Battery Lifetime Extension Method by using Background Traffic Synchronization

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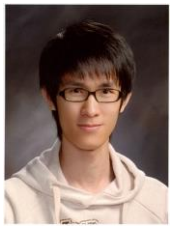
***Abstract*—We proposes a battery lifetime extension method through the background traffic synchronization on smartphones. Battery lifetime is very important factor due to the restrictive battery lifetime on smartphone. In proposed method, smartphone stacks the received background traffic in the buffer during the threshold time. The stored background traffic processes at data packet processing time. If there is no data packet to process for the threshold time, the stored background traffic is dropped. By applying this method to DRX, the sleep mode cycle of smartphone can be extended. Therefore, the battery sleep time is increased through reducing the number of background packet transmission over wireless. For performance analysis, we use M/M/1 queueing model and compare the sleep time between existing and proposed method. As a result, we can prove that the power consumption of the proposed method is lower than the existing method. That is, the battery lifetime of the proposed method is more extended than existing method.**

***Keyword*—LTE, DRX, Background traffic, Battery lifetime**



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