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09 December 2005

Lawrence J Kotewa  
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Re: P1703 - Local Area Network/Wide Area Network (LAN/WAN) Node  
Communication Protocol to complement the Utility Industry End Device Data Tables

Dear Lawrence:

I am pleased to inform you that on 07 December 2005 the IEEE-SA Standards Board approved the above referenced project until 31 December 2009. A copy of the file can be found on our website at <http://standards.ieee.org/board/nes/projects/1703.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 [j.haasz@ieee.org](mailto:j.haasz@ieee.org) no later than 07 March 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 732-562-6367 or by email at [j.haasz@ieee.org](mailto:j.haasz@ieee.org).

Sincerely,

Jodi Haasz  
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# PAR FORM

**PAR Status:** New PAR

**PAR Approval Date:** 07 December 2005

**PAR Signature Page on File:** Yes

**1. Assigned Project Number:** P1703

**2. Sponsor Date of Request:** 2005-09-17

**3. Type of Document:** Standard for

**4. Title of Document:**

**Draft:** Local Area Network/Wide Area Network (LAN/WAN) Node Communication Protocol to complement the Utility Industry End Device Data Tables

**5. Life Cycle:** Full-Use

**6. Type of Project:**

**6a. Is this an update to an existing PAR?** No

**6b. The Project is a:** New Standard

**7. Working Group Information:**

**Name of Working Group:** End Device/Telemetry Interface Unit Subcommittee

**Approximate Number of Expected Working Group Members:**15

**8. Contact information for Working Group Chair:**

**Name of Working Group Chair:** Richard D Tucker

**Telephone:** 704/888-2634 **FAX:**

**Email:** richardaet@aol.com

**9. Contact information for Co-Chair/Official Reporter, Project Editor or Document Custodian if different from the Working Group Chair:**

**Name of Co-Chair/Official Reporter, Project Editor or Document Custodian:** Aaron F Snyder

**Telephone:** 864-718-1269 **FAX:** 864-638-4900

**Email:** aaron.snyder@itron.com

**10. Contact information for Sponsoring Society or Standards Coordinating Committee:**

**Name of Sponsoring Society and Committee:** SCC31-Automatic Meter Reading and Energy Management Automatic Meter Reading and Energy Management

**Name of Sponsoring Committee Chair:** Lawrence J Kotewa

**Telephone:** 773-486-7600x108 **FAX:** 773-486-7643

**Email:** larryk@energycooperative.org

**Name of Liaison Rep. (if different from the Sponsor Chair):**

**Telephone:** **FAX:**

**Email:****Name of Co-Sponsoring Society and Committee:****Name of Co-Sponsoring Committee Chair:****Telephone: FAX:****Email:****Name of Liaison Rep. (if different from the Sponsor Chair):****Telephone: FAX:****Email:****11. The Type of ballot is:** Individual Sponsor Ballot**Expected Date of Submission for Initial Sponsor Ballot:** July 2006**12. Projected Completion Date for Submittal to RevCom:** June 2007**Target Extension Request Information for a Modified PAR whose completion date is being extended past the original four-year life of the PAR:****13. Scope of Proposed Project:**

This document defines interfaces between IEEE P1377 devices and network protocols (IEEE P1377, MC12.19, and ANSI C12.19 standards are congruent). This standard shall provide the Local Area Network/Wide Area Network (LAN/WAN) lower layers communication protocol for the Utility metering Industry including specifically Water, Gas, and Electric. This work is complementary with the proposed Utility Industry End Device Data Tables, IEEE P1377, MC12.19 and ANSI C12.19. Specific goals identified by this committee were:

1. Defining a Datagram that may convey IEEE P1377 or MC12.19 or ANSI C12.19 data Tables through any network.

This is accomplished by:

- Assuming that the data source is IEEE P1377 or MC12.19 or ANSI C12.19 data Tables.
- Defining the Application Layer services (language).
- Defining the interface lower layers; layers; 4 (Transport), 3 (Network), 2 (Data Link) and 1 (Physical).

2. Providing a full stack definition for interfacing an end device to a "Network Communication Module".

This is accomplished by:

- Defining the physical interface requirements between the end device and the "Network Communication Module".
- Defining the interface lower layers; 4 (network), 3 (transport), 2 (data link) and 1 (physical).

3. Providing a full stack definition for point-to-point communication to be used over local ports such as optical ports, or modems.

This is accomplished by defining a Layer 4 (Transport Layer) and Layer 2 (Data Link Layer).

4. Providing support for efficient one-way messaging (blurts) (IEEE P1703, MC.22, and ANSI C12.22 standards are congruent)

This is accomplished by:

- Defining a compact message format that can be easily transformed to a standard IEEE P1703 or MC12.22 or ANSI C12.22 Datagram.

- Assuring that all needed layers defined in this Standard can support one-way messaging
5. Providing network architecture compatible with this protocol. (IEEE P1703, MC12.22, and ANSI C12.22 are congruent)

This is accomplished by:

- Defining different type of nodes such as IEEE P1703 Relay, IEEE P1703 Master Relay, IEEE P1703 Host, IEEE P1703 Authentication Host, IEEE P1703 Notification Host, IEEE P1703 Gateway.
- Defining the role and responsibilities of each of these IEEE P1703 Nodes.

6. Providing data structure definitions in support of this protocol. (IEEE P1377, MC12.19, and ANSI C12.19 standards are congruent)

This is accomplished by:

- Defining an IEEE P1377 Decade to be used by IEEE P1703 Nodes.
- Defining an IEEE P1377 Decade to be used by IEEE P1703 Relays.
- Defining new procedures in support of this protocol.
- Defining a new table for enhanced security.

**Is the completion of this document contingent upon the completion of another document?**

No

#### **14. Purpose of Proposed Project:**

The Utility Industry has need for a standard that provides an operable "plug and play" environment for field metering devices. The purpose of this standard is to define the means to transport the Utility End Device Data Tables via a local Area/Wide Area network interface such that a multi-source environment and end device interchangeability is possible.

#### **15. Reason for the Proposed Project:**

This work shall provide multi-source and "plug and play" environment for the millions of metering devices in the field now and the future. It will solve the problems associated with single source systems and with multi-source systems based upon proprietary communications protocols. Electric, Water, and Gas Utilities and corresponding vendors shall realize cost savings which ultimately is passed on to the Utilities' client consumers.

#### **16. Intellectual Property:**

- a. Has the IEEE-SA policy on intellectual property been presented to those responsible for preparing/submitting this PAR?** Yes 2005-07-29
- b. Is the sponsor aware of copyright permissions needed for this project?** No
- c. Is the sponsor aware of trademarks that apply to this project?** No
- d. Is the sponsor aware of possible registration activity related to this project?** No

**17. Are there other documents or projects with a similar scope?** No

**Similar Scope Project Information:**

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

**If yes, the following questions must be answered:**

**Organization Name?****Technical****Committee****International****Contact****Information?**

**19. Will this project result in any health, safety, or environmental guidance that affects or applies to human health or safety? No**

**If yes, please explain:**

**20. Sponsor Information**

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

**If no, please explain:**

**b. The Sponsor's procedures have been accepted by the IEEE-SA Standards Board Audit Committee? Yes**

**21. Additional Explanatory Notes: (Item Number and Explanation)**

The IEEE SCC31 standards body, the Measurement Canada standards body and the ANSI C12.17 standards body have jointly developed this standard. IEEE, Measurement Canada and NEMA through a MOU agreement share the copyright and ownership of this standard.