



Please join us for this special NICTA and ACS event -

Paul Brebner

Senior Researcher, Canberra Research Laboratory, NICTA

Presents

“Virtualisation technology in an SOA environment - it may be green and agile, but do you understand the risks?”

Paul Brebner

<http://www.nicta.com.au/people/brebnerp>

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 project based in Canberra. He previously worked for CSIRO (1996-2006): in the ICT Centre (2005-2006), the Software Architectures and Component Technologies project (1999-2003), and the Software Engineering Initiative (1996-1998). In 2004, Paul was a visiting research fellow at University College London (UCL), managing an EPSRC OGSA (Grid) evaluation project.

Within NICTA, Paul is leading our research and development activities into technologies for understanding and modelling large-scale, complex enterprise systems typically found in the government, health, and financial sectors.



Abstract: Server Virtualisation is driven by the goal of reducing the total number of physical servers in an organisation by consolidating multiple applications on shared servers. Expected benefits include a higher average server utilisation, reduced electricity consumption, and a decrease in green house gas emissions. However, a Service Oriented Architecture (SOA) combined with Server Virtualization significantly increases the risk of saturation and Service Level Agreement (SLA) violations. This seminar addresses the management of performance risk associated with SOAs and Server Virtualization through the use of a novel technique known as Service Oriented Performance Modelling.

Since 2006 NICTA has been developing a technology for the performance modelling of large scale heterogeneous Service Oriented Architectures. This technology includes a methodology and tool support to enable performance models of SOAs to be rapidly developed in terms familiar to enterprise architects. The executable performance model interactively simulates SOAs deployed on specific physical resources to compute metrics to predict SOA performance and scalability. The technology has been empirically trialled, refined and validated with collaborating Australian Government agencies to address critical performance risks with different technology stacks. Many government SOAs are developed, tested and deployed on virtualized hardware, and we have developed the capability to model the performance of SOAs deployed on virtual servers.

In this presentation we provide an overview of NICTA's performance modelling approach, and then explore a number of alternative deployment scenarios for an example SOA application – an emissions trading system. Our modelling approach provides insights into the capacity, resource requirements, and carbon emissions for different deployment options of this example trading system, including fixed servers, server virtualization, and computing on demand (cloud computing using Amazon EC2). We conclude with an overview of other potential problems and benefits of virtualization in an SOA context.

DETAILS

Date: Thursday 26th February 2009
Time: 4pm–6pm (with refreshments)
Venue: Ground Floor Seminar Room,
Tower A, 7 London Circuit,
Canberra ACT 2601
RSVP: Friday 20th February to
acscanb@acslink.net.au

AGENDA

4:00pm–4:15pm Registration and welcome
4:15pm–5:00pm Presentation by Paul Brebner
5:00pm–6:00pm Discussion, refreshments,
and networking