Open Hardware Trends and Use Cases in the Hyperscale Datacenter

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Challenges and Trends for Modern Hyperscale Data Centers

- Scaling Seamlessly Across the Globe
- Resource Utilization
- Intensive Computing for AI in the Cloud
- Processing Huge Data Sets
- Massive Data Storage
Inspur is the only server vendor in the world to support all open source hardware projects.

Inspur is a Key Member in Open Platform Communities.
Inspur Contribution to OCP Community

**Inspur’s Goal for being OCP Platinum Member and Solution Provider**

Contribute building blocks to OCP Community

Deploy common server building blocks into all hardware platforms

OCP adoption for Cloud Datacenters in different industries

Standard Rackmount
Inspur Contribution to OCP:
San Jose Motherboard

The World’s First OCP-Accepted™ Motherboard Based on Intel® Xeon® Scalable Processor Family (Skylake/Purley)
Inspur Contribution to OCP:

INSPUR ON5263M5 The World’s First OCP-Accepted™ Node Based on Intel® Xeon® Scalable Processor Family (Skylake/Purley).

Inspur will also contribute server management software to OCP. For more information, please go to Inspur Executive Track on 3/20 at 4pm, Room #210E/F. Live demo also available at Inspur booth # A16.
Inspur OCP Server and JBOD

**2 OU 3*Node**
- 2*Skylake CPU
- Support FPGA
- 16*DIMM GPU

**SKU#1 2 OU**
1x3.5"HDD + 1x M.2
Expansion Slot:
- 1x FHHL(x16) : CPU0
- 1x FHHL(x8) : CPU0

**SKU#2 2 OU**
2x2.5"HDD or NVMe
2x M.2
Expansion Slot:
- 1x FHFL(x16) : CPU0
- 1x FHHL(x16) : CPU1

**SKU#3 2 OU**
4x2.5"HDD or NVMe
1x M.2
Expansion Slot:
- 3x HHHL(x8) : CPU0

**SKU#4 2 OU**
6xSSD
1x M.2
Expansion Slot:
- 2x HHHL(x16) : CPU0

**1 OU 3*Node**
- 2*Skylake CPU
- Support FPGA
- 16*DIMM GPU

**SKU#1 1 OU**
2x M.2
Expansion Slot:
- 1x FHHL(x16): CPU0

**3 OU JBOD**
- 64*3.5"HDD
- Support M.2 or U.2
- Support Tri-mode
Project Olympus

Important Differentiator: Universal PDU with adapters that work for every country – easy for global scaling.
Inspur is the leader in ODCC Deployments with over 60% of the Market Share.

- **Centralized Power**
  - **Consumption**
  - **-15%**

- **Integration Delivery**
  - **Plug And Play**
  - **20x**

- **Centralized Cooling**
  - **Speed Up Delivery**
  - **3x**

- **Centralized Management**
  - **Improve Operational Efficiency**
  - **-50%**

- **Power Consumption**
  - **-12%**

- **TCO**
  - **-12%**

- **Failure Rate**
  - **-50%**

- 85% of Baidu rack server products
- 60% of Alibaba rack server products
- 40% of 12306 railway system Phase II
- 60% of Qihoo’s rack server products are Inspur Rackscale SR
Case Study: Baidu

- Baidu is the world leader in voice, image and autonomous driving technology. Baidu Brain TTS is currently being requested 250 million times per day and delivers a speech recognition rate of 97% and a face recognition rate up to 99.7%.

- Inspur set a new record in 2016 of deploying 10,000 nodes per day using Inspur ODCC SR Rackscale servers for Baidu datacenters. In comparison, conventional rackmount servers deployment is around 300~500 servers per day.

Inspur is the largest server provider for Baidu.

Jointly developed and released the world’s first 4U16GPU for Baidu Driverless Car Project.
Case Study: Alibaba

Inspur is the No.1 Server supplier for Alibaba

Inspur ODCC SR Rackscale infrastructure and AI Solutions supported the massive amount of data analytics, images search processing and floating point computation with single precision.

Singles Day 11/11/2017

eCommerce Revenue

$25.3B for 1 day.

Jack Ma, Chairman of Alibaba, celebrated Singles Day 2017 with actress Nicole Kidman.
Technology Resource Sharing from Hyperscale

Inspur JDM Model: Full product life-cycle customized to fulfill all types of customer needs

- Identify the needs
- R&D Design
- Just-In-Time Customization
- Manufacturing
- New Design Generation Updates
- Quality Assurance
- Delivery and Service

Hyperscale

Share IP

JDM

Introduce JDM building blocks for Hyperscale to All CSPs, Enterprise, Traditional Industry

New technology adoption
Customized development
Business support

Understand business needs of customers

Joint innovation
Technology research
Dedicated quality control system

Cooperative development
Resource sharing
Dedicated operation platform

Innovate

Identify the needs

R&D Design

Just-In-Time Customization

Manufacturing

New Design Generation Updates

Quality Assurance

Delivery and Service

New Design Generation

Just-In-Time Customization

Dedicated quality control system

Dedicated operation platform

Identify the needs

R&D Design

Just-In-Time Customization

Manufacturing

New Design Generation Updates

Quality Assurance

Delivery and Service

New Design Generation

Just-In-Time Customization

Dedicated quality control system

Dedicated operation platform

Deepen co-innovation

Understand business needs of customers

Joint innovation
Technology research
Management system optimization

Cooperative development
Resource sharing
Dedicated operation platform

Innovate
Inspur Intelligent Factory

Delivery cycle shortened from 15 days to 5-7 days
Production efficiency increased by 30%
Reduced human workforce by 60%
Thank You

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