OPEN

Compute Engineering Workshop

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San Jose

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Compute Engineering Workshop

OpenRack

Innovation-Adoption-Consumption

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PRINCIPLES

- The technologies behind data centers are understood by their users—they know what they need and want, and can innovate; collaboration between these users and technology developers is the best way to openly create and develop opportunities for innovation in this space. This community should make big plans and aim high.
- We strive to enable the development of the most efficient servers, storage and data center infrastructure from a useful work per total cost perspective, in order to bring computing to people at the lowest cost and widest distribution.
- All infrastructure technology and energy consumption (renewable and non-renewable) has environmental impact; we will minimize environmental impact whenever possible.
- The base designs that emerge from this project should be freely implemented and improved upon by anyone and all.
- Open Source Software and Hardware will serve to democratize access to the best server, storage and data center technologies available. The focus of this project is on open technologies that can be multi-sourced.
- Community benefit for all of our participants—contributors, consumers and technology suppliers— is paramount in order to accelerate innovation and maximize opportunity throughout the Open Compute community.
- Interoperability and compliance are crucial for scaling effectiveness. We will work with industry standards bodies to help strike a balance between modularity and customization as needed.
- Transparency of processes, including communications, promotes participation, respect, honesty and trust.

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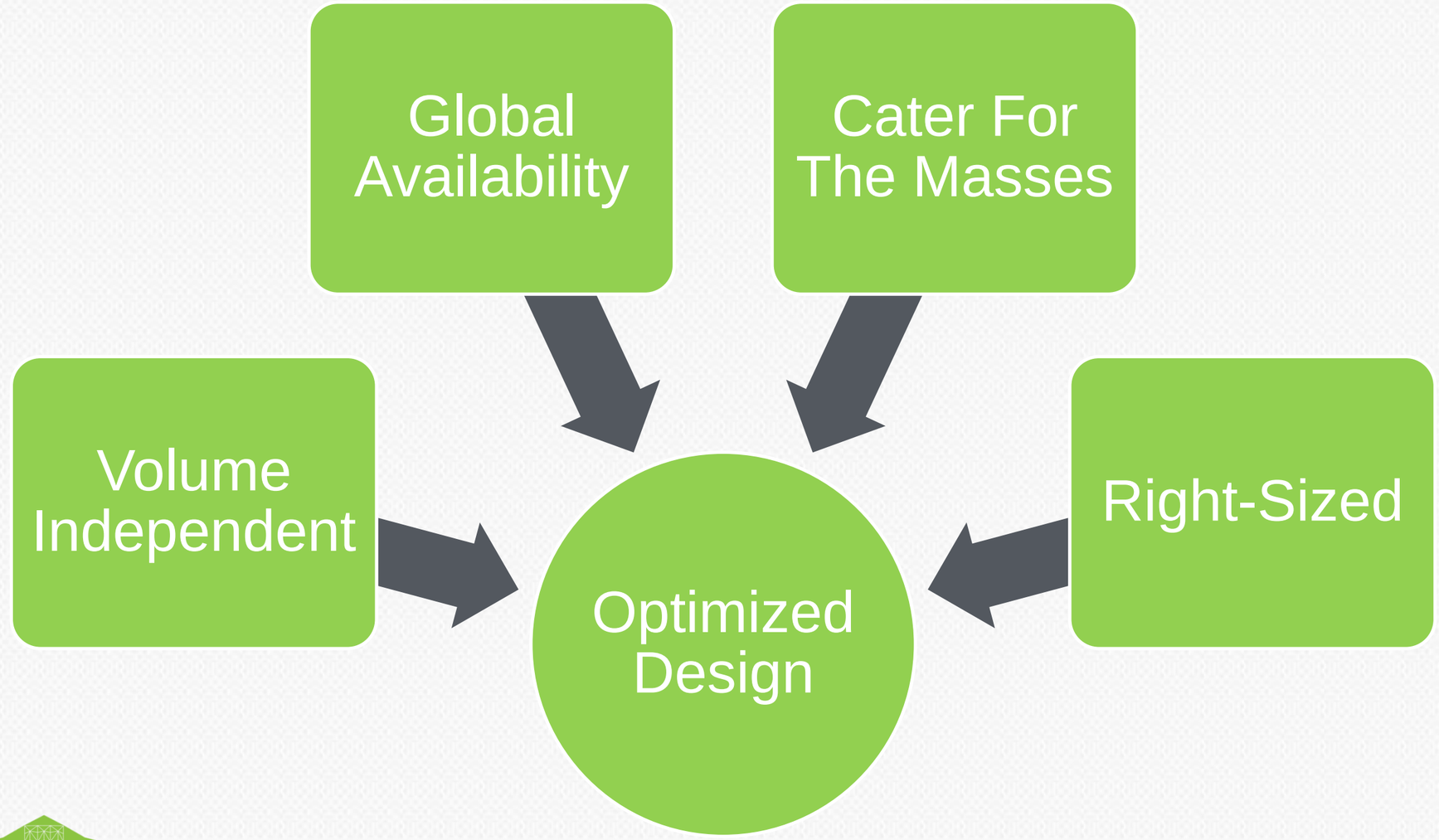
Lowest Cost & Widest Distribution



OpenRack v2

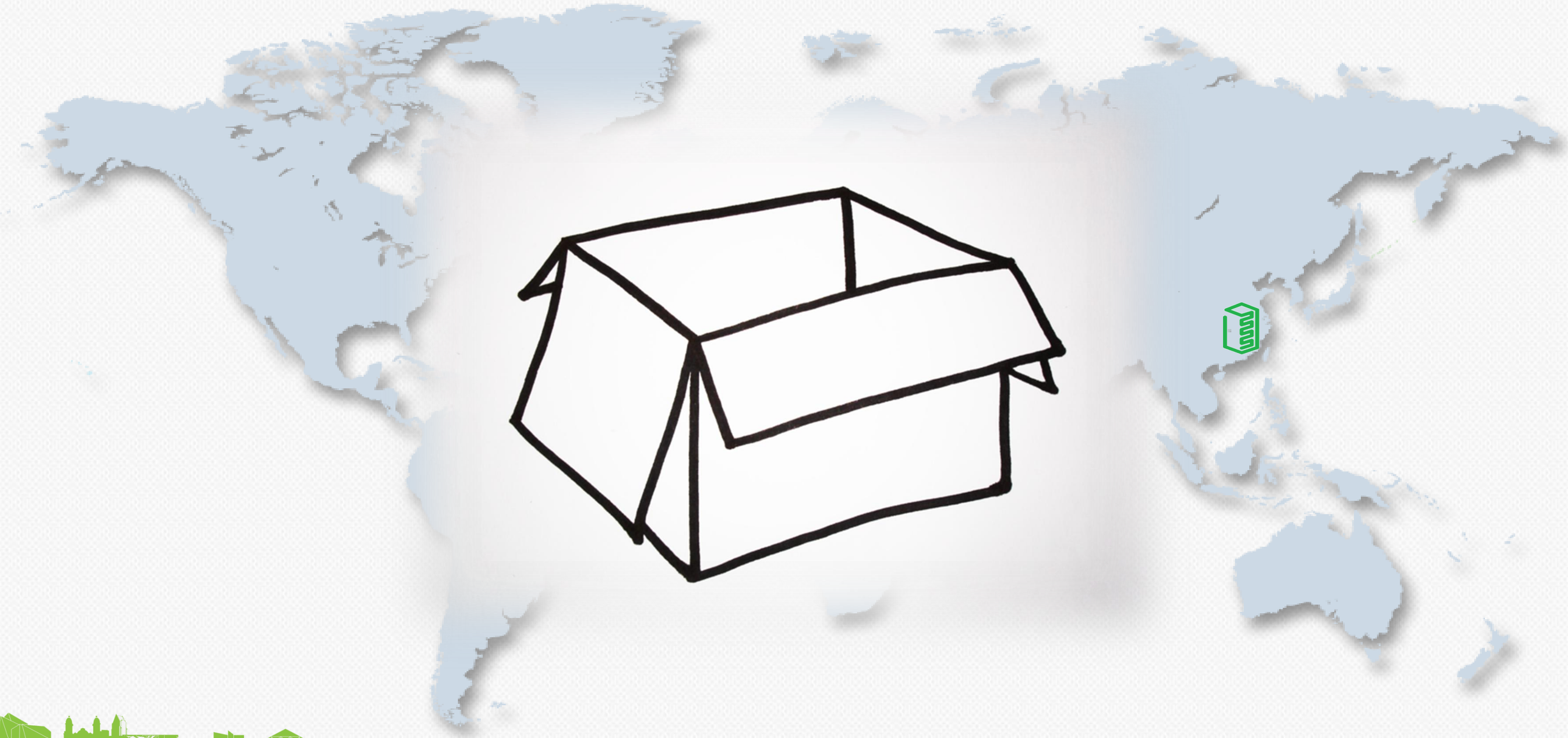
How many people are shipping fully loaded racks at 1,400kg?

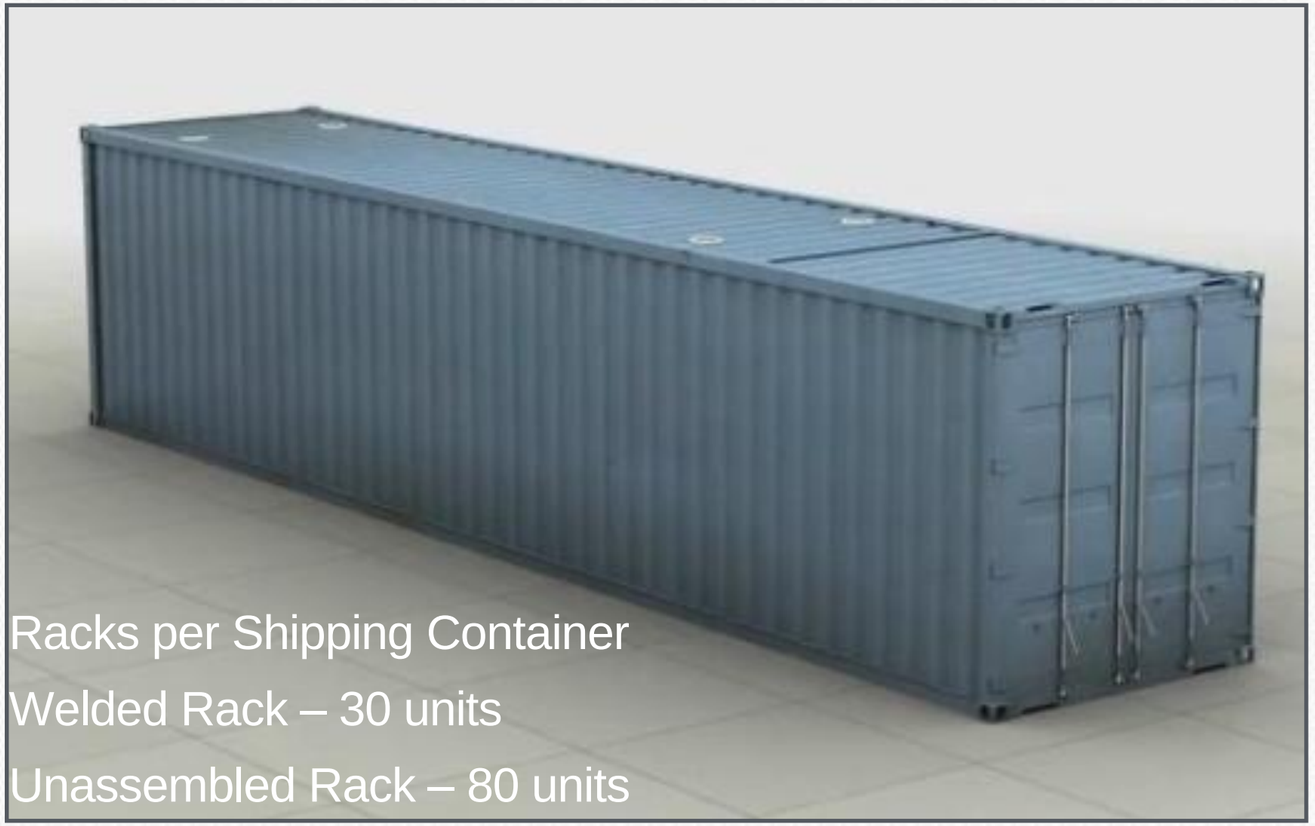
- Designed with Hyperscale in mind
- Dynamic Weight Loading of 1,400kg
- Wide scale deployment

New OpenRack Contribution

How do we enable Enterprise & SMB to reap the OCP benefits?

- Traditional IT rack market in mind
- Rarely push 1,000kg
- Test environments, application specific deployments





Racks per Shipping Container

Welded Rack – 30 units

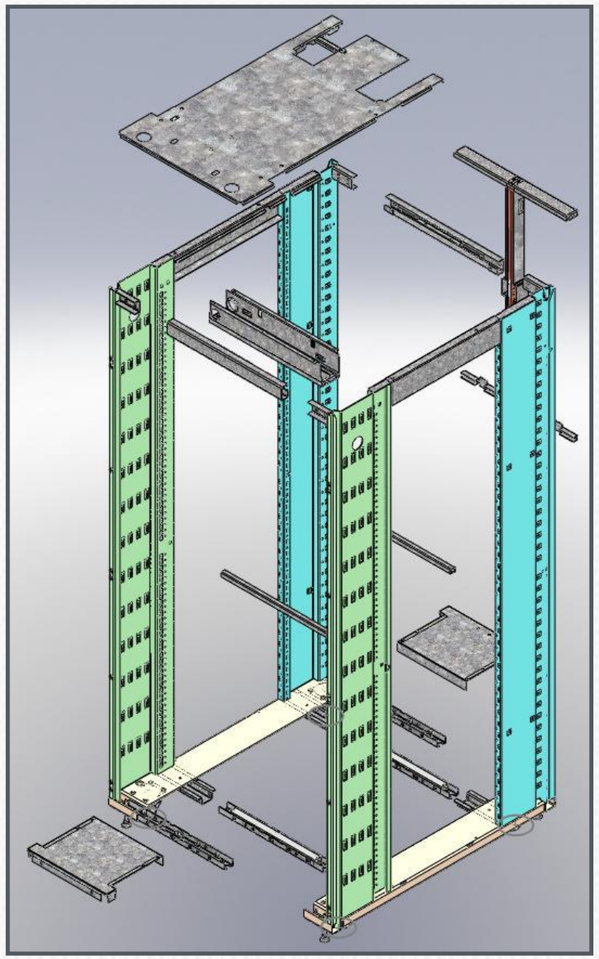
Unassembled Rack – 80 units


NetShelter
APC
DO NOT
DISCARD
REUSABLE
PACKAGING


70

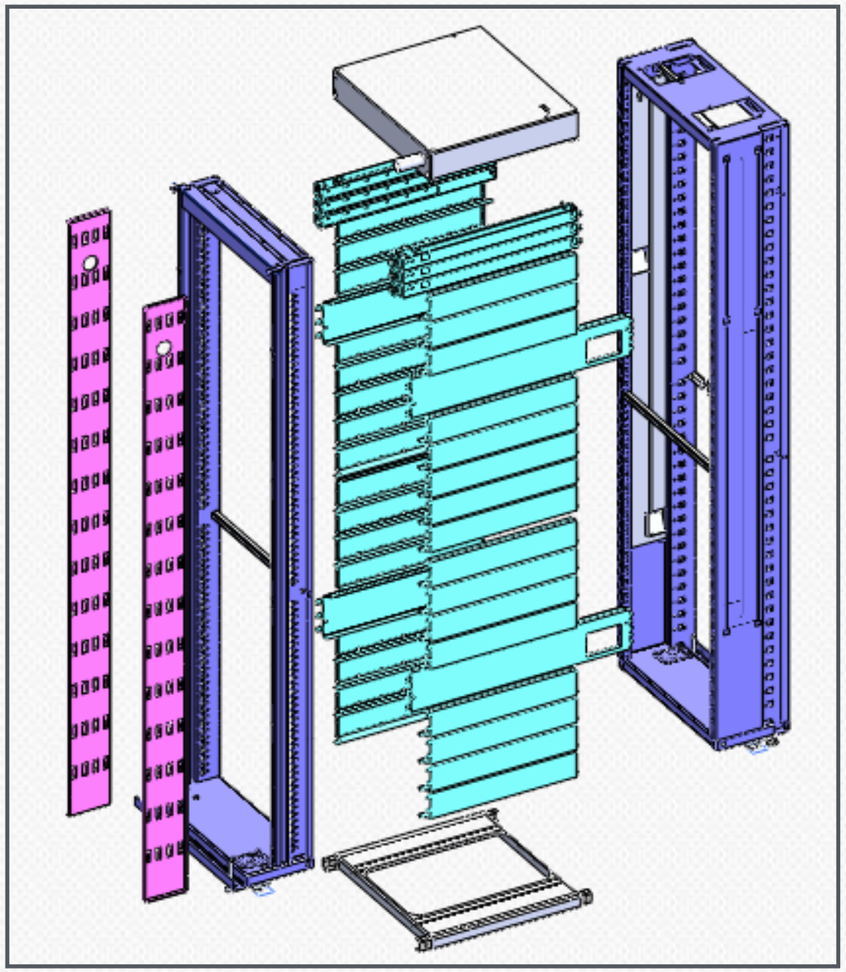
Unassembled OpenRack

Left-to-Right



or

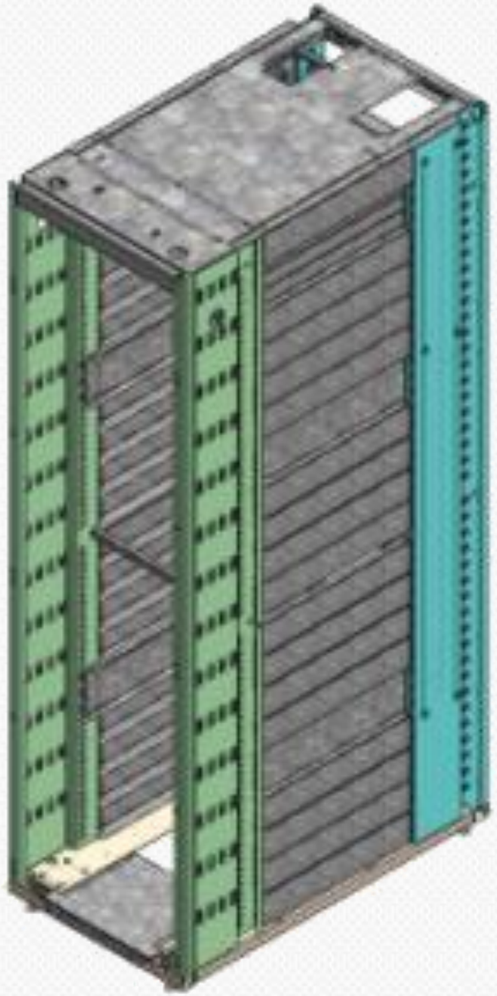
Front-to-Back



Left-to-Right

- More parts assembled during manufacturing in low cost region
- OSHA lifting restrictions requires hoist
- Shorter final assembly time

Lower overall cost



Front-to-Back

- Higher % assembly at localalized assembly center
- Unassisted assembly of rack
- Longer final assembly time

Higher overall cost

Key Features of OCP Rack	
Description	OCP Rack Concept Definition
Height	2210 mm
Depth	1067 mm （±2mm）
Width	600mm(+0mm,-4mm)
Static/Dynamic loading	1400Kg (About 3,000lbs)
Height of 1U	48.0 mm
IT Support bracket	70Kg (Dynamic loading)
Power Shelf Support bracket	50Kg (Dynamic loading)
Side panels	With side panel (Optional)
Bus Bar	With Covers
Caster loading (Dynamic)	600 Kg/Each

Next Steps…

- DVT Tests (Schneider Internal Tests requirements)
- ISTA Tests (Assemblies and flat packs)
- Seismic Testing (NEBS GR-63-CORE test)
- UL Tests

Summary

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