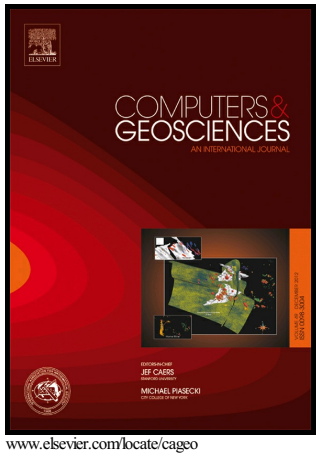
Grid Workflow Validation Using Ontology-Based Tacit Knowledge: A Case Study for Quantitative Remote Sensing Applications

Jia Liu, Longli Liu, Yong Xue, Jing Dong, Yingcui Hu, Richard Hill, Jie Guang, Chi Li



www.elsevier.com/locate/cageo

PII: S0098-3004(16)30515-5
DOI: http://dx.doi.org/10.1016/j.cageo.2016.10.002
Reference: CAGEO3847

To appear in: *Computers and Geosciences*

Received date: 19 March 2015
Revised date: 31 July 2016
Accepted date: 9 October 2016

Cite this article as: Jia Liu, Longli Liu, Yong Xue, Jing Dong, Yingcui Hu, Richard Hill, Jie Guang and Chi Li, Grid Workflow Validation Using Ontology-Based Tacit Knowledge: A Case Study for Quantitative Remote Sensing Applications, *Computers and Geosciences*, http://dx.doi.org/10.1016/j.cageo.2016.10.002

Grid Workflow Validation Using Ontology-Based Tacit Knowledge: A Case Study for Quantitative Remote Sensing Applications

Jia Liu[1,5], Longli Liu[1,5], Yong Xue[1,2], Jing Dong[3], Yingcui Hu[4*], Richard Hill[2], Jie Guang[1], Chi Li[1,5]*

[1]*Key Laboratory of Digital Earth Science, Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, Beijing 100094, China*

[2]*Department of Computing and Mathematics, College of Engineering and Technology, University of Derby, Kedleston Road, Derby DE22 1GB, UK*

[3]*China Institute of Water Resources and Hydropower Research, Beijing 100038, China*

[4]*Hebei Key Laboratory of Environmental Change and Ecological Construction, College of Resources and Environment Science, Hebei Normal University, Shijiazhuang, Hebei Province, China*

[5]*University of the Chinese Academy of Sciences, Beijing 100049, China*

{Email: yx9@hotmail.com}

[*]Corresponding authors.

Abstract:

Workflow for remote sensing quantitative retrieval is the "bridge" between Grid services and Grid-enabled application of remote sensing quantitative retrieval. Workflow averts low-level implementation details of the Grid and hence enables users to focus on higher levels of application. The workflow for remote sensing quantitative retrieval plays an important role in remote sensing Grid and Cloud computing services, which can support the modelling, construction and implementation of large-scale complicated applications of remote sensing science. The validation of workflow is important in order to support the large-scale sophisticated scientific computation processes with enhanced performance and to minimize potential waste of time and resources. To