Open Service Compendium

13/05/2014 | Service-centric Networking | Internet of Services Project 2015
1. Project Overview
2. Vocabulary selection and description
3. Front end
4. Integration of the matchmaker
Project Overview

The issue: Cloud service selection

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| Software Free Trial         |          |          |          |
| Free Trial (67)             |          |          |          |

| Delivery Method             |          |          |          |
| Amazon Machine Image (154)  |          |          |          |
| CloudFormation Stack (22)   |          |          |          |
| SaaS (14)                   |          |          |          |

| Average Rating              |          |          |          |

| Load balancer (168 results) | showing 1 - 10 |          |          |

**Barracuda Load Balancer ADC - BYOL**
- ★★★★★ (1) Version 5.1.1.004 | Sold by Barracuda Networks, Inc.
- Bring Your Own License + AWS usage fees
- The Barracuda Load Balancer ADC is ideal for organizations looking for a high-performance, yet cost-effective application delivery and security solution. The Barracuda Load ...
  - Linux/Unix, Other 3.4.11 | 64-bit Amazon Machine Image (AMI)

**F5 BIG-IP Virtual Edition 200Mbps Best**
- ★★★★★ (1) Version 11.6.0.4.0.420-HF4 | Sold by F5 Networks
- $2.50/hr or $13,797/yr (37% savings) for software + AWS usage fees
- The BIG-IP Virtual Edition (VE) is the industry-leading application delivery services platform that ensures your business critical applications and network is fast, available, ...
  - Linux/Unix, CentOS 6.4 | 64-bit Amazon Machine Image (AMI)

**Citrix NetScaler VPX Standard Edition - 1000 Mbps**
- ★★★★★ (1) Version 10.5-55.8 | Sold by Citrix Systems, Inc.
- $1.95/hr or $7,905/yr (54% savings) for software + AWS usage fees
- Citrix NetScaler is an all-in-one web application delivery controller that makes applications run five times better, reduces web application ownership costs, optimizes the ...
  - Linux/Unix, FreeBSD 6.3 | 64-bit Amazon Machine Image (AMI)
The solution: Open Service Compendium

• Gather information about cloud services and their features
• Independent, up-to-date, relevant comparisons
• Matchmaking
The division of tasks

• IaaS Vocabulary & Descriptions
  – Najeefa, Ceren, Machi
• Broker extensions, e.g., AngularJS - Interface
  – Henning, Mehdi, Jonas, Kamran
• Ilke’s Matchmaking-Component integration
  – Julien
Vocabulary Selection and Description
Introduction

• Capture IaaS vocabulary pertinent to business
• Formalize cloud service description

Why?

• Increasing number of cloud services
• No research yet on easy to use/simple methods of cloud service selection
• No research targeting the real needs of SMEs
Methodology and Tools

• First, find existing research articles, papers, websites, blogs e.t.c. on cloud service selection criteria

• Extract most important features used for service assessment

**Tool:** Zotero
Methodology and Tools

• Formally describe IaaS services

Tools:

• SDL-NG (Service description language-next generation) framework. Ruby based domain specific language (DSL)

• Web Service Modelling Ontology for the Internet of Services (WSMO4IoS)

• Linked-USDL

• Both too expensive and complex. The extension of both languages requires specialists

• SDL-NG is simpler, easier, more cost effective

• “It can integrate existing sources of information e.g. html documents and thus reduce redundancy”
FRONT-END
Introduction
AngularJS

Why?

• Data Binding and Dependency Injection.
• MVC done right
• Extends HTML
• It was developed by Google 😊
Methodology and Tools

YEOMAN

Why ?

• Scaffolding
• Best Practice
• Yeoman workflow
INTEGRATION OF THE MATCH MAKER COMPONENT
The Cloud Service Marketplace offers a great number of services.

The user needs to find out, which service best satisfies his needs.

The match maker solves this problem.
State of art

- How good a service fits the needs of a user can be determined by comparing the user’s requirements with the service’s features

- The result of this evaluation is called “Quality of Service (QoS)”
State of art

- The match maker uses constrained based programming.
- Implemented by Ilke.
- Implemented in Java.
The actual problem

How to include a JAVA component in a webpage?
Approach A: Java Applet

Pros:

• Fairly easy to implement
  
  ```javascript
  var result = matchApplet.getResult(param);
  ```

Cons:

• Blocked by default in many browser
• Potentially poor overall browser support (partly due to security issues)
• Risk, that user ignore not loaded applet instead of loading it
Approach B: Java Server with Rest API

Pros:
• flexible, encapsulated, reusable and extendable solution
• clearer structure
• more to learn for me

Cons:
• more complex to implement
Next Steps

1. Figure out how to use Java Servlets and Java Server Pages

2. Design and implement a Rest API

3. Negotiate with other team members you to include the match maker API calls in new the Ember.js frontend
THANK YOU!