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**Development and Integration of Open Interoperable Communication
Standard for Real-Time Test Systems.**

ABSTRACT - Masterthesis

Object Management Group's Data Distribution Service for Real-time Systems (OMG-DDS) is gaining traction to become the de facto standard for connecting distributed industrial simulation and test systems. Similarly Ethernet for Control Automation Technology (EtherCAT) is gaining popularity in industrial automation because of its flexibility and affordability. FastWAN is a technology developed at ExxpertSystems GmbH for interconnecting geographically separated test benches.

In this work, the implementation and integration of EtherCAT and DDS support in FastWAN is presented. The main aim is to control and monitor a device connected to the industrial bus interface, using a control application communicating over WAN/Internet and benchmarking the communication system in terms of accuracy and real-time constraints.