3GPP TSG-RAN WG2 #109bis-e R2-20xxxxx

Electronic Meeting, April 20th – 30th 2020

Agenda Item: 6.10.7

Source: Ericsson

Title: [AT109bis-e][039][DCCA] Fast MCG Link Recovery

Document for: Discussion, Decision

# 1 Introduction

This document is to kick off the following email discussion:

* [AT109bis-e][039][DCCA] Fast MCG Link Recovery (Ericsson)

Scope: Treat topics in 6.10.6, based on R2-2003199 and ASN.1 issues and RRC corrections. Can start discussion on non-controversial proposals immediately, if any. Wait for on-line discussion for controversial proposal.

Part 1: Determine which issues that need resolution, find agreeable proposals. Deadline: April 24 0700 UTC

# 2 Discussion

## 2.1 Summary of [Post109e#27][DCCA] Fast MCG recovery ([R2-2003199](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003199))

Regarding the fast MCG recovery, the email discussion in R2-2003199 covered two main aspects related to the SN change as result of fast MCG recovery procedure and the support of the inter-RAT HO and other handover scenarios as described in Table B-1 of TS 37.340. According to this, companies are request to provide inputs about the summary of the email discussion.

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| Company | Proposal  (Agree/Disagree) | Comments |
| Nokia | P1, P2, P3 – agree  P4 – Disagree in its current wording | P4 ends: “(inter-RAT HO is excluded)”. This is misleading. The origin is probably Q5 of the discussion (that lead to P4) where inter-RAT handover was out of scope.  Therefore, we propose the following re-wording:  Proposal 4 **Apart from inter-RAT HO,** according to Table B-1 of TS 37.340, all handover scenario that have a DC option in the column “from” are supported in fast MCG recovery. |
| Qualcomm | Agree P1-P3, and disagree P4 (with wording changes is fine) | We agree with Nokia’s suggested change. And on top of that, we suggest below change:  Proposal 4 **Apart from inter-RAT HO,** according to Table B-1 of TS 37.340, all handover scenario that have a DC option in the column “from” are supported in fast MCG recovery **via split SRB1**.  The reason is that some scenarios (from NE-DC) can’t be supported via SRB3 because there is no SRB3 in NE-DC:  • Case 2: NE-DC to LTE-EPC;  • Case 3: NE-DC to LTE-5GC;  Case 7: NE-DC to UTRAN-FDD (i.e. SRVCC from 5G to 3G) |
| BT | Agree - P2, P3  Disagree – P1  Disagree – P4 with current wording | We agree with proposals 2 and 3.  We don’t agree with proposal 1 as it is. The fact that fast MCG recovery is left to network implementation may cause problems for MNOs in areas with more than one infra-vendor. From the previous discussion, it is clear that not all of them share the same view. For that reason, we consider that RAN2 shall capture in a stage-2 spec note the restrictions when fast MCG recovery is active.  Proposal 4, we agree with QC. |
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## 2.2 Other contributions for fast MCG recovery

The following contributions addressed topic that have been treated during the email discussion and thus we propose to not formulate any specific proposal.

[R2-2002647](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002647.zip) Remaining issues in Fast MCG Recovery Qualcomm Incorporated discussion LTE\_NR\_DC\_CA\_enh-Core

[R2-2002700](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002700.zip) Support of Inter-RAT handover upon MCG failure recovery ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2002992](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002992.zip) CR37340 on fast MCG recovery support vivo CR Rel-16 37.340 16.1.0 0191 - B LTE\_NR\_DC\_CA\_enh-Core

However, in R2-2002700, the proposal 3 and 4 were not really discussed in the email discussion and therefore companies are asked to provide their input on those. The mentioned proposals are as follow:

**Proposal 3   Inter-RAT handover towards GERAN/UTRAN via SRB3 is supported upon MCG failure recovery, including the following scenarios:**

         **Case 6: EN-DC to GERAN/UTRAN;**

         **Case 7: NE-DC to UTRAN-FDD (i.e. SRVCC from 5G to 3G)**

         **Case 8: NR-DC to UTRAN-FDD (i.e. SRVCC from 5G to 3G)**

**Proposal 4   UE can include UTRAN-FDD measurement results in MCG Failure Information message.**

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| Company | Proposal  (Agree/Disagree) | Comments |
| Nokia | P3 - Agree  P4 - Agree |  |
| Qualcomm | P3 with change  P4 -with clarification | As we indicated in Q1, some scenarios are not supported unless we allow SRB3 in NE-DC. Thus, we suggest below change:  **Proposal 3   Inter-RAT handover ~~towards GERAN/UTRAN~~ via SRB3 is supported upon MCG failure recovery, including the following scenarios:**  **• Case 1: (NG)EN-DC to NR;**  **• Case 4: NR-DC to LTE-EPC;**  **• Case 5: NR-DC to LTE-5GC;**  **Case 6: EN-DC to GERAN/UTRAN;**  ~~~~**~~Case 7: NE-DC to UTRAN-FDD (i.e. SRVCC from 5G to 3G)~~**           **Case 8: NR-DC to UTRAN-FDD (i.e. SRVCC from 5G to 3G)**  For P4, although we think it is not important, we can accept it. But we think the UE can include UTRAN-FDD measurements in MCG failure information only when the UE supports the SRVCC capability (i.e. handoverUTRA-FDD) |
| BT | Agree – P4  Depends – P3 | As we highlighted above, RAN6 will be close so, for proposal 3 we need to make sure there is no impact in GERAN/UTRAN. |
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## 2.3 ASN.1 issues and RRC Corrections

According to chairman notes, the following contributions are classified as ASN.1 issues and RRC Corrections.

[R2-2003425](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2003425.zip) [Z301] Correcction for SCG RLC failure during fast MCG recovery ZTE Corporation, Sanechips discussion Rel-16 LTE\_NR\_DC\_CA\_enh-Core

[R2-2002790](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002790.zip) Correction on the Configuration of T316 [C103] [C104] CATT draftCR Rel-16 38.331 16.0.0 F LTE\_NR\_DC\_CA\_enh-Core Late

[R2-2002984](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2002984.zip) Erroneous instances of “the procedure ends” impacting reception over SRB3 Nokia, Nokia Shanghai Bell CR Rel-16 38.331 16.0.0 1538 - F LTE\_NR\_DC\_CA\_enh-Core

Companies are encouraged to provide comments on those:

### 2.3.1 [Z301] Correction for SCG RLC failure during fast MCG recovery ([R2-2003425](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2003425))

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| Company | Proposal  (Agree/Disagree) | Comments |
| Nokia | We would prefer Alt1, i.e.:  Alt1: The UE shall not trigger the failure information procedure | We prefer Alt1. This is in line with the current specification that disallows use of the SCG for FailureInformation. Otherwise we risk SCG RLF -> RRC re-establishment just before the UE would receive response to MCGFailureInfo. |
| Qualcomm | Prefer Alt-1 | Same view as Nokia |
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### 2.3.2 Correction on the Configuration of T316 [C103] [C104] ([R2-2002790](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002790))

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| Company | Comments |
| Nokia | Some sympathy for the intention. The current way is indeed a bit ugly |
| Qualcomm | Same view as CATT and Nokia. We also think the current way (i.e. T316 configured in the *RLF-TimersAndConstants)* will bring some unnecessary issues because T316 is also used to indicated ON/OFF of fast MCG recovery. |
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### 2.3.3 Erroneous instances of “the procedure ends” impacting reception over SRB3 ([R2-2002984](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_109bis-e/Docs/R2-2002984))

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| Company | Comments |
| Nokia | (Nokia CR) – we agree. |
| Qualcomm | Agree |
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# Conclusion

In the previous sections we made the following observations:

Based on the discussion in the previous sections we propose the following:

# References

[1]