The **7th IEEE International Conference
on Networking, Architecture, and Storage (NAS2012)**
June 28 − 30, 2012 at Xiamen, Fujian, China.

PROGRAM GUIDE

Day 1: Thursday, June 28, 2012

8:30-9:00	Welcome		
9:00-10:00	Keynote Speech		
10:00-10:30	Coffee/Tea Break		
10:30-12:00	Session 1A	Session 1B	Session 1C
12:00-13:30	Lunch		
13:30-14:30	Keynote Speech		
14:30-15:30	Short Paper Session 2A	Short Paper Session 2B	
15:30-16:00	Coffee/Tea Break		
16:00-17:30	Session 3A	Session 3B	Session 3C
18:00-20:00	Conference Dinner		

Day 2: Friday, June 29, 2012

8:30-9:30	Keynote Speech	
9:30-10:00	Coffee/Tea Break	
10:00-12:00	Session 4A	Session 4B
12:00-13:30	Lunch	
13:30-14:30	Keynote Speech	
14:30-15:30	Short Paper Session 5A	Short Paper Session 5B
15:30-16:00	Coffee/Tea Break	
16:00-17:30	Session 6A	Session 6B
18:00-21:00	Industrial Panel and Banquet	

Day 3: Saturday, June 30, 2012
Tour

Day 1: Thursday, June 28, 2012

Keynote Speech	
9:00 - 10:00	Exploring Server Redundancy in Nonblocking Multicast Data Center Networks *Yuanyuan Yang, Stony Brook University, Stony Brook, New York 11794, USA*
10:00 - 10:30	Coffee/Tea Break
Session 1A : Reliability and Fault Tolerance (Chair: Tao Xie)	
10:30 - 11:00	Integrated System and Process Crash Recovery in the Loris Storage Stack *David C. van Moolenbroek, Raja Appuswamy and Andrew S. Tanenbaum. Vrije Universiteit*
11:00 - 11:30	A Reliability Optimization method Using Disk Reliability Degree and Data Heat Degree *Yin Yang, Zhihu Tan, Jiguang Wan, ChangSheng Xie, Huazhong University of Sci. and Tech*
11:30 - 12:00	Two Efficient Partial-Updating Schemes for Erasure-Coded Storage Clusters *Fenghao Zhang, Jianzhong Huang, Shiyi Li, Qiang Cao and Changsheng Xie. Huazhong University of Sci. and Tech*
Session 1B: Network Security (Chair: TBD)	
10:30 - 11:00	An Anomaly Detection Algorithm Based on Lossless Compression *Nan Wang, Jizhong Han, Jinyun Fang, Chinese Academy of Sciences*
11:00 - 11:30	Designing Click-Draw Based Graphical Password Scheme for Better Authentication *Yuxin Meng. City University of Hong Kong*
11:30 - 12:00	A General Framework of Trojan Communication Detection Based on Network Traces *Shicong Li, Xiaochun Yun, Yongzheng Zhang, Jun Xiao and Yipeng Wang. Chinese Academy of Sciences*
Session 1C: Many-Cores and GPU (Chair: Zhenyu Liu)	
10:30 - 11:00	Parallel Sparse Matrix Multiplication for Preconditioning and SSTA on a Many-Core Architecture *Keliang Zhang, Baifeng Wu. Fudan University*
11:00 - 11:30	Implementing the Jacobi Algorithm for Solving Eigenvalues of Symmetric Matrices with CUDA *Tao Wang, Longjiang Guo, Guilin Li, Jinbao Li, Renda Wang, Meirui Ren, Jing (Selena) He. Heilongjiang University* *Xiamen University and Georgia State University*
12:00 - 13:30	Lunch
Keynote Speech	
13:30 - 14:30	Memory System for Extreme-Scale Computing *Xian-He Sun, Illinois Institute of Technology, Chicago, USA*
Session 2A : Cloud Storage (Chair: TBD)	
14:30 - 14:45	C-IRR: An Adaptive Engine for Cloud Storage Provisioning Determined by Economic Models with Workload Burstiness Consideration *Jianzong Wang, Rui Hua, Yifeng Zhu, Changsheng Xie, Peng Wang and Weijiao Gong. Huazhong University of Science and Technology and University of Maine*

14:45 - 15:00	Investigating an Open Source Cloud Storage Infrastructure for CERN-Specific Data Analysis *Salman Zubair Toor, Rainer Toebbicke, Maitane Zotes Resines and Sverker Holmgren. Uppsala University and European Organization for Nuclear Research*
15:00 - 15:15	Magicube: High Reliability and Low Redundancy Storage Architecture for Cloud Computing *Qingqing Feng, Jizhong Han, Yun Gao and Dan Meng. Chinese Academy of Sciences*
15:15 - 15:30	CHAC: An Effective Attribute Clustering Algorithm for Large-scale Data Processing. *Xiaoyan Gu, Xiufeng Yang, Weiping Wang, Yan Jin and Dan Meng. Chinese Academy of Sciences*

Session 2B: Performance Analysis (Chair: Jun Wang)

14:30 - 14:45	INBI: An Improved Network-Based Inference Recommendation Algorithm *Jianxun Xia, Fei Wu, Changsheng Xie and Jianwei Tu. Huazhong University of Sci. and Tech.*
14:45 - 15:00	Optimizing bandwidth by employing MPLS AToM with QoS support *Rashid Hassani, Amirreza Fazely and Peter Luksch. University of Rostock*
15:00 - 15:15	Bitline Leakage Current Compensation Circuit for High-performance SRAM Design *Ruixing Li, Na Bai, Baitao Lv, Jiafeng Zhu and Xiulong Wu. Anhui University and Southeast University*
15:30-16:00	Coffee/Tea Break

Session 3A : Solid State Drives (Chair: Dries Kimpe)

16:00 - 16:30	Making Garbage Collection Wear Conscious for Flash SSD *Jonathan Tjioe, Andres Blanco, Tao Xie and Yiming Ouyang. San Diego State University*
16:30 - 17:00	An Empirical Study on the Interplay Between Filesystems and SSD *Ping Huang, Ke Zhou, Chunhua Li and Hua Wang. Huazhong Univ. of Sci. & Tech*
17:00 - 17:30	GC-ARM: Garbage Collection-Aware RAM Management for Flash based Solid State Drives *Jian Hu, Hong Jiang, Lei Tian and Lei Xu. University of Nebraska-Lincoln*

Session 3B: TCP/IP (Chair: TBD)

16:00 - 16:30	IVI-based Locator/ID Separation Architecture for IPv4/IPv6 Transition *Wentao Shang, Congxiao Bao and Xing Li. Tsinghua University*
16:30 - 17:00	A Hardware-based TCP Stream State Tracking and Reassembly Solution for 10G Backbone Traffic *Yanrong Zhao, Ruan yuan, Wang Weiping, Meng Dan, Zhang Shubin, Li Jun. Chinese Academy of Sciences and Tencent*
17:00 - 17:30	An In-depth analysis of TCP and RDMA Performance on Modern Server Platform *Yong Wan, Dan Feng, Fang Wang, Liang Ming and Yulai Xie. Huazhong University of Science and Technology*

	Session 3C: Architecture (Chair: Guangyu Sun)
16:00 - 16:30	Novel O-GEHL Based Hyperblock Predictor for EDGE Architectures *Pengfei Gou, Bing Yang, Mingyan Yu and Zhigang Mao. Harbin Institute of Technology*
16:30 - 17:00	PSA-NUCA: A Pressure Self-Adapting Dynamic Non-Uniform Cache Architecture *Anwen Huang, Jiang Jiang, Jun Gao, Wei Guo, Wenqiang Shi and Minxuan Zhang. National University of Defense Technology and Shanghai Jiao Tong University*
17:00 - 17:30	A Transparent Control-flow Based Approach to Record-Replay Non-deterministic Bugs *Nan Wang, Jizhong Han and Jinyun Fang. Chinese Academy of Sciences*

Day 2: Friday, June 29, 2012

	Keynote Speech
8:30 - 9:30	**Krishna Kant**, *George Mason University*
9:30 -10:00	Coffee/Tea Break
	Session 4A : Clouds and Data-Intensive Computing (Chair: Xiao Qin)
10:00 - 10:30	Co-located Compute and Binary File Storage in Data-intensive Computing *Qiangju Xiao, Pengju Shang and Jun Wang. University of Central Florida*
10:30 - 11:00	Efficient and Accurate Anomaly Identification Using Reduced Metric Space in Utility Clouds *Qiang Guan, Ziming Zhang and Song Fu. University of North Texas*
11:00 - 11:30	A Quantitative Evaluation Model for Choosing Efficient Redundancy Strategies over Clouds *Jianzong Wang, Weijiao Gong and Changsheng Xie. Huazhong University of Science and Technology*
11:30 - 12:00	Performance Evaluation of Traditional Caching Policies on A Large System with Petabytes of Data *Ribel Fares, Brian Romoser, Ziliang Zong, Mais Nijim, and Xiao Qin. Texas State University, Texas A&M University-Kingsville, Auburn University*
	Session 4B: Wireless Networks and Applications (Chair: Lei Xie)
10:00 - 10:30	Towards Energy Optimization Using Joint Data Rate Adaptation for BSN and WiFi Networks *Yantao Li, Ge Peng, Xin Qi, Gang Zhou, Di Xiao, Shaojiang Deng and Hongyu Huang. Chongqing University and College of William and Mary*
10:30 - 11:00	MOLTS: Mobile Object Localization and Tracking System Based on Wireless Sensor Networks *Tao Liu, Xiaozong Cui, Guangsheng Xu, Jie Tong, Yi Liu, Depei Qian. Beihang University*
11:00 - 11:30	A Queue-length-based Detection Scheme for Urban Traffic Congestion by VANETs *Yuwei Xu, Ying Wu, Jingdong Xu, Dongying Ni, Gongyi Wu and*

	Lin Sun. Nankai University
11:30 - 12:00	Wide-area 100Gb Networking at the SCinet Research Sandbox *Richard Knepper, William Johnson, Scott Michael, Robert Henschel and Matthew Link. Indiana University*
12:00 - 14:00	Lunch

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Keynote Speech

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13:30 - 14:30	Error-Correcting Codes for Flash Memory *Trieu-Kien Truong, National Sun Yat-Sen University*

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Session 5A : Processors and Cache (Chair: Tao Wang)

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14:30 - 14:45	Wear-Resistant Hybrid Cache Architecture with Phase Change Memory *Sanchuan Guo, Zhenyu Liu, Dongsheng Wang, Haixia Wang and Guohong Li. Tsinghua University*
14:45 - 15:00	A Novel HW/SW Partitioning with SIMD Instructions for AVS Video Decoder *Liwei Chen, Ming Cong, Jing Huang, Ling Li, Hongwei Liu and Cheng Qian. Chinese Academy of Sciences*
15:00 - 15:15	Self-Aligning Return Address Stack *Wang Guopeng, Hu Xiangdong, Zhu Ying and Zhang Yingnan. National High Performance IC Design Center and University of Science and Technology of China*

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Session 5B : Solid-State Drives and I/O (Chair: Ben He)

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14:30 - 14:45	Improving the Performance of On-Board Cache for Flash-based Solid-State Drives. *Miaoqing Huang and Liang Men. University of Arkansas*
14:45 - 15:00	Dataset Management Aware Software Architecture for Storage Systems Based On SSDs *Nikolaus Jeremic, Gero Mühl, Anselm Busse and Jan Richling. University of Rostock*
15:00 - 15:15	A Parity Scheme to Enhance Reliability for SSDs *Yi Qin, Dan Feng, Jingning Liu, Wei Tong, Yang Hu and Zhiming Zhu. Huazhong University of Science and Technology*
15:15 - 15:30	Measurements Study on the I/O Performance of Virtualized Cloud System *Lingjun Pu, Jingdong Xu, Xing Jin, Ying Wu and Jianzhong Zhang. Nankai University*
15:30 -16:00	Coffee/Tea Break

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Session 6A : High-Performance Systems (Chair: Meilin Liu)

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16:00 - 16:30	Aesop: Expressing Concurrency in High-Performance System Software *Dries Kimpe, Philip Carns, Kevin Harms, Justin Wozniak, Samuel Lang and Robert Ross. Argonne National Laboratory*
16:30 - 17:00	TDWS: a Job Scheduling Algorithm based on MapReduce *Zhao Yanrong, Wang Weiping, Meng Dan, Zhang Shubin, Li Jun. Chinese Academy of Sciences.*
17:00 - 17:30	A Multi-VC Dynamically Shared Buffer with Prefetch for Network on Chip *Heying Zhang, Kefei Wang, Yi Dai and Lu Liu. National University of Defense Technology*

Session 6B: Deduplication and Anslysis (Chair: David Chang)	
16:00 - 16:30	SAR: SSD Assisted Restore Optimization for Deduplication-based Storage Systems *Bo Mao, Hong Jiang, Suzhen Wu, Yinjin Fu and Lei Tian.*
16:30 - 17:00	*University of Nebraska-Lincoln, Xiamen University, and National University of Defense Technology* P-Dedupe: Exploiting Parallelism in Data Deduplication System *Wen Xia, Hong Jiang, Dan Feng, Lei Tian, Min Fu and Zhongtao Wang. Huazhong University of Science and Technology and University of Nebraska – Lincoln*
17:00 - 17:30	On accuracy of early traffic classification *Buyun Qu, Zhibin Zhang, Li Guo and Dan Meng. Chinese Academy of Sciences*
18:00 - 21:00	Industrial Panel (Big Data Meets Cloud Computing) and Banquet