



# AUUG 2002

**Measure • Monitor • Control**

**Tutorials: 1-3 September 2002**  
**Conference: 4-6 September 2002**

**Duxton Hotel, Melbourne**

**<http://www.auug.org.au/>**



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# GENERAL INFORMATION

## VENUE

Duxton Hotel, 328 Flinders Street, Melbourne, Australia

## REGISTRATION FEES

See the registration form on the last page of the brochure for full details.

## TUTORIAL REGISTRATION FEE

The Tutorial fee allows you to attend pre-selected tutorial sessions, receive your session notes, tea breaks and lunch for those attending the full day tutorials or two half day tutorials on the same day.

## CONFERENCE REGISTRATION FEE

The full registration fee covers attendance at all sessions, the Networking Reception, tea breaks, lunch on each day of the Conference, the Conference Dinner, the conference folder containing the conference final programme, delegate listing and a copy of the printed proceedings.

## SINGLE DAY CONFERENCE REGISTRATION FEE

The day registration fee covers attendance at all sessions for the day nominated, tea breaks, lunch on the day of the Conference attendance, the conference folder containing the conference final programme, delegate listing and a copy of the printed proceedings. It does not include the evening social functions.

## STUDENT REGISTRATION FEE

The Student registration fee covers attendance at all sessions for the day(s) nominated, tea breaks, the conference folder containing the conference final programme, delegate listing and a copy of the printed proceedings. It does not include lunch or the evening social functions.

## CANCELLATION POLICY

Cancellations received in writing after 16 August 2002 will forfeit 50% of registration fees. No refunds will be allowed past 28 August 2002, but substitutions will be accepted up to the beginning of the conference.

## ACCOMMODATION

A conference rate has been negotiated with the Duxton Hotel, Melbourne, being:

- \$125 (incl. GST) per night for a standard room, or \$140 including full buffet breakfast
- \$165 (incl. GST) per night for a corporate room, or \$180 including full buffet breakfast
- \$220 (incl. GST) per night including full buffet breakfast for a suite

Bookings are to be made directly with the Duxton Hotel, ph: (03) 9250 1888. Please quote that you are attending "AUUG 2002 Conference" and require this rate.

All rates are based on a per room per night basis and delegates are responsible for settling their own accounts on departure, directly with the Duxton Hotel. Please note: Any amendments or cancellations to hotel bookings must be made directly with the Duxton Hotel.

## CAR PARKING

Limited valet parking is available at the hotel at a special conference rate of \$20 per car.

Alternatively, Kings Parking next door to the hotel at 300 Flinders Street, offers the following rates:

- Early Bird \$15 - must arrive by 8am, and stay until after 3.30pm
- Full Rate \$24 - arrival after 8am

Car Park closes at 10pm

## TRANSPORT

The Duxton Hotel is located opposite Flinders Street Station, with ready access to trains, trams and buses.

## CONFERENCE REGISTRATION

The Registration Desk will be located in Vestibule Area on the Ground Level of the Duxton Hotel.

### Onsite Registrations will be handled at the following times:

Sunday	1 September 2002	8:00am - 10:00am,	12:00pm - 1.30pm	for Tutorials
Monday	2 September 2002	8:00am - 10:00am,	12:00pm - 1.30pm	for Tutorials
Tuesday	3 September 2002	8:00am - 10:00am,	12:00pm - 1.30pm	for Tutorials
		3:00pm - 5:00pm		for Conference
Wednesday	4 September 2002	8:00am - 10:00am		for Conference
Thursday	5 September 2002	8:00am - 10:00am		for Conference
Friday	6 September 2002	8:00am - 10:00am		for Conference

## CONFERENCE ENQUIRIES

Please direct all Conference enquiries to: AUUG Inc, PO Box 366, Kensington NSW 2033, Australia

Phone: +61-2-8824 9511 or 1-800-625 655

Fax: +61-2-8824 9522

Email: [auug2002@auug.org.au](mailto:auug2002@auug.org.au)

## INFORMATION DISCLAIMER

The speakers, topics and times are correct at the time of publishing. In the event of unforeseen circumstances, the Conference Committee of AUUG2002 reserves the right to alter or delete items from the Conference Programme.

Each Delegate named herein, or their later substitute, accepts that the Conference Committee of AUUG 2002, their agents, speakers, chairmen, secretariat or any other persons ("the parties") involved in the preparation of this pamphlet or in the planning or presentation of the conference, do not accept any contractual, tortious or other form of liability for loss or damage suffered by the delegate or their later substitute relying on any statement representation advice or opinion (whether true or otherwise, written or oral) and whether due to the negligence of any of the said parties by this disclaimer of liability to exclude liability, if any, for such statement representation advice or opinion, and that the said party may rely on this disclaimer of liability in the event of any demand claim suit or action brought against any or all of them arising out of any statement representation advice or opinion. The authors have prepared this material for Professional Development purposes. Although they trust that it will be useful for this purpose, neither the authors nor the Conference Committee of AUUG 2002 can warrant that the use of this material would be adequate to discharge the legal or professional liability of members in the conduct of their practices. AUUG reserves the right to cancel the event.

# WELCOME MESSAGE

## FROM THE AUUG PRESIDENT

I'd like to extend a hearty invitation to our annual conference, "AUUG 2002: Measure, Monitor, Control". The annual AUUG Conference is an invaluable opportunity to get away from your daily routine and regain perspective of the UNIX and Internet community.

This year we have been fortunate to be able to put together a particularly interesting array of presentations. As in previous years, we have attempted to supply something for everybody. We had a particularly strong response to our call for papers, and I think you will agree that the only problem with the programme is that we have two concurrent sessions, and that at some point you're bound to have to make a choice between two papers both being presented at the same time. Please join me in thanking Adrian Close, the Programme Chair, who worked tirelessly to arrange the programme.

The papers aren't everything, of course. AUUG has always prided itself on having a conference where people can get together and talk. The networking reception on Wednesday and the conference dinner on Thursday are an important part of the conference, and we have taken pains to ensure the highest of standards for these events.

I would also like to thank all our sponsors, whose contribution enables us to stage this event. I think we are in for an excellent conference, and I look forward to seeing you there.

**Greg Lehey**  
President  
AUUG Inc

## FROM THE PROGRAMME CHAIR

First and foremost, I'd like to thank my Programme Committee for their invaluable and tireless assistance in putting together the content for this year's conference. We received a great many good quality submissions and with room for only a limited number of presentations the choice was not easy (my thanks to all those who submitted proposals).

Our speakers are drawn from a wide spectrum, from local technology enthusiasts through to internationally recognised specialists (some of these are home-grown, too). I am confident that, between the conference and tutorial programmes, you will find many items of interest, not just on the hard-core technical side, but also for those with a thing for Unix and open systems in general.

In fact, one of the great aspects of the conference is the chance to talk with people with a serious interest in Unix and open source solutions. To that end, I look forward to greeting you personally at the conference in September.

**Adrian Close**  
Programme Chair  
AUUG2002

# KEYNOTE AND INVITED SPEAKERS

## Chris Disspain, auDA

Chris is Chief Executive Officer for .au Domain Administration Limited

Chris, was for 18 years a corporate lawyer in the U.K. and Australia, and has experience in all aspects of corporate law including public and private companies, international trading and negotiation, take over mergers and acquisitions compliance and capital raising.

For over ten years he has held executive management positions and directorships in private and public companies in the U.K. and Australia. These companies have included those involved in mining, e-commerce and the Internet.

He was appointed CEO of auDA in October 2000. auDA is the self regulatory body governing the .au domain space. It is presently in the process of introducing new domain name policy and competition into sale of domain names in Australia.

## Neil Gunther, Performance Dynamics Company

Neil J. Gunther, M.Sc., Ph.D. is a leading industry computer performance consultant who founded Performance Dynamics Company ([www.perfdynamics.com](http://www.perfdynamics.com)) in 1994. Prior to that, Dr. Gunther held research and management positions at San Jose State University, JPL/NASA (Voyager and Galileo spacecraft), Xerox PARC research center and Pyramid Technology. His performance and capacity planning classes have been given to such worldwide organizations as Boeing, Fedex, MBNA, Motorola, Stanford University, and Sun Microsystems. He did a 5 city Road Show for AUUG in 1998.

Dr. Gunther is the author of over a hundred papers on computer performance topics, as well as the book THE PRACTICAL PERFORMANCE ANALYST (2nd edition paperback published by iUniverse.com 2000). In 1996 he was awarded Best Technical Paper at CMG, and in 1997 was nominated for the A.A. Michelson Award. Dr. Gunther is a member of the AMS, ACM, CMG, IEEE, IGMETRICS, SAGE-AU and USENIX.

## Kimberley Heitman, Electronic Frontiers Australia

Kimberley is:

- Chairperson, Electronic Frontiers Australia (Inc)
- Spokesperson, WA Internet Association (Inc)
- Group Legal Counsel, iNet Limited
- Board member, ISPs, Telecommunications Industry Ombudsman Limited
- Board member, Rep Assoc, Australian Domain Administration Limited (auDA)
- Non-Executive Director, AdultShop.Com Limited
- Associate, Australian Computer Society
- Member, WA Society for Computers and the Law
- Member, Law Society of WA

## Terry Lane, Free Speech Victoria

Terry Lane is the president of Free Speech Victoria, an organisation dedicated to fighting censorship in all its forms -- including on the Internet. He is a broadcaster [ABC -- you can hear him on Sundays and Mondays on Radio National in The National Interest]. He is also a columnist with the Sunday Age in Melbourne and writes on free speech issues when they arise. Free Speech Victoria is committed to keeping the Internet open and free and opposes the interference of the nanny state or the intrusion of Australia's draconian defamation laws into cyber-space.

Lane prides himself on being one of Ozemail's very first customers who was helped to get online by a man from the company who made a house-call with a box of floppies under his arm. He is one of the few people still alive who reads with interest of a current law case in Hobart involving Trumpet Winsock and knows what they are talking about!

His web site is at [www.listen.to/terry](http://www.listen.to/terry) [he even knows about url re-direct services] and Free Speech Victoria is at [www.fsvonline.org](http://www.fsvonline.org).

## Rob Pike, Bell Labs

Rob Pike is Director of the Computing Concepts Research Department of the Computing Science Research Center at Bell Labs, Lucent Technologies, in Murray Hill, New Jersey. He was a principal designer and implementer of the Plan 9 and Inferno operating systems and believes he has written more window systems than any other person.

With Bart Locanthi he designed the Blit terminal; with Brian Kernighan he wrote 'The Unix Programming Environment' and 'The Practice of Programming'.

## John Terpstra, Caldera

John is a US based Technology Evangelist for Linux and Unix company Caldera as well as a member of the SAMBA Team. John is a regular keynote speaker at international Linux and Unix events. He is an entertaining speaker and a forceful advocate for the adoption of Linux in the business environment.

## Mark White, Apviva Technology Partners

Mark White has over 15 years of practical experience in the technology industry throughout Australia, South Asia, Korea, Greater China, India and the United States. His career has encompassed internationally focussed technical and marketing management roles with well-known US companies including Bell Atlantic International, Tandem Computers, Compaq Computer Corporation and Red Hat, for whom he successfully established and grew international operations as Vice-President and General Manager, Asia-Pacific.

A qualified software engineer and project manager, his career accomplishments span marketing, business development, strategic planning and executive responsibility. His insight and hands-on experience throughout Asia and the United States allow him to assist technology companies in accelerating toward their full potential. He has a specific aptitude for working with early-stage and start-up companies and holds advisory positions with HCV Wireless.

Mark earned a BSc from the University of Queensland and holds postgraduate qualifications in International Management from the Queensland University of Technology.

## John Zornig, Apple Computer

John Zornig is a Systems Engineer at Apple Computer. Based in Brisbane, John is responsible for the region from Lismore in Northern NSW to Darwin. John's long history with Unix started at University of Queensland in the mid seventies. His first Unix machine ran Bell Labs Unix version 7. Over the intervening period he has worked with Sun, Pyramid, Convex and Fujitsu/ICL. He joined Apple in 1994 to do something different from Unix :-)

# TUTORIAL PROGRAMME

SUNDAY 1 SEPT	TIME	TUT NO:	TUTORIAL TITLE and OUTLINE
Full Day Tutorial	9am – 5pm	S1	<p><b>Installing a FreeBSD Server, by Warren Toomey</b></p> <p>The aim of this workshop is to try and complete most of the following objectives:</p> <ul style="list-style-type: none"> <li>• Introduce you to FreeBSD, what it is and why you should use it;</li> <li>• Install FreeBSD on a PC;</li> <li>• Perform basic system configuration, including user accounts and packages;</li> <li>• Recompile the kernel to suit the hardware configuration;</li> <li>• Compile some sample ported applications: SSH and others;</li> <li>• Compile and configure some large server applications: Apache, Samba;</li> <li>• Tighten the system's security; and</li> <li>• Anything else that you would like me to cover.</li> </ul> <p>You need to have reasonable experience with using Unix, navigating around the filesystem, editing files, monitoring processes, setting file permissions etc. I am hoping to cover all of the above, but I would rather cover some topics well than cover all of the topics poorly.</p>
Half Day Morning Tutorial	9am - 12.30pm	S3	<p><b>Web Services for the Technical Practitioner, by Jan Newmarch, Monash University</b></p> <p>This tutorial examines Web services from a hands-on view of someone who has to build and deploy web services and looks at the programming tools, languages and environments to do this. It will examine both the good and the weak aspects of Web technology, in order to understand the potentials and the limitations of Web services from a technical viewpoint. The content will cover:</p> <ul style="list-style-type: none"> <li>• Overview and components of Web services</li> <li>• SOAP (Simple Object Access Protocol): concepts, scope and limitations</li> <li>• Programming language and library support for SOAP</li> <li>• Transport mechanisms: HTTP, email, etc</li> <li>• WSDL (Web Services Description Language)</li> <li>• UDDI</li> </ul>
Half Day Morning Tutorial	9am - 12.30pm	S4	<p><b>SSH tips and tricks, by Damien Miller</b></p> <p>This tutorial will introduce SSH to Unix users and administrators, focusing primarily on practical issues. It includes a description of the features of the SSH protocols and the discussion of the differences between the two widely deployed versions. Following this will be a discussion of the various implementations available, with a special focus on practical usage of OpenSSH.</p> <p>The mode of presentation will be interactive and will largely depend on the will and level of experience of the audience. The following outline will be a rough guide of the areas that would be covered. Any remaining time will be spent in Q&amp;A.</p> <ul style="list-style-type: none"> <li>• What is SSH?</li> <li>• History</li> <li>• Major user/protocol features</li> <li>• Shortcomings of SSH1 protocol</li> <li>• The SSH v.2 protocol</li> <li>• Unix implementations</li> <li>• Windows implementations</li> <li>• Other implementations / libraries</li> <li>• OpenSSH History</li> <li>• Building and installing</li> <li>• OpenSSH</li> <li>• Initial configuration of             <ul style="list-style-type: none"> <li>- OpenSSH</li> <li>- Remote log-in</li> <li>- File transfer scp (including caveats)</li> <li>- sftp (usage &amp; protocol)</li> <li>- rsync</li> </ul> </li> <li>• Public key authentication</li> <li>• Restricted public keys &amp; forced commands</li> <li>• Example: SSH access to a CVS server for developers</li> <li>• Local &amp; Remote port-forwarding</li> <li>• Dynamic port forwarding</li> <li>• (ssh as a SOCKS4 proxy)</li> <li>• Example: Using ssh to "burrow" through a firewall</li> <li>• Use of ~/.ssh/ssh_config</li> </ul>
Half Day Morning Tutorial	9am – 12.30pm	S7	<p><b>Grid Computing, by Rajkumar Buyya, University of Melbourne</b></p> <p><b>Level:</b> 25% Introductory, 30% Intermediate, and 50% Advanced.</p> <p>Grid computing is emerging as a new paradigm for Internet-scale parallel and distributing computing. It enables the <i>sharing, selection, and aggregation</i> of geographically distributed resources, such as computers (PCs, clusters, supercomputers), databases, and scientific instruments, for solving large-scale problems in science, engineering, and commerce. This tutorial introduces fundamental principles of grid computing and discusses emerging Grid technologies that help in creating Grid infrastructure and applications. A particular emphasis will be placed on how to design and develop Grid technologies and applications capable of dynamically leasing services of distributed resources at runtime depending on their availability, capability, performance, cost, and users' quality of service requirements.</p> <p>We first discuss a number of social and architectural issues that are guiding the design of the next generation of parallel and distributed computing technologies and applications. We then describe some major international efforts in developing Grid software systems and applications both in academic, research and commercial settings. We then go onto to present economic driven Grid tools for Service Oriented Computing, as well as the results of our scheduling experiments on the World Wide Grid testbed distributed across five continents. Some of the Grid technologies and applications that we cite during this tutorial include: Globus, Nimrod-G, Gridbus, GridSim, and Virtual Laboratory, and Distributed Drug Discovery, Brain Activity Analysis, and High Energy Physics. We conclude the tutorial by highlighting sociological and intellectual implications of this new Internet-based computing paradigm and its impact on the marketplace.</p>
Half Day Afternoon Tutorial	1.30pm – 5pm	S5	<p><b>An Introduction to Monitoring with Netsaint, by Phil Roy</b></p> <p>This half-day tutorial is an introduction to Netsaint, an open sourced monitoring package written by Ethan Galstad. It is aimed for people who want to start monitoring or learn the basics of a Netsaint configuration. The tutorial will walk through the steps involved to get Netsaint Monitoring up and working with the use of equipment to demonstrate the concepts involved.</p> <ul style="list-style-type: none"> <li>• What is Netsaint</li> <li>• System Requirements</li> <li>• Netsaint's Home on the Web</li> <li>• Mailing Lists and Netsaint support</li> <li>• Downloading the software</li> <li>• Installing Netsaint</li> <li>• Directory structure and file locations</li> <li>• Determining availability of hosts</li> <li>• Notifications</li> <li>• Plugins</li> <li>• State Types</li> <li>• Time Periods</li> <li>• Configuration</li> <li>• Introduction</li> <li>• Main configuration file</li> <li>• Host configuration file</li> <li>• Checking the configuration</li> <li>• Starting Netsaint</li> <li>• Stopping Netsaint</li> <li>• Log files</li> <li>• Standard Plugins</li> <li>• Service check configuration and examples</li> <li>• Host check configuration and examples</li> <li>• Installing the web interface</li> <li>• CGI Authorisation</li> <li>• Exploring the web interface</li> <li>• Introduction to Gnokii</li> <li>• Installing Gnokii</li> <li>• Configuring SMS notifications</li> <li>• Redundant Monitoring</li> <li>• Distributed Monitoring</li> </ul>
Half Day Afternoon Tutorial	1.30pm – 5pm	S6	<p><b>Defining a Sensible Security Policy, by Peter Sandilands</b></p> <p>To properly select and deploy security technology you must have an idea of what you are protecting and how/why. That is just what a security policy is about. This session will take you through the steps involved in defining a security policy for a business and how to use that as a basis for selecting appropriate technology to secure your environment. The session will be based around current standards, ISO 17799, AS/NZS 4360.</p> <ul style="list-style-type: none"> <li>• What is security?</li> <li>• What guidelines are around to use?</li> <li>• Who should be involved in the definition process?</li> <li>• Steps to follow in building the policy</li> <li>• How to get buy-in.</li> <li>• Planning for the inevitable incident.</li> </ul>
MONDAY 2 SEPT	TIME	TUT NO:	TUTORIAL TITLE and OUTLINE
Full Day Tutorial	9am – 5pm	M1	<p><b>Image Programming Using Open Source, by Michael Still</b></p> <ul style="list-style-type: none"> <li>• An introduction to imaging concepts</li> <li>• Using and abusing libpng</li> <li>• Using and abusing libtiff</li> <li>• Enough about libjpeg to be dangerous</li> <li>• A tutorial on Panda, the PDF generation API</li> </ul>
Half Day Morning Tutorial	9am - 12.30pm	M2	<p><b>Performance Management of Internet Portals and Applications: An Integrated Approach, by Anil Sahai, Pacbell</b></p> <p>Objective: To present an integrated approach to system performance management and provide a set of modeling tools and innovative performance management processes.</p> <p>The immediacy of the Web, and the availability of 24-hour service means that companies can't afford to lose customer confidence through unanticipated delays, service outages, or lost transactions. Automated tools can help companies put their Web sites to the test. Performance testing can help companies diagnose simple performance problems. A combination of load, stress, and endurance testing can identify bottlenecks that manual investigation and analysis fail to isolate. However performance testing does not provide any performance tuning or capacity planning recommendations. Compare it with identifying the symptoms but not the cure for a disease! The following topics will be discussed:</p> <ul style="list-style-type: none"> <li>• How to isolate and then rectify performance problems</li> <li>• Integrated approach to capacity planning for your IT operations</li> <li>• Predictive analysis to proactive manage performance and capacity pitfalls</li> <li>• How to keep your company up and running, resulting in customers that keep coming back.</li> <li>• Performance Management challenges in Internet world</li> <li>• Review of Internet networking technology</li> <li>• Scalability and vs. SLA Management</li> <li>• Why Monitoring is not sufficient?</li> <li>• A Performance Discipline for Internet Technologies</li> <li>• Review of system performance modelling techniques</li> <li>• Workload Characterization</li> <li>• Applying Performance Modeling and Instrumentation for Management</li> <li>• A Brief Survey of Currently Available Tools</li> <li>• Putting All together in a Consolidated Performance Management Solution</li> </ul> <p>Target audience: NOC managers, network analysts, Internet systems developers, operations center managers, performance analysts, performance managers.</p>

Half Day Morning Tutorial	9am –12.30pm	M3	<p><b>Open Source Database Systems - An Introduction, by Joel Sing</b></p> <p>As the information age continues to grow, so does the need for data storage that facilitates rapid and flexible access to information. We constantly hear about database systems offered by Oracle and Microsoft, but what about open source alternatives? This tutorial will provide an introduction to two of the many open source databases available, along with a brief overview of database fundamentals. Topics to be covered include:</p> <ul style="list-style-type: none"> <li>• The need for databases</li> <li>• An introduction to Structured Query Language (SQL)</li> <li>• Details on available open source database systems</li> <li>• Feature comparison between PostgreSQL and MySQL</li> <li>• Programmatic interfacing to a database</li> <li>• Dynamic Web applications using a database backend</li> </ul> <p>Attendees will gain an understanding of database systems, learn how to install and manage an open source database system and how to apply the knowledge gained to real world applications.</p>
Half Day Morning Tutorial	9am - 12.30pm	M8	<p><b>Building a Broadband Internet gateway, by Peter Sandilands</b></p> <p>With broadband connections to the Internet becoming more common the challenge becomes connecting through them securely and taking advantage of the speed. This tutorial will take you through the steps of building a secure gateway using an old clunker, 486 box and FreeBSD. IPFILTER will provide the firewall and NAT capabilities.</p> <ul style="list-style-type: none"> <li>• Hardware requirements - how little can I get away with?</li> <li>• Software requirements - How do I source it?</li> <li>• Installing the OS - including headless install</li> <li>• Configuring the OS to include IPFILTER</li> <li>• Securing the gateway and implementing NAT</li> <li>• Setting up remote management</li> <li>• Bigpond Cable specifics</li> <li>• Optus Cable specifics</li> <li>• Telstra DSL specifics</li> </ul> <p>Note: This is not an installation tutorial. You should be comfortable at a shell prompt but definitely do <i>not</i> need to be a guru.</p>
Half Day Afternoon Tutorial	1.30pm – 5pm	M5	<p><b>Practical implementation of l18N in Perl, by Scott Penrose</b></p> <p>Not only is there a social obligation to make our software more accessible to people of other nationalities, but there is also an increasing commercial pressure. By reducing the literals in your code, reusing existing standards, we are able not only to produce internationalised software but also reduce bugs and increase maintainability. This will give you more time to save the world by recycling your rubbish.</p> <p>Perl has many tools available to help with Internationalisation and the need to convert our software is growing. Internationalisation is not the only incentive. By abstracting data storage, literals and layout to external resources, code is much more easily maintained and is reusable in alternate situations.</p>
Half Day Afternoon Tutorial	1.30pm – 5pm	M6	<p><b>Practical IPSEC, by Adrian Close</b></p> <p>Networks on the Internet are increasingly turning to firewalls as a means of protecting themselves against external network-based attacks, creating their own small islands of trust. However, the increasing need for secure, inter-network communications requires extending that trust across the Internet itself - a risky proposition in an increasingly hostile network environment. Practical demonstrations of the technology involved will be given throughout the tutorial, which will include debugging techniques useful for successful deployment and interoperability of various IPSEC implementations.</p> <p>Topics:</p> <ul style="list-style-type: none"> <li>• Why IPSEC?</li> <li>• Basic IPSEC - ESP, AH, SA's and SPIs.</li> <li>• Encryption algorithms – choices and availability.</li> <li>• The problem of key exchange.</li> <li>• ISAKMP overview.</li> <li>• ISAKMP authentication using shared secrets and certificates.</li> <li>• PKI - myths and realities.</li> <li>• Alternatives to ISAKMP.</li> <li>• IPSEC implementations and interoperability issues.</li> <li>• IPSEC and IPV6 - a vision of the future.</li> </ul>
Half Day Afternoon Tutorial	1.30pm – 5pm	M7	<p><b>Mac OS X Server on Xserve by Joseph Cox, Apple Computer</b></p> <p>This session is a demonstration and hands on tutorial giving you the opportunity to explore Apple's Mac OS X Server, and discover what is under the hood of Apple's new server hardware - Xserve.</p> <p>Numbers will be strictly limited to allow participants hands-on access (via supplied wireless laptop). <b>This session will be repeated on Tuesday Morning to allow the maximum number of people to attend.</b></p> <p><b>Mac OS X Server</b> has the power and openness of UNIX with the simplicity and elegance of Macintosh. It provides a superior architecture for connecting Macintosh, Windows, UNIX and Linux clients to each other, sharing printers, exchanging email, hosting dynamic web sites, deploying flexible and scalable network applications, providing network services, and streaming real-time digital media.</p> <p><b>Xserve</b> is designed-from-the-ground-up as a server-class workhorse. The 1U (4.4 cm) rack-mount Xserve comes with a choice of one or two 1GHz PowerPC G4 processors running at speeds of up to 15 gigaflops, 2MB of dedicated L3 cache memory per processor with up to 4GB/s throughput, two full-length 64-bit, 66MHz PCI slots for up to 533MB/s throughput, and up to 2GB of DDR SDRAM. Plus four drive bays holding up to 480GB of internal disk space using hot-plug Apple Drive Modules, dual Gigabit Ethernet, and the complete suite of robust, standards-based network services in Mac OS X Server.</p> <p>The content will cover:</p> <ul style="list-style-type: none"> <li>• Overview and components of Mac OS X Server</li> <li>• Installation and setup of standard services</li> <li>• Mac OS X Server's typical standards-based UNIX underpinnings</li> <li>• Overview and components of Xserve hardware</li> <li>• Mac OS X Server Administration: GUI and/or CLI (all via wireless laptop)</li> </ul>
<b>TUESDAY</b>	<b>TIME</b>	<b>TUT NO:</b>	<b>TUTORIAL TITLE and OUTLINE</b>
Full Day Tutorial	9am-5pm	T1	<p><b>Securing Enterprises with the Solaris Security Toolkit (aka JASS), by Alex Noordergraaf, Sun Microsystems</b></p> <p>The Solaris Security Toolkit is an extensive framework of security-related scripts which can be easily customized to an environment's Solaris security requirements. The tutorial will present details on how to install and use the Toolkit to solve the security problems common to most environments. The discussion of how to use the Toolkit will be detailed enough that an administrator totally unfamiliar with it will be able to use the Toolkit in a minimum of steps. Additionally, this tutorial will discuss specific applications and how their requirements can be implemented through the Toolkit. Applications to be evaluated include Apache and Firewall-1. Recommendations on how to best use the Toolkit to maintain the secure configuration of an environment will also be included. One of the most unique capabilities of the Toolkit is its multi-run undo feature. This capability will be demonstrated and its various options explained in detail.</p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Using the Toolkit</li> <li>• In Standalone Mode</li> <li>• In JumpStart Mode</li> <li>• Integrating into Installation Process</li> <li>• How the Toolkit Works</li> <li>• Customizing the Toolkit</li> <li>• Creating Custom Driver</li> <li>• Enforcing Security Policies</li> <li>• Case Study of Toolkit Use</li> <li>• Hardening Legacy Server</li> <li>• Building new Secure Server</li> <li>• Regular Toolkit use</li> <li>• Daily/Weekly/Monthly</li> <li>• After Patch Installation</li> <li>• Undo'ing Toolkit runs</li> <li>• What Multi-run undo is</li> <li>• How it Works</li> <li>• Extending the Toolkits Capabilities</li> <li>• Centralized Reporting with the Toolkit</li> </ul>
Full Day Tutorial	9am-5pm	T2	<p><b>Building A Back Office Infrastructure Using Linux, by John Terpstra, Caldera</b></p> <p>This tutorial will provide detailed instruction on Linux fundamentals including:</p> <ul style="list-style-type: none"> <li>• User Interface Tools</li> <li>• Networking: <ul style="list-style-type: none"> <li>- Adding an Ethernet driver</li> <li>- Configuring the Ethernet interface for TCP/IP</li> <li>- Setting up default and static routes</li> <li>- Handling non routing situations</li> <li>- Name resolution</li> </ul> </li> <li>• Advanced Networking: <ul style="list-style-type: none"> <li>- DNS</li> <li>- DHCP</li> <li>- Firewall/VPN discussion</li> </ul> </li> <li>• Access Controls: <ul style="list-style-type: none"> <li>- File system permissions</li> <li>- User and Group Management</li> <li>- Pluggable Authentication</li> <li>- Modules (PAM/nsswitch)</li> </ul> </li> <li>• Back Office Services <ul style="list-style-type: none"> <li>- FTP</li> <li>- Web</li> <li>- Email</li> <li>- File and Print (SAMBA)</li> <li>- SQL Server (Postgresql)</li> <li>- MS Windows Client</li> <li>- Configuration for interoperability</li> </ul> </li> </ul> <p>On conclusion the delegate will have experienced the installation and configuration of a working alternative to Microsoft Windows 2000 BackOffice server.</p>
Half Day Morning Tutorial	9am-12.30pm	T3	<p><b>IPv6 here and now, by John Barlow</b></p> <p>John Barlow will introduce IPv6 and discuss some of the practical side of connecting to and using IPv6. Inside of 3 hours we will touch on IPv6 headers, tunnels, routing, DNS, and other facets of implementing IPv6. This will include a hands-on section to connect you to the IPv6 Internet cloud (tunneling the traffic in IPv4) - so bring your laptop! You will need a recent Unix/Linux implementation - FreeBSD, Red Hat 7.2/7.3 (could be 6.2), etc. You will also need a mind for large numbers, as any IPv4 address you have will map to a /48 IPv6 CIDR block, which means each host in the class can hide 65,536 IPv6 networks each containing 18,446,744,073,709,551,616 hosts, not to mention the attitude/longitude IPv6 address mapping you could also use.</p>
Half Day Morning Tutorial	9am-12.30pm	T4	<p><b>Mac OS X Server on Xserve by Joseph Cox, Apple Computer</b></p> <p>This session is a repeat of Tutorial M7. See above for details.</p>
Half Day Afternoon Tutorial	1.30pm – 5pm	T5	<p><b>Getting Beyond Monitoring, Pretty Damn Quickly!, by Neil Gunther, Performance Dynamics Company</b></p> <p>The theme of this year's conference is "Measure, Monitor, Control". The missing 'M' word is, Model. After you've measured and monitored, you'd like to use that data to forecast requirements to size application servers, for example, as part of future procurement. That's how you gain control in the long run.</p> <p>In this tutorial, I will present the necessary queueing concepts needed for fast performance prediction in an elementary and palatable style. We shall then throw those concepts at such apparently benign questions as: Does a single 2.4 GHz Pentium PC, a multi-way blade, or a racked cluster have the best performance? Finally, at the application level, we shall size web and middleware servers based on actual load-test measurements. All examples will be demonstrated using the open source queueing analyzer called "Pretty Damn Quick."</p>

## CONFERENCE PROGRAMME

TIME	WEDNESDAY 4 SEPTEMBER 2002	
9:00am - 9:15am	<b>WELCOME</b>	<b>Adrian Close, Conference Chair</b> and <b>Greg Lehey, President, AUUG Inc</b>
9:15am - 9:30am	<b>CONFERENCE OPENING</b>	<b>Dr Steven Hodgkinson, Multimedia Victoria</b> ICT in Government
9:30am - 10:30am	<b>KEYNOTE</b>	<b>Terry Lane, Free Speech Victoria</b>
10:30am - 11:10am	<b>PLENARY</b>	<b>John Zornig, Apple Computer</b> The Power of UNIX. The Simplicity of the Mac
11:10am - 11:40am	<b>Morning Tea Break</b>	
11:40am - 1:00pm	<b>CONCURRENT SESSIONS</b>	
	<b>BSD</b>	<b>Security</b>
	<b>Greg Lehey, President, AUUG Inc.</b> 'Two years in the trenches': Project management in open source projects	<b>Audun Jøsang, DSTC</b> What You See is Not Always What You Sign
	<b>Benno Rice, myinternet Ltd</b> BSD: Past, Present and Future	<b>Daniel Bradley, DSTC</b> Linking Chains: A Methodology for Developing Rules for IP Chains
<b>1:00pm - 2:30pm</b>	<b>Lunch</b>	
2:30pm - 3:50pm	<b>CONCURRENT SESSIONS</b>	
	<b>Open Source and Business</b>	<b>Network Monitoring</b>
	<b>Mark White, Apviva Technology Partners</b> Hello world! - The business of software	<b>Michael Selig, Functional Software</b> System Monitoring - Much more than red and green
	<b>Ray Loyzaga, CommSecure Limited</b> An Online Share Trading Platform in 7 Weeks - Extreme programming and Open Source meets Godzilla	<b>Jörg Micheel, endace measurement systems ltd</b> Passive network measurements
<b>3:50pm - 4:15pm</b>	<b>Afternoon Tea Break</b>	
4:15pm - 5:00pm	<b>FOOTNOTE</b>	<b>Rob Pike, Bell Labs</b> The Good, the Bad, and the Ugly: The Unix Legacy,
5:00pm - 6:00pm	<b>AUUG Inc - Annual General Meeting</b>	
6:00pm - 8:00pm	<b>NETWORKING RECEPTION</b> sponsored by Apple Computer	
TIME	THURSDAY 5 SEPTEMBER 2002	
9:00am - 9:45am	<b>KEYNOTE</b>	<b>Kimberley Heitman, Electronic Frontiers Australia</b>
9:45am - 10:30am	<b>PLENARY</b>	<b>Neil Gunther, Performance Dynamics Company</b> Gnutella, GRIDs and Gargantuan Computing,
10:30am - 11:00am	<b>Morning Tea Break</b>	
11:00am - 1:00pm	<b>CONCURRENT SESSIONS</b>	
	<b>Kernel Wizardry</b>	<b>Security</b>
	<b>Rusty Russell, IBM Linux Technology Center</b> Futexes: Fast Userspace Locking Primitives	<b>Alex Braunegg, Trend Microsystems</b> Virus Protection for Unix and Open Source Environments
	<b>Peter Chubb, Gelato Project</b> Terabytes on a Diet	<b>Jason Loveday, Check Point Software Technologies Ltd</b> Security In the Enterprise: Securing Applications in Transition
	<b>Anton Blanchard, IBM Linux Technology Center</b> IBM PPC performance ("the 7 second kernel build")	<b>Alex Noordergraaf, Sun Microsystems</b> How Hackers Do It
<b>1:00pm - 2:30pm</b>	<b>Lunch</b>	
2:30pm - 3:50pm	<b>CONCURRENT SESSIONS</b>	
	<b>ISOC-AU</b>	<b>Large Scale System Management</b>
	<b>Andrew McRae, Cisco</b> Digital Content and the Internet	<b>John Ferlito, Bulletproof Networks</b> cfengine and FAI - Managing and Building 100s of Servers
	<b>Aidan Williams, Motorola</b> IPv6 in the Home Makes Sense	<b>Mike Gigante, SGI</b> Big Data - Issues in Scalable File Serving
<b>3:50pm - 4:15pm</b>	<b>Afternoon Tea Break</b>	
4:15pm - 5:00pm	<b>FOOTNOTE</b>	<b>Rob Pike, Bell Labs</b> An Introduction to Quantum Computation and Communication
7:00pm - 11:30pm	<b>CONFERENCE DINNER</b>	

TIME	FRIDAY 6 SEPTEMBER 2002	
9:00am - 9:45am	<b>KEYNOTE</b>	<b>Chris Disspain, auDA</b> The State of .au
9:45am - 10:30am	<b>PLENARY</b>	<b>John Terpstra, Caldera</b> Who Moved My UNIX(tm)?
10:30am - 11:00am	<b>Morning Tea Break</b>	
11:00am - 1:00pm	<b>CONCURRENT SESSIONS</b>	
	<b>Development Directions</b>	<b>Networking</b>
	<b>Martin Schwenke, IBM Linux Technology Center</b> Polythene PAM ain't what she used to be	<b>Jan Newmarch, Monash University</b> A networked loudspeaker
	<b>Ada Lim, Harvard University</b> A novel swap-over-NFS which compresses at the block level to provide better memory, disk bandwidth and disk space utilisation	<b>Hugh Blemings, IBM Linux Technology Center</b> What is that CONFIG_HAMRADIO thing anyway? – A Linux user's guide to Ham Radio
	<b>David Gibson, IBM Linux Technology Center</b> Linux on the PowerPC 4xx	<b>Jun-ichiro "itojun" Hagino, IJ Research Laboratory</b> KAME and IPv6 deployment
<b>1:00pm - 2:30pm</b>	<b>Lunch</b>	
2:30pm - 3:50pm	<b>CONCURRENT SESSIONS</b>	
	<b>Unix Today</b>	<b>Wireless Networking</b>
	<b>Shane Hird, DSTC</b> Technical Solutions for Controlling Spam	<b>Adam Radford, Cisco</b> Extending the Wired LAN: 802.11
	<b>Carlo Kopp, Monash University</b> Unix and Undergraduate Teaching	<b>PANEL - Wireless Networking</b>
<b>3:50pm - 4:15pm</b>	<b>Afternoon Tea Break</b>	
4:15pm - 5:00pm	<b>FOOTNOTE</b>	<b>Mark White, Apviva Technology Partners</b> UNIX and Open Source - The State of the Union

## SPONSORS

AUUG Inc gratefully acknowledges the valuable and generous contribution given towards  
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# AUUG 2002 REGISTRATION FORM

## "AUUG 2002 - Measure, Monitor, Control"

Location: Duxton Hotel, 328 Flinders Street, Melbourne, Australia  
 Tutorials: 1-3 September 2002      Conference: 4-6 September 2002

**THIS FORM SERVES AS A TAX INVOICE. AUUG ABN 15 645 981 718. PLEASE READ CAREFULLY (One form per person - photocopies acceptable)**

### Section A: PARTICIPANT PERSONAL DETAILS

Title (Dr/Mr/Mrs/Ms/Miss) \_\_\_\_\_ First Name \_\_\_\_\_ Surname \_\_\_\_\_  
 Position \_\_\_\_\_ Organisation \_\_\_\_\_  
 Address \_\_\_\_\_ Town/Suburb \_\_\_\_\_ State \_\_\_\_\_ P/code \_\_\_\_\_  
 Country \_\_\_\_\_ Telephone: Business: \_\_\_\_\_ Private: \_\_\_\_\_  
 Facsimile: \_\_\_\_\_ E-mail: (please print) \_\_\_\_\_  
 T-Shirt Size (please circle)    Medium                  Large                  X-Large

### Section B: CONFERENCE PLANNING

**I. Tutorials** Attendance is limited. Requests will be processed on a first come, first served basis. Please mark the tutorial(s) you wish to attend:

<b>Sunday, 1 September</b>	9:00 am - 5:00pm S1 <input type="checkbox"/>	9:00 am - 12:30pm S3 <input type="checkbox"/> S4 <input type="checkbox"/> S7 <input type="checkbox"/>	1:30pm - 5:00pm S5 <input type="checkbox"/> S6 <input type="checkbox"/>
<b>Monday, 2 September</b>	9:00 am - 5:00pm M1 <input type="checkbox"/>	9:00 am - 12:30pm M2 <input type="checkbox"/> M3 <input type="checkbox"/> M8 <input type="checkbox"/>	1:30pm - 5:00pm M5 <input type="checkbox"/> M6 <input type="checkbox"/> M7 <input type="checkbox"/>
<b>Tuesday, 3 September</b>	9:00 am - 5:00pm T1 <input type="checkbox"/> T2 <input type="checkbox"/>	9:00 am - 12:30pm T3 <input type="checkbox"/> T4 <input type="checkbox"/>	1:30pm - 5:00pm T5 <input type="checkbox"/>

**Conference Programme** Registrants not attending the entire conference, please indicate day/s attending:

Wednesday, 4 September       Thursday, 5 September       Friday, 6 September

**II. Concurrent Sessions** Please indicate which of the concurrent session you plan to attend (for indicative numbers only)

Wednesday, 4 September	11:40am -1:00pm	BSD	<input type="checkbox"/>	Security	<input type="checkbox"/>
	2:30pm -3:50pm	Open Source and Business	<input type="checkbox"/>	Network Monitoring	<input type="checkbox"/>
Thursday, 5 September	11:00am -1:00pm	Kernel Wizardry	<input type="checkbox"/>	Security	<input type="checkbox"/>
	2:30pm -3:50pm	ISOC-AU	<input type="checkbox"/>	Large Scale System Management	<input type="checkbox"/>
Friday, 6 September	11:00am -1:00pm	Development Directions	<input type="checkbox"/>	Networking	<input type="checkbox"/>
	2:30pm -3:50pm	Unix Today	<input type="checkbox"/>	Wireless Networking	<input type="checkbox"/>

### Section C: PAYMENT OF FEES

#### TUTORIALS

AUUG Member -Half Day Tutorial (for each half day tutorial)	\$300.00 (inc \$27.27 GST)	A\$.....
AUUG Member -Full Day Tutorial	\$500.00 (inc \$45.45 GST)	A\$.....
Non Member -Half Day Tutorial (for each half day tutorial)	\$450.00 (inc \$40.91 GST)	A\$.....
Non Member -Full Day Tutorial	\$650.00 (inc \$59.09 GST)	A\$.....

#### CONFERENCE REGISTRATIONS

AUUG Inc., Members	\$650.00 (inc \$59.09 GST)	A\$.....
Members: ACS, ISOC-AU, LUGS, SAGE-AU, Uniforum NZ, Usenix	\$720.00 (inc \$65.45 GST)	A\$.....
Non-Members	\$800.00 (inc \$72.72 GST)	A\$.....
Member Day Registration (per day)	\$250.00 (inc \$22.73 GST)	A\$.....
Non-Member Day Registration (per day)	\$350.00 (inc \$31.81 GST)	A\$.....
Student Discounted Registration (unwaged) ID No.....	\$180.00 (inc \$16.36 GST)	A\$.....

For Conference Registrations received after 7 August 2002, an additional \$100 fee is applicable      \$100.00 (inc \$9.09 GST)      A\$.....

AUUG Inc. Membership Individuals: \$110, Corporate: \$ 429, Student (FT): \$ 27.50      A\$.....

(If you join AUUG on this form you are entitled to the AUUG membership rate for the Tutorials and Conference. Membership is valid through to 31 December 2003, and inclusive of 10% GST)

#### SOCIAL PROGRAMME

*(Full Conference attendees receive 1 ticket each to the Networking Reception and the Conference Dinner)*

Wednesday 4 September	Networking Reception	\$ 50.00 (inc \$4.54 GST)	.....	A\$.....
Thursday 5 September	Conference Dinner	\$ 95.00 (inc \$8.64 GST)	.....	A\$.....
<b>TOTAL PAYMENT</b>				<b>A\$.....</b>

#### PAYMENT OPTIONS:

Cheque/Money Order/Credit Card. Please make Cheques payable to: AUUG Inc.

Credit Card Payments:    Bankcard     Mastercard     Visa     Card Number:.....

Expires: .....    Name on card:.....    Signature: .....

#### SPECIAL REQUIREMENTS:

Please note that I would like my meals to be: Vegetarian  Other:..... (please specify)

**NOTE:** This Registration Form serves as a tax invoice. Registrations accompanied by total payment only will be processed in order of receipt. Please return this form, plus your cheque/payment to:

**AUUG Inc, PO Box 366, Kensington NSW 2033, Tel: 1-800-625 655 or (02) 8824 9511, Fax: (02) 8824 9522, E-mail: auug2002@auug.org.au**

**Programme updates and "Birds Of a Feather" (BOF) sessions will be posted to: <http://www.auug.org.au/winter/auug2002/>**