Security and storage issues in Internet of Floating Things edge-cloud data movement

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The rise of the Internet of Things generated expectation about the overall improvement in everyday lifestyle. In the last decade we had several examples of instrumented cities where environmental, machines and human generated data are gathered, processed and made available in order to inspire the next generation of scientists and engineers. Sensors and actuators became first class citizens in technologically pervasive urban environments, However the full potential of data crowdsourcing is still unexploited in marine coastal areas due to the challenging operational conditions, extremely unstable network connectivity and security issues in data movement. In this paper we present the latest specification of our DYNAMO Transfer Protocol (DTP), a platform independent data mover framework specifically designed for the Internet of Floating Things applications where data collected on board of professional or leisure vessels are stored locally and then moved from the edge to the cloud. We evaluate the performance achieved by the DTP in data movement in a controlled environment comparing and contrasting several cloud based database approaches.