

X. Duan, D. Zhang and X. Li, "An Improved Approach of Sending BSR and SR Based on MAC Layer in LTE System," *2011 International Conference on Business Computing and Global Informatization*, Shanghai, 2011, pp. 520-523.

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Abstract: The Buffer Status Report (BSR) and Scheduling Request (SR) are important procedures based on Medium Access Control (MAC) layer in Long Term Evolution (LTE) system. First, we study the BSR, SR and Semi-Persistent Scheduling (SPS) separately, then illustrate the priority of BSR and other data when sending MAC PDUs. The issue about the priority has been definitely defined by 3GPP, but it doesn't explain the reason, the article made a detailed analysis of it. The UE will send BSR and SR for gaining radio resources, the resources may be wasted if they exist at the same time. Finally we proposed a solution of deciding whether triggering BSR and SR in SPS and a solution of conflicts between padding BSR and other kinds of BSR.

keywords: {3G mobile communication;Long Term Evolution;access protocols;mobile computing;3GPP;BSR triggering;LTE system;MAC-PDU;SPS;SR triggering;buffer status report;long term evolution system;medium access control layer;radio resource;scheduling request;semipersistent scheduling;3G mobile communication;Dynamic scheduling;Protocols;Radio access networks;Strontium;BSR;LTE;MAC;SPS;SR},

URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6003964&isnumber=6003816>

G. Huang, J. Hu, S. Pan, Y. Zhang, H. Han and G. Zhang, "D2D relaying based multicast service in Public Safety Networks," *2016 35th Chinese Control Conference (CCC)*, Chengdu, 2016, pp. 6923-6927.

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Abstract: It is a common case in Public Safety Networks (PSNs) that a user equipment (UE) instead of a base station (BS) acts as the multicast transmitter. In the network physical (PHY) layer, we adopt the fountain coding method to reduce network burden and energy consumption of UEs. However, current LTE standards support Quality of Service (QoS) controls only for unicast communications. To satisfy the QoS requirements of emergency group communications, an effective opportunistic multicast scheduling scheme is investigated at the MAC layer which can minimize the delay of a multicast. To further improve multicast throughput, Device-to-Device (D2D) relaying technique is also integrated into the proposed multicast scheduling scheme, which can combat the multicast bottleneck when one or very few receivers are with very poor channel conditions. The simulation results verify the effectiveness of the proposed D2D relaying based multicast service in LTE based PSNs.

keywords: {Long Term Evolution;access protocols;computer networks;emergency management;multicast communication;quality of service;BS;D2D;D2D relaying based multicast service;LTE based PSN;MAC layer;PHY;QoS;UE;base station;device-to-device relaying technique;emergency group communications;fountain coding method;multicast scheduling scheme;multicast transmitter;network physical layer;opportunistic multicast scheduling scheme;public safety networks;quality of service controls;user equipment;Broadband communication;Device-to-device communication;Encoding;Energy consumption;Long Term Evolution;Quality of service;Safety;D2D communications;LTE cellular networks;Public safety networks;Wireless multicasting service},

URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7554448&isnumber=7553055>

N. Lee and Y. Choi, "A contention based uplink scheduling request method in LTE-A," *2015 International Conference on Information and Communication Technology Convergence (ICTC)*, Jeju, 2015, pp. 1022-1024.

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Abstract: In this paper, a contention based uplink scheduling request method is proposed to enable low transmission latency in LTE-A systems. The proposed method transmits a BSR message over PUCCH which includes uplink resource information required by the UE. On the other hand, in LTE-A systems, a positive signal for scheduling request is transmitted over PUCCH. Performance analysis results show that the proposed method can significantly reduce the delay for uplink data transmission compared to that of the uplink SR method in LTE-A systems.

keywords: {Long Term Evolution;BSR message;LTE-A systems;PUCCH;contention based uplink scheduling request method;uplink SR method;uplink data transmission;Data communication;Delays;Indexes;Long Term Evolution;Resource management;Scheduling;Uplink;LTE;scheduling},

URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7354728&isnumber=7354472>

K. P. Sharmila, Anjali and S. Pattar, "RRC and MAC call flow procedures for D2D communication through sidelink in LTE-A," *2016 IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)*, Bangalore, 2016, pp. 851-854.

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Abstract: Device-to-Device (D2D) communication is one of the most popular topic in the upcoming device communication. D2D provides access to services through direct or indirect connection path with neighboring devices with or/and without ENodeB (eNB) assistance. Some of the problems faced in this case are discovering process of neighbor user equipment (UE) and services, as well as designing suitable and secure protocols for D2D communication. In this paper, we propose a sidelink based D2D communication, wherein a separate unlicensed band apart from uplink and downlink is considered to be allocated for sidelink and is functional without the presence of eNB. In this paper we present a detailed study of operational procedures at Radio Resource Control (RRC) and Media Access Control (MAC) layers for sidelink based D2D communication along with this various messages handled for D2D communication for both scenarios using sidelink has been discussed. Two scenarios of D2D communications have been considered-for both UE's in-coverage and both UE's' out-of-coverage. The client side architecture of D2D communication with respect to RRC and MAC layers is also presented.

keywords: {Long Term Evolution;multi-access systems;ENodeB assistance;LTE-A;MAC call flow procedure;RRC;UE;device-to-device communication;eNB assistance;media access control;neighbor user equipment;radio resource control;sidelink based D2D communication;3GPP;Device-to-device communication;Media Access Protocol;Monitoring;Synchronization;Device to device communication;ENodeB;Long Term Evolution;Media Access Control;Radio Resource control;Sidelink;device to device discovery},

URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7807948&isnumber=7807761>