Improving Quality in Storm-Based Big-Data Architectures Using OSTIA

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***Abstract*—Big-Data architectures featuring Storm have been proliferating massively in the last few years. For example Twitter uses complex Storm-based topologies to analyse and learn valuable trends from billions of tweets per minute. However, increasing the quality and consistency of Storm topologies before having complete and expensive infrastructure up and running is still a big challenge. As an aid to designers and developers in evaluating their Storm topologies much sooner than deployment-time, we developed OSTIA, that is, "On-the-fly Storm Topology Inference Analysis". OSTIA offers round-trip engineering of Storm topologies so that designers and developers may: (a) use previously existing model-driven verification&validation techniques on elicited models; (b) visualise and evaluate these models against simple Consistency checks that would only be available at deployment and run-time. We illustrate the uses and benefits of OSTIA on three real-life industrial case studies.**

Authors' work is partially supported by the European Commission grant no. 644869 (EU H2020), DICE. Also, Damian's work is partially supported by the European Commission grant no. 610531 (FP7 ICT Call 10), SeaClouds.