

Proceedings

Fifth IEEE International Workshop on Storage Network Architecture and Parallel I/Os

SNAPI 2008

22 September 2008
Baltimore, Maryland, USA



Los Alamitos, California
Washington • Tokyo



Fifth IEEE International Workshop on Storage Network Architecture and Parallel I/Os

SNAPI 2008

Table of Contents

Foreword	vii
Workshop Organization	viii
Sponsors	x

Session 1: Storage Networks

Implementation and Evaluation of iSCSI over RDMA	3
<i>Ethan Burns and Robert Russell</i>	
On Maximizing iSCSI Throughput Using Multiple Connections with Automatic Parallelism Tuning	11
<i>Fumito Inoue, Hiroyuki Ohsaki, Yoshihiro Nomoto, and Makoto Imase</i>	

Session 2: File Systems

Pre-allocation Size Adjusting Methods Depending on Growing File Size	19
<i>Takaki Nakamura and Norihisa Komoda</i>	

Session 3: Archival Storage

ADMAD: Application-Driven Metadata Aware De-duplication Archival Storage System	29
<i>Chuanyi Liu, Yingping Lu, Chunhui Shi, Guanlin Lu, David H. C. Du, and Dong-Sheng Wang</i>	
Parallel Processing of Data, Metadata, and Aggregates Within an Archival Storage System User Interface (Toward Archiving a Million Files and a Million Megabytes per Minute)	36
<i>Mark A. Roschke, Bart J. Parliman, Danny P. Cook, and C. David Sherrill</i>	

Session 4: Security

A Model for Storage Processes in Network Environment and Its Implementation	47
---	----

Tomasz Bilski

A Partial-Distribution-Fault-Aware Protocol for Consistent Updates in Distributed Storage Systems	54
---	----

Peter Sobe

Session 5: Disk Technology

Data Structure Consistency Using Atomic Operations in Storage Devices	65
---	----

Ananth Devulapalli, Dennis Dalessandro, and Pete Wyckoff

DIG: Rapid Characterization of Modern Hard Disk Drive and Its Performance Implication	74
---	----

Jongmin Gim, Youjip Won, Jaehyeok Chang, Junseok Shim, and Youngseon Park

Author Index	85
---------------------------	----