A Middleware Management System with Supporting Holonic Modules for Reconfigurable Management System

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Abstract : There is currently a gap in the technology covering the rapid establishment of control after a reconfiguration in a Reconfigurable Manufacturing System. This gap involves the detection of the factory floor state and the communication link between the factory floor and the high-level software. In this paper, a thin, hardware-supported Middleware Management System (MMS) is proposed and its design and implementation are discussed. The research found that a cost-effective localization technique can be combined with intelligent software to speed up the ramp-up of a reconfigured system. The MMS makes the process more intelligent, more efficient and less time-consuming, thus supporting the industrial implementation of the RMS paradigm.