

# **VITA 41.8 Status**

## **10 Gigabit Ethernet Protocol Layer Standard**

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# Overview

- Add 10 GbE capability to VXS switch and payload cards
- Alternative data plane to IB, sRIO, GigE, PCIe, Aurora
- Supplementary to 41.6 GbE control plane
- Goals:
  - Support 10 GbE in VXS ecosystem
  - Support star, dual-star, mesh and ring topologies
  - 8x throughput vs. typical 41.3 GbE systems
  - Enable better vendor interoperability
  - Enable better out of the box scaling
  - Low risk use of 10GBASE-KX4 (avoid > 3.125 Gbps links)
- Non-Goals
  - Protocols of any kind
- Sponsors: Tekmicro, GE Fanuc, DRS
- Effort kicked off at May 2007 VSO meeting

# Ethernet Standards on VXS

- **VITA 41.3**
  - Gigabit Ethernet as primary fabric
  - Physical link at 1.25 Gbps
  - Up to 8 links (1 GB/s) per payload card
  - Up to 18 x 4 links (9 GB/s) per switch card
  - Common usage is 1-2 links (250 MB/s) per payload card
  
- **VITA 41.6**
  - Gigabit Ethernet as control plane
  - Physical link at 1.25 Gbps
  - Up to 2 links (250 MB/s) per payload card
  - Separate pins from primary fabric
  
- **VITA 41.8**
  - 10 Gigabit Ethernet as primary fabric
  - Logical link = four XAUI ports at 3.125 Gbps each
  - Up to 2 logical links (2 GB/s) per payload card
  - Up to 18 logical links (18 GB/s) per switch card

# VITA 41 Path Forward

- **VITA 41.3 (GbE Fabric)**
  - Finalize draft, move forward to ballot
- **VITA 41.8 (10 GbE Fabric)**
  - Create draft for mapping 10 GbE to VXS pinouts
  - Draft in process
  - Reviewing available PHY options
  - Aligning nomenclature with VITA 46 in-process
- **VITA 41.6 (GbE Control Plane)**
  - Currently in ballot review
- **VITA 41.4 (PCI Express)**
  - Also need to finalize draft, move forward to ballot
- **Telecons at current 41.6 time**
  - Weds 9am MDT, 11am EDT