Analisis performansi sistem informasi tur virtual laboratorium departemen Teknik Elektro Universitas Indonesia pada traditional hosting dan cloud hosting paas = The performance analysis of information system of virtual tour laboratory of electrical engineering department in traditional hosting and cloud hosting service

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Abstrak

Perkembangan teknologi informasi saat ini sudah mengalami kemajuan yang sangat pesat, hal itu memicu pengembangan aplikasi yang memanfaatkan sistemacloud computing karena lebih efisien dalam pengeluaran biaya dan sumber daya yang digunakan. Pada penelitian ini dilakukan pengujian performansi SITUR-LAB yaitu sebuah aplikasi web yang berupa tur virtual yang dibandingkan dengan traditional hosting dan dua layanan cloud computing menggunakan provider Google App Engine dan Appfog dengan memanfaatkan layanan PaaS (Platform as a Service). Ujicoba yang dilakukan berupa metode GET yaitu pada saat pengguna hanya mengakses halaman utama dari aplikasi, performansi pada SITUR-LAB pada layanan Appfog lebih baik dibandingkan dengan traditional hosting maupun Google App Engine.
Pada traditional hosting yang menggunakan layanan idhostinger, hit rate sebesar 1,8% (518 request), error sebesar 98,12% (28250 request), dan timeout sebesar 0,08 (23 request) dengan rata-rata response time sebesar 1148 ms. Pada cloud computing yang menggunakan layanan Google App Engine, hit rate sebesar 85,45% (16338 request), error sebesar 0% (0 request), dan timeout sebesar 14,5% (2782 request) dengan rata-rata response time sebesar 414 ms. Pada cloud computing yang menggunakan layanan Appfog, hit rate sebesar 96,79% (22366 request), error sebesar 3,20% (739 request), dan timeout sebesar 0,01 (3 request) dengan rata-rata response time sebesar 273 ms.
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The development of information and technology today has increased rapidly. It triggers the development of applications that use cloud computing system because it’s more efficient in cost and resource. This research tests the performance of SITUR-LAB, a web application that is a virtual tour, that compared with a traditional hosting and two provider of cloud computing, using Google App Engine and Appfog by utilizing the PaaS (Platform as a Service). Test were conducted in GET method, when users only access the main page of the application. Performance of SITUR-LAB in Appfog service is better than traditional hosting and Google App Engine.
In traditional hosting that use idhostinger as the service, it has 1,8% (18 request) of hit rate, 98,12% (28250 request) of error, and 0,08% (23 request) of timeout, with 1148 ms as the average of response time. In cloud computing that use Google App Engine as the service, it has 85,45% (16338 request) of hit rate, 0% (0 request) of error, and 14,5% (2782 request) of timeout, with 414 ms as the average of response time. In cloud computing that use Appfog as the service, it has 96,79% (22366 request) of hit rate, 3,20% (28250 request) of error, and 0,01% (3 request) of timeout, with 273 ms as the average of response time.