

# Data Synchronization Method in DTN Sensor Network Using Autonomous Air Vehicle

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**Abstract**—While sensor network system for monitoring wild animals or observing environment changes becomes more important, collecting those observation data becomes a problem. It is because the observation field is too wide, and is usually in a forest or on a mountain. Therefore, we are studying sensor network system based on Delay Tolerant Network (DTN) using autonomous air vehicle as a data ferry. In this paper, a method of synchronizing data between the multiple sensor nodes and the server using MySQL Replication has been proposed. In the proposed system, the air vehicle does not need to carry MySQL Database, instead should carry only updated information. We have performed experiments to evaluate the practicality of the proposed system. From the evaluation result, it has been clarified that the data synchronization can be completed by our proposed system, but the time for transferring data should be decreased to prevent waste time of flying.

**Keyword**— Delay Tolerant Network, Autonomous Air Vehicle, AR.Drone, MySQL Replication, Sensor Network



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