

1 Opening of the meeting

TSG RAN chairman Mr. Dino Flore (Qualcomm) opened the RAN ad hoc meeting on Next Generation Access on Thursday Jan. 28th, 2016 at 9am.

On behalf of the host, the European Friends of 3GPP, Luis Miguel Campoy Cervera (Telefonica) welcomed the delegates to Barcelona, Spain and explained organisational issues of the meeting.

2 Reminders for usage of IT resources, IPR declaration and antitrust compliance

The TSG RAN chairman made the following three announcements to remind the delegates of this meeting:

RAN chair's reminder regarding responsible behaviour regarding IT resources of the meeting:

Delegates are reminded that they share the meeting IT resources with their fellow delegates. You should not abuse the service by using bandwidth-hogging applications such as movie downloads, streaming video, web-based gaming, etc during the meeting. Use the internet service in your hotel rooms for this!

Delegates must respect the law of the hosting country, and should not visit prohibited internet sites.

In cases of persistent abuse of the internet bandwidth, MCC may restrict individual's use of the service.

In particular, the PCG has laid down the following network usage conditions:

1. Users shall not use the network to engage in illegal activities. This includes activities such as copyright violation, hacking, espionage or any other activity that may be prohibited by local laws.

2. Users shall not engage in non-work related activities that consume excessive bandwidth or cause significant degradation of the performance of the network.

Since the network is a shared resource, users should exercise some basic etiquette when using the 3GPP network at a meeting. It is understood that high bandwidth applications such as downloading large files or video streaming might be required for business purposes, but delegates should be strongly discouraged in performing these activities for personal use. Downloading a movie or doing something in an interactive environment for personal use essentially wastes bandwidth that others need to make the meeting effective. The meeting chairman should remind end users that the network is a shared resource; the more one user grabs, the less there is for another. Email and its attachments already take up significant bandwidth (certain email programs are not very bandwidth efficient). In case of need the chair can ask the delegates to restrict IT usage to things that are essential for the meeting itself.

1. DON'T place your WiFi device in ad-hoc mode

2. DON'T set up a personal hotspot in the meeting room

3. DO try 802.11a if your WiFi device supports it

4. DON'T manually allocate an IP address

5. DON'T be a bandwidth hog by streaming video, playing online games, or downloading huge files

6. DON'T use packet probing software which clogs the local network (e.g., packet sniffers or port scanners)

Based on the report of the PCG ad hoc group on IT improvements:

http://www.3gpp.org/ftp/PCG/PCG_27/DOCS/PCG27_13r1.zip

see also http://www.3gpp.org/Delegates-Corner#outil_sommaire_14

RAN chair's reminder regarding IPRs:

The attention of the delegates to the meeting of this Technical Specification Group was drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates were asked to take note that they were thereby invited:

-to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.

-to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Information Statement and the Licensing declaration forms

Based on <http://www.3gpp.org/3gpp-calendar/89-call-for-ipr-meetings>

RAN chair's reminder regarding antitrust and competition law:

The attention of the delegates to the meeting was drawn to the fact that 3GPP activities were subject to all applicable antitrust and competition laws and that compliance with said laws was therefore required by any participant of the meeting, including the Chairman and Vice-Chairmen and were invited to seek any clarification needed with their legal counsel. The leadership would conduct the present meeting with impartiality and in the interests of 3GPP. Delegates were reminded that timely submission of work items in advance of TSG/WG meetings was important to allow for full and fair consideration of such matters.

Based on <http://www.3gpp.org/about-3gpp/legal-matters/21-3gpp-calendar/1616-statement-of-antitrust-compliance>

3 Approval of the agenda

RPa160001 Agenda

RAN chairman (Qualcomm Incorporated)

Replaces

The document was approved.

Replaced by

4 Skeleton TR

RPa160012 Report of RAN email discussion "[Post-RAN#70-01] Scenarios and Requirements for Next Generation Access Technologies

China Mobile Com. Corporation

Replaces Summary of what was discussed in the whole email discussion.

The document was noted.

Replaced by

RPa160013 Skeleton for TR 38.913 v0.0.2 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC (rapporteur)

Replaces result of RAN email discussion [Post-RAN#70-01]

TeliaSonera: having subsection for coverage in 7.1.8 is misleading as this is just for machine to machine

DT: supports TeliaSonera

Sprint: it's not clear what we mean by coverage here

RAN chair: we could discuss 7.1.8 later more

TelecomItalia: general and specific requirements should be distinguished

DT: everything is deployment dependent

Samsung: does not see a problem with the skeleton TR, we could still move later if people think deployment specific values are needed

Orange: supports DT, if we would go for scenario independent requirements this would require further clarification but we think we should have deployment specific requirements

Telecom Italia: supporting Orange

Fujitsu: definitions of KPIs should be deployment independent but requirements will be deployment dependent

RAN chair: will wait for more comments and come back after morning coffee break (TR rapporteur CMCC will lead offline discussion)

The document was revised.

Replaced by RPa160070

RPa160070 Skeleton for TR 38.913 v0.0.3 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC (*rapporteur*)

Replaces
RPa160013

LG: additional use cases may come from SA1, how will we address this?
CMCC: we could e.g. simply just one row to a table if there is a new use case
DT: why only one table?
RAN chair: is just an example, you can add further tables
Samsung: one table for each KPI?
RAN chair: only if applicable
DT: who will decide whether it is applicable?
RAN chair: the TSG
Vodafone: likes the Huawei text that was proposed previously
Huawei: would like to put text of RPa160043 7.1.10 "Specifically, 5G system should be able to enable multiple services across different usage scenarios, including enhanced MBB, M-MTC, and URLLC, to be operable on a single continuous block of spectrum efficiently." into section 5.
ATT: KPI should be expanded to Key Performance Indicators
Orange: section 6 should indicate that we talk about families of use cases
CATT: can further KPIs be added later
RAN chair: yes
LG: proposes to change "spectrum flexibility" to "duplexing flexibility" to align with NGMN
Telecom Italia, Telefonica: do not agree
Huawei: What about "spectrum and duplexing flexibility"?
Telecom Italia: prefers to keep "spectrum flexibility", details can be explained in the section
Samsung: why do we need E2E latency in 10.2?
RAN chair: agrees that this is not up to RAN alone to decide
Orange: where do you want to check this?
RAN chair: not in a separate section
CATT: should 7.3 also be moved to 10.1
Samsung: no has a link to KPIs
Vodafone: why do we need 10.10?
Orange: energy efficiency is a requirement
CATT: not comfortable with having bandwidth and bandwidth scalability
RAN chair: can see this point in the future

conclusion:

- moving headline of removed 7.1.13 under 10.;
- add "families of" to section 6
- use "Key Performance Indicators" for section 7;
- will move 7.10, 7.11, 7.12 under section 10.1;
- remove 10.2

The document was revised.

Replaced by RPa160071

RPa160071 Skeleton for TR 38.913 v0.1.0 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC (*rapporteur*)

Replaces
RPa160070

The document was agreed.

RPa160080 TR 38.913 v0.1.1 on Study on Scenarios and Requirements for Next Generation Access Technologies

CMCC (*rapporteur*)

based on RPa160071 and including approved pCRs of the ad hoc (e.g. RPa160077, RPa160079)

The document was for email disc.

RPa160047 Views on Use Case Scenarios

*Alcatel-Lucent Deutschland
AG*

Replaces In this document, we discuss the scope of the approved SI and specifically on the structure of the skeleton Technical Report that has been provided for discussion.

proposing: that structure of the Technical Report that will document the discussion and results on the Scenarios and Requirements ensures that the resultant requirements would not impose or prioritize a single use case scenario(s) over other deployment scenario(s)

The document was noted.

Replaced by

RPa160029 A proposal for changes to ToC

IAESI, Thales, Fairspectrum

Replaces

wrong Tdoc type discussion

The document was rejected.

Replaced by

RPa160009 Proposed guidelines for TR contents

Samsung R&D Institute UK

Replaces

moved from AI 5 to AI 4;

Proposed Guideline 1:

The set of deployment scenarios included in TR38.913 should support the specification/ evaluation of the listed KPI's. However we should try to limit the number of deployment scenarios in the TR where possible in order to limit the simulation/evaluation overhead for 3GPP and external parties.

Proposed Guideline 2:

The set of KPI's included in TR38.913 should enable to capture the essential requirements. However we should try to limit the number of KPI's in the TR where possible in order to limit the simulation/evaluation overhead for 3GPP and external parties.

Proposed Guideline 3:

KPI targets should be set to really required values, i.e. realistic values that are considered important to meet and not only "nice to have".

AT&T: guideline 3: "nice to have" becomes reality so some are important for some operators

Ericsson: we support Samsungs view as we have similar papers

RAN1 chair: supports that limitation is essential

Orange: what is essential for some companies is maybe less important for others so we need to see how this works in practice

RAN chair: agrees

Vodafone: we have a study in 3GPP to see what is possible

The document was noted.

Replaced by

5 Scenarios and requirements

RPa160065 LS on Further elaboration on NGMN requirement metrics and deployment scenarios for 5G (NGMN_LS_160127; to: RAN ad hoc; cc: -; contact: CMCC)

NGMN

received on 27.01.16 afternoon

RAN chair: any delta with what is discussed in RAN?

CMCC: no major differences;

Orange: it's a valuable input but we should not limit us to it (also NGMN discussion is still ongoing);

RAN chair: it was not intended to simply import it and discussion is over

The document was noted.

RPa160016 Status of SA1 Study on Stage 1 for New Services and Markets Technology Enablers (SMARTER)

SA1 chairman (KPN)

Replaces including latest SA1 draft TRs on eMBB: TR 22.863, mMTC: TR 22.861, Critical Communication (CRIC): TR 22.862, Network Operation: TR 22.864

presented by Nokia on behalf of SA1 chair
RAN chair: we need to synchronize with SA1
AT&T: 22.891 finished?
Nokia: for approval in March
Orange: slide 5: unclear what is in 22.891 compared to the other 4 TRs

The document was noted.

Replaced by

RPa160018 Text proposal to TR 38.913 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC, NTT DOCOMO, Ericsson, Huawei, Alcatel-Lucent, Nokia Networks, Qualcomm, Samsung, Intel, SK Telecom, SONY, China Telecommunications, China Unicom

Replaces Initial text proposal on top of RAN email discussion [Post-RAN#70-01]

moved from AI 4 to AI5;
RAN chair: any other comments than restructuring related comments
Telecom Italia: worried about oversimplification of scenarios
RAN chair: you want to remove Hex. grid?
Telecom Italia: maybe we can put it in []
Samsung: we should stay close to the IMT-A
Ericsson: agrees that we should align with ITU to not do afterwards simulations from scratch
Telecom Italia: ITU has not yet defined simulation scenarios;
RAN chair: was not for comparing with ITU but with what we used before
Vodafone: suggests to have more time before adding this text proposal in the TR
AT&T: is there a general note that the requirements are for comparison purposes?
Orange: which bands above 6GHz and antenna numbers need further discussion;
RAN1 chair: we need good guidance from RAN b by March
TeliaSonera: worried that there is no KPI for coverage apart from the one for M2M
LG: UE does not need to have this max. number of antennas?
RAN chair: this is an upper limit
Fujitsu: what is the minimum number of antennas should also be indicated
Orange: we need to align with NGMN first; 7.2: table needs more discussion

The document was revised.

Replaced by RPa160067

RPa160067 Text proposal to TR 38.913 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC, NTT DOCOMO, Ericsson, Huawei, Alcatel-Lucent, Nokia Networks, Qualcomm, Samsung, Intel, SK Telecom, SONY, China Telecommunications, China Unicom

Replaces RPa160018

duplication of documents

The document was revised.

Replaced by RPa160072

Replaces
RPa160067

RAN chair: document was prepared on Thu evening in a an offline drafting session
RAN chair: 3 email discussions planned

Samsung: 6.1.2 table 2 want to remove [] from [Clustered]
Huawei: consistent user experience is important
Orange: we have a number of [] in the current document
RAN chair: we leave the [] for the moment

NTT DOCOMO: 7.12: "How to evaluate outdoor and indoor users independently needs to be considered" was not agreed yesterday
RAN chair: correct, should be removed

Orange: 6.1.3 and 6.1.4: aggregated BW need to be in []
RAN chair: ok, to be corrected

MCC: please change table numbering scheme to avoid problems in the future

Fujitsu: "target should be" should be changed to "target is" in general
RAN chair: not included now, can be considered later

TeliaSonera: 7.14 editor's note is removed now?
RAN chair: this was the agreement in the offline discussion, you can come back on it

LG: 6.1.3 table 3: 800MHz in 2nd line should say 700MHz 2 times
Orange: is anyway not yet fixed
RAN chair: ok

Samsung: wants to remove 7.16
CMCC: is useful for network optimization
NTT DOCOMO: we agreed on 5%ile in NGMN
Qualcomm: yes, can be computed
RAN chair: ok, remove 7.16

NTT DOCOMO: 7.12 some redundant text; so remove "Consider to use full buffer traffic to evaluate this KPI. Additionally, non-full buffer traffic could also be evaluated]"
Vodafone: we can remove it but would have an editor's note in 7.13 instead ensure that results for average and 5%ile spectrum efficiency for non-full buffer are provided
NTT DOCOMO: not 5%ile but other; and "also" provided
RAN chair: ok

LG: 7.20 in UE energy efficiency should be put back
RAN chair: ok

StraightPath: wants to add 30GHz to rural scenario in table 3
NTT DOCOMO: does not understand the motivation
StraightPath: for 30GHz we have never evaluated
Qualcomm, DT: bring a Tdoc at the next meeting for it
Samsung: we think it is useful
RAN chair: will not change it now on the fly, bring input next time

conclusion: revised with the accepted changes above in RPa160077 which is approved (unseen)

3 email discussions on RAN reflector until RAN #71:
- number of antenna elements
- square bracket removal
- high speed scenarios
RAN chair will announce rapporteurs on RAN reflector

The document was revised.

Replaced by RPa160077

RPa160077 Text proposal to TR 38.913 on "Study on Scenarios and Requirements for Next Generation Access Technologies"

CMCC, NTT DOCOMO, Ericsson, Huawei, Alcatel-Lucent, Nokia Networks, Qualcomm, Samsung, Intel, SK Telecom, SONY, China Telecommunications, China Unicom

Replaces
RPa160072

approved unseen

The document was approved.

RPa160056 Discussion on requirements on RAN architecture

Telecom Italia, CMCC, Deutsche Telekom, KDDI, KT, sprint, NTT DOCOMO, Orange, SK Telecom, Sprint, Vodafone

Replaces

RAN chair: some requirements are vague and not actionable; so requirements and things RAN3 has to study need to be distinguished

RAN3 chair (Huawei): fronthaul does not exist so far in RAN3 terminology

RAN chair: agrees that virtualization is not a requirement but we could task RAN3 to look into solutions for it;

Samsung: where would the solutions be discussed? in the RAN requirements SI or the WG SI?

RAN chair: WG SI

Nokia: for virtualization/slicing we should look for a common approach with SA;

RAN chair: yes, fronthauling can be considered in RAN3 alone

IAESI: we also need some use case for the architecture

RAN chair: suggests to have revision for actionable requirements plus email discussion (one about network virtualization/slicing in relation with SA and one about fronthaul related to RAN3)

DT: for us LTE evolution is part of 5G

AT&T: we maybe do not want to invent the wheel again and evolve S1 and not have a totally new interface

conclusions:

2 email discussions on RAN reflector until RAN #71:

- fronthauling (rapporteur: Giovanni Romano (Telecom Italia))

- RAN-Core connectivity and Network Slicing and Virtualization (rapporteur: Axel Klatt (Deutsche Telekom))

goals: explaining/defining what it means (example,picture), objectives for the Technology SI

The document was noted.

Replaced by

RPa160051 Requirements on RAN architecture

Telecom Italia, CMCC, Deutsche Telekom, KDDI, KT, sprint, NTT DOCOMO, Orange, SK Telecom, Sprint, Vodafone

Replaces

The document was revised.

Replaced by RPa160068

RPa160068 Requirements on RAN architecture

*Telecom Italia, CMCC,
Deutsche Telekom, KDDI,
KT, sprint, NTT DOCOMO,
Orange, SK Telecom, Sprint,
Vodafone*

Replaces
RPa160051

Nokia: wants to replace "Radio Access Network" by "New RAT"
RAN chair: ok

Fujitsu: RAT should be RATs in general
DT: have RAT[s] or keep RAT with the understanding it could be multiple but we look for one
RAN chair: ok, we will keep RAT

DT: "LTE evolution" unclear
RAN chair: let's keep just LTE

DT: replace "tight synchronization" by "[phase] synchronization" twice
RAN chair: ok

RAN3: synchronization part needs to be further discussed
RAN chair: ok, move text out of the TP in the areas to be further discussed

Samsung: "separation of control plane signalling and user plane data from different sites" unclear
Telecom Italia: was a discussion about another transmission point
DT: was a compromise proposal

NEC: "agile service delivery" unclear, redundant with "shall support all service classes", also "support different services"
RAN chair: maybe you can merge this; discuss this offline

Huawei: how will "•All RAN nodes shall be designed to be upgraded/modified in a flexible way by software" affect us?

Telecom Italia: was also discussed under NB-IOT; you shall strive for this

DT: is an implementation constraint

Samsung: we should rather make requirements for 3GPP in general

Nokia: maybe "should make maximum use of software upgrade" would be clearer

Samsung: not happy about "RAN shall support nodes with RF for multiple RATs" either

Telecom Italia: want to include New RAT in MSR of RAN4

Samsung: we should first see overall performance before deciding this

DT: no, we request to include it in MSR and then we will work on how to include it

Ericsson: at the end RAN4 will look at this in detail

RAN chair: discuss also this MSR sentence offline and try to include new sentences in the revision

Telecom Italia: how do we address the open issues?

Samsung: some overlap with email discussions from Nokia and DT

conclusion: revised in RPa16007x, will then decide about email discussion

The document was revised.

Replaced by RPa160078

RPa160078 Requirements on RAN architecture

*Telecom Italia, CMCC,
Deutsche Telekom, KDDI,
KT, sprint, NTT DOCOMO,
Orange, SK Telecom, Sprint,
Vodafone*

Replaces
RPa160068

The document was approved.

RPa160057 Discussion on requirements on RAN management

Telecom Italia, Deutsche Telekom, KDDI, KT, Orange, SK Telecom, Sprint, Telefonica, Vodafone

Replaces

IAESI: "management" is the title is confusing, it is about control, network is developed in SA
NEC: do we need to involve SA5 for centralized/distributed SON?
Orange: RAN has worked on SON for years, both are impacted
Telecom Italia: Network indicators to monitor the quality of the network are not good enough and we have to improve this

The document was noted.

Replaced by

RPa160050 Requirements on RAN management

Telecom Italia, Deutsche Telekom, KDDI, KT, Orange, SK Telecom, Sprint, Telefonica, Vodafone

Replaces

wrong Tdoc number on the document

The document was revised.

Replaced by RPa160069

RPa160069 Requirements on RAN management

Telecom Italia, Deutsche Telekom, KDDI, KT, Orange, SK Telecom, Sprint, Telefonica, Vodafone

Replaces
RPa160050

RAN chair: we should not add reminders in TR for SA coordination; this should be in the SID
RAN3 chair: supports RAN chair

Samsung: "autonomic functions" unclear
RAN chair: can we not remove "autonomic functions" and have SON functions instead
Telecom Italia: autonomic functions is more than SON functions
RAN chair: use "RAN SON functions"

Fujitsu: put "shall be supported" to the end of the sentence
RAN chair: ok

The document was revised.

Replaced by RPa160079

RPa160079 Requirements on RAN management

Telecom Italia, Deutsche Telekom, KDDI, KT, Orange, SK Telecom, Sprint, Telefonica, Vodafone

Replaces
RPa160069

The document was approved.

RPa160004 Long Distance Coverage: Requirement for next generation access

Telstra Corporation Limited

Replaces Proposed text for NG access TR including deployment scenario and specific requirement to support long distance coverage

wrong Tdoc type discussion, see RPa160046 with correct type

The document was withdrawn.

Replaced by

RPa160046	Text proposal: long distance coverage requirement for next generation access	<i>Telstra, Sprint, Orange, Telefónica, AT&T, Telus, Rogers, C-Spire, SouthernLINC, Bell Mobility</i>
Replaces	<p>Text proposal for NG access TR including deployment scenario and specific requirement to support long distance coverage</p> <p>resubmission of RPa160004 with correct type; presented by Sprint who clarified that T-Mobile US is supporting this as well; DT: what frequency band you have in mind? Sprint: not yet decided but discussions in US for opening 600MHz up; more terrestrial-terrestrial but also terrestrial-air DT: we should clarify that this is not covering low orbit satellites StraightPath: supports DT only earth-earth and earth-air (e.g. airplane) Fujitsu: maximum altitude and velocity should be defined LG: for ship to ship we need to clarify whether repeaters are included</p> <p>conclusion: pCR is not approve as it is but there will be an email discussion on RAN reflector until RAN #71 (rapporteur: Fatima Karim-Peters (Orange)) - use cases and scenarios for long range communications for scenarios: earth-to-earth, earth-to-air (aircraft, etc.)</p>	<u>The document was rejected.</u>
		Replaced by
RPa160063	Requirement for next generation access	<i>Nokia Networks, Ericsson, Huawei, ITRI, Alcatel-Lucent, NTT DOCOMO</i>
	<p>related to status of 5G-PPP METIS II requirements development work</p> <p>ATT: unclear how OSC matches to NGMN scenario; Nokia: 2.2 and 2.3 together matches NGMN scenario; Orange: what we do in 3GPP is broader (compared to METIS) Orange: unclear whether 5.9GHz is just an example picked from METIS</p>	<u>The document was noted.</u>
RPa160003	Requirements for Next Generation Access Technologies	<i>Deutsche Telekom AG, T-Mobile USA, SK Telecom</i>
Replaces	wrong Tdoc type discussion	<u>The document was rejected.</u>
		Replaced by
RPa160008	Discussions on technical performance requirements	<i>CATT</i>
Replaces	<p>wrong Tdoc type discussion; Vodafone: is group handover not a solution than a requirement?</p>	<u>The document was rejected.</u>
		Replaced by
RPa160014	RAN performance targets for new generation access technologies	<i>KT Corp.</i>
Replaces	Panasonic: we don't specify spectrum efficiency in one section but in another section you talk about it	<u>The document was noted.</u>
		Replaced by
RPa160019	Discussion on traffic model assumption in IMT-2020 evaluation for ITU-R	<i>China Mobile Com. Corporation</i>
Replaces	<p>In this contribution, the pros and cons of using different traffic models are discussed, and two options on the traffic model assumption of IMT-2020 evaluation for ITU-R are provided</p> <p>moved from AI4 to AI5;</p>	<u>The document was noted.</u>
		Replaced by

- RPa160023 Traffic model and mapping between deployment scenarios and specific requirements** *ZTE Corporation*
Replaces this contribution presents the traffic model and the mapping between deployment scenarios and specific requirements.
Proposal 1 Non-full buffer, such as FTP Burst traffic, as the 1st priority candidate evaluated service profiles, should be considered; while Full buffer could be an optional traffic model.
Proposal 2 These mapping relationship about All specific requirements in Table 1 should be included in TR
The document was noted.
Replaced by
Dish Network
- RPa160030 Requirements for Next Generation Access Technologies**
Replaces Proposed text for the TR including deployment scenario and specific requirement
wrong Tdoc type discussion; shortly presented by the RAN chair (as Dish could not attend the ad hoc)
RAN chair: so Dish is looking for eMBMS support
Orange: this is no problem but the actual text needs further discussion;
Telecom Italia: we have already an eMBMS section in the TR;
RAN chair: Shall we have an email discussion to fill this section with more text? We have until June to fill the TR;
DT: For LTE-Adv there will be also some proposals to enhance eMBMS so we need to careful that we do not end up with incompatible architectures
conclusion: no email discussion, we have a section in the TR and that can be filled by a future pCR
The document was rejected.
Replaced by
AT&T
- RPa160032 Technical Requirements for Next Generation Radio Access Technologies**
Replaces
Vodafone: overlapping support of LTE and 5G: FDM or TDM? in LTE we have CRS on every subframe
AT&T: rather FDM but we have to study this
Orange: not clear which deployment scenarios you have in mind
ATT: this is REL-13 situation
Orange: 5G as Primary and LTE as Secondary?
RAN chair: is explained on slide 4; thinks that this is a novelty of this Tdoc related to co-existence of 5G/LTE
Panasonic: slide 4 from the cell or the UE perspective? thought from cell perspective but thinks this is not possible
The document was revised.
Replaced by RPa160064
AT&T
- RPa160064 Technical Requirements for Next Generation Radio Access Technologies** *AT&T*
Replaces RPa160032
The document was noted.
- RPa160035 Requirements for next generation access** *Telstra Corporation Limited*
Replaces Selection of requirements and deployment scenarios for next generation access highlighting areas of importance to Telstra
Telstra not present at the ad hoc
The document was noted.
Replaced by
Interdigital Asia LLC
- RPa160037 SMARTER RAN Requirements** *Interdigital Asia LLC*
Replaces
moved from AI 6 to AI 5;
Orange: there is a difference in the definitions (allocation component in the definition)
The document was noted.
Replaced by
ORANGE
- RPa160038 Consideration of Additional requirements for Next Generation Radio Access Technologies** *ORANGE*
Replaces This proposal comes with 2 additional requirements : one on "Resilience and High Availability" for section 7.2 and one on "Backhaul and signaling optimization requirements" for section 10.
wrong Tdoc type discussion; moved from AI 4 to AI 5
The document was rejected.
Replaced by

RPa160043 Discussion on 5G scenarios and requirements

Replaces

wrong Tdoc type discussion

Huawei, HiSilicon

The document was rejected.

Replaced by

RPa160053 Supporting device-to-device technologies in 5G radio access networks

Replaces

Qualcomm Incorporated

The document was noted.

Replaced by

RPa160058 Discussion on Deployment Scenarios and Requirements for Next Generation Access Technologies

Replaces

LG Electronics Inc.

wrong Tdoc type discussion;

CATT: same scenarios for the 2 urban cases?

Vodafone: why separating for CA and not CA; why different sentences for different scenarios?

certain use cases apply only to certain frequency ranges?

The document was rejected.

Replaced by

RPa160059 Scenario Proposal for Simultaneous Support of Multiple Parameter Sets

Replaces

Sony

The document was rejected.

Replaced by

RPa160061 Handling of “Dependent KPI’s”

Replaces

This paper discusses how to handle "dependent KPI's" and proposes to handle them by not setting targets for such KPI, but to require that they are reported.

Ericsson

The document was noted.

Replaced by

RPa160010 Handling of dependent KPI's

Replaces

Samsung R&D Institute UK

The document was withdrawn.

Replaced by

RPa160015 RAN architecture requirements for new generation access technologies

Replaces

is mostly covered in multi-company input

KT Corp.

The document was noted.

Replaced by

RPa160020 discussion of requirements related with architecture

Replaces

wrong Tdoc type discussion;

ATT: 9.7 only one deployment energy efficient? would not be useful

Vodafone: RAN to decide on security? This is up to SA3

NEC

The document was rejected.

Replaced by

RPa160025 Text proposal for “7.2 Deployment scenario specific requirements”

Replaces

This is the test proposal for section 7.2 including traffic model and the mapping between deployment scenarios and specific requirements.

ZTE Corporation

The document was rejected.

Replaced by

RPa160028 Requirements for the architecture of 5G cellular networks

IAESI, Thales, Fairspectrum

Replaces

ATT: 8. "user-centric fixed or moving cells" unclear

The document was rejected.

Replaced by

RPa160031 Architecture Requirements and Use Cases for Next Generation Access

AT&T

Replaces

Cisco: 3. unclear what is meant by functional split

ATT: doing it per bearer is intended

Orange: unclear how we continue with text proposals

RAN chair: we have 3 ways to handle architecture proposals:

- capture in Telecom Italia's pCR

- email discussion

- contribution at next meeting

We will have an offline discussion about CMCC pCR on Thu evening

Orange: is the drafting session limited to KPIs?

RAN chair: not necessarily

Orange: there may be proposals which are not supported by 20 companies but which can easily be agreed

The document was noted.

Replaced by

RPa160033 Requirements related to RAN architecture for the next generation access

Intel Corporation (UK) Ltd

Replaces

wrong Tdoc type discussion

The document was rejected.

Replaced by

RPa160034 Requirement on integration and interworking with non-3GPP technologies and networks

Intel Corporation, KT Corp. Ltd

Replaces

wrong Tdoc type discussion;

Observation 1: Next generation devices are likely to have both 3GPP and non-3GPP radio technologies.

Observation 2: Next generation 3GPP networks are likely to interwork with a non-3GPP radio technologies.

Proposal 1: to design the next generation network with non-3GPP technologies in mind from the beginning and to include a requirement for the next generation network on "integration and interworking with non-3GPP technologies".

Proposal 2: RAN and SA should coordinate to align their requirements related to non-3GPP technologies. RAN and SA should agree which requirements are better served by tight interworking solution(s) (likely to be standardized in RAN) and which requirements are better served by loose interworking solutions(s) (likely to be standardized in SA).

Observation 3: IEEE are discussing the "IEEE 802.11 as a 'component'" proposal, which is a good opportunity for 3GPP and IEEE to design their respective next generation networks so that 3GPP and non-3GPP technologies to co-evolve together.

Telecom Italia: proposal 2 is rather a guideline

Nokia: is rather a maximum

DT: what does "tightly coupled" means?

Samsung: too many interworking options

RAN chair: we need to do a down selection of what we support

Nokia: we could say that we minimize the interworking options

ATT: we will see that different operators have different requirements so we should not spend too much time on the actual wording here

conclusion: email discussion (rapporteur: Intel) on RAN reflector until RAN #71 to formulate some interworking requirements and use cases for non-3GPP technologies

RAN chair: we will keep in coordination with SA

The document was rejected.

Replaced by

RPa160048	End-to-End Network Slicing Requirements for Next Generation Access Technologies	<i>SK Telecom</i>
Replaces	SK Telecom's contribution to E2E network slicing requirements DT: fig.1: one-to-one mapping intended? SKT: no, this just an example RAN chair: DT will lead an email discussion on network slicing	<u>The document was noted.</u>
		Replaced by <i>SK Telecom</i>
RPa160049	Requirements for C-RAN with flexible function split	<i>SK Telecom</i>
Replaces	Requirements for flexible RAN function splits	<u>The document was noted.</u>
		Replaced by <i>Nokia Networks Oy</i>
RPa160052	Text Proposal on RAN Architecture requirements	<i>Nokia Networks Oy</i>
Replaces	In this contribution, initial TR text proposal is given on architecture related matters. Telecom Italia: legacy CN? Nokia: left it open, up to SA Samsung: fig.1 and 2 are ok but we do not need fig.3 RAN chair: if Telecom Italia can take over aspects in their architecture pCR please discuss this offline Telecom Italia: may also includes aspects from NEC related to synchronisation RAN chair: no email discussion on positioning; if interested talk with DT and come with a multi-company input to RAN	<u>The document was rejected.</u>
		Replaced by <i>Straight Path Communications</i>
RPa160005	Requirements for 5G Mobile Broadband	<i>Straight Path Communications</i>
Replaces	Straight Path's view on requirements for 5G mobile broadband	<u>The document was not treated.</u>
		Replaced by <i>CATT</i>
RPa160006	Discussions on deployment scenarios for eMBB	<i>CATT</i>
Replaces	wrong Tdoc type discussion	<u>The document was not treated.</u>
		Replaced by <i>ZTE Corporation</i>
RPa160021	Deployment Scenarios for eMBB	<i>ZTE Corporation</i>
Replaces	This contribution presents our views on the indoor hotspot and dense urban deployment scenarios for eMBB	<u>The document was not treated.</u>
		Replaced by <i>ZTE Corporation</i>
RPa160026	text proposal for eMBB related deployment scenarios in Chapter 6	<i>ZTE Corporation</i>
Replaces	text proposal for indoor/hotspot and dense urban deployment scenarios in Chapter 6	<u>The document was not treated.</u>
		Replaced by <i>ETRI</i>
RPa160036	eMBB in high speed scenarios	<i>ETRI</i>
Replaces		<u>The document was not treated.</u>
		Replaced by <i>Huawei, HiSilicon</i>
RPa160045	Discussion on Dense urban deployment scenario	<i>Huawei, HiSilicon</i>
Replaces		<u>The document was not treated.</u>
		Replaced by

RPa160007 Discussions on deployment scenarios for mMTC and URLLC

CATT

Replaces

wrong Tdoc type discussion;
see RPa160044 which were discussed jointly

The document was rejected.

Replaced by

RPa160044 Discussion on M-MTC and URLLC deployment scenarios

Huawei, HiSilicon

Replaces

wrong Tdoc type discussion;
Orange: we can start to translate families into deployment scenarios; automotive is for ultra-reliable, ehealth may even tighter requirements;
NTT DOCOMO: value for system level simulations unclear
RAN chair: so far we just describe the scenario
Orange: we need to make sure that we have deployment scenarios to cover the use cases; we will need a mapping which KPI is related to which deployment scenario which is addressing which use case
Vodafone: first describe the scenario and then think about system level simulations
IAESI: SMARTER TR has technical aspects for automotive like data rate, cell type (based on inputs from General Motors)
Fujitsu: we need to have some agreements on traffic models which is missing completely so far
Huawei: we need to invite verticals more
Orange: we have already some data coming from communities of verticals;
we did not discuss which KPIs and where do they come from for eMBB
LG: we need a use case for autodiving
Huawei: yes, we need an email discussion and some use cases for autodiving will belong to eMBB while others belong to URLLC

Orange: we should not wait for further inputs from verticals before we can start the work

RAN chair: this was also not the intention

RAN1 chair: worried about blocking companies on automotive

conclusion 1: email discussion on RAN reflector until RAN #71 on autodiving use case (rapporteur: Huawei): what KPIs, which scenarios, traffic model?

Huawei: discussion of massive MTC scenarios should also be discussed

conclusion 2: email discussion on RAN reflector until RAN #71 on massive MTC use case (rapporteur: Huawei): what KPIs, which scenarios, traffic model?

The document was rejected.

Replaced by

RPa160017 Wireless backhauling consideration

KDDI Corporation

Replaces

wrong Tdoc type discussion

The document was revised.

Replaced by RPa160066

RPa160066 Wireless backhauling consideration

KDDI Corporation

Replaces

RPa160017

ATT: nothing about fronthauling and selfhauling?

The document was rejected.

RPa160022 Consideration on backhaul/fronthaul for eMBB scenarios

ZTE Corporation

Replaces

Backhaul/fronthaul is an important aspect we should consider for next generation network. This contribution presents our views on backhaul/fronthaul consideration in the eMBB scenarios

The document was noted.

Replaced by

RPa160054 Considerations on 5G relay requirements
Replaces

Qualcomm Incorporated

The document was revised.

Replaced by RPa160076

Qualcomm Incorporated

RPa160076 Considerations on 5G relay requirements
Replaces
RPa160054

The document was noted.

RPa160060 New RAT scenarios and requirements for advanced UE relay
Replaces

Sony

RAN chair: some other companies mentioned similar aspects: See also: slide 5 in 0032/AT&T; slide 2 in 0031/AT&T; slide 4 in 0038/Orange; proposal 2 in 0058/LG; proposal 4 in 0021/ZTE

RAN chair: too early to approve a pCR but we should have an email discussion
RAN3 chair: do we not have one email discussion about backhaul already?
ATT: we have one email discussion on fronthaul
RAN chair: this is different, it will be about relaying capabilities

LG: what about sidelink
RAN chair: we could say "relaying & sidelink"
Samsung: there are different topics

conclusion: email discussion on actionable requirements for relaying capability for new RAT on RAN reflector until RAN #71 (rapporteur: Qualcomm);
also whether we need additional evaluation & KPI(s) for this

The document was rejected.

Replaced by

RPa160042 Scenario and requirements for Smart Energy verticals for inclusion in
TR38.913

ORANGE

Replaces Text proposal for the inclusion of Smart Energy Scenarios and requirements to the TR38.913 based on the white papers presented by the European Commission in RAN#70 (LS RP-151668) and the use cases defined in smarter TR22.891.

wrong Tdoc type discussion

The document was revised.

Replaced by RPa160075

RPa160075 Scenario and requirements for Smart Energy verticals for inclusion in TR38.913

Orange, ABB, IAESI, Telecom Italia, Telia Sonera

Replaces
RPa160042

ATT: is the energy grid a promising market?
Orange: yes, plenty of new usage scenarios for new grid
ATT: fibre end-to-end is a strong requirement
Orange: yes, is for nuclear power plant so special case
Huawei: what is SA1 doing on this topic? they are still working on it, it was be too mature to do something now from our side
Orange: we clarified that some use cases are already covered by SA1; and SA is defining end-to-end and we need to look at the RAN part;
Samsung: has same view as Huawei
Ericsson: coverage is better, is there a datarate related to it (3 values are mentioned)

RAN chair: can we take over something of this pCR in the TR?

ATT: you say "not applicable" to positioning; some may want to know whether it is still there
Orange: verticals want it

Orange: we will need to check whether we need something less than 1ms
Samsung: usually it is SA how looks at the overall delay and then splits it into RAN, Core network part etc.; so we can then check whether this values is sufficient
ATT: you may get further inputs also from other regions
RAN chair: should we have an email discussion to better understand smart grid requirements and whether we need to modify what is proposed?
Qualcomm: we have already a lot of email discussions already, e.g. also in NGMN there is a task to talk to verticals
Huawei: are UEs stationary?
Orange: yes
RAN chair: any chance to address this topic under "massive MTC" email discussion as well?
Orange: high-reliability is one point but we also have also additional operational requirements

conclusion: topic will be included in the massive MTC email discussion (which will be led by Huawei): to better understand smart grid requirements and whether we need to modify what is proposed

The document was rejected.

RPa160027 A deployment scenario for utility meters

IAESI, Thales, Fairspectrum

Replaces This contribution provides a typical scenario for deployment of meters within metallic enclosures and/or behind thick concrete walls and a less typical radio deployment approach.

The document was noted.

Replaced by

RPa160055 Considerations on (e)V2X use cases and requirements for 5G

Qualcomm Incorporated

Replaces

RAN chair: can this be included in the automotive discussion?

conclusion: will be part of auto-driving discussion which will be called automotive/V2X (rapporteur: Huawei/LG)

The document was noted.

Replaced by

RPa160041 Scenario and requirements for eHealth verticals for inclusion in TR38.913

ORANGE

Replaces Text proposal for the inclusion of eHealth Scenarios and requirements to the TR38.913 based on the white papers presented by the European Commission in RAN#70 (LS RP-151668) and the use cases defined in smarter TR22.891.

wrong Tdoc type discussion

The document was revised.

Replaced by RPa160074

RPa160074 Scenario and requirements for eHealth verticals for inclusion in TR38.913

Orange, IAESI, Telecom Italia

Replaces
RPa160041

RAN chair: email discussion on RAN reflector until RAN #71 (rapporteur: Orange)
Ericsson: we need to understand better how difficult it will be to achieve the requirements
Fujitsu: general comment: should be rather targets than definite requirements
DT: positioning accuracies: absolute or relative?
Orange: absolute; they need this for looking for a device
ATT: why is no positioning accuracy needed for the robots?
Orange: because the robots is fixed
ATT: was more thinking about a mobile serving robot that could disappear
ZTE: really such a high density per square meter and the high reliability needed?
Huawei: latency requirement may be too low
Orange: more explanations in the white paper

conclusion:
email discussion on RAN reflector until RAN #71 (rapporteur: Orange)
to further work on requirements

The document was rejected.

RPa160062 Scenario and requirements for Automotive verticals for inclusion in TR38.913

ORANGE; Huawei

Replaces

will be included in automotive discussions

The document was noted.

Replaced by

RPa160039 Deployment scenario and requirements for the « Provision of essential services for very low-ARPU areas»

ORANGE

Replaces

This is a motivation paper for the introduction of scenarios and requirements in relation with the use case « Provision of essential services for very low-ARPU areas» included in smarter TR 22.891 V1.2.0

The document was not treated.

Replaced by

RPa160040 Text proposal to TR38.913 on Scenarios and Requirements for the "Provision of essential services for very low-ARPU areas"

ORANGE

Replaces

Text proposal to diverse sections of TR38.913 to introduce on Scenarios and Requirements for the "Provision of essential services for very low-ARPU areas"

The document was revised.

Replaced by RPa160073

RPa160073 Text proposal to TR38.913 on Scenarios and Requirements for the "Provision of essential services for very low-ARPU areas"

Orange, Telstra, Sprint, Telefonica

Replaces

RPa160040

RAN chair: we scheduled already an email discussion on long distance communication when we treated the multi-company inputs (see RPa160046)
Ericsson: spectrum efficiency requested here does not really fit with the low cost requirement, did you study this?
Orange: one intention is that 3GPP evaluates this
Orange: we require DL & UL but there may be an asymmetry

The document was rejected.

RPa160024 Scenarios and Requirements for the IMT-2020 Evaluations

Ericsson

Replaces

This contribution presents the background to the requirements for IMT-2020 and discusses the scenarios and requirements that will be developed by 3GPP. The requirements are then put in context of the new radio technology components needed.

The document was not treated.

Replaced by

RPa160011 Initial simulation results
Replaces

Samsung R&D Institute UK

The document was not treated.

Replaced by

6 Other inputs

RPa160002 Test
Replaces 3GU test

ETSI

The document was withdrawn.

Replaced by

7 Any other business

8 Closing of the meeting

The TSG RAN chairman Dino Flore (Qualcomm) thanked the delegates for participating and contributing to the RAN ad hoc meeting on Next Generation Access, he thanked the host for organizing the meeting and he closed the meeting on Friday Jan. 29th, 2016 at about 17:00.