**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | 802.15 TG10 (L2R) Minutes for January 2015 Mtg. | |
| Date Submitted | [15 Jan., 2015] | |
| Source | [Clint Powell] [PWC, LLC] | Voice: [+1-480-586-8457] Fax: [ ] E-mail: [cpowell@ieee.org] |
| Re: | [TG10 (L2R) meeting minutes.] | |
| Abstract | TG10 (L2R) minutes from the Atlanta Mtg. | |
| Purpose | [TG10 (L2R) meeting minutes.] | |
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**Minutes for IEEE 802.15 TG10 (L2R)**

**Atlanta Meeting**

**11-15 January 2015**

**Chair - Clint Powell**

**Technical Editor - Verotiana Rabarijaona**

**Acting Secretaries -  
Verotiana Rabarijaona, Noriyuki Sato, Clint Powell**

**Monday PM2 (1/12)**

Chair called the meeting to order at 4:05 PM.

**Review of agenda (doc# 15-14-0706-01)**

The changes from r0 were reviewed by the chair.

**Patent Policy and call for Essential Patents**

Chair called the group’s attention to the IEEE patent policy and made a call for notification of essential patents. There were no responses.

**Approval of agenda (doc# 15-14-0706-01)**

Motion to approve the agenda: (doc# 15-14-0706-01)

Moved: Pat Kinney, Second: Kojima Fumihide

There was no discussion and no objections therefore the motion passed and the agenda was approved unanimously.

**Approval of Prior Mtg. Minutes**

Motion to approve the July meeting minutes: (doc# 15-14-0669-01)

Moved: Soo-Young Chang, Second: Kiyoshi Fukui  
There was no discussion and no objections therefore the motion passed and the minutes were approved unanimously.

**Selection of Technical Editor**

Chair asked Verotiana if she wanted to be considered for TG Technical editor, and she responded yes. Chair then asked if anyone else wanted to be considered for TG Technical editor, and no one responded.

Approval of TG Technical Editor

Motion to appoint Verotiana Rabarijaona as the TG10 Technical Editor

Moved: Kojima Fumihide, Second: Soo-Young Chang  
There was no discussion and no objections therefore the motion passed and the minutes were approved unanimously.

**Next Steps Update/802.15 Process**

* The chairman stated that the draft would need TG10, TEG and WG-TE review
* Due to time constraint until the March meeting, the letter ballot might not be launched between now and March
* Rollup should be out for Sponsor ballot after the March meeting
* The chairman and the TG editor will send an ANA request to the 802.15 WG

**Status Update on Editors Draft**

* The TG editor explained briefly went through the rough draft r6
* The draft is not available on mentor yet, the chairman copied to a USB memory stick and passed it around the room

**Review and Discussion of Security Aspects**

The Chair invited the TG9 (KMP) Chair Based – Bob Moskovitz and other security experts – Tero Kivinen to the session to discuss the security aspects of L2R. This started with a presentation by Noriyuki Sato on the security aspects of L2R (doc. # [15-15-0041-00](https://mentor.ieee.org/802.15/dcn/15/15-15-0041-00-0010-security-aspect-of-l2r.ppt)).

* Tero pointed out that transmissions could be authenticated but not encrypted
* Tero stated that TG9 was thinking of using KMP before association to secure that process
* Bob asked if L2R security was distinct from data service security
* Tero and Bob stated that we should implement hop by hop security since an intermediate device does forward exactly the same frame
* Bob suggested that the L2R use a distinct a different security from the data service due to frame counters, but Tero disagreed
* Bob said that a PAN may have a group key that should be distributed through a mechanism to all the nodes
* Tero asked if the key is end-to-end or hop-by-hop in data forwarding
* The chairman if there is a reason why we shouldn't use pair-wise keys and Tero answered that in that case there is no need for a group key, however if a node gets attacked, it does not affect the whole network
* Bob suggested that a pair-wise key is needed in order to distribute a group key
* Bob said that there will be an change to the IE used in KMP giving more flexibility
* Bob suggested that TG10 should not get too concerned about KMP
* Tero said that since the IE used are payload IEs, they will be encrypted and decrypted
* Tero suggested that a security session is only needed between a device and the parent router
* Bob asked how TG10 handles fragmentation and Sato-san answered that TG10 does not handle fragmentation - fragments are received from the upper layer and transmitted end-to-end
* Tero stated that since the MP layer is below the L2R, the L2R could do reassembly hop-by-hop
* Bob suggested to use KMP and not to create an new method on TG10, or to review KMP and submit comments on how to improve it so that TG10 only refers to TG9
* Bob and Tero also suggested a review of the new text on security in the rollup of 15.4 that might contain useful information
* Kojima-san asked in a case of the group key, does the group refer to the PAN or the mesh tree andTero suggested that a group key should be distributed in the PAN
* Kojima stated that the TG10 will first discuss based on the information gathered so far
* Verotiana asked how the Multiplexed ID worked in TG10 and Tero explained that a MP is assigned to a certain service and when MP receives a frame with a certain MP ID, it forwards it to the service corresponding to the MP ID
* Verotiana asked what would happen if the L2R sublayer were to sit under the MP sublayer
* Tero answered that the since the MP is responsible for fragmentation, if another layer between MP and the MAC and that layer would add its own header or IE which would modify the fragmentation size

The Task Group went into recess (at 6:00 PM) until the Tues. AM1 session.

**Tuesday AM1 (1/13)**

Chair called the meeting to order at 8:05 AM.

**Patent Policy and call for Essential Patents**

Chair called the group’s attention to the IEEE patent policy and made a call for notification of essential patents. There were no responses.

**Draft Preparation and Editors Review Comments**

* Editors comment sheets were provided by NICT and OKI
* The Chair recessed for 5 mins. to allow merging all of comments into the one spread sheet
* The merged comment sheet was then reviewed in the session, and the comment was either assigned to an editor/contributor or a resolution was generated
* There was not enough time in the session to reviewed all of the comments, so the editors continued after the session ended until all comments were assigned

The Task Group went into recess (at 10:00 AM) until the Wed. PM2 session.

**Wednesday PM2 (1/14)**

Chair called the meeting to order at 4:05 PM.

**Patent Policy and call for Essential Patents**

Chair called the group’s attention to the IEEE patent policy and made a call for notification of essential patents. There were no responses.

**Re-Presentation of Key Mgmnt., KMP, Key Estab., Dispatch, Fragmentation (Don Sturek)**

Don gave an overview of doc. # [15-14-0710-00](https://mentor.ieee.org/802.15/dcn/14/15-14-0710-00-0009-fragmentation-replacement-text.docx) and the comments received when presenting in TG9 (KMP). Several questions were asked and answered and additional discussion ensued. The goal of this is to provide a single hop fragmentation capability, including KMP.

The approach will support a number of different KMP standards.

Multi-hop (supporting of unordered packets) is not supported. For multi-hop, packets would have to arrive in order for this to be used.

There a few aspects of this approach that TG10 needs to determine how they would make use of and or alternatively provide a similar mechanism. Of particular concern are the L2R routing information packets, which could easily exceed 80 bytes of MAC payload. The total size is dependent on the # of hops, which for the larger networks (on the order of 10,000 nodes) can result in multiple fragments.

**Proposed Resolutions to Editors Comments**

Verotiana went through the proposed resolutions provided thus far, generated in response to the editors comments.

The Task Group went into recess (at 6:00 PM) until the Thurs. PM2 session.

**Thursday PM2 (1/15)**

Chair called the meeting to order at 4:05 PM.

**Patent Policy and call for Essential Patents**

Chair called the group’s attention to the IEEE patent policy and made a call for notification of essential patents. There were no responses.

The group then discussed PAN coord. and tree root connectivity.

**Standing Conference Call Time**

Next call on Mon, Jan. 19th

On Mon. @ 5PM (Pacific)

**Proposed Resolutions to Editors Comments**

There is a need, as a result of the multi-hop nature of L2R, to preferably have the MCPS-DATA.indication primitive modified to include the AckTX semantic, so that ACKs are generated.

**Approve TG10 pre-Ballot**

N/A

**Pre-ballot Reviews (TG10, WG-TEG, WG-TE) & Timeline**

* TG10 2-3 weeks
* WG-TEG 2-3 weeks
* WG-TE 1 week

**Time Line for Reviews**

* Week of 1/18 Address editors comments and define security aspects
* Week of 1/25 Address editors comments and define security aspects
* Week of 2/1 Start TG10 and WG-TEG pre-reviews (for 3 wks)
* Week of 2/8 Reviewing
* Week of 2/15 Start WG-TE review, Reviewing
* Week of 2/22 Resolve comments
* Week of 3/1 Resolve comments
* Week of 3/8 March Mtg. (resolve final comments and update draft)

**Next Steps**

* Finish editors review comment resolution
* Clean up next 2 weeks
* Start pre-reviews
* Check on WG-TEG Approval
* Check on WG-TE Approval
* Final clean up at March Mtg.
* Prepare and make motions at March mtg.

**Overall Time Line**

Chair reviewed doc. # [15-13-0645-04](https://mentor.ieee.org/802.15/dcn/13/15-13-0645-04-0010-tg10-l2r-timeline.xlsx) and noted that starting the 1st Letter Ballot after March mtg. pushes out the schedule by 2 months. However the schedule still has 3 Letter Ballot recircs. and 3 Sponsor Ballot recircs., and only 2 may be need one or the other or both.

**Adjourning the meeting**:

Chair asked if there were any objections to adjourning. None were heard.

The meeting was adjourned at 5:27PM.