Chapter 31
The Description and Relation of WS–CDL and BPEL

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ABSTRACT

WS-CDL (Web Service Choreography Description Language) is a language to describe multiple party how to work with together to accomplish a work in the context of SOA. BEPL (Business Process Execution Language) can get the same point, but they are from different view. WS-CDL is from a global view, which describes how multiple parties communicate with each other. BPEL is from a point of view of a single role who participates to manage the process of the work. Usually these two ways work together to describe and implement the business process. But WS-CDL has more advantages to achieve the most important goal of SOA-flexibility. So, W3C gives a suggestion to create an algorithm mapping from WS-CDL to BPEL; this chapter describes such a way to accomplish this.

1 INTRODUCTION

Business process management is a very important task in industry. Especially in SOA, services are in a very loose way. If enterprises want their groups work in a highly way, they must organize these materials in scientific ways. BPEL and WS-CDL are two languages to organize these services or compose the process.

In this paper, in the second session it shows you the categories of service of SOA and two ways to compose business process; in the third session, it gives an overview of BPEL and WS-CDL; in the fourth session, this paper through an example mapping from WS-CDL to BPEL to make you understand the relation between WS-CDL and BPEL.

DOI: 10.4018/978-1-4666-1975-3.ch031
2 BACKGROUND

2.1 Categories of Service of SOA

In whole SOA, services are divided into three categories: basic services, composed services and process services (Krafzig & Dirk, 2004). Basic services provide services which are simple and can’t divide into other simple services. Composed services are some basic services which compose according to certain business logic, so they are services that extend from basic service. The last kind of services is process services which are extended services from basic service too, but there are some differences between composed services and process services. The differences are as following: Composed services are working during a short period under some process logic and it can’t show any state to outside. While process services are under some process logic too, but it can work during a long period and when they work, they can show some states to outside so controller can manage it with these states.

2.2 Business Process Management and Business Process Modeling

Obviously, basic services are components of SOA and process services are the final product. Usually basic services are given; if enterprises want to achieve greater efficiency in the process they must pay more attention on the designing and implementation. From this point, business process design and management play an important role in the SOA. Commonly creating a process model can simulate the state of the real world. Business process modeling is a set of practices or tasks that companies can perform to visually depict or describe all the aspects of a business process, including its flow, control and decision points, triggers and conditions for activity execution, the context in which an activity runs, and associated resources (Bloomberg, 2006). Use BPM description language, enterprise can both describe and implement business process.

3 OVERVIEW OF BPEL AND WS-CDL

We can make business process modeling by abstracting business process, through make up the various conflicts and collision analysis can obtain a higher efficiency in the implementation and better allocated resources business process model. This article assumes that this model has been established and is ready to adopt a business process modeling language to achieve the business process automation.

3.1 The Position of BPEL and WS-CDL

Throughout the SOA, all of the information transmission is based on network protocol and its concrete realization is dependent on the other side XML to prepare a simple access protocol, through the WSDL to describe the service, and through UDDI to publish and discover services, and the entire services, flow control is by the BPEL or WS-CDL to control, so BPEL and WS-CDL was higher than web service, as it show in Figure 1.

3.2 Introduction of Orchestration and Choreography

For a clearer understanding of BPEL and WS-CDL position, you must first understand the two terms in the preparation of Orchestration and choreography. Orchestration and choreography are commonly used to describe the “composite Web services in two ways” term. Although they have something in common, still there are some differences. Web services orchestration refers to business processes undertaken by Web service