<u>Approved by General Counsel</u>

TR-51 Meeting Report

Date: 6/3/11

Location: San Antonio, TX

Approved: 7/7/11

MEETING REPORT
TIA TR-51 Smart Utility Networks
Friday, June 3, 2011

Presiding: Mike Lynch, MJ Lynch & Associates

---

1.   Call to Order

The meeting was called to order by Mike Lynch (MJ Lynch & Associates) at 9:09am CDT.

2.   Facilitator's Introduction and Comments

In his opening remarks Mike Lynch thanked the attendees and noted that the group would be reviewing a technical presentation.

3.   Attendee Introductions and E-Sign-In

The attendees in the room and on the call introduced themselves. They were directed to use the e-roster systems to sign-in to the meeting, as well as GoToMeeting if they were attending remotely**.** See Annex A for the list of attendees to this meeting.

Quorum was established with 12 of 20 member companies present.

4.   Intellectual Property Rights

The attendees were directed to note the IPR statement on the agenda and requested to make it known if there are any patents related to the work of the committee.

5.   Review and Approve Agenda

The draft agenda, distributed as contribution TR51-20110603-001, was reviewed and approved without objection.

6.   Review and Approve Meeting Report

The draft meeting report, distributed as contribution TR51-20110603-002, was reviewed, minor name corrections were noted, and approved without objection.

7.   Technical Contributions – Layer 1

Kunal Shah reviewed the General PHY Requirements from contribution TR51-20110603-004, Physical Layer Joint Proposal, and a rough overview of what the committee could expect from contribution TR51-20110603-005.

Jeritt Kent reviewed contribution 005, Physical Layer Joint Proposal. The first portion of the document included normative and informative references. The second portion of the document outlines definitions and symbols for different terminology. The third portion reviews some of the global bands that will need to be used for the physical layer. The section also describes how channel frequencies are generated for MR-FSK PHY. Section four described the MR-FSK PHY specification, including the PDU format, and modulation and coding.

It was discussed and agreed that since some of the content in this proposal is redacted content from IEEE 802.15.4g, TIA needs to request permission from IEEE to adopt/adapt the content. Kunal will send a document mapping all the sections of IEEE 802.15.4g to the draft TIA standard to Stephanie Montgomery. They will work together to get the request off to the contact at IEEE.

8. Technical Contributions – Layer 2

Larry Taylor introduced and described the details of contribution TR51-20110603-006, Channel and Communications Links. The first portion of the slides described the definitions of frequency channels, communications links, nodes, transactions, frames, and packets. He described scenarios in which devices could operate in single channels or could switch frequencies based on their frequency of time/occupancy (C(t)). However, nodes need to be able to discover C(t) in order to establish a link when a transaction is required. Transmission of frames in this model only occur for the duration of the transaction in a uni-cast model. After the transaction is finished, devices return to their normal C(t) behavior.

Ben Rolfe presented contribution TR51-20110603-007 on MAC Frames and IEEE 802.15.4g Compatibility. The goal is to achieve compatibility between the FSK PHY and 802.15.4g. In order to do that a new type of MAC frame needs to be created, that can be both flexible and extensible. The slides also covered MAC header fields, information elements (TLV's), the timing synchronization of information elements, their fragmentation sequence control, nested descriptors, and the payloads of IE's.

Cristina Seibert presented Contribution TR51-20110603-008, Beaconing Mechanism for TR-51 Networks, as a follow up to the concept of channel abstraction that was introduced at the previous meeting. The slides covered the advantages of beaconing, including the information provided (timing, routing, and other node information), reduction in network traffic, and increased security to the payload/header. The contribution included a proposal that each node support a beacon channel function, B(t) which may be different from C(t).

It was agreed that Cristina would complete the online forms to request project numbers for both the PHY standard and the MAC standard. It was agreed that the standards developed by TR-51 would all be related as one project with multiple parts, similar to the TIA-136.000.

Once approval is gained from IEEE regarding use of the content in the TIA PHY standard the document will be presented at the September meeting with the intent that it be distributed for ballot coming out of that meeting.

It was noted that going into the September meeting the group would like to have the MAC layer part of the standard in the TIA standard template. This draft will be reviewed by TR-51 at the next meeting.

9.   Other Business

The working group will need to create an outline to agree on the initial proposal (layer 2). The outline will include the biggest topics that have been discussed already. The document, when published will get a document ID and will become an American national standard. It was also discussed that it may be useful for members of the committee to sit on the OpenSG PAP 2 to glean information from that group.

Phil Beecher provided a status report on IEEE 802.15.4g. He reported that 802.15.4g will go to sponsor ballot in July and is likely to have some changes to the draft after the September IEEE 802 Wireless Interim meeting. As a result the TIA PHY layer draft may need to be modified.

According to the TR-50 liaison, the engineering committee is now meeting monthly with ETSI TC M2M. TR-50 has also created it's own ad-hoc group to work with security issues.

As a follow-up, Cristina discussed the events that occurred at the GSC-16 MSTF during the TIA 2011 event. It was noted that there will be another meeting of the MSTF on Sept XX in Altanta, GA.

Cheryl suggested that the Chair of TR-51 keep in mind the NIST SGIP smart grid activity.

Hiroshi provided an update on ARIB activity and changes in the DSB bands (specifically moving the current 950MHz to ~920 MHz) that are planned by Japan, in order to open up spectrum for the conversion to LTE for consumer devices. Follow-up information will be provided in July.
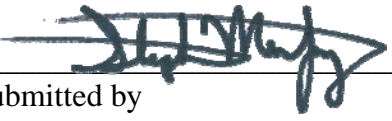
10.   Next Meeting

Mike Lynch introduced contribution TR51-20110603-003_Proposed Future Dates for TR-51, during which co-location with TIA 2012 was discussed. TR-51 will be meeting during the event on June 6, 2012. The next meeting of TR-51 will be in Seattle, WA on Tuesday, Sept 6, 2011. The final meeting of the year will be in Kona, Hawaii December 14-15, 2011.

11.   Adjournment

There being no further business, the meeting was adjourned at 12:05pm CDT.

This meeting was conducted in accordance with the TIA Engineering Manual and Legal Guide.

Submitted by
Stephanie Montgomery, TIA

ANNEX A

Attendees to TR-51 June Meeting:

Attendee	Company / Representing
*Kent, Jeritt	C: Analog Devices, Inc.
*Beecher, Phil	C: Beecher Communications Consultants Ltd
*Rolfe, Benjamin	C: Blind Creek Associates
*Taylor, Larry	C: DTC (UK)
Lima, Octavio	C: Ericsson Inc.
*Lynch, Michael	C: MJ Lynch & Associates LLC
*Harada, Hiroshi[V]	C: NICT
Marin, Scott	C: Nokia Siemens Networks
*Wu, Deh Min Richard	C: Nokia Siemens Networks
*Seibert, Cristina	C: Silver Spring Networks
*Shah, Kunal	C: Silver Spring Networks
*Notor, John	C: Smart Utility Network Alliance
*MacDougall, Alan[V]	C: TE Connectivity
*Ivanov, George	C: TIA
Montgomery, Stephanie F	C: TIA
Kripalani, Anil[V]	C: WirefreeCom, Inc.