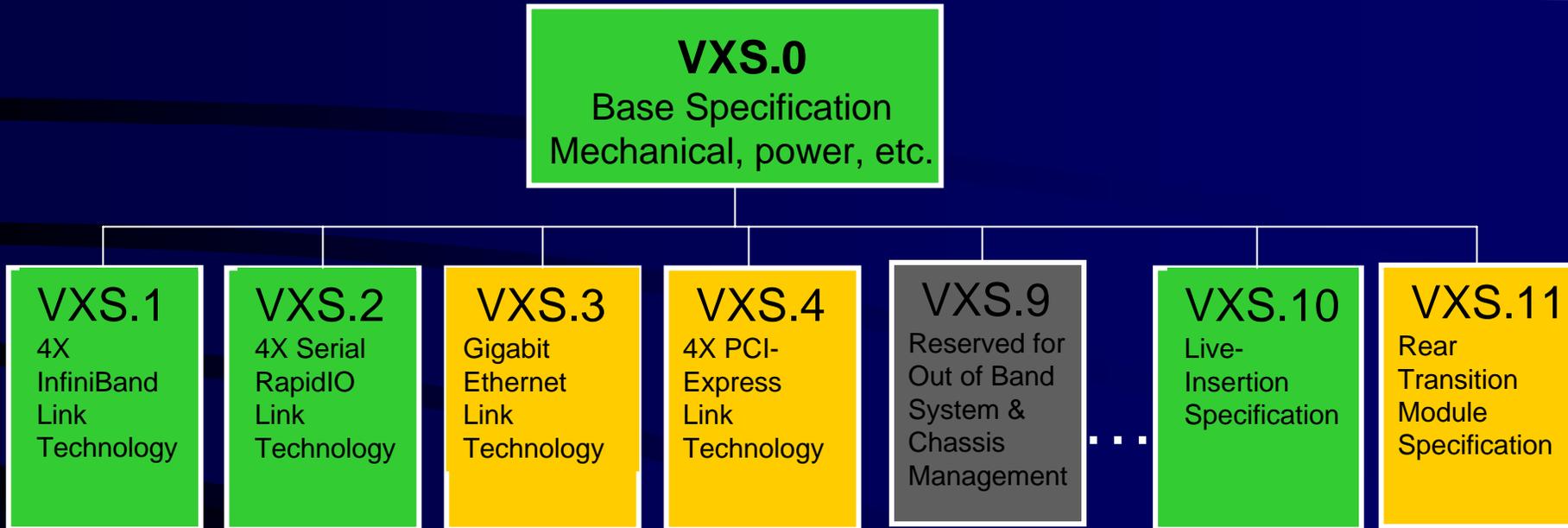


VITA 41 Update

Bob Tufford

January 19, 2005

VITA 41 (VXS) Document Structure & Status



Provisional Draft Standards



Active Draft Specifications



Reserved for future use

VITA 41.0 Update

Bob Tufford

January 19, 2005

VITA 41.0

- Mechanical analysis of payload alignment pin assembly by Motorola & Tyco resulted in a recommendation to make changes to add more design margin
- Proposed changes were distributed on reflector on 1/12/05
- Changes involved are in the subsequent slides

VITA 41.0 Receptacle Modification Proposal



Acrobat Document

VITA 41.0 Housing Modification Proposal



Acrobat Document

VITA 41.0 Pin Modification Proposal



Acrobat Document

VITA 41.0

- Redesigned parts
 - No changes required to board & backplane footprints
 - New redesigned parts will drop into existing designs
- After validation of design changes, goal is to
 - Move alignment mechanism from machined parts to die-cast parts
 - Move the draft to the ANSI process

VITA 41.3 Update

Bob Tufford

January 19, 2005

VITA 41.3 Ballot Review

- Ballot of revision 0.1 passed on 12/20/04
- Ballot Results
 - 17 Approve
 - 1 Disapprove
 - 94.44% Approve
- Responses to ballot comments will be issued by end of January 2005

VITA 41.4 Update

Mac Rush

January 19, 2005

VITA 41.4 Ballot Review

- 15 Approve
- 1 Disapprove
- 93.75% Approve

VITA 41.4 Ballot Review

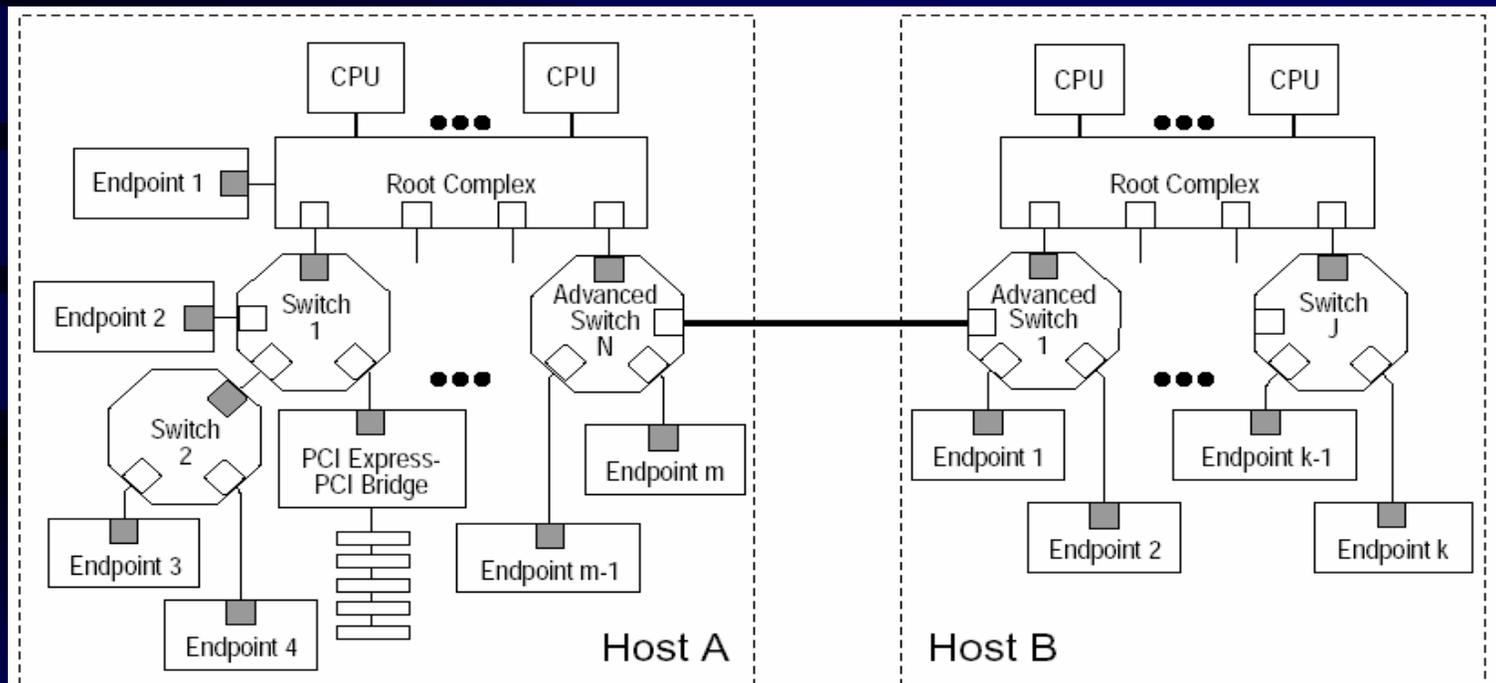
- Nine comments accepted
- Request to change VXS.n to VITA41.n
 - VXS.n and XMC.n are used in many documents
 - Change not made
- RT connector mapping is confusing
 - Pins on backplane connector and payload connector do not have a direct mapping
 - Add table to VXS.0 spec to define mapping
- VITA 41.4 and VITA 42.3 architecture issues

VITA 41.4 and 42.3 PCI Express Issues

- CPU to CPU support
- Side band signals
- System enumeration
- PCI Express base / AS selection

CPU to CPU Support

- PCI Express base does not support CPU to CPU connections



OM13755

Figure 1-6: Advanced Peer-to-Peer Communication

CPU to CPU Support

- PCI Express base defines a single root complex
- The root complex enumerates system
- CPU to CPU support requires devices that support non-transparent bridge functions
- Not all devices (or ports) support non-transparent functions
- Similar to cPCI

Side Band Signals

- PCI Express Card specification defines auxiliary signals in addition to transmit and receive signals
 - SMB Clock and Data
 - PERST
 - JTAG
 - PRSNT1
 - PRSNT2
 - Reference clock
 - Wake

VITA 42.3 Side Band Signals

- Defines a mezzanine card (XMC) and carrier
- Similar to PCI slot card and motherboard
- Includes sideband signals defined in PCI express specification
 - Reference clock
 - Wake signal
 - PRSNT1
- Added ROOT signal for PrXMC

VITA 41.4 Side Band Signals

- VITA 41.4 does not map to PCI Express Card specification
- VITA 41.4 defines a backplane architecture
- Several topologies are possible
 - Star configuration
 - Redundant star configuration
 - Three way mesh
- Supporting side band signals is difficult
- Wake and Ref Clock are not supported

VITA 42.3 Enumeration Options

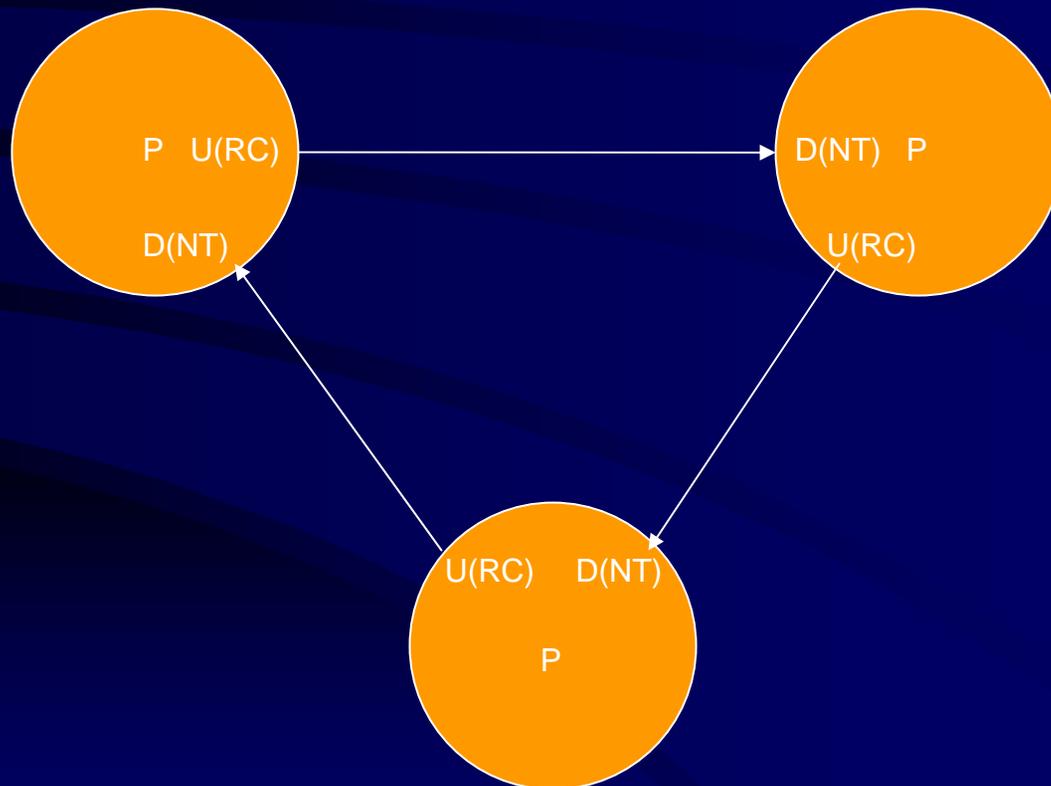
- Carrier enumerates the XMC
- XMC enumerates the carrier
- Added ROOT signal to define root complex
 - Similar to PrPMC MONARCH signal

VITA 41.4 Enumeration

- VITA 41 supports multiple configurations
 - Star
 - Mesh

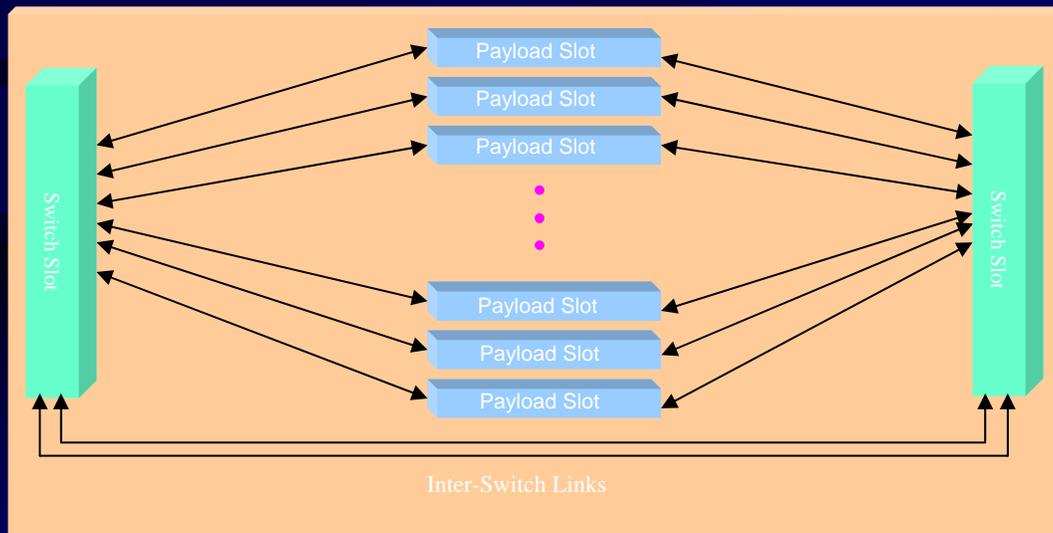
VITA 41 Mesh

- Each payload board enumerates the down stream board



VITA 41.4 Star

- Switch does enumeration
- A payload board does enumeration
 - cPCI model
 - Must define monarch slot



PCI Express Base / AS Selection

- VITA 41.4 and VITA 42.3 only define PCI Express Base
- PCI Express Advanced Switching will be defined in a separate dot specification

VITA 41.11 Update

Bob Tufford

January 19, 2005

VITA 41.11 – Rear Transition Module Standard (Draft)

- On hold until VITA 41.0 alignment mechanism design change finalized
- Review from last meeting:
 - Issue discovered with sequencing
 - Issue: RT connector housing makes first contact before alignment pin
 - Currently evaluating possible options to correct this issue:
- Changes will be rolled into version 0.7 of the document and reballoted