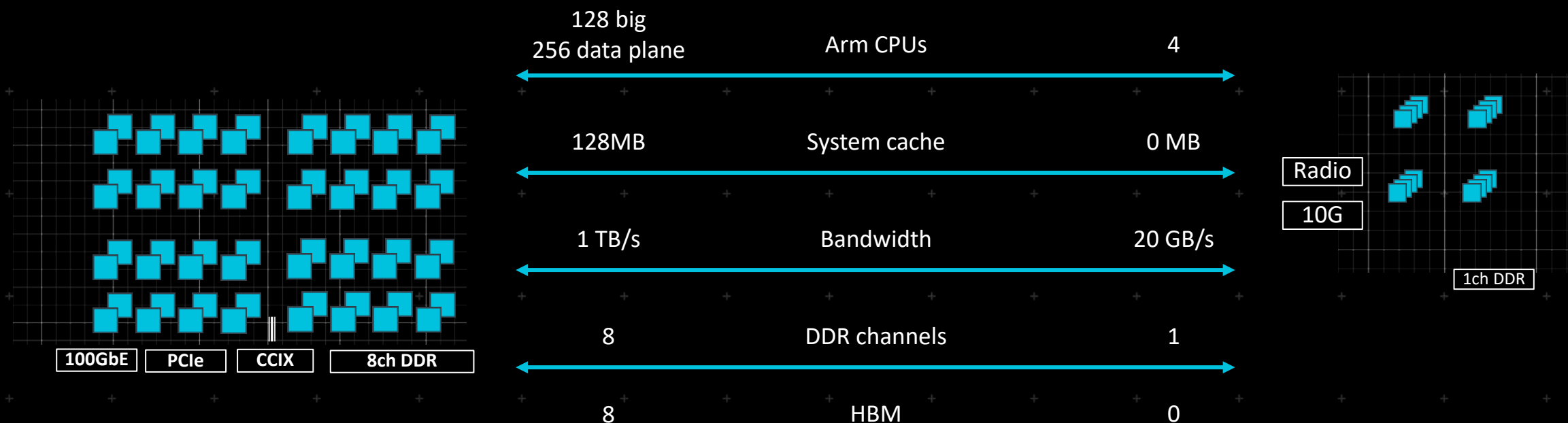
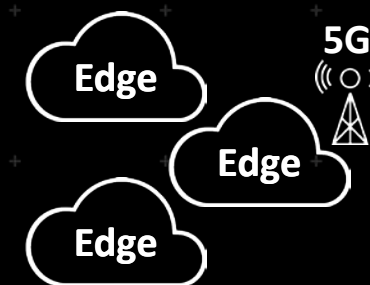
Media content distribution and consumption drive today's Internet infrastructure design



Data consumption is driving future designs



Scalable system solutions from cloud to edge



Edge compute solutions

Scalable system

4x4 mesh

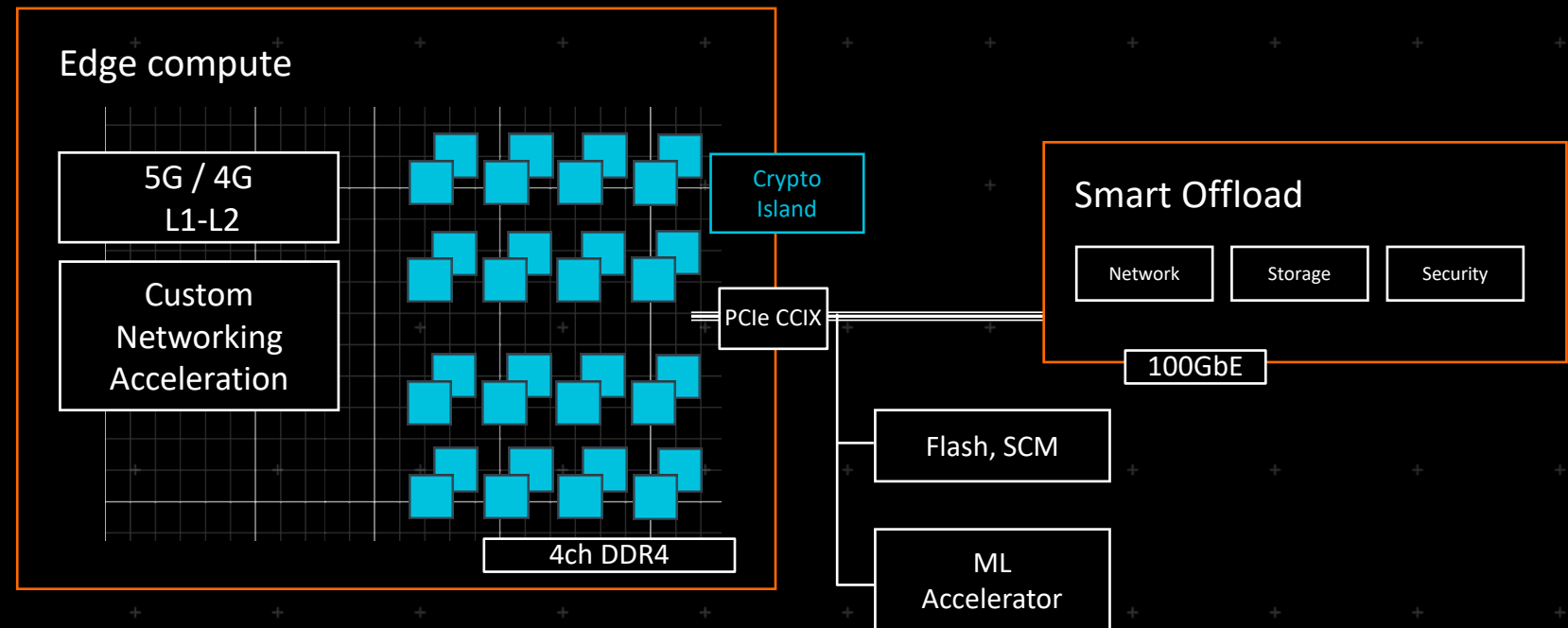
32 CPU

32MB system cache

Workloads

Virtual network functions,
flexible orchestration

Arm enables custom acceleration
Perf/W enables more compute at the edge



Cloud compute solutions

Scalable system

8x8 1TB/s mesh

48, 64, 96 CPU

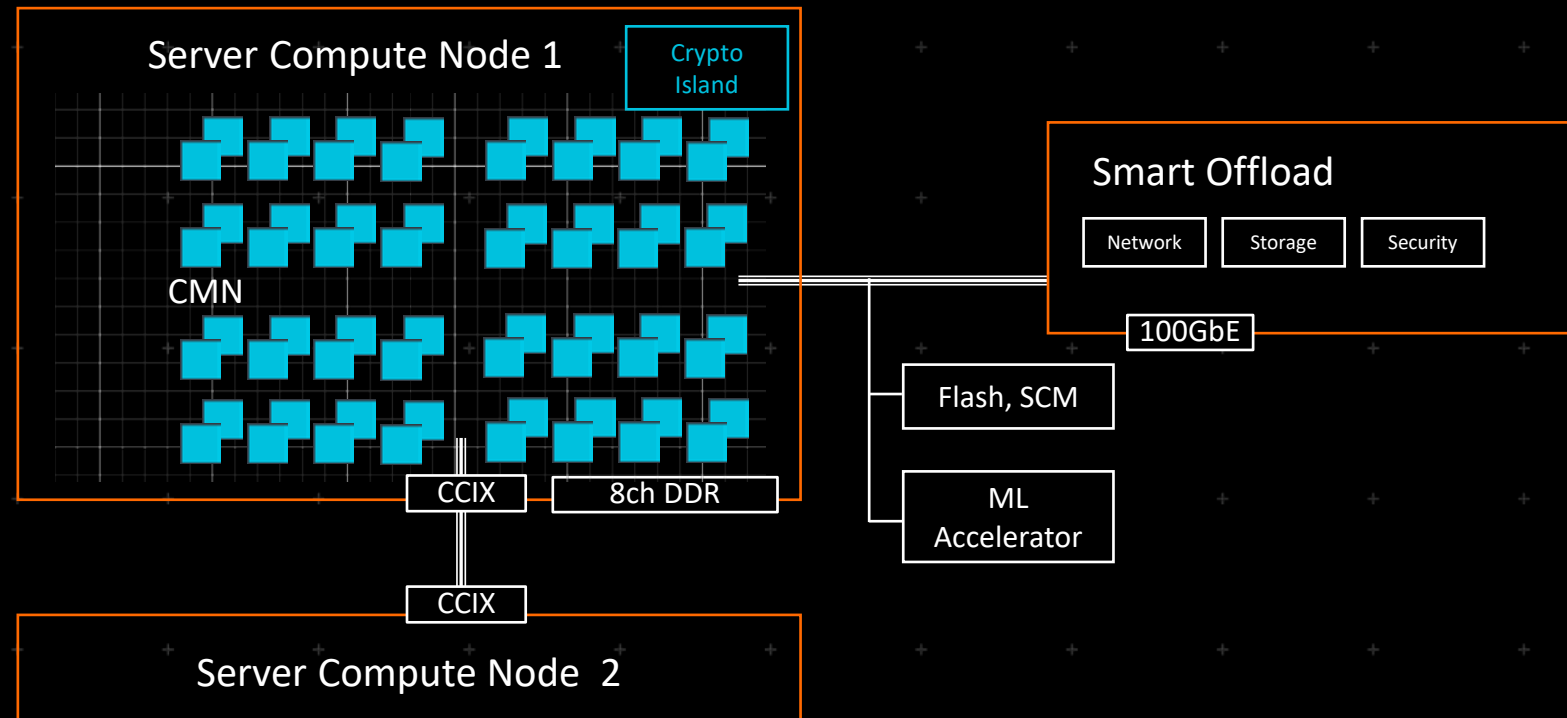
64MB system cache

Multi-socket

Workloads

Java, NGINX, Docker,
Kubernetes, DB, Hadoop,
Ceph, etc.

Arm enables more performance per socket
48, 64, 96 Arm cores per socket



Networking, storage, & security accelerated processing

Scalable system

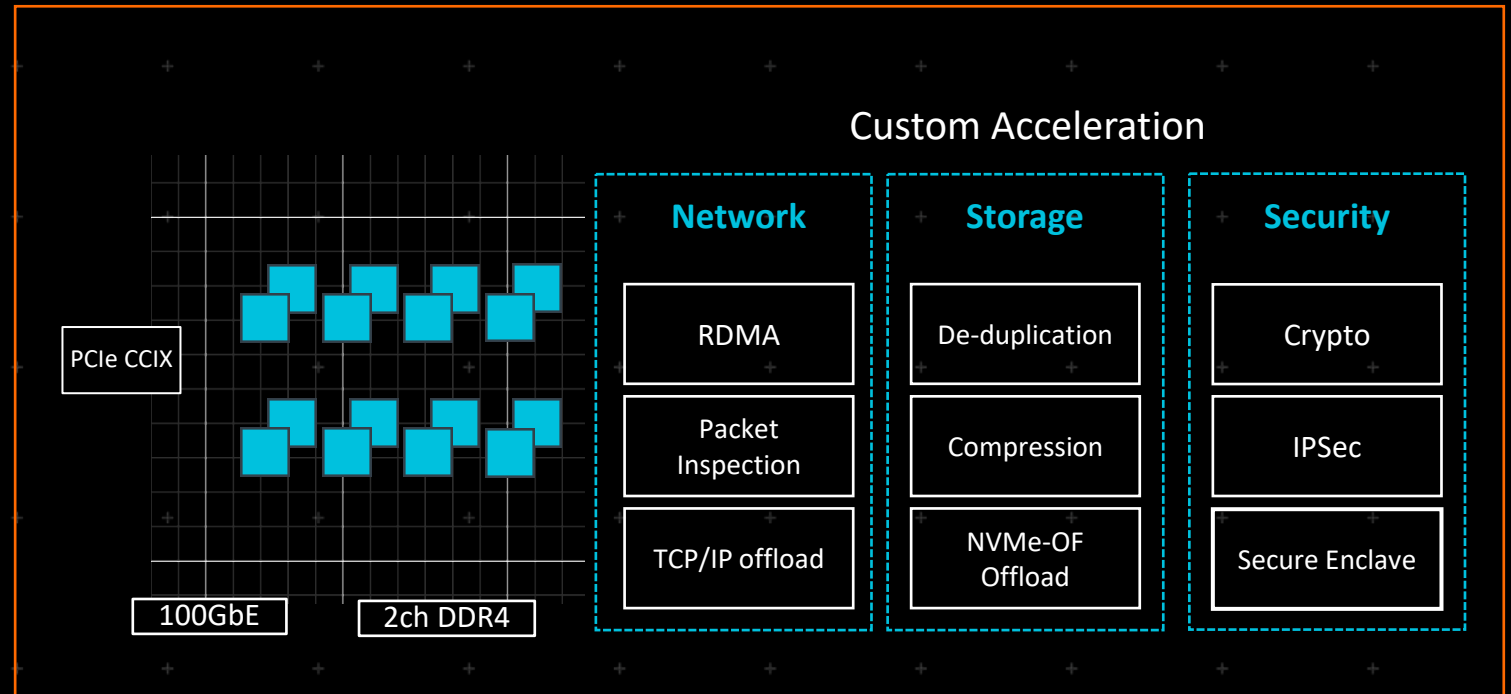
2x4 to 4x4 mesh

16~24 CPU

16+ MB system cache

Workloads

OVS, IPSec, RoCE, NFV, software defined network/storage



Endorsed by a robust ecosystem

Silicon



Cloud










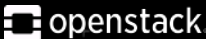














Platforms



Operators



Endorsed by a broad and growing open networking and server ecosystem

Operating Systems	Container & Virtualization	Language & Libraries	Dev Tools & Resources	Open Source Projects Server & Networking
 redhat.  SUSE  ORACLE  CANONICAL	 docker.  vmware  Xen Project  openstack.  kubernetes  ceph  KVM	 OpenJDK  GO  python  node.js	 shippable  codefresh  Works on arm  VEXXHOST	 Linaro  LF NETWORKING  CLOUD NATIVE COMPUTING FOUNDATION

arm NEOVERSE

The Cloud to Edge Infrastructure Foundation for a World of 1T Intelligent Devices



High Performance, Secure IP and Architectures



Diverse Solutions and Ecosystem



Scalable from Hyperscale to the Edge

THANKS!