Behavioral Models as Service Descriptions

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ABSTRACT

Interface descriptions, while adequate for describing relatively simple or uniform functionality, are too abstract to properly describe entities as complex as e-commerce services or feature rich telecommunications services. The web services community has partially acknowledged this, as description languages like WSCL and OWL-S have enriched interface information with additional fragments of component semantics. In this paper, we naturally extend this progression by proposing that services be described by (abstract) executable specification behavioral models instead of, or in addition to, these other descriptive formalisms. Our argument is based on the observation that at least three capabilities, service discovery, validation, and execution monitoring, are enabled or fundamentally improved by this idea. In addition to overviewing OpenModel, our distributed modeling framework, as one possible basis for this approach, we also describe case studies that support our claims, and review the limitations of existing approaches.