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Title: Considerations for future standardisation of new mechanisms within 3GPP

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1. Executive Summary

This document provides a high level discussion of the factors 3GPP, in particular TSG SA, should take into consideration when standardising new mechanisms within the 3GPP system. Based on this discussion conclusions and recommendations have been provided for the consideration of TSG SA#23.

2. Discussion

R99 was the initial release of specifications for so-called '3rd Generation' or '3G' mobile telecommunication technology within the scope of 3GPP. In R99 the step was made from the standardisation of the already prevalent '2G' technology (GSM) to standardisation work for 3G. At the time R99 was produced and frozen, commercial deployments of '3G' technology were still at the development stage and yet to be implemented in commercial networks. Since there was no existing legacy 3G equipment to consider, there was some flexibility to allow the introduction of new mechanisms into the 3GPP system.

3GPP is currently completing work for Rel-6, which will be the 4th release of specifications since R99, and several commercial networks have already been deployed based on the earlier 3GPP releases. As many more networks based on 3GPP R99 or later releases are expected to be commercially deployed in the near future, it is clear that the work of 3GPP is reaching a level of maturity, and that 3GPP needs to carefully study the impacts of any newly introduced mechanisms on commercially deployed 3G equipment.

The introduction of new mechanisms into the 3GPP system must be justified by the improvement in the capabilities of the system that this new mechanism provides. Conversely, it is not appropriate for new mechanisms to be introduced into the 3GPP system if the introduction of this mechanism provides no appreciable improvement in the capabilities of the system.

Without consideration of this issue it is likely that several mechanisms will be standardised that essentially provide the same functionality. This may mean that in order to maintain alignment with the 3GPP standard, equipment will have to be upgraded to support these new mechanisms with no net improvement in functionality. This is not only inefficient as it increases the number of options in the system with no net benefit, but can also lead to fragmentation of 3GPP based technology deployment as it is likely that one set of equipment will not provide all the mechanisms specified for a particular functionality. This would result in interoperability problems to the detriment of the 3GPP community as a whole.

A specific example of possible functional duplication may result from the specification of several Push mechanisms, in particular 'Network Requested PDP Context Activation (NRPCA) using Dynamic IP address assignment'. SA2 has not yet reached a conclusion on the issue of whether or not it is appropriate to standardise NRPCA using Dynamic IP address assignment. To date, the investigations within TR 23.976 have not identified any increase in capability provided by this mechanism compared to that provided by the existing SMS based Push Services using SMS. For this reason it seems clear that it would not be appropriate to standardise this mechanism unless the adoption of this mechanism results in an appreciable improvement in the capabilities of the 3GPP system.

3. Conclusions & recommendations

This paper has provided a brief discussion of the considerations to be reviewed in 3GPP before standardising or approving new mechanisms for the 3GPP system. Based on the content of this document it is proposed that

TSG SA adopt a principle of not standardising new mechanisms unless the adoption of this mechanism results in an appreciable improvement in the capabilities of the 3GPP system.

Furthermore, it is proposed that standardisation of NRPCA using Dynamic IP address assignment for Push Services not be undertaken unless the adoption of this mechanism results in an appreciable increase in the functionality of the 3GPP system compared to that provided by existing methods for providing Push Services using SMS.