

2011

USENIX Federated Conferences Week

June 14-17, 2011 Portland, OR

www.usenix.org/fcw11

Back for 2011, USENIX is combining training, established conferences, and workshops into a week of research, trends, and community interaction. Events include:

///// USENIX ATC '11

2011 USENIX Annual Technical Conference

Wednesday-Friday, June 15-17 www.usenix.org/atc11

WebApps '11 /////

2nd USENIX Conference on Web Application Development

Wednesday-Thursday, June 15-16 www.usenix.org/webapps11

///// HotCloud '11

3rd USENIX Workshop on Hot Topics in Cloud Computing

Tuesday-Wednesday, June 14-15 www.usenix.org/hotcloud11

HotStorage '11 /////

3rd USENIX Workshop on Hot Topics in Storage and File Systems

Tuesday, June 14 www.usenix.org/hotstorage11

///// WIOV '11

3rd Workshop on I/O Virtualization

Tuesday, June 14 www.usenix.org/wiov11

Tutorial on Securing Linux Servers ////

Tuesday, June 14

///// Tutorial on SELinux

Wednesday, June 15

Tutorial on VMware vCloud: Overview and Design Considerations /////

Wednesday, June 15

///// Tutorial on Linux Performance Tuning

Thursday, June 16

Tutorial on Hacker Detection for System Administrators (SANS Security 464) /////

Thursday-Friday, June 16-17

///// Tutorial on Automating System Administration with Cfengine 3

Friday, June 17

///// Why Attend

You'll leave the week with insights into the future of many hot topics. Your access to leading researchers and industry experts will not only provide answers to your most burning questions, but will also help you build lasting connections across multiple disciplines. Take full advantage of this opportunity and learn from the top researchers, practitioners, and authors all in one place, at one time.

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2011 USENIX Annual Technical Conference

June 15–17, 2011 Portland, OR



Wednesday, June 15, 2011

8:30 a.m.–10:00 a.m. Wednesday

Welcome, Awards, and Joint ATC and WebApps Keynote Address

An Agenda for Empirical Cyber Crime Research
Speaker: Stefan Savage, *Director of the Collaborative Center for Internet Epidemiology and Defenses (CCIED) and Associate Professor, UCSD*

10:00 a.m.–10:30 a.m. Break

10:30 a.m.–noon Wednesday

Scheduling

A Case for NUMA-aware Contention Management on Multicore Systems

Sergey Blagodurov, Sergey Zhuravlev, Mohammad Dashti, and Alexandra Fedorova, *Simon Fraser University*

TimeGraph: GPU Scheduling for Real-Time Multi-Tasking Environments

Shinpei Kato, Karthik Lakshmanan, and Ragunathan Rajkumar, *Carnegie Mellon University*; Yutaka Ishikawa, *The University of Tokyo*

Pegasus: Coordinated Scheduling for Virtualized Accelerator-based Systems

Vishakha Gupta and Karsten Schwan, *Georgia Institute of Technology*; Niraj Tolia, *Maginatrics*; Vanish Talwar and Parthasarathy Ranganathan, *HP Labs*

Noon–1:00 p.m. Lunch

1:00 p.m.–2:30 p.m. Wednesday

Virtualization

vIC: Interrupt Coalescing for Virtual Machine Disk IO

Irfan Ahmad, Ajay Gulati, and Ali Mashtizadeh, *VMware, Inc.*

Power Budgeting for Virtualized Data Centers

Harold Lim, *Duke University*; Aman Kansal and Jie Liu, *Microsoft Research*

viOMMU: Efficient IOMMU Emulation

Nadav Amit and Muli Ben-Yehuda, *Technion and IBM Research*; Dan Tsafir and Assaf Schuster, *Technion*

2:30 p.m.–3:00 p.m. Break

3:00 p.m.–4:30 p.m. Wednesday

Cloud Computing and Data Centers

HiTune: Dataflow-Based Performance Analysis for Big Data Cloud

Jinquan Dai, Jie Huang, Shengsheng Huang, Bo Huang, and Yan Liu, *Intel Asia-Pacific Research and Development Ltd.*

Taming the Flying Cable Monster: A Topology Design and Optimization Framework for Data-Center Networks

Jayaram Mudigonda, Praveen Yalagandula, and Jeffrey C. Mogul, *HP Labs*

In-situ MapReduce for Log Processing

Dionysios Logothetis, *University of California, San Diego*; Chris Trezzo, *Salesforce*; Kevin C. Webb and Kenneth Yocum, *University of California, San Diego*

4:30 p.m.–4:45 p.m. Break

4:45 p.m.–6:00 p.m. Wednesday

Joint ATC and WebApps Invited Talk

Helping Humanity with Phones and Clouds

Matthew Faulkner, *graduate student in Computer Science at Caltech*, and Michael Olson, *graduate student in Computer Science at Caltech*

6:00 p.m.–6:30 p.m. Break

6:30 p.m.–8:00 p.m. Wednesday

Joint ATC and WebApps Poster Session and Happy Hour

Find out how to submit a poster at <http://www.usenix.org/fcw11/posters>.

Thursday, June 16, 2011

9:00 a.m.–10:00 a.m. Thursday

Joint ATC and WebApps Plenary Session

Dead Media: What the Obsolete, Unsuccessful, Experimental, and Avant-Garde Can Teach Us About the Future of Media

Finn Brunton, *Postdoctoral Researcher at NYU*

10:00 a.m.–10:30 a.m. Break

10:30 a.m.–noon Thursday

Measurement and Performance

Exception-Less System Calls for Event-Driven Servers

Livio Soares and Michael Stumm, *University of Toronto*

Resizable, Scalable, Concurrent Hash Tables

Josh Triplett, *Portland State University*; Paul E. McKenney, *IBM Linux Technology Center*; Jonathan Walpole, *Portland State University*

Evaluating the Effectiveness of Model-Based Power Characterization

John C. McCullough and Yuvraj Agarwal, *University of California, San Diego*; Jaideep Chandrasheka, *Intel Labs, Berkeley*; Sathyanarayan Kuppuswamy, Alex C. Snoeren, and Rajesh K. Gupta, *University of California, San Diego*

Noon–1:00 p.m. Lunch

1:00 p.m.–2:30 p.m. Thursday

Storage Performance and Migration

Victim Disk First: An Asymmetric Cache to Boost the Performance of Disk Arrays under Faulty Conditions

Shenggang Wan, Qiang Cao, Jianzhong Huang, Siyi Li, Xin Li, Shenghui Zhan, Li Yu, and Changsheng Xie, *Huazhong University of Science and Technology*; Xubin He, *Virginia Commonwealth University*

The Design and Evolution of Live Storage Migration in VMware ESX

Ali Mashtizadeh, Emre Celebi, Tal Garfinkel, and Min Cai, *VMware, Inc.*

Online Migration for Geo-distributed Storage Systems

Nguyen Tran, *New York University*; Marcos K. Aguilera and Mahesh Balakrishnan, *Microsoft Research Silicon Valley*

2:30 p.m.–3:00 p.m. Break

3:00 p.m.–4:30 p.m. Thursday

Short Papers

Slow Down or Sleep, That Is the Question

Etienne Le Sueur and Gernot Heiser, *NICTA and The University of New South Wales*

Low Cost Working Set Size Tracking

Weiming Zhao, *Michigan Technological University*; Xinxin Jin, *Peking University*; Zhenlin Wang, *Michigan Technological University*; Xiaolin Wang, Yingwei Luo, and Xiaoming Li, *Peking University*

FVD: A High-Performance Virtual Machine Image Format for Cloud

Chunqiang Tang, *IBM Research*

Okeanos: Wasteless Journaling for Fast and Reliable Multistream Storage

Andromachi Hatzieleftheriou and Stergios Anastasiadis, *University of Ioannina*

Toward Online Testing of Federated and Heterogeneous Distributed Systems

Marco Canini, Vojin Jovanović, Daniele Venzano, Boris Spasojević, Olivier Crameri, and Dejan Kostić, *EPFL*

CDE: Using System Call Interposition to Automatically Create Portable Software Packages

Philip J. Guo and Dawson Engler, *Stanford University*

Vsys: A Programmable "Sudo"

Sapan Bhatia, *Princeton University*; Giovanni Di Stasi, *University of Napoli*; Thom Haddow, *Imperial College London*; Andy Bavier, *Princeton University*; Steve Muir, *Juniper Networks*; Larry Peterson, *Princeton University*

Internet-scale Visualization and Detection of Performance Events

Jeffrey Pang, Subhabrata Sen, Oliver Spatscheck, and Shobha Venkataraman, *AT&T Labs—Research*

Polygraph: System for Dynamic Reduction of False Alerts in Large-Scale IT Service Delivery Environments

Sangkyum Kim, *University of Illinois at Urbana-Champaign*; Winnie Cheng, Shang Guo, Laura Luan, and Daniela Rosu, *IBM Research*; Abhijit Bose, *Google*

4:30 p.m.–4:45 p.m. Break

4:45 p.m.–6:00 p.m. Thursday

Joint ATC and WebApps Invited Talk

Linux PC Robot

Mark Woodward, *Mohawksoft*

7:00 p.m.–9:00 p.m. Reception

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2011 USENIX Annual Technical Conference

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Friday, June 17, 2011

8:30 a.m.–9:30 a.m. Friday

Storage Deduplication

Building a High-performance Deduplication System
Fanglu Guo and Petros Efstathopoulos, Symantec Research Labs

SiLo: A Similarity-Locality based Near-Exact Deduplication Scheme with Low RAM Overhead and High Throughput

Wen Xia, *Huazhong University of Science and Technology*; Hong Jiang, *University of Nebraska—Lincoln*; Dan Feng, *Huazhong University of Science and Technology*; Yu Hua, *University of Nebraska—Lincoln and Huazhong University of Science and Technology*

9:30 a.m.–10:00 a.m. Break

10:00 a.m.–noon Friday

Debugging and Diagnosis

G2: A Graph Processing System for Diagnosing Distributed Systems

Zhenyu Guo, *Microsoft Research Asia*; Dong Zhou, *Tsinghua University*; Haoxiang Lin and Mao Yang, *Microsoft Research Asia*; Fan Long, *Tsinghua University*; Chaoqiang Deng, *Harbin Institute of Technology*; Changshu Liu and Lidong Zhou, *Microsoft Research Asia*

Context-based Online Configuration-Error Detection

Ding Yuan, *University of Illinois at Urbana-Champaign and University of California, San Diego*; Yinglian Xie and Rina Panigrahy, *Microsoft Research Silicon Valley*; Junfeng Yang, *Columbia University*; Chad Verbowski and Arunvijay Kumar, *Microsoft Corporation*

OFRewind: Enabling Record and Replay Troubleshooting for Networks

Andreas Wundsam and Dan Levin, *Deutsche Telekom Labs/TU Berlin*; Srinii Seetharaman, *Deutsche Telekom Inc. R&D Lab USA*; Anja Feldmann, *Deutsche Telekom Labs/TU Berlin*

ORDER: Object centRIC DEterministic Replay for Java

Zheming Yang, Min Yang, Lvcai Xu, Haibo Chen, and Binyu Zang, *Fudan University*

Noon–1:00 p.m. Lunch

1:00 p.m.–2:00 p.m. Friday

Security and Privacy

Enabling Security in Cloud Storage SLAs with CloudProof
Raluca Ada Popa, *MIT*; Jacob R. Lorch, David Molnar, Helen J. Wang, and Li Zhuang, *Microsoft Research*

jVPFS: Adding Robustness to a Secure Stacked File System with Untrusted Local Storage Components

Carsten Weinhold and Hermann Härtig, *Technische Universität Dresden*

2:00 p.m.–2:30 p.m. Break

2:30 p.m.–3:30 p.m. Friday

Distributed Systems

Semantics of Caching with SPOCA: A Stateless, Proportional, Optimally-Consistent Addressing Algorithm

Ashish Chawla, *Yahoo! Inc.*; Benjamin Reed, *Yahoo! Research*; Karl Juhnke and Ghousuddin Syed, *Yahoo! Inc.*

TidyFS: A Simple and Small Distributed File System

Dennis Fetterly, Maya Haridasan, and Michael Isard, *Microsoft Research*; Swaminathan Sundararaman, *University of Wisconsin—Madison*

3:30 p.m.–4:00 p.m. Break

4:00 p.m.–5:00 p.m. Friday

Personal Devices

Eyo: Device-Transparent Personal Storage

Jacob Strauss, *Quanta Research Cambridge*; Justin Mazzola Paluska and Chris Lesniewski-Laas, *MIT*; Bryan Ford, *Yale University*; Robert Morris and Frans Kaashoek, *MIT*

Autonomous Storage Management for Personal Devices with PodBase

Ansley Post, *MPI-SWS*; Juan Navarro, *TU Munich*; Petr Kuznetsov, *TU Berlin/DT Labs*; Peter Druschel, *MPI-SWS*

Make your Portland Marriott Downtown Waterfront hotel reservation early!

Special Attendee Room Rate:
\$179 single/double plus 12.5% state and local tax

- Call (503) 226-7600 and mention USENIX
- Book online at <http://www.usenix.org/fcw11/hotel>

Registration Fees

Early Bird Registration Deadline: Monday, May 23, 2011

USENIX is pleased to offer Early Bird Registration Discounts to those who register by Monday, May 23, 2011. After May 23, registration fees increase by \$50 per day.

USENIX members save an additional \$145! See www.usenix.org/fcw11/registration for more information.

Special Multi-Day Discount Packages Available: The More Days You Attend, the More You Save!

	Fees (Before May 23)	Package Savings for Members	Package Savings for Nonmembers
1 Day	\$450	Save \$145!	
2 Days	\$725	Save \$320!	Save \$175!
3 Days	\$975	Save \$520!	Save \$375!
4 Days (Full Conference Pass)	\$1195	Save \$720!	Save \$605!

Full-Time Student Registration Information

USENIX offers full-time students special low registration fees for USENIX Federated Conferences Week that are available at any time.

Registration Fees for Full-Time Students	
1 Day	\$120
2 Days	\$240
3 Days	\$360
4 Days (Full Conference Pass)	\$480



Find out more about USENIX ATC '11 at www.usenix.org/atc11. Register online at www.usenix.org/fcw11.