

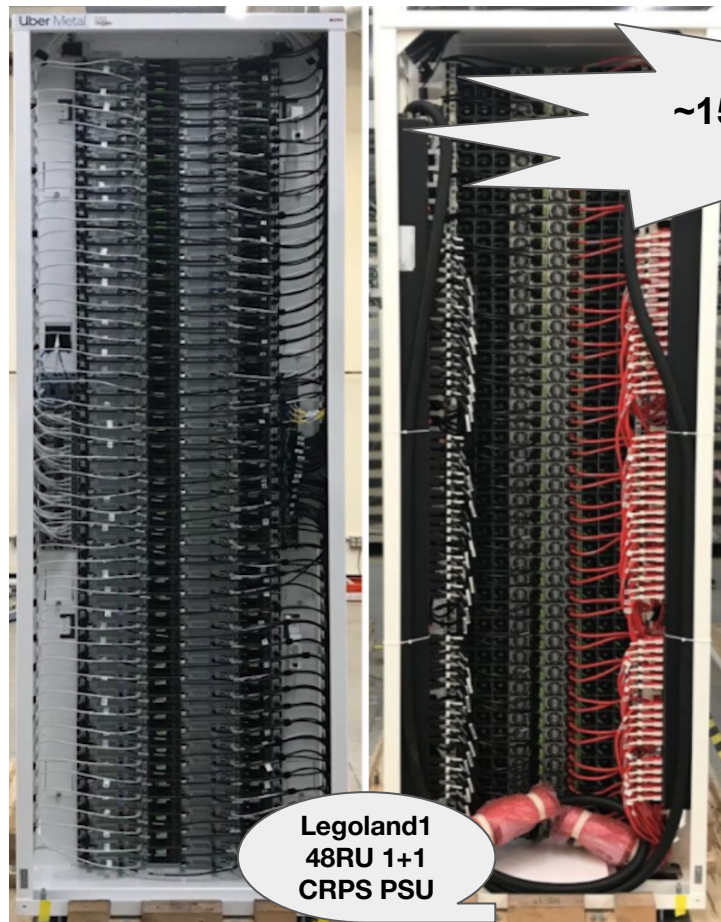


# Uber - Legoland 2.0 (Defender) Next gen Rack Architecture

OCP Rack and Power Monthly Call - October 13, 2021

Jon Ehlen  
Mingchun Xu

# Rack Overview



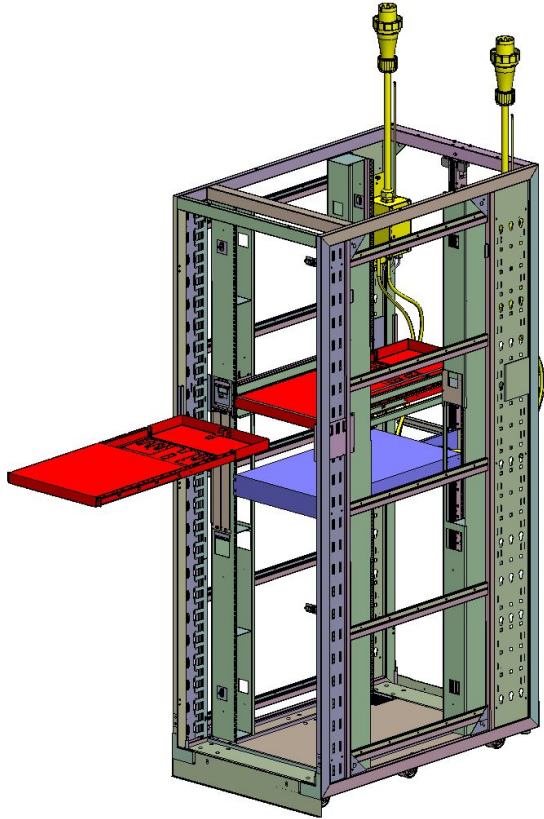
~151 cables reduction

Simplified  
Cabling

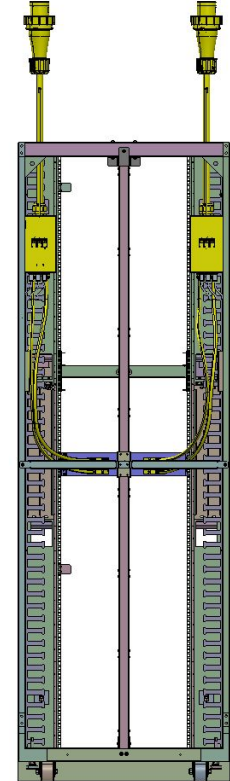
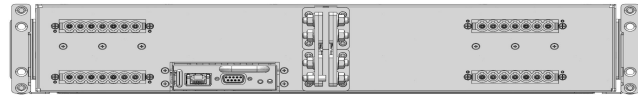
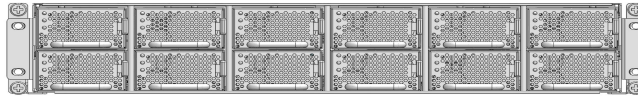




# Defender Rack

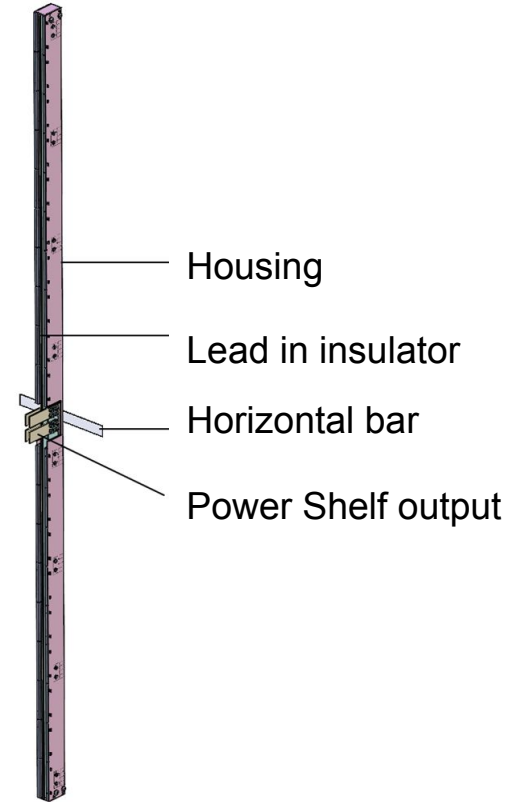


- 48V busbar-rack
- 30kW power shelf
- 3kW 48V ATS-PSU
- SMC ( Shelf Management Controller
- 48V CDU



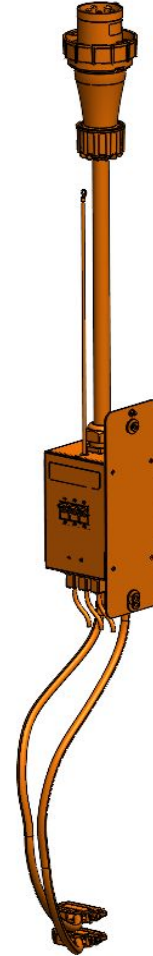
# 1. Busbar components

- OCP 48V V2 / V3 server clip compatible
- 620A current rating
- Silver / nickel plating



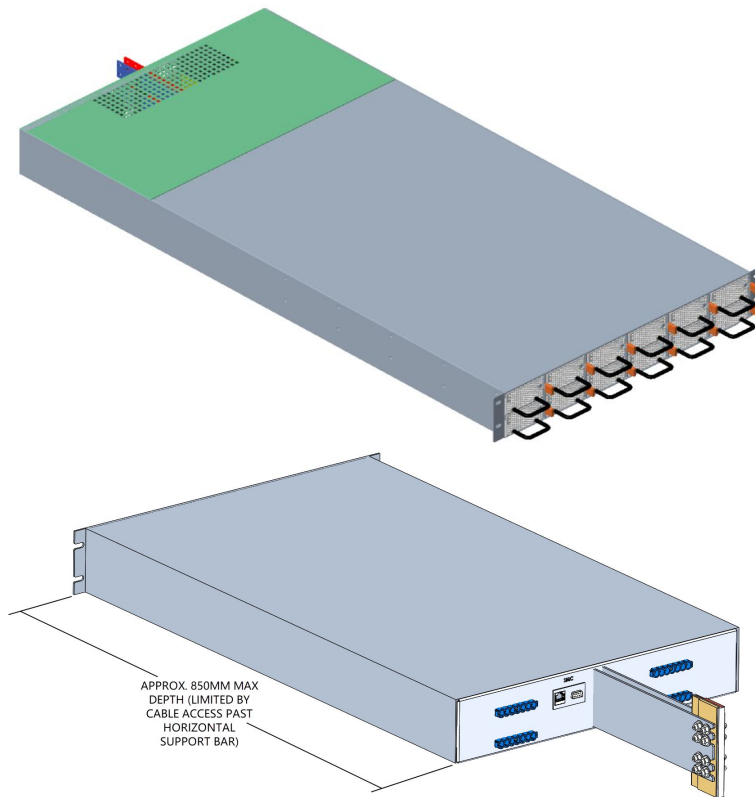
## 2. CDU

- For Power Shelf:  
60A IEC60309 input plug  
2x 32A 7pin Positronic connector
- For Switches:  
3x C13 outlets  
3x 20A CBs



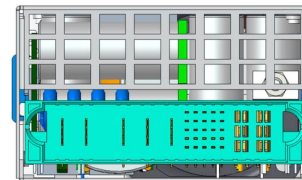
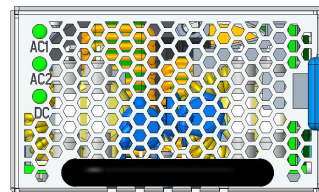
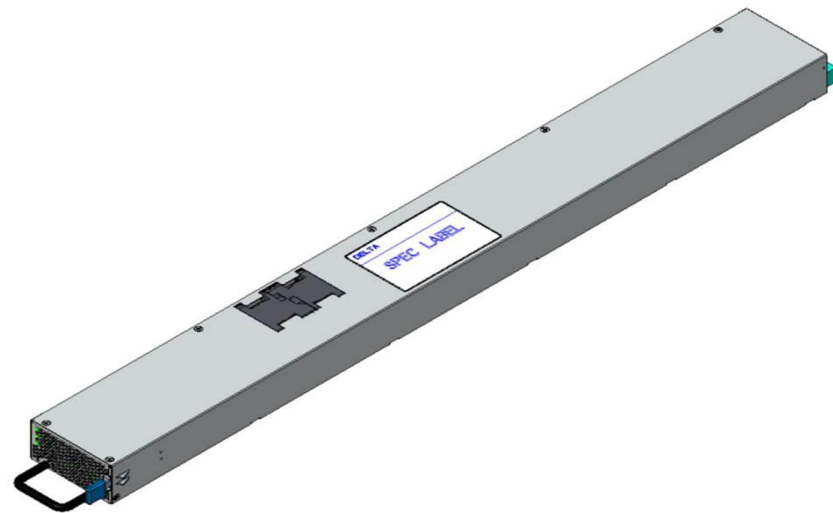
# Defender 48V Power Shelf Spec

- Shelf depth (excludes output busbars): 2 RU  
EIA 19" x approx. 850 mm
- 30KW max 12 PSUs (11+1, 8+1, 5+1 and 2+1)
- Dual AC input, Wye or Delta
- 2x2 32A Positronics AC input connector
- Output busbars fastened with flange nuts to rack busbar



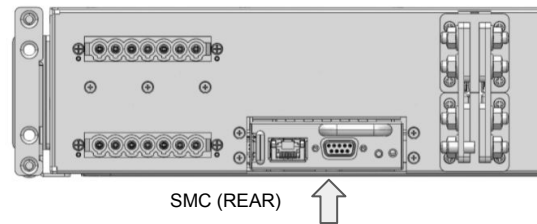
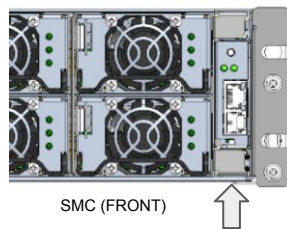
# Defender Power Supply Spec

- 200-240V dual AC input
- Output: 3kW/48V (48.8V to 49.8V)
- Built-in auto transfer switch
- Efficiency >97% peak
- > 25mS ride-through time
- < 150% inrush current during transfer



# SMC (Shelf Management Controller)

- RJ45 10/100/1000 Mbps
- Redfish API
  - Metering
  - Status monitoring and event logging
  - Control
  - FW Upgrade
  - Proposed to DMTF as industry standard
- Debug port
  - Serial port
  - SSH
  - Default Static IP
- I2C to PSU
- Hot-pluggable





Thank You!