GENERAL INFORMATION

VENUE
Duxton Hotel North Sydney
88 Alfred Street, Milsons Point NSW 2061, 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 15 August 2003 will forfeit 50% of registration fees. No refunds will be allowed past 27 August 2003, but substitutions will be accepted up to the beginning of the conference.

ACCOMMODATION
A conference rate has been negotiated with the Duxton Hotel North Sydney, being:

AUUG Rate: $155.00 per night single/twin/double room
$205.00 per night Superior Room
$277.00 per night Suite
(Rates are valid until 7 September 2003 and are inclusive of 10% Federal Government GST)

Breakfast: Hot and cold buffet breakfast (pre-booked) $17.00 per person

Bookings are to be made directly with the Duxton Hotel, ph: (02) 9955 1111. Please quote that you are attending **"AUUG 2003 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
Parking is limited and available underneath the hotel at a cost of $10.00 per day. This is subject to availability and **cannot be guaranteed**. Access for parking is via Cliff Street. Guests are asked to collect their exit card from Reception upon departure.

TRANSPORT
The Duxton Hotel is located opposite Milsons Point Station, with ready access to trains, taxis and buses. In addition, a number of buses stop outside North Sydney Station, which is approximately a 5-7 minute walk from the Duxton Hotel.

CONFERENCE REGISTRATION
The Registration Desk will be located in front of the Duxton Rooms at the Duxton Hotel.

Onsite Registrations will be handled at the following times:

Sunday	31 August 2003	8:00am - 10:00am,
	12:00pm – 1.30pm	for Tutorials
Monday	1 September 2003	8:00am - 10:00am,
	12:00pm – 1.30pm	for Tutorials
Tuesday	2 September 2003	8:00am - 10:00am,
	12:00pm – 1.30pm	for Tutorials
	3:00pm - 4:00pm	for Conference
Wednesday	3 September 2002	8:00am - 10:00am
Thursday	4 September 2002	8:00am - 10:00am
Friday	5 September 2002	8:00am - 10:00am

CONFERENCE ENQUIRIES
Please direct all Conference enquiries to:
AUUG Inc, PO Box 7071, Baulkham Hills BC NSW 2153, Australia
Phone: +61-2-8824 9511 or 1-800-625 655
Fax: +61-2-8824 9522
Email: auug2003@auug.org.au

INFORMATION DISCLAIMER

WELCOME MESSAGE

FROM THE AUUG PRESIDENT

I'd like to invite you to our annual technical conference, AUUG 2003: "Open Standards, Open Source, Open Computing".

The AUUG annual conference is the highlight of AUUG's year. I invite you to take some time to get away from everyday issues and address the broader perspective of the UNIX, Linux and Internet community.

In the last couple of years we have targeted new aspects of the industry, and this year two things have come together. This year's conference theme, "Open Standards, Open Source, Open Computing" is even more topical than we thought when we chose it: the Australian Government is investigating the use of Open Source software, and we're pleased to welcome a number of speakers from the public sector to show us that UNIX and Open Source are alive, well and set to expand in that area. In addition, recent events in the marketplace have emphasized the fundamental importance of Open Source software.

That doesn't mean we've neglected other areas, though. Once again we had an excellent response to our call for papers, and the programme committee has put together a particularly well balanced programme ranging from low-level kernel issues to site planning considerations, from web design to database technology. Please join me in thanking the Programme Chair, Adrian Close, whose tireless efforts are reflected in the quality of the programme.

There's more to the AUUG conference than the papers, of course. The AUUG conference has always been an excellent opportunity for people to get together and talk. As always, there's a "networking" reception on Wednesday and the highly acclaimed conference dinner on Thursday. We consider them to be one of the most important parts of the conference, and once again we have taken pains to ensure the highest of standards for these events.

I would also like to thank all our sponsors, who, despite the current economic climate, have been particularly generous. Without their contribution we would not be able to stage this event. We're looking forward to our best conference yet.

Greg Lehey
President
AUUG Inc

FROM THE PROGRAMME CHAIR

Soon it will be time once again for the AUUG conference to grace old Sydney town with its particular brand of *nix-like fun, frivolity and clue-field bathing (and by this last, I'm referring to the amazing environment created simply by getting people together).

The body of submissions received, like our audience, was diverse and therefore something of a nightmare to carve up and schedule into a programme. It's always difficult to avoid creating dilemmas for attendees, but we think we've found a reasonable compromise.

This year we've attempted to showcase some of the great things happening in the world of "Open Computing in Government", an area in which AUUG has been quite active in the last year or so, with some success. We have some great perspectives on the use of open source in that arena. Backing that up are a number of presentations on use of open source in the wider world that we think you'll find interesting.

We are pleased to welcome a number of international speakers, including Phil Karn (a man with more RFCs to his name than some of us have had hot dinners). It is a pleasure to welcome Phil back to our shores and we welcome his insight on the state of the Internet.

Our tutorial tradition continues, prior to the conference proper, comprising updates of some old favourites along with some challenging new stuff, all of which allow you to really get your hands dirty.

Of course, the conference is more than just the programme - it's very much about the people. We've kept the long lunch breaks that we find really help attendees connect with each other, either informally or through "Birds of a Feather" (BoF) sessions. And if you haven't been to an AUUG conference dinner...

My thanks are due once again to my hard working Programme Committee, our speakers and all those who have helped with the conference thus far. Without further ado, I commend to you our programme and I look forward to personally greeting you in September.

Adrian Close
Programme Chair
AUUG2003

Apple Computer

Apple was the first major computer company to make open source development a fundamental part of its software strategy. Apple's Open Source projects include Darwin, Darwin Streaming Server, OpenPlay, OpenDarwin, WebCore and other open source initiatives. Apple's presentation will provide an update on Apple's open source projects and infrastructure.

Steve Alford
NOIE

Steve Alford is the General Manager, Information Management Strategy and Governance at the National Office for the Information Economy (NOIE). He joined NOIE in 2002 following 11 years working with various Federal agencies on employment, education and small business programs. His career in government and the Online world was preceded by 16 years working in secondary education in Australia and overseas.

Over the last seven years he has taken a leadership role in the development and implementation of Online business systems including document management systems, financial and HR systems and Web publishing. He has extensive experience in the development of portals for specific target audiences including the Australian business community through the Business Entry Point, the education sector through Education Network Australia and departmental staff through the corporate Intranet.

Steve is an advocate of a customer centric approach to information and service delivery. His recent work on portals has emphasised rapid acceleration of take-up driven by user demand through the creation of enriched environments built on effective partnerships. He sees the future as offering tremendous opportunities to break the agency centric approach to Online service delivery in Government sector.

Matt Asay
Novell

Matthew N. Asay has been involved with Linux for several years, both professionally and academically. Asay is a member of Novell's Open Source Review Board, responsible for laying the strategic and business foundation for Novell's use of open source software. Asay also has responsibility for growing Novell's developer base, which involves making Novell a more attractive platform (through OSS and other means) and recruiting top-tier development partners to Novell's platform.

Before Novell, Asay was General Manager at Lineo, an embedded Linux software startup, where he ran Lineo's Residential Gateway business. Prior to joining Lineo, Asay worked in the investment arm of Mitsui & Co., where he co-managed Mitsui's investment in Cobalt (a successful Linux-based microserver startup that was acquired by Sun Microsystems). In addition to his present work with Novell, Asay founded and co-directs OpenSoft International, a consulting firm focused on the legal and strategic issues surrounding open source technologies, which also mentors and helps to fund promising startups based on open source software. Asay earned his Juris Doctorate degree from Stanford Law School, where he studied software licensing and innovation, and specifically the GNU General Public License, under Professor Larry Lessig.

Dr Elizabeth Gordon-Werner
NSW Office of Information Technology

Elizabeth is currently Manager, Electronic Strategic Projects at the NSW Office of Information Technology and has managed the NSW Open Source project since its inception. Although a scientist by training, Elizabeth has always had an active interest in using technology to streamline business. Her IT achievements include developing and implementing project reporting software for Sydney Water and, as CIO for NSW Fisheries, redesigning the NSW Fisheries web site resulting in a 200% increase in usage.

Phil Karn
Qualcomm

Phil Karn has a BSEE from Cornell University and a MSEE from Carnegie Mellon University. He is currently a Principal Engineer at Qualcomm in San Diego. Before Qualcomm, Phil was a member of the technical staff at Bell Laboratories in Naperville, IL and Murray Hill, NJ, and at Bell Communications Research in Morristown, NJ.

Before becoming involved professionally in digital radio communications, Phil was active in the early development of amateur (ham) packet radio. He wrote the KA9Q NOS TCP/IP package (KA9Q is his amateur radio call sign) and invented the MACA multiple access scheme now part of IEEE 802.11. At Qualcomm, Phil conceived the IP-based CDMA packet data architecture and designed the

standard CDMA radio link protocol (RLP). He is also active in the IETF, where he has most recently edited the upcoming **"Advice for Subnetwork Designers"** RFC.

Angus MacDonald
Sun Microsystems Australia

Angus MacDonald is the Chief Technology Office at Sun Microsystems. As Sun Microsystems' leading technology evangelist in Australia and New Zealand, Angus MacDonald is a thought provoking speaker. The Chief Technology Officer is not afraid to make bold predictions, and proffers the good and the not-so-good in his engaging discussions about the future of the IT industry.

With more than 25 years of IT experience, MacDonald has ridden the many waves of the industry and is confident that some of the most exciting and turbulent times are yet to come. Sun, he believes, will be at the forefront of these changes and is geared to offer guidance to customers, partners and government bodies to ensure they capitalise on the changes to their advantage.

While MacDonald believes that the hottest IT prediction of the coming year is **"that most hot IT predictions this year will be wrong"**, he has tracked industry trends and argues that key business drivers for IT include:

- driving down cost;

- simplifying infrastructure;

- being prepared for a situation where everything and everyone is connected; and

- the ability to service the rapidly growing demands of youth for more technology.

In addition to his 'evangelical' role, MacDonald consults to Sun customers and partners about the application and implementation of enterprise-wide architectures. He also acts in an advisory capacity to key government departments, providing guidance on the future of the IT industry and what technologies should be encouraged in particular markets.

MacDonald's exceptional understanding of technological trends and industry direction has steered him through an impressive and diverse IT career including roles at CSR, Prime Computers, Perkin Elmer, ICL, Neology and Fujitsu. For the last ten years however, MacDonald has been with Sun, having previously held the position of National System Engineer Manager, Sun Microsystems Australia and New Zealand.

Throughout his career, he has worked with numerous systems and applications, and he is one of few people in Australia with experience in UNIX® on mainframes.

MacDonald has also undertaken work with intellectually disabled people to assist them develop computer literacy skills.

Greg Rose
Qualcomm

Greg Rose is a VP of Technology for QUALCOMM International, based in Australia, where he works on cryptographic security and authentication for third-generation mobile phones and other technologies. He holds a number of patents for cryptographic methods and has successfully cryptanalyzed widely deployed ciphers. Some of his papers and free software are available at http://www.qualcomm.com.au

Andrew Tridgell
IBM

Andrew Tridgell is a researcher in the IBM Almaden research lab, working remotely from Canberra. His main project at the moment is working on clustered NAS solutions using the IBM StorageTank filesystem. Perhaps his most dubious claim to fame is that he is responsible for the very first bug ever put into Samba.

Con Zymaris
Cybersource

Con Zymaris (conz@cybersource.com.au) is the Editor of the AUUG Journal and also the CEO of Cybersource Pty Ltd a long-standing Open Systems and Open Source Professional Services company. Con has been using and programming computers since 1979, and using the Internet since 1989 and is an enthusiastic advocate for open-source software libre. While computers were always a passion which morphed into a career, at the University of Melbourne, he actually studied Physics.

TUTORIAL PROGRAMME

TUTORIAL PROGRAMME
Sunday 31 August 2003

Half Day Tutorials - Afternoon 1.30pm – 5pm

S1
Building a "run-from-CD" Linux distribution
By David Kaiser

Standard run-of-the-mill distribution installation CD's have been around for quite some time, but recently, newer variations of bootable CD Linux systems have appeared, from specialized cluster installation CD's to pocket-sized recovery and toolkit discs.

This tutorial will show the basic steps needed to build the basic components of a generic Linux distribution, and how to package them to be run from CD-ROM and ramdisk.

During this tutorial, you will build and/or customize your own minimalist Linux system that loads and runs completely from a CD-ROM medium.

David Kaiser resides in Redlands, California, USA, where he works as an independent Linux and open-source software consultant, currently specializing in building and supporting large-capacity e-mail and webmail servers for medical and educational institutions.

Previously, David was a Senior Linux Consultant with Linuxcare, Inc., where he was the Lead Developer in the Scalable Solutions Group, providing clients with customized distributions for laptop, embedded and scalable solutions. While at Linuxcare, David was one of the key hackers on the 2.0 rewrite of the Linuxcare BBC (Bootable Business Card) run-from-CD Linux system.

S2
Optimizing MySQL
By Arjen Lentz

This tutorial will look at the many aspects involved when optimising a MySQL application, the MySQL server, and its environment.

Contrary to popular expectations (and habits), hardware will be the absolute last item on our list. The reason for this will become apparent as we build an overall picture and take a closer look at various specific issues.

The tutorial will be highly interactive, using discussions, games, and other ways that insure maximum benefit for all participants. This method of teaching, which is the standard format of MySQL AB training courses, has proven to be much more effective than regular lectures.

Optimisation is certainly not a topic of dry knowledge. Instead it is about gaining the skills needed to analyse the big picture, and recognising the often small but important opportunities. As such, this tutorial will provide a valuable experience for both experienced users as well as for those who have only recently started with MySQL or DBMS in general.

You may benefit from bringing your own laptop computer, with at least MySQL 4.0.x (the current production series) server and your favourite client installed: well known are the old mysql command line client and the popular PHP/web-based phpMyAdmin. But you may also wish to take a peek at MySQL Control Center (MySQLCC for short), MySQL AB's own new cross-platform graphical user interface built on the Qt toolkit. The latest versions of the software can be downloaded from www.mysql.com. Do come prepared, as we won't have time for the trivial.

MySQL AB is the Swedish company that owns, develops and supports the MySQL database software, founded in 1995 by Michael (Monty) Widenius and David Axmark.

Arjen Lentz (34) is originally from Amsterdam, The Netherlands, with over 10 years of experience in software development, marketing/sales, training, and consultancy.

He has been working for MySQL AB since 2001, primarily as lead technical writer in charge of the MySQL documentation. In addition, he gives MySQL training courses in Australia, and maintains contacts with the MySQL community and other interested organisations in Australia.

His recent interactive presentation to the members of the Linux Users of Victoria (LUV) in Melbourne was highly popular and he is always keen to be involved in open discussions with interested parties, about MySQL and the possibilities for Open Source.

S3
High availability
By Joseph Gan
Audience: Unix system admin (Solaris).

1. Changing the parameters of a file system on the fly

In Solaris, changing some parameters of a file system that usually will destroy the data on it.

For instance, changing the cache segment block size in the volume of a T3 requires that you delete the existing volume; which will destroy the data. After that it could take a significant amount of time for the volume to be reinitialised.

And also, change the segment size of a LUN in a raid box which needs to delete the existing LUN. Even if changing the parameter of a metadevice, or re-name a metadevice which needs to un-mount the file system.

How to dynamically change the parameters of a file system without destroy the data on it?

2. Expanding a file system on the fly

A metadevice can be expanded by adding slices. Most UNIX file systems can be concatenated into a metadevice that contains an existing file system on the fly. If the file system type is UFS, it can be grown to fill the larger space while the file system is in use.

But the concatenation is good only for small random I/O and for even I/O distribution. On the other hand, striping is advantageous for large sequential I/O and for uneven I/O distribution.

Striping will increase performance by accessing data in parallel. However, if you want to expand a file system to a single striped metadevice, you have to dismount the file system, then back it up to tapes and restore it back to the new partition.

How to expand a file system on the fly?

3. Moving the data of a file system to another partition on the fly

Moving a large file system to a new partition on the disk units, such as RSM Raid box, Sun T3 and StorageTek Hardware Raid devices for instance, involves dismount the filesystem, then back it up to tapes and restore it to a new partition, or using copy command to copy the file system from one place to another while it is un-mounted. It could take a significant amount of time for a large filesystem, and will impact users' useability of the system.

How to move the data of a file system to another partition on the fly?

4. Backing up the data of a file system on the fly.

When backing up in Solaris, the file system must be inactive; otherwise, the output may be inconsistent. A file system is inactive when it is unmounted or it is write locked by OS. Although fssnap utility in Solaris can do online backup, it will fail if the file system could not be write locked.

How to backup a file system on the fly?

The answer for the all above questions are by using SVM.

The Solaris Volume Manager (SVM) has been delivered as an integral part of the Solaris Operating Environment in Solaris 9. In the early version of Solaris, it is called Solstics DiskSuite (SDS) or Online: DiskSuite (ODS). That is co-packaged with Solaris and is available as an unbundled product.

5. What if some filesystems could not be mounted as metadevice on the fly, or the file system is not suitable to be mounted as metadevice?

By using SVM and some special arguments of a Solaris mkfs command, the file system can be grown on the fly without mounted as metadevice.

Joseph Gan is currently with the Australian Bureau of Statistics as Unix system administrator. He has been working as an IT professional for more than ten years both aboard and here in various organisations. He has a degree in Computing Science from the University of Western Sydney, and two diplomas in IT. He has experience in computer training, programming, networking and Unix system administration. He has regularly contributed to "Inside Solaris" and "AUUGN".

Full Day Tutorials
9am – 5pm

M1
Debugging Kernel Problems
By Greg Lehey

Intended Audience:

Kernel developers and experienced system administrators. The tutorial assumes a good working knowledge of UNIX systems administration and the C programming language. A knowledge of kernel internals will be helpful, but is not essential. Depending on prior experience, participants will lean to locate and either fix or report kernel bugs.

Description:

This tutorial will show debugging techniques on live systems. The operating system for most of the tutorial will be FreeBSD, but it will explain the (relatively small) differences in NetBSD and OpenBSD. Much of the content, including some of the kernel debugging examples, applies to Linux as well.

Topics:

- How and why kernels fail.

- Understanding log files: dmesg, /var/log/messages.

- Using common tools for debugging a running system: ps, netstat, top.

- Building a kernel with debugging support: the options.

- Preparing for dumps: dumpon, savecore.

- Demonstration: panicing and dumping a system.

- Preliminary dump analysis (non-technical, without sources).

- The assembler-level view of a C program.

- Introduction to the kernel source tree.
- Analysing panic dumps with gdb (technical).

- On-line kernel debuggers: ddb, remote serial gdb.

- Debugging a running system with gdb.

- If time permits, a demonstration of some of these topics on NetBSD and OpenBSD systems.

Greg Lehey has been in the computer industry for 30 years, in which time he has performed most jobs, ranging from kernel development to product management, from systems programming to systems administration, from processing satellite data to programming petrol pumps, from the production of CD-ROMs of ported free software to DSP instruction set design. He is the author of **"Porting UNIX Software"** (O'Reilly and Associates, 1995) and **"The Complete FreeBSD"** (O'Reilly and Associates, 2003).

Half Day Tutorials - Morning
9am – 12.30pm

M2
Introduction to CVS
By David Purdue

Change control is becoming increasingly important, for technical, management and legal reasons.

In open source projects in particular it is important that change is monitored and controlled, while allowing individual developers to be as productive as possible and just get on with their coding.

The tool of choice for achieving this is CVS – the concurrent version system.

This tutorial will give and introduction to CVS and its use, including:

- Source code control concepts and motivation.

- Setting up a CVS repository.

- The CVS checkout/develop/checkin cycle.

- Tagging to define releases.

- Repository maintenance.

David Purdue is an AUUG old hand, having held every position on the AUUG Board (except Treasurer) at some time. At the time of writing he is Immediate Past President, but has 6 days to serve in that role.

David uses CVS as part of the AUUG webmaster and admin teams.

In his day job, David is a Service Account Manager for Sun Microsystems.

M3
Open Source Database Systems - An introduction
By Joel Sing

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:

- The need for databases

- An introduction to Structured Query Language (SQL)

- Details on available open source database systems

- Feature comparison between PostgreSQL and mySQL

- PostgreSQL

  - Installation and configuration
  - Creation/deletion of a database
  - Table and schema management
  - Securing PostgreSQL

- MySQL

  - Installation and configuration
  - Creation/deletion of a database
  - Table and schema management
  - Managing mySQL security

- Programmatic interfacing to a database

  - PHP database access
  - Perl/DBI programming
  - C/C++ interfaces

- Dynamic Web applications using a database backend

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.

Joel is one of the founders of Ionix Technology, a Bendigo based company that provides computing solutions (open source whenever possible) to small and medium enterprise. He is a highly skilled software engineer, with many years experience developing complex software systems, including database based and web based applications. Joel is also a sessional lecturer at La Trobe University, Bendigo, having completed his computing honours degree in 2001.

Half Day Tutorials - Afternoon 1.30pm – 5pm

M4
Practical IPSEC
By Adrian Close

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.

Topics:

- Why IPSEC?

- ISAKMP authentication using shared secrets and certificates.

- Basic IPSEC - ESP, AH, SA's and SPIs.

- PKI - myths and realities.

- Encryption algorithms – choices and availability.

- Alternatives to ISAKMP.

- The problem of key exchange.

- IPSEC implementations and interoperability issues.

- ISAKMP overview.

- IPSEC and IPV6 - a vision of the future.

M5
Exorcizing MS Exchange while keeping both your users and CFO happy!
By Gordon Hubbard

The MS Exchange® and Outlook® combination is a road block that can stop many organisations from migrating to more Open Standards based infrastructure based on Linux or even proprietary UNIX. Further, later versions of Exchange force the adoption of other proprietary infrastructure such as Microsoft's Active Directory that act to limit interoperability. The tutorial looks at some of the technical, financial and user interface issues involved and takes a detailed look at one viable alternative (Samsung Contact).

Gordon Hubbard is Managing Director at Custom Technology Australia Pty Ltd. He also shares his 20+ years of experience in the high technology industry by accepting consulting briefs, presenting seminars and writing on Linux, UNIX and Open Source business and technical strategies. Custom Technology specialises in technical support for Linux, UNIX, Samsung Contact (HP OpenMail), turnkey systems, software development and value added distribution.

Gordon has presented numerous seminars at industry and vendor events in Australia, Hong Kong, Singapore, Malaysia and India. Gordon was a contributing author to the "Revised Edition Linux Pocket Book" (featuring OpenLinux and Red Hat Linux) with the first edition published by ACP Publishing in September 1999 and the second edition published January 2000.

M6
Web Services for the Technical Practitioner
By Jan Newmarch

Web services are promoted as the next evolution of the Web, moving from person-oriented consumption of Web information towards machine to machine production and consumption of information. This will move one step closer to the "semantic Web", a goal of many in the Web community. In reality, many aspects of Web services are a poor implementation of twenty year old technology.

This tutorial examines Web services from a hands-on view of someone who has to build and deploy these 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:

- Overview and components of Web services

- SOAP (Simple Object Access Protocol): concepts, scope and limitations

- Programming language and library support for SOAP

- Transport mechanisms: HTTP, email, etc

- WSDL (Web Services Description Language)

- UDDI

Jan Newmarch is a Professor in the School of Network Computing, Monash University, Australia. He has published extensively in the fields of AI and logic programming, user interfaces and Motif programming, Web technologies, and distributed middleware systems. He has written books on Logic Programming, X Window/Motif Programming and on Jini. He is a regular presenter of tutorials at technically oriented conferences, and has given tutorials at conferences in the US, Australia and Asia

**Half Day Tutorials – Morning
9am – 12.30pm**

T1
LDAP as a replacement for NIS
By David Baldwin

This tutorial covers setting up LDAP as a replacement for NIS and using it as a foundation for other applications. This draws on various projects I've worked over the past few years including using LDAP for ANU home-grown web cache quota system, redundant mail processors using sendmail with aliases in LDAP database, and as a NIS replacement in Linux clusters.

T2
Wireless Networking
By Peter Sandilands

Wireless networking can be a Godsend to those of us who are cable challenged, either in our houses or offices. But wireless technology has gained a reputation for poor security. Yet for a lot of us, particularly those in the open source fraternity, these issues can be overcome by sensible deployment choices and by judicious use of technology.

This tutorial will take you thru the maze of 802.11 technologies, highlighting the weaknesses, explaining the differences with a, b and g. We will quickly move on to demonstrating how application of the right technologies can give you flexibility and allow integration of open source platforms into a 802.11 based network.

- The 802.11 alphabet soup

- 802.11 security – insecurity

- Commercial components – NICs, access points

- Linux and BSD as clients

- Using Linux and BSD as access points

- Open source 802.11 tools

- Troubleshooting and testing

The tutorial will use live systems throughout to demonstrate the areas covered.

Basic command line capability in Linux or BSD is required. Bring your notebook and wireless NIC (if you have one) for a hands on involvement in the tutorial.

Peter Sandilands is currently researching and teaching in the areas of networking, security and wireless technology.

With over twenty-seven years in the computer industry Peter has extensive experience in the application of computer and networking technology to business problems. That experience covers a broad range of operating systems from time sharing systems, Unix, MSDOS through OS/2 and NT to current open source offerings. It has involved working with a wide spectrum of industry varying from Federal government departments, metal refineries to advertising agencies.

Having worked for two Australian computer hardware manufacturers in support and marketing management roles Peter has detailed knowledge of the base level technology underpinning information systems. This combined hardware and software expertise allows Peter to provide relevant and understandable insight to the use of information technology in modern businesses.

T3
Mac OS X: An Introduction for Developers,
By *Daniel Figucio*

With Mac OS X Apple has asserted its leadership in the advanced technologies and design sensibility that are the hallmarks of any great operating system. While preserving the famed ease of use of its predecessors, Mac OS X is an industrial-strength, modern operating system engineered for reliability, stability, scalability, and phenomenal performance. As such, it lays the foundation for another decade of developer innovation.

Mac OS X is a completely rebuilt implementation of the Macintosh operating system. It expands on Apple's technological strengths, such as industry-standard networking capabilities and industry-leading user interface design. More importantly, Mac OS X combines those strengths with support for a variety of technologies beyond those typically associated with the Macintosh, such as UNIX and Java 2 Standard Edition. This unique combination of technologies offers developers stability, power, and

interoperability, beneath a well designed, elegant, and intuitive user interface. As a result, Mac OS X presents new opportunities for both development and deployment.

This Half Day Tutorial presents an overview of Mac OS X technologies, the benefits those technologies provide for developers, and options for development.

The content will cover:

Developer¹s Overview of Mac OS X
- Darwin
- Graphics Quartz, OpenGL and QuickTime
- User Interface
- Interoperability e.g. Networking and File Systems, Java

Development Options for Unix Developers
- Carbon
- Cocoa
- Java
- UNIX

Development Tools
- Command Line
- Project Builder
- Interface Builder

Optional Development Environments and Tools (Time permitting)
- WebObjects Project Builder Integration and WebObjects Builder
- Third Party Tools, Borland JBuilder, etc.

Daniel Figucio is a Strategic Systems Engineer with Apple Computer Australia. In past lives he has managed IT in cross-platform environments, developed WebObjects solutions and helped build the Pyramids in Ancient Egypt - but he is under a Non-Disclosure Agreement and cannot tell us if aliens were involved in the latter.

NB: Apple releases new hardware and software from time to time. It cannot be guaranteed that the products mentioned in this tutorial will be those the tutorial is conducted with. We reserve the right to substitute new or improved hardware and software products as and when they become available.

Half Day Tutorials - Afternoon 1.30pm – 5pm

T4
Building a State of the Art Firewall with OpenBSD
By *Michael Paddon*

Firewalls allow a network administrator to impose a security policy on inter-network traffic. The sophistication of online threats is continuing to escalate rapidly, requiring an ongoing evolution of firewall capabilities and policy architecture. Today, if you are not using state of the art tools and techniques, you are probably at significant, and increasing, risk of compromise.

OpenBSD is widely recognised as a premier secure operating system and its "pf" subsystem provides the cutting edge features required to support a sophisticated, modern firewall policy. Attendees will learn, in detail, how to configure pf for a wide range of real world situations and protocols.

Topics covered include:

- introduction to the pf processing model
- stateless IPv4 and IPv6 filtering
- stateful packet filtering
- filtering UDP and TCP sessions
- state modulation
- traffic normalisation
- packet queuing and bandwidth control
- network address translation
- packet logging
- effective ruleset structures
- performance tuning
- customising icmp returns
- complex protocols and proxies
- general firewall configuration tips

Attendees are expected to be familiar with the IP, UDP and TCP protocols and should have some systems/network administration experience. OpenBSD expertise in NOT assumed, although some general knowledge of Unix-like systems would be helpful.

T5
Mac OS X Server on Xserve and XServe RAID.
By *Joseph Cox*

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 server hardware - Xserve and XServe RAID. Numbers will be strictly limited to allow participants hands-on access (via supplied wireless laptop).

Mac OS X Server 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.

Xserve 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 1.33GHz PowerPC G4 processors running at speeds of up to 20 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 720GB 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.

XServe RAID is a dedicated hardware RAID unit at a revolutionary price. Utilising the same hot-swappable 180GB Apple drive modules as the XServe, it allows 2.5TB of data to be available in a 3U rack-mount case. Admin is easy and secure via a Java admin application that can run on any platform that supports Java. Data throughput is up to a sustained 200 MB/s, and access is via dual redundant, 2Gb Fiber Channel connections. Management is fully out of band, via dual redundant Gb ethernet.

The content will cover:

- Overview and components of Mac OS X Server

- Installation and setup of typical services

- Mac OS X Server's standards-based UNIX underpinnings

- Overview and components of Xserve and XServe RAID hardware

- Mac OS X Server Administration: GUI and/or laptop)

Joseph Cox is a Systems Engineer with Apple Computer Australia. A keen hobbyist since the first generation of personal computers, like many, he ended up working in IT by default. Conversant in many platforms, (although a long time Mac fan), he is very excited about the Unix and Mac worlds finally meeting. Born on the 1st Jan 1970 (%date -r 0), he was always destined to end up fiddling with Unix in one guise or another.

NB: Apple releases new hardware and software from time to time. It cannot be guaranteed that the products mentioned in this tutorial will be those the tutorial is conducted with. We reserve the right to substitute new or improved hardware and software products as and when they become available.

CONFERENCE PROGRAMME

TIME — WEDNESDAY, 3 SEPTEMBER 2003

TIME			WEDNESDAY, 3 SEPTEMBER 2003	
9:00am	-	9:10am	**CONFERENCE OPENING**	**Adrian Close** Programme Chair *AUUG Inc* **Greg Lehey** President *AUUG Inc*
9:10am	-	9.50am	**KEYNOTE**	**Apple Computer** Open Source at Apple
9.50am	-	10.30am	**PLENARY**	**Angus MacDonald** Chief Technology Officer *Sun Microsystems Australia* The Datacentre of the Future
10:30am	-	11:00am	*Morning Tea Break*	
			CONCURRENT SESSIONS	
			Linux	**WWW**
11:00am	-	11:40am	**Martin Schwenke*, IBM Linux Technology Center*** Linux Hardware Inventory: Current Reality, Future Possibilities	**Enno Davids** Apache Performance Tuning and the HitMeter Applet
11:40am	-	12:20pm	**Chris Yeoh, *Samba Team*** Linux Standard Base	**Benjamin West, *Ionix Technology*** Web Design Pitfalls – Why Website Design Fails
12:20pm	-	1:00pm	**Mike MacCana, *Cybersource*** Way More than Samba: Windows, Linux and Making them Talk to Each Other in 2003	**Eddy Cheung, *DSTC*** Strongly Authenticated URLs: Integration of Web Browsers and Applications with Strong Authentication
1:00pm	*-*	*2:30pm*	*Lunch*	
			CONCURRENT SESSIONS	
			OSS Business	**Firewalls**
2:30pm	-	3:10pm	**Martin Michlmayer, *Debian*** Debian – Open Development	**Jan Newmarch, *Monash University*** Firewalling Web Services
3:10pm	-	3:50pm	**Ken McDonell, *SGI*** Some Open Source Experiences at SGI	**Richard Keech, *Red Hat*** The Acacia Firewall
3:50pm	*-*	*4:15pm*	*Afternoon Tea Break*	
4:15pm	-	5:00pm	**FOOTNOTE**	**Greg Rose, *Qualcomm***
5:00pm	-	6:00pm	**AUUG Inc - Annual General Meeting**	
6:00pm	-	8:00pm	**NETWORKING RECEPTION**	Sponsored by Apple Computer

CONFERENCE PROGRAMME

TIME   THURSDAY, 4 SEPTEMBER 2003

Time					
9:00am	-	9:45am	**KEYNOTE**		**Steve Alford** General Manager, Information Management Strategy and Governance *National Office for the Information Economy (NOIE)* Commonwealth Implementations of OSS: Approaches and Future Directions
9:45am	-	10:30am	**PLENARY**		**Dr Elizabeth Gordon-Werner,** Manager, Electronic Strategic Projects *New South Wales Office of Information Technology (OIT)* NSW Government Investigates its Use of Open Source, Free Source
10:30am	-	11:00am	*Morning Tea Break*		
			CONCURRENT SESSIONS		
			Database	**Open Computing for Government**	
11:00am	-	11:40am	**Arjen Lentz, *MySQL AB*** State of the Dolphin – The Business Background of MySQL, The Company Behind it and the Defining Features	**Mark Corbould, *National Library of Australia*** OpenSource@nla.gov.au	
11:40am	-	12:20pm	**David Baldwin, *Australian National University*** Rolling Your Own Meta Directory – Account Management Across Multiple Services	**George Rossi, *Powerhouse Museum*** Implementing Linux and Open Source Infrastructure at the Powerhouse	
12:20pm	-	1:00pm	**Devraj Mukherjee, *Eternity Technolgies*** Asynchronous Distributed Data Exchange Framework	**Peter Gigliotti, *Bureau of Meteorology*** Open Source Activities in the Bureau of Meteorology	
1:00pm	-	*2:30pm*	*Lunch*		
			CONCURRENT SESSIONS		
			Site Planning	**Linux Kernel**	
2:30pm	-	3:10pm	**Dr YDS Arya, *Indian Institute of Technology, Kanpur*** System Performance Evaluation for Future Upgrade / Replacement	**Ian Wienand, *Gelato@UNSW*** An Analysis of Next Generation Threading Performance on IA64 Linux	
3:10pm	-	3:50pm	**Andrew Cowie, *Operational Dynamics Consulting Pty Ltd*** Have You Ever Thought What Would Happen if You Lost Your Office?	**Peter Chubb, *Gelato@UNSW*** Where's All the Time Going? Microstate Accounting in Linux 2.5	
3:50pm	-	*4:15pm*	*Afternoon Tea Break*		
4:15pm	-	5:00pm	**FOOTNOTE**	**Phil Karn, VP Technology, *Qualcomm***	
7:00pm	-	11:30pm	**CONFERENCE DINNER**		

CONFERENCE PROGRAMME

TIME			FRIDAY, 5 SEPTEMBER 2003	
9:00am	-	9:45am	**KEYNOTE**	**Andrew Tridgell,** *Samba Team* Samba4 – A New Beginning
9:45am	-	10:30am	**PLENARY**	**Con Zymaris,** *Cybersource* Professional Services with UNIX and FOSS: A Primer
10:30am	-	11:00am	*Morning Tea Break*	
			CONCURRENT SESSIONS	
			Developer	**Networking**
11:00am	-	11:40am	**Lawrie Brown,** *ADFA* A New Runtime for the EC Erlang Compiler	**Jörg Micheel,** *endace measurement systems ltd* Writing Applications for Realtime Network Monitoring
11:40am	-	12:20pm	**Steve Landers,** *Digital Smarties* Beyond TclKit – StarKits, StarPacks and Other *Stuff	**David Hughes,** *Hughes Technologies* Integrating Address Allocation and Router Configuration with a Routing Registry
12:20pm	-	1:00pm	**Michael Paddon,** *Qualcomm* Living Subversively – A Review and a Commentary on Using the New, Open Sourced Subversion Revision Control System	**Anshul Gupta,** *Monash University* Server Architecture for Voice Over IP
1:00pm	*-*	*2:30pm*	*Lunch*	
			CONCURRENT SESSIONS	
			BSD	**UNIX and Open Source**
2:30pm	-	3:10pm	**Brett Lymn,** *BAE Systems* Verified Exec	**Greg Lehey,** *AUUG Inc* But is it UNIX? (or, why I hate OpenOffice)
3:10pm	-	3:50pm	**Luke Mewburn,** *Wasabi Systems* The Design and Implementation of the NetBSD rc.d System	**Silvia Pfeiffer,** *CSIRO* Ogg Technologies: Open Source First, Open Standards Next
3:50pm	*-*	*4:15pm*	*Afternoon Tea Break*	
4:15pm	-	5:00pm	**FOOTNOTE**	**Matt Asay,** *Novell Inc* Innovating and Developing with Open Source Software (OSS): Where OSS Works and How to **"Both Source"** When it Doesn't

At time of going to press all programme details are correct.
Presentations are sometimes subject to change.
To ensure that you have up-to-date information, please collect a
Daily Programme Update (available at the Registration Desk) for confirmation of presentations and start time.

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AUUG 2003 REGISTRATION FORM – TAX INVOICE

AUUG 2003–Open Standards, Open Source, Open Computing

Location: Duxton Hotel North Sydney, 88 Alfred Street, Milsons Point NSW 2061
Tutorials: 31 August -2 September 2003   **Conference:** 3-5 September 2003

ONLINE REGISTRATION AVAILABLE AT https://www.auug.org.au/cgi-bin/rego.pl

WHEN COMPLETED 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: 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:

	Full Day Tutorial 9:00 am - 5:00pm	**Half Day Morning Tutorial** 9:00 am - 12:30pm		**Half Day Afternoon** 1:30pm - 5:00pm		
Sunday				S1 ☐	S2 ☐	S3 ☐
Monday	M1 ☐	M2 ☐	M3 ☐	M4 ☐	M5 ☐	M6 ☐
Tuesday		T1 ☐	T2 ☐ T3 ☐	T4 ☐	T5 ☐	

II.   Conference Programme

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

Wednesday, 3 September ☐   Thursday, 4 September ☐   Friday, 5 September ☐

III.   Concurrent Sessions

Please indicate which of the concurrent session you plan to attend (for indicative numbers only)

	11:00am - 1:00pm		**2:30pm - 3:50pm**	
Wednesday	Linux ☐	WWW ☐	OSS Business ☐	Firewalls ☐
Thursday	Database ☐ Open Computing for Government ☐		Site Planning ☐	Linux Kernel ☐
Friday	Developer ☐	Networking ☐	BSD ☐ Unix and Open Source ☐	

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	$750.00 (inc $68.18 GST)	A$..................................
Members: ACS, ISOC-AU, LUGs, SAGE-AU, Uniforum NZ, Usenix	$830.00 (inc $75.45 GST)	A$..................................
Non-Members	$920.00 (inc $83.64 GST)	A$..................................
Member Day Registration (per day)	$290.00 (inc $26.36 GST)	A$..................................
Non-Member Day Registration (per day)	$400.00 (inc $36.36 GST)	A$..................................
Student Discounted Registration (unwaged) ID No........................	$210.00 (inc $19.09 GST)	A$..................................
For Conference Registrations received after 6 August 2003, an additional $115 fee is applicable	$115.00 (inc $10.45 GST)	A$..................................

MEMBERSHIP: AUUG INC.
Individuals: $125, Corporate: $480, Student (Full Time): $30.00   A$..................................
(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 Dec 2004, and inc of 10% GST)

SOCIAL PROGRAMME
(Full Conference attendees receive 1 ticket each to the Networking Reception and the Conference Dinner)   **No. Persons**

Wednesday, 3 September Networking Reception	$ 50.00 (inc $4.55 GST)	....	A$..................................
Thursday, 4 September Conference Dinner	$ 95.00 (inc $8.64 GST)	....	A$..................................

TOTAL PAYMENT A$...........................

PAYMENT OPTIONS:

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

Credit Card Payments: Bankcard ☐   Mastercard ☐   Visa ☐

Card Number: ....   Expires: ....

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SPECIAL REQUIREMENTS:

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

NOTE:

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

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Programme updates and Birds Of a Feather (BOF) sessions will be posted on:
http://www.auug.org.au/events/2003/auug2003/