Towards cross-layer monitoring of cloud workflows

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Abstract. Prospective cloud management requires sophisticated monitoring capabilities. In this paper, we introduce a novel monitoring framework for cloud-based workflow systems called cWorkload. cWorkload integrates monitoring information from different layers of the cloud architecture. The paper puts its focus on the two-layer monitoring regarding the workflow layer and the PaaS layer. We present the layered monitoring architecture, an implementation of the two-layer cross-monitoring part, and an experimental evaluation with sample workflow data. Further, we discuss related work on cloud monitoring divided into one-layer, multi-layer, and cross-layer approaches. Our plans for future work on extending the implementation by further layers towards a cross-layer, prospective monitoring for prospective cloud management are described. The original version of this re-submission has been published at CLOSER 2015 [Kübler and Minor, 2015].

Keywords: Cloud Management, Cloud Monitoring, Workflow Management, Case-Based Reasoning

References

[Kübler and Minor, 2015] Kübler, E. and Minor, M. (2015). Towards cross-layer monitoring of cloud workflows. In *Proceedings of the 5th International Conference on Cloud Computing and Services Science (Accepted for publication)*, pages 389 – 396, Lisbon, Portugal. SciTePress.