Workshop:
Service-oriented Architecture:
Implementation of Service-oriented Applications

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ABSTRACT

In today's business environment it is a necessity to support interaction between heterogeneous applications within and across organizational boundaries. Some of the characteristics of current and future business applications include the capability of supporting rapid integration, scalability, interoperability, and portability. Service-oriented architecture is being touted as the architecture that supports the aforementioned requirements of increasingly complex e-business infrastructure.

Service-oriented architecture (SOA) consists of a collection of services that communicate with each other. In SOA, services are used as the basic building blocks for developing applications. Services are defined as well-defined, self-describing, self-contained, and open components that support rapid and low-cost composition of distributed applications (Papazoglou and

Georgakopoulos, 2003). Use of Web services is the preferred approach for implementing service components in SOA. Web services are self-contained, web-enabled components that can implement business logic and interact with other services to accomplish a business process (Yang, 2003).

The purpose of this workshop is to present discussion regarding service-oriented architecture and demonstrate implementation of a service-oriented application using the IBM WebSphere Studio Application Developer. IBM's WebSphere Studio Application Developer IDE will be used to demonstrate development of an e-business application that utilizes the SOA as its foundation. This demonstration will entail development of an application based on n-tier architecture that uses Web services to implement the business logic layer. The proposed outline for this workshop is as follows:

1. Introduction

2. Service-oriented architecture (SOA)

    2.1. What is SOA?

    2.2. Importance of SOA in the current business environment?

    2.3. Benefits and limitations of SOA

    2.4. Implementation framework

3. Web Services

    3.1. What are Web Services?

    3.2. Discuss major components of Web Services

    3.3. Role of Web Services in SOA

4. Implementation of service-oriented application using IBM WebSphere Studio Application Developer.

References:

Papazoglou, M.P. and Georgakopoulos, D (2003). "Service-oriented computing," Communications of the ACM, 46(10), pp. 25-28.

Yang, J. (2003). "Web service componentization," Communications of the ACM, 46(10), pp. 35-40.

Note – IBM have "rebadged" this product as IBM Rational Application Developer. We will appropriately refer to the correct software name and version depending upon which software product is used for the workshop.