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## **Service Semantics, Structure, and Design**

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### **ABSTRACT**

Services are defined as immediate and one-time consumables, and they are characterized as interactions between the suppliers and consumers. Consequently, service semantics includes a formal description of services, and a formal description of the consumer goals and consumer tasks that utilize those services. A multi-dimensional ontology is suggested to capture the full semantics of services, and to separate it from their structure. The separation between semantics and structure allows describing bundles of services and service components independently of their structural relationships. Such multi-dimensional descriptions of services can be placed in universal directories to facilitate search, and component descriptions facilitate reuse of components to design and modify services dynamically. Finally, all organizations are characterized as collections of services for internal and external constituencies, and the formal semantics of services is suggested as a tool to develop a formal semantics for organizations. Possible solutions are suggested to many organizational issues, such as privacy, dissent, and organizational boundaries, by utilizing service bundling as a tool.

**Keywords:** Service Semantics, Service Search, Service Design, Organization Design, Multi-dimensional Ontologies, Service Bundling, Service Components