

An Agent-Based Cloud Framework for Enterprise Application Integration

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Abstract

Enterprises use new technology for their growth. Use different functions to information storage between enterprise department is very common, but it occurs the problem of data inconsistency. Real-time response in business changes, requires an integrated application infrastructure to support business processes. Enterprise Application Integration (EAI) is a new business solution by combining the existing applications and the new code, so that information can be shared. Most enterprises consider data integration as the first and most critical step of integrating information systems within the organization.

This research construct a framework base on cloud computing concept that integrates the enterprise data of various sources through a message brokering mechanism. Intelligent agents used as the major components for brokering messages among different applications. The major objective of this framework is to provide remote database access and data consistency among enterprise applications through the messaging mechanism base on enterprise data.

Intelligent agents are important element for the integration problems involving distributed information system. In this research, two different kinds of roles are defined as agents in the integration architecture. One is message-brokering agent, which is the communication center in the cloud. Another is database-monitoring agent for transforming and transferring messages between the applications and its message broker. To analyze the feasibility of the agent-based cloud framework for integrating enterprise data, we implemented the proposed architecture and evaluated with simulation data. The simulation results present the completeness and correctness of the data integration process. Through this proposed framework, the enterprise information can integrate in a more efficient and effective way.

Keyword : Cloud Computing, Enterprise Application Integration, Data Consistency, Intelligent Agent