

OPEN

Compute Summit

Engineering Workshop

October 30-31, 2014

Paris





OCP Mezzanine Card 2.0

-Expends Use Cases of OCP Mezz1.0

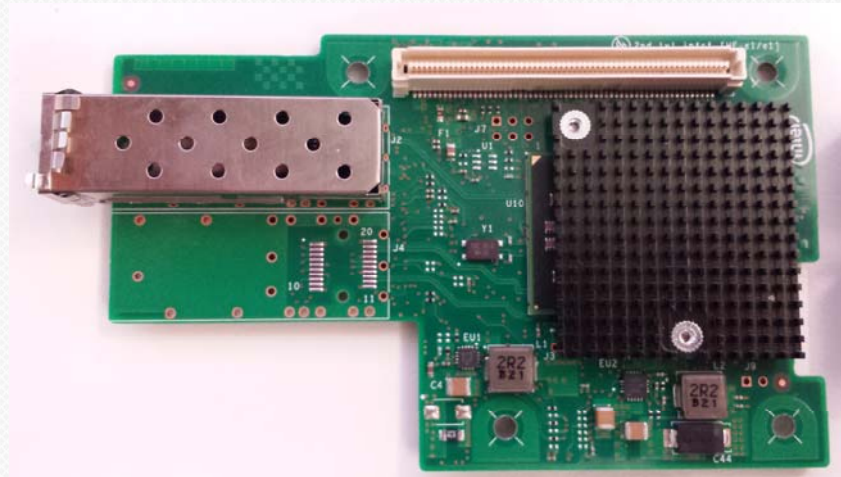
Jia Ning
Facebook
Hardware Engineer



Background

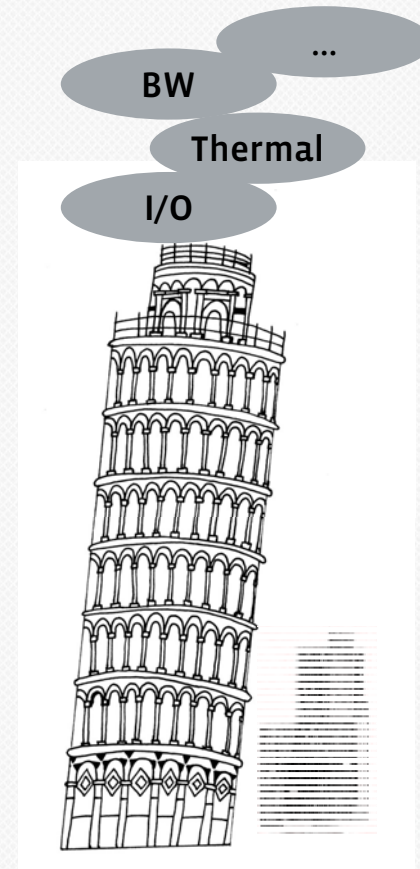
OCP Mezz 1.0

- 2x SFP+
- PCIe x8
- OOB on I2C
- 8MM stacking
- OCP Intel MB V2.0/V3.0
 - Developed in 2011
 - Does not support all new use cases



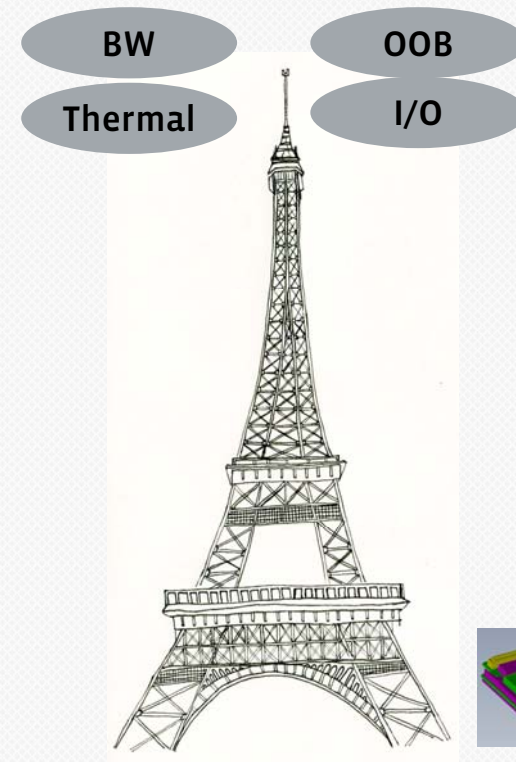
Call for Action - from New Use Cases

- BW increase to Network
- Network Port Type/Count
- BW increase to Host
- BW increase for OOB
- KR to Host
- Thermal challenge



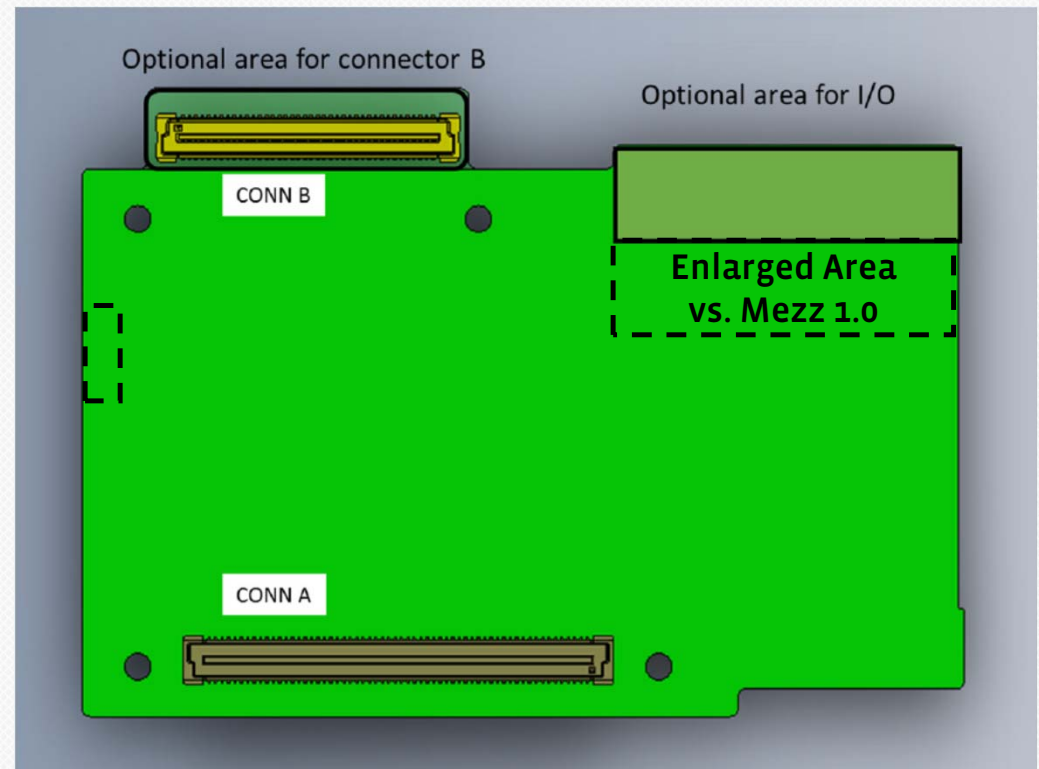
Call for Action - from New Use Cases

- BW increase to Network
- Network Port Type/Count
- BW increase to Host
- BW increase for OOB
- KR to Host
- Thermal challenge
- Need New Spec as Base



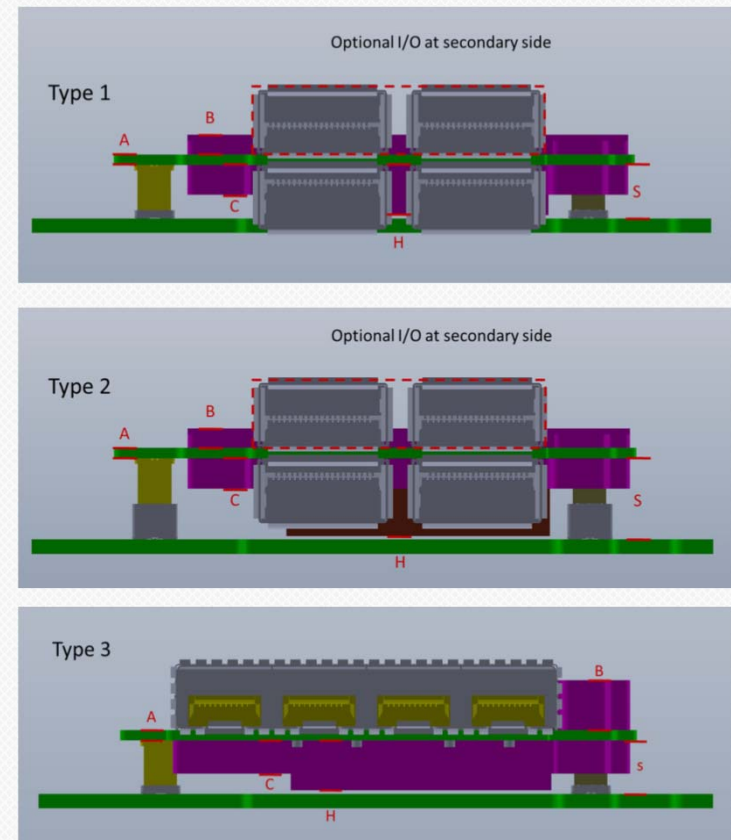
Form Factor Change in Horizontal Plane

- Add Connector B
- Enlarge board space
- Optional I/O area



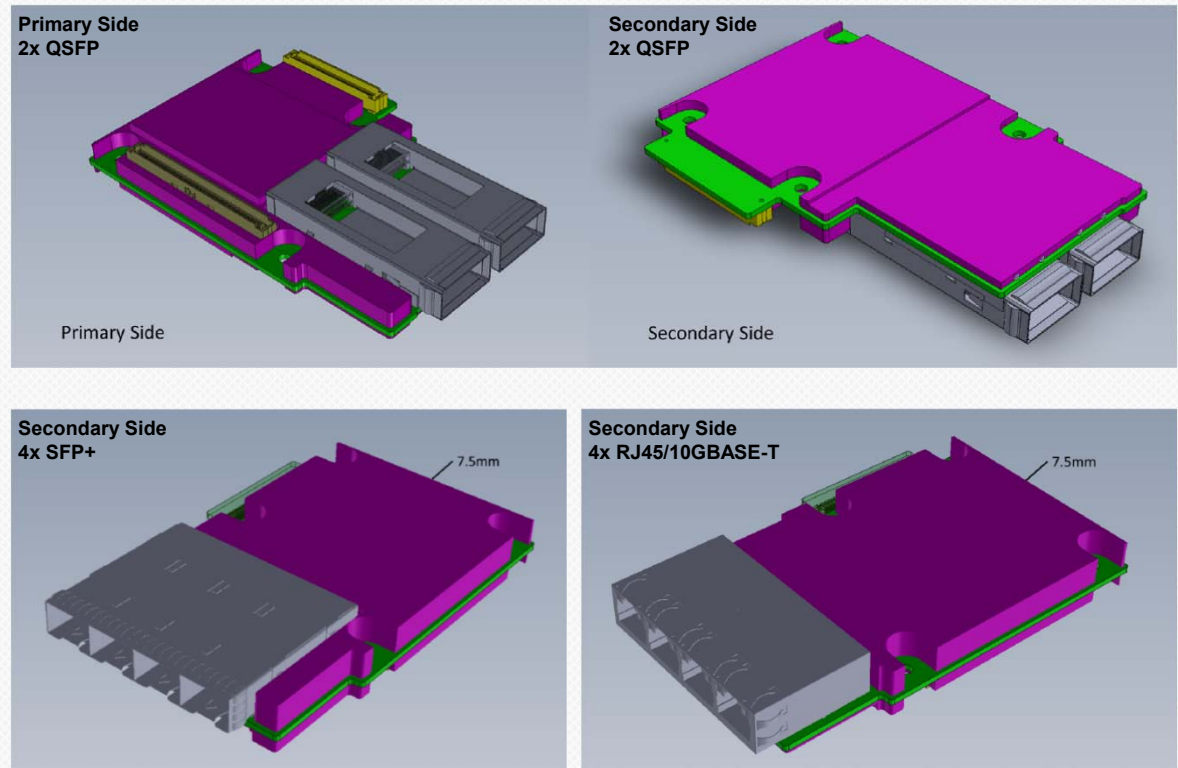
Form Factor Change in Vertical Plane

- Type 1
 - Similar to Mezz 1.0
 - Optional I/O at secondary side
- Type 2
 - 12mm stacking for 11.5mm heatsink
- Type 3
 - Controller on secondary side



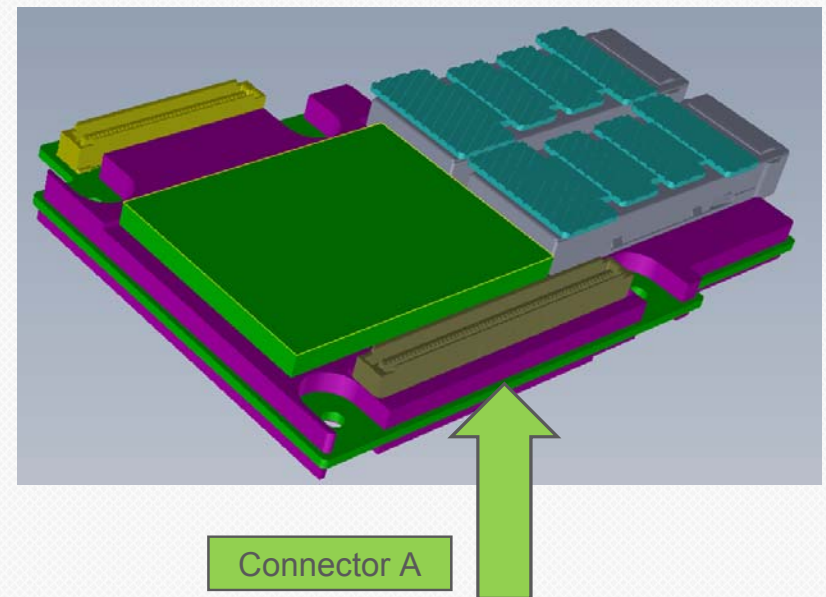
What's New: Network Interface

- 2x QSFP
- 4x SFP+
- 4x RJ45/10GBASE-T



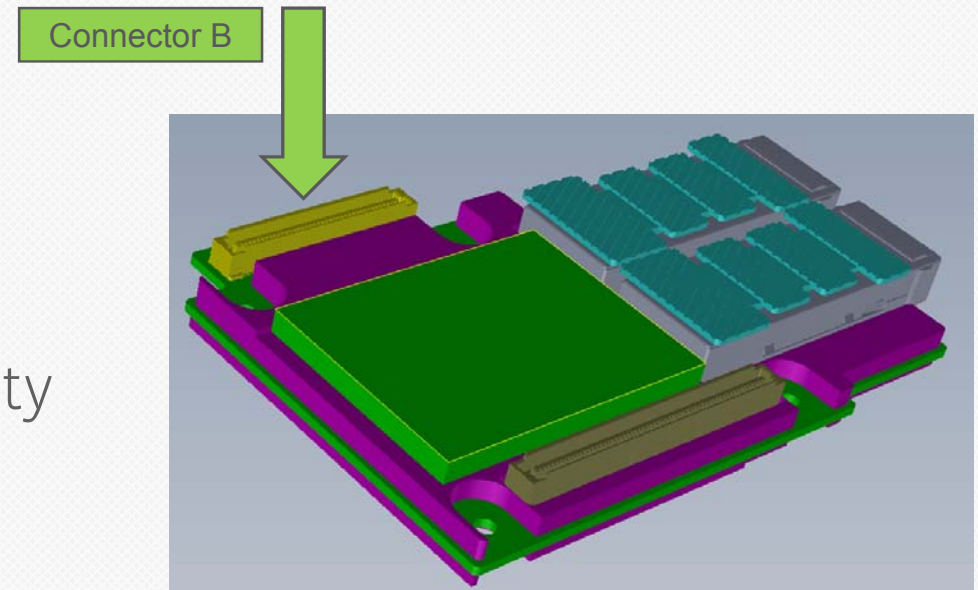
What's New: Connector A (120pin)

- Add NC-SI
 - > higher OOB BW
- Thermal reporting
 - > Controller needs more LFM to cool
- 4x PERST#
 - > 4 x4 PCIe
- EEPROM(Card ID)
 - > ID of different types of cards
- Baseboard ID
 - > ID of different types of baseboards



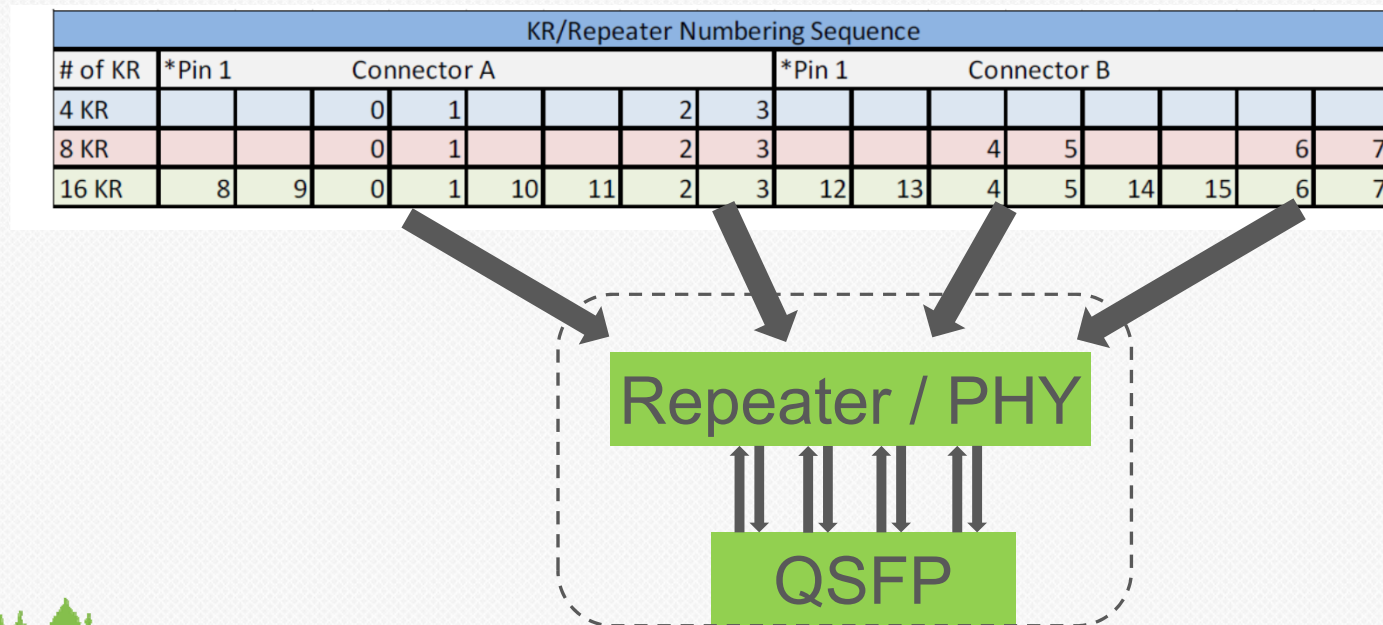
What's New: Connector B (80pin)

- Connector B (80pin)
 - New Added
 - -> Enable x16 PCIe Gen3
 - Use on as needed base
 - -> Impacts backward compatibility



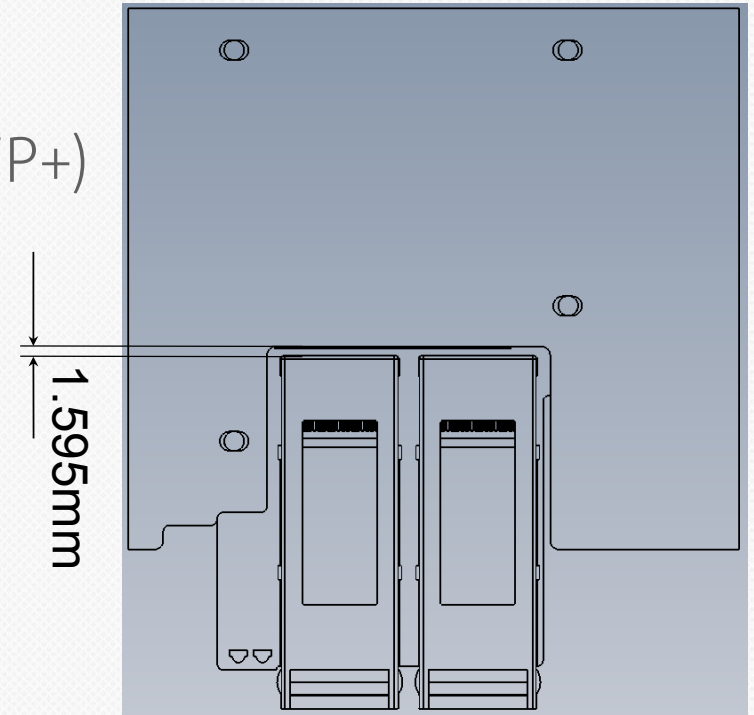
What's New: KR Mezz

- Up to 16x KR10 channels
- 4x KR10 example



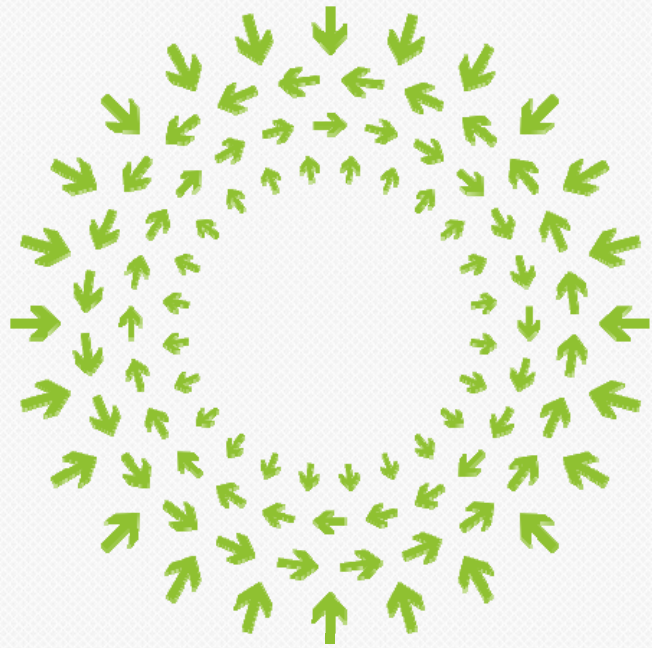
To be worked on:

- QSFP28 (100GE)
 - SFF-8663(QSFP+ 28G) vs. SFF SFF-8683(QSFP+)
 - Cage 2.19mm longer
- KR loss budget



Q&A





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