IEEE P802.11  
Wireless LANs

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| TGad Conference Call Minutes | | | | |
| Date: 2012-01-12 | | | | |
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Abstract

TGad conference call minutes for 2012.

# Conference Call Times

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| --- | --- | --- |
| **Date** | **Start Time** | **End Time** |
| January 5, 2012 | 10 AM Eastern Time | 12 PM Eastern Time |
| January 12, 2012 | 8 PM Eastern Time | 10 PM Eastern Time |
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# Minutes from January 5, 2012 Conference Call

## Agenda

* Check to see if anyone is not familiar with the IEEE patent policy <http://standards.ieee.org/board/pat/pat-slideset.pdf>
* Mark Hamilton (Polycom), 12/0005r0, TGad Architecture Discussion Topics

## Patent Policy

No one was not familiar with the IEEE patent policy.

No essential patent disclosure

## 12/0005r0, TGad Architecture Discussion Topics

* Comments are around Clause 4.9 in the draft
* Multiple MAC entities that share one PHY
  + Other advantages (slide 4)
    - i) some applications that already have built-in encryption (e.g., HDMI) may dismiss the need for double encryption at the MAC. This would allow better power saving. With multiple MAC this is possible, but it is not possible with a single MAC (encryption is per MAC); ii) concurrent WLAN/WPAN access, each with its own MAC entity
    - can extend range of TSPEC (via ADDTS), by having different TSPECs per MAC addresses
    - multiple MACs and single PHY can be viewed as contention for a single source
  + Slide 5
    - bullet one:
      * independent encryption is the major advantage (e.g. HDMI). Also, multiple MAC entities may ease the implementation complexity for concurrent WLAN/WPAN operation.
      * Main advantage is multiple security domains
    - Bullet two: Multiple MAC complements FST, in the sense that it is possible to do FST between MACs that are operating under the same PHY.
    - Bullet 3: The noted subclause basically describes the notion of the MM-SME. And, the concept of MM-SME is used in many places in the spec. So, it seems a subclause explaining this concept is definitely needed.
* Multi-band operation
  + Slide 6
    - Multiple MAC is about separate MACs over a single PHY. But yes, FST could be done over an implementation of multiple MACs.
    - Could be seen as multiple STAs within a device (note that the quoted sentence from the spec states “device”, not “STA”). Each MAC within a device could potentially be using the same MAC address. This would enable transparent FST.
    - No instance of a single MAC using multiple PHYs.
      * Diagram should be added: additional architectural entity, which is the FST end point that sits about two MACs and exports a single MAC end point; critical question to answer is where it sits in relation to 802.1X.
      * Single MAC/SAP for transparent FST
      * Multiple MAC/SAP for non-transparent FST
      * Brian Hart will draft up first version
  + Slide 7
    - Each MAC entity would share the same MAC address and MAC\_SAP. However, the RSNA management is different, since keys would be separately setup for each band.
    - Each MAC entity operates in a unique (operating class, channel number) combination. That’s the unique key, so to speak.
    - A single MAC entity would not allow simultaneous operation in different bands. Note that this is already allowed today in the context of Wi-Fi Direct, which allows concurrent WLAN/WPAN operation.
    - Can have more than one RSNA’s; but, cannot have two with transparent FST on both sides
      * Add table with source, destination, options for same or different RSNA; Carlos will draft up first version
  + Slide 8
    - The problem with this approach is that the DBand PHY is totally different than the PHYs in the lower bands. Similarly, there are many MAC differences too.
    - Problem is that the activities of PHYs are independent, would need to Tx/Rx, sense NAV
    - Intent is different MAC entities
    - There are use cases: 1) simultaneous streaming and web browsing 2) seamless transition from 60 to 2.4/5 when moving out of range
  + Slide 9
    - 802.21 is media independent, we are very media dependent
    - There is not much difference, except that the 11ad MAC provides explicit protocol support that can lead to, hopefully, a better handling at the upper layer. But, yes, in the end the upper would be needed to provide the complete solution.
    - In case of non-transparent, management entity that connects MAC/SAPs; discussion of single or multiple MAC/SAPs

# Minutes from January 12, 2012 Conference Call

## Agenda

* Check to see if anyone is not familiar with the IEEE patent policy <http://standards.ieee.org/board/pat/pat-slideset.pdf>
* Initial sponsor ballot responses, comment database 11-12/0020r0
* Brian Hart (Cisco), 12/0023r1, TSPEC Data Rates
* Payam Torab (Broadcom), 12/0047r0, Fixes and Clarifications
* Payam Torab (Broadcom), 12/0048r0, Wakeup Schedule Element
* Gaius Wee (Panasonic), 12/0051r0, GCMP Test Vector Revised
* Carlos Cordeiro (Intel), 11-12/0020r1, comment database
* Carlos Cordeiro (Intel), 12/0021r0, MLME interface for BF
* Carlos Cordeiro (Intel), 12/0022r0, MB and PCP selection fixes
* Planning for Jacksonville
  + Solomon Trainin (Intel), 12/0057r0, TGad sponsor ballot text changes part 2
  + Solomon Trainin (Intel), 12/0058r0, TGad sponsor ballot text changes part 3

## Patent Policy

No one was not familiar with the IEEE patent policy.

No essential patent disclosure

## Initial sponsor ballot results

The official results for this Sponsor Ballot follow:  
Ballot Opening Date:    Tuesday         December 06, 2011 - 23:59 ET  
Ballot Closing Date:       Thursday      January 05, 2012 - 23:59 ET

BALLOT RESULTS:  
  
214 eligible people are in this ballot group.  
     
141 affirmative votes

  23 negative votes with comments

    0  negative vote without comments

   11 abstention votes

=======

175  votes received  =  81.8 % valid returns  
                                =    6.3% valid abstentions  
    
APPROVAL RATE:  
141  affirmative votes          =      86.0 % affirmative  
 23  total negative votes    =         14.0  % negative

This ballot has met the >75% ballot return requirement

This ballot has met the <30% abstention requirement

The motion passes.

There were 499 comments received. 515 total comments

The document 11-12/0020r0 is the comment database containing all 515 comments.

Technical: 279

Editorial: 174

General: 62

## 12/0023r1, TSPEC Data Rates

* the Minimum Data Rate, Mean Data Rate and Peak Data Rates fields in the TSPEC only allow rates up to 4.2Gbps, but 11ac and 11ad go to ~6.8 Gbps. Meanwhile, MIMO and channel bonding at 60 GHz and the entire Terahertz band are untapped opportunities and could lead to much higher data rates. Given that 802.3 is looking at 400 Gbps, there are use cases for these high speeds. In order to keep 2.4/5/60 GHz all aligned, and noting that 11n could never have used more than 600e6 in this field (and even 11ac implementations presently under development are unlikely to exceed 2 Gbps), we should keep the same size of the field, but define the field in a piecewise linear fashion, with an aspirational coefficient:
* CID 6275, 6125, 6306, 6133
  + Modify “minimum PHY data rate” to “minimum PHY rate”
  + Modifying version of the document in the resolution
  + Comments:
    - Terminology “does not include” is ambiguous, but no better wording yet
* Move to approve to 12/0023r2 (r1 plus the two modifications above)
  + Move: Brian, second: Carlos
  + Motion #65 passes by unanimous consent

## 12/0047r0, Fixes and Clarifications

* Enhance TSPEC semantics to be able to uniquely identify a DBand allocation between two endpoints A and B. Specifically, with the current semantics, a TSPEC cannot differentiate between two airtime allocations created between A and B (one created by A, another created by B) that use the same Allocation ID. Direction semantics needs to be added to the TSPEC.
* For A-MPDUs sent in the data enabled immediate response context, data MPDUs that are sent under an HT-immediate Block Ack agreement should also include QoS Null.
* The “More Data” bit in the MAC header now has a new meaning associated with reverse direction access. The legacy text around the bit usage should be removed.
* CID ????
* Comments
  + Use CID 6001
  + No other comments
  + Will bring to motion in Jacksonville

## 12/0048r0, Wakeup Schedule Element

* To successfully track the Awake/Doze BIs of a peer non-PCP/non-AP STA as well as a PCP/AP, local MAC needs to know the start time of the next Awake/Doze BI and the sleep interval.
* Another improvement is increased flexibility in duty cycle patterns
* meanings of Awake Start Time and Awake Duration parameters have been clarified
* CID ????
* Comments
  + Are constants supposed to have dot11 in front of them?
    - No, only MIB variable. If constant then it starts with an “a”
  + Use CID 6001
  + Change WiGig editor to 802.11ad editor
  + No other comments
  + Will bring to motion in Jacksonville

## 12/0051r0, GCMP Test Vector Revised

* Add second GCMP test vector in Annex M
* CID ????
* Comments
  + Use CID 6001
  + No other comments
  + Will bring to motion in Jacksonville

## 12/0021r0, MLME interface for BF

* defines the MLME interface for BF
* CID 6001
* Comments
  + For antennaID, sectorID, SME doesn’t know valid values
    - Not part of MLME interface to do that
      * Need changes to MIB
  + BFFeedback, Ack: no practical use and without precedent
    - Need to separate implementation from specification
    - MLME is logical/instantaneous interface
    - Need it for completeness
      * Could replace with ISS confirm
  + Dean Armstrong will bring in counter proposal based on submission next conference call

## 12/0022r0, MB and PCP selection fixes

* Fixes issues with PCP selection and Multiband operation. A multi-band capable PCP/AP can redirect STAs to join a BSS on a particular band/channel. This will improve load balancing and network management on a pre-association basis. After association, FST can be used as is.
* CID 6001
* Comments
  + If SME issues a start request (in last paragraph added in doc) , should it be required to perform another scan?
    - Didn’t want a strict requirement for another scan, since one had been done
  + Will bring to motion in Jacksonville

## Planning for Jacksonville

* Four time slots right now
* Documents in queue
  + Solomon Trainin (Intel), 12/0057r0, TGad sponsor ballot text changes part 2
  + Solomon Trainin (Intel), 12/0058r0, TGad sponsor ballot text changes part 3
  + Carlos Cordeiro (Intel), 11-12/0020r1, comment database
  + Chris will have a submission
* Request minimum of 2 more time slots

# Attendance

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| **Participant** | **Jan 5** | **Jan 12** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Osama Aboul-Magd (Huawei) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dean Armstrong (CSR) |  | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Magued Barsoum (Fortress Technology) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Liwen Chu (ST) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Carlos Cordeiro (Intel) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mark Hamilton (Polycom) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Christopher Hansen (Broadcom) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Brian Hart (Cisco) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reza Hedayat (Cisco) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| David Hunter (wirefi networks) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Assaf Kasher (Intel) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yongsun Kim (ETRI) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Eric Lindskog (CSR) |  | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sai Nandagopalan (Tensorcom) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Eldad Perahia (Intel) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Adrian Stephens (Intel) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Payam Torab (Broadcom) |  | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Solomon Trainin (Intel) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chao-Chun Wang (MediaTek) | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| James Wang (MediaTek) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Gaius Wee (Panasonic) |  | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| James Yee (Mediatek) | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Chanho Yoon (ETRI) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |