

Capabilities: describing what services can do [★]

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Abstract. The ability of agents and services to automatically locate and interact with unknown partners is a goal for both the semantic web and web services. This, “serendipitous interoperability”, is hindered by the lack of an explicit means of describing what services (or agents) are able to do, that is, their capabilities. At present, informal descriptions of what services can do are found in “documentation” elements; or they are somehow encoded in operation names and signatures. We show, by reference to existing service examples, how ambiguous and imprecise capability descriptions hamper the attainment of automated interoperability goals in the open, global web environment. In this paper we propose a structured, machine readable description of capabilities, which may help to increase the recall and precision of service discovery mechanisms. Our capability description draws on previous work in capability and process modeling and allows the incorporation of external classification schemes. The capability description is presented as a conceptual meta model. The model supports conceptual queries and can be used as an extension to the DAML-S Service Profile.