

Stakeholder Identification and Analysis for Service Lifecycle Management

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ABSTRACT

The convergence of information technology and diverse business requirements is making the organization information systems more complex. Quickly integrating existing systems and developing new applications to serve the requirement of flexible business environments have become a key factor for organizations to gain a competitive edge. To meet this challenge, the concept of Service Oriented Architecture (SOA) has been proposed and widely lauded as an innovative business oriented solution. To better utilize SOA's advantages, several research problems should be attached much importance among which service lifecycle management is a notable one, which is one of the critical mechanisms leading to higher service quality. A large number of service lifecycle models have been proposed in the literature while few of them clearly indicate the integration of the lifecycle processes with stakeholders. In this research, a conceptual stakeholder identification and analysis framework is proposed by which stakeholders are analyzed within different service lifecycle stages. It is believed that this method can offer the researchers in the community further insight into service lifecycle management from the stakeholder's perspective.

Keywords: Lifecycle, Management Service, Problem Articulation, Service Oriented Architecture (SOA), Stakeholder Analysis

DOI: 10.4018/ijwsr.2014010102

INTRODUCTION

Nowadays a large number of diverse information systems have been developed and employed to support organizations to improve business efficiency by helping manage business process (Archibald, 1975; Denning, 1999; Jessup, Valacich & Wade, 2003; Kroenke, Bunker & Wilson, 2012). With the development of information technology, especially the convergence of internet technology and business applications, information systems are becoming more and more complicated since an information system not only includes the information and communication technology that an organization uses, but also refers to how users interact with the technology.

Under the double drives of the market demand and the technology development service oriented architecture (SOA) has been proposed and widely lauded as an innovative business oriented solution. SOA allow organizations to use "service" or "process" as a common language, which makes IT and business people to clear about what is at the top of organizational needs through communication and exchange with each other (Carter, 2007). Meanwhile, organizations can use SOA's plug-and-play interoperability to orchestrate atomic services into higher level complex services, which serves the needs of dynamic business processes (Bichier & Lin, 2006; Huhns & Singh, 2005; Yu & Lin, 2005).

Basically, the implementation of SOA based systems lines in the provision of a set of loosely coupled services. A service can be generally considered as self-describing and open components which encapsulate and implement certain business logic for invocation by internal or external partners through well defined interfaces (Papazoglou & Georgakopoulos, 2003). Built upon services, SOA is able to help organisations understand the quickly changing business environment, thereby meeting the requirement of developing flexible and reconfigurable systems.

Though service oriented computing has shown its potential, some challenges are still

open to drive future development to provide scalable, reliable, and efficient services, among which service lifecycle management is a notable one and of great interest due to its importance in achieving the promise of SOA solutions. Service lifecycle management mainly studies the development and delivery of a service to improve its manageability (Schepers, Iacob & van Eck, 2008; Varadan et al., 2008), as such it is an essential part of service governance for overseeing and controlling the adoption and implementation of a service to reflect certain business processes and functionalities (De Leusse, Dimitrakos & Brossard, 2009; Hassan-zadeh, Namdarian & Elahi, 2011; Papazoglou et al., 2007).

Service lifecycle management is crucial to achieve higher quality and enhance the autonomy and heterogeneity of SOA based systems (Vambenepe et al., 2007). As such it has been attached much importance and different definitions and explanations can be found in the literature. However, most of the proposed approaches attained the focus on the division of processes within the service lifecycle in very abstract level, and furthermore few of them indicate the clear relationship between stakeholders and lifecycle stages (Gu & Lago, 2007).

Generally a SOA based system has different stakeholders and they will probably have their own viewpoints on its scope and capacity from different perspectives. The failure of stakeholder management is one of the decisive factors for software project failure (Freeman & McVea, 2001), not exceptive SOA based applications. It is believed that stakeholder analysis is also an intrinsic characteristic and one of the cross-cutting concerns in the service lifecycle management, which should be able to manage a continuous capability in a distributed setting to meet the demands from stakeholders (Kontogiannis et al., 2007). Therefore, sufficiently addressing the issues related to the stakeholders integration throughout a service's whole lifecycle phases has been considered as an essential task and a fundamental research question (Niemann et al., 2009).

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