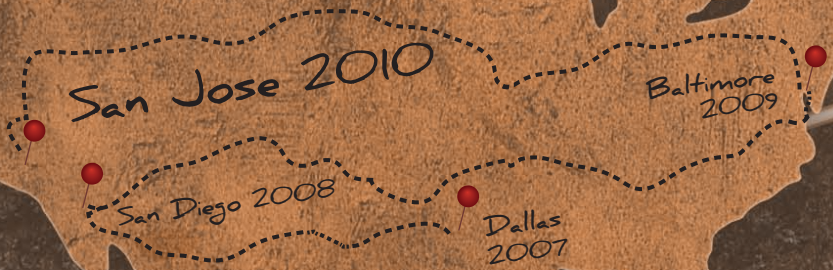
NOV. 7-12
2010

24TH LARGE INSTALLATION
SYSTEM ADMINISTRATION CONFERENCE

SAN JOSE
CALIFORNIA

LISA '10

UNCOVERING THE SECRETS OF SYSTEM ADMINISTRATION



PROGRAM INCLUDES:
UNRAVELING THE MYSTERIES OF TWITTER INFRASTRUCTURE, LEGAL ISSUES IN THE CLOUD, AND HUGE NFS AT DREAMWORKS

STAPLE HERE

INSERT

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KEYNOTE ADDRESS BY
Tony Cass, *CERN*

**JOIN US FOR 6 DAYS OF PRACTICAL TRAINING ON TOPICS INCLUDING

* Virtualization Series by instructors including John Arrasjid
* Configuration Management by Mark Burgess and more
* Linux Security and Administration Track

**PLUS A 3-DAY TECHNICAL PROGRAM

Invited Talks
Refereed Papers
Workshops
Vendor Exhibition

REGISTER BY OCTOBER 18 AND SAVE
www.usenix.org/lisa2010

LISA '10

Uncovering the Secrets of System Administration

Why Attend LISA?
"There is always one thing that I learn that makes me want to shout, 'That just paid for the entire conference!' "
—Thomas A. Limoncelli, Google NYC

Top Five Reasons to Attend LISA '10

1 – Face Time with Industry Leaders

Network with peers and luminaries in the "Hallway Track" and evening activities.

2 – Top-Notch Training

Highly respected experts uncover new information and skills you can take back to work tomorrow.

3 – Invited Talks

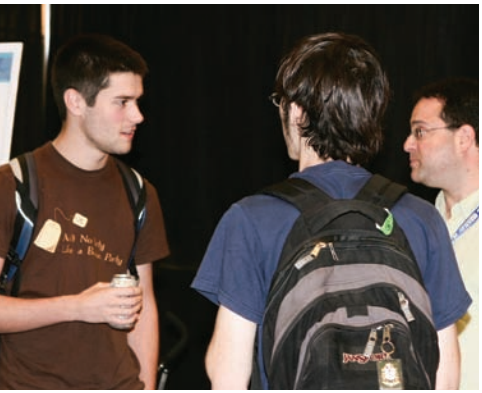
Key members of the community discuss timely and important topics.

4 – You'll Hear It Here First

Check out the latest research in the paper presentations, workshops, poster session, and Vendor Exhibition

5 – Get Answers

Bring your questions to the experts in the Guru sessions to unravel your greatest technical mysteries.



Attention Managers: Why You Should Send Your Employees to LISA '10

Hiring the best and the brightest is the ultimate goal for any employer. However, keeping current employees up to par is just as important. Technology continues to evolve: to truly stay ahead of the game, your employees must continue to enhance their skills.

The training program at LISA '10 offers a cost-effective, one-stop shop for training for your IT and development staff. Forty-eight full- and half-day tutorials taught by the most respected leaders in the field provide an unparalleled opportunity to learn from the best. Tutorials cover a multitude of system administration topics including virtualization, Linux administration, and configuration management.

Combining days of training with days of technical sessions on the latest research, practical Practice and Experience Reports, Guru Sessions, and informative Invited Talks, makes the LISA '10 experience even more valuable. Additionally, the Wednesday poster session, Thursday evening reception, and Birds-of-a-Feather sessions provide your staff with a chance to network with peers and industry leaders to gain that all-important "inside" IT knowledge that will keep your company current and running smoothly. Keeping up with technology can be costly and time-consuming in this unforgiving economy: take full advantage of this opportunity to have your staff learn from the top researchers, practitioners, and authors all in one place, at one time.

Looking to smash the technical stumbling blocks that plague you every day? Want to discover practical tips that you can use right away?

LISA '10 will uncover the secrets of system administration through top-notch training, innovative research, Practice and Experience Reports, and that all-important face time with others confronting the same challenges you battle every day.

LISA '10 opens with in-person training from the industry's top instructors such as David Blank-Edelman and Ted Ts'o. John Arrasjid is among the experts teaching a Virtualization Series. The new SuperSysadmin Series features classes by leaders like Tom Limoncelli on advanced time management. The Linux Security and Administration Series offers a look at key Linux topics such as Rik Farrow's SELinux. Take anywhere from 1 to 6 days of training and create the curriculum to meet your needs.

The technical program uncovers even more secrets and offers must-see invited talks such as the Keynote Address on large-scale computing by Tony Cass from CERN and Twitter infrastructure by John Adams of Twitter.

The latest research is showcased in the paper presentations, workshops, and poster session. The Practice and Experience Reports give you real-life experiences on topics ranging from configuration management to implementing IPv6. The Guru Is In sessions, led by experts such as Richard Elling on ZFS and Jamie Adams on security, allow you to uncover answers to your toughest questions.

The Vendor Exhibition provides insight into new products and services.

Finally, the "hallway track" offers ample opportunity to meet and mingle with colleagues and industry leaders during breaks, BoFs, and other social activities.

For over 20 years LISA has been the meeting place of choice for system, network, database, and other computer administrators and engineers from all over the globe. Don't miss the chance to be a part of this unique career-building adventure.

Register today at www.usenix.org/lisa2010

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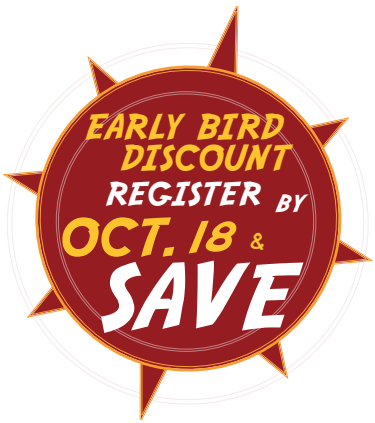

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Vendor Days

LISA '10 will also feature Vendor Days focusing on key topics. Last year's Data Storage Day, sponsored by Cambridge Computer, is back by popular demand. Other topics will follow. Check the Web site for more information.

MORE SERIES OF CLASSES THAN EVER BEFORE!

LISA is again offering a series of classes focusing on some of the most important topics you'll encounter. Back for 2010, the Virtualization Series offers both new and repeat classes that provide the latest virtualization information. The Linux Security and Administration Series offers in-depth Linux training. Finally, new for 2010, the Super Sysadmin Series showcases techniques for time and project management, raising your visibility, and other key skills to take your career the next level. Save time by getting your specialized training in one place at one time! See pp. 6–21 for descriptions of the tutorials in each series, which are denoted by icons. Follow the icons and discover the series.

VIRTUALIZATION

S1 ***NEW!*** Virtualization with VMware vSphere *(Sheth & Deuskar)*

M1 ***NEW!*** VMware Cloud and Cloud Architecture Design *(Arrasjid & Lin)*

T1 Introduction to the Open Source Xen Hypervisor *(Deshane & Wilbur)*

W1 ***NEW!*** VMware VI and vSphere SDK: The Fundamentals *(Jin)*

R1 VMware ESX Performance and Tuning *(McDougall)*

F1 ***NEW!*** Using Amazon Web Services *(LeFebvre & Staveley)*

Virtualization

LINUX SECURITY AND ADMINISTRATION

S9 Working with SELinux *(Farrow)*

M5 ***NEW!*** Real-World Insights on How to Secure and Route Your Linux Network *(Faulkner)*

M10 Recovering from Linux Hard Drive Disasters *(Ts'o)*

T2 Administering Linux in Production Environments *(Frisch)*

W2 ***NEW!*** Linux Performance Tuning *(Ts'o)*

R3 ***UPDATED!*** Pacemaker and Linux-HA: World-Class High Availability Software *(Robertson)*

Linux

SUPERSYSADMIN

S7 ***NEW!*** Getting It Out the Door Successfully *(Chalup)*

M4 Time Management for System Administrators: The Basics *(Limoncelli)*

M8 ***NEW!*** Advanced Time Management: Team Efficiency *(Limoncelli)*

M9 ***NEW!*** Understanding Service Levels and SLAs *(Ciavarella)*

T6 Project Troubleshooting *(Chalup)*

T9 Documentation Techniques for Sysadmins *(Ciavarella)*

T10 Problem-Solving for IT Professionals *(Chalup)*

SuperSysadmin

W4 ***NEW!*** A Sysadmin's Guide to Navigating the Business World *(Burgess & Rowland)*

W6 Practical Project Management for Sysadmins and IT Professionals *(Chalup)*

Training at a Glance

SUNDAY, NOVEMBER 7, 2010

Full Day: 9:00 a.m.–5:00 p.m.

S1 ***NEW!*** Virtualization with VMware vSphere *(Sheth & Deuskar)*

S2 ***NEW!*** Postfix Configuration and Administration *(Koetter & Hildebrandt)*

Half Day Morning: 9:00 a.m.–12:30 p.m.

S3 ***NEW!*** DNSSEC Implementation Overview *(Clegg)*

S4 Nagios: Advanced Topics *(Sellens)*

S5 ***NEW!*** Techniques for Managing Huge Amounts of Data *(Elling)*

S6 Wireshark and the Art of Debugging Networks *(Carter)*

Half Day Afternoon: 1:30 p.m.–5:00 p.m.

S7 ***NEW!*** Getting It Out the Door Successfully *(Chalup)*

S8 Databases: What You Need to Know *(Sellens)*

S9 Working with SELinux *(Farrow)*

S10 Have a Drink from the Network Services Firehose *(Carter)*

MONDAY, NOVEMBER 8, 2010

Full Day: 9:00 a.m.–5:00 p.m.

M1 ***NEW!*** VMware Cloud and Cloud Architecture Design *(Arrasjid & Lin)*

M2 ***NEW!*** Dovecot Configuration and Administration *(Koetter & Hildebrandt)*

M3 ZFS: A Filesystem for Modern Hardware *(Elling)*

Half Day Morning: 9:00 a.m.–12:30 p.m.

M4 Time Management for System Administrators: The Basics *(Limoncelli)*

M5 ***NEW!*** Real-World Insights on How to Secure and Route Your Linux Network *(Faulkner)*

M6 ***NEW!*** Perl 6 for Perl Users and Sysadmins *(Oetiker)*

M7 ***NEW!*** NASes for the Masses *(Damon)*

MONDAY, NOVEMBER 8, 2010 (CONTINUED)

Half Day Afternoon: 1:30 p.m.–5:00 p.m.

M8 ***NEW!*** Advanced Time Management: Team Efficiency *(Limoncelli)*

M9 ***NEW!*** Understanding Service Levels and SLAs *(Ciavarella)*

M10 Recovering from Linux Hard Drive Disasters *(Ts'o)*

M11 IPv6: An Introduction *(van Drunen)*

TUESDAY, NOVEMBER 9, 2010

Full Day: 9:00 a.m.–5:00 p.m.

T1 Introduction to the Open Source Xen Hypervisor *(Deshane & Wilbur)*

T2 Administering Linux in Production Environments *(Frisch)*

T3 Configuration Management Solutions with Cfengine 3 *(Burgess)*

Half Day Morning: 9:00 a.m.–12:30 p.m.

T4 ***NEW!*** Backups, Archiving, and Life Cycle Management *(Farmer)*

T5 Advanced Shell Programming *(Ciavarella)*

T6 Project Troubleshooting *(Chalup)*

T7 RRDtool First Steps *(Oetiker)*

Half Day Afternoon: 1:30 p.m.–5:00 p.m.

T8 ***FULLY REVISED!*** Next-Generation Storage Networking *(Farmer)*

T9 Documentation Techniques for Sysadmins *(Ciavarella)*

T10 Problem-Solving for IT Professionals *(Chalup)*

T11 RRDtool Advanced Topics *(Oetiker)*

WEDNESDAY, NOVEMBER 10, 2010

Full Day: 9:00 a.m.–5:00 p.m.

W1 ***NEW!*** VMware VI and vSphere SDK: The Fundamentals *(Jin)*

W2 ***NEW!*** Linux Performance Tuning *(Ts'o)*

Want more information on the training program? See www.usenix.org/lisa2010

WEDNESDAY, NOVEMBER 10, 2010 (CONTINUED)

Half Day Morning: 9:00 a.m.–12:30 p.m.

W3 ***NEW!*** Monitoring Servers, Networks, and Lunchrooms with Zenoss *(Nalley)*

W4 ***NEW!*** A Sysadmin's Guide to Navigating the Business World *(Burgess & Rowland)* ●

W5 ***NEW!*** Cfengine 3 for Cfengine 2 Users *(Frisch)*

Half Day Afternoon: 1:30 p.m.–5:00 p.m.

W6 Practical Project Management for Sysadmins and IT Professionals *(Chalup)* ●

W7 Over the Edge System Administration, Volume 1 *(Blank-Edelman)*

W8 Take a Gulp from the Sysadmin Automation Firehose *(Frisch)*

THURSDAY, NOVEMBER 11, 2010

Full Day: 9:00 a.m.–5:00 p.m.

R1 VMware ESX Performance and Tuning *(McDougall)* ●

R2 Issues in Infrastructure Design *(Damon)*

R3 ***UPDATED!*** Pacemaker and Linux-HA: World-Class High Availability Software *(Robertson)* ●

Half Day Morning: 9:00 a.m.–12:30 p.m.

R4 ***NEW!*** Advanced UNIX Tools *(Hughes)*

Half Day Afternoon: 1:30 p.m.–5:00 p.m.

R5 Over the Edge System Administration, Volume 2 *(Blank-Edelman)*

FRIDAY, NOVEMBER 12, 2010

Full Day: 9:00 a.m.–5:00 p.m.

F1 ***NEW!*** Using Amazon Web Services *(LeFebvre & Staveley)* ●

F2 Solaris DTrace *(Mauro)*

F3 Automating Network Configuration and Management *(Chapman)*

TRAINING PROGRAM REGISTRATION INCLUDES:

- ◊ Admission to the tutorials you select
- ◊ Lunch on the days of your tutorials
- ◊ Training program materials and Conference Proceedings loaded on a 4GB USB drive
- ◊ Admission to the Vendor Exhibition
- ◊ Admission to the Conference Reception
- ◊ Admission to the evening activities on the days for which you're registered
- ◊ Conference t-shirt
- ◊ Wireless connectivity in the conference session area

OUR GUARANTEE

If you're not happy, we're not happy. If you feel a tutorial does not meet the high standards you have come to expect from USENIX, let us know by the first break and we will immediately change you to any other available tutorial.

WANT MORE INFO?

Please see www.usenix.org/lisa2010/training for comprehensive tutorial descriptions, including full topics lists, prerequisites, and laptop/system requirements.

BACK FOR 2010! SERIES ON VIRTUALIZATION, LINUX, AND SOLARIS

LISA is again offering series of classes focusing on three of the most important topics you'll encounter. Follow the icons and complete the series.

S1 Virtualization with VMware vSphere: The Fundamentals *NEW!*

Rupen Sheth and Shridhar Deuskar, *VMware*

Who Should Attend: Full Day

System administrators and architects who are interested in deploying a VMware vSphere environment, including ESX and vCenter Server.

Take Back to Work:

The knowledge needed to design, install, and test a VMware vSphere–based virtual infrastructure as the foundation for cloud computing.

Topics Include:

- Virtualization overview
- Current vSphere core concepts and features
- vSphere installation and configuration (ESX, vCenter and extensions)
- Networking and storage overview and configuration
- Virtual machines, virtual appliances, and the OVF
- Clusters, Resource Pools, VMware HA, VMware FT, and VMware DRS
- Demonstration of features

S2 Postfix Configuration and Administration *NEW!*

Patrick Ben Koetter, *state of mind;* **Ralf Hildebrandt,** *Charite Hospital, Berlin*

Who Should Attend: Full Day

Novice and advanced system administrators and integrators interested in a crash course on Postfix, a fast, easy to administer, and secure alternative to Sendmail.

Take Back to Work:

In-depth instruction in the installation and configuration of Postfix and software commonly used in conjunction with Postfix (e.g.,Cyrus SASL, amavisd-new and SpamAssassin, clamav, various policy daemons), along with an understanding of the administrative issues that arise when you are running a Postfix SMTP server.

Topics Include:

- System architecture
- Single domain configuration
- Relay control
- Multi-domain configurations
- Relay domain configuration
- Controlling message flow

S3 DNSSEC Implementation Overview: It's Not That Scary If You Do It Right *NEW!*

Alan Clegg,
Internet Systems Consortium

Who Should Attend: Half Day AM

System administrators and network engineers who are knowledgeable about DNS and have been asked by their managers to deploy DNSSEC.

Take Back to Work:

A thorough understanding of what you need to know and do to deploy DNSSEC in your organization.

Topics Include:

- Determination of needs
- Hardware overview
- Evaluation of existing infrastructure and processes
- Deployment considerations
- Evaluating signing requirements
- Testing the system
- Quality assurance

Want more information on the training program?
See www.usenix.org/lisa2010

S4 Nagios: Advanced Topics

John Sellens, *SYONEX*

Who Should Attend: Half Day AM

Network and system administrators ready to implement or extend their use of the Nagios system and network monitoring tool.

Take Back to Work:

The information you need to immediately implement and use the advanced features of Nagios and related tools for monitoring systems and devices on your networks.

Topics Include:

- Theory of operation
- Configuration for more complex environments
- Plug-ins: Their creation, use, and abuse
- Extensions: NRPE, NSCA, NDOUtils
- Add-ons: Graphing, integration with other tools
- Abuse: Unexpected uses and abuses of Nagios

S5 Techniques for Managing Huge Amounts of Data *NEW!*

Richard Elling, *Nexenta Systems*

Who Should Attend: Half Day AM

Storage administrators and systems architects who are feeling challenged by the ever-increasing mass of information being stored.

Take Back to Work:

An understanding of the tips, tricks, and traps involved in implementing and managing huge amounts of data.

Topics Include:

- Introduction to storage technologies
- When good data goes bad
- Capacity planning and performance
- Tips for managing user expectations

S6 Wireshark and the Art of Debugging Networks

Gerald Carter, *Likewise Software*

Who Should Attend: Half Day AM

System and network administrators who are interested in learning more about the TCP/IP protocol and how network traffic monitoring and analysis can be used as a debugging, auditing, and security tool.

Take Back to Work:

How to use the Wireshark protocol analyzer as a debugging and auditing tool for TCP/IP networks.

Topics Include:

- Introduction to Wireshark (Ethereal) for local and remote network tracing
- TCP/IP protocol basics
- Analysis of popular application protocols such as DNS, DHCP, HTTP, NFS, CIFS, and LDAP

S7 Getting It Out the Door Successfully *NEW!*

Strata Rose Chalup, *VirtualNet Consulting*

Who Should Attend: Half Day PM

Sysadmins, managers, and engineers who are involved with shipping a product or live service to external customers.

Take Back to Work:

Tried and true methods for ensuring that you have something of quality to release by your deadline!

Topics Include:

- Team process and integration
- Engineering for supportability
- Release process
- Source code control
- Catastrophic success
- Accounting and finance

S8 Databases: What You Need to Know

John Sellens, *SYONEX*

Who Should Attend: Half Day PM

System and application administrators who need to support databases and database-backed applications.

Take Back to Work:

A better understanding of databases and their use and of how to deploy and support common database software and database-backed applications.

Topics Include:

- Common applications of databases
- Berkeley DB and its applications
- MySQL installation, configuration, and management
- PostgreSQL installation, configuration, and management
- Security, user management, and access controls
- Ad hoc queries with standard interfaces
- ODBC and other access methods

S9 Working with SELinux

Rik Farrow, *Security Consultant*

Who Should Attend: Half Day PM

Sysadmins and security managers of Linux systems who want or are required to use SELinux.

Take Back to Work:

An awareness of new tools and techniques for debugging problems with SELinux configuration and applications: how to switch SELinux from permissive (or disabled) mode to enforcing and how to sandbox other, not currently covered applications.

Topics Include:

- SELinux uncloaked
- Using the audit file
- Adjusting file/directory context
- Using booleans to adjust policy
- Extending policy

S10 Have a Drink from the Network Services Firehose

Gerald Carter, *Likewise Software*

Who Should Attend: Half Day PM

System and network administrators who need a fast introduction to core network services, whether it's to brush up on overall network expertise or to be able to cover for a collegue who is out sick one day.

Take Back to Work:

An introduction to the stable of core services every network requires to function properly.

Topics Include:

- DHCP (Dynamic Host Control Protocol)
- DNS (Domain Name System)
- Electronic mail servers
- LDAP (Lightweight Directory Access Protocol)
- NFS (Network File System) and auto-mounters
- Web servers

Want more information on the training program?
See www.usenix.org/lisa2010

M1 VMware Cloud and Cloud Architecture Design *NEW!*

John Arrasjid and Ben Lin, *VMware*

Who Should Attend: Full Day

System administrators and architects who are interested in deploying a VMware cloud.

Take Back to Work:

The knowledge needed to design a VMware cloud for use as an enterprise private cloud.

Topics Include:

- VMware cloud core concepts and features
- Cloud design considerations
- Cloud design patterns and best practices

M2 Dovecot Configuration and Administration *NEW!*

Patrick Ben Koetter, *state of mind;* **Ralf Hildebrandt,** *Charite Hospital, Berlin*

Who Should Attend: Full Day

Novice and advanced system administrators and integrators interested in a crash course on Dovecot, a fast, easy to administer, secure, and modern open source POP/IMAP server.

Take Back to Work:

In-depth instruction in the installation and configuration of Dovecot and software commonly used in conjunction with it, along with an understanding of the administrative issues that arise when you are running a Dovecot server.

Topics Include:

- IMAP: Modern mail service
- Dovecot system architecture
- Authentication and user back ends
- Mailboxes
- Extending Dovecot with plug-ins
- Delivery interfaces
- Migration

M3 ZFS: A Filesystem for Modern Hardware

Richard Elling, *Nexenta Systems*

Who Should Attend: Full Day

Systems engineers, integrators, and administrators who are interested in deploying ZFS on Solaris, Mac OS X, or FreeBSD.

Take Back to Work:

A solid understanding of the concepts behind ZFS and how to make the best decisions when implementing storage at your site.

Topics Include:

- Evolution of hardware and file systems
- Storage pools
- Data sets
- Practical considerations and best practices

M4 Time Management for System Administrators: The Basics

Thomas A. Limoncelli, *Google*

Who Should Attend: Half Day AM

Sysadmins and developers who need more time in their day or who have problems getting projects done because of constant interruptions; those who want more control over their time and the ability to schedule work instead of working at the whim of their users.

Take Back to Work:

The skills you need to get more done in less time.

Topics Include:

- Why typical "time management" books don't work for sysadmins

Topics Include (continued):

- What makes "to-do" lists fail, and how to make them work
- How to eliminate unwanted interruptions
- How to prioritize tasks so that users think you're a genius
- Three policies that make everyone more productive

M5 Real-World Insights on How to Secure and Route Your Linux Network *NEW!*

Jason Faulkner, *Rackspace*

Who Should Attend: Half Day AM

Novice and intermediate Linux system and network administrators, or anyone who wants to understand the in and outs of networking on Linux.

Take Back to Work:

Real-world insights on how to expertly secure and route your Linux-centric network.

Topics Include:

- Basics, including configuration and troubleshooting tools
- Firewalls
- Advanced routing

M6 Perl 6 for Perl Users and Sysadmins *NEW!*

Tobias Oetiker, *OETIKER+PARTNER AG, Switzerland*

Who Should Attend: Half Day AM

People who work with Perl and would like to try their hand at working with a real implementation of Perl 6.

Take Back to Work:

The ability to harness Perl 6 for solving problems with less effort and more fun than ever before.

Topics Include:

- Getting Rakudo up and running
- Perl 6 basic concepts
- Perl 5 to Perl 6 feature match
- Object oriented programming in Perl 6

M7 NASes for the Masses *NEW!*

Lee Damon, *University of Washington*

Who Should Attend: Half Day AM

Beginner or intermediate system administrators or anyone else in need of a small (1TB to 24TB) file server for office or home.

Take Back to Work:

The basic ideas and understanding necessary to build/buy and implement file services for a small office or home use.

Topics Include:

- Pros and cons of different base OSes
- Off-the-shelf NAS servers
- RAID, including popular levels, software vs. hardware implementations, data reliability, and build time
- ZFS
- Backups
- Issues of setup and maintenance

M8 Advanced Time Management: Team Efficiency *NEW!*

Thomas A. Limoncelli, *Google*

Who Should Attend: Half Day PM

All sysadmins, whether they are a team of 100 or a team of one, who want to collaborate efficiently within their team and with others.

Take Back to Work:

Techniques to help your IT team work better, faster, and more transparently.

Want more information on the training program?
See www.usenix.org/lisa2010

Topics Include:

- Efficient meetings
- Eliminating email overload
- How to use collaborative document systems to good ends
- How to collect data using Web survey tools
- How to improve institutional memory

M9 Understanding Service Levels and Service Level Agreements *NEW!*

Mike Ciavarella, *Coffee Bean Software Pty Ltd*

Who Should Attend: Half Day PM

Sysadmins who want to understand how SLAs work, and, more importantly, how to make them work for you, not against you.

Take Back to Work:

How to understand and work with (and within) Service Level Agreements.

Topics Include:

- What is, and what is not, a "Service"
- Which services can be effectively managed with SLAs
- Metrics: what works, what doesn't, and why
- How to read SLAs, and how to read between the lines of an SLA
- Balancing the requirements of supplier and customer when setting up an SLA
- "Why SLAs fail"

M10 Recovering from Linux Hard Drive Disasters

Theodore Ts'o, *Google*

Who Should Attend: Half Day PM

Linux system administrators and users.

Take Back to Work:

How to recover from storage disasters caused by failures somewhere in the hardware or software stack.

Topics Include:

- How data is stored on hard drives
- Recovering from a corrupted partition table
- Recovering from software RAID failures
- Recovering data from a corrupted ext2/3/4 filesystem when backups aren't available
- Using e2image to back up critical ext2/3 filesystem metadata
- Using e2fsck and debugfs to sift through a corrupted filesystem
- Preventive measures to avoid needing to use heroic measures

M11 IPv6: An Introduction

Rudi van Drunen, *Competa IT and Xlexit Technology*

Who Should Attend: Half Day PM

System administrators who need to prepare for migration to IPv6 or who just want to know more about what's involved with IPv6.

Take Back to Work:

Knowledge of IPv6, what is involved in moving to IPv6, and how to start now by building tunnels between IPv4 and IPv6.

Topics Include:

- The IPv6 frame and addressing
- Services (autoconfig, DHCP6, DNS)
- Applications
- Dual stack (IPv4 and IPv6) operation
- Tunnelling
- Security aspects
- How to start now

T1 Introduction to the Open Source Xen Hypervisor

Todd Deshane and Patrick Wilbur, *Clarkson University*

Who Should Attend: Full Day

System administrators and architects who are interested in running server services in virtual machines and deploying the open source Xen hypervisor in a production environment.

Take Back to Work:

How to build and deploy the Xen hypervisor.

Topics Include:

- Basic overview of virtualization
- Xen architecture overview
- Virtual machine creation and operation
- Installation and configuration
- Performance: tools and methodology
- Best practices using Xen

T2 Administering Linux in Production Environments

Æleen Frisch, *Exponential Consulting*

Who Should Attend: Full Day

Both current Linux system administrators and administrators from sites considering converting to Linux or adding Linux systems to their current computing resources.

CONTINUING EDUCATION UNITS

USENIX provides Continuing Education Units (CEUs) for a small additional administrative fee. The CEU is a nationally recognized standard unit of measure for continuing education and training and is used by thousands of organizations.

Each full-day tutorial qualifies for 0.6 CEUs. You can request CEU credit by completing the CEU section on the registration form. USENIX provides a certificate for each attendee taking a tutorial for CEU credit and maintains transcripts for all CEU students. CEUs are not the same as college credits. Consult your employer or school to determine their applicability.

Want more information on the training program? See www.usenix.org/lisa2010

Take Back to Work:

The knowledge necessary to add reliability and availability to your systems and to assess and implement tools needed for production-quality Linux systems.

Topics Include:

- Recent kernel developments
- High-performance I/O
- Advanced compute-server environments
- Enterprise-wide security features, including centralized authentication
- Automation techniques and facilities
- Linux performance tuning

T3 Configuration Management Solutions with Cfengine 3

Mark Burgess, *Cfengine*

Who Should Attend: ● Full Day

Anyone with a basic knowledge of configuration management who is interested in learning the next-generation tool.

Take Back to Work:

An understanding of the new features of the completely rewritten Cfengine 3, including its new syntax and benefits.

Topics Include:

- Moving from ad hoc scripts to automation
- The Promise model
- Templates and data types
- Quickstart configuration
- Upgrading from Cfengine 2
- Achieving compliance with standards and regulations
- Cfengine on Windows and the Registry
- Monitoring and self-healing

T4 Backups, Archiving, and Life Cycle Management *NEW!*

Jacob Farmer, *Cambridge Computer Services*

Who Should Attend: ◐ Half Day AM

System administrators involved in the design and management of backup systems and policymakers responsible for protecting their organization's data.

Take Back to Work:

Ideas for immediate, effective, inexpensive improvements to your backup systems and a vision for how you might deploy a lifecycle management system that fits your organization.

Topics Include:

- Formulating strategies
- Identifying and addressing bottlenecks
- Hierarchical storage management and data migration
- Deduplication: separating hype from reality
- Object-based storage models
- Self-healing and self-protecting storage systems
- Leveraging the cloud

T5 Advanced Shell Programming

Mike Ciavarella, *Coffee Bean Software Pty Ltd*

Who Should Attend: ◐ Half Day AM

Junior or intermediate system administrators or anyone with a basic knowledge of programming, preferably with some experience in Bourne/Korn shells (or their derivatives).

Take Back to Work:

An understanding of how to use the "lowly" shell to achieve lofty goals.

Topics Include:

- Common mistakes and unsafe practices
- Modular shell script programming
- Writing secure shell scripts
- Performance tuning
- When *not* to use shell scripts

T6 Project Troubleshooting

Strata Rose Chalup, *VirtualNet Consulting*

Who Should Attend: Half Day AM

Anyone with an existing project that isn't going well and they're not sure why, or with a big initiative at work that they'd like to turn into a project but can't seem to get beyond a certain point with it.

Take Back to Work:

Project refactoring tools, a better understanding of where attention is best focused to keep a project on track, and specific advice about project difficulties you may be encountering.

Topics Include:

- Problem-solving patterns
- Best practices
- How to recognize an "albatross" and what to do about it
- Specific project workflow fixes

DON'T FORGET YOUR LAPTOP!

Training materials will be provided to you on a 4GB USB drive. If you'd like to access them during your class, please remember to bring a laptop. There will be several print stations in the Laptop Lounge, should you prefer to print your materials prior to your class.

T7 RRDtool First Steps

Tobias Oetiker, *OETIKER+PARTNER AG, Switzerland*

Who Should Attend: Half Day AM

Scripters and programmers who would like to create a custom monitoring application with great presentation tools. Attendees are expected to have some scripting experience.

Take Back to Work:

Ideas for building the monitoring application of your dreams.

Topics Include:

- RRDtool overview
- Programming with RRDtool
- In-depth graphing
- Scaling RRDtool
- Latest developments

T8 Next-Generation Storage Networking

FULLY REVISED FOR 2010!

Jacob Farmer, *Cambridge Computer Services*

Who Should Attend: Half Day PM

Sysadmins running day-to-day operations and those who set or enforce budgets.

Take Back to Work:

An understanding of modern storage architectures, various approaches to scaling both performance and capacity, and a framework for comparing and contrasting various types of storage solutions.

Topics Include:

- The storage I/O path
- Shortcomings of conventional SAN and NAS architectures
- Spindle virtualization
- Object storage models and content-addressable storage

Want more information on the training program?
See www.usenix.org/lisa2010

- Leveraging the cloud for primary storage
- Application acceleration with SSDs

T9 Documentation Techniques for Sysadmins

Mike Ciavarella, *Coffee Bean Software Pty Ltd*

Who Should Attend: Half Day PM

System administrators who need to produce documention for the systems they manage and those who want to improve their documentation skills.

Take Back to Work:

The ability to make immediate, practical use of the documentation techniques presented in this tutorial in your day-to-day tasks.

Topics Include:

- The document life cycle
- Targeting your audience
- An adaptable document framework
- Common mistakes
- Tools to assist the documentation process

T10 Problem-Solving for IT Professionals

Strata Rose Chalup, *VirtualNet Consulting*

Who Should Attend: Half Day PM

IT support people who would like to have a better grasp of problem-solving as a discipline.

Take Back to Work:

A solid grounding in how to solve problems, with a framework on which to build specialized troubleshooting techniques that are specific to your environment.

Topics Include:

- Client-server interaction patterns
- Multi-variant problem solving
- Using formal logic in problem solving
- Building workflow checklists for troubleshooting

T11 RRDtool Advanced Topics

Tobias Oetiker, *OETIKER+PARTNER AG, Switzerland*

Who Should Attend: Half Day PM

Sysadmins who may only have accessed RRDtool through some front-end application such as Cacti or Cricket and would like to get a look under the hood.

Take Back to Work:

How to use RRDtool directly to handle time-series data in the networking area..

Topics Include:

- Components of RRDtool
- Update on new functionality
- The RRD database format
- How to set up an RRD performance test
- RRD graphing
- Putting it together

W1 VMware VI and vSphere SDK: The Fundamentals *NEW!*

Steve Jin, *VMware*

Who Should Attend: Full Day

System administrators who are interested in integrating with or automating VMware Infrastructure and vSphere 4.0; software architects and engineers who want to develop applications and solutions with VMware VI and vSphere SDK; technical managers who oversee virtualization projects.

Take Back to Work:

The knowledge needed to program the SDK to manage and automate VMware Infrastructure and vSphere.

Topics Include:

- VMware virtualization overview
- VI and vSphere SDK overview

Topics Include (continued):

- SDK and IDE setup
- Getting started with Hello vSphere
- Object model and inventory structure
- Managing hypervisor, virtual machines, clusters, etc.
- Open source VI Java API
- Using other language bindings: Perl, PowerShell, Jython

W2 Linux Performance Tuning *NEW!*

Theodore Ts'o, *Google*

Who Should Attend: Full Day

Intermediate and advanced Linux system administrators who want to understand their systems better and get the most out of them.

Take Back to Work:

The ability to hone your Linux systems for the specific tasks they need to perform.

Topics Include:

- Strategies for performance tuning
- Memory usage tuning
- Filesystem and storage tuning
- NFS performance tuning
- Network tuning
- Profiling
- Memory cache and TLB tuning
- Application tuning strategies

W3 Monitoring Servers, Networks, and Lunchrooms with Zenoss *NEW!*

David Nalley, *The Fedora Project*

Who Should Attend: Half Day AM

Sysadmins and managers who are looking to use or evaluating Zenoss as a monitoring platform, those who are new to monitoring, and those who are experiencing scaling or scope issues with other tools.

Want more information on the training program?
See www.usenix.org/lisa2010

Take Back to Work:

The ability to put the basics of Zenoss and monitoring theory in general into practice immediately, with some understanding of some of Zenoss's more esoteric features.

Topics Include:

- Monitoring theory
- Zenoss capabilities and installation
- Methods to jumpstart monitoring
- Deep inspection of monitoring capabilities
- Reporting and alerts
- Taking your monitoring to the next level

W4 A Sysadmin's Guide to Navigating the Business World *NEW!*

Mark Burgess, *Cfengine;*
Carolyn Rowland, *NIST*

Who Should Attend: Half Day AM

IT people and sysadmins interested in taking their career to the next level, improving their relationship with senior management, and increasing their value and marketability

Take Back to Work:

Skills to help you develop a productive relationship with your management.

Topics Include:

- How to ask for resources you need
- Empowering management to make good IT decisions
- How to show management the value of your work
- How to convince management of the importance of time for R&D
- How to develop a collaborative relationship with your management

W5 Cfengine 3 for Cfengine 2 Users *NEW!*

Æleen Frisch, *Exponential Consulting*

Who Should Attend: Half Day AM

Anyone currently using Cfengine 2 or who needs to convert Cfengine 2 promises to Cfengine 3.

Take Back to Work:

How to migrate from Cfengine 2 to Cfengine 3, with an understanding of the new features and syntax of Cfengine 3.

Topics Include:

- New Cfengine 3 syntax
- Unified and integrated treatment of files
- Process handling
- Local entry-mode operation

W6 Practical Project Management for Sysadmins and IT Professionals

Strata Rose Chalup,
VirtualNet Consulting

Who Should Attend: Half Day PM

System administrators who want to stay hands-on as team leads or system architects and need a new set of skills with which to tackle bigger, more complex challenges. No previous experience with project management is required.

Take Back to Work:

A no-nonsense grounding in methods that work without adding significantly to one's workload.

Topics Include:

- Quick basics of project management
- Skill sets
- Problem areas
- Project management tools

W7 Over the Edge System Administration, Volume 1 *NEW!*

David N. Blank-Edelman, *Northeastern University*

Who Should Attend: Half Day PM

Old-timers who think they've already seen it all and those who want to develop inventive thinking early in their career.

Take Back to Work:

New approaches to old problems, along with some ways to solve the insolubles.

Topics Include:

- How to (ab)use perfectly good network transports by using them for purposes never dreamed of by their authors
- How to increase user satisfaction during downtimes with 6 lines of Perl
- How to improve your network services by intentionally throwing away data
- How to drive annoying Web-only applications that don't have a command line interface—without lifting a finger
- How to use ordinary objects you have lying around the house, such as Silly Putty, to make your life easier (seriously!)

W8 Take a Gulp from the Sysadmin Automation Firehose *NEW!*

Æleen Frisch, *Exponential Consulting*

Who Should Attend: Half Day PM

System administrators who want to explore new ways of automating administrative tasks. Shell scripts are appropriate for many jobs, but more complex operations will often benefit from sophisticated tools.

Take Back to Work:

An introduction to the most essential tools for making your work easier. For each tool, we will consider what tasks it does well, how to get started using it, and which of its advanced features to consider next.

Topics Include:

- Expect: Automating interactive processes
- Bacula: Open source enterprise backup
- Nagios: Monitoring network and device performance
- RRDTool: Examining retrospective system data
- Front ends to RRDTool: Munin and others
- Other tools of interest and importance

R1 VMware ESX Performance and Tuning

Richard McDougall, *VMware*

Who Should Attend: Full Day

Anyone who is involved in planning or deploying virtualization on VMware ESX and wants to understand the performance characteristics of applications in a virtualized environment.

Take Back to Work:

How to plan, understand, characterize, diagnose, and tune for best application performance on VMware ESX.

Topics Include:

- Introduction to virtualization
- Understanding different hardware acceleration techniques for virtualization
- Diagnosing performance using VMware tools
- Diagnosing performance using guest OS tools in a virtual environment
- Practical limits and overheads
- Understanding the characteristics of key applications
- Capacity-planning techniques

R2 Issues in Infrastructure Design

Lee Damon, *University of Washington*

Who Should Attend: Full Day

Anyone who is designing, implementing, or maintaining a UNIX environment with

Want more information on the training program?
See www.usenix.org/lisa2010

2 to 20,000+ hosts; system administrators, architects, and managers who need to maintain multiple hosts, real or virtual, with few admins.

Take Back to Work:

Answers to the questions you should ask while designing and implementing the mixed-architecture, mixed hard- and virtual architecture, or single-architecture UNIX environment that will meet your needs.

Topics Include:

- Administrative domains
- Desktop services vs. farming
- Disk layout
- Free vs. purchased solutions
- Extending your infrastructure into the cloud
- The essential master database
- Remote administration
- Security

R3 Pacemaker and Linux-HA: World-Class High Availability Software *UPDATED FOR 2010!*

Alan Robertson, *IBM Linux Technology Center*

Who Should Attend: ● Full Day

System administrators and IT architects who architect, evaluate, install, or manage critical computing systems..

Take Back to Work:

Both the basic theory of high availability systems and practical knowledge of how to plan, install, and configure highly available systems using Linux-HA and Pacemaker.

Topics Include:

- General HA principles
- Installation and configuration of Linux-HA and Pacemaker
- Commonly used resource agents
- Writing and testing resource agents conforming to the Open Cluster Framework (OCF) specification
- Managing services supplied with init(8) scripts
- Creating co-location constraints
- Causing failovers on user-defined conditions.

R4 Advanced UNIX Tools *NEW!*

Doug Hughes, *D. E. Shaw Research, LLC*

Who Should Attend: ◐ Half Day AM

Sysadmins who wish to refresh their memories about underutilized and underappreciated tools that have been part of the shell world for a long time.

Take Back to Work:

How, why, and when to use a variety of tools that deserve respect and regular use.

Topics Include:

- Quick and dirty tools
- Frequency and statistical analysis with awk
- Topological sorting for ordering items
- xargs—why you should use it more
- diff, dircmp, diff3—compare and contrast
- Checking memory issues
- Advanced tricks with dd

R5 Over the Edge System Administration, Volume 2

David N. Blank-Edelman, *Northeastern University*

Who Should Attend: Half Day PM

Old-timers who think they've already seen it all and those who want to develop inventive thinking early in their career.

Take Back to Work:

Approaches to system administration you never dreamed of—but you wish you had!

Topics Include:

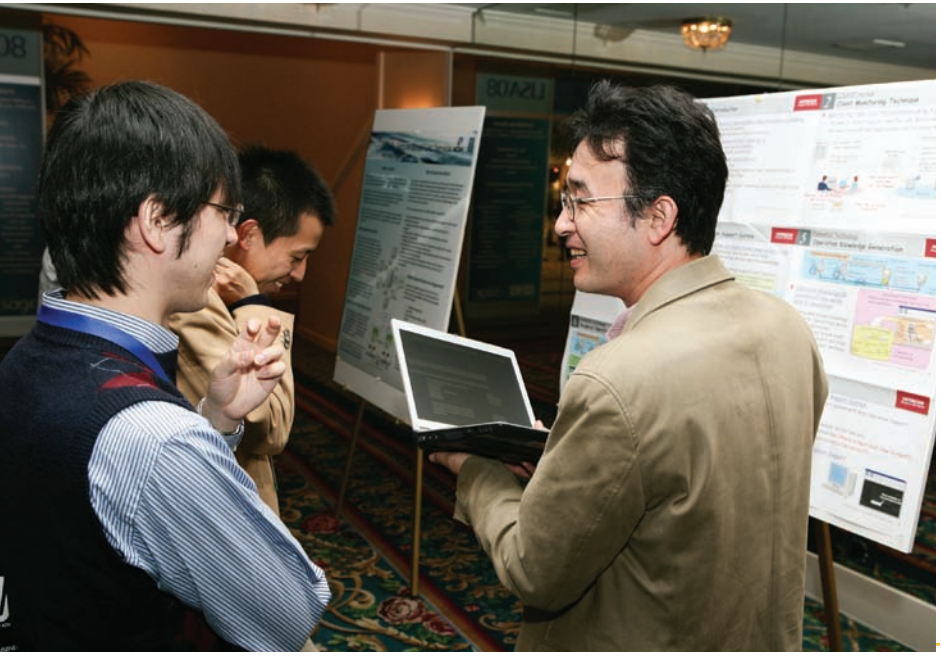
- How to exploit side effects to your benefit
- Applying the arts and crafts you learned in camp to system administration
- Web apps as sysadmin tools
- SQL queries for network equipment
- How to use *even more* ordinary objects you have lying around the house to make your life easier (seriously!)

F1 Using Amazon Web Services *NEW!*

William LeFebvre, *Digital Valence, LLC*; **Marc Staveley**, *Consultant*

Who Should Attend: Full Day

System administrators who currently use or are considering the use of Amazon Web Services (AWS), as well as individuals who are tasked with supporting AWS for production services.



Want more information on the training program?
See www.usenix.org/lisa2010

Take Back to Work:

Learn the techniques, pitfalls, commands, and programs that will help you make effective use of Amazon Web Services (the Amazon cloud).

Topics Include:

- Introduction to AWS
- Elastic Compute Cloud (EC2)
- Elastic Block Store (EBS)
- Simple Storage Service (S3)
- Elastic Load Balancing (ELB)
- Relational Database Service (RDS)

F2 Solaris Dynamic Tracing (DTrace)

James Mauro, *Oracle Corporation*

Who Should Attend: ● Full Day

Sysadmins and other production support staff that need to look at systems and figure out what they're doing or why they're running slowly on a regular basis.

Take Back to Work:

How to use Dynamic Tracing (DTrace) technology to understand the behavior of your systems and the workloads they run, whether you're chasing a performance problem or pathological behavior or you simply wish to better understand how applications are using the underlying system

Topics Include:

- Introduction to DTrace
- DTrace components
- Using DTrace
- DTrace in open source software
- DTrace advanced topics

F3 Automating Network Configuration and Management

D. Brent Chapman, *Netomata, Inc.*

Who Should Attend: ● Full Day

Network and system administrators who want to bring the benefits of automated configuration and management to their networks.

Take Back to Work:

Effective techniques for automating the configuration and management of common network devices and services, as well as approaches to getting the most out of automation and arguments to convince peers, managers, and executives that automation is worth the effort.

Topics Include:

- Benefits and aspects of automation
- Tools
- Automating configuration of network devices and services
- Integration with host automation systems, such as Puppet and Cfengine
- Virtualization and cloud computing

Training Instructors

John Arrasjid
M1

John Arrasjid is a Principal Architect at VMware, specializing in cloud computing, virtualization, business continuity, and disaster recovery. John wrote the USENIX Short Topics books *Foundation for Cloud Computing with VMware vSphere 4* and *Deploying the VMware Infrastructure*. He serves on the USENIX Board of Directors and regularly presents at VMworld, VMware Partner Exchange, and USENIX conferences. He is a VMware Certified Professional and one of the first VMware Certified Design Experts (VCDX 001).

David N. Blank-Edelman
W7, R5

David N. Blank-Edelman is the Director of Technology at the Northeastern University College of Computer and Information Science and the author of *Automating System Administration with Perl*. He has spent the past 25+ years as a system/network administrator in large multi-platform environments. He was the program chair of LISA '05 and was one of the LISA '06 Invited Talks co-chairs. David is honored to be the recipient of the 2009 SAGE Outstanding Achievement Award and to serve on the USENIX Board of Directors.

Mark Burgess
T3, W4

Mark Burgess is Professor of Network and System Administration at Oslo University College, Norway (a member of the EMANICS Network of Excellence) and CTO of Cfengine AS. He is the author of the configuration management system Cfengine and of several books and many papers on the topic, including the USENIX Short Topics book *A System Engineer's Guide to Host Configuration and Maintenance Using Cfengine*, co-authored with Æleen Frisch.

Gerald Carter
S6, S10

Gerald Carter has been developing, writing about, and teaching on open source since the late 1990s. He was a member of the Samba Development Team from 1998 to 2009 and authored both the third edition of *Using Samba* and *LDAP System Administration* for O'Reilly Publishing. Currently Gerald is employed by Likewise Software as a senior software engineer and serves as the current project lead for Likewise Open. Previously, he held positions at HP and at VA Linux.

Strata Rose Chalup
S7, T6, T10, W6

Strata Rose Chalup has been leading and managing complex IT projects for many years. She has authored a number of articles on management and working with teams and has applied her management skills on various volunteer boards, including BayLISA and SAGE. Strata built a successful consulting practice around being an avid early adopter of new tools, starting with ncsa_httpd and C-based CGI libraries in 1993 and moving on to wikis, RSS readers, and blogging.

D. Brent Chapman
F3

D. Brent Chapman is the founder and manager of the Network-Automation mailing list and the creator of Netomata Config Generator (NCG) open source software. He has over 20 years of IT management experience, much of it focused on network management and automation. He is the co-author of *Building Internet Firewalls* and the creator of the Majordomo mailing list management package. In 2004 Brent was honored with the SAGE Outstanding Achievement Award.

Want more information on the training program?
See www.usenix.org/lisa2010

Mike Ciavarella
M9, T5, T9

Mike Ciavarella has been producing and editing technical documentation since the early 1980s. Ever since he built his first firewall, on a network of Sun workstations in 1991, he has been actively promoting documentation and security as fundamental aspects of system administration. He has been a technical editor for MacMillan Press, has lectured in software engineering at the University of Melbourne (his alma mater), and has provided expert testimony in a number of computer security cases.

Alan Clegg
S3

Alan Clegg has over 20 years' experience providing support for and management of Internet-facing systems. Alan presents tailored learning experiences to corporations and at conventions and meetings around the globe. Since joining the Internet Systems Consortium staff in 2007, Alan has been creating and providing workshops and training for ISC customers and users. These training sessions include a 5-day DNS and BIND class, a 3-day DNSSEC workshop, and a 2-day ISC DHCP course.

Lee Damon
M7, R2

Lee Damon has been a UNIX system administrator since 1985 and has been active in SAGE and LOPSA since their inceptions. He has developed mixed environments for Gulfstream Aerospace and QUALCOMM. He currently leads the development effort for the Nikola project at the University of Washington Electrical Engineering department. Lee served as chair of the SAGE Ethics and Policies working groups and was the chair of LISA '04.

Todd Deshane
T1

Todd Deshane has authored a variety of research publications, many of which involved Xen, and he is a co-author of *Running Xen: A Hands-on Guide to the Art of Virtualization*. Todd's doctoral dissertation focuses on using operating system technologies, such as virtual machine monitors, high availability, and file systems, to provide desktop users with an attack-resistant experience, automatic and autonomic recovery from viruses, worms, and adverse system modifications.

Shridhar Deuskar
S1

Shridhar Deuskar has extensive experience in large infrastructure system administration, software tools support, networking, implementing SAN/NAS, and application support, as well as EMC and other storage products. He also possesses a broad understanding of platforms and applications. As a Consulting Architect with VMware, Shridhar Deuskar is currently responsible for leading virtualization engagements for VMware customers in the continental United States.

Rudi van Drunen
M11

Rudi van Drunen is CTO and senior UNIX infrastructure consultant at Competa IT in the Netherlands. He is one of the tech gurus and a founding board member of Wireless Leiden, the leading wireless community in the Netherlands. Rudi has his own small open source and hardware design company, Xlexit. He has taught a number of classes and given invited talks on wireless and other topics at events such as LISA and SANE and for the Dutch UNIX community.

Richard Elling
S5, M3

Richard Elling has been designing and building dependable, networked computer systems to solve complex problems for more than 25 years. He wrote *Designing Enterprise Solutions with Sun Cluster 3.0* and has authored many white papers, Sun BluePrints, and refereed papers on dependable systems and performability. He is a regular contributor to the ZFS community and is currently the Director of Solution Engineering for Nexenta Systems.

Jacob Farmer
T4, T8

Jacob Farmer has written numerous papers and articles on storage and is a regular speaker at trade shows and conferences. In addition to his regular expert advice column in the "Reader I/O" section of *InfoStor Magazine*, the leading trade magazine of the data storage industry, Jacob also serves as the publication's senior technical advisor. Jacob has over 18 years of experience with storage technologies and is the CTO of Cambridge Computer Services, a national integrator of data storage and data protection solutions.

Rik Farrow
S9

Rik Farrow has been teaching UNIX security classes since 1987. He wrote the second book on UNIX security, as well as hundreds of security-related articles. His experience with Linux security goes back over ten years and has led him to believe that sandboxing applications with SELinux is not just a good idea, but necessary. Rik Farrow is the Editor of *;login:*, the USENIX bimonthly magazine.

Jason Faulkner
M5

Jason Faulkner, a Network Engineer for the email and applications division of Rackspace, is responsible for maintaining Linux firewalls and load balancers for millions of business email users. He is a current member of LOPSA and an active contributor to the keepalived project. Outside of his daily responsibilities, he has maintained the computer history Web site oldos.org since 2003.

Æleen Frisch
T2, W5, W8

Æleen Frisch has been a system administrator for over 20 years. She currently looks after a pathologically heterogeneous network of UNIX and Windows systems. She is the author of several books, including *Essential System Administration* and, with Mark Burgess, the USENIX Short Topics book *A System Engineer's Guide to Host Configuration and Maintenance Using Cfengine*. Æleen was the chair of LISA '03 and is a frequent presenter at USENIX events and at classes for universities and corporations worldwide.

Ralf Hildebrandt
S2, M2

Ralf Hildebrandt studied computer science at the University of Braunschweig. He is now working for Charite Hospital in Berlin and is an author of *The Book of Postfix*, *Postfix: Einrichtung, Betrieb und Wartung*, and various magazine articles.

Want more information on the training program?
See www.usenix.org/lisa2010

Doug Hughes
R4

Doug Hughes is the technical lead for Systems at D. E. Shaw Research, LLC, in midtown Manhattan. He leads a small multi-national team responsible for operations and architecture of a large commodity cluster, and operational support for a collection of fully custom, in-house designed supercomputers for molecular chemistry. He played an instrumental role in designing the datacenter management, power and cooling infrastructure, networking, and storage systems for all of the company's data.

Steve Jin
W1

Steve Jin is the author of *VMware VI and vSphere SDK* and writes as chief blogger at http://doublecloud.org. Currently he is an engineer at VMware, where he provides guidance to strategic partners, IBM, HP, Dell, NetApp, and BEA, who build applications using VI (vSphere) SDK. In his spare time, he founded the VMware-sponsored VI (vSphere) Java API open source project, which is widely used by various commercial companies and developers.

Patrick Ben Koetter
S2, M2

Patrick Ben Koetter is CEO at state of mind and CTO at sys4. He is co-author of *The Book of Postfix* and regularly writes articles for Germany's *c't* magazine, *Linuxmagazin*, and others. As a consultant and trainer, Patrick builds large-scale mail systems and teaches classes on email, anti-virus, and spam measurements. He gives talks at many conferences on these and similiar topics.

William LeFebvre
F1

William LeFebvre is currently the Vice President of Technology and a partner in the consulting firm Digital Valence. He provides consultation and advice on the effective use of Internet technology, and he helps clients establish development and production environments in public clouds. He has taught at many technical conferences and was the program chair for LISA '06. He currently serves on the leadership committee for LOPSA and on the program committee for LISA '10.

Thomas A. Limoncelli
M4, M8

Thomas A. Limoncelli is an internationally recognized author, speaker, and system administrator. His books include *The Practice of System and Network Administration* and *Time Management for System Administrators*. He works at Google in NYC and blogs at http://EverythingSysadmin.com/. He received the SAGE 2005 Outstanding Achievement Award.

Ben Lin
M1

Ben Lin is a Consultant with the VMware Cloud Services team. He has been closely involved with VMware vCloud Service Director (vCSD)–enabled cloud solutions and services, having participated in early implementations of vCSD. Ben has been with VMware for 2.5 years and has been an active participant in VMworld sessions and labs. He is VCP4 certified.

James Mauro
F2

James Mauro is a Principal Software Engineer for Oracle Corporation, where he works in the Systems group. Prior to the Oracle acquisition, Jim worked for Sun Microsystems for 18 years. Jim focuses on systems performance, working closely with many of Oracle's customers on real performance issues, as well as internal performance-related engineering projects. Jim co-authored *Solaris Internals* and *Solaris Performance and Tools*. He is currently co-authoring a book on DTrace.

Richard McDougall
R1

Richard McDougall is a Principal Engineer and the Chief Performance Architect in the Office of the CTO at VMware. A recognized expert in operating systems, virtualization, performance, resource management, and filesystem technologies, Richard is a frequent speaker and has published several papers and books on these topics. Prior to VMware, most recently he was a Distinguished Engineer at Sun Microsystems, where he wrote the authoritative books *Solaris Internals* and *Solaris Performance and Tools*.

David Nalley
W3

David Nalley has been a systems administrator for 8 years and acted as a consultant for an additional 3 years. David contributes to a number of free software projects, including the Fedora Project and the Sugar Labs 4th grade math project. In the Fedora Project David maintains a number of software packages and is the document lead for the Installation Guide. David writes on development, sysadmin, and Linux and frequently speaks at IT and F/LOSS conferences.

Tobias Oetiker
M6, T7, T11

Tobias Oetiker has worked for the Swiss Federal Institute of Technology for 10 years, providing students and staff with a deluxe UNIX workstation environment. In 2006 he started OETIKER+PARTNER AG, running UNIX servers for industry customers, improving his pet open source projects MRTG, RRDtool, and SmokePing, and applying these tools to solve customers' problems. In 2006 Tobias received the SAGE Outstanding Achievement Award.

Alan Robertson
R3

Alan Robertson founded the High-Availability Linux (Linux-HA) project in 1998 and has been project leader for it ever since. He worked for SuSE, then joined IBM's Linux Technology Center in 2001, where he works on Linux-HA full-time. Before joining SuSE, he was a Distinguished Member of Technical Staff at Bell Labs, providing leading-edge computing support, writing software tools, and developing voicemail systems. Alan is a frequent speaker at a variety of international open source and Linux conferences.

Carolyn Rowland
W4

Carolyn Rowland began her professional career as a UNIX system administrator in 1991 and has been leading sysadmins since 2001. She took on the aura of IT as an overhead function and has turned her team into a highly sought-after resource at the National Institute of Standards and Technology (NIST). The secret to this success is a strong core team and solid IT and business alignment. She evangelizes on this latter topic at LISA.

Want more information on the training program?
See www.usenix.org/lisa2010

John Sellens
S4, S8

John Sellens has been involved in system and network administration since 1986 and is the author of several related USENIX papers, a number of *;login:* articles, and the USENIX Short Topics book *System and Network Administration for Higher Reliability*. He holds an M.Math. in computer science from the University of Waterloo. He is the proprietor of SYONEX, a systems and networks consultancy, and is currently a member of the systems team at Magna International.

Rupen Sheth
S1

Rupen Sheth is a Worldwide Consulting Services Architect at VMware, responsible for the technical accuracy, development, and release of numerous materials to enable VMware field consultants and partners to deliver quality services. Rupen is currently involved in developing service delivery content for vSphere and vCenter management solutions. Rupen is co-author of *The Path to VMware vSphere—Unleashed* and has presented at numerous VMware shows and events.

Marc Staveley
F1

Marc Staveley is now an independent consultant, applying his years of experience with UNIX development and administration to help clients with server consolidation and application migration projects. Previously Marc held positions at SOMA Networks, Sun Microsystems, NCR, and Princeton University. He is a frequent speaker on standards-based development, multi-threaded programming, system administration, and performance tuning.

Theodore Ts'o
M10, W2

Theodore Ts'o has been a Linux kernel developer since almost the very beginnings of Linux: he implemented POSIX job control in the 0.10 Linux kernel. He is the maintainer and author of the Linux COM serial port driver and the Comtrol Rocketport driver, and he architected and implemented Linux's tty layer. Outside of the kernel, he is the maintainer of the e2fsck filesystem consistency checker. Ted is currently employed by Google.

Patrick Wilbur
T1

Patrick F. Wilbur is currently pursuing graduate studies in computer science at Clarkson University. He is a co-author of *Running Xen: A Hands-on Guide to the Art of Virtualization*. His interests include operating systems, systems and application security, natural language processing, and home automation. He is a member of the Clarkson Open Source Institute and a member of ACM.

JOIN YOUR PEERS FOR THREE DAYS OF FOCUSED DISCUSSION

Senior sysadmins will want to participate in one or more of these full- and half-day workshops. Attendance is limited for each workshop, which ensures a seminar-like atmosphere. To attend a workshop, you must be an accepted workshop participant. See www.usenix.org/lisa2010/workshops for more information.

SUNDAY, NOVEMBER 7

Workshop 1: GOVERNMENT AND MILITARY SYSTEM ADMINISTRATION ● Full Day

Andrew Seely, *Science Applications International Corporation*

Are you responsible for computing systems owned by government or military agencies? Do you work in secure environments, deal wih classified data, deploy to military hotspots? If so, whether you are a sysadmin, contractor, government civilian, vendor or supplier, uniformed member, or someone with a hands-on support role in the government sector, this workshop is for you.

The general focus will be on system administration of U.S. government and military systems, but interested non-U.S. personnel are welcome to attend. Specific goals and topics will be solicited in advance from registered attendees in order to ensure a relevant and useful workshop. All discussions will be strictly unclassified.

To attend the workshop, please send email to lisa10ws-gov@usenix.org.

Workshop 2: REAL-WORLD CONFIGURATION MANAGEMENT ● Full Day

Cory Lueninghoener, *Los Alamos National Laboratory;* Narayan Desai, *Argonne National Laboratory*

This workshop will cover configuration management processes in the real world. The focus will be on practical tactics that attendees can apply directly. Attendees will discuss the issues they face in their deployments and will compare their experiences and tactics with those of other attendees' This workshop is a tool-agnostic discussion of practical issues; the discussion will be widely applicable regardless of the configuration tool used.

The workshop will offer a series of discussions on current topics of interest, separated by two or three presentations by attendees of their configuration management environments, highlighting useful techniques and potential problem areas.

Attendees should be sysadmins with a deployed configuration management system in place. Tool developers interested in hearing the needs of their users and/or offering suggestions are welcome, but they are not the primary intended participants.

To attend the workshop, please send email to lisa10ws-cm@usenix.org.

MONDAY, NOVEMBER 8

Workshop 3: TEACHING SYSTEM ADMINISTRATION ● Full Day

Kyrre Begnum, *Oslo University College;* Æleen Frisch, *Exponential Consulting*

The workshop leaders both teach in the System and Network Administration Master's Degree program at Oslo University College. We find ourselves facing a number of challenges, including maintaining a curriculum that reflects current technology and best practices; a dramatically shifting student profile, including many students with significantly less developed technical backgrounds; teaching students in the age of ubiquitous wireless access but no pencils; providing students with the technical skills and problem-solving ability desired by the job market; tensions between "academic" requirements and standards and "practical" course content.

This workshop will provide a chance for people teaching system administration to share their experiences, triumphs, and ongoing challenges and problems. Those teaching

in academic settings, be it one course or an entire program, are encouraged to consider participating in this workshop. Others teaching system administration may also be interested in the workshop if their students begin with little or no practical experience.

To register for the workshop, please send a brief description of who you are and where and whom you teach, along with your suggestions and goals for the workshop, to lisa10ws-teach@usenix.org.

Workshop 4: SECURITY

● Full Day

Matt Disney, *Oak Ridge National Laboratory*

Information security is a topic important to many sysadmins, yet it is challenging to make security a high priority or to stay updated on this very wide and fluid topic. This workshop offers a personal and flexible venue for systems, security, and network administrators to discuss security challenges and experiences with other interested admins and experts. Discussion topics and potential presentations will depend on the interests of the attendees.

Send email to lisa10ws-sec@usenix.org to participate.

TUESDAY, NOVEMBER 9

Workshop 5: ADVANCED TOPICS

● Full Day

Adam Moskowitz

This workshop, intended for very senior administrators, provides an informal discussion of the problems facing sysadmins today. Attendance is limited and based on acceptance of a position paper (plain ASCII, three paragraphs maximum); a typical paper covers what the author thinks is the most difficult or important issue facing system administrators today, why this is a problem, and why this problem is important. A more complete description of the workshop and information about position papers is available at http://atw.menlo.com/. Attendees are required to bring a laptop computer.

Position papers should be sent to lisa10ws-atw@usenix.org.

Workshop 6: KNOWLEDGE MANAGEMENT

◐ Half Day AM

Mark Burgess, *Oslo University College*

Knowledge management is probably the single greatest challenge for system administrators today, but one of the least represented in terms of resources and tools. It embraces a variety of issues, including the understanding of specification of systems, relationships between system dependencies, version control on system changes, strategies for streamlining information from logs and monitoring feeds, and more. This workshop offers an open discussion of the scope and techniques for knowledge management in system administration.

To attend the workshop, please send email to lisa10ws-km@usenix.org.

Workshop 7: IDENTITY MANAGEMENT

◑ Half Day PM

Joel Avery, *Terabira Corporation;* Kevin Cornell, *Intrigue Security Consulting*

IDM is a complex journey that requires a formal approach to management and provisioning of IT resources, written policies, and well-understood processes. An IDM project is a lightning rod, so people may enter the arena only as a last resort. The goal of this workshop is to outline the most likely IDM project impediments and share knowledge of how to prepare to deal with them.

Applicants should prepare a half-page project summary of their project's objectives and goals (e.g., automated provisioning, access control, password synchronization) and the current state of the project. Sizing details such as the number of identities being managed and the list of target resources to provision should be included. Of particular interest are IDM projects in higher education and international deployments of IDM.

To attend the workshop, please send email to lisa10ws-idm@usenix.org.

Vendor Exhibition

November 10, 2010, noon–7:00 p.m.
November 11, 2010, 10:00 a.m.–2:00 p.m.

Don't Miss This Opportunity

Make knowledgeable decisions regarding products and services for your business needs. Exhibitor demonstrations save you hours of research and let you quickly compare solutions.

Learn about cutting-edge technologies and tools from industry leaders, provocative startups, and open source projects.

See demonstrations of innovative products and services that can optimize your systems, network, and Internet management—and simplify your life.

Get in-depth answers from well-informed company representatives. (LISA exhibitors know to send technical people to this event!)

Exhibitors as of Aug. 14, 2010

Premium Exhibitors

American Registry for Internet Numbers (ARIN)

Cambridge Computer Services, Inc.

Facebook, Inc.

Hewlett Packard Open Source Programs

Hitachi ID Systems, Inc.

Internet Systems Consortium (ISC)

Isilon Systems

Oracle

Sony

Teradactyl LLC

Trusted Computer Solutions

Zenoss

Exhibitors

Advanced Computer & Network Corporation (AC&NC)

Centrify

Distributed Management Task Force, Inc.

FreeBSD

GoVirtual.org

iXsystems, Inc.

Ksplice

Linux Pro Magazine

LogLogic

OpenDNS

Opengear

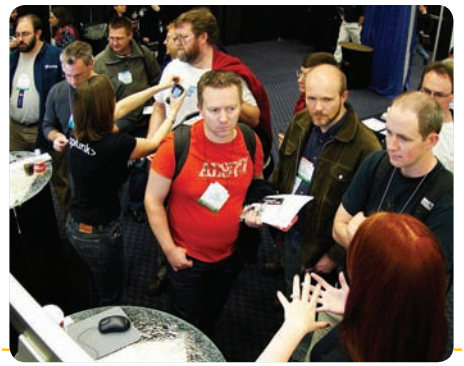
PostgresQL

rPath

SCALE

SNIA

Splunk



Everyone Is Welcome!

The exhibition is open to the public. Register for a free pass at www.usenix.org/lisa2010.

Exhibit Hall Happy Hour

Join us at the Vendor Exhibition on Wednesday evening for snacks and drinks and take the opportunity to learn about the latest products and technologies.

LISA '10 Sponsorship & Exhibiting Opportunities

- Get system administrators talking about your products and services.
- Sell your solutions to a qualified audience.
- Conduct market research and enlist beta testers.
- Recruit among highly experienced, highly educated system administrators.
- Expand your visibility among recognized leaders of the system, network, and security administration communities.

See www.usenix.org/lisa2010/sponsors for details or contact Camille Mulligan, Exhibits Manager, exhibits@usenix.org.

Technical Sessions

The 3-day technical program at LISA '10 offers in-depth information that reveals practical skills you can take back to work and provides a peek into what's coming in the future. From the informative invited talks and paper presentations, through expert-led Guru Is In Sessions and Practice and Experience Reports, to that all-important "hallway track", the LISA '10 technical program gives you the know-how to uncover the secrets of system administration.

Invited Talks

- Keynote Address: "The LHC Computing Challenge: Preparation, Reality and Future Outlook," by Tony Cass, CERN
- Closing Session: "Look! Up in the Sky! It's a Bird! It's a Plane! It's a Sysadmin!" by David N. Blank-Edelman, Northeastern University CCIS
- "Flying Instruments-Only: Navigating Legal and Security Issues From the Cloud," by Richard P. Goldberg
- "10,000,000,000 Files Available Anywhere: NFS at Dreamworks," by Sean Kamath and Mike Cutler, PDI/Dreamworks
- "Operations at Twitter: Scaling Beyond 100 Million Users," by John Adams, Twitter
- "IPv6: No Longer Optional," by Richard Jimmerson, ARIN

Refereed Paper Presentations and Practice and Experience Reports

LISA is the leading forum for presenting new research in system administration. This year's top-tier research showcases work covering key topics such as configuration tools, firewall analysis, and log processing. The Practice and Experience Reports provide real-world examples from a variety of topics, including implementing IPv6, large-scale package management conversion, configuration management for Mac OS X, and more.

The Guru Is In

Bring your most challenging technical questions to the experts at LISA's Guru Is In sessions. Sessions include:

- Tom Limoncelli on time management
- Owen DeLong on IPv6
- Joseph Kern on disaster recovery
- And more

Poster Session and WiPs

Posters are an opportunity to present recent work that is not ready for publication. The deadline for submissions is September 17, 2010. Find out more at www.usenix.org/lisa2010/posters.

This year's program includes Work-in-Progress reports (WiPs). Participants get 5 minutes each to share their current projects or ideas with the LISA crowd. Time slots can be scheduled onsite or in advance by emailing lisa10wips@usenix.org.

Hallway Track

Benefit from multiple opportunities for peer interaction (a.k.a. the "Hallway Track"). Learn from others experiencing the same challenges you face every day and uncover the lost secrets of system administration.

See the complete technical program at www.usenix.org/lisa2010/tech.

Registration & Hotel Information

Early Bird Registration Deadline: Monday, October 18, 2010

Training Program Registration Includes:

- Admission to the tutorials you select
- Lunch and refreshment breaks on the days of your tutorials
- Training program materials and Conference Proceedings loaded on a 4GB USB drive
- Admission to the Vendor Exhibition
- Admission to the Conference Reception
- Admission to the evening activities on the days for which you're registered
- Conference t-shirt
- Wireless connectivity in conference session area

Technical Sessions Registration Includes:

- Admission to all technical sessions on the days of your choice
- Refreshment breaks on the days of your technical sessions
- Conference Proceedings loaded on a 4GB USB drive
- Admission to the Vendor Exhibition
- Admission to the Conference Reception
- Admission to the evening activities on the days for which you're registered
- Conference t-shirt
- Wireless connectivity in conference session area

Workshop Registration Includes:

- Admission to the workshops of your choice
- Lunch and refreshment breaks on the days of your workshops

Discounts Available!

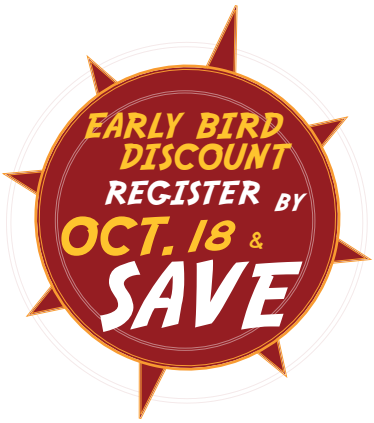
In order to facilitate your ability to attend LISA '10, we will be offering additional conference discounts and multi-day packages. (*Please note: in order to receive the discounts, you must use discount codes.)* From government and non-profit employees to groups of 5 or more, USENIX has ways for you to save. See www.usenix.org/lisa2010/discounts for more information.

Discounts for USENIX and SAGE members have already been applied to their total registration fees (up to $170 in savings). LOPSA members receive a $45 discount; please contact LOPSA for more information.

USENIX is committed to helping you create the conference that meets your needs. If you are unemployed or need financial assistance to attend LISA '10, please email conference@usenix.org. Please describe your hardship situation and list the sessions for which you'd like to register.

Cancellation Deadline: Monday, November 1, 2010

Substitutions are always welcome. If you must cancel, please do so by Monday, November 1, to receive a full refund.



REGISTER TO JOIN THE ADVENTURE TODAY AT WWW.USENIX.ORG/LISA2010

Registration Fees

USENIX is pleased to offer Early Bird Registration Discounts of up to $300 to those who register for LISA '10 by October 18, 2010. After October 18, registration fees increase.

New this year: All sessions are now available in half-day increments. Mix and match more than ever before. Note that full-day tutorials are still available; simply register for both a.m. and p.m. sessions.

Discounted Half-Day Rates for USENIX & SAGE Members	Before Oct. 18	After Oct. 18
1 half-day of technical sessions	$175	$200
1 half-day of training	$325	$350

SAVE! Choose One of Our Discount Packages	Before Oct. 18	After Oct. 18
6 Days of Training *Save $350!*	$3550	$3850
3 Days of Training + 3 Days of Technical Sessions *Save $350!*	$2650	$2950
3 Days of Training *Save $100!*	$1850	$2000
3 Days of Technical Sessions *Save $250!*	$800	$950

Workshop Fees

1 half-day workshop	$90
1 full-day workshop	$180

Optional Costs

- Continuing Education Units (CEUs): $15 per full training day

Nonmember Registration Fees

If you are not a member, the following fees will be added to your total registration fee:

- Not a USENIX member? $125
- Not a SAGE member? $45

The nonmember fees include a one-year USENIX membership and a one-year SAGE membership, respectively. Note: Affiliate members do not pay nonmember fees.

Registration Fees for Full-Time Students

USENIX offers full-time students special low registration fees for LISA '10, which are available at any time.

1 day of technical sessions	$150
1 day of training*	$200

* A limited number of tutorial seats are reserved for full-time students at this very special rate. Students must reserve their tutorial seats before registering.

Student Nonmember Registration Fees

If you are not a member, the following fees will be added to your total registration fee:

- Not a USENIX student member? $50
- Not a SAGE student member? $30

The nonmember fees include a one-year USENIX student membership and a one-year SAGE student membership, respectively.

Hotel Information

Hotel Reservation Discount Deadline: Monday, October 18, 2010

Headquarters Hotel: San Jose Marriott

301 South Market Street, San Jose, CA 95113
Phone: (408) 280-1300

Hilton San Jose

300 Almaden Boulevard, San Jose, CA 95110
Phone: (408) 287-2100

Special Attendee Room Rate

$159 single/double plus tax at either hotel
Mention USENIX or LISA to get the group rate or book online via www.usenix.org/lisa2010/hotel.

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LISA '10

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