Open19 Workshop

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The Open19 Project
Open19 Project Goals

- Create an open standard that can fit any 19” Rack environment for server, storage, and networking
- Create a solution that will have applicability for large, medium, and small scale data centers

**RACK DEPLOYMENT COST OPTIMIZATION** Reduce commons by 50%

**ENABLE FASTER RACK INTEGRATION** 3-5x faster integration time

**CONSOLIDATE REQUIREMENTS** Eco system with high adoption level
Platform Building Blocks—Rack level

- Double High Brick
- Double Wide Brick
- Brick
- Power Shelf
- Network Switch
- Brick Cage
Platform Building Blocks– Rack level

- Blind mate 400w power cables
- Blind mate 100G data cables
Brick Cage

- Passive mechanical cage
- 12RU and 8RU options
- 2RU modularity
  - 4x Bricks
  - 2x Double High Half Width
  - 2x Double wide
  - 1x Double High
- Snap-on rear opening
Cabling system

Open19 Power Cables

- 400W per server – 8/12 servers per cable

Open19 Data Cables

- 100G Per server – 8/12 servers per cable
• Four brick form factors
  – Brick (½ wide 1RU)
  – Double High Half Width – (2RU)
  – Double Wide Brick (1RU)
  – Double High Brick (2RU)

• Linear power and data growth
• Self Sustained – EMI & Safety & cooling
• 100G Blind Mate network
Open19 Switch

- 3.2T Switch
- Dual switch: Data Path & Management (OOB)
  - 50G per server data path
  - 1G per server management (optional)
  - Console port per server (optional)
- 12v input (no power supplies)
- Up to 8x100G uplinks
- Broadwell-DE CPU with BMC
- LinkedIn white box design
Open19 Power shelf

- 1RU, 19.2Kw (6x3.2Kw)
- Management via GE port
- Full AC and DC range
- Per server protection and monitoring
- Fully redundant A/B inputs
- Multi-Source for the shelf and modules
Future Developments for Open19

- Open orchestration & management software
- Different cage form factors
- New “server” models
- Automated data center deployment model
- Optical snap-on data cabling
- Liquid cooling integration
- Automated data center
Open19 Project Status
Open19 live @ Linkedin
Build Open19 by the Numbers

• Infra 40-60 Minutes per rack
• 96 servers 10 minutes per rack
• Total ~100 minutes per rack (2 technicians)
• 2 days for a full cluster – 1536 Servers
Open19 Benefits

• Much faster deployment
• 40% CapEx cost savings
• Up to 4x the space density
• Up to 50% the power savings
Summary

• Open19 is about defining a common form factor
• Open19 is about community collaboration
• Open19 technology is production since Q3 2018
• Open19 is based on a common open infra – Cages/Power/Cable/Network
• Open19 is about shared form factor into a variety of servers and storage solutions