OutSys

Hardcoded Quality

EncapsOS-GRE

About Us

OutSys

OutSys delivers innovative carrier-grade solutions and services to implement, simplify, and speed up the integration, provisioning, management, and testing processes in the Broadband Service Providers Networks and their Information Technology Systems

Active Member of the Broadband-Forum

EncapsOS-GRE

Generic Routing Encapsulation Gateway

EncapsOS-GRE is part of the Edge & Core Network Solutions PortfoliOS

Main Features

High Performance, Carrier-Grade, and Cloud-Ready

Built on Off-the-Shelf Hardware and Open Software Standard Platforms

RFC 2784, 2890 & L2 Ethernet over GRE Compliant

Easy and flexible deployment, configuration, and management

Competitive Advantage

Although most of the routers can act as GRE gateway, the number of concurrent sessions is limited to few dozen since these operations are performed by the router's CPU

Due to its SDN/NVFI architecture, the concurrent GRE sessions supported by the EncapsOS-GRE are limited by the available bandwidth only

Control Plane

OA&M: CLI, HTTP, SNMP and NETCONF

System & Lawful Logging: Syslog

Monitoring: Node Exporter

Alarms: Syslog, SNMP

Routing: Static, OSPF and BGP

encapsulation and base mechanism as 6to4

User & Data Plane

Layer-2 Ethernet over GRE

Layer-3 GRE IPv4 Tunnels

Layer-3 GRE IPv6 Tunnels

Element Manager

Centralized Extensible Carrier-Grade Configurator with standard REST-APIs for an easy seamless integration with the BSP's OSS infrastructure

Performance Monitoring

Integrated RFC 8072 Simple Two-Way Active Measurement Protocol (STAMP) Reflector

For Performance and Service Level Agreement (SLA) Monitoring

Network Softwarization

EncapsOS-GRE, leveraging on the Network Softwarization paradigms applied in SDN and NVFI, can be easily customized to fit any BSPs needs

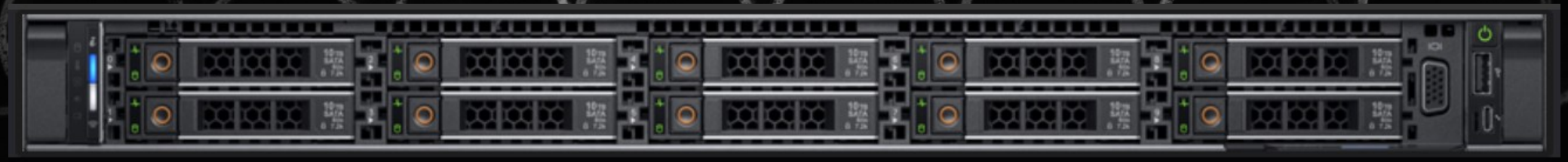
Link Bonding

Supported Physical Link Bonding:

Transparent, IEEE 802.3AD, Round-Robin, Active Backup, Balance XOR, and Broadcast

Performance

Wirespeed:
up to 200Gbit FDX on PCIe 4.0 Server
up to 400Gbit FDX on PCIe 5.0 Server

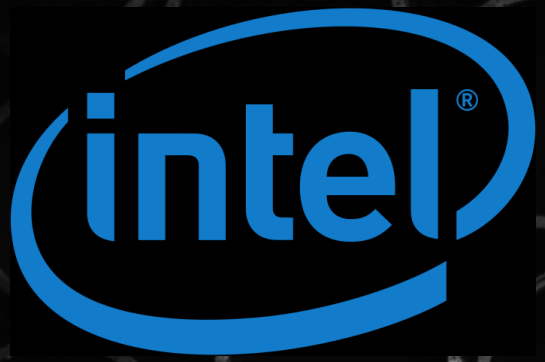


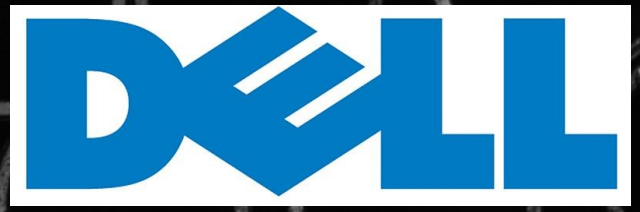
Internet Mix Size & Distribution
Per Socket/NUMA/NIC

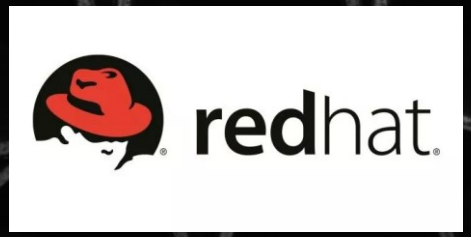
Port Combination & Density

On a 1u, 2 Socket, PCIe 5.0 Server several port combinations are available: from 16x10Gbit to 2x400Gbit

H&S Multivendor Solution







Software – OS

EncapsOS-GRE runs on all the major Linux distros:

Red Hat, CentOS, Rocky, SuSe, Ubuntu, Debian, etc.

From Kernel 3.x

Software – DPDK

Data Plane Development Kit

is a set of libraries designed to accelerate packet processing workloads

It supports a broad range of Network Interface Controllers (NICs)

Cloud Ready

Linux & DPDK are the Building Blocks of most Network Virtualization Environments

EncapsOS-GRE can run as guest on any Hypervisor that supports SR-IOV such as: KVM, VMware ESXi, etc.

Hardware – Server

Architecture: Intel/AMD x86-64

Bus: PCIe 4.0 x16 – Memory: DDR4/3200
Bus: PCIe 5.0 x16 – Memory: DDR4/4800

Vendors: DELL, HP, SuperMicro, etc.

Hardware – NIC

NVIDIA Mellanox Ethernet
ConnectX-6/7 – PCIe4/5
10/25/40/50/100/200/400 GbE

Intel Ethernet
700/800 Series NICs – PCIe3/4
10/25/40/50/100 GbE

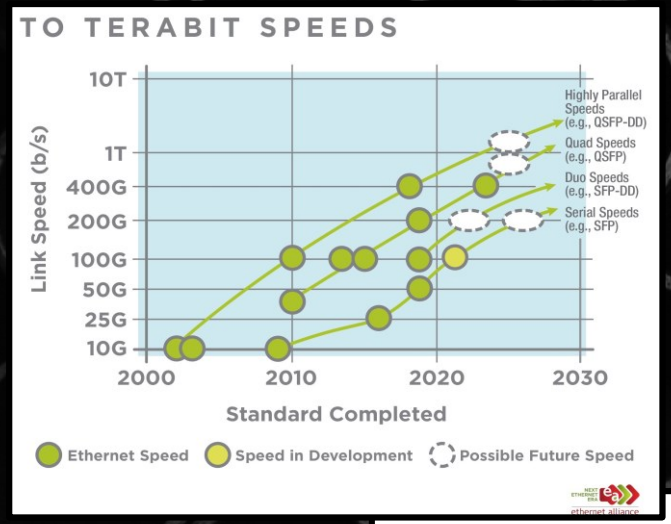
also Broadcom, Cisco, etc.

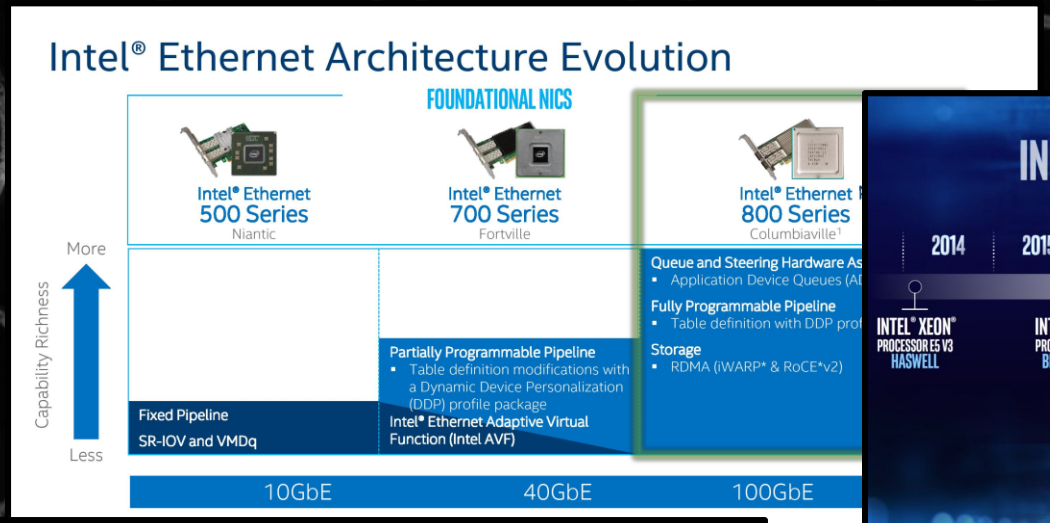
Future-Proof

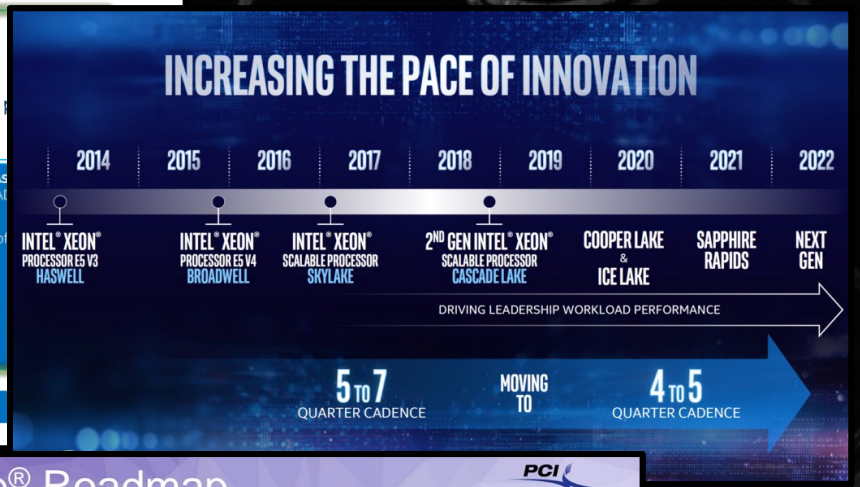
DPDK is a
“The Linux Foundation”
project

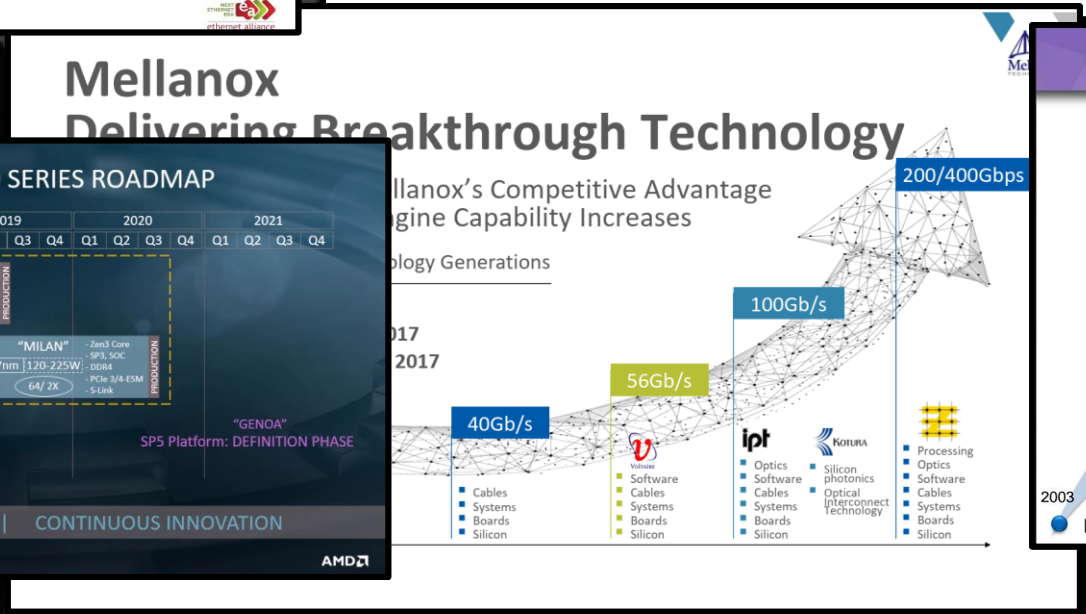
Data Processing Units (DPU)
Smart NICs equipped with FPGA
are coming

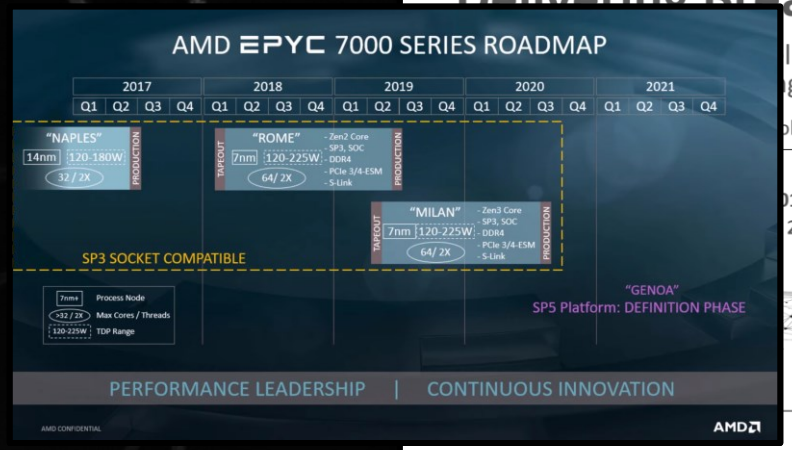
Leveraging Moore's Law

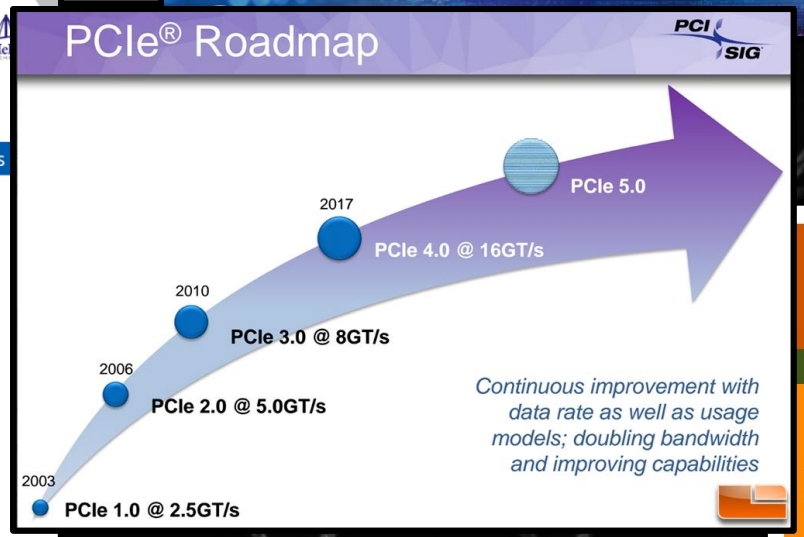


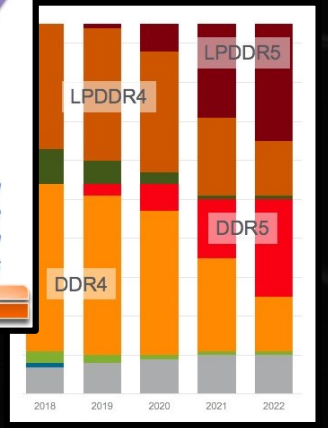












New Hardware Readiness

Off-the-Shelf Hardware and Standard Software Platforms enable the fastest integration of new hardware

Near Future:
Bus: PCIe 6.0 x16 – Memory: DDR6/4xxx
800GbE NIC Ports

ARM Architecture and CPUs

Contacts

web: https://www.outsys.com

e-mail: info@outsys.com

Thank You