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Enterprise Architecture Ontology for Supply ChainMaintenance and Restoration of the Sikorsky ' s UH-60 Helicopter

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ABSTRACT

Ontologies have emerged as an important tool in the Enterprise architecture discipline to provide the theoretical foundations for designing and representing the enterprise as a whole or a specific area or domain, in a scientific fashion. This paper examines the domain of maintenance, repair, and overhaul (MRO) of the Sikorsky UH-60 helicopter involving multiple enterprises, and represents it through an ontology using the OWL Language and Protégé tool. The resulting ontology gives a formal and unambiguous model/representation of the MRO domain that can be used by multiple parties to arrive at a common shared conceptualization of the MRO domain. The ontology is designed to be conformant to ISO 13030 or the Product Life Cycle Support Standard (PLCS) standard, hence representing the state of being as per this standard especially at the interfaces between enterprises while incorporating existing reality to the greatest possible extent within the enterprises. As a result the ontology can be used to design Information Systems (IS) and their interfaces in all enterprises engaged in MRO to alleviate some of the issues present in the MRO area and to support business intelligence efforts.

KEYWORDS

Enterprise Architecture; Ontology; Product Life Cycle Support; Business Intelligence

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