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Source: **NTT DoCoMo, KPN, SK Telecom, NEC, Fujitsu, NTT Comware**

Title: **Core Network Standardization Principles**

(Network Optimisation)

Agenda item: **9.7**

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1. Introduction

3GPP core network standardization started as an evolution from 2G GSM/GPRS core network. Since 3GPP R99 standardization work started, more than 2 years have passed. However, it seems that there is no consistent principles for core network standardization toward network optimisation although it was identified as an essential issue. This contribution aims at clarifying issues in order to remove any ambiguity and proceed with the core network optimisation standardization consistently.

2. Core Network Optimisation Standardization Principles

In general, information flows are defined based on logical network architecture model in order to define the interaction between functional entities after network architecture model is defined. Then signalling protocol is designed based on logical network architecture.

On the other hand, when investigating the network optimisation, it is not enough to consider only logical network architecture, because real necessary signalling which appears physically has an impact on the network performance. (One purpose of the network optimisation is to reduce necessary signalling.) When an approach is proposed for network optimisation, the approach should be evaluated based on whether the approach can reduce the real necessary signalling or not. Therefore, in order to evaluate the network optimisation approach, the optimisation effect in the real implementation environments should be investigated.

While physical configurations are necessary to be considered, it is unrealistic to consider all possible physical configurations. Therefore, implementation examples to evaluate network performance should be identified. The implementation examples can be derived from e.g. TS23.002 (Network Architecture).

Also, in case that the proposed network optimisation approach has benefits toward an implementation example, the approach should be specified by 3GPP. However, in that case, the new approach should not force other network to introduce the same approach. Interoperability should be always ensured.

3. Conclusion

Based on the above discussion, it is concluded that;

(1) Network optimisation should be evaluated based on the implementation examples.

(2) If a network optimisation approach is beneficial under an implementation example identified, the approach should be specified by 3GPP.

4. Proposal

This contribution proposes that CN plenary endorses the above network optimisation principles.