

EVALUATING IMPLEMENTATIONS OF SERVICE ORIENTED
ARCHITECTURE FOR SENSOR NETWORK VIA SIMULATION

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ABSTRACT

With the use of Service Oriented Architectures in areas such as sensor network, it becomes increasingly necessary to be able simulate the interactions of such a system before actually implementing it. This work explores the viability of two different implementations of a simulation of service composition in dynamic sensor networks. The first simulation is written in C++ with a graphical user interface using Qt and visualizations supplied via Graphviz. This simulation supports distributed and centralized composition with a type hierarchy and multiple-service statically-located nodes in a 2-dimensional space. The second simulation uses the actor model programming language SALSA to support concurrent distributed service composition with a type hierarchy and dynamically located services in spherical space.