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| Minutes of the IEEE 802 5G SC June 24th Meeting |
| **Date: June, 24th 2016** |
| **Author(s):** |
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## Abstract:

Minutes of the IEEE 802 5G SC meeting on June 24th, 2016

# Meeting on Friday, June 24th, 2016 9:00-12:00AM ET

Meeting location: 349 Terry Fox Drive, Ottawa, Canada, with additional participation online

Chair: Glenn Parsons

Recording secretary: James Lepp

## Call to order

* Chair called meeting to order at 9:00 AM ET
* Guiding slides with agenda proposal by EC doc#61r10
* <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0061-10-5GSG-5g-sc-conference-call-agenda.pdf>
* IEEE SC Guidelines
* Chair showed mandatory slide for IEEE standing committee meetings and explained duties of participants

## Participants

| **Name** | **Affiliation** | **Name** | **Affiliation** |
| --- | --- | --- | --- |
| Glenn Parsons | Ericsson | Roland A Smith | Ericsson |
| Osama Aboul-Magd | Huawei Technologies | Stephen Palm \* | Broadcom |
| Michael Christensen | Innovation Science, and Economic Development Canada | Roger Marks \* | EthAirNet Associates |
| Edward Au | Huawei Technologies | James Lepp | BlackBerry |
| Hassan Yaghoobi | Intel Corp | Michael Petras | Ericsson |
| Joseph Levy | Interdigital | Michael Mayer | Huawei |
| Mahmadur Rahman | Innovation Science, and Economic Development Canada | Paul Nikolich\* | YAS |
| Jose Costa | Ericsson | Dorothy Stanley\* | HP Enterprise |

## \*Online Participant

## Agenda

* Chair brought up agenda proposal contained in guiding slides
* Chairs introduction (including additional information for new attendees)
* Plan for report
	+ <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0065-09-5GSG-5g-sc-report-layout.pdf>
* There are 5 presentations on the agenda
* Proposal is to go through plan for report, have coffee break, followed by the 5 presentations.
* No further agenda requests were made.

## Review of future meeting schedule

* The chair explained the schedules and plans for the upcoming 5G SC meetings including meeting times at the July Plenary
	+ Monday evening tutorial timeslot will be presentation of the report
	+ EC Chair mentioned that the other tutorial was cancelled and the 5G SC can schedule the full evening.
	+ Tuesday meeting slot will discuss the disposition of the Standing Committee
	+ At the EC Friday the scope of a continued SC will need to be set or it could be disbanded.
* Glenn presented the approved scope, organization and charter for this SC. ([61r10](https://mentor.ieee.org/802-ec/dcn/16/ec-16-0061-10-5GSG-5g-sc-conference-call-agenda.pdf))
* Glenn presented overview of IEEE ≥ 5G initiative. Top-down initiative from IEEE BoD.
	+ Roger mentioned that some parts of COMSOC have been blending the lines between conference and standardization by having the conference publish a consensus with an outcome. Suggests there may be continued moves in that direction to have conferences more involved in standardization process.
	+ Glenn mentions that is encouraged for conferences to find gaps in standards and propose solutions.
	+ Question whether these conferences were for 802 or non-802 standards. Glenn’s view is that this is non-802, where COMSOC is looking for new opportunities.

## Plan for report

* Glenn presented latest status of the report as contained in the slide deck <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0065-09-5GSG-5g-sc-report-layout.pdf>
* Mentioned slide 17 describing “option 4” has been updated since last meeting.
* Question: Why is it an implicit assumption that a RIT is a good thing for unlicensed spectrum? Suggests we ask the 802.18 about the political and regulatory assumptions about whether a RIT is good for unlicensed spectrum.
* Comment that 3GPP probably can’t avoid including LAA and unlicensed protocols in a RIT for the hotspot application. Unsure how 3GPP will deal with this, also unsure how WP5A vs WP5D.
* Comment that there is already a level of collaboration back and forth between 802.11 and 3GPP on LAA, LWA, LWIP. Suggest that the “no collaboration” on the slides is not the correct term. Better term might be that there is just no input on their ITU-R proposal

## Presentation #1 Jose Costa (Ericsson)

* <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0097-01-5GSG-imt-2020-process.pptx>
* Question about the difference between Mobile Application and IMT designation.
* Comment: Mobile is much wider and includes aircraft, military, much more uses than commercial mobile service we typically think of. IMT designation is much narrower and beneficial for harmonizing across globe.
* Note that the IMT-2020 submission and evaluation process document is linked on slide #13.
* June/July 2019 “WP5D Meeting #32” is the deadline for submission of IMT-2020 proposals.
* Q: who are the evaluation groups?
* C: None formed yet, but for example there is a Canadian one: <http://www.imt-2020.ca>
* Q: What do the evaluation groups do? Simulation?
* C: Different groups do different work, analytics, simulation, etc.
* Discussion about how the 13 agreed min perf requirements (slide 12) fit in with the 8 key capabilities from the M.2083 document.

## Presentation #2 Roger Marks (EthAirNet Associates)

* <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0095-00-5GSG-report-on-itu-r-wp-5d-meeting-24.pdf>
* Roger presented a highlighted version of the report from WP5D meeting #24
* Presenter mentioned that the opportunity for IEEE 802 to bring technology beyond 802.16 into IMT-Advanced is two years from now.
* Presenter mentioned there are two different requirements for user plane latency and control plane latency, and these need to defined. This is an opportunity for IEEE.
* Mentioned 5 test environments adopted. 3 more under consideration.
* Question about the test environment.
* Comment that different environments will likely be run in different frequency bands. (eg. hotspot vs macrocell)
* Q about number of test environments in IMT-advanced vs IMT-2020
* C: with IMT-Advanced there was only one usage scenario with 4 test environments. In IMT-2020 there are now 3. Very hard for new proposals that only do of 1 the 3.
* Q about next opportunity to present to ITU-R, for example with channel models
* A: WP5D October 5
* C: Mention of the millimeter wave channel models, more discussion needed, but not in todays’ meeting.

## Presentation #3 Hassan Yaghoobi (Intel)

* Presenter displayed and summarized several publicly available documents

IMT.EVAL.doc

IMT.TECH.doc

R-REC-M.2083-0-201509-!!!MSW

IMT-2020 Evaluations – Ericsson – 5IG v3.pdf

Report on ITU-R WP 5D meeting #24R-REC-M.2012-1-201402-S!!PDF-E.pdf

From Hassan:

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| ITU References: <http://search.itu.int/Pages/AdvancedSearch.aspx> 1. ITU-R SG05  Contribution  60, Report ITU-R M.[IMT.TECH] - Requirements related to technical system performance for IMT-Advanced radio interface(s)
2. ITU-R SG05  Contribution  69, Report ITU-R M.[IMT/EVAL] - Guidelines for evaluation of radio interface technologies for IMT-Advanced
3. Recommendation ITU-R M.2012-1 (02/2014): Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-Advanced (IMT-Advanced)
4. Recommendation ITU-R  M.2083-0 (09/2015) IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond
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* Discussion about differences between “GCS Proponents” and “Transposing Organizations” and how IEEE fits in.
* C: In the case of IMT-Advanced, IEEE was both proponent of the 802.16 technology and one of the 4 transposing organizations. 3GPP isn’t an SDO, so it is a proponent but other organizations transpose.
* Q about spectrum designated for IMT vs definition of IMT-2020
* ITU-R TG51 studies spectrum. Receives input from WP5D etc. CPMs and WRC decide spectrum and coexistence between different designations attempting to get new spectrum allocations.

## Presentation #4 (Roger Marks)

* <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0094-00-5GSG-proposed-draft-report-ieee-802-ec-5g-imt-2020-sc.pdf>
* Presenter presents a proposed report for the 5G SC group
* Presenter notes a typo in summary (slide 1) says document 94 should be 64
* Q: In Glenn’s draft plan for report (document #65), had 4A and 4B (one with RIT, one without). In this draft are these B2 and B3?
* C: yes these are covered in the new option
* Q: in your description can you elaborate what type of interaction you consider with 3GPP in B3, and what interaction if any with ITU?
* C: B3 is a cost benefit analysis, not yet deciding how to interact with a bunch of organizations. Slide 5 has a very basic summary of external proposal interworking.
* C: Concern is that 3GPP work is the recommendation that goes to EC. Is this well defined in 3GPP and how is a reference to IEEE802.11 relevant to their submission to ITU.
* C: It’s not the scope of this SC to have all the details for the approach with other orgs. Just to define cost/benefit of a few different approaches.
* C: This discussion leads nicely into the next presentation.

## Presentation #5 Stephen Palm (Broadcom)

* <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0096-00-5GSG-collaberating-with-3gpp.pptx>
* Part of cost/benefit needed for report is likelihood of success and resources needed to do the work.
* Presenter suggest some of this material could be put in the final report.
* Q regarding proposal of integrating in 3GPP, is this in scope for IEEE 802 or IEEE 802.11?
* C: Could be, not familiar with much beyond 802.11. Question for other experts.
* C: This gets to the role of the SC after July. One option is just handoff to further work within 802.11 or another group.
* C: Part of the SC is to figure out if a formal relationship or formal plan is needed on 5G.
* C: There is some obvious stuff in 802.11 regarding some ITU usage scenarios, for other usage scenarios a choice of certain 802 technologies is less clear.
* C: Potential for collaboration on simulations and tools between IEEE 802.11 and 3GPP.
* C: Large cost to doing the additional integration features, and potentially maintain two sets of documents in two SDOs on the same technology.
* Recess for Lunch at 12:00 EDT

## Lunch

## Discussion

* Discussion about how the “volunteers” and “likelihood of success” factors from the 5th presentation fit into the group’s report.
* Comment to clarify the numbering/grouping of the ~4 options.
* Discussion about term “IEEE 5G specification” and separation from what is the work we have to do vs what we call it. Suggestions to call it “802’s view on an IEEE 5G specification” or “Access network for 5G”. Noted that “IEEE 5G specification” was the term this group was given in in its mandate.
* On slide 12, there is an ask to clarify the word “standardize” in the 3 bullets: collaborate, liaise, build partnership, submit,
* Discussion on what the standard is about. The overall utility is the multi-vendor interoperability. Issue is management-plane.
* Discussion on the difference between Action A in Roger’s deck and Option 1 in Glenn’s deck. Action A adds OmniRAN to describe the complete 802 access network
* Difference between Glenn’s 4A and 4B was whether a RIT would be submitted or not. In Roger’s B1 & B2 are RIT/SRIT, and B3 is not. B3 also includes OmniRAN as an option.
* For the Actions in B, it isn’t for 802.11, but for a specific PHY technology in 802.11. For example 802.11ad/aj/ay in licensed spectrum.
* B1 and B2 cannot address the mobility requirements from IMT.
* Comment that 3GPP is likely to define a system that can meet all the IMT req’ts without LWA/LWIP. It won’t be necessary for them to need this aggregation.
* Group is considering using Roger’s report as the group’s draft going forward.
* Question about the SC from Paul. While the SC was chartered to do the cost/benefit analysis, will the committee also provide a recommendation?
	+ Glenn states the report will come with either a consensus recommendation, but if no consensus it will have a series of straw poll results to show the direction of the group.
* **Action** on Glenn to send Roger PPT version of Plan for the Report (65). Roger to work offline and create an updateddraft report as a baseline for the next call. This should reflect the discussions at this meetingincluding some background from Glenn’s Plan (65) and additional detail on B3 from Steve’s (96).

### AOB

* Unanimous decision to thank to Glenn for organizing the face to face meeting, Ericsson for hosting the meeting at their facility in Ottawa, and Carmen for the delicious baked goods.

## Adjourn

* The meeting was adjourned by the chair at 2:02 PM EDT