



Application Scalability by the Numbers

5–6 November 2008

Presenter: Dr. Neil J. Gunther

Melbourne VIC

Teaching Arrangements:

The course will be conducted from 9.00am to 5.00pm. Morning tea will be available at approximately 10.00am to 10.30am, lunch from 12.30pm to 1.30pm and afternoon tea at approximately 3.00pm to 3.30pm.

Registration Fee: AU\$1320
(including GST and 1 textbook)

Group and PhD student discounts available. Please enquire.

How to Register

To register fill out the registration form (overleaf) and fax it to +61-8-8302-3115 or scan and email it to industryeducation@nicta.com.au.

Cancellation Policy

At least **4 weeks** notice is required for cancellation of a place in a short course for full reimbursement. If cancellation is later than 4 weeks then the place can either be given to another person or the registrant can be provided with a credit towards other NICTA training.

For details of further courses please see our web site:
www.nicta.com.au/short_courses
or contact the NICTA Industry Education Manager.

About this Course

Application scalability is a perennial hot topic. This year's JavaOne conference, for example, included presentations on caching, collocation, "parallelization," and pooling, all aimed at achieving better application scalability. Such How-To's are good to know but they are only qualitative descriptions. If you can't measure it, you can't manage it. How can the impact of such How-To recipes be quantified?

This question is taking on renewed significance in light of the industry rush toward multi-tier applications running on multi-core servers. Such haste has also led to a number of very public embarrassments at Twitter.com, Cuil.com, Apple iStore and Google Gmail. Highly scalable applications are also desirable for lower development cost, higher availability, simpler maintenance, flexibility and heterogeneity. Amazon.com CTO, Werner Vogels, has stated: "Scalability is hard because it cannot be an after-thought. Good scalability is possible, but only if we architect and engineer our systems to take scalability into account." This **2-day** course will show you how.

The material presented is technical but entirely self-contained, with the appropriate mix of theory and practice using detailed case studies. No previous background in performance analysis is assumed and there are no prerequisite courses. All the necessary materials will be supplied but you are encouraged to bring your laptop.

Target Audience: The course is aimed at practicing application developers, system architects, software engineers, performance engineers, QA engineers, capacity planners and their respective managers; whether in a mainframe or open-system environment.

Brief Course Outline

- Day 1**
 - Review of classical scaling laws due to Amdahl and Gustafson, and their limitations when applied to multiprocessors and multicores.
 - Review of statistical methods including ANOVA and multivariate regression using Excel, R and Mathematica.
 - Quick introduction to queuing theory for those who can't wait.
 - Introduction to the generalized *Universal Scalability Law* (USL) with sample applications.
- Day 2**
 - Applying the USL to *WebSphere* benchmarks.
 - Quantifying scalability for web-based CRM and middleware applications measured on test rigs using tools like HP-Mercury's *LoadRunner* and Microsoft's *Web Application Stress* tool.
 - Analysing scalability data from a major, multi-tier, web site in the USA.
 - Scalability analysis of *VMware* and *WebLogic* virtualized servers.

Textbook: Each attendee will receive a copy of Dr. Gunther's book *Guerrilla Capacity Planning: A Tactical Approach to Planning for Highly Scalable Applications and Services*.

About the Presenter

Neil Gunther is an internationally recognized IT consultant who founded Performance Dynamics in 1994. He holds an M.Sc. in Applied Mathematics (La Trobe University), and a Ph.D. in Theoretical Physics (Southampton University, UK). Prior to starting Performance Dynamics, he held teaching, research and management positions at San Jose State University, JPL/NASA, Xerox PARC and Pyramid/Siemens Technology. His training classes have been given world wide at both corporate and academic institutions including AOL.com, Boeing, FedEx, Motorola, Nokia, Stanford University and Sun Microsystems. Dr. Gunther has written several books on performance analysis and capacity planning as well as many papers on the same subjects. He is a member of the AMS, APS, ACM, CMG, and IEEE.

About NICTA and Short Course Program

National ICT Australia (NICTA) is Australia's ICT Centre of Excellence and was established to drive innovation through high quality research, research training and technology transfer. As a world-class research institute NICTA uniquely combines excellence in research, education, commercialisation and collaboration. We are working to ensure that Australia is well placed to benefit from the significant opportunities that ICT research delivers.

NICTA is funded by the Australian Government as represented by the Department of Communications, Information Technology and the Arts and the Australian Research Council through *Backing Australia's Ability* and the ICT Centre of Excellence program. NICTA members are the Australian Capital Territory Government, the New South Wales Government, the University of New South Wales and the Australian National University.

NICTA short courses offer scientists, engineers and managers technical training with a leading edge in areas such as telecommunications, transport, security, defence, logistics, e-government, mining, finance and biotechnology.

There will be ample opportunities for discussion and questions and answers. Morning and afternoon tea/coffee and a light lunch will be provided. Extensive workshop materials will be made available to participants.

How to register

Please complete the registration form below and

- Fax it to +61-8-8302-3115 or
- Scan and email it to industryeducation@nicta.com.au.

Send the form as soon as possible to secure your place.

For further information please contact
Anne-Marie Eliseo
Industry Education Manager
Telephone: +61-8-8302-3928
Email: anne-marie.eliseo@nicta.com.au

Registration Form and Tax Invoice* ABN 62 102 206 173

*Upon completion of this form, including the relevant payment, this form will become a Tax Invoice.

Please register me for Application Scalability by the Numbers on 5-6 November 2008.

PLEASE PRINT

Date: _____

Title: _____ First Name: _____ Surname: _____

Position: _____ Organisation/Division: _____

Postal Address: _____

Telephone No: _____ Facsimile No: _____ Email: _____

Dietary preference: _____

Course Fees: Full fee: AU\$1320 (incl. GST and 1 textbook)
(Register before Oct 21st, 2008.)

Method of Payment (please tick below):

Cheque (payable to National ICT Australia Ltd)

Forward the cheque and a copy of THIS registration form to:

Anne-Marie Eliseo, Industry Education Manager, NICTA, SPRI Bld, Mawson Lakes Boulevard, Mawson Lakes SA 5095, Australia.

Credit Card: Credit Card No.: _____ Expiry Date: _____

Visa Master Card Name on card: _____

Amount: AU\$ _____ Signature: _____ Tick if receipt required

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Electronic Funds Transfer

Please advise by email to Annette Van Bramer
annette.vanbramer@nicta.com.au
when payment is made

BANK	Commonwealth Bank of Australia
ACCOUNT NAME	National ICT Australia Limited
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- Send an email to comments@nicta.com.au or
- Phone NICTA's Industry Education Manager on +61 8 8302 3928.