IEEE P802.11
Wireless LANs

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| ARC SC Meeting Minutes September 2015 |
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Abstract

Minutes of the IEEE 802.11 ARC Standing Committee meeting held on 15th to 17th of September 2015, in Bangkok, Thailand. Note: minutes for the joint meeting with TGak held on 17th of September 2015 are provided in the TGak minutes document.

**Tuesday 15 September 2015, AM2, ARC SC Meeting**

**Administration: Chair: Mark Hamilton, Ruckus Wireless**

**Vice-Chair: Joseph Levy, InterDigital**

**Minutes by: Mark Hamilton**

**Meeting call to order by Mark Hamilton 10:30 AM, 15 Sep 2015**

**Agenda** [**11-15-0997-01-0arc-arc-sc-agenda-sep-2015.ppt**](https://mentor.ieee.org/802.11/dcn/15/11-15-0997-01-0arc-arc-sc-agenda-sep-2015.ppt)

**Tuesday, Sep 15, AM2**

* **Administrative: Minutes**
* **Updates, no action expected: IEEE 1588 mapping to IEEE 802.11**
* **IETF/802 coordination**
	+ **Concerns/comments about multicast over 802.11?**
* **802.11 as a component in a (larger) system:** [**11-15/0757r1**](https://mentor.ieee.org/802.11/dcn/15/11-15-0757-01-0000-802-11-as-a-component-tutorial.pptx)**,** [**11-15/0593r2**](https://mentor.ieee.org/802.11/dcn/15/11-15-0593-02-0arc-802-11-as-a-component.ppt)**,** [**11-15/0842r1**](https://mentor.ieee.org/802.11/dcn/15/11-15-0842-01-0arc-ieee-802-11-in-5g.pptx)**,** [**11-15/1133r0**](https://mentor.ieee.org/802.11/dcn/15/11-15-1133-00-0arc-existing-oam-interface-specifications.pptx)
* **MIB attributes Design Pattern -** [**11-15/0355r3**](https://mentor.ieee.org/802.11/dcn/15/11-15-0355-03-0arc-mib-truthvalue-usage-patterns.docx)**,** [**11-15/0891r0**](https://mentor.ieee.org/802.11/dcn/15/11-15-0891-00-0arc-delta-r2r3-of-mib-truthvalue-usage-patterns.docx)
	+ **Consider YANG model (may relate to both the above topics)?**

**Wednesday, Sep 16, AM1**

* **Updates to REVmc Figure 5-1, et al -** [**11-15/0540r2**](https://mentor.ieee.org/802.11/dcn/15/11-15-0540-02-0arc-updates-to-revmc-5-1-5.docx)
	+ **An AP doesn’t have a MAC SAP!?**
* **802.1AC draft review/discussion, as needed**
	+ **AP/DS/Portal architecture and 802 concepts -** [**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)**
* **Future sessions / SC activities**

**Joint session with TGak, Thursday, Sep 17, AM1**

* **Architectural view of 11ak Bridged LAN -** [**11-15/0454r0**](https://mentor.ieee.org/802.11/dcn/15/11-15-0454-00-0arc-some-more-ds-architecture-concepts.pptx)

**Administration:**

The Chair reviewed the Administrative information in slides 5-9 in the Agenda document (11-15/0566r1)

**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 proposed Agenda slide 11 of the Agenda document (11-15/0566r1) - copied above was reviewed, no comments or changes were proposed, the proposed agenda was approved by unanimous consent.

**Administrative: Minutes**

* **July Minutes:** [11-15-0956-00-0arc-arc-sc-and-joint-arc-sc-802-11-tgak-and-802-1-qbz-meeting-minutes-july-2015.docx](https://mentor.ieee.org/802.11/dcn/15/11-15-0956-00-0arc-arc-sc-and-joint-arc-sc-802-11-tgak-and-802-1-qbz-meeting-minutes-july-2015.docx)

Approved by unanimous consent.

**Updates for: IEEE 1588 mapping to IEEE 802.11 and IETF/802 coordination (PAWS, CAPWAP)**

Noted that work is proceeding on IEEE 1588. A call for information was made and there was no response. ARC will continue to monitor this work.

Regarding IETF/802 coordination, an item has come up. Recently, on the PIM, MBONE and 802-IETF reflectors, a concern has been expressed about the amount of multicast traffic that is happening on modern networks, and noting that more protocols (like IPv6) are starting to rely on multicast for features. But, this traffic, it is believed, is not handled well on 802.11 networks.

Dorothy Stanley (HP/Aruba, IETF liaison) has noted this in her liaison report, for more information. She has also asked the IETF to capture the concerns in an RFC, but that is not done yet.

Dorothy suggests that a discussion with IETF would help, describing the features of 802.11 to both control/limit multicast traffic, and to allow for more efficient handling of the traffic that is sent. She and Adrian Stephens (Intel, WG Chair) have started a presentation to capture a list of such 802.11 features, and she hopes to present this at the next 802/IETF leadership coordination teleconference. This is being posted as 11-15/1161. Please everyone review and comment.

**802.11 as a component in a (larger) system**

Max Riegel (Nokia) presented [11-15-1133-00-0arc-existing-oam-interface-specifications.pptx](https://mentor.ieee.org/802.11/dcn/15/11-15-1133-00-0arc-existing-oam-interface-specifications.pptx). Discussion:

* The information in the presentation is about the existing mechanisms for managing 802.11 devices/networks, some of which are standards, some are open “de facto” standards. Max asks if we can identify what is missing or what needed further, to accomplish the goals?
* Are we suggesting “802.11 component” would be at the BSS or ESS level? Not sure. Noted that it might depend if we are targeting enterprise, or public venue, or residential, or residential with a Service Provider public overlay. We should probably consider all of these.
* Of particular note, TR-069 is already being used by cable operators to manage their devices, including (in some cases) residential APs. Also TR-181. BroadBand Forum is also standardizing in this area.

*(At 11:30, the Chair noted that there were 18 people in the room, for the attendance count.)*

* Note also the CableLabs’ standard which expands on these TRs as a basis. CableLabs is also doing an SNMP MIB. The mapping of this MIB to the 802.11 defined MIB needs to be investigated.
* It was agreed that CAPWAP has some aspects of this as well, but it is “too hard coded” and difficult to maintain. It might also be too low-level (between a controller and an AP, for example).
* nl802.11h is the Linux standard for managing 802.11 interfaces on a device. Again, this seems too low-level for our needs. But, SDN factors into this discussion, too, perhaps at this level?
* On Slide 18, Max asks if there are other ideas? OpenFlow is suggested to be investigated. Also Open WRT and the car industry’s approach, perhaps.
* Max asked for guidance on next steps. The group agreed that we approach this from the point-of-view of what is already there, and figure out the gaps, or by starting at the top with requirements, and driving it top-down. Perhaps we do both in parallel.
* Max agreed to continuing researching, in the ‘bottom-up’ method.
* The group will consider starting the ‘top-down’ approach, starting with use cases and moving to requirements. It was noted that TR-181 already has some use cases.
* Does YANG modeling fit into this? Concern expressed that 3GPP “doesn’t like” YANG modeling, so if they are our major customer, that could be a bad fit. Using TR-069 might be a good fit, though.
* We should look at 3GPP’s LWA work, and the interface definitions they are creating there. These are likely a similar interface need.

**MIB attributes Design Pattern**

No time left, and no new proposals/submissions this time anyway. So, no discussion.

**Recess at 12:30 PM, until Wednesday morning.**

**Wednesday, Sep 16, AM1**

**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 proposed Agenda slide 11 of the Agenda document (11-15/0566r1) - copied above was reviewed, no comments or changes were proposed, the proposed agenda was approved by unanimous consent.

**REVmc Clause 5**

Reviewed document [11-15-0540-02-0arc-updates-to-revmc-5-1-5.docx](https://mentor.ieee.org/802.11/dcn/15/11-15-0540-02-0arc-updates-to-revmc-5-1-5.docx) (Mark Hamilton, Ruckus). Discussion:

* We have reviewed Figure 5-1 and 5-2 previously. Quick review again. No further comments. This is ready to be submitted to REVmc.
* We have also reviewed the non-AP STA Figure (5-3) previously. Again, no further comments, this is ready.
* AP Figure (Figure 5-4) has updates, and still open discussion. We’ve seen quite a lot of this discussion before, so Mark went through that quickly, and turned the attention to the new figures and discussion starting on page 9.
* Agreed that the DS is (or can be) a tunnelled architecture, but do we really want to say “entire ISO 7-layer stack”? We should just say it is “tunnelled”.
* Is “tunnelled” a defined term? Nobody could find a reference quickly. Maybe we could say “encapsulated”. It was noted that IETF has a definition of encapsulated that references the “ISO stack”.
* It really should be the “OSI” stack, not the “ISO” stack.
* What is an “OSI stack”? It is an instantiation of the OSI Reference Model communication system.

*(The Chair noted that at 9:00 am, there were 12 people in the room, for attendance checking.)*

* Mark will work on this label, off-line.
* Do we want to put the label “DSAF” lower? Is having it above (and to the right) of the box, causing some of the problem of making it seem “higher” in the stack than the DS? Maybe we can put it inside the box, instead.
* It is really confusing to show the DS ‘cloud’ without anything else connecting to it. How would this be drawn if there was another AP in the figure? Mark quickly added a second AP, and put a new drawing in the document and displayed for the group’s reaction. A few thought this was helpful.
* Mark posted the new discussion (and the two AP drawing) as 11-15/540r3, and asks for any comments off-line. He’ll keep working on this and bring it back again next time.

**802.1AC**

Noted that the 802.1AC Sponsor Ballot is ongoing. No comments at this time from the SC.

**AP/DS/Portal architecture and 802 concepts**

No updates or submissions this time. No discussion.

**TGak and General Links**

Noted the joint session tomorrow (Thursday). No discussion at this time.

**Planning for July 2015:**

1. Plan for two individual meeting slots
	1. Usual slot on Wed AM1
	2. Another slot for standalone ARC work (Monday or Tuesday)
	3. Another slot joint with 802.11ak/802.1 (Thursday’s slot)
2. Individuals interested in ARC work are encouraged to also attend other TGak sessions
3. Teleconferences
	1. None planned. Will schedule with 10 days’ notice if something comes up.

Jeorge Hurtarte (Teradyne) noted that he has been asked to give a presentation on 802.11 to the NGMN in October. If anyone has material or suggestions, please let him know.

**AOB – Revisited the multicast over 802.11 concern from IETF, from yesterday:**

Noted that 11-15/1161r1 has been posted on Mentor. Thanks to everyone who provided comments so far. Reminder to everyone to please review this update, and get comments to Dorothy.

**Recessed 9:30, until Thursday morning joint session with TGak**

**Note there was also a joint meeting with TGak on Thursday, Sep 17, AM1, please see the TGak minutes.**

**Note:** ARC Closing Report in:[11-15-1185-00-0arc-arc-closing-report-sep-2015.pptx](https://mentor.ieee.org/802.11/dcn/15/11-15-1185-00-0arc-arc-closing-report-sep-2015.pptx)