

Title: A Service Integration Platform for Collaborative Networks

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Abstract: Integrated manufacturing constitutes a complex system made of heterogeneous information and control subsystems. Those subsystems are not designed to the cooperation. Typically each subsystem automates specific processes, and establishes closed application domains, therefore it is very difficult to integrate it with other subsystems in order to respond to the needed process dynamics. Furthermore, to cope with ever growing market competition and demands, it is necessary for manufacturing/enterprise systems to increase their responsiveness based on up-to-date knowledge and in-time data gathered from the diverse information and control systems. These have created new challenges for manufacturing sector, and even bigger challenges for collaborative manufacturing. The growing complexity of the information and communication technologies when coping with innovative business services based on collaborative contributions from multiple stakeholders, requires novel and multidisciplinary approaches. Service orientation is a strategic approach to deal with such complexity, and various stakeholders' information systems. Services or more precisely the autonomous computational agents implementing the services, provide an architectural pattern able to cope with the needs of integrated and distributed collaborative solutions. This paper proposes a service-oriented framework, aiming to support a virtual organizations breeding environment that is the basis for establishing short or long term goal-oriented virtual organizations. The notion of integrated business services, where customers receive some value developed through the contribution from a network of companies is a key element.

Author Keywords: Collaborative Networks; Virtual Organizations; Service Oriented Computing; Service Oriented Architecture

KeyWords Plus: System

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