

# Chapter 26

## Using Ontological E–Services Framework to Orchestrate E–Business Process Services

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### ABSTRACT

*The Internet has come a long way over the past twenty years, and many Internet-era enterprises have had to face daunting challenges while trying to create innovative business models. Many types of Internet interactions can facilitate networking (e.g., The Web, Web services). Since the advent of the Internet, service requesters and service providers have generated diverse electronic services (e-services), and since 2003, many experts have proposed the concept of Web 2.0. People rely on Internet e-services to execute activities and meet requirements; however, e-services lack a standardization method for constructing and managing them. The current study presents a framework design and a comprehensive interface for e-service providers and requesters. The study adopts the concept of Web 2.0 by using Web services with related standards for developing the framework design. Specifically, the study uses semantic Web technologies to complete the construction of e-services. After that, Internet users can quickly and conveniently access the framework to obtain suitable e-services.*

### 1. INTRODUCTION

In the past, most services that enterprises provided rested on manual services (e.g., personnel's face-to-face assistance for customers). However, services nowadays have generally been upgraded through the e-commerce environment. Because enterprises have to handle electronic-service environments, they must constantly control the information with useful tools, often in globally competitive ways.

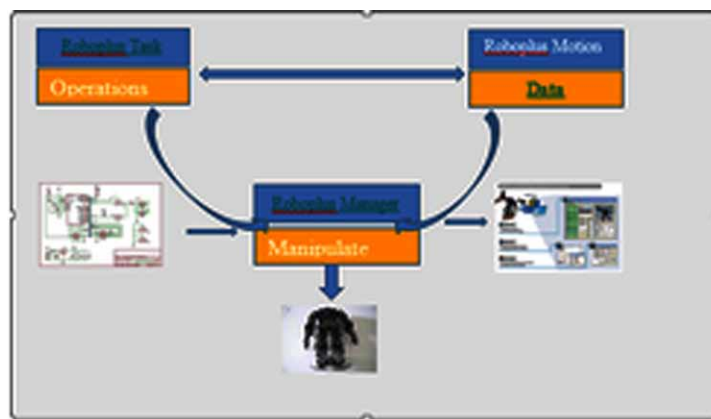
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Many enterprises face rapid global fluctuations and a high degree of competition. Enterprises must build a powerful information technology (IT) structure to face various operational conditions. Therefore, IT has evolved from being a critical success factor (CSF) to a key survival factor (KSF) Jung et al. (2007). In order to integrate information from enterprises' various stratified departments, the enterprises themselves should introduce capable information systems. Large-scale integration and use of unifying information systems can facilitate the sharing of knowledge within enterprises. For example, electronic data interchange (EDI) systems can quickly deliver data within enterprises. Although EDI can reduce labor costs and information-transmission time, EDI suffers from standard unconformities. For example, to deliver information with different specifications in different platforms is a significant source of wasted time in enterprises—that is, it is highly inefficient. Systems' response times constitute a CSF for enterprises' e-commerce services. Many enterprises, not surprisingly, are keen to acquire delivery systems that operate according to standardized, normal data formats resting on a heterogeneous platform. Hence, how to use standardized management techniques efficiently has become a substantial challenge for many enterprises. This study addresses the issue by adopting XML for data expression and Web services for the transmission of HTTP technology.

Figure 1 shows the basic processes of this research, wherein a management platform improves a given business-process architecture.

1. **Internal Processes:** Enterprises examine their internal processes to identify frequently used ones. This physical process can the efficiency of operations owing to IT architecture (e.g., salary settlements and punch clocks).
2. **External Processes:** Enterprises can survey relevant external processes and can perform processes to meet customer needs (e.g., opening a bank account and conducting credit checks for small loans).
3. **General Business-Process Management Platform:** Enterprises convert actions into information. Enterprises, using the electronic service pool of a general business-process management platform, can find processes that meet enterprise needs.
4. **Corporate Behavior:** Enterprises can use service-oriented architecture (SOA) for an established platform that provides service components capable of improving business processes.

*Figure 1. Improving business-process architecture*



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