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SEMANTIC WEB FOR ENTERPRISE DATA INTEGRATION AND SERVICE COMPOSITION

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ABSTRACT: Semantic Integration of data and application has been a long standing challenge. Making business decisions using data integrated from different heterogeneous sources is one of the primary problems facing enterprises even today. We look at how technologies like semantic web can be used to solve this problem. The Semantic Web is an emerging technology intended to convert 'documents' on the World Wide Web into 'knowledge' that can be processed by machines. While this is the vision of the future, the core technologies of Semantic Web can be used in many enterprise applications today. RDF, RDFS and OWL - the building blocks of Semantic Web - provide good models for knowledge representation to solve some primary problems in data and application integration. However, there are some good research challenges that require to be solved to enable practical use. As a case study, we describe our effort at using RDF to model enterprise management data, with a specific emphasis on the architecture and semantic specification of access control. We extrapolate this architecture to enable service composition and look at some new challenges that emerge due to that. The talk will give a brief introduction to semantic web (RDF and OWL) and describe an architecture for enterprise data integration and the associated research opportunities. In the second half of the talk, we explore the potential of semantic web to be the future core of platforms that enable seamless service composition on SaaS (Software as a Service) platforms.

SPEAKER BIO: Geetha Manjunath is a Master Technologist and a Senior Research Scientist at HPLabs, India. She comes with 18 years of research experience in System Software Design and Middleware Architectures. She joined Hewlett Packard in 1997 and ever since worked on research elements of Embedded Java Virtual Machine, System solutions around wireless access points, Grid Computing, Storage Virtualization and Sensor Middleware infrastructure. Before joining HP, she was at Centre for Development of Advanced Computing (C-DAC), Bangalore for 7 years – where she lead a research team to develop parallel compilers for distributed memory machines. Her broad areas of interests are in semantic web, programming environments and distributed computing. Her current focus is to explore use of ontologies within enterprise applications. She is a gold medalist from Indian Institute of Science where she did her Masters in Computer Science in 1991 and currently registered for the PhD program. She has the TR Shammanna Best Student award for 1989 from Bangalore University. She holds 4 US patents.