IEEE P802.11
Wireless LANs

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| ARC SC Meeting Minutes September 2017  |
| Date: 2017-09-13 |
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Abstract

This document contains the minutes of the IEEE 802.11 ARC SC meeting sessions held on 12 September 2017 at 10:30 HT, 12 September 2017 at 16:00 HT and 13 September at 8:00 HT in Waikoloa, Hawaii, USA.

Note: Highlighted text are action items.

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# Tuesday, 12 September 2017, at 10:30 HT

**Administration:**

**Chair: Mark Hamilton, Ruckus/Brocade**

**Vice Chair/Secretary Joseph Levy, InterDigital**

**Meeting call to order in ARC meeting room by Chair 10:30 HT, 12 September 2017**

Agenda slide deck: [11-17/1225r1](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-01-0arc-arc-sc-agenda-september-2017.pptx), proposed agenda copied here for reference:

**Tuesday, September 12, AM2**

* **Administrative: Minutes**
* **Consideration of 11ax architecture topics:** [11-17/1220r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1220-00-00ax-clause-10-2-comment-resolution.docx)
* **IEEE 1588 mapping to IEEE 802.11**
* **802 activities**
* **IETF/802 coordination**
* **802.1ASrev use of FTM update** - [11-17/1086r4](https://mentor.ieee.org/802.11/dcn/17/11-17-1086-04-0arc-ieee-802-1as-d5-0-review-comments.pptx)
* **Investigation of WUR architecture topics; may lead into “split” PHYs (LC, 28 GHz (Phazr)):** [11-17/1025r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1025-00-0arc-11ba-arch-discussion.pptx)
* **MIB attributes Design Pattern -** [11-15/0355r7](https://mentor.ieee.org/802.11/dcn/15/11-15-0355-07-0arc-mib-truthvalue-usage-patterns.docx), [11-17/0475r8](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-08-0arc-mib-pattern-analysis.xlsx), [11-14/1281r4](https://mentor.ieee.org/802.11/dcn/14/11-14-1281-04-0arc-mib-attributes-analysis.docx), [11-09/0533r1](https://mentor.ieee.org/802.11/dcn/09/11-09-0533-01-0arc-recomendation-re-mib-types-and-usage.ppt)
* **YANG/NETCONF modeling discussions –** [11-16/1436r1](https://mentor.ieee.org/802.11/dcn/16/11-16-1436-01-0arc-yang-modelling-and-netconf-protocol-discussion.pptx)
* **AP/DS/Portal architecture and 802 and GLK concepts -** [11-17/0136r2](https://mentor.ieee.org/802.11/dcn/17/11-17-0136-02-0arc-bridging-architecture-considerations.docx), [11-16/1512r0](https://mentor.ieee.org/802.11/dcn/16/11-16-1512-00-0arc-glk-802-1q-bridge.pptx), [11-16/0720r0](https://mentor.ieee.org/802.11/dcn/16/11-16-0720-00-0arc-stacked-architecture-discussion.pptx)**,** [11-15/0454r0](https://mentor.ieee.org/802.11/dcn/15/11-15-0454-00-0arc-some-more-ds-architecture-concepts.pptx)**,** [11-14/1213r1](https://mentor.ieee.org/802.11/dcn/14/11-14-1213-01-0arc-ap-arch-concepts-and-distribution-system-access.pptx) **(slides 9-11)**
* **“What is an ESS?”**

**Tuesday, September 12, PM2**

* **Continue the above**

**Wednesday, September 13, AM1**

* **Continue the above**
* **Future sessions / SC activities**

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in Agenda document, [11-17/1225r1](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-01-0arc-arc-sc-agenda-september-2017.pptx)

**Call for Patents:**

The Chair reviewed the Patent policy and called for potentially essential patents – there was no response to the call.

**Approval of the Agenda:**

The Chair called for comments or amendments to the agenda – there was no response to the call

The proposed agenda was approved by unanimous consent.

**ARC Minutes:**

* **Deferred as links/document numbers were not provided in the agenda deck**

**TGax – discussion –**

Chair presented: [11-17/1396r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1396-00-0arc-comments-on-11ax-clause-10-2.docx), which is based on [11-17/1220r2](https://mentor.ieee.org/802.11/dcn/17/11-17-1220-02-00ax-clause-10-2-comment-resolution.docx), addressing 3 CIDs (4746, 5373, and 8207) from P802.11ax Draft 1.0 ballot for subclauses 10.1 and 10.2.

The document was reviewed.

A comment was made that: in REVmd we are considering deleting the DCF box. This comment was followed by some discussion. Consensus was reached that: until this change is made in an REVmd draft and the 802.11ax draft is updated to be based on the updated REVmd draft as a baseline document the DCF box should not be removed. No action was required at this time, though it is likely that eventually this change will need to be done.

It was also stated that: the MCF box may not be necessary in the drawing.

Chair – Stated that the two new Access methods (UL MUB Access (UMTA) and UL OFDMA-Based Random Access (UORA)) are only used by the non-AP STAs as an UL access method, as the AP uses EDCA to transmit the associated trigger frames.

An attendee questioned if the AP also uses MUCF as the function could be argued that the function is used in by both the AP and the non-AP STA.

A discussion followed, that reached an agreement to: remove the “Multi-User Coordination Function (MUCF)” text from the figure and to also remove the box around the two Access methods, enlarging their boxes so they look similar to all of the other Access methods boxes. In addition, the call out “Required for Multi-User Uplink Services” should point to both Access boxes (UMTA and UORA) – or should clarify which of UMTA and UORA are mandatory or optional. Also, it was discussed if a Function label was need, similar to the HCF and MCF callouts. But, it was decided not to do this now, but to consider adding it at some point in the future, if necessary.

**IEEE 1588 mapping to IEEE 802.11**

The Chair reported:

* Still tracking this activity
* The Chair is not aware of any issues related to 802.11

**IEEE 802 Activity**

The Chair reported:

* 802.1AC-2016 published
* 802.1Q revision is underway, 2017, to roll in:
	+ IEEE Std Qcd-2015,
	+ IEEE Std 802.1Qca-2015,
	+ IEEE Std 802.1Q-2014 Cor 1-2015,
	+ IEEE Std 802.1Qbv-2015,
	+ IEEE Std 802.1 Qbu-2016,
	+ IEEE Std 802.1Qbz-2016

Chair noted that 802.1Q – the ballot is currently open and the Chair is soliciting comments. Please forward any comments you have to the Chair or respond the ballot if you are in the ballot pool.

**IETF/802 coordination:**

The Chair called for any information on IEFT activity – none was provided. Waiting for mid-week plenary report for an update.

**802.1ASrev use of FTM**

Ganesh Venkatesan (Intel) is still working this – but nothing new since last meeting (July 2017).

Chair called for any additional groups we should be monitoring – none provided.

**TGba architecture:**

Chair: Reviewed the status of 11-17/1025r0 – no new activity at this point.

A participant asked: are we going to discuss this further?

Chair: Only if there is interest.

At least one participant indicated interest.

The Chair provided a brief overview of: [11-17/1255r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1255-00-0arc-arc-sc-teleconference-meeting-minutes-15-august-2017.docx), ARC SC teleconference meeting minutes 15 August 2017.

Discussion:

A participant stated: Wouldn’t be lovely if people thought top down – but the average engineer doesn’t see the value in the architecture – so I don’t think they see value in architecture only cost. But, I don’t think we should give this up, we should work the architecture.

Chair: We will provide architecture support and top down questions to TGba, to assist them. Looking for support and contributions to support this activity.

**TGak:**

Chair: TGak Architecture – is fairly mature at this point.- – reviewed TGak architecture figures.

**MIB attributes**:

There are several documents, but no new work prior to this meeting.

**YANG modeling:**

There have been no contributions and no new activity – therefore things are not moving forward.

A participant stated: Will talk about what an ESS this after this? The question is: HEES IDs, ESS IDs, SSIDs how do these relate to the mobility domain. It all relates to reduce neighbor report – the participant was looking at these concepts and how these details of the reduced neighbor report.

A participant stated – the concepts of HEMS is a type of ESS in my view – So if you are ditching the concept of ESS can the TGu work?

Chair suggest we wait for Roger Marks’ presentation on how this works in the current version of 802.11, see 9/12 PM2 “What is an ESS” discussion below.

Chair called for addition topics: None provide.

**MIBs:**

Chair – we have been through roughly half of the MIB attributes – and we asked if that was adequate – but we agreed that we should quickly look at the remaining attributes to see if we find anything different. But the object is to finish up the work.

A participant asked: can we complete the documents and declare success?

Chair – that is the current plan.

Document 11-15/0355r7 was reviewed:

A participant commented: on 3.5.3 Examples – These examples seem to be the correct way to change the text to remove the MIB variable. It was suggested to provide the current text that is “incorrect” in a from/to version of the text to make it clear what is recommended to be done.

The Chair then continued the review of the 11-17/475r8 – spread sheet. Starting the review at line 287 - ~ 100 left to go.

**Recessed 12:30 HT**

# Tuesday, 12 September 2017, at 16:00 HT

**Administration:**

**Chair: Mark Hamilton, Ruckus/Brocade**

**Vice Chair/Secretary Joseph Levy, InterDigital**

**Meeting call to order by Chair 16:06 HT, 12 September 2017**

**Agenda:**

**Continue MIB Attributes discussion continued**

**Roger Marks – ESS, BSS, SSID discussion –**

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in Agenda document: [11-17/1225r1](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-01-0arc-arc-sc-agenda-september-2017.pptx).

**MIB Discussion – Continued:**

11-15/0355r7 reviewed, again – background provided by Chair

Then back to the excel sheet. Row 287.

Note 1881 line 31 – in Draft 0.1 – there seems to be an error. – please forward to TGmd.

Long discussion on dot11FortyMHzIntolerant – basically agreeing that this is a Pattern C, but Pattern C may need to tweaked to cover this case where it is both settable by master/slave and settable in response to locally detected conditions.

11-15/0355r7 has been updated. The group has now completed the initial review of all the truth values MIB variables. However, the document still needs some work and review.

The open items in 11-15/0355r7 were discussed:

There is an issue with MIB variables which are settable in two ways: settable in the AP and settable in the non-AP STA. Is this something we need to fix this? If so, do we explain it is settable one way in the AP and one way in non-AP STA or do we make these into two different MIB variables?

Is there an Issue with the MIB variables which look like truthvalues but are not – but this is scope creep – so we will not address it.

Addressing item 9 – Join and start are different – looking at the case of dot11scsactivated – but this is a usage Z and hence should not even exist in the specification.

All open items have been closed – still need to review and comment on the document.

**What is an ESS?**

Roger Marks presented – using P802.11 REVmd D0.2 - discussing Homogenous (typo) extended service set (ESS) - HESSID and how it compares to SSID. He proposed there is a need to try to remove the confusion around HESSID and SSID and the concept of ESS in general.

He raised the question as to why do we need both. Why do we need SSID when the HESSID is unique and provides the whole story.

A participant stated – in general the HESSID is unique to an ESS, but within an ESS you can have different SSIDs. The identifier must be the pair, per the definition in 802.11. But in practice the SSID is always the same for the ESS, so the SSID is redundant when a HESSID is used. Virtual SSIDs may be in the same HESSID – so you might have different SSIDs with the same HESSID. A HESS could be a continental wide thing delivered by a service provider – so one can roam everywhere independent of the SSIDs naming the ESS.

A participant stated - It would be more useful to delete the current definition for homogenous extended service set.

A participant questioned - Is this related to an SSPN?

A participant stated – no not really – the SSPN is independent of any HESSID assignment. SSPN is a destination where I am being taken to. Figure R-2 - So common implementations may have a 1 to 1 mapping to the SSPN. The HESSID is an identifier of ESSs which might provide the same functionality. So the HESSID is the MAC address of one of the APs in the ESS. The HESSID can exist without an SSPN, it may have an “other” external network.

A participant stated - SSPN is a home network. The HESSID can have a mapping to the SSPN, but you don’t need to have an SSPN attached.

A participant stated - These were the design philosophies we used 12 years ago.

A participant stated - Also the AAA server/client look to be in the data path – this doesn’t make sense. In figure R-2 and Figure 4-8. Also, why are the BSSs not labeled BSSs.

**Recessed 18:03 HT, 12 September 2017**

# Wednesday, 13 September 2017, at 8:00 HT

**Call to order 8:04**

**The Agenda** [11-17/1225r1](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-01-0arc-arc-sc-agenda-september-2017.pptx) **is posted but** [11-17/1225r2](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-02-0arc-arc-sc-agenda-september-2017.pptx) **is being shown on the screen, it’s an edited version and has been edited in the previous meetings and will be posted.**

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in Agenda document, [11-17/1225r1](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-01-0arc-arc-sc-agenda-september-2017.pptx)

**Approved minutes for July** [11-17/1156r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1156-00-0arc-arc-sc-meeting-minutes-july-2017.docx) **and August 15 Teleconference** [11-17/1255r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1255-00-0arc-arc-sc-teleconference-meeting-minutes-15-august-2017.docx)**. (Note August 1teleconference minutes are missing.)**

**MIB Discussion – Continued:**

11-15/0355r7 reviewed again – background provided by Chair – the group then worked r8

Looking at patterns in section 3.

3.1 – Pattern A - No comments

3.2 – Pattern B – Some discussion on 3.2.3 Examples: the pattern for dot11ExtendedChannelSwitchActiviated: Action seek out comments from interested parties (e.g. Peter Ecclesine)

3.3 – Pattern C – Some concern by the Chair on the ability for two entities being able to write to this variable. Also, questions on why we are using the titles “master” / “slave”.

Alternate naming suggestions were proposed by participants:

1. “supervisor” / “requestor”
2. “provider” / “consumer”
3. “leader” / “follower”
4. “primary” / “secondary”
5. “dominant” / “servient”

Discussion on the 40GHzIntolrant MIB – led to the proposal to create two type of “master” / “slave” patters. One is based on the AP or other entity setting a feature as required at instantiation. and the other devices being informed of the decision.

A Chicago style straw poll was held to choose the naming:

|  |  |
| --- | --- |
| Name Pair | Number of votes |
| “master” / “slave” | 1 |
| “supervisor” / “requestor” | 0 |
| “provider” / “consumer” | 0 |
| “leader” / “follower” | 3 |
| “primary” / “secondary” | 5 |
| “dominant” / “servient” | 1 |

Therefore the preferred naming pair was “Primary” / “Secondary”

Continuing “Primary” / “Secondary” wording for Pattern C (3.3)

Long discussion on peer based “Primary” / “Secondary” and if one device has multiple “Primary” / “Secondary” relationships – if so is there only one MIB variable? How is it controlled? Is there an array of MIB variables (one per peer relationship)?

Noted that the example for dot11SpectrumManagementRequired says it is read-write. Clearly not on the secondary. Maybe not on the primary (“static for the lifetime of the BSS”). Needs to be checked with experts (e.g. Peter Ecclesine)

Completed review/discussion of the example for 3.3 pattern C in 11-15/355r7, r8 to be posted. The remainder of the document needs to be reviewed/discussed.

No teleconferences –

No MIB teleconferences needs, no need for an TGba teleconference until TGba is more stable.

**Adjourned: 10:05**

Note final agenda slide deck is: [11-17/1225r2](https://mentor.ieee.org/802.11/dcn/17/11-17-1225-02-0arc-arc-sc-agenda-september-2017.pptx) and closing report is: [11-17/1507r0](https://mentor.ieee.org/802.11/dcn/17/11-17-1507-00-0arc-arc-closing-report-september-2017.pptx).