



inspur



OCP
CHINA DAY

June 25th
2019
Beijing

Open Rack V3 Collaboration

Steve Mills | OCP Rack and Power Project Lead
25th June, 2019



Agenda

- 01 **Why Open Rack V3?**
- 02 **What is New for Open Rack V3?**
- 03 **How we are Engaging the Community?**
- 04 **What is Next?**



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Physics

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Contemporary System Design

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Why Open Rack V3?



Why Open Rack V3?

Enable adoption across the OCP community

- Common rack frame that is adaptable by the community



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- Common rack frame that is adaptable by the community
- Power Architecture that supports a wide range of applications from 15-33kW



Why Open Rack V3?

Enable adoption across the OCP community

- Common rack frame that is adaptable by the community
- Power Architecture that supports a wide range of applications from 15-33kW
- Provide a platform to enable OCP Advanced Cooling Solutions



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New Features Driven by the Community

Feature

Facebook V2

Facebook V3



New Features Driven by the Community

Feature	Facebook V2	Facebook V3
Vertical Spacing	OpenU (48mm)	OpenU and 44.45mm (height only)



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Dynamic Rating	1400kg	1600 kgs



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Cable Manager	Integrated features	Optional Kit



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Cable Manager	Integrated features	Optional Kit
Liquid Manifold (ACS)	No	Optional Kit



New Features Driven by the Community

Feature	Facebook V2	Facebook V3
Rear Data Fabric	No	Optional Kit



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Feature	Facebook V2	Facebook V3
Rear Data Fabric	No	Optional Kit
Side Panel	Air containment only	Security or air containment



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Rear Data Fabric	No	Optional Kit
Side Panel	Air containment only	Security or air containment
Security Door	No	Yes



New Features Driven by the Community

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Rear Data Fabric	No	Optional Kit
Side Panel	Air containment only	Security or air containment
Security Door	No	Yes
Door Heat Exchgr (ACS)	No	Yes



New Features Driven by the Community

Feature	Facebook V2	Facebook V3
Rear Data Fabric	No	Optional Kit
Side Panel	Air containment only	Security or air containment
Security Door	No	Yes
Door Heat Exchgr (ACS)	No	Yes
Busbar Voltage	12V	12V and 48V options



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Feature	Facebook V2	Facebook V3
Power Shelf location	Fixed	Located anywhere on the busbar



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Power shelf and BBU	Integrated	Independent and flexible



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Peak Power Shaving	No	Yes



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Power Shelf Input Con.	No	Yes



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Power Shelf location	Fixed	Located anywhere on the busbar
Power shelf and BBU	Integrated	Independent and flexible
Peak Power Shaving	No	Yes
Power Shelf Input Con.	No	Yes
# of Power Zones	2	1



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Open Source as a strategic angle

We are changing the industry by open sourcing our hardware and creating new forums for cross-industry & community collaboration!



Org to share Optical Broadband and Open Cellular Networks



Org to share designs for Data Center HW

All FB Data Centers are 100% OCP



One board management software for all hardware at Facebook



Provide free and open source implementations of Open Firmware

Facebook OCP Hardware Contributions

2011



Data Center



Triplet Rack



Battery Cabinet



Freedom Servers



Spitfire Server (AMD)



Power Supply

2012



Windmill (Intel)



Watermark (AMD)



Mezzanine Card V1



2013



Knox



Winterfell



Open Rack V1



Group Hug

2014



Open Rack V2



Mezzanine Card V2



Cold Storage



Micro Server (Panther)

2015



BluRay



Leopard



Wedge



Honey Badger

2016



Wedge 100



Backpack



Big Sur



Lightning



Yosemite



Six Pack

2017



Wedge 100S



Bryce Canyon



Yosemite V2



Tioga Pass



Big Basin



Big Basin V2



Twin Lake



OCP NIC3.0



FAV3

2019



Open Accelerator Module



Minipack



Minilake

Contributions

Rear View



Contributions

Rear View



48V Busbar

48V IT Gear Power Connector



Contributions

Rear View



48V Busbar

48V IT Gear Power Connector

Open Rack V3 Frame
(JDA)



Contributions

Rear View



48V Busbar

48V IT Gear Power Connector

Open Rack V3 Frame
(JDA)

Rear Hot-plug Liquid
Cooling Manifold (ACS)



Contributions



Open Rack V3 Power Shelf
Power Supply Unit
Management Controller

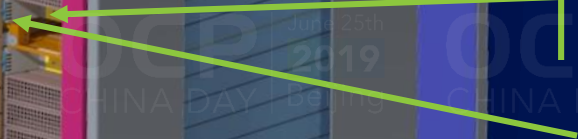


Contributions



Open Rack V3 Power Shelf
Power Supply Unit
Management Controller

Power Shelf 48V Output
Connector



Contributions



Open Rack V3 Power Shelf
Power Supply Unit
Management Controller

Power Shelf 48V Output
Connector

Power Shelf Universal
7 Pin Input Connector
(JDA)



Agenda

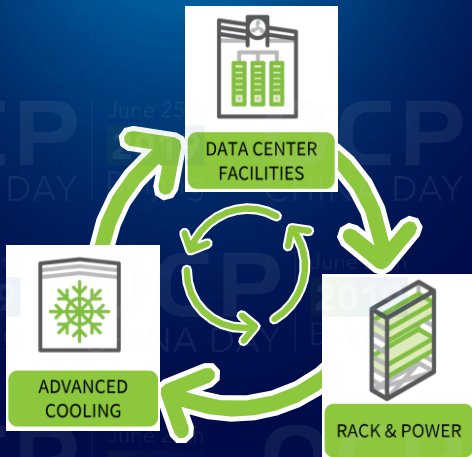
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What is Next?

OCP Engineering Workshop
Rack and Power
Advanced Cooling Solutions
Data Center Facilities

10 JULY 2019
Milpitas, California
Hosted by Flex

Link for more details:
<https://www.opencompute.org/events/upcoming-events>





What is Next?

Specifications are available for review and comment:

https://www.opencompute.org/wiki/Open_Rack/SpecsAndDesigns



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Open Rack Project Info:

Rack and Power wiki: https://www.opencompute.org/wiki/Rack_%26_Power

Rack and Power Mailing list: <https://ocp-all.groups.io/g/OCP-RackandPower>

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Thank you

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