Criteria for 100Gbps Copper Cable Solution

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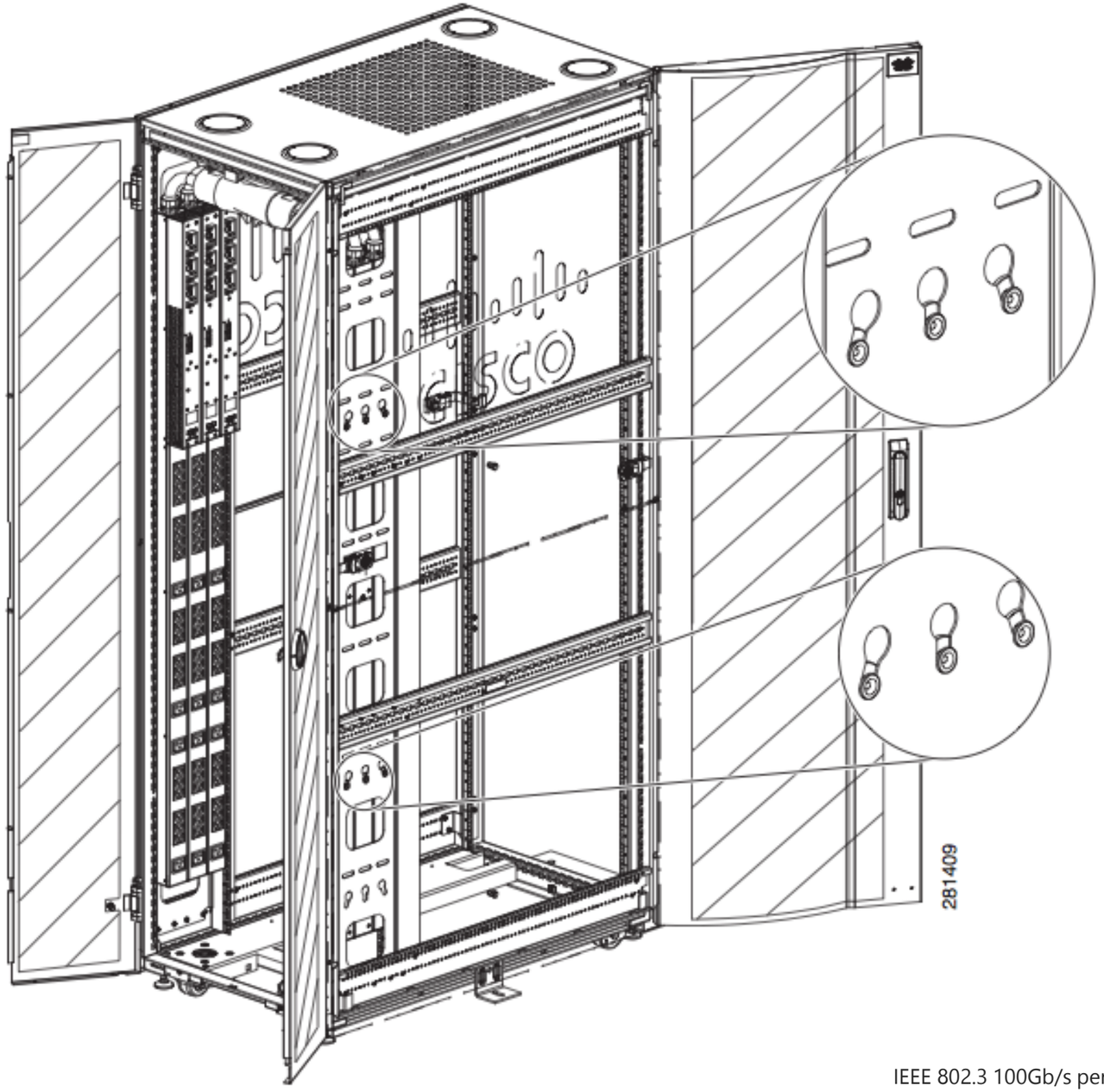
Overview

- Rack Definition, Cable Routing, and Cable length
- Summarizing a simplified solution across rack systems

Cisco Rack Series R42610 / Based on EIA-310-D



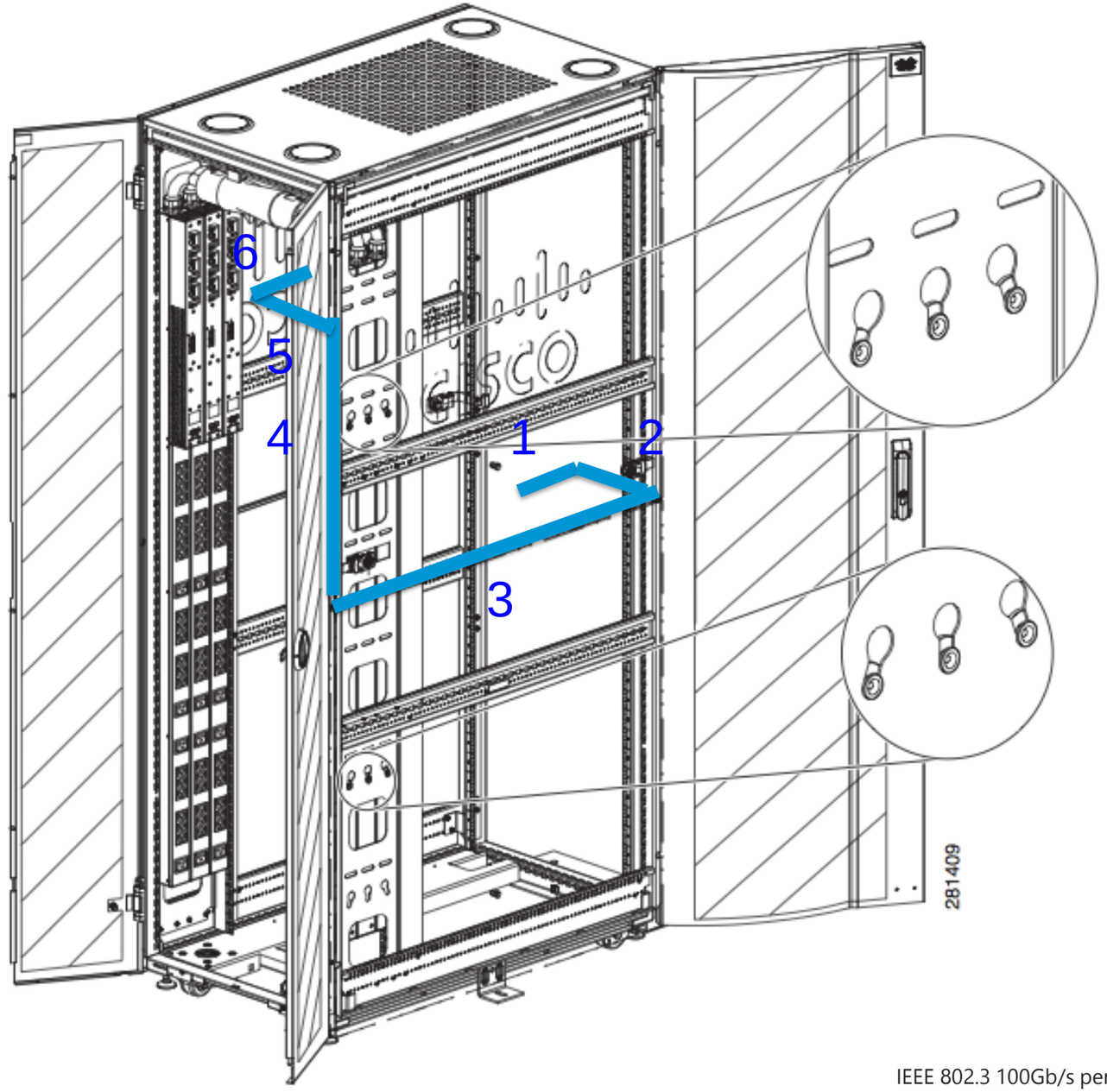
- H x W x D

  2000mm x 610mm x 1102mm
- Side Panels
- Equipment Mounting Capacity

  42RU
- Static Load Capacity

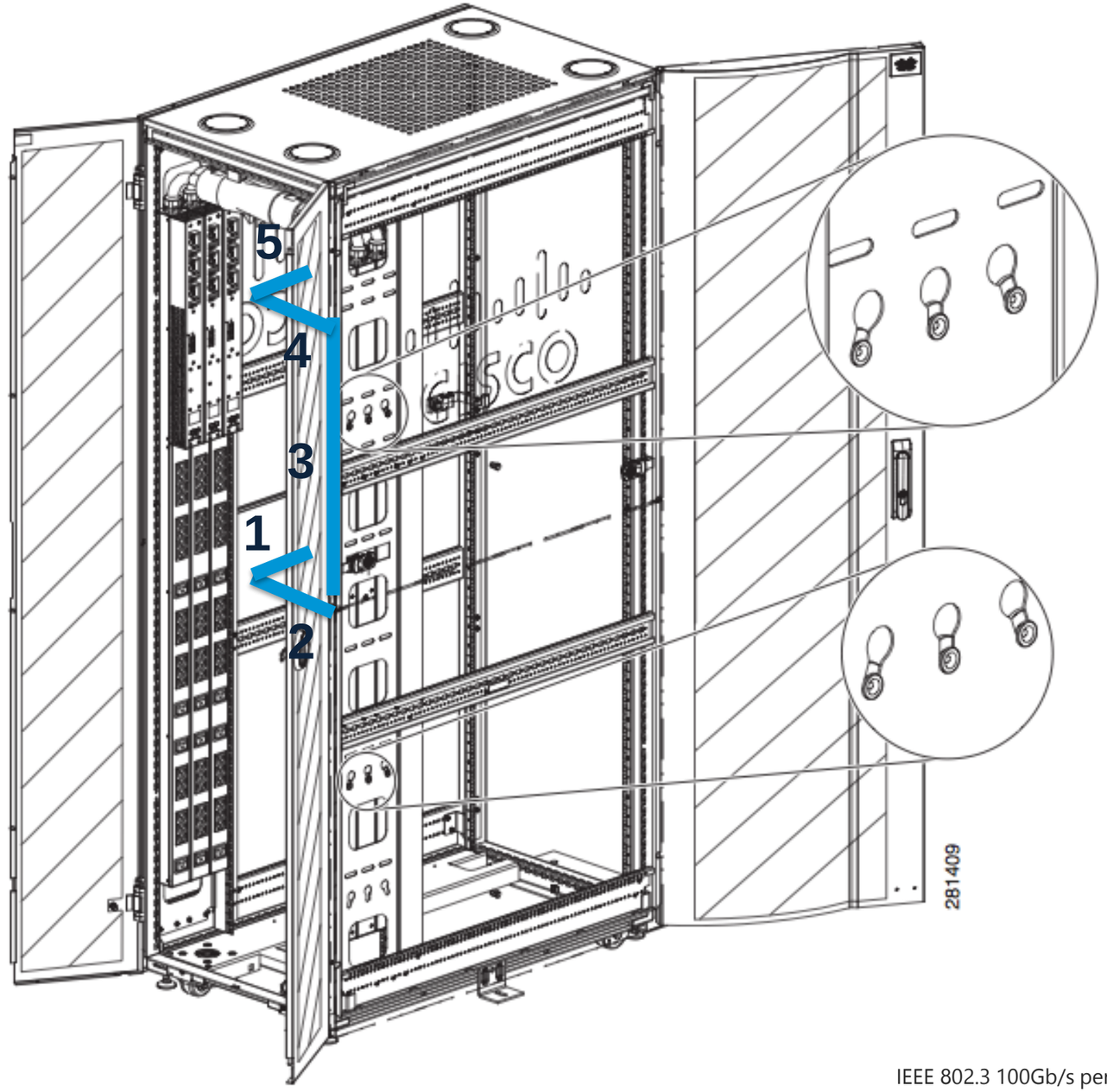
  2100 lb / 954 kg
- Application – well suited for hooded systems and other types of hot aisle / cold aisle containment.
- EIA-310-D type racks are well suited for the new California building codes introduced on Jan 1, 2015, requiring all installations to support hot aisle / cold aisle containment.
- Standards 2-post racks with 4in cable management assume the same basic foot print as this 4 post rack system.
- 23in rack systems will may require 100mm more in length to account for extended cable management systems.

Cabling Installation – Front Top to Rear Middle



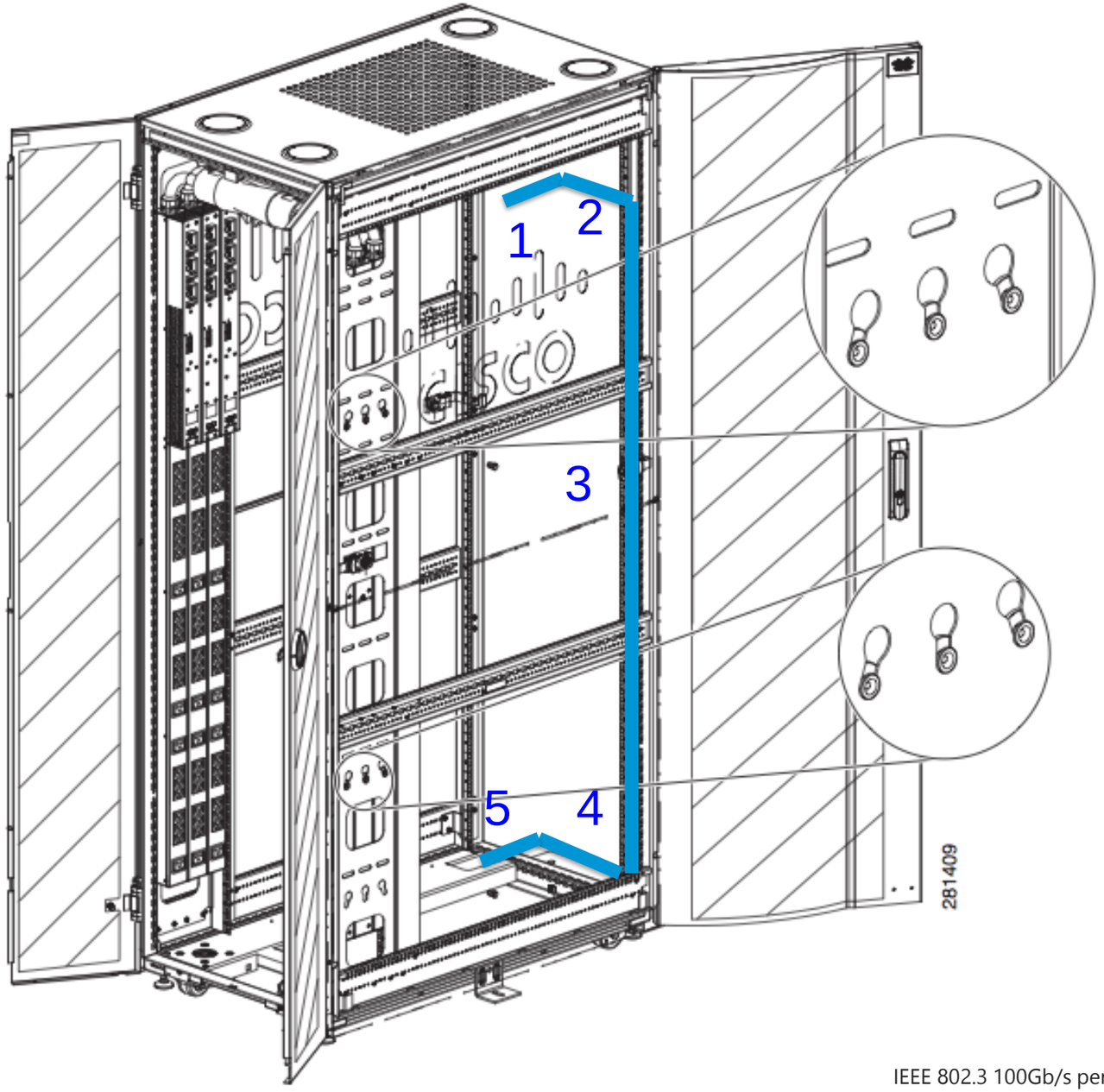
- Cabling is an art form. There is a lot of pride that goes into a professional installation
- Every detail is considered, with focus given to layout, labeling, and debug.
- Consider this common strategy
  - 1 – 152mm
  - 2 – 304mm
  - 3 – 1066mm
  - 4 – 914mm
  - 5 – 304mm
  - 6 – 152mm
- This real life case is 2892mm.

Cabling Installation – Front Top to Front Middle



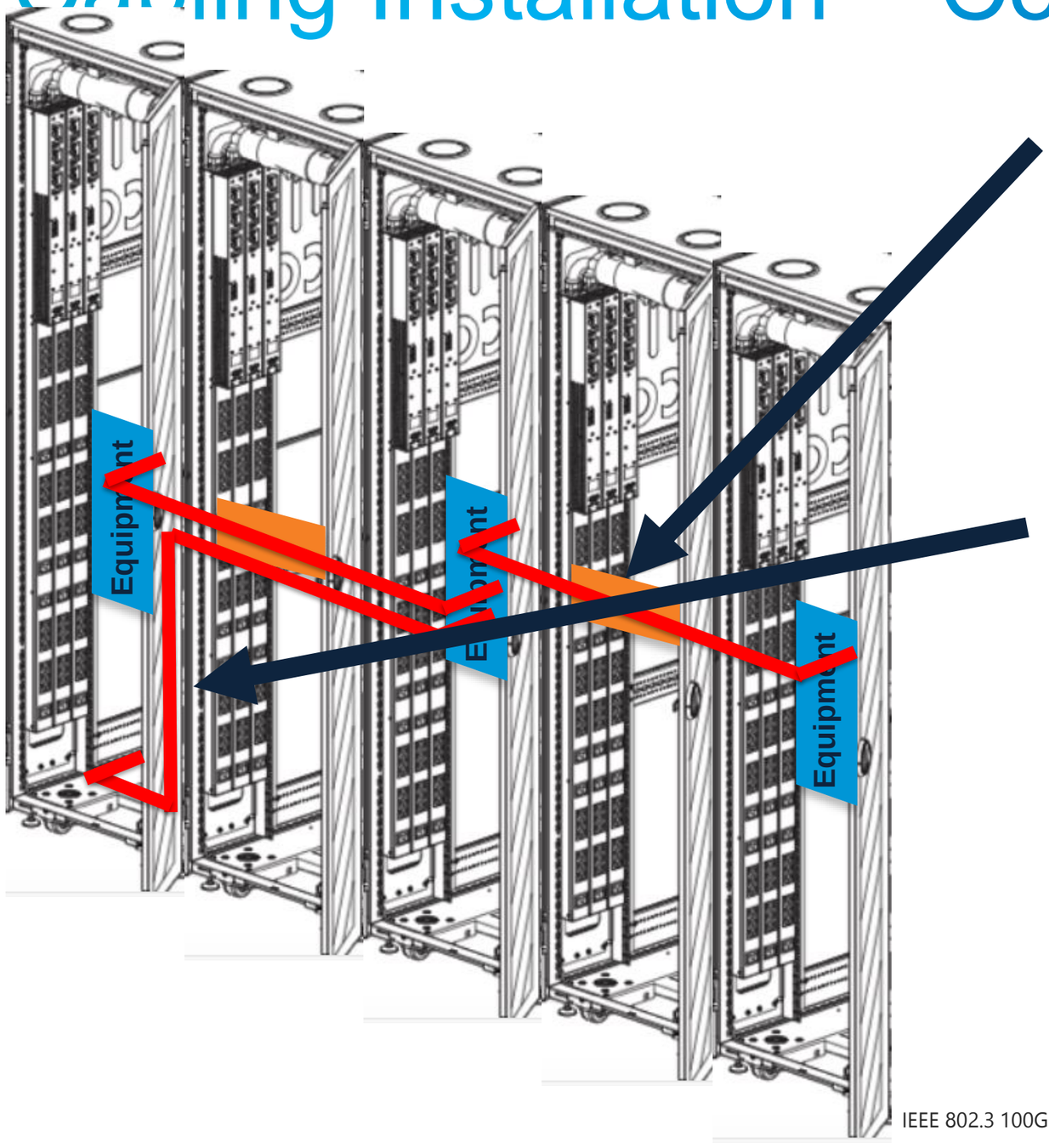
- Cabling is an art form. There is a lot of pride that goes into a professional installation
- Every detail is considered, with focus given to layout, labeling, and debug.
- Consider this common strategy
  - 1 – 152mm
  - 2 – 304mm
  - 3 – 914mm
  - 4 – 304mm
  - 5 – 152mm
- This real life case is 1826mm.
- In some best case routing, 200mm total can be reclaimed, resulting in a 1626mm best case routing solution.

Cabling Installation – Rear/Front Top to Bottom



- Consider this common strategy
  - 1 – 152mm
  - 2 – 304mm
  - 3 – 1778mm
  - 4 – 304mm
  - 5 – 152mm
- This real life case is 2690mm.

Cabling Installation – Covering 5 racks



- Front Middle to Front Middle +1 Rack
- Consider this common strategy
  - 1 – 152mm
  - 2 – 1218mm
  - (304+610+304)
  - 5 – 152mm
- This real life case is 1522mm.

- Front Middle to Front bottom + ! Rack
- Consider this common strategy
  - 1 – 152mm
  - 2 – 914mm
  - (304+610)
  - 3 – 914mm
  - 4 – 304mm
  - 5 – 152mm
- This real life case is 2436mm.

- Requires 1RU cable management bar for traverse.

Results

- There are clear routing solutions (case 2 and 4) that can be implemented, with some level of engineering guidance, in a length of 1500mm to 1700mm, easily targeting 2 of the 5 cases described.
- To fit all cases, the target length would have to be 3000mm.
- Case 1, 3, and 5 can be avoided with equipment planning.

Cable Routing Method	Length (mm)
1) Front Top to Rear Middle	2892
2) Front Top to Front Middle	1826
3) Front or Rear Top tot Front Bottom	2690
4) Front Middle to Front Middle + 1 Rack	1522
5) Front Middle to Front Bottom + 1 Rack	2436