Scaling innovation for the AI era

OCP GLOBAL SUMMIT | OCTOBER 12–15, 2026
SAN JOSE, CALIFORNIA

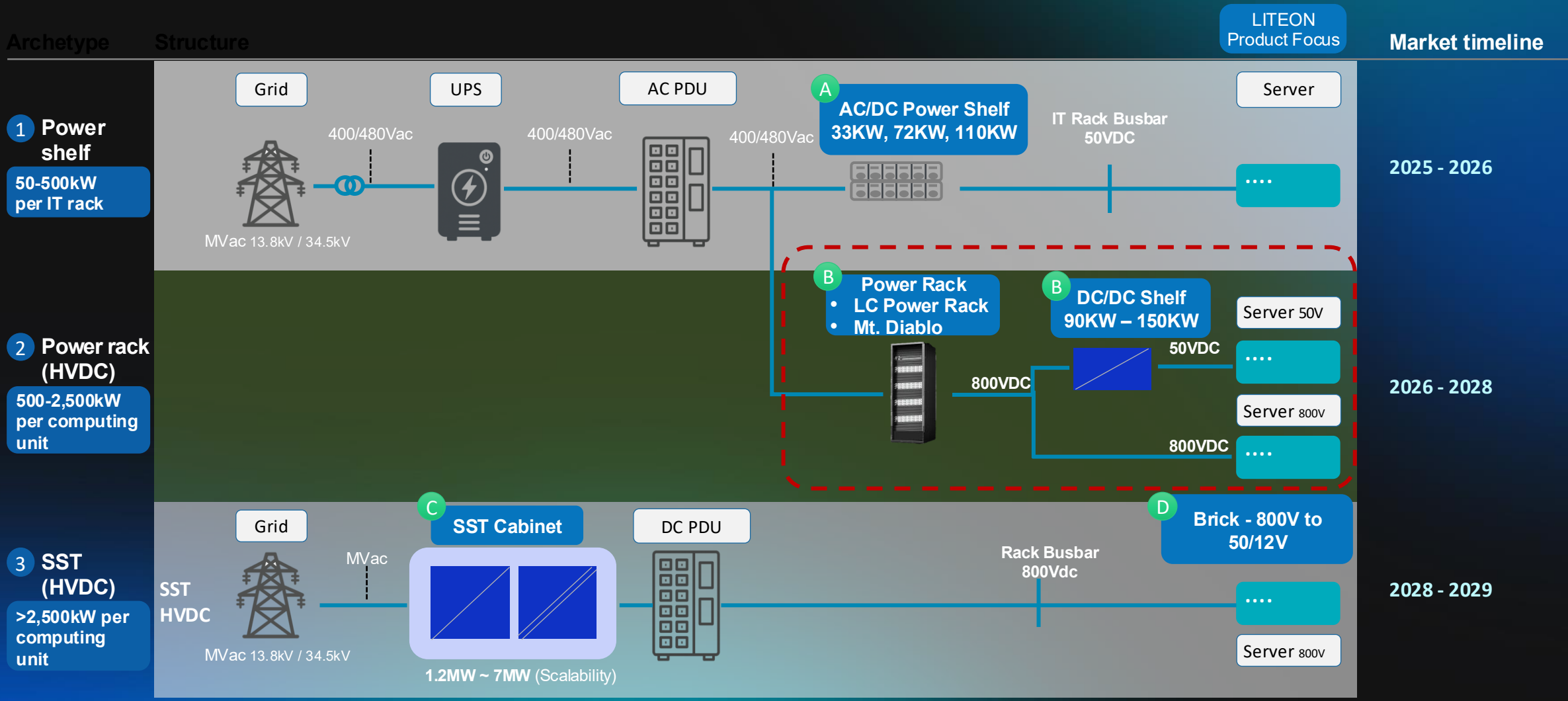


LITEON 1MW Power Rack Solutions

Terry Zhang
Technical Director / CIPS

13 Oct 2026

LITEON power solutions for evolving data center power system



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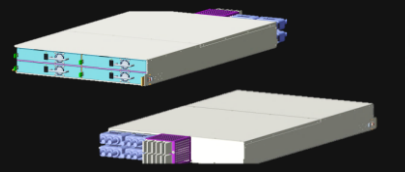
OCP 21” 1.1MW HVDC power rack architecture proposal

AC feeding from facility

- No AC PDU, Use Busway Breaker as upstream protection

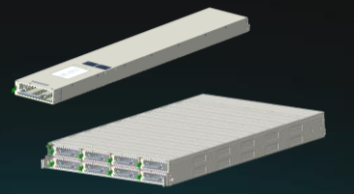
DC PDU

- 600kW DC PDU– **2OUx2**
- Each Has 4x150kW Fuse Box with Protection
- Each Support **4 x 200A** DC Whip



Power shelf

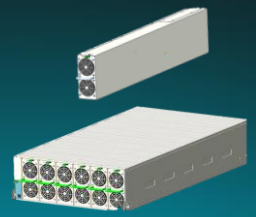
- **24x100A** AC Cable
- **220kW** Power Shelf @415Vac – **2OU**
- **27.5kW**, 400Vdc PSU x 8
- **6 x 220kW** shelves per Rack (**1.3MW Max, 1.1MW 5+1,660kW N+N**)



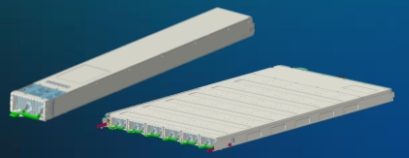
BBU or CBU Shelf

- 30kw/400Vdc **BBU** x 6 – **4OU**
- **60 sec** backup time (@180kW)
- **6x 180kW BBS (1.1MW max.)**

- 18KW/400V **CBU x6 -4OU**
- **6x108kW=650kW Max.**
- **5s** Backup time for **EDLC**
- **15s** Backup time for **LIC** Type







HVDC Power shelf

- **800V to 50V** Power Shelf **-1OU**
- **100kW-150kW** per shelf
- Cable Connection from DC PDU to DC/DC Shelf

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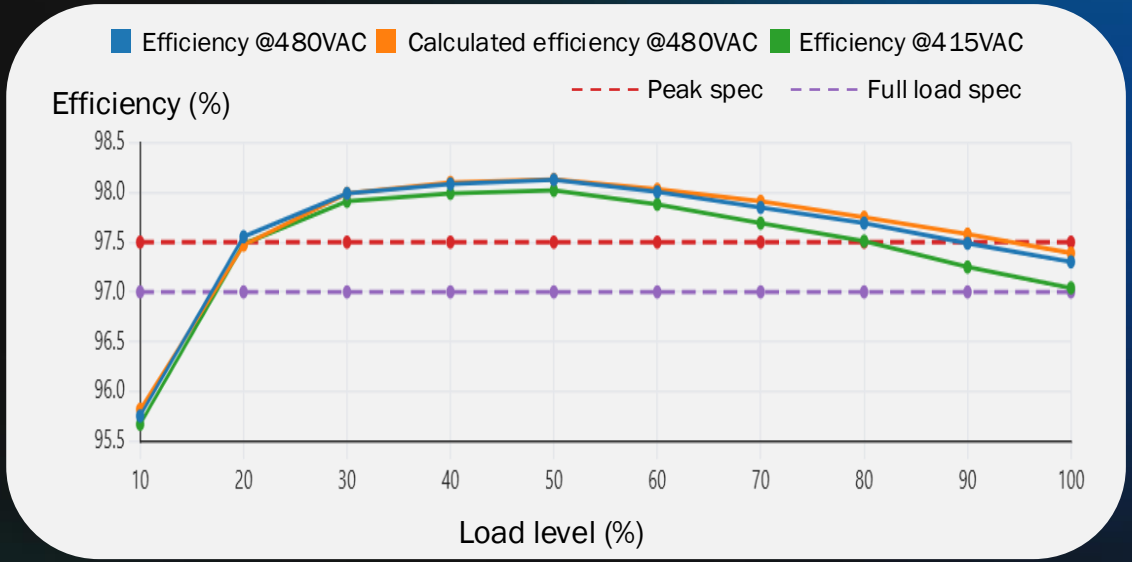
220kW power shelf solution

Power shelf



- Applicable for AC grid to HVDC power conversion with three phase input
- **>98%** peak efficiency and **>97%** full load efficiency
- Smooth input current ramp up with **>20ms hold up time**
- PMBUS/MODBUS for PSU and CAN for shelf communication

Efficiency vs load level



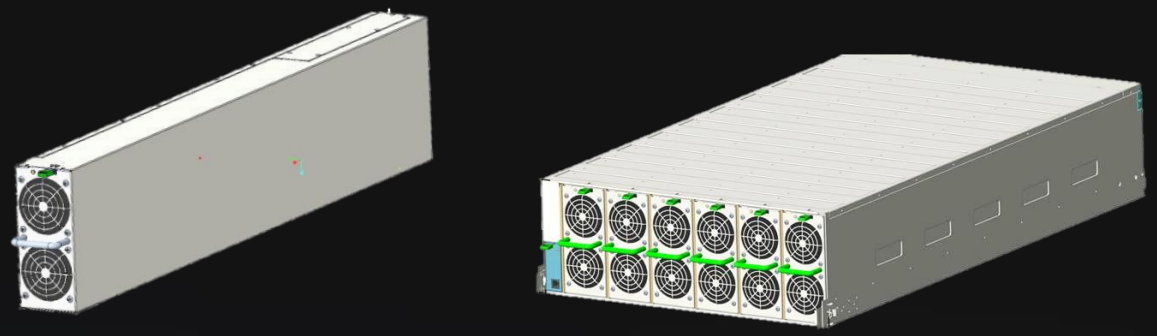
PTT sample ready for testing in Nov, 2026

MP Target Q2, 2027

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108kW Capacitor bank unit (CBU) shelf

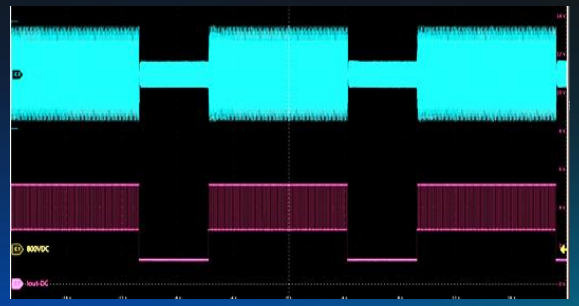
CBU shelf



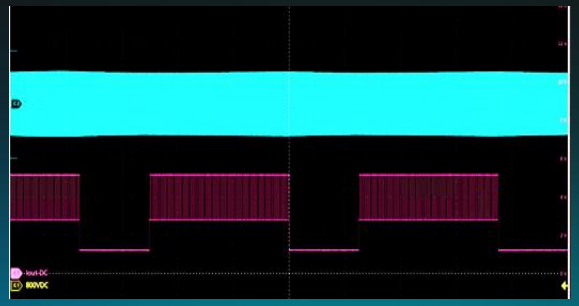
Key features

- Applicable for Power Smoothing for second dynamic load
- Adopt EDLC Type Cell with Low ESR and high reliability
- Designed to **5s** Backup time at **18kW/Module** and **108kW/Shelf**
- Active current share and Droop control for Parallel operation
- Capacitor Management System (CMS) with SCP, OCP, OVP, etc.

Input current without CBU



Input current with CBU



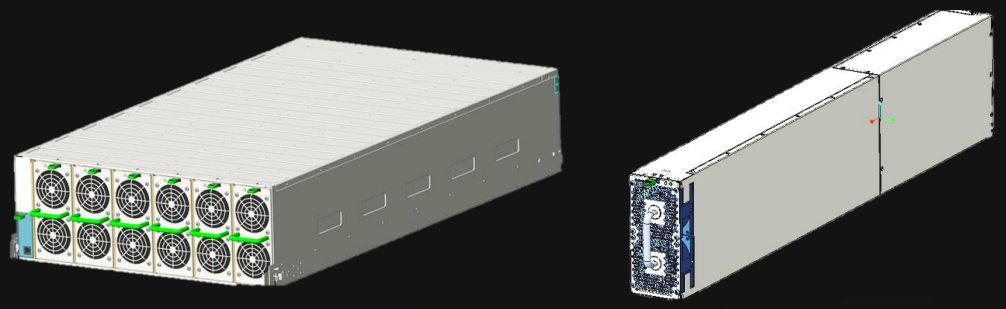
PTT sample ready for testing in Aug, 2026

MP Target Q2, 2027

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180kW HVDC BBU shelf Solution

BBU



- DC UPS for Power Rack to support 60s@180kW per shelf.
- Parallel operation for redundancy to 6xBBUs for +- 400Vdc bus
- 10yrs Life Design with LFP Type Cell.
- Active current share and Droop control
- PMBUS/MODBUS for Model and CAN for Shelf communication
- **Same Form Factor and Replaceable with CBU Shelf**

Key spec

Features	Spec
Backup Power	30kW / 60sec ; 15kW / 120sec
Output Voltage	+400Vdc
Battery Pack	90S2P Murata US21700-FX20A LFP
Battery Voltage	225-310V
CHG Power	400W
Operate Temperature	0°C to 40°C
Communication	PMBus / MODBus
Safety	UL1973, UN38.3, UL9540A
Shelf Configuration	**4OU 180kW (6x30kW)**

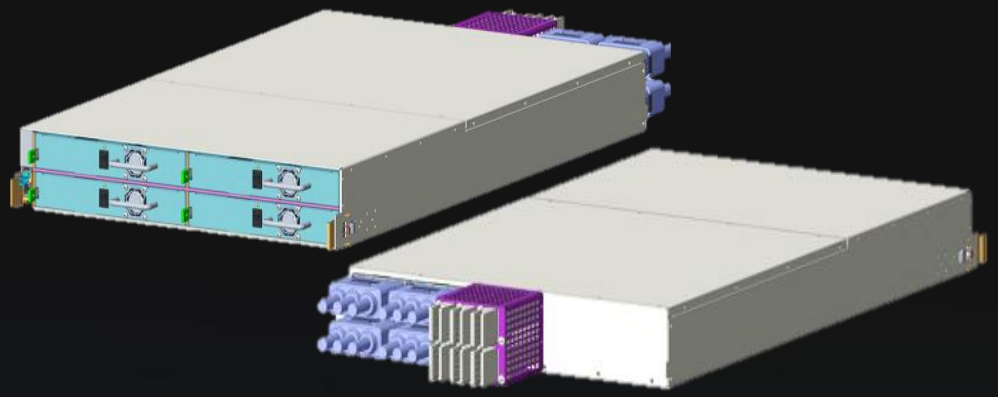
PTT sample ready for testing in Nov, 2026

MP Target Q3, 2027

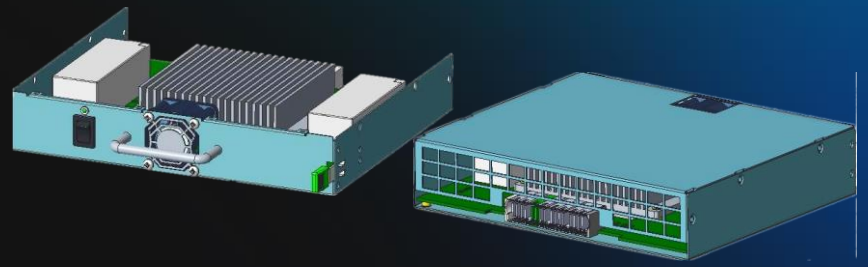
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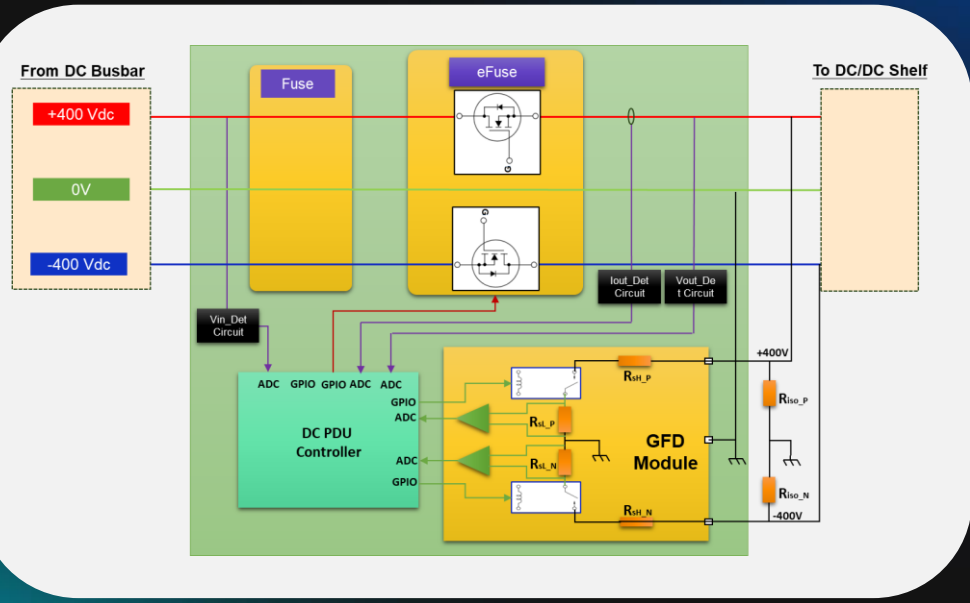
HVDC DC PDU solution

DC PDU



Fuse box





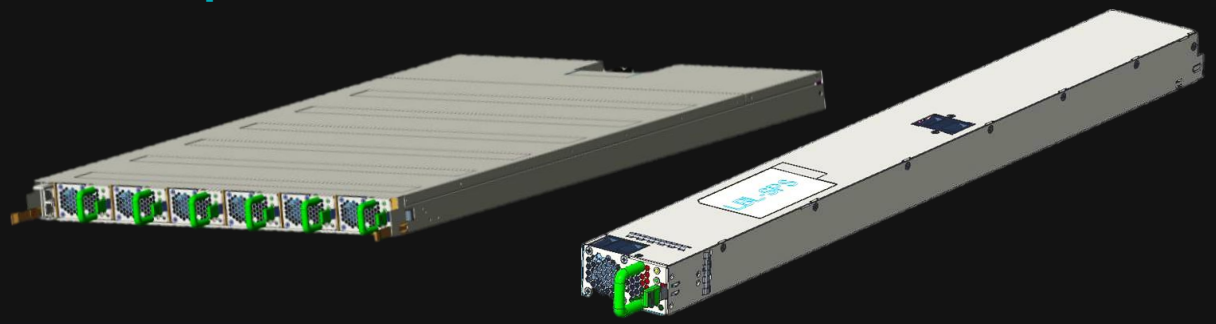
Key feature

- **600kW** Per 2OU height with fuse box protection
- Support **4 x 200A** HVDC whips, each whip support **150kW@800V**
- DC fuse box **support 150kW/each**, only lost 150kW Power when maintenance

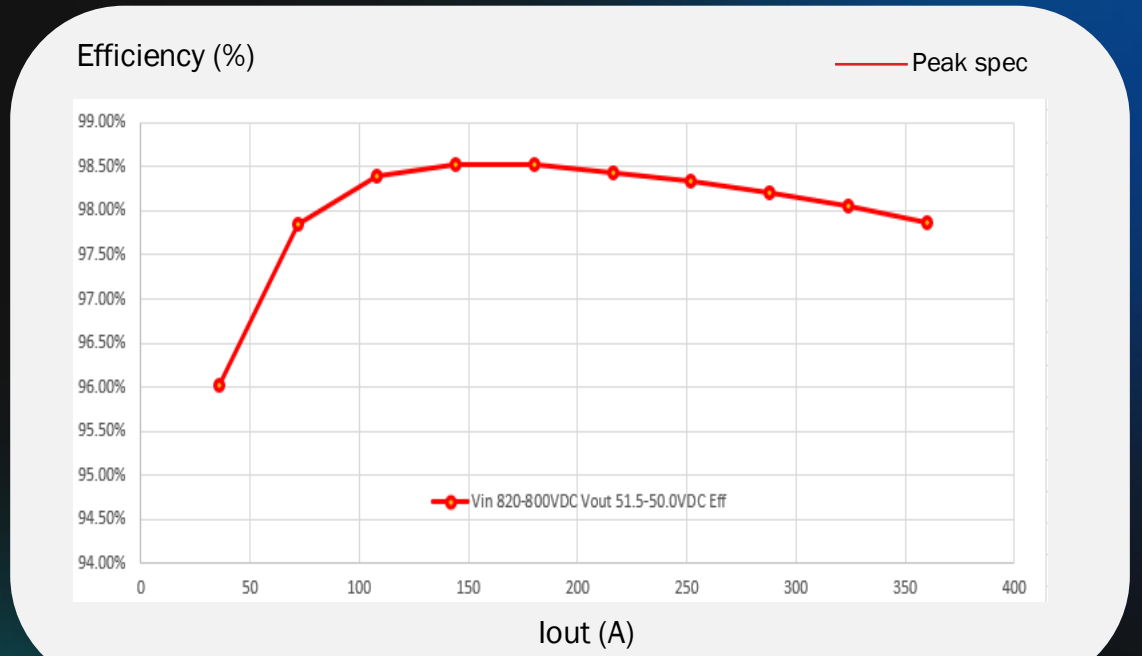
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21’’ 1OU 120kW D/D Power Shelf

120kW power shelf



Efficiency curve

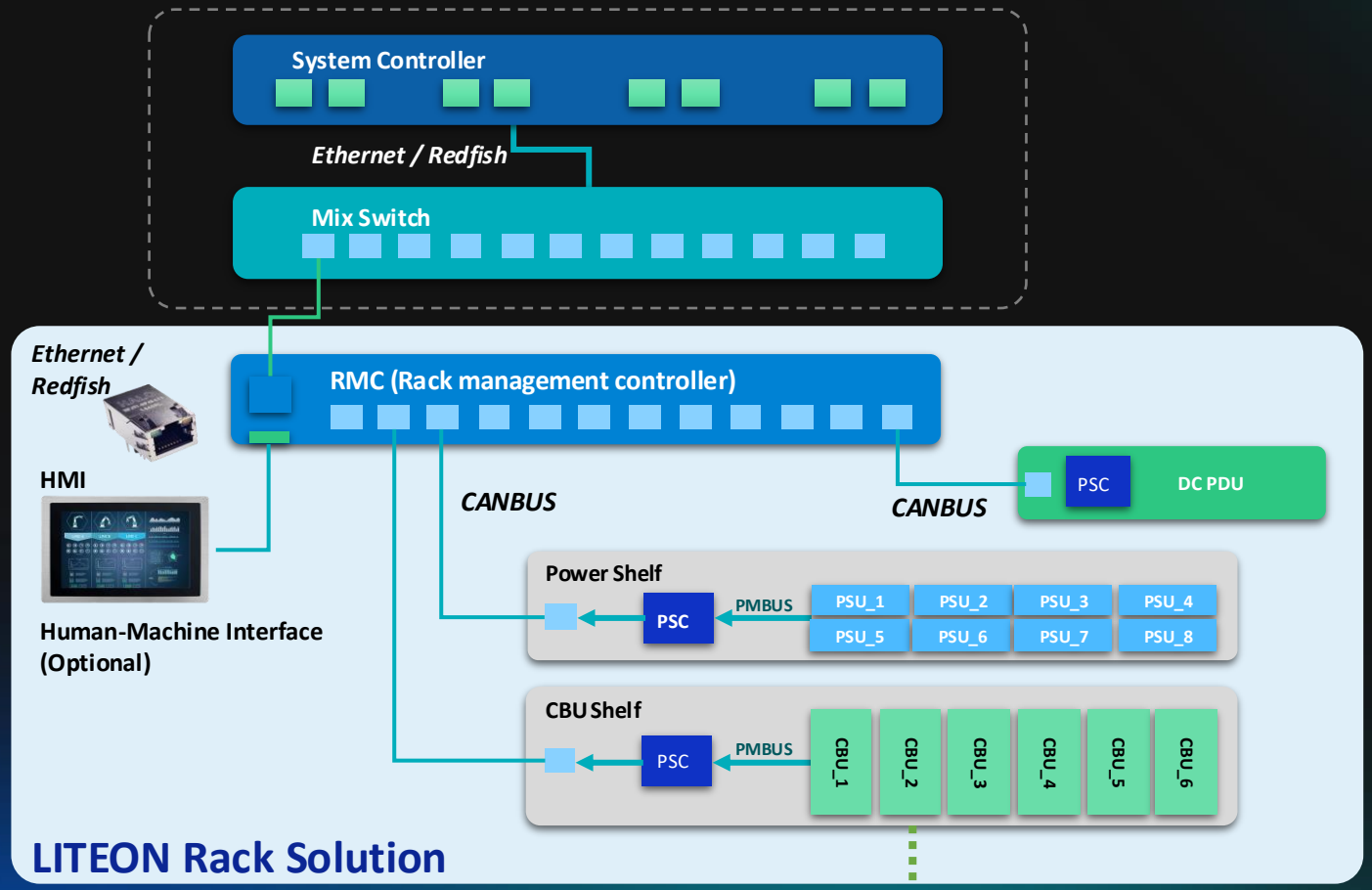


Key features

- Power conversion from HVDC to 50V in IT Rack with only 1OU
- High efficiency to over 98.5%@peak and 98%@full load
- Support HVDC hot plug and inrush control
- Support polarity reverse protection
- Support PM_bus/MOD_bus communication

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Rack management block diagram proposal



Shelf/ module level control with mature **PSC module,** keep **PMBUS** communication protocol

Rack management controller (RMC) to communicate with each PSC modules via **CANBUS**

RMC to collect all rack information and **single port communicate** to system controller via mix switch, with Ethernet/ Redfish. Protocol could be **customized**.

All the modules and communications have **security design**

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POWERING **800 VDC** ARCHITECTURE



DATE

2026 Oct. **12-15**

LOCATION

McEnery Convention Center
San Jose, California

BOOTH

Hall 2, C51

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Thank you

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