Abstract

Cloud computing is a new benchmark towards enterprise application development that can effectively facilitate the execution of workflows in business process management systems. Workflow applications often require very complex execution environments that are difficult to create otherwise. Integration of the workflow management systems for application deployment with any of the cloud platforms is a tedious task. Therefore, various cloud services are required to execute workflows along with workflow management software in cloud environment. In this paper, a comparative analysis of workflow design approaches has been discussed. This paper presents the challenges for implementing workflows in cloud computing and state of the art of the workflow design along with a comparison of various workflow engines available. Design of workflow for a real time application has also been discussed with the help of a case study. The experimental results demonstrate how workflow for enterprise applications can be designed, validated, implemented and deployed on any major cloud infrastructures.

References

- A. V. Parameswaran, A. Chaddha, 2009, Cloud Interoperability and Standardization,
Design and Deployment of Workflows in Cloud Environment

- R. Sakellariou and H. Zhao, 2004, A Hybrid Heuristic for DAG Scheduling on Heterogeneous Systems, The 13th Heterogeneous Computing Workshop (HCW 2004), Santa Fe, New Mexico, USA.
- W. M. P. Van der Aalst, L. Aldred, M. Dumas, et al., 2004, Design the 16th International Conference on Advanced Information Systems Engineering (CAiSE 04), Riga, Latvia.
- Ian Taylor, Pegasus workflow management system, Available at http://pegasus.isi.edu/cloud/[Last accessed july 2012]
- Trial version of orangescape, Available online at https://www.orangescape.com/[Last accessed June 2012]
- Cascading workflow, Available online at http://www.cascading.org/[Last accessed June 2012]
- Yahooos workflow engines for hadoop, Available online at http://yahoo.github.com/oozie/[last accessed June 2012]
- Dr. Mark Klein, Prof. Chrysanthos Dellarocas, 2000, A Knowledge-Based Approach to

Index Terms

Computer Science | Cloud Computing

Keywords

Workflow | Workflow Engines | Cloud Computing | Workflow Management System