A Robust Inter-Domain DDS Gateway based on Token Passing for Large-Scale Cyber-Physical Systems


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Abstract—In this paper, we propose the architecture of the Data Distribution Service Gateway (DDS GW) to interconnect different DDS domains for large-scale Cyber-Physical Systems (CPS). We suggest the DDS GW service which runs on the DDS Middleware. It consists of four major components: Interface Module, Topic Manager, Routing Manager and Network Module. We also suggest a basic algorithm for resolving the bottleneck problem caused by the exchanges of EDP messages.

Keyword—Cyber-Physical System, CPS Middleware, Inter-Domain, DDS Gateway

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