IEEE P802.11
Wireless LANs

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| ARC SC and joint meetings Minutes January 2016 |
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Abstract

Minutes of the IEEE 802.11 ARC Standing Committee meeting held on 19h, 20th, and 21th of January 2016, in Atlanta, GA, USA. Note: this document only includes references for the minutes of the ARC SC joint meetings with 802.11 TGak and 802.1, and 802.11 TGaq, which were held on 21th of January.

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# Tuesday, January 19th, AM2, 10:30 (ET) ARC SC Meeting

**Administration:**

**Acting Chair: Joseph Levy, InterDigital (ARC SC Vice-Chair)**

(Note: The Chair (Mark Hamilton, Ruckus) was not in attendance of the January Meeting)

**Meeting call to order by Chair 10:34, 19 January 2016**

**Call for secretary – Filip Mestanov (Ericsson) volunteered to take minutes for this meeting**

**Proposed Agenda slide deck:** <https://mentor.ieee.org/802.11/dcn/15/11-15-1519-01-0arc-arc-sc-agenda-jan-2016.ppt>**, updated during the meeting to r2**

Tuesday, Jan 19, AM2

Administrative: Minutes

802.11 as a component in a (larger) system/5G/IMT-2020: 11-15/0757r1, 11-15/0593r2, 11-15/0842r1, 11-15/1133r0, 11-15/1266r1, 11-15/1376r2

Tuesday, Jan 19, PM1

Updates, no action expected: IEEE 1588 mapping to IEEE 802.11

IETF/802 coordination: update on multicast over 802.11: 11-15/1261r2

802.1AC status update

Updates to REVmc Figure 5-1, et al - 11-15/0540r4

Wednesday, Jan 20, AM1

AP/DS/Portal architecture and 802 concepts - 11-15/0454r0,
11-14/1213r1 (slides 9-11)

MIB attributes Design Pattern - 11-15/0355r3, 11-15/0891r0

Future sessions / SC activities

Joint session with TGak and 802.1, Thursday, Jan 21, AM1

Joint session with TGaq, Thursday, Jan 21, PM2

**Administration:**

The Chair reviewed the Administrative information in slides 5-9 in the Agenda document (11-15/1519r1)

**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 10 of the Agenda document (11-15/01234r1) - copied above was reviewed, no comments or changes were proposed, the proposed agenda was approved by unanimous consent.

**Administrative: Minutes**

Minutes approved by unanimous consent for:

* The ARC SC, November 2015, Dallas, TX Meeting ([11-15/1478r1](https://mentor.ieee.org/802.11/dcn/15/11-15-1478-01-0arc-arc-sc-and-joint-arc-sc-tgak-and-802-1-meeting-minutes-november-2015.docx))
* The December 1, 2015 Joint TGaq Teleconference ([11-15/1494r1](https://mentor.ieee.org/802.11/dcn/15/11-15-1494-01-00aq-joint-tgaq-arc-sc-december-teleconference-minutes.doc))

**802.11 as a component in a (larger) system/5G/IMT-2020**

The Chair called for a show of hand asking how many people attended the WNG session in the morning (AM1) and some people indicated that they have not attended said meeting. Subsequently, the Chair gave a synopsis on the WNG discussion, by going fast through 11-16/0128r0 and 11-16/0004r0

Chair indicated that himself and Andrew Miles (Cisco) will bring a proposal to the midweek plenary and asked for guidance from the 802.11 Chair (Adrian Stephens)

A comment was made on the results of the straw polls and asked if some summary can be drawn from the numbers.

The Chair indicated that 12 individuals have indicated that they are prepared to work on the topic.

Some individuals commented that they are interested in participating in this effort, but they do not know what kind of resources are required and to what extend the ITU process can be influenced by IEEE. There was a call on an estimation of the needed resources, as well as the potential impact.

It was also commented that 802.11 should weight all the efforts before going in – there are other ways to get unlicensed spectrum

It was also commented that an orthogonal approach might drive the WLAN technology out of it current band, due to not submitting proposal to IMT-2020. We need to protect our turf.

It was also commented that promoting 802.11 IMT-2020 as a stand-alone technology is probably not the most efficient way. Do we have another way of promoting 802.11 for IMT-2020? Maybe try to promote integration?

It was also commented that the commenter’s impression from the meeting in the morning (the WNG session) is that what we have today might not be enough for IMT-2020. I think we might need to develop something more and participating in the IMT-2020 process can give us an idea of what this something else is.

A commenter questioned: has anybody identified something technical that is needed for IMT-2020 that is not part of our MAC and PHY?

In reply to the question: is was commented that the truth is that WLAN is not designed to co-exist with other RATs. There are no tools for seamless mobility, joint control, etc. We still need to develop some tools to be able to co-exist and integrate with other 5G systems.

In reply it was commented that: maybe now is the time to start investigating and working on that.

In reply it was commented that: for me that means that we should try to improve the interworking with the 5G system. Whether this is the core or radio network, we should still investigate.

In reply is was commented that: the only way to start working together across different groups is to set a goal. Then we can work on the issues.

In reply it was commented that: maybe we can start talking to other 802.11 groups.

In reply it was commented by the 802.11 Chair that: there is a workshop on Friday. I think we should setup goals for this workshop and see what we hope to achieve from it. Then on Saturday there will be an EC meeting, which will discuss the process and procedures for this activity.

In reply it was commented that: benefits always come at a cost. I think we are focusing on the benefits and not fully considering the cost. This could be one of the inputs to the discussion: when we review the benefits, we should see how much resources will this take and what is the risk.

In reply it was questioned: where is this activity going to be hosted?

In reply it was commented by the 802.11 Chair that: there is a discussion whether to have it at the 802 level, or 802.11 level.

In reply it was commented by the 802.11 Vice-Chair that: the Friday workshop will host a discussion on the different options. We are currently trying to figure out how 802.11 would like to be involved so we get some feedback before the workshop.

In reply it was commented that: my impression is that there is a high level of interest in 802.11. I am not sure if we can go much further than indicating that 802.11 is interested in participating in this activity.

In reply it was commented that: instead of simply saying that we are interested, I would like to have a list of particular goals that we are after. And instead of having a couple of people working on this, I would actually like to have a number of people coming from different companies so we ensure that there is sufficient support.

The Chair questioned: is there a feeling for a threshold for a TIG within 802.11?

Patrick Staats (IEEE SA) commented: the SA is aiming to discuss and agree on a timeline for this activity early February

In reply it was questioned: are some LSs planned with other organizations?

Patrick Staats (IEEE SA) commented in reply: currently we don’t have any, but I cannot exclude the possibility. It all depends on the 802 involvement.

The Chair called for any other business: Nothing was brought up

The Chair recessed the meeting at 12:06.

# Tuesday, January 19th, PM1, 13:30 (ET) ARC SC Meeting

**Administration:**

**Acting Chair: Joseph Levy, InterDigital (ARC SC Vice-Chair)**

(Note: The Chair (Mark Hamilton, Ruckus) was not in attendance of the January Meeting)

**Meeting call to order by Chair 13:31, 19 January 2016**

**Call for secretary – Filip Mestanov (Ericsson) volunteered to take minutes for this meeting**

**Administration:**

The Chair reviewed the Administrative information in slides 5-9 in the Agenda document ([11-15/1519r2](https://mentor.ieee.org/802.11/dcn/15/11-15-1519-02-0arc-arc-sc-agenda-jan-2016.ppt))

**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 10 of the Agenda document ([11-15/1519r2](https://mentor.ieee.org/802.11/dcn/15/11-15-1519-02-0arc-arc-sc-agenda-jan-2016.ppt)), copied below - was reviewed, no comments or changes were proposed, and the proposed agenda was approved by unanimous consent.

Tuesday, Jan 19, PM1

Updates, no action expected: IEEE 1588 mapping to IEEE 802.11

IETF/802 coordination: update on multicast over 802.11: [11-15/1261r2](https://mentor.ieee.org/802.11/dcn/15/11-15-1261-02-0arc-mulicast-performance-optimization-features-overview-for-ietf-nov-2015.ppt)

802.1AC status update

Updates to REVmc Figure 5-1, et al - [11-15/0540r4](https://mentor.ieee.org/802.11/dcn/15/11-15-0540-04-0arc-updates-to-revmc-5-1-5.docx)

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)

**IETF/802 coordination:** Dorothy Stanley (HP) gave a report on the IETF activities.

Related to the multicast traffic features of 802.11, she reported that the current goal is for IETF to have the first draft before the March meeting (earliest date). It is anticipated that IEEE will be requested to provide feedback on the draft at this point, but that there is currently no further action on IEEE.

Related to the CAPWAP, it was reported that the 802.11n draft has expired and that the alternate tunnel draft is unchanged and still active. There are no actions on IEEE. There was a request to provide a tutorial on 802.11and 802.15 recent activities, as well as identify any areas where joint work between IETF and IEEE could be needed (e.g., multicast, CAPWAP, etc.). Charles Perkins, Dorothy Stanley and Donald Eastlake are working on the document.

**802.1AC revision**

The Chair gave an update on the 802.11AC activities:

* There hasn't been a new ballot.
* 802.11AC is waiting on the RAC to approve the Ethertype.
* Current ballot status: rejected for the second time.

**Updates to REVmc Figure 5-1, at all (**[**11-15/540r7**](https://mentor.ieee.org/802.11/dcn/15/11-15-0540-07-0arc-updates-to-revmc-5-1-5.docx)**)**

Proposed change: replace Figure 5-1, with Figure 540-1: No objections to propose to TGmc

Proposed change: replace Figure 5-2, with Figure 540-2: Some additions were proposed and implemented and the resulting figure was agreed with no objections to be proposed to TGmc (allowing Chair editorial rights)

Proposed change: replace Figure 5-3, with Figure 540-3: No objections to propose to TGmc

Proposed change: text changes to 5.1.5.3, replace Figure 5-4, with Figure 540-4: No objections to propose to TGmc

Proposed change: replace Figure 5-5, with Figure 540-5: No objections to propose to TGmc

Proposed change: Replace Figure 5-6, with Figure 540-6: Some changes were proposed and implemented and the resulting figure was agreed with no objections to be proposed to TGmc (allowing Chair editorial rights)

**Motion: Move to approve REVmc figures 5-1, et al in 11-15/540r7 with editorial updates as discussed in the ARC 1/19/2016 PM1 meeting, to be submitted to TGmc as 11-15/540r8.**

Moved: Michael Fischer, Seconded: David Kloper

Yes/No/Abstain: 18/0/0, motion passes

**Disc**ussio**n on figures and text for section 5.1 of TGak (11-15/540r7)**

Straw-poll: Do you agree that the figure on the left for the non-AP GLK STA: is the current best choice for describing the role specific behaviour of the non-AP GLK STA and should be forwarded to TGak.

Yes/No/Abstain: 11/0/5

Straw-poll: Do you agree that the figure shown for the mixed mode GLK AP in 11-15/540r7 should be forwarded to TGak?

Yes/No/Abstain: 7/0/4

**The Chair recessed the meeting at 15:29.**

# Wednesday, January 20th, AM1, 8:00 (ET) ARC SC Meeting

**Administration:**

**Acting Chair: Joseph Levy, InterDigital (ARC SC Vice-Chair)**

(Note: The Chair (Mark Hamilton, Ruckus) was not in attendance of the January Meeting)

**Meeting call to order by Chair 8:07, 20 January 2016**

**Administration:**

The Chair reviewed the Administrative information in slides 5-9 in the Agenda document ([11-15/1519r2](https://mentor.ieee.org/802.11/dcn/15/11-15-1519-02-0arc-arc-sc-agenda-jan-2016.ppt))

**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 10 of the Agenda document ([11-15/1519r3](https://mentor.ieee.org/802.11/dcn/15/11-15-1519-03-0arc-arc-sc-agenda-jan-2016.ppt)), copied below - was reviewed, agenda was approved by unanimous consent.

Wednesday, Jan 20, AM1

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)

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)

Future sessions / SC activities

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

Reviewed current AP/DS/Portal architecture thinking, specifically the DASF.

It was suggested that the 802.11 Annex N: AP Description may need to be revised/updated with these concepts.

Discussed how to view GLK (802.11ak) dual mode STAs, IBSS, ESS, GLK ESS and related concepts (see figure below, draft figure provided by Philippe Klein)



**Draft Figure for GLK ESS/ESS Mixed Mode – for discussion not agreed**

**MIB attributes Design Pattern**

Reviewed status of status of MIB attributes document. It was suggested that ARC SC clean up the current documents and approve the document by agreeing to send the document to the Technical Editor, recommending he include the agreed guideline in the 802.11 MDR (Mandatory Draft Review) process.

Action Item – update and review the MIB attributes document and send it to the Technical Editor for inclusion in the MDR.

**Future sessions / SC activities**

**SC activities:**

ARC SC meets when a specific focused task is requested of the SC for which there is sufficient volunteer interest:

Continue work on architectural models

How to capture data/control/management models, so 802.11 is usable as a component; consider standardized mgmt. accesses

Design Pattern for “\*Implemented” and “\*Activated” MIB attributes

802.1/802.11 activities on links, bridging, and MAC Service definition, Comment on 802.1AC revision project changes/proposals

Monitor/report on IETF/802 activities, as needed

Monitor/report on IEEE 1588 activities, as needed

The ARC SC is also open to any other architecture related topic the membership proposes. Please bring any proposed topics to the attention of the SC Chair.

**Planning for the March 2016 Meeting:**

Plan for two individual meeting slots: the usual slot on Wed AM1, and another slot for standalone ARC work (Monday/Tuesday?); a slot for a joint session with 802.11ak and 802.1 (Thru AM1)

No scheduled teleconferences – will schedule with 10 days’ notice if necessary.

**The Chair recessed the meeting at 10:02.**

# Thursday, January 21th, AM1, 8:00 (ET) Joint 802.11 ARC SC, 802.11 TGak, 802.1 session

Status – 802.11TGak

Nearly done with comment resolutions

Status – 802.1Qbz

First sponsor ballot completed 75% participation, 75% yes, all comments were resolved, recirc should be this week or the next – assume Qbz will be finished after this recirc.

Status – 802.1AC

Waiting for the RAC to issue an either-type before going into recirc. There is an issue with getting the RAC work done. It was noted: the RAC uses a consultant to approve the either type technical criteria, there is an old either type which is owned by a company which has been merged/acquired and the current holder may turn over the either type to .1 or a new one will be issued. The John will continue to progress the work and will soon put 802.1AC back out for ballot.

A discussion was had regarding the 802.11 TGak GLK diagram “**Draft Figure for GLK ESS/ESS Mixed Mode”** see above. There was agreement that mobility is a service which is provided to a user and that the bridges, convergence layer, and 802.11 may be configured by the mobility service, but do not provide the mobility service. From a data plane view (as shown in the figure) the bridges, convergence layers, and 802.11 elements are transparent to the service.

**The Chair recessed the meeting at 9:35.**

# Thursday, January 21th, PM2, 16:00 (ET) Joint 802.11 ARC SC, 802.11 TGaq session

Please see the joint 802.11 TGaq ARCSC meeting minutes:

<https://mentor.ieee.org/802.11/dcn/16/11-16-0194-00-00aq-joint-tgaq-arc-sc-january-2016-meeting-minutes.doc>

**The Chair recessed the meeting at 18:00.**