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08 June 2006

Michael Stora
System Interconnect Technologies
PO Box 127
Boonton, NJ 07005
mjs@sysintech.com

Re: P1155 - VME eXtensions for Instrumentation (VXI) Upgrade for Serial Bus (VITA 41.3) Integration and other Enhancements

Dear Michael:

I am pleased to inform you that on 08 June 2006 the IEEE-SA Standards Board approved the above referenced project until 31 December 2010. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/1155.pdf>.

Now that your project has been approved, please forward a roster of participants involved in the development of this project. This request is in accordance with the IEEE-SA Operations Manual, Clause 5.1.2i under Duties of the Sponsor which states:

"Submit annually to the IEEE Standards Department an electronic roster of individuals participating on standards projects"

For your convenience, an Excel spreadsheet for your use has been posted on our website at <http://standards.ieee.org/guides/par/roster.xls>. Please forward this list to me via e-mail at s.hampton@ieee.org no later than 06 September 2006.

Please visit our website, IEEE Standards Development Online (<http://standards.ieee.org/resources/development/index.html>), for tools, forms and training to assist you in the standards development process. Also, we strongly recommend that a copy of your draft be sent to this office for review prior to the final vote by the working group to allow for a quick review by editorial staff before sponsor balloting begins.

If you should have any further questions, please contact me at +1 732 562 6003 or by email at s.hampton@ieee.org.

Sincerely,

Sherry Hampton
Administrator, Governance
Standards Activities
Phone +1 732 562 6003
FAX +1 732 875 0695
Email: s.hampton@ieee.org

CC: mjs@sysintech.com

PAR Request Date: 17 April 2006**PAR Approval Date:** 08 June 2006**PAR Signature Page on File:** Yes**Type of Project:** Revision to IEEE Standard**Status:** Revision to an Existing IEEE P1155, 1992-03-19**Root Project/PAR:****1.1 Project No.:** **P1155****1.2 Type of Document:** Standard**1.3 Life Cycle:** Full-Use**1.4 Is this document in ballot now?** No**2.1 Title**VME eXtensions for Instrumentation (VXI) Upgrade for Serial Bus (VITA 41.3)
Integration and other Enhancements**Old Title**

IEEE Standard for VMEbus Extensions for Instrumentation: VXIbus

2.1 Amendment/Corrigenda Title**3.1 Working Group Name** [1155 VXI Standard Working Group Committee](#)**Working Group Chair**
[Stora Michael](#)
Phone: 973-299-8321
Email: mjs@sysintech.com**Working Group Vice Chair****3.2 Sponsor** [IEEE Instrumentation and Measurement Society TC8-Automated Instrumentation \(IM/AI\)](#)**Sponsor Chair**
[Stora Michael](#)
Phone: 973-299-8321
Email: mjs@sysintech.com**3.3 Joint Sponsor**
[IEEE Computer Society Microprocessors and Microcomputers \(C/MM\)](#)
[Davis Bob](#)
Phone: 408-353-2706
Email: bob@scsi.com**4.1 Type of Ballot:** Individual**4.2 Expected Date of Submission for Initial Sponsor Ballot:** 2007-10-00**4.3 Projected Completion Date for Submittal to RevCom:** 2008-07-00**5.1 Approximate number of people expected to work on this project:** 15

5.2 Scope: This standard describes the electrical and mechanical specifications of the IEEE-1155 VME eXtensions for Instrumentation (VXI) Standard that supports an integrated legacy parallel bus and serial bus architecture adopted from VME International Trade Association (VITA) Standard 41.3, and LAN eXtensions for Instrumentation (LXI) Consortium. It also addresses the definition of: (a) a c-size pluggable virtual power module; (b) the direct coupling option of the instrument module to the IEEE-P1505 Receiver Fixture Interface (RFI); (c) enhanced cooling structure; (d) advanced VME Controller/Switch Fabric modules; (e) VME64 connector compliance implementation; ((f) improved noise and ripple isolation for system power source requirements; (g) cooling air flow measurement;(h) LXI protocol/control line implementation; and (i) IEEE-1149 Test Bus implementation. The specification also details: instrument module footprints, connector mechanics and electrical I/O between the backplane and instrument module, cooling/EMI requirements; VXI mainframe mechanical structure, cooling and environmental requirements; and the VXI backplane mechanical and electrical requirements.

Old Scope:

5.3 Is the completion of this document contingent upon the completion of another document? No

5.4 Purpose: The IEEE-1155 VME eXtensions for Instrumentation (VXI) Standard advances the VXI standard to support interchangeable use of legacy parallel bus and new higher speed serial bus (LXI) controlled instrumentation modules in a common mainframe/backplane structure. This permits implementers to continue utilizing current VXI technology, while inserting advanced higher speed serial bus VXI instrumentation under LXI control, as they become available, in same instrument slots. The standard also redefines a common power source specification for the industry which is pluggable into the mainframe, along-side of the instrument modules in a designated slot, and may be virtually applied for either system or unit-under-test (UUT) use. The VXI spec also defines an extended instrument module that can be directly coupled to the RFI system, which serves the test system implementer by eliminating cabling interconnections, enhancing signal integrity, and providing added real estate for instrument/switching/other circuitry. Under rigid mechanical and electrical definitions and requirements for the instrument module, mainframe, and backplane, suppliers of these components are assured interoperability between automated test systems (ATS) and their respective relationship with each other.

Old Purpose:

5.5 Need for the Project: The VXI Standard is well-established specification which is revised with advancing technology to prevent the obsolescence of an “open ATS architecture”, while assuring stakeholders (vendors, integrators and users), that the investments made or planned will be worthwhile. Through legacy/enhanced integrated standardization instrument suppliers can continue to bring technology forward along while maximizing current product offerings opportunities, particularly where users do not need higher performance and lower cost solutions are acceptable. Serial Bus VXI instrumentation with LXI control offers higher performance to the ATS integrator and is consistent with advancing computer architectures that must be employed. The VXI common structure serves as the fundamental basis for ATS integration, which offers interchangeability and reconfigurability without redesign. Benefits from common product availability, integration and support from multi-vendor, broad product offerings, and established application lessons learned, tooling reuse and support is the most significant justification for the VXI Standard.

5.6 Stakeholders for the Standard: This supports the interests of all stakeholders, whether a supplier of VXI instrumentation that benefits from new sales, or the integrator, who utilizes VXI technology into Automatic Test Equipment (ATE), and benefits from enhanced proven technology. Ultimately, the user gains from the preservation of current VXI technology, and its extension of a stable standard into the next generation of test.

6.1.a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitted this PAR prior to the PAR submittal to the IEEE-SA Standards Board? Yes Presented Date: 2006-04-10

If no, please explain:

6.1.b. Is the Sponsor aware of any copyright permissions needed for this project? Yes

If yes, please explain: The VXI serial bus enhancement adopts VITA 41.3 specifications, that dictates a relationship with the VITA organization and joint copyright agreement.

6.1.c. Is the Sponsor aware of possible registration activity related to this project? Yes

If yes, please explain: The 1155 std revision expects to capture updated VXI Consortium, VXIbus Specification changes, LXI Consortium, LXIbus Specification, and adopt VITA 41.3 specifications, VXI serial bus enhancement,. This dictates a relationship with the VXI Consortium, LXI Consortium, and VITA organization in the form of joint copyright exchange agreement, which the IEEE contract relations staff is a participant.

7.1 Are there other standards or projects with a similar scope? No

If yes, please explain:

Sponsor Organization:

Project/Standard Number:

Project/Standard Date: 0000-00-00

Project/Standard Title:

7.2 Is there potential for this standard (in part or in whole) to be adopted by another national, regional, or international organization? ? Do not know at this time

Technical Committee Name and Number:

Contact person:

Contact person Phone Number:

Contact person Email Address:

7.3 Will this project result in any health, safety, security, or environmental guidance that affects or applies to human health or safety? No**7.4 Additional Explanatory Notes:**

Copyright provisions, as stated in subclause 6.1.c, may be required to support exchange of data between the VXI Consortium, LXI Consortium, VITA, and IEEE. This would permit the IEEE to formally utilize any specifications developed by the VXI Consortium in the development of the 1155 revision, or if desired that the specification developed under the 1155 revision be applied to the existing VXI Consortium standard. The current 1155 std represents an adoption of an earlier VXI Consortium Specification, which has since been revised. The 1155 revision will update the current standard to reflect the current VXI Consortium Specification and add enhancements of the the VITA 41.3 serial bus, LXI protocol, virtual power source, direct coupling of the instrument to RFI, and 1149 std test bus implementation. A VITA relationship is similar, as it relates to the adoption of VITA 41.3., and use of the IEEE 1155 std, potentially by VITA, for 1.2 inch spacings (versus 0.8 inch spacing) applications under a c-size (versus b-size) module format, . A LXI Consortium relationship relates to the adoption of the LXI protocol and potential use of the IEEE 1155 std VXI module form factor requirements of 1.2 inch spacings applications under a c-size module format, by the LXI Consortium.

8.1 Sponsor Information:

Is the Scope of this project within the approved scope/definition of the Sponsor's Charter? Yes

If no, please explain: