The Cost of Migrating DBMS from a conventional environment to Virtual Machines

أسماء المشتركين فى البحث :

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ملخص البحث باللغة الانجليزية

Virtualization becomes a very common solution in enterprise and small systems. Therefore, virtualization decreases financial costs and decreases system administration efforts. Also virtualization has been proven to be one of the most efficient approaches to implementing highly available systems.

One of the most common software systems deployed in virtualized environments is Database Systems. The key reasons behind these migrations are the great flexibility regarding database administration tasks and also the high availability that virtualized systems offer, which is a very critical factor for some database systems, so it is important to understand the cost of migration from a conventional environment to a virtualized one. In this paper we present an experimental study of the overhead of DBMS migration from a conventional environment to a virtualized one, we use TPC-H Benchmark to calculate this overhead. We show that the average overhead can be around 7% for normal DBMS operations and 97% for fetching data directly from the external disks and we also present details of the different causes of this overhead. Our study shows that for normal DBMS operations the benefits of virtualization come at an acceptable cost.