OPEN Compute Summit

Re-architecting the Datacenter

OCP Solutions for the Digital Services Economy

Jason Waxman
Intel Corporation
VP, GM, Cloud Platforms Group

History of Commitment to Open Computing

Founding Member of OCP

14 Contributions and Enablement

>40 Products with Partners

Re-architect Compute

Server Platforms

- Panther (Atom™)
- Leopard (Xeon®)
- Decathlete 2.0 *New*
- Winterfell 3.0 *New*

Adoption

Bloomberg · Goldman Sachs · Riot Games

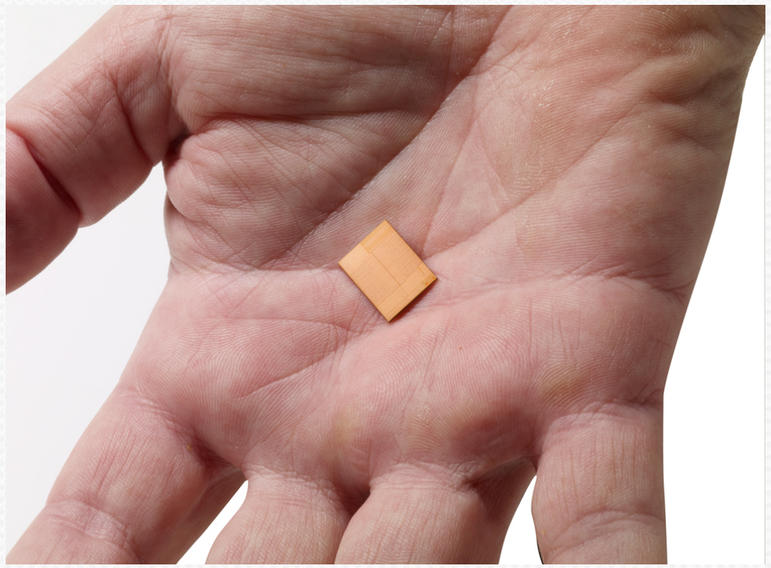
Partners

DELL · hyve solutions (A Division of SYNNEX Corporation) · QCT Quanta Cloud Technology · zt Systems · hp · Microsoft · Penguin Computing · wiwynn

Introducing the Intel® Xeon® Processor D-1500

The Seed of Innovation

Intel® Xeon® Processor D-1540 and D-1520



Two Optimized SoCs Available Today

- D-1540 (8c/16t, 2GHz, 45W), D-1520 (4c/8t, 2.2GHz, 45W)

Xeon® Performance

- Up to **3.4**x[1] better performance
- Up to **1.7**x[1] better performance/watt

Integrated I/Os, 2x 10GbE Intel® Ethernet

- Up to **5x**[2] better network bandwidth
- Integrate I/Os (24x PCIe 3, 8x PCIe 2, 6x SATA3, 4x USB etc.)

Enhanced Memory Architecture

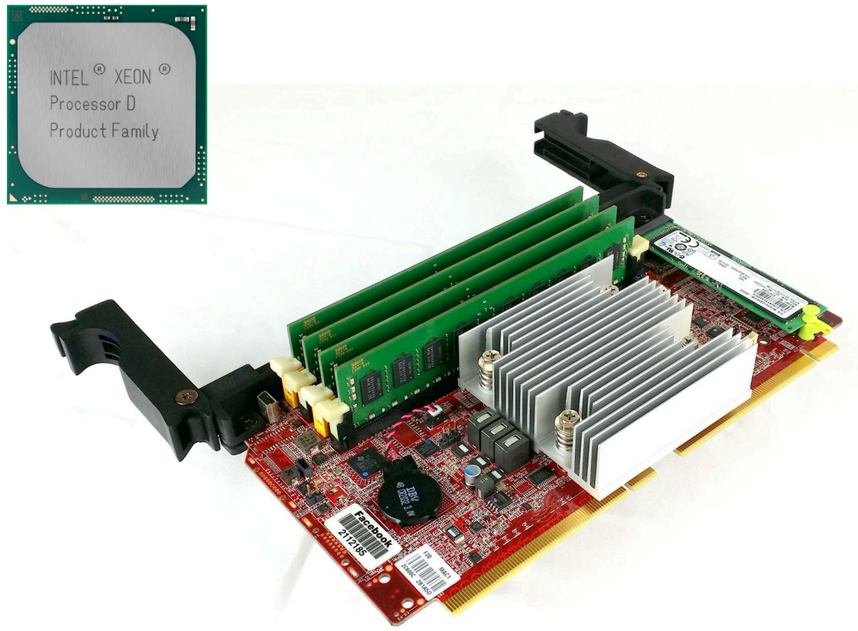
- L3 cache (up to 12Mb), DDR4 (2 channels)
- 128 GB addressable memory

Compared to Intel Atom™ C2750 | Up to 3.4x better performance and perf/watt on Dynamic Web Serving
Intel® Xeon Processor D-based reference platform with one Pre-Production Xeon Processor D (8C, 1.9GHz, 45W, Turbo Boost Enabled, Hyper-Threading enabled, 64GB memory (4x16GB DDR4-2133 RDIMM ECC), 2x10GBase-T X552, 3x S3700 SATA SSD, Fedora* 20 (3.17.8-200.fc20.x86_64, Nginx* 1.4.4, Php-fpm* 15.4.14, memcached* 1.4.14, Simultaneous users=43844
Supermicro SuperServer* 5018A-TN4 with one Intel Atom Processor C2750 (8C, 2.4GHz,20W), Turbo Boost Enabled, 32GB memory (4x8GB DDR3-1600 SO-DIMM ECC), 1x10GBase-T X520, 2x S3700 SATA SSD, Ubuntu* 14.10(3.16.0-23 generic), Nginx* 1.4.4, Php-fpm* 15.4.14, memcached* 1.4.14, Simultaneous users=12896 2 Calculated bandwidth – 1 Gbps x 4 for Atom C2750..10 Gbps x 2 for Xeon D-1540 = 5x increase in bandwidth.

Monolake board for Intel® Xeon® Processor D-1500

Monolake Specs

- Modular Board Form factor design
- IO interfaces : Dual 10 GbE LAN
- 6 x 4PCIe Gen 3, SATA 3.0
- Up to 128GB with 4 DDR4 DIMMs
- M.2 SSD (SATA/PCIe) as local storage



Unlocking HPC on OCP

HPC Platform

OCP Open Rack 1.0 Design

+

Intel Adams Pass Board *New*

Next-gen Intel® Xeon Phi™ (Knights Landing)
Compliant to OCP Open Rack 1.0

+

Knights Landing Processor

3+ TeraFLOPS of double-precision peak theoretical performance per single socket node

Board Specs

Six-channel Native DDR4 (1866/2133/2400MHz)

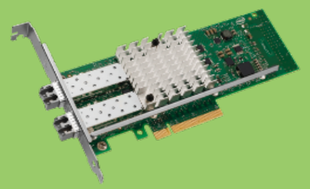
Integrated 36 Lanes PCI-E Gen 3 I/O

Form Factor: 4.17”L x 6.81”W

Re-architect Network

Network

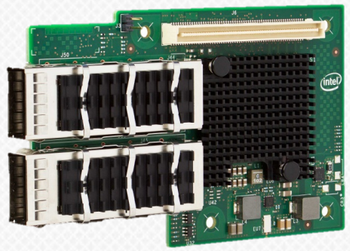
ToR Switch Specs Contribution



10GbE OCP Adapter

40GbE OCP Adapter *New*

Supports OCP 2.0 Design Spec



100GbE Switch Silicon *New*

Enabling innovative rack architectures

Intel® ONP Server SW

Xeon E5-v3 NFV solution based on Decathelete 2.0

Intel® ONP Switch SW *New*

Open source Linux driver available in 2015 for the 100GbE Switch launch

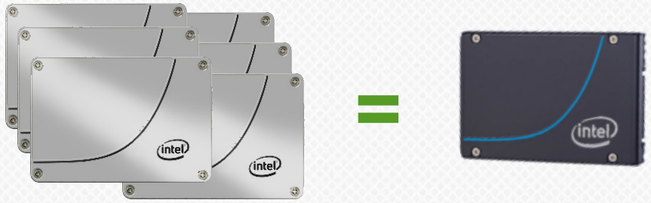
Re-architect Storage

Storage

Panther Contribution

HoneyBadger

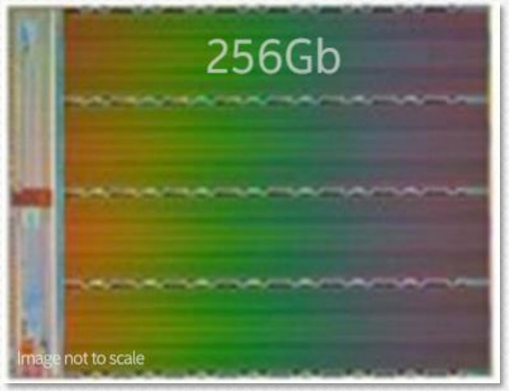
Intel NVMe SSDs



6 SATA SSD = *1 NVMe PCIe*

11M IOPS in 10 cm
Capacity: 48 TB

Intel 3D NAND



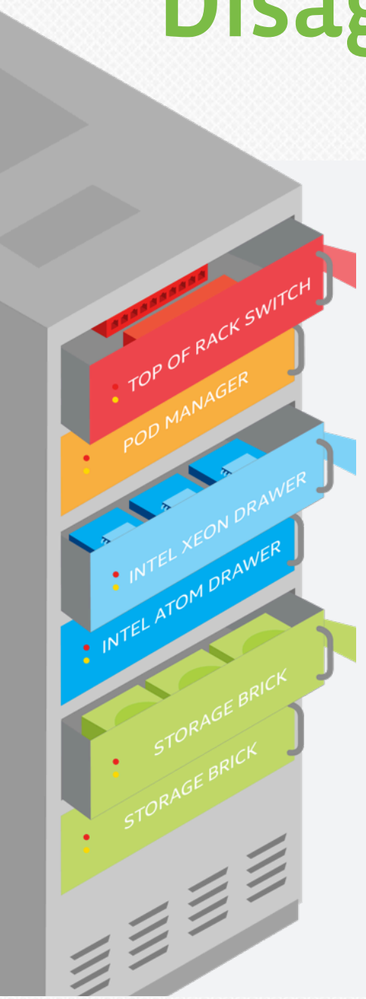
>10TB in a SSD

1 TB in 2mm

2x bits per die

Intel Rack Scale Architecture

Disaggregate, pool, and compose resources



Available today

- High-density multi-node platforms, shared power and cooling

RSA developer support program *New*

- Specs, design guides, reference code

Adopt industry standard API's

- Learn more about Redfish RESTful HW Management API's

Adoption

Partners

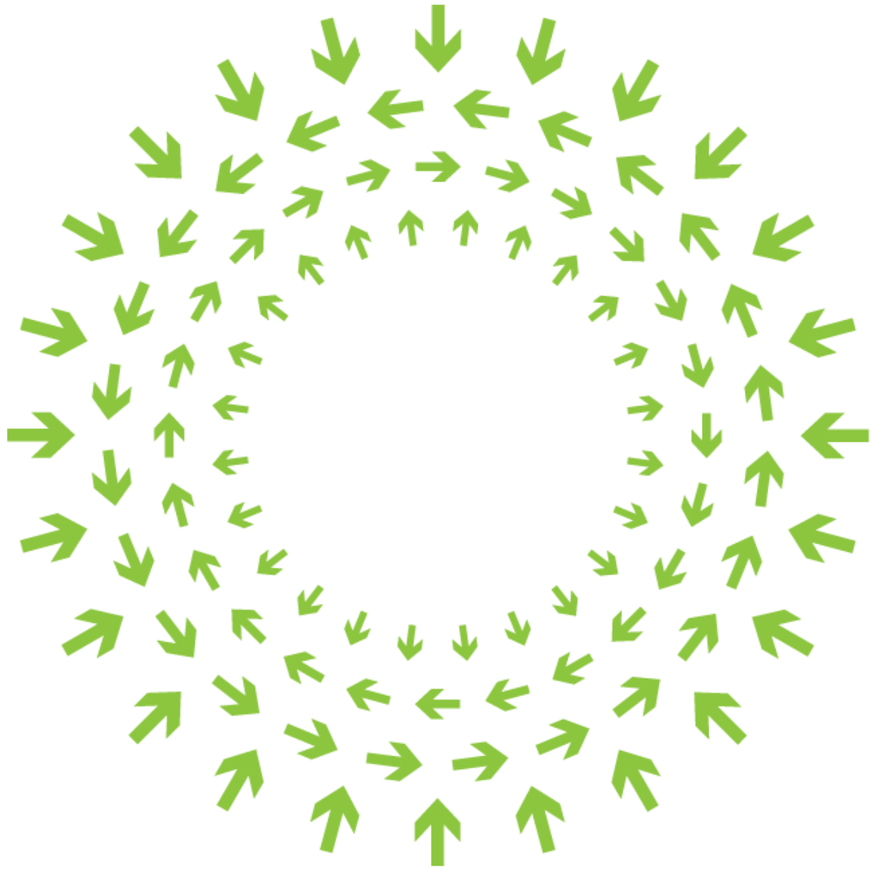
Re-architect the DC with OCP solutions

Compute, Network, and Storage solutions from Atom® to Xeon®

- GET INVOLVED
- DEPLOY SOLUTIONS ECOSYTEM PARTNERS

- VISIT THE INTEL DEMO SHOWCASE TO LEARN MORE


intel®
Look Inside.™



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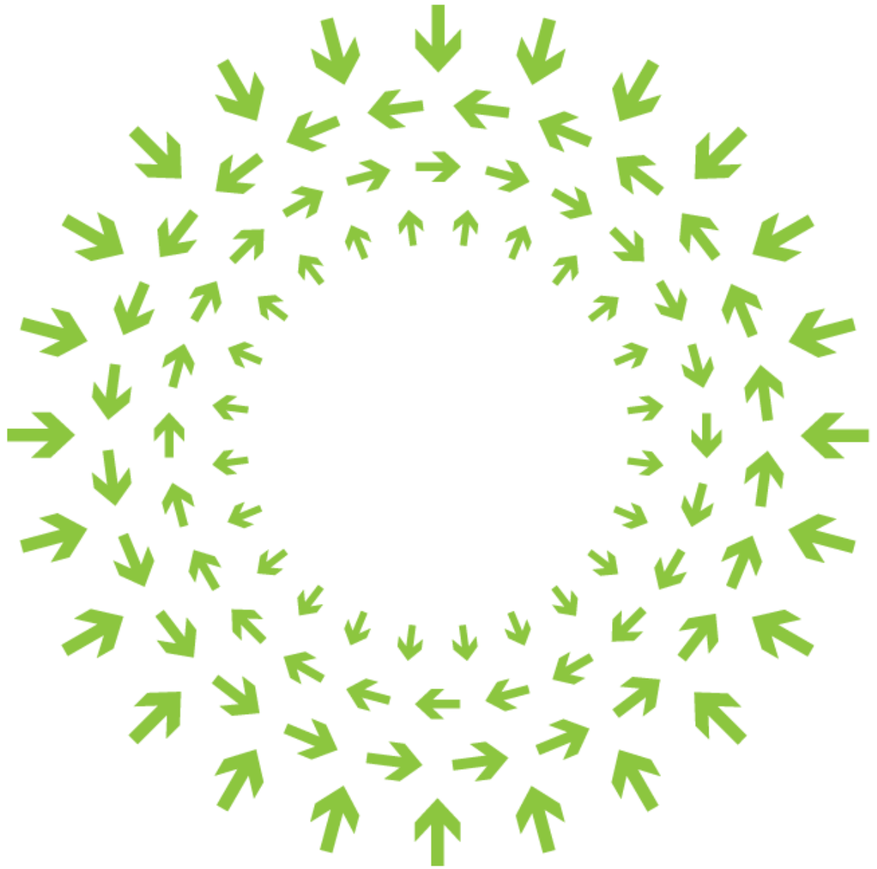
Compute Project



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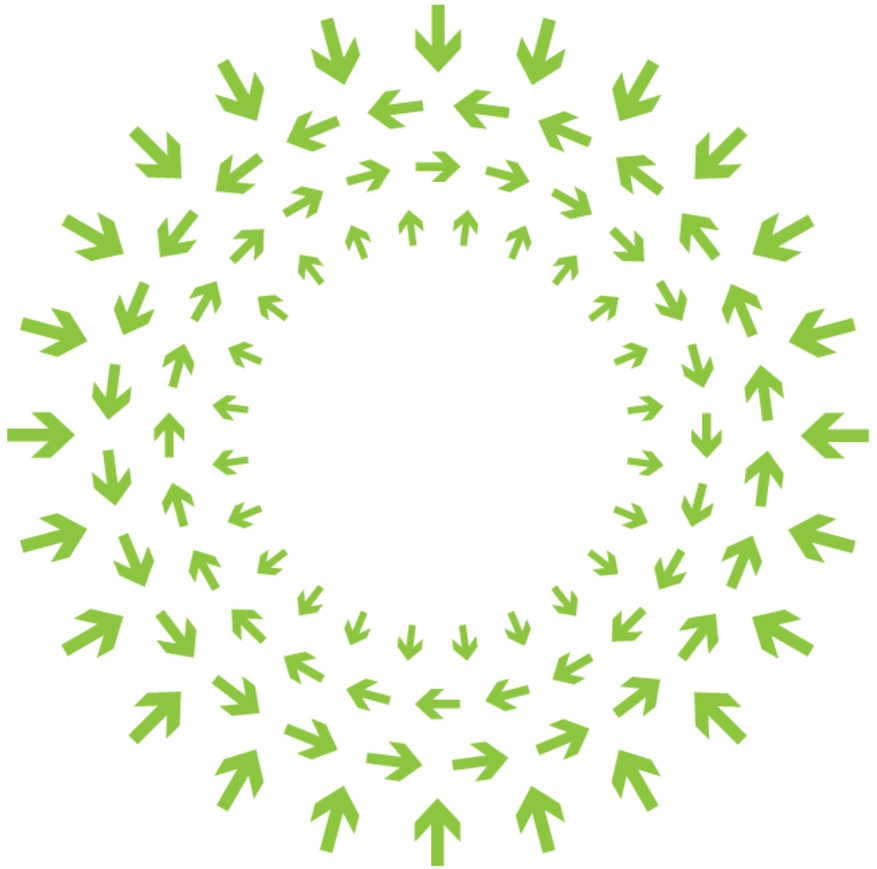

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Compute Project