



# VITA STANDARDS UPDATE

By John Ryneerson

E-cast

*Editor's note: The following update pertains to the January 2009 VSO meeting. By the time you read this, the March meeting will have taken place.*

*Be sure to check out our online E-cast archives for the latest video and audio updates on VITA 41, 46, and 48. See [www.opensystemsmedia.com/ecast](http://www.opensystemsmedia.com/ecast).*

## VITA 42.0 receives ANSI recognition, VITA 46.14 tackles analog and RF on VPX

### VSO ANSI accreditation

Accredited as a Standards Development Organization (SDO) in June 1993 by the American National Standards Institute (ANSI), the VITA Standards Organization (VSO) meets every two months to address vital embedded bus and board industry standards issues. Information on ANSI/VITA standards is available on the VITA website at [www.vita.com](http://www.vita.com).

### VSO study and working group activities

Standards within the VSO may be initiated by a study group and developed by a working group. A study group requires the sponsorship of only one VSO member and is used to build interest in a standard. A working group requires the sponsorship of at least three VITA members, and the proposed work must fit within the defined scope of VITA's accreditation with ANSI.



### VITA 41.6, VXS 1x GbE Control Channel Layer

**Objective:** To define and assign 1x GbE signals for communication over signal sets currently defined as reserved for future use in VXS.0.

**Status:** VITA 41.6 has completed its ANSI recirculation ballot. One negative ballot has turned into a positive vote. VITA 41.6 will be submitted to ANSI for recognition after Feb. 2, the cutoff date for negative ballot notification.

### VITA 42.0, XMC

**Objective:** Expand PMC to include serial fabrics.

**Status:** VITA 42.0 has been recognized as an ANSI standard. VITA 42.6 has completed a working group ballot. Wai Ho Wu, the draft editor, will update the draft. VITA 42.20 will add support for 1 GbE to XMC as a separate control plane. The goal is to support P15 alone.



### ANSI/VITA 46.0, VPX

**Objective:** VME based on 1101.2 with new connector.

**Status:** Jing Kwok, CWCEC, provided an overview of VITA 46 activities and reviewed the agenda for the recent full-day working meeting.



### VITA 46.14, RF Interconnect on VPX

**Objective:** Develop a standard for analog and RF interconnects on VPX via the backplane.

**Status:** The goal of VITA 46.14 is to provide a method for interfacing to analog and RF signals on VPX modules through a backplane interface. Jim Reedy, DRS-SS, discussed comments received on the current draft and reviewed the results of recent electrical tests.

### REDI VITA 48.0, Mechanical Specifications for Microcomputers Using Ruggedized Enhanced Design Implementation (REDI)

**Objective:** To define a mechanical design for two types of plug-in units: Type 1 supports 2 Level Maintenance while Type 2 does not.

**Status:** Mike Gust, Mercury Computer Systems, reviewed VITA 48 activities and discussed outstanding issues to be reviewed at the working group meeting.



### VITA 60, Alternative Connector on VPX

**Objective:** Develop an alternative connector for VPX that is PCB compatible, but not mechanically interoperable.

**Status:** Colleen Murphy, Amphenol, has released the initial draft and is asking for comments.

### VITA 62, Power Supply

**Objective:** Develop a standard for modular power supplies.

**Status:** The goal of VITA 62 is to define a standard form/fit/function for power supplies to be used in VPX 46.0. The group plans a working group meeting to further define requirements.



### VITA 63, KVPX

**Objective:** Standardize the use of the Hypertronics connector on VITA 46.

**Status:** The intent of VITA 63 is to provide an alternative connector for specific applications for VPX modules. The connector will have the same PCB layout as the current VITA 46 connector, but will not be intermateable. Production tooling is scheduled for completion in February, and evaluation testing is scheduled for April.

**PDF** – This column and the accompanying table are available at [www.vmecritical.com](http://www.vmecritical.com), then click on VITA Standards.

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# VITA STANDARDS ACTIVITY CHART

## JANUARY MEETING HIGHLIGHTS

| Standard<br>*Reaffirmed | Title  | Status        | VME and<br>CS edition |
|-------------------------|--|---------------|-----------------------|
| ANSI/VITA 1.0 *2002     | VME64 Standards                                      | Released      |                       |
| ANSI/VITA 1.1 *2003     | VME64 Extensions                                     | Released      | Aug. 2004             |
| ANSI/VITA 1.3 *2003     | 9U x 400 mm Format                                   | Released      |                       |
| ANSI/VITA 1.5           | 2eSST  | Released      | Feb. 2004             |
| ANSI/VITA 1.6 *2005     | Keying for Conduction-cooled VME                     | Released      |                       |
| ANSI/VITA 1.7           | Increased Connector Current Level                    | Released      |                       |
| ANSI/VITA 3 *2002       | Board Level Live Insertion                           | Released      |                       |
| ANSI/VITA 4.0 *2002     | IP Modules   | Released      |                       |
| ANSI/VITA 4.1 *2003     | IP/I/O Mapping to VME64x                             | Released      |                       |
| ANSI/VITA 5.1 *2004     | RACEway Interlink                                    | Released      |                       |
| VITA 5.2                | RACEway++  | Withdrawn     | Aug. 2004             |
| ANSI/VITA 6.0 *2002     | SCSA   | Released      |                       |
| ANSI/VITA 6.1 *2003     | SCSA Extensions                                      | Released      |                       |
| ANSI/VITA 10 *2002      | SKYchannel Packet Bus                                | Released      |                       |
| ANSI/VITA 12 *2002      | M-Modules  | Released      |                       |
| ANSI/VITA 13            | Pin Assignments for HIC on VME                       | Withdrawn     |                       |
| ANSI/VITA 17.0 *2004    | Front Panel Data Port                                | Released      |                       |
| ANSI/VITA 17.1          | Serial Front Panel Data Port                         | Released      | Feb. 2004             |
| VITA 17.2               | Serial Front Panel Data Port (SFPDP) Channel         | Working Group | Feb. 2009             |
| VITA 19.0               | BusNet Overview                                      | Withdrawn     |                       |
| ANSI/VITA 19.1          | BusNet MAC   | Withdrawn     |                       |
| ANSI/VITA 19.2          | BusNet LLC   | Withdrawn     |                       |
| ANSI/VITA 20 *2005      | Conduction-cooled PMC                                | Released      | Apr. 2005             |
| ANSI/VITA 23 *2004      | VME64x Extensions for Physics                        | Released      |                       |
| ANSI/VITA 25            | VISION   | Withdrawn     |                       |
| ANSI/VITA 26 *2003      | Myrinet-on-VME                                       | Released      |                       |
| ANSI/VITA 29            | PC•MIP   | Released      |                       |
| ANSI/VITA 30.0 *2005    | 2 mm Connector Practice on Euroboard                 | Released      |                       |
| ANSI/VITA 30.1          | 2 mm Conduction-cooled Euroboard                     | Released      |                       |
| VITA 30.2               | Power Connector Equipment Practice                   | Released      | Apr. 2007             |
| ANSI/VITA 31.1          | GbE on VME64x Backplanes                             | Released      | Feb. 2004             |
| ANSI/VITA 32            | Processor PMC  | Released      | Feb. 2004             |
| VITA 34                 | A Scalable Electromechanical Architecture            | Working Group | Apr. 2004             |
| ANSI/VITA 35 *2005      | Pin Assignments for PMC to VME                       | Released      |                       |
| VITA 36                 | PMC I/O Modules                                      | Withdrawn     | Apr. 2004             |
| ANSI/VITA 38            | System Management on VME                             | Released      |                       |
| ANSI/VITA 39            | PCI-X Aux. Std. for PMCs and PrPMCs                  | Released      | Feb. 2004             |
| ANSI/VITA 40            | Status Indicator Standard                            | Released      | Dec. 2008             |
| ANSI/VITA 41.0          | VXS: VME Switched Serial                             | Released      | Oct. 2006             |
| ANSI/VITA 41.1          | VXS: InfiniBand Protocol Layer                       | Released      | Oct. 2006             |
| ANSI/VITA 41.2          | VXS: RapidIO Protocol Layer                          | Released      | Oct. 2006             |
| VITA 41.3               | VXS: GbE   | Working Group | Apr. 2006             |
| VITA 41.4               | VXS: PCI Express                                     | Working Group | Apr. 2006             |
| VITA 41.6               | VXS: 1X GbE Control Channel Layer                    | Working Group | Feb. 2009             |
| VITA 41.7               | VXS: Processor Mesh Topology                         | Working Group |                       |
| VITA 41.8               | VXS: 10 GbE Protocol Layer Standard                  | Working Group | Oct. 2008             |
| VITA 41.10              | VXS: Live Insertion Requirements for VITA 41 Boards  | Working Group | Apr. 2006             |
| VITA 41.11              | VXS: Rear Transition Modules                         | Working Group | Apr. 2006             |
| VITA 42.0               | XMC  | Working Group | Feb. 2009             |
| ANSI/VITA 42.1          | XMC: Parallel RIO                                    | Released      | Oct. 2006             |
| ANSI/VITA 42.2          | XMC: Serial RIO                                      | Released      | Oct. 2006             |
| ANSI/VITA 42.3          | XMC: PCI Express                                     | Released      | Oct. 2006             |
| VITA 42.4               | HyperTransport                                       | Working Group | Apr. 2005             |
| VITA 42.6               | XMC: 10 GbE XAUI Protocol Layer                      | Working Group | Dec. 2008             |
| VITA 42.10              | XMC: General Purpose I/O                             | Working Group |                       |
| VITA 42.20              | XMC: Dual Fabric I/O                                 | Working Group |                       |
| VITA 43S                | Hot Swap NextGen Mezzanine                           | Inactive      | Feb. 2004             |
| VITA 45S                | Serial VME   | Canceled      | Apr. 2004             |
| ANSI/VITA 46.0          | VPX: Base Specification                              | Working Group | Feb. 2009             |
| ANSI/VITA 46.1          | VPX: VMEbus Signal Mapping                           | Working Group | Feb. 2008             |
| VITA 46.3               | VPX: Serial RapidIO on VPX Fabric Connector          | Working Group | Oct. 2008             |
| VITA 46.4               | VPX: PCIe Mapping and Advanced Switch Signal Mapping | Working Group | Oct. 2006             |
| VITA 46.5               | VPX: HyperTransport                                  | Working Group |                       |
| VITA 46.6               | VPX: GbE   | Working Group |                       |
| VITA 46.7               | VPX: 10 GbE  | Working Group |                       |

| Standard<br>*Reaffirmed | Title  | Status        | VME and<br>CS edition |
|-------------------------|--|---------------|-----------------------|
| VITA 46.9               | VPX: XMC and PMC User I/O Mapping                            | Working Group |                       |
| VITA 46.10              | VPX: Rear Transition Module for VPX                          | Working Group | Oct. 2008             |
| VITA 46.12              | VPX: Fiber Optic Interconnect                                | Working Group | Oct. 2008             |
| VITA 46.14              | RF Interconnects on VPX                                      | Working Group | Feb. 2009             |
| VITA 46.20              | VPX: Switch Slot Definition                                  | Working Group |                       |
| ANSI/VITA 47            | Env., Design and Const., Safety, and Qual. for Plug-in Units | Released      | Jun. 2006             |
| VITA 47r1               | Revisions to ANSI/VITA 47                                    | Released      | Feb. 2008             |
| VITA 47r2               | Revisions to ANSI/VITA 47                                    | Working Group | Feb. 2009             |
| VITA 48.0               | REDI: Ruggedized Enhanced Design Implementation              | Working Group | Feb. 2009             |
| VITA 48.1               | Mechanical Specs for Microcomputers Using Air Cooling        | Working Group |                       |
| VITA 48.2               | Mechanical Specs for Microcomputers Using Conduction Cooling | Working Group |                       |
| VITA 48.3               | Mechanical Specs for Microcomputers Using Liquid Cooling     | Working Group |                       |
| VITA 49.0               | VITA Radio Transport (VRT)                                   | Working Group | Feb. 2009             |
| VITA 49.1               | VITA Radio Link Layer (VRL)                                  | Working Group | Oct. 2008             |
| VITA 50                 | Best Practices for Electronic Module Cooling                 | Inactive      | Dec. 2007             |
| ANSI/VITA 51.0 *2008    | Reliability Prediction                                       | Released      | Aug. 2008             |
| ANSI/VITA 51.1 *2008    | Reliability Prediction: MIL-HDBK-217 Daughter                | Released      |                       |
| VITA 51.2               | Physics of Failure Reliability Predictions                   | Working Group | Feb. 2009             |
| VITA 52                 | Lead-free Practices  | Working Group | Oct. 2006             |
| VITA 53                 | Commercial Technology Market Surveillance                    | Working Group | Feb. 2009             |
| VITA 54                 | Embedded Platform Management Architecture (EPMA)             | Inactive      | Aug. 2005             |
| VITA 55                 | Virtual Streaming Protocol                                   | Inactive      | Feb. 2009             |
| VITA 56                 | Express Mezzanine Card (EMC)                                 | Inactive      | Oct. 2007             |
| ANSI/VITA 57 *2008      | FMC: FPGA Mezzanine Card Standard                            | Released      | Dec. 2008             |
| VITA 57.1               | FPGA I/O Mezzanine Pin Assignments                           | Working Group | Feb. 2009             |
| VITA 58                 | Line Replaceable Integrated Electronics Chassis              | Working Group | Feb. 2009             |
| VITA 59                 | RSE: Rugged System-On-Module Express                         | Working Group | Dec. 2008             |
| VITA 60                 | Alternative Connector on VPX                                 | Working Group | Feb. 2009             |
| VITA 61                 | Alternative Connector for XMC                                | Working Group | Feb. 2009             |
| VITA 62                 | Power Supply Modules   | Working Group | Feb. 2009             |
| VITA 63                 | KVPX   | Working Group | Feb. 2009             |
| VITA 64                 | Optimized Footprint for VITA 60                              | Working Group | Feb. 2009             |

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