Open. Together.

OCP Summit
OCP equipment for everyone

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• Leading provider of circular data center solutions to the hyperscale cloud market: technology, logistics, monetization

• Leading global provider of technology-enabled data center decommissioning services, including data sanitization software and IT asset remarketing

• Manufacturer of Sesame open compute and storage solutions, 1st of its kind suite of recertified and warrantied solutions for global use cases

• Delivering TCO value recovery > $1Billion to date

Redefining and powering LTV (a.k.a. not your grandfather’s ITAD)

Clients We Partner With
Project goal and genesis

• OCP adoption could be accelerated by offering a lab chassis format which could ease access to OCP technology principles.

• Lot of initial PoC demands couldn’t be addressed with OpenRack, not because of the technology but because of the size, and cost to test.
Targeted end-users

• **University** labs willing to contribute to enhance OCP technologies
• **Hackers** seeking for an easy to deploy platform compliant with non-datacenter environment
• **Edge computing** end user with office space air quality constraints
• **SMB** seeking for an innovative IT solution which can scale with their growth
• **Budget** constraint users
Design tool: Freecad

• It couldn’t be for everyone if the design wasn’t open
• FreeCAD 0.18 with SheetMetal and assembly module
• Calculix for mechanical structural deformation
Design tool : Kicad
Discovery chassis

• Suitable to office use
• Powered by 110/220 Vdc
• Design close as OCP original rack
• Fully closed chassis
• 35 Kg
• 240 x680 x 993 mm (W xHxD)
System architecture

- Building block approach
- OCP v1 server tray
- Up to 5 servers per chassis
- Optional 1U network support
- Up to 12 chassis could be interconnected in a 4x3 grid configuration
- Support, recertified and new OCP gears
- 1 bus bar per chassis, up to 1600W
Power distribution

110/220 AC

ATX PSU

12V DC

12V

12V

12V

12V
Issues met

• Some OCP specifications are too relaxed and prevents an easy integration of existing parts into a new design (ex: bus bar locking mechanism)
• FreeCAD still needs additional works on the design workflow but this is the first chassis fully designed with it
• Weight of the chassis
• Noise might be slowing the adoption
• OCP form factors
• High power through PCB
Potential enhancements

• PCIe expander to support GPU card and build a workstation chassis
• Multiple video card support to build a multi-seats configuration using virtualization
• Storage box expander
• Cubby based chassis support
• 48V bus bar
Call to Action

• Join ITRenew Open Hardware lab in the bay area (upcoming meetups)
• Contribute to Open Source Firmware initiative
• Provide hardware for testing and build early prototype
• Contact us if you are willing to build adapted designs!
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