

Efficient querying of big AIS data

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Period: 25/08/2013 to 07/09/2013

Abstract. There is a growing interest in the analysis and management of ship movement data massively collected through the AIS (Automatic Identification System) network and this STSM aimed, amongst others, at bridging the complementary competencies of the two research groups, InfoLab and IRENav, in order to explore and evaluate methods for efficiently managing the storage of AIS data. The main result of this STSM was the design of a MOD (Moving Object Databases) benchmark which aims at evaluating different storage aspects for trajectories generated from AIS data. A MOD system combines many different aspects of mobility under one common framework that has to be mature enough to support operations such as data loading, indexing, basic as well as advanced querying, and data mining (e.g. clustering) efficiently. Recent advances in this domain revealed the need for a MOD to support new queries that consider the semantics of a trajectory in addition to its spatio-temporal components. The only unbiased way to prove a system's maturity and measure its performance characteristics is to test it using a suitable benchmark.

Keywords: moving object databases, mod, AIS, big data, benchmarking