Open Compute Project (OCP) Market Update

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Moore’s Law on **Open Source Steroids**

![Graph showing the cost per genome over time, with a line indicating Moore’s Law.](image-url)

**Cost per Genome**

- **2001**
- **2002**
- **2003**
- **2004**
- **2005**
- **2006**
- **2007**
- **2008**
- **2009**
- **2010**
- **2011**
- **2012**
- **2013**
- **2014**
- **2015**

**NIH National Human Genome Research Institute**

genome.gov/sequencingcosts

**Consume. Collaborate. Contribute.**
Open Compute Project

A collaborative community focused on redesigning hardware technology to efficiently support the growing demands on compute infrastructure.

Enabling the industry to *Consume, Collaborate, and Contribute*
True Global Community
189 contributions
54 companies
The Maturing of OCP

- Community Development, Collaboration, Contribution Growth
- Focus on Adoption, Growth of Marketplace and Marketplace SKU’s
- Focus on broader industry adoption, Ease of consumption and growth of Integrated solutions
Accelerate technology introduction

Technology acceleration through joint development

Addressing gaps to enable complete product portfolio

Robust ecosystem of supply and support services

Development of SW ecosystem

Solutions roadmap

Robust global support/service ecosystem
Efficiency
Scale
Impact
Openness
Our Projects

Networking
Server
Storage
Rack & Power
Advanced Cooling
Data Center
Telco
HW Mgmt
Open System Firmware
HPC
Security

Modular DC
Edge Sub Project

https://www.opencompute.org/projects
Our Accelerator Module (OAM) Project is now....

Open Accelerator Infrastructure (OAI)
Pace of the Community
Open ACCELERATOR Infrastructure
Pace of the Community

Open ACCELERATOR Infrastructure

facebook

Microsoft Azure

Baidu 百度
OAI overall spec
Universal Base Board (UBB)
Host Interface Board (HIB)
Power Distribution Board (PDB)
OAM tray
Security, Control, Management
Chassis mechanical and cooling
Expansion beyond Chassis

https://www.opencompute.org/projects/oai-sub-project
Open Systems Firmware (OSF)

Open Source Firmware required in 2021
Support from arm, Intel, AMD and IBM Power
OSF Develop Kit available this year from Wiwynn
SONiC & SAI Projects

92 platforms supported today

Since Global Summit: 23 new platforms

First project newsletter was published in August

Leadership Switch OS with new features like warm reboot

Rich telemetry and troubleshooting capabilities added in August 2019

Switch Abstraction Interface v1.5 released

Next SONiC release planned for October 2019

https://www.opencompute.org/projects/sonic-sub-project
Rack & Power

Open Rack V3 Initiative

Announced at the OCP China Workshop in Beijing

Microsoft and Facebook subject matter experts working to converge on the best features

Power shelf interoperability initiative

https://www.opencompute.org/projects/rack-and-power
Advanced Cooling Sub-Project (ACS)

Cold plate requirements drafted and in review

Immersion requirements spec & immersion checklist released (Asperitas, Intel, Iceotope, Schneider Electric, Flex)

IT gear for immersion whitepaper announced for Global Summit

https://www.opencompute.org/projects/rack-and-power
Immersion Requirements for OCP

https://www.opencompute.org/projects/rack-and-power
openEdge Project

- Announced at NVF World Congress
- Initial planning for OCP spec
  - Working demo at regional OCP Summit
  - Draft spec
  - Commerially available

Q2 – Q3 2018

- 1st Commercial Contract
  - Workshop held in USA
  - v1.2 OCP Accepted™

Q1 2019

- Wiwynn announces intent to produce openEdge Chassis and Server Blades

Q2 2019

- Battery back up (BBU) development
- Other HW vendors announcing plan to adopt openEdge

Q3 2019

arm based sled under development
Cooling, Electrical, Access, White Space, Cabling, Service, Efficiency and Transparency
First OCP Ready™ Certified Nordic Colocation Data Center uses 90% less energy than other EU datacenters.
2-4MW each hall

Different specification per hall possible
Drivers of OCP Adoption

- Cost Reduction
- Standardisation
- Energy Efficiency
- Reliability

Source: IHS Markit
Server Market Share

The rise of the ODM

Source: IDC 2019
EMEA growth driven by telco, CAGR 59%

2020 - APAC will surpass EMEA on strength of hyperscaler and Tier-2 CSP adoption, CAGR 108%

https://www.youtube.com/watch?v=pdpPKA0-HUY
Market just forming for disaggregated cell tower equipment

Automotive and Manufacturing have highest 5YR GAGR

Healthcare in very early stages of adoption

https://www.youtube.com/watch?v=pdpPKAo-HUY
OCP Specifications

Design Files

Product

OCP ACCEPTED

Testing with Open Source Software Platform

BOM for Exemplar Open Source Platform

Reference Designs (Operator Led Specifications)
Open. For Business.

The Open Compute Project (OCP) is reimagining hardware, making it more efficient, flexible, and scalable. Join our global community of technology leaders working together to break open the black box of proprietary IT infrastructure to achieve greater choice, customization, and cost savings.

https://www.opencompute.org/solutions
https://www.opencompute.org/circular-economy
Edgecore Networks AS5712-54X 10GbE Data Center Switch - POWER TO PORT

Meets the high-performance, availability, and network-scaling requirements of enterprise and cloud data centers. The switch can be de...

Solution Providers: Cumulus Networks, Edgecore Networks, Hyve Solutions, ITOCHU Techno-Solutions Corporation

Part #: 5712-54X-C-ACB

Specifications
SAP® Certified Hardware for SAP HANA®

https://www.opencompute.org/products
Integrated Solutions

OCP Integrated Solutions enable companies to adopt proven solution stacks running on OCP Accepted™ and OCP Inspired™ hardware, thereby providing a converged infrastructure solutions for the Enterprise.

These managed offerings showcase a combination of software products, supporting different rack form factors. All OCP integrated solutions have proven support offerings including 3rd party product support to ensure efficient, reliable and scalable workload deployments.
A complete plug and play demo unit.

SEBA - ONF's SDN Enabled Broadband Access architecture.
CTC Open Cloud Package

Open Cloud Package is a fully integrated rack of OCP recognized hardware combined with validated software providing Enterprises an efficient and scalable way to manage their infrastructure as software.

This integrated solution comes with an Open Source system management toolset to manage physical and virtual infrastructure and is ideal for Cloud native, Object storage and container enterprise workloads.
Circular Economy

CEDaCI - Circular Economy for the Data Centre Industry

EU Legislation – Eco Design Directive

“Whatever market open source enters..it eventually dominates”
THANK YOU

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