TITLE

Evaluating Cloud Elasticity of an 3-Tier Application with Experiments and Simulations

ABSTRACT

One issue with cloud computing is to determine the type and number of virtual machines (VM) needed to efficiently run an application. It is a very challenging task as it involves the application profiles but also VM profile. That is why a popular solution is to run many experiments on Clouds. Not only deploying the benchmarks is a complex task, but it is also very expensive in time and money. An alternative is to rely on cloud simulators, whose integrate public cloud profiles through analytic models.

As an example, this talk focuses on the evaluation of the cloud elasticity of Rubbos, a 3-tier application benchmark that simulates a CMS like Slashdot. To this end, SGCB, a Cloud simulator that in particular implements the whole EC2/S3 API, and Grid'5000, an experimental testbed (Hardware-as-a-Service) will be used to drastically reduce the experimental cost and time.

BIO:

Dr Christian Perez is an Inria research. He is leading the Avalon research team at LIP (Lyon, France), a joint team between Inria, CNRS, ENS Lyon, and the University Lyon 1. Avalon deals with energy consumption, data management, programming model, and scheduling of parallel and distributed applications on Clouds and HPC systems. His research topics include parallel and distributed programming models, application deployment, and resource management. He is leading the Inria project laboratory Héméra that gathers more than 20 French research groups to demonstrate ambitious up-scaling techniques for large scale distributed computing on the Grid'5000 experimental testbed. He also participates to FP7 PaaSage project, the French ANR MapReduce and Moebus projects, and to the INRIA-Illinois-ANL joint Laboratory on Petascale Computing.