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Modelling Cloud Cost and Performance:
A comparison of Cloud cost and performance across Amazon EC2, Google App Engine, and Microsoft Azure platforms

Paul Brebner
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Abstract: Architecting enterprise applications for successful deployment in the Cloud is a challenging undertaking. Cloud computing claims to offer benefits in terms of cost and elasticity under some situations, but it may also introduce significant risks in areas such as latency and security which need to be carefully managed. Building workable cloud applications therefore requires in-depth insight into the architectural and performance characteristics of each cloud offering, and the ability to reason about performance/cost/benefit tradeoffs and to evaluate alternative application designs and deployments.

NICTA has developed a Service Oriented Performance Modeling technology for modeling the performance and scalability of service oriented applications architected for a variety of platforms. Using a suite of cloud testing applications we conducted in-depth empirical evaluations of a variety of real cloud infrastructures, including Google App Engine, Amazon EC2, and Microsoft Azure. The results from these experimental evaluations, and from other public/published data, have been combined with the modeling technology to predict the resource requirements, resource cost, application performance, and limitations of a realistic cloud-hosted application for different deployment scenarios.

Paul Brebner

Paul Brebner has more than 25 years experience in computer science and software development, with experience in diverse areas such as enterprise architectures and technologies, middleware, object orientation and Java, web and service orientation, distributed systems development, knowledge based systems, and software process improvement.

Paul is currently with the NICTA e-Government initiative based in Canberra.

Paul is leading NICTA’s work on modelling large-scale, complex enterprise systems typically found in the government, health, and financial sectors.

DETAILS
Date: Monday 19 July 2010
Time: 4pm - 6pm (with refreshments)
Venue: Industry & Investment NSW
Hamilton & Parkes Rooms, Level 47,
MLC Centre, 19 Martin Place, Sydney NSW 2000
RSVP: crlevents@nicta.com.au

AGENDA
4.00 - 4.15pm Registration and welcome
4.15 - 5.00pm Presentation by Paul Brebner
5.00 - 6.00pm Discussion, refreshments and networking