



# Need for 400GbE breakout

Tom Palkert –Molex

**molex**  
one company › a world of innovation

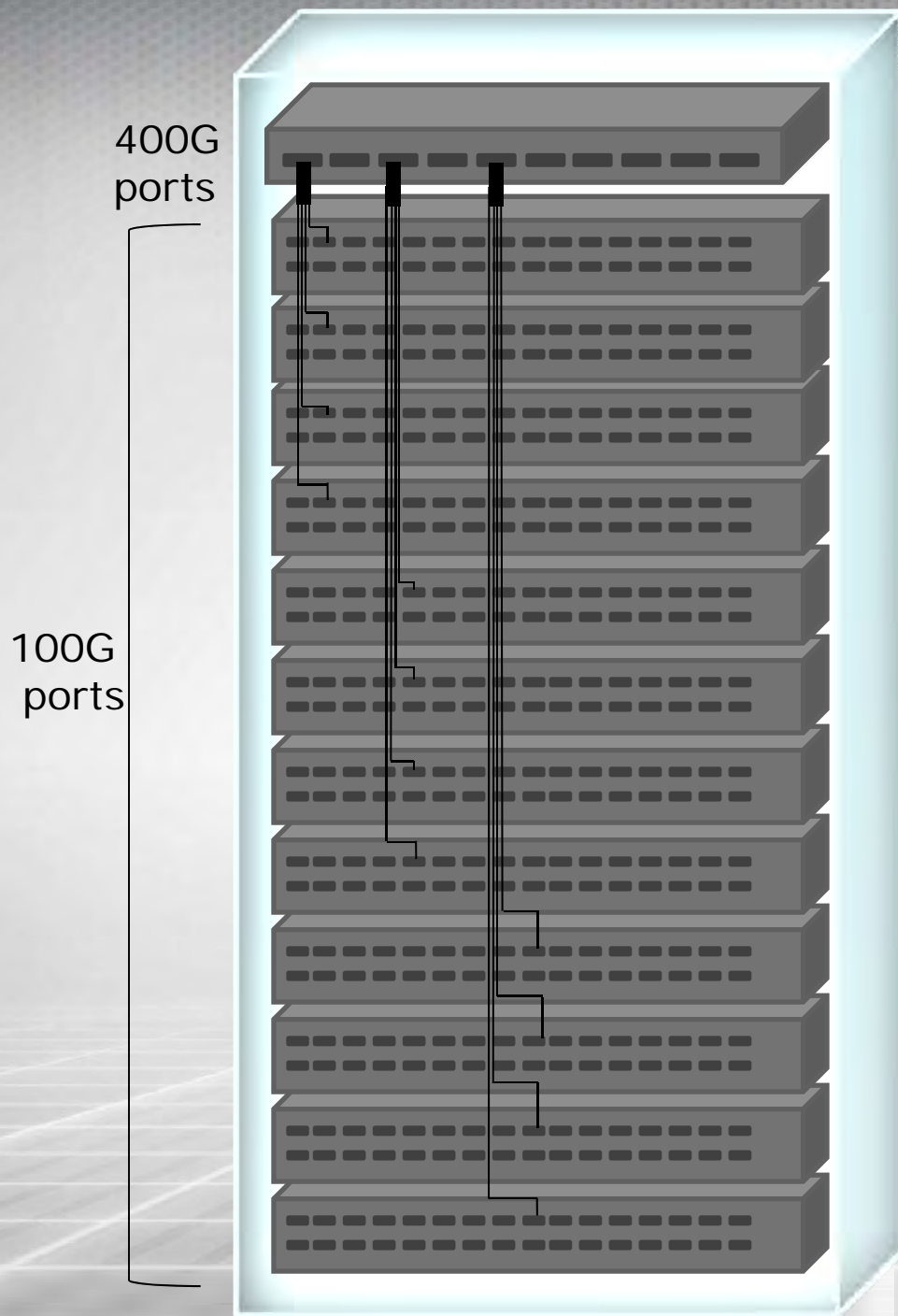
# Outline

- Applications for breakout
- PMDs that could support breakout
- The only way to achieve Broad Market Potential



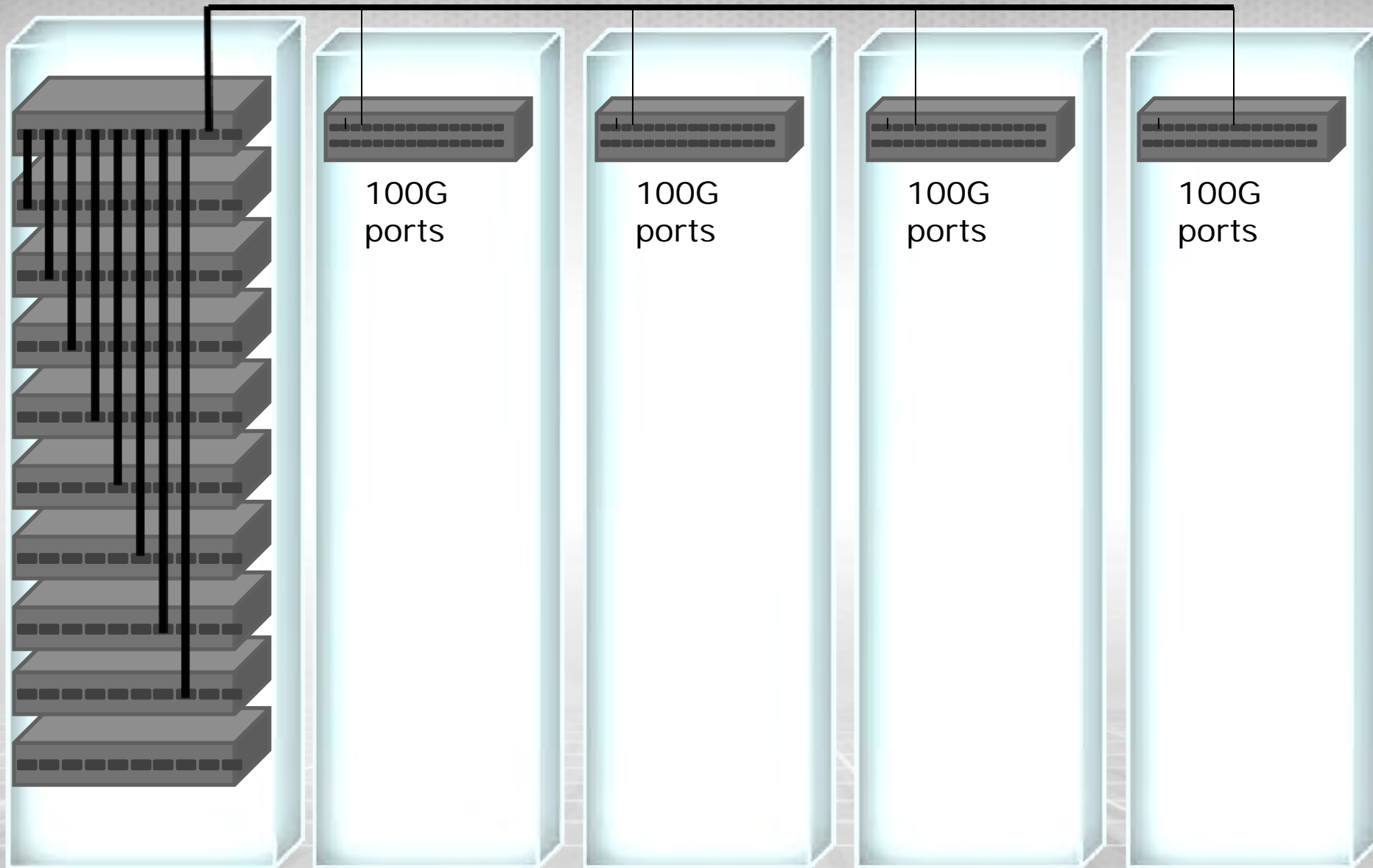
# Proposed Objective

- Provide appropriate support for breakout functionality

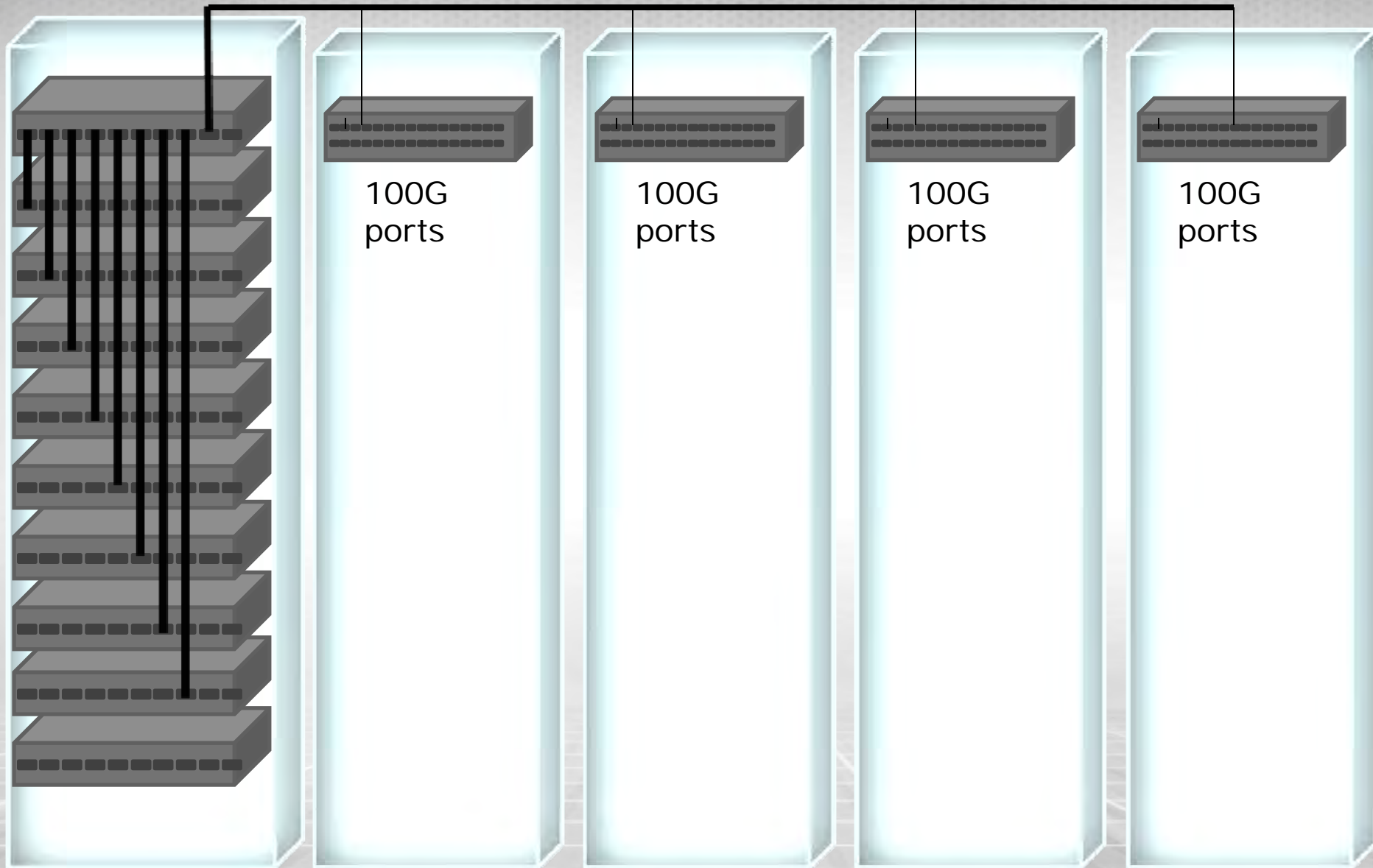


400G to 4x100G  
breakout option:  
400G-CR16 to  
4x100G-CR4

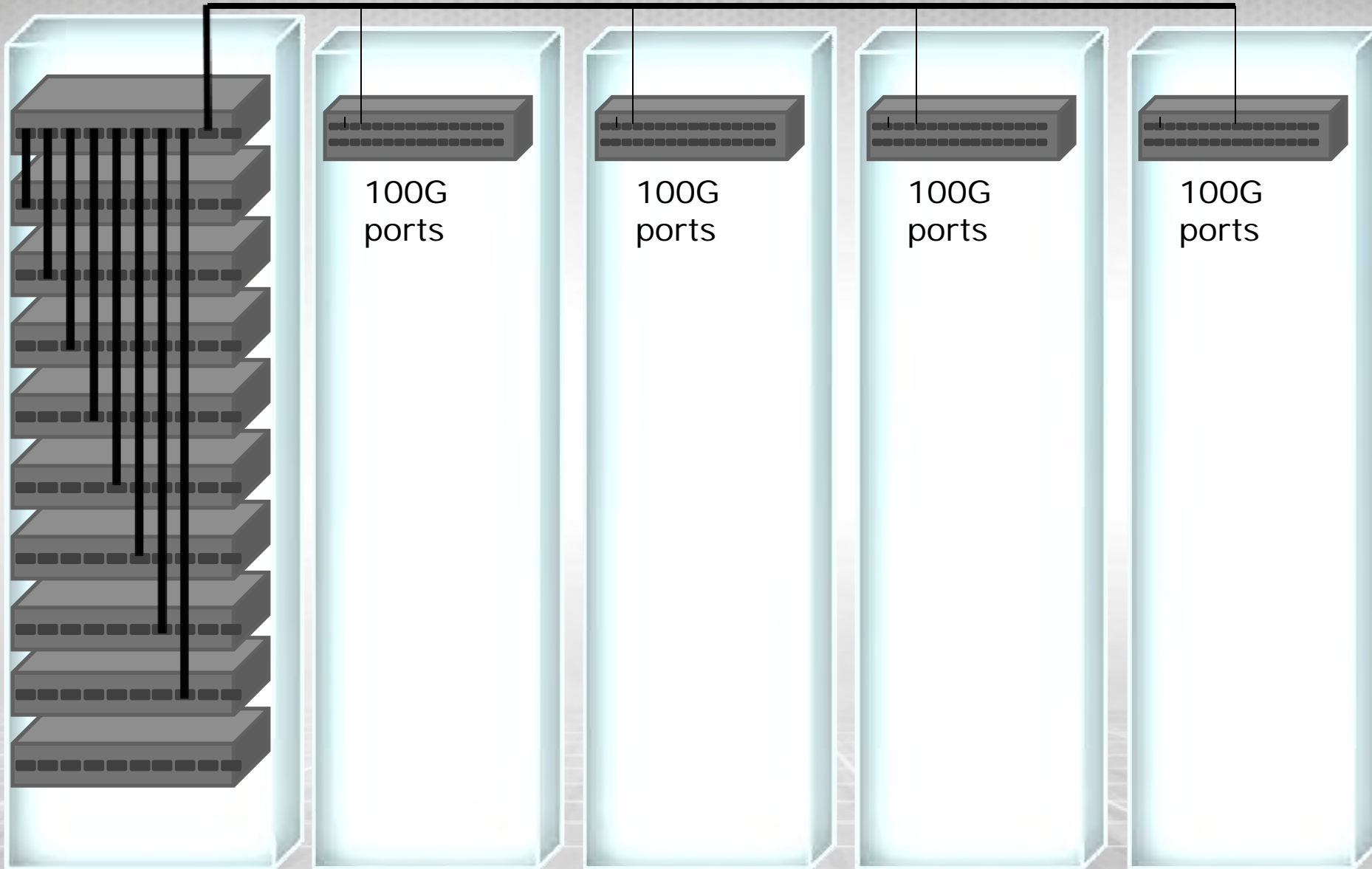
# 400G SR16 to 4x100G SR4 (100m)



# 400G PSM16 to 4x100G PSM4 (500m)



# 400G PAM-PSM4 to 4x100G PAM-PSM1



# CR16 to 4xCR4 copper cable breakout





# SR16 to 4xSR4 MMF breakout or PSM16 to 4xPSM4 breakout (Pretend its fiber)



# 4xPAM QSFP to 1xPAM SFP



# Plea for Broad Market Potential

- ❑ **Without breakout applications we will not achieve BMP**
  - ❑ Data centers do not need 400G but they will need dense 4x100G
  - ❑ The BMP of breakout applications has been demonstrated by 4x10G modules in the data center