

A Study on the Radio Resource Control Connection Re-establishment Procedure on the UE side in 3GPP

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Abstract—In the 3GPP, RRC Protocol layer exists in UE and eNB and handles the control plane signaling of Layer 3. The main services and functions of the RRC protocol include broadcast of system information, paging, establishment/release of an RRC connection, transfer of NAS(Non-Access Stratum) information, security configuration, transfer of UE radio access capability, radio resource configuration, measurement configuration and reporting, mobility control, recovery from failures of AS layers by re-establishment of an RRC connection, and so on. One of the main functions of RRC protocol is RRC Connection Re-establishment which is to re-establish the RRC connection between the UE and the eNB from various failures on the radio interface. Also, it helps to resume the SRB1 operation and re-activate the security. In this paper, we explain when RRC connection re-establishment procedure is triggered and how it works, also propose detailed RRC Connection Re-establishment procedure on the UE side.

Keyword—RRC, Radio Resource Control, Connection Re-establishment, 3GPP



Jeong-Hwan Lee received M.E degree in electronics engineering from the Yonsei University, Korea, in 2009. From 1995-2000, he was with LG Electronics Inc, Korea engaged on wired communication system and from 2000-07 he was employed as an IPv6 team leader at iBIT technologies engaged in IPv6 protocol stack and IPv6/IPv4 translator product development. Since 2011, he has been with Electronics and Telecommunication Research Institute (ETRI) where he is a senior researcher of the wireless transmission research section. His interest areas are mobile communication system, automotive software platform like AUTOSAR, and network protocol.



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