CloudML - A DSL for model-based realization of applications in the cloud

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Abstract

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Contents

1 Introduction (30)

1.1 Introduction

Short and sharps

- Main introduction
- Write lastly

1.2 Background

Explain some of the topics in my thesis.
Here it is possible to introduce case study (BankManager) to ease writing

- Find a new title, 'Background' is too plain
- What is cloud computing and IaaS
  - Summarize nist definition of cloud
  - Short description of AWS
  - Short description of Rackspace
- What is model-based engineering and benefits.
  Core concepts

1.3 State of the Art in Provisioning

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Evaluation of existing solutions
What have others done for multicloud provisioning
Even more examples in mOSAIC articles

- Identify *properties* (problems in reality)
- Find more sources
- Model driven
  - Amazon CloudFormation
  - CA Applogic
- APIs
  - libcloud
  - jclouds
  - Deltacloud
- Deployments
  - Amazon Beanstalk
  - simplifying-solution-deployment-on-a-cloud-through-composite-appliances
  - architecture-for-virtual-solution-composition-and-deployment

1.4 Problem definition with examples

- Outline the problem
  - Information dependency at runtime
  - Technical competence/level expectations
  - Reproducibility
  - Robustness
  - Complexity
  - Shareable
- Why is it important to solve the problems
  - Cloud domain is state of the art
  - model driven approach with benefits (no special tooling)
  - Easier for businesses (especially SMBs) to reach out to Cloud
  - Easier for larger more time-constraint businesses to try out the cloud
  - Opening the eyes of big providers for a larger cross-cloud language

1.5 Requirements to solution (with table)

- Copy in my existing table from the essay
  Requirements = challenge = problem?

2 Contribution (40)

2.1 Vision, concepts and principles

2.2 Analysis and design - CloudML

- Copy chap 3 from CloudMDE
- Weaknesses

2.3 Implementation/realization - cloudml-engine

- More info than CloudMDE
- Technologies chosen
- Why technologies were chosen

2.4 Validation on example/experiments - BankManager

- How BankManager proves concepts of the templates (subsection 1) with cloudml-engine

3 Conclusions (20)

Short and sharp

- Summary of CloudML
  - What subsection in solution solves what subsection in problem
- CloudML
- Implementation
- Perspectives (2 paragraphs, can be section)
  - Look into the future
    - Deployments
  - short term
  - long term

Bibliography

Appendix (CloudMDE)

(Maybe)