WORKING PAPER

Enterprise Ontology-Based Structuring of Conceptual Data Modeling Patterns

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ABSTRACT

This paper presents two 'building block' patterns for constructing conceptual data models for enterprises. These patterns compose a structuring framework for positioning existing conceptual data modeling patterns, facilitating their use and integration in models. The first 'building block' pattern is based on the REA enterprise ontology and captures common concepts of enterprise reality. The second pattern is based on the UFO foundational ontology and captures common abstraction mechanisms used in conceptual data modeling. The paper demonstrates the use of the proposed patterns by analyzing a catalogue of conceptual data modeling patterns, which presents a digest of patterns frequently observed in practice. The paper also illustrates how the proposed patterns can guide modelers in integrating patterns from this catalogue in conceptual data models for enterprises.

Keywords: Conceptual data model, enterprise model, pattern, enterprise ontology, abstraction mechanism