400G Architecture Considerations

IEEE 802.3 400G Study Group

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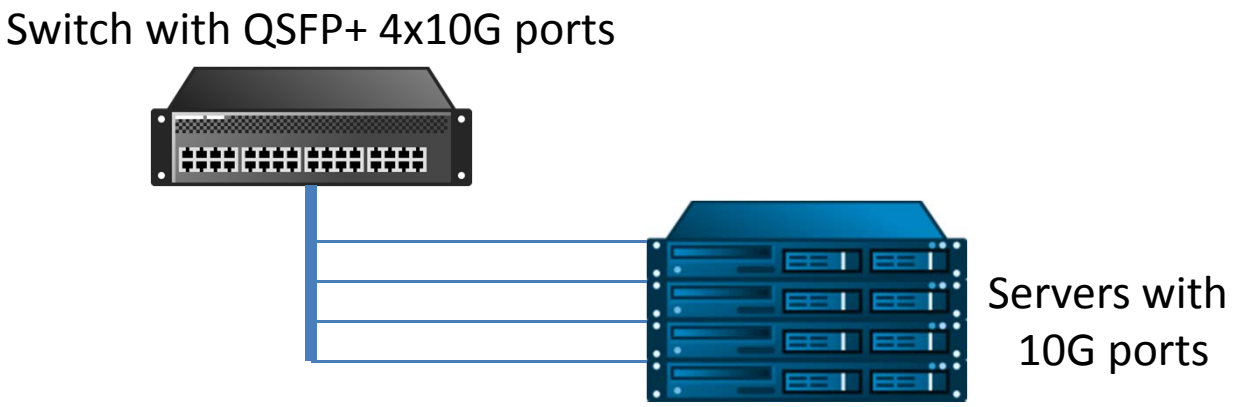
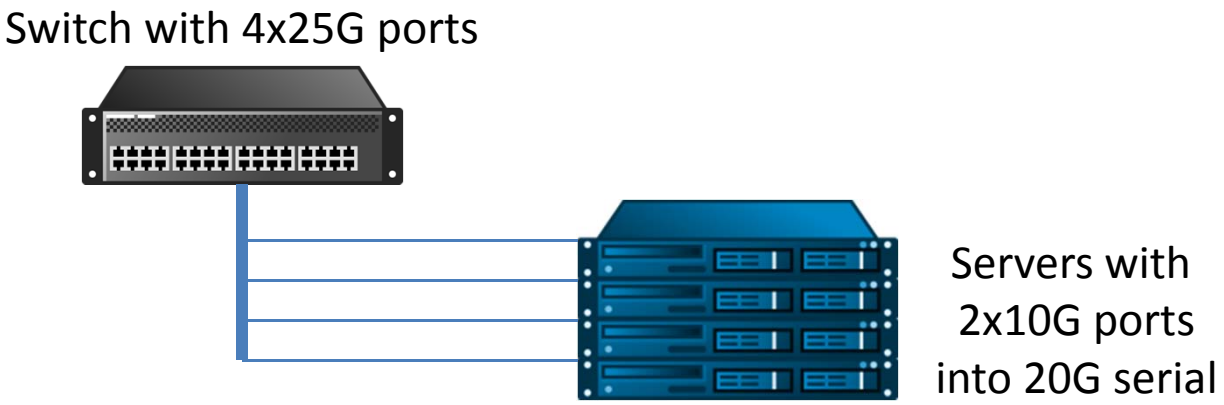
40G Observations

- Four lanes of 10G was extremely useful
  - Not everything required a 40G pipe
  - Ability to use break-out cables provided a level of "backwards compatibility"



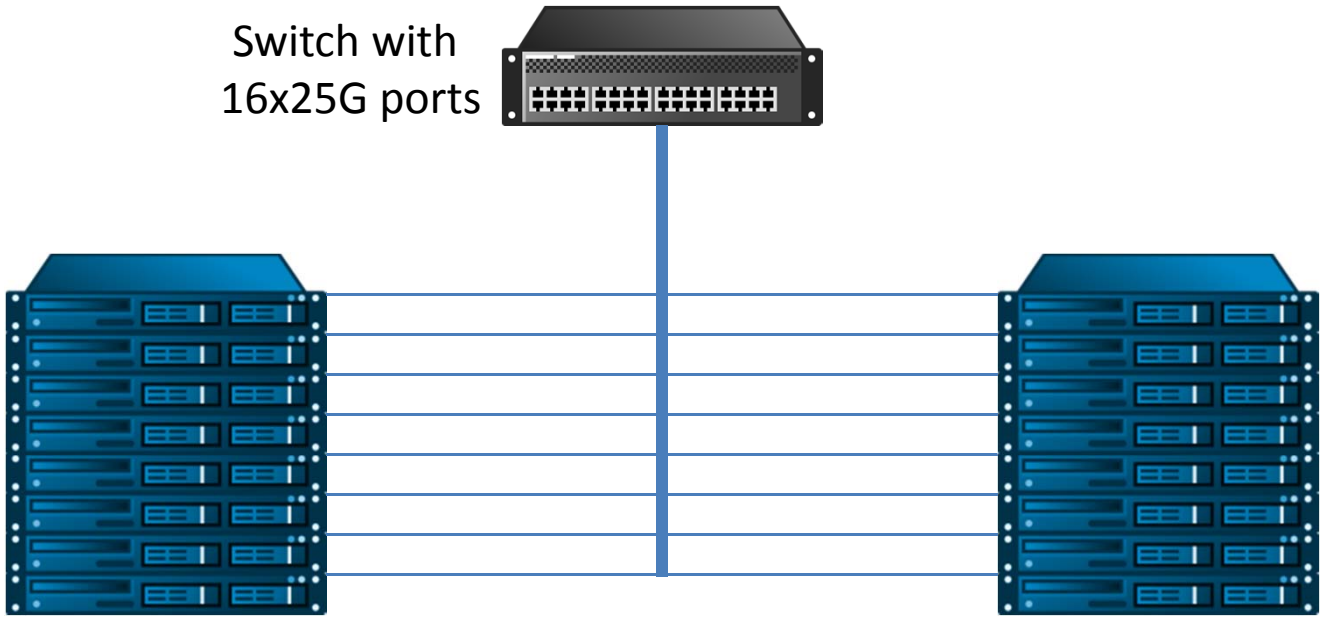
100G Possibilities

- Four lanes still remain extremely useful
  - Servers starting to need >10G of bandwidth
  - Multiple methods to merge physical lanes
    - Two 10G lanes muxed to become a 20G serial link
  - 20G is within the range of a 25G SERDES



400G Considerations #1

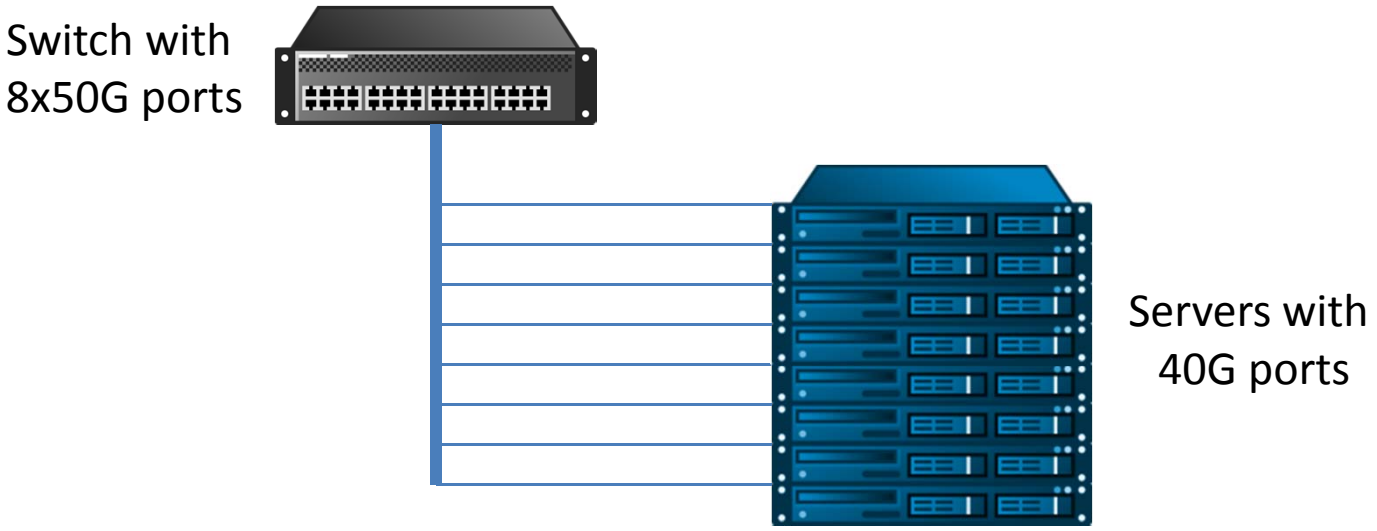
- Sixteen lanes at 25G technically possible today
  - Build off the upcoming 100G architecture



Servers with 2x10G ports into 20G serial

400G Considerations #2

- Eight lanes at 50G is a potential architecture
  - Servers could operate at 40G
  - Switch SERDES would need to handle dynamic range of 40-50G



400G Architecture

- While 4x10G was not specified, it was a natural outcome
- This is likely to occur again in future generations due to server speeds and switch port density requirements
- Objective not required to support this, but should take this into consideration for the project
- Inability to support these considerations could impact broad market potential

Thank You!

- Questions?