

Type-Level Specifications in REA Enterprise Information Systems

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ABSTRACT: The Resource-Event-Agent (REA) enterprise model (McCarthy 1982) is a widely accepted framework for the design of the accountability infrastructure of enterprise information systems. This paper looks at the use of type-level specifications to extend this accountability infrastructure. We start with a comprehensive study of type-level specifications. We illustrate the typification abstraction process, we then differentiate between the strong notion of typification as it applies to archetypes and the weaker form as it applies to simple grouping, and we look at how relationships are used at the type level. After that, we look at three non-normative categories of type-level extensions that are commonly used in enterprise systems -- standards, policies, and budgets -- and we describe how they can be integrated with the REA accountability infrastructure. We follow these extensions with an exploration of a number of modeling issues related to type-level specifications.

Key Words: Accountability and policy infrastructures, REA enterprise information systems, Semantic modeling, Grouping and typification.