Special section on The Semantic Web and Science Data Interoperation

Introduction

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In practically every scientific discipline today, scientists access a number of online sources that provide information and services in that domain. Currently available methods and capabilities for searching, locating, retrieving, querying, and integrating scientific data from multiple online sources are inadequate for scientists who still use collections of standalone sources. There are several efforts in progress on applying Semantic Web technology for data retrieval and task integration in scientific domains such as integrating geospatial data, integrating bioinformatics sources and services, and integrating geosciences data, earth science information sources, and medical informatics data sources.

Such efforts on providing intelligent integrated access to large, distributed, and heterogeneous collections of science data and services are a very important step in realizing the revolutionary vision of enabling collaborative science activity, such as that envisioned by the e-science

and the semantic grid (use and exploitation of Semantic Web technologies in grid computing environments) initiatives.

In this JDL issue, we are pleased to present a special section on “The Semantic Web and Science Data Interoperation”. The first paper, by Pouchard et al., describes scientific data discovery for the earth sciences in the context of data grids and grid computing. The second paper, by Anastasiadis et al., examines a (widely deployed) data grid middleware system, looking at its functionality and examining its scalability.

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Guest Editors for the Special Section