Project Olympus
server hardware and management track

Mark Shaw
Director, Azure Hardware Engineering
Announcing *Project Olympus*

**Next-gen Hardware**
Open sourcing leading edge Hyperscale cloud hardware *currently under development* at Microsoft

**Development Model**
New collaboration model with OCP community – *co-develop open hardware at cloud speed*

**Industry Ecosystem**
*Bootstrap a vibrant ecosystem* in OCP for the next generation of datacenter hardware
Project Olympus design

- Modular building blocks
- High Power Efficiency
- Cost Optimized
- Global Datacenter Standards
- Solution delivery agility
Project Olympus universal components

Universal Motherboard
- Optimized for maximum CPU and I/O performance
- Standards based management (IPMI or Redfish)
- Multi-rack compatibility (EIA 19″, OCP 21″, Other 19″/21″)

Universal PDU (rack power distribution)
- Dual 3Φ AC inputs for power redundancy
- Supports all global datacenter electrical standards
- Out-of-Band server and rack management

Global Adapters
- 30A/50A 208V
- 32A 400V
- 30A 415V
Universal Motherboard potential adoption

Universal Motherboard

Project Olympus Rack

Rack & Stack 19"

Other 19” and 21” Racks
Project Olympus OCP contribution

Mechanical CAD

Schematics & Board Files

Specifications
- Rack infra
- Rack Manager
- 3Φ PDU
- PSU
- Storage
- Server (1U/2U)
- Motherboard

Source Code

```c
/// Gets Fan speed in RPM
/// <param name="fanId">target fan Id</param>
/// <returns>Fan speed in RPM</returns>
internal FanSpeedResponse GetFanSpeed(byte fanId)
```

Available on OCP Github page

https://github.com/opencomputeproject/Project_Olympus
Project Olympus on github

[opencomputeproject / Project_Olympus](https://github.com/opencomputeproject/Project_Olympus)

Specifications

```markdown
Branch: master ▼ Project_Olympus / Specs /

- MarkShawMSFT Add files via upload
- LICENSE.md
- Project_Olympus_Server_Mechanical.pdf
- Project_Olympus_Universal_Motherboard.pdf
- README.md
```

Mech & Elec

```markdown
Branch: master ▼ Project_Olympus / HW /

- MarkShawMSFT Delete foo3.txt    ...
- LICENSE.md
- README.md  Includes pointers to two huge files
- assy_mb_olympus_asm083016.zip
```
OCP Support

Changes driven by OCP Feedback from March 2016 Summit

- Management support for VGA and NCSI via BOM population changes
  - ASPEED BMC AST2400 with PCIe x1
  - VGA and NCSI cable connectors
  - Support verified and consistent with Facebook servers
  - Creation of NIC Mezz Adapter with NCSI cable header

OCP Collaboration – Quad M.2 Carrier

- Supports 4 M.2s (per carrier)
- Enables configuration with up to 16 M.2s in 1U
  - 16TB NVMe flash today, soon 32TB or more

https://github.com/opencomputeproject/Project_Olympus
Project Olympus timeline

**November 2016**
- Design ~50% complete
- Spec on OCP Github
- Community participation

**March 2017**
- Design ~75% complete
- New components
- Partner announcements

**Mid-2017**
- Design 100% complete
- Manufacturing ready
- Ecosystem buildout
Learn More

Visit Microsoft booth for live demos

*Project Olympus*
Hardware SONiC networking

Brandon Rubenstein
Wed 14:45

Project Olympus Technical Overview

Mark A. Shaw
Wed 16:00

Project Olympus Specification Deep-Dive