

AN EFFICIENT HAPROXY LOAD BALANCING IMPLEMENTATION USING RASPBERRY PI 3 MODEL B TO SUPPORT HIGH AVAILABILITY OF THE WEB SERVICE

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ABSTRAK

In this era, Internet of Things (IOT) is growing fast. It is because of the flexibility and efficiency of IOT devices. IOT devices are usually implemented in many areas such as supporting home activities, used in the government organisation or even for making complex things in enterprises. In this study will produce a kind of load balancing implementation using HAProxy load balancing software which is implemented in two Raspberry Pi 3 model B(s) to change the current habits, because usually HAProxy is deployed in Server(s)/PC(s). There are several testing phases after the deployment is done, such as comparing two algorithms which consist of round robin algorithm and least connection algorithm which is conducted in performance testing phase. This is the way to measure which is the best algorithm that suits with Raspberry(s) specification. In the next phase, availability testing is conducted to measure the time needed for failing over the network traffic whilst one of Raspberry is offline. After that, the next testing parameter is about efficiency testing. Efficiency testing has a functionality to measure the energy which belongs to electricity consumption over the Raspberry(s). When all of the test results are done, the results as well as all of the costs needed for Raspberry(s) will be compared to the prepared HAProxy PC(s) load balancer in order to know the gaps between both of them and also to identify pros and cons while changes the PC(s) load balancer with Raspberry(s) load balancer.

Kata Kunci : IOT, load balancing, HAProxy, Raspberry, PC

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ABSTRACT

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