## OPSTARTVERSLAG Academiejaar 2017 - 2018

AT , E-ICT , EMA , EMK , EMO , OP

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Titel bachelorproef

***Utilize Docker container and Selenium Grid technology to improve resource efficiency in the runtime of a Software Deployment & Testing Framework (SDTF).***

**(definitieve)**

VASCO Data Security

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**GEGEVENS Bachelorproef**

**Omschrijving Probleem**

VASCO’s software deployment and testing framework (SDTF) runs on a windows test control host. Migrating it to a microservice based architecture using docker containers would reduce the amount of resources required to run the framework and the test running on it. This would lead to a more cost-effective system as it removes the need to virtualize the operating systems on V-Cloud.

**Doelstellingen van de bachelorproef (kwantitatief en moeten meetbaar zijn)**

Define a deployment architecture for the SDTF and dependent test resources to:

* Utilize Docker container technology (i.e. microservice architecture) in its runtime
* Utilize Selenium Grid technology in the execution of web-based test suites

In addition the thesis would need to:

* Define the impacted test suites
* Document the changes to the affected test suites.
* Migration of the existing suites to the defined architecture
* Working demo running these suites on VASCO’s test infrastructure

The conclusion should document

* The advantages and disadvantages of the proposed changes
* Include a discussion on the difficulties encountered with the solution/technologies
* Quantify the proposed solution’s impact in terms of saved resources

Stretch goals could include

….

The subsequent goal is to measure the impact this has on the resource usage of the set up as a whole and quantify how many more tests can be run in parallel using this framework as opposed to the current way of running everything in VMs on V-Cloud.

**Gewenste resultaat (Wat moet er (minimaal) opgeleverd worden?)**

Minimum:

Selenium grid

SDTF

Multiple test suites that are able to be run in parallel (from webadmin)

Quantify the impact on the resource implementing this

Ideal:

BuildIntake test suite

Radius clients in containers (or is this minimum?)

Document which test suites need to be modified (and how they need to be modified?) to make them compatible with this new architecture.

Load balancing: start to deploy sdtf containers on a second machine when the first gets saturated. (is this useful? End goal is deployment on cloud)

Stretch:

Internet Explorer in a selenium node as a container.

**Opmerking :** alle bijzondere kosten gemaakt buiten het bedrijf en/of hogeschool, evenals de verplaatsingskosten zijn ten laste van de student, tenzij anders overeengekomen.

In het bedrijf is er (\*) ~~familie~~ / (\*) **geen familie** van de student die deel uitmaken van de begeleiding van de student.

(\*) Doorhalen wat niet van toepassing is.

**Opgemaakt te** **op**

**Handtekeningen :**

Bedrijfspromotor Schoolpromotor Student 1 Student 2

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