IEEE P802.11  
Wireless LANs

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| ARC SC March 2017 Meeting Minutes | | | | |
| Date: 2017-03-17 | | | | |
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Abstract

This document contains the minutes of the IEEE 802.11 ARC SC meeting sessions held on 14 March 2017, at 16:00 PDT, 15 March 2017 at 8:00 PDT, and 16 March 2017 at 8:00 PDT in Vancouver, BC, Canada.

**Contents:**

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# Tuesday, 14 March 16:00 PDT

**Administration:**

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

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

**Meeting call to order by Chair 16:02 PDT, 14 March 2017**

**Proposed Agenda slide deck:** [11-17/0202r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0202-01-0arc-arc-sc-agenda-march-2017.pptx)**, proposed agenda copied here for reference:**

Tuesday, March 14, PM2

* Administrative: Minutes
  + IEEE 1588 mapping to IEEE 802.11
  + 802 activities
  + IETF/802 coordination
  + TGak update
  + MIB attributes Design Pattern - [11-15/0355r4](https://mentor.ieee.org/802.11/dcn/15/11-15-0355-04-0arc-mib-truthvalue-usage-patterns.docx), [11-17/0475r0](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-00-0arc-mib-pattern-analysis.xlsx)
  + 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)
  + “What is an ESS?”

Wednesday, March 15, AM1

* + MIB attributes Design Pattern (cont.)
  + 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), [11-16/0720r0](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?” (cont.)

Thursday, March 16, AM1

* + MIB attributes Design Pattern (cont.)
  + AP/DS/Portal architecture and 802 and GLK concepts (cont.)
  + “What is an ESS?” (cont.)
  + Future sessions / SC activities

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in the Agenda document

**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:**

**January 2017 Minutes,** [**11-17/0201r0**](https://mentor.ieee.org/802.11/dcn/17/11-17-0201-00-0arc-arc-sc-meeting-minutes-january-2017.docx) approved by unanimous consent.

**IEEE 1588 mapping to IEEE 802.11**

The Chair reported:

* Still tracking this activity
* 1588 is in sponsor ballot – there currently doing comment resolution
* The Chair is not aware of any issues related to 802.11
* The Chair asked if anyone was aware of any issues? There was no response.

**IEEE 802 Activity**

The Chair reported:

* 802.1Q revision underway, target September 2017 (may push to November 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
* 802.1AC-2016 published

**IETF/802 coordination:**

Multicast traffic features of 802.11 is status quo/stable, there are no open issues.

**TGak update**

The 802.11 TGak Chair reported:

* Architecture related items are stable at this time, there is no open work, nor is any anticipated.

The Chair called for questions or comments, there were none.

**Design Pattern for MIB attributes**

The Chair:

Reviewed status of [11-15/0355r4](https://mentor.ieee.org/802.11/dcn/15/11-15-0355-04-0arc-mib-truthvalue-usage-patterns.docx), background information can be found in: [11-14/1068r0](https://mentor.ieee.org/802.11/dcn/14/11-14-1068-00-0arc-mib-attributes-design-pattern-background.docx)

[11-14/1281r4](https://mentor.ieee.org/802.11/dcn/14/11-14-1281-04-0arc-mib-attributes-analysis.docx)

A new document [11-17/0475r0](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-00-0arc-mib-pattern-analysis.xlsx) was introduced by the Chair. The document is a spread sheet, to be used to compare the patterns used in all of the truth value MIBS and check that the patterns we have defined cover all cases, testing for gaps. To date we have defined two patterns:

Pattern A: static

Pattern B: slow changing @ BSS start or join

In addition to identifying the MIB to be pattern A or B, the spread sheet allows for marking of MIBs as: deprecated, obsolete, and remove. The official working definitions of these terms as agreed in REVmc document [11-13/1533r3](https://mentor.ieee.org/802.11/dcn/13/11-13-1533-03-000m-clause-16-and-17-deprecation.docx) are:

The term ‘Deprecated’ is used with the meaning of “discouraged”.  Hence 11b is discouraged by all three Proposals presented here and which were also presented during the 11mc discussions.

This may have the interpretation that in the future it could be upgraded to “Obsolete and may be removed” in 11md, but in 11mc it is “deprecated”.  A ‘three step approach’ was discussed that consisted of the steps:

1. "Deprecated”.  Notice that the referenced text is ‘discouraged’ and any new devise is discouraged from using it.  It is also a notice that in future it is likely to be made ‘obsolete’

2. "Obsolete” is a notice that the referenced text should not be used in any new product and in addition is likely to be removed in subsequent revisions of the Standard.

3. Remove

In addition, MIB variable may be noted as: Not found in text. Two types of not found in text were viewed as being germane:

1. X – the MIB variable is not found in the anywhere in the standard outside of the MIB
2. Effectively - the use of the MIB variable in the standard is not meaningful

The Chair then began a review of the MIB values in [11-17/0475r0](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-00-0arc-mib-pattern-analysis.xlsx), please see [11-17/0475r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-01-0arc-mib-pattern-analysis.xlsx) for updates made during the review. The following additions/edits were made during the review:

1. It was clarified that Pattern A – is static for any given instantiation, this does not mean the MIB value fixed for other instantiations.
2. It was clarified that Pattern B - is slow changing for any given instantiation, in a similar manner as Pattern A is static for any given instantiation.
3. A column was added to indicate if a MIB may be accessed by an external management entity. As MIBs that are to be read/written by external management entities (several valid inputs were proposed for this new column: N=no, DK=don’t know, and RO=read only)
4. For the recommendation column a new note was defined: Usage Z=Obsolete – change to simple “when a STA implements” (match words in PICS/reference the PICS?, long description or “CFxxx”?, in the few places in the text that this MIB variable is used.
5. A new pattern was also defined: Pattern C: Static on AP/master, dynamic on non-AP STA/slave. The naming of this pattern is TBD, but “Required” is a candidate label.

**Recessed – 18:02 PDT**

# Wednesday, 15 March 8:00 PDT

**Administration:**

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

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

**Meeting call to order by Chair 8:01 PDT, 14 March 2017**

**Proposed Agenda slide deck:** [11-17/0202r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0202-01-0arc-arc-sc-agenda-march-2017.pptx)**, proposed agenda copied here for reference:**

Wednesday, March 15, AM1

* + MIB attributes Design Pattern (cont.)
  + 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), [11-16/0720r0](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?” (cont.)

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in the Agenda document

**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.

**MIB attributes Design Pattern (cont.)**

The Chair reviewed the MIB attributes discussion and status, asked if there were any questions on the status or activity. None were forthcoming.

The Chair also reviewed [**11-09/533r1**](htthttps://mentor.ieee.org/802.11/dcn/09/11-09-0533-01-0arc-recomendation-re-mib-types-and-usage.ppt)for some guidance on previous thoughts on the MIB.

The Chair then continued the discussion of [11-17/0475r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-01-0arc-mib-pattern-analysis.xlsx). (see [11-17/0475r2](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-02-0arc-mib-pattern-analysis.xlsx) for details)

It was noted that Dot11OperatingClassesImplemented – may be replaceable by a statement in a device that that implements Operating Classes (as in PICS) and remove the MIB variable.

**Recessed 10:02 PDT**

# Thursday, 16 March 8:00 PDT

**Administration:**

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

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

**Meeting call to order by Chair 8:01 PDT, 14 March 2017**

**Proposed Agenda slide deck:** [11-17/0202r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0202-01-0arc-arc-sc-agenda-march-2017.pptx)**, proposed agenda copied here for reference:**

Thursday, March 16, AM1

* + MIB attributes Design Pattern (cont.)
  + AP/DS/Portal architecture and 802 and GLK concepts (cont.)
  + “What is an ESS?” (cont.)
  + Future sessions / SC activities

**Administration:**

The Chair reviewed the Administrative information in slides 5-10 in the Agenda document

**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.

The Chair then provided a brief review of the week’s ARC activities. He then called for YANG model contributions, none were received this week, future contributions are encouraged.

**MIB attributes Design Pattern (cont.)**

The Chair reviewed the MIB attributes discussion and status, asked if there were any questions on the status or activity. None were forthcoming.

The Chair then continued the discussion of [11-17/0475r1](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-01-0arc-mib-pattern-analysis.xlsx). (See [11-17/0475r2](https://mentor.ieee.org/802.11/dcn/17/11-17-0475-02-0arc-mib-pattern-analysis.xlsx) for details, which was posted after the close of this session.)

Discussion:  
Dot11RMNeighoborReportTGsGOffsetActivated – not referenced in the spec, accept to set it. Wright only variable?

DotFastBSSTransitionimplemented – not referenced in the spec.

For DSE MIBS – Chair will contact 802.18 for guidance on what is necessary.

RSNA – PMF active or not – seems complex – but these look like pattern C – master/slave.

Way forward:   
The Chair is to document the meaning of the MIB values table markings. And then split up the remaining MIB variables to the volunteers: Adrian, Mark, and Joseph. Goal is to complete the spreadsheet by the May 802.11 meeting.

**ACR SC Future Activities**

The future activities of the ARC SC were reviewed (slide 25 from 11-17/0202r2)

* **ARC SC meets when a specific focused task is requested of the SC for which the is sufficient volunteer interest.**
* **Continue work on architectural models, and liaison with TGs in development of their architecture as appropriate**
* **Design Pattern for “\*Implemented” and “\*Activated” MIB attributes – Impacts of YANG/NETCONF decision?**
* **Consider YANG/NETCONF**
* **Will also follow 802.1/802.11 activities on links, bridging, and MAC Service definition – “What is an ESS?”, for example**
* **Monitor/report on IETF/802 activities, as needed**
* **Monitor/report on IEEE 1588 activities, as needed**

If you have ANY other topic that you would like ARC SC to consider, contact the SC chair.

**Planning for May 2017**

Plan for two individual meeting slots: Wed AM1, and possibly Monday or Tuesday. If joint sessions is required target Thursday, possible joint sessions with TGak and/or TGaq?

No teleconferences are planned, if necessary one may be scheduled with 10 days’ notice.

**Adjourned 9:38 PDT**