

An abstract graphic on the left side of the image, composed of numerous thin, wavy green lines that swirl and overlap to form a complex, organic shape. The lines are a vibrant green color against the dark blue background.

Open. Together.



OCP
SUMMIT

Open19 Workshop



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The background of the slide is a light gray with a complex pattern of thin, dark gray lines resembling a circuit board or a network map. Scattered throughout this pattern are various small, stylized icons: a bar chart with an upward arrow, a cloud, a gear, a factory, a lightbulb, and a large infinity symbol. The overall aesthetic is technical and modern.

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

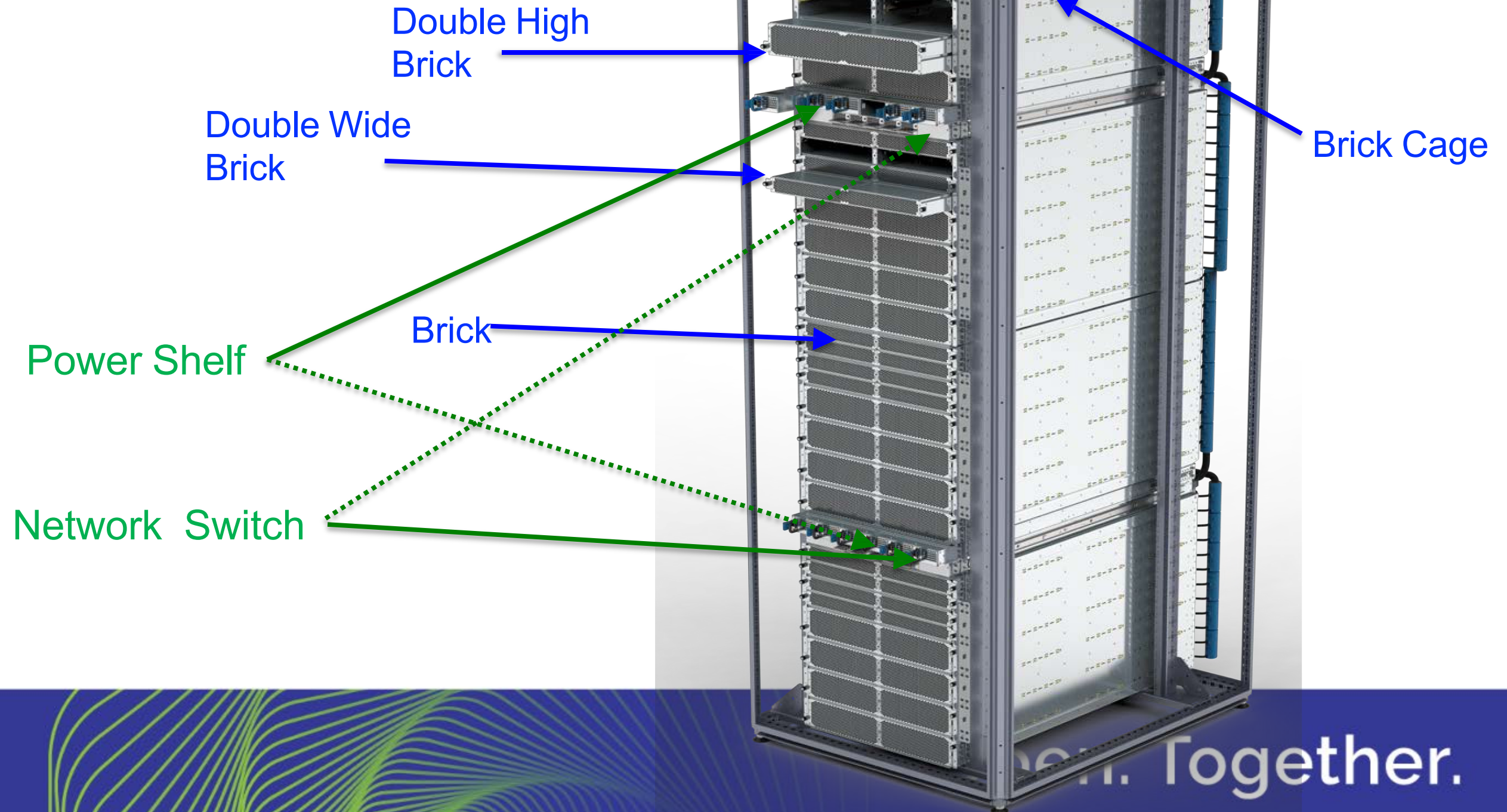
3-5x faster integration time



CONSOLIDATE REQUIREMENTS

Eco system with high adoption level

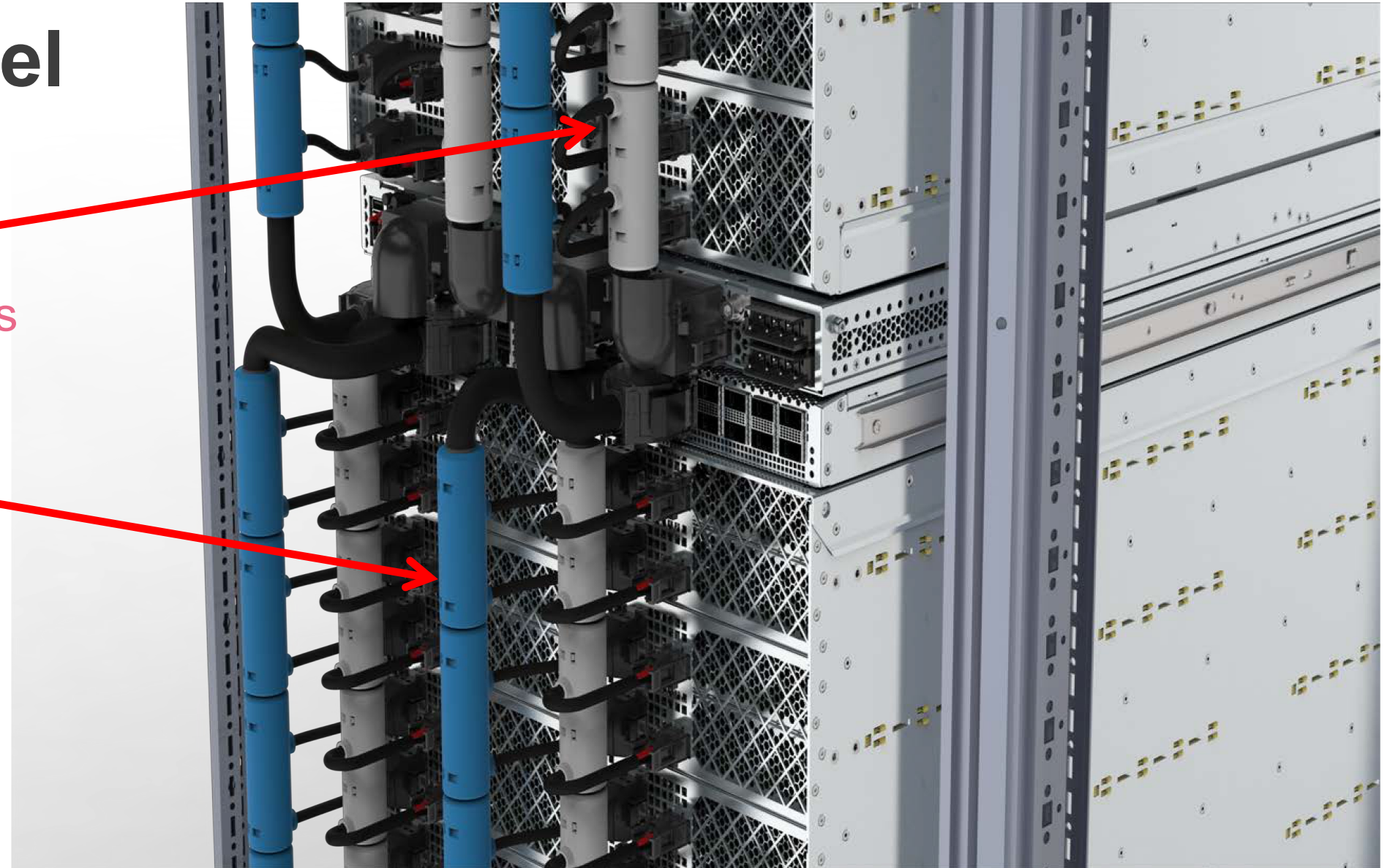
Platform Building Blocks— Rack level



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

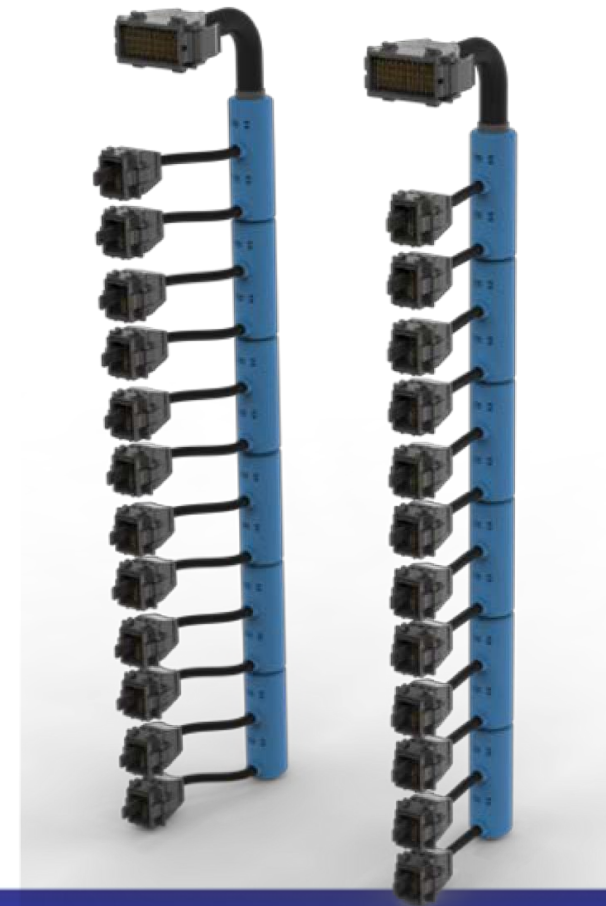
Open19 Power Cables

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

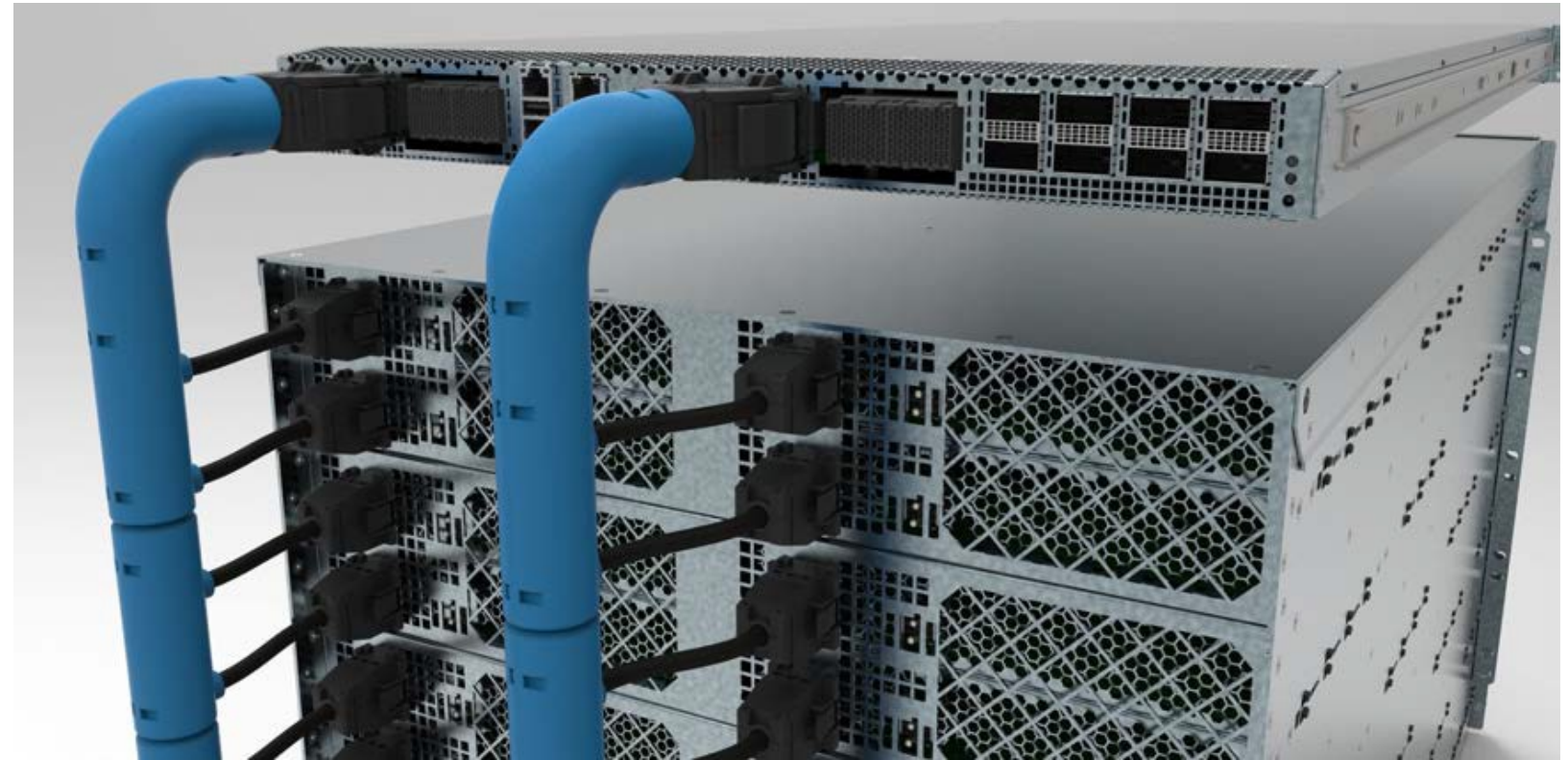


Open19 Data Cables

- 100G Per server – 8/12 servers per cable



Rack View



Bricks Form Factors



Brick



Double Wide Brick



Double High Half Width Brick



Double High Double Wide Brick

- Four brick form factors
 - Brick ($\frac{1}{2}$ 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

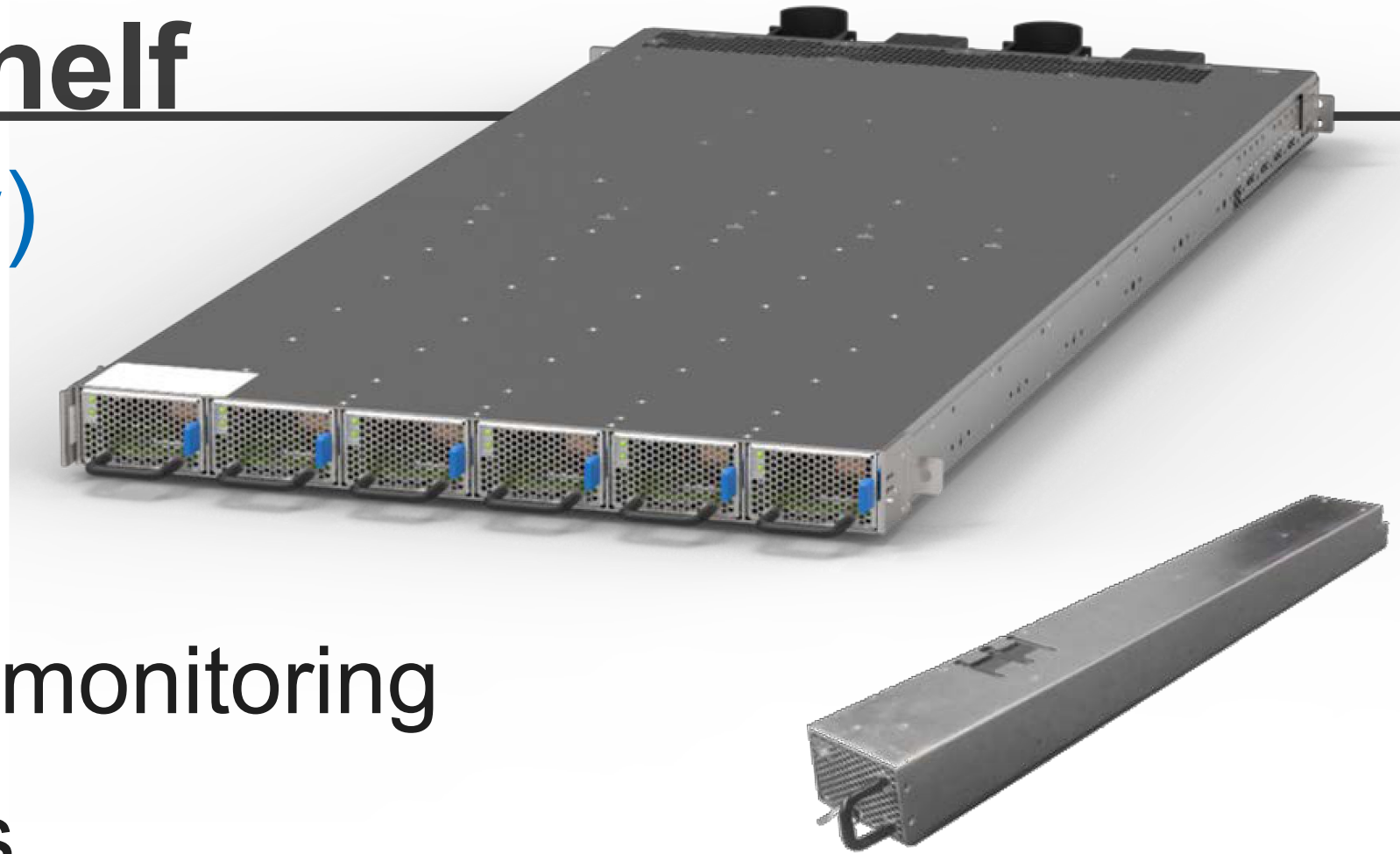
Open19 Switch



- 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

The background of the slide features a complex, light gray circuit-like pattern on a white background. This pattern includes various geometric shapes, lines, and icons such as gears, clouds, infinity symbols, and bar charts, suggesting a technological or data-driven theme.

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

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