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FabOS: Towards an open, distributed, real-time-capable, and secure operating system for production

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Abstract

Software is rapidly becoming more important for the manufacturing sector. To address the need for software solutions in this sector, various organizations have published reference architectures, standards and implementations. The research project FabOS aims at building an open, distributed, secure and real-time capable software backbone for the manufacturing industry. This paper details the requirements for such a system and analyzes and compares several existing commercial and academic reference architectures, standards and implementations for Industry4.0 applications. The goal is to identify the gaps between the already existing technology and the manufacturing industry's need for the factories of the future.

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