

Source: NTTDoCoMo¹
Title: Review of Working Procedures in 3GPP
Document for: Discussion
Agenda Item: 7.3

1. Introduction

Six months have passed since the 3GPP was kicked off at the beginning of the last December, 1998. Almost all Work Items for Release '99 were lined up and have been progressed almost on schedule. New WIs will gradually appear towards release '00.

The working procedure is provided in a document "3GPP Working Procedure" which is still currently being modified in PCG. In the past six months, there have been several philosophical debates due to the different interpretations to the working procedure. This document discusses some issues by using a real TSG-N working procedure as a case study.

2. Case Study

Appendix A shows a quotation from TSG-N #4 meeting report on "GLR"
GLR is a new location register in CN which is located in VPLMN between HLR and VLR to reduce mobility signaling load between HPLMN and VPLMN.

First, TSG-SA2 accepted this concept accepted from the architectural point in TSG-SA2. Then, TSG-N2 made a new WI to start a feasibility study on the protocol aspect. Supporting companies (NTTDoCoMo, NEC, Fujitsu, and NTT) completed a technical report, which was accepted in TSG-N#4. Appendix A shows the debate on the next issue whether specification work on GLR should be continued or not.

We discuss the following four issues on the working procedure from Appendix A.

- (ISSUE1) What is the principle of 3GPP specification?
- (ISSUE2) How positive approach for WI creation should be taken?
- (ISSUE3) How the works in 3GPP and SDOs should be linked?
- (ISSUE4) What is the "majority" in debate?

3. (ISSUE1) What is the principle of 3GPP specification?

Article 2 in 3GPP Working Procedures describes the purpose of 3GPP as follows:

"The purpose of 3GPP is to prepare, approve and maintain globally applicable Technical Specifications and Technical Reports for a 3rd Generation Mobile System based on the *evolved GSM core network*, and the Universal Terrestrial Radio Access (UTRA),---"

What is the evolved GSM core network? The answer is self-evident. That is the network which has greater capabilities than existing 2G GSM network. Our interpretation is broader. Since there will be new 3G operators which implemented different 2G CNs, 3GPP specification should provide more advanced capabilities than the existing second generation standards of all SDOs. In other words, *GSM CN specification should be evolved not only with brand-new capabilities but also with useful capabilities*

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in any other 2G systems.

Unfortunately, such basic principle for 3GPP specifications cannot be read from the Article of 3GPP Working Procedures.

With regard to the case study, GLR is a matured technique which is provided in PDC specification of TTC, as mentioned in Appendix A. It is implemented in the highest mobile traffic density area around the world, Tokyo and the suburb, (which has over 10 million users within the circle of radius 100kms!). As mentioned also in Appendix A, we don't propose GLR for today's other GSM networks whose subscribers are gradually increasing. We propose GLR for the evolved GSM CN which will be implemented more than 3 years later (~year 2002). We predict that several major cities (Paris, London, Frankfurt, Rome, New York, Seoul, etc.) will face with the same high mobile traffic density as Tokyo, when businessmen will work around the world with cellular phone/PC in the 21st century. Is the GLR really applicable to only Japanese 3G system in the 21st century?

4. (ISSUE2) How positive approach for WI creation should be taken?

Section 6 of technical Report "Working Methods for the 3GPP TSG" describes:

"For project management purposes, the work is itemised in Work Items (WI), which are documented, developed and handled ---".

Regarding WI creation, Article 39 of document "3GPP Working Procedures" provides:

"TSGs shall define and approve new Work Items, giving all essential parameters. ---

Each proposed new Work Item shall be supported by at least four Individual Members, ---".

With regard to the case study, the final goal of GLR is to make a protocol-relevant specification. As the technical report on GLR was approved in TSG-N meeting, the supporting four companies tried to submit the subsequent WI which proposes to start the specification work. Then, a length discussion on the interpretation of Article 39 happened.

The supporting companies including BT argued that specification can be started because there are sufficient number of supporting companies for the new WI. The opposing companies argued that TSG can reject the new WI even if sufficient number of companies support it.

Which interpretation of Article 39 is correct?

Regarding TSG and WG decision making, Article 25 of document "3GPP Working Procedures" provides:

"TSGs and WGs shall endeavour to reach consensus on all issues,---. If consensus cannot be achieved, the Chairman can decide to take a vote. --- A proposal shall be deemed to be approved if 71% of the votes cast are in favor. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast."

Fortunately, GLR issue reached a consensus. A vote was not needed.

However, if vote was executed, what happened?

Regarding TSG and WG voting during a meeting, Article 26 describes:

"Before voting, a clear definition of the issues shall be provided by the Chairman".

In the GLR new WI case, as seen in Appendix A,

Supporting companies: NTTDoCoMo, NEC, Fujitsu, NTT, BT

Opposing companies: Ericsson, Nokia, Siemens, Vodafone, FT.

Other companies were silent.

If vote asks “the GLR new WI should be accepted? (yes/no)”, the proposal will be rejected since there are only 5 supporting companies. However, if vote asks “the GLR new WI should be rejected? (yes/no)”, the proposal may be accepted since there are only 4 opposing companies. Thus, *voting should be carefully executed to take positive approach.*

Unfortunately, such positive approach cannot be sufficiently read in the Articles 25, 26, and 39.

5. (ISSUE3) How the works in 3GPP and SDOs should be linked?

In the 3GPP Organizational Partners Meeting#1(Seoul, 27-28 May 1999), the following text on outside of the scope of 3GPP was drafted:

"3GPP should define whether the proposed technical item is out of scope of 3GPP and justify its decision

If the work item is outside of the scope of 3GPP, and where a common global solution is desired, 3GPP should recommend how that should can be achieved

If the proposed technical item has no impact on global roaming and circulation of terminals, or has no adverse impact on the future development of the standard, such a technical item can be defined by the interested SDO not by 3GPP.

The above definitions should be applied by the 3GPP TSGs on a case by case basis."

In the GLR case, as shown in Appendix A, It was agreed that TTC would elaborate the GLR specification and produce CRs against the indicated specifications, and that these would need to be reviewed by N2. This consensus is more positive than the above definition because it still seeks the possibility to include SDO's regional specification in 3GPP so that other SDOs can decide later whether it can be included in the standard.

Therefore, the above text should be modified to take more positive approach to seek a global standard by including the regional specification into 3GPP specification.

6. (ISSUE4) What is the “majority” in debate?

Appendix A notes that *strong support was given to GLR by NTT DoCoMo; some scepticism was clearly visible in a wide part of the rest of the floor.*

However, as described in section 4 of this document, the numbers of companies which explicitly expressed support and opposition, respectively, were the same. Other companies were silent. Nevertheless, why is the opposition party regarded as “Majority”? Does the silence mean opposition? Such unclear “Majority” estimation deteriorates a democratic decision.

7. Proposal

In order to take positive approach for working procedures, we make the following proposals for each above issue.

(Proposal for ISSUE1)

In order that the evolved GSM CN capability can be more advanced than any existing 2G CN, we propose to add the following provision in Article 2.

“The evolved GSM CN should be more advanced than any existing 2G CN. For this purpose, the 3GPP CN specification should take the existing CN capabilities in any 2G systems into consideration as the evolution from GSM CN.”

(Proposal for ISSUE2)

In order that TSGs and WGs will take positive approach, we propose to modify Article 25 as follows.

“TSGs and WGs shall endeavour to seek a positive direction and reach consensus on all issues,---

(Proposal for ISSUE3)

In order to have the maximum common 3GPP specification, we propose to add the following provision to the draft on out of scope of 3GPP.

“Regional specifications produced by SDOs should be considered by 3GPP for the inclusion to 3GPP specifications. The decision shall be made by consensus or voting in TSGs”

(Proposal for ISSUE4)

We request that TSGs and WGs make decision not by “Majority-sense” but by Consensus when issues can be solved without voting.

8. Conclusion

This document discussed several issues on working procedures which were encountered in the past 3GPP meetings. We would be grateful if our proposal could be taken into consideration towards positive approach in the further 3GPP meetings.

[Appendix] Quotation form TSG-N#4 meeting report on “GLR” (Np-99152)

Presented by the N2 Deputy Chairman. Additional signalling in case of HLR restart seems to be a disadvantage, at least at a first sight, but more work on the issue seems necessary. Changes in the capability of HLR and VLR need to be supported by the GLR. At the end of the document, a list of Companies gave a score (4 levels) on the technical assessment of the content.

Vodafone reported that, if the GLR is standardised, the real intentions of Operators to implement it or not seem to be rather diverse. However, the CN plenary is purely mandated with the task of deciding whether the GLR has to be standardised. If the concept is approved, N2 will be then mandated with the task of standardising GLR related protocols.

Masami informed the floor that the **(ISSUE1) GLR has been already introduced in Japan for second generation networks (PDC). Consequently NTT DoCoMo expects the same platform, as a basis for further work, also for GSM.**

Vodafone noted that the GLR is not “visible” to the co-operating networks: in this sense, it might not be even standardised. However, standardisation has tangible advantages on the GLR design, from a pure vendor point of view. Hence, no need for protocol specification: the benefit is to allow vendors to produce the same piece of equipment for a multiplicity of Operators. This does not prevent that the GLR specification is brought forward in the application environment (e.g. TTC) for which its utility has been recognised.

NTT DoCoMo however clarified that, even if they need the functionality now **(ISSUES 1 and 3) (today, it would consequently be a regional issue, since the same requirement is not perceived by European Operators), they want to specify it particularly for third generation systems.**

Stephen Hayes asked if there is a real necessity to introduce GLR as a part of 1999 specification.

A lengthy discussion followed, during which NTT DoCoMo explained with details the rationale (location areas are becoming smaller due to high traffic densities) for the introduction of GLR in a traffic context like, e.g., the Tokyo area. Some assumptions, however, were a bit contested by the Ericsson and France Telecom delegates.

Vodafone explained why, in Europe, small scale differences in coverage between competing networks make it nearly unavoidable to switch between networks. In such case, the GLR advantage would be reduced (for a single-VPLMN GLR) because a VPLMN change must be always signalled to the HLR. The future case of a single GLR for several VPLMNs might be interesting for a European context, but this working assumption needs further study.

(ISSUE 4) Strong support was given to GLR by NTT DoCoMo; some scepticism was clearly visible in a wide part of the rest of the floor.

The Chairman then raised the question whether CN want the GLR standardised for: i. Release 99, ii. UMTS or iii. not standardised at all. The Chairman indicated that Siemens do not like the GLR not even as an optional network node, since they believe that drawbacks largely exceed advantages. NTT DoCoMo have a totally different opinion, and they declare this opinion comes from experience. Vodafone also expressed a negative position and suggested that the specification of GLR should become a regional matter, due to the limited (i.e. regional) interest of the argument. However **(ISSUE 2) BT noted that 3GPP rules recommend a positive approach in defining and proposing activities, rather than stopping them.**

In the end, the Chairman proposed that TTC may proceed independently, i.e. outside 3GPP, with the specification work (which will certainly fit the Japanese requirements) and when it is ready, the results are presented to N2B/N2 and CN. Nokia observed that, if specs are developed independently, there might be a lengthy review process, with meeting and resource usage. Vodafone however argued that TTC might be more used to a high meeting frequency to meet tight schedules and might produce quickly the required standard, if they work independently.

The Chairman asked whether there are European and American companies interested in participating in the TTC meetings. Yun Chao Hu (Ericsson) wanted confirmation that the GLR, so standardised, will be

Japanese specific and that it will need approval, when available, before being included in 3GPP specifications.

No Work Item was formally approved by CN. It is expected that ***(ISSUE 3) TTC will elaborate the GLR specification. Furthermore, it was believed premature to decide whether the GLR will be part of Release '99 and it might be necessary to have a formal voting on inclusion of the GLR in the 3GPP specs.*** Ericsson expects that TTC will produce CRs against the indicated specifications, and that these will need to be reviewed by N2.