

The REA Business Process State Machine

by

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The REA enterprise ontology models the components of a business process, either between enterprises or within one enterprise, where that process is defined as a set of activities that takes one or more kinds of input and creates an output that is of greater value. Those individual business processes are themselves then configured as a within-enterprise value chain or a between-enterprise supply chain (Hammer and Champy 1992; McCarthy; 2003). The REA ontology components include the basic entities and relationships included in the original REA paper (McCarthy 1982) plus extensions suggested by Geerts and McCarthy (2004), most notably the inclusion of type and commitment extensions.

Within a particular business process, its individual activities or workflow progress it through five phases: planning, identification, negotiation, actualization, and post-actualization (ISO Open-edi, Part-1; 2003 and Part-4; 2004). This progress can be marked by considering each REA component as a business object with accompanying states that progress through a life cycle. Business events or tasks trigger state changes in both individual and aggregate objects.

The REA business process state machine will be illustrated with a collaboration illustration adopted from a prototypical EDI messaging example. The state machine's declarative and procedural components are being embedded in the most recent version of the REA ontology (Geerts and McCarthy 2004) as a method for sequencing activities or workflow. We hope to use this mechanism to lend more precision to business event sequencing, transforming a loose collection with no essential temporal ordering into a precise sequence with definable states that mark definitive progress toward overall process and value (supply) chain goals.