

Communication Solution for Industrial Control Applications with Multi-agents Using OPC Servers

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Abstract-This paper presents a concrete way of linking the JADE multi-agent system with the equipment (eg PLC, DCS, SCADA) comprised into a distributed industrial control system based on agents, using OPC servers. Industrial applications of multi-agent technologies are limited especially due to communication difficulties between software development environments with agents and with heterogeneous control devices connected to sensors and actuators in the industrial process. The solution found mainly refers to the physical connection inside of the infrastructure which allows to implement several types of communication protocols and languages. The content of this paper refers to a part of a dedicated application for monitoring, collection and archiving data of a manufacturing process in the automotive industry. The data are used by the maintenance planning system for carrying out checks and repairs on monitored equipment and machinery according to real functioning duration.