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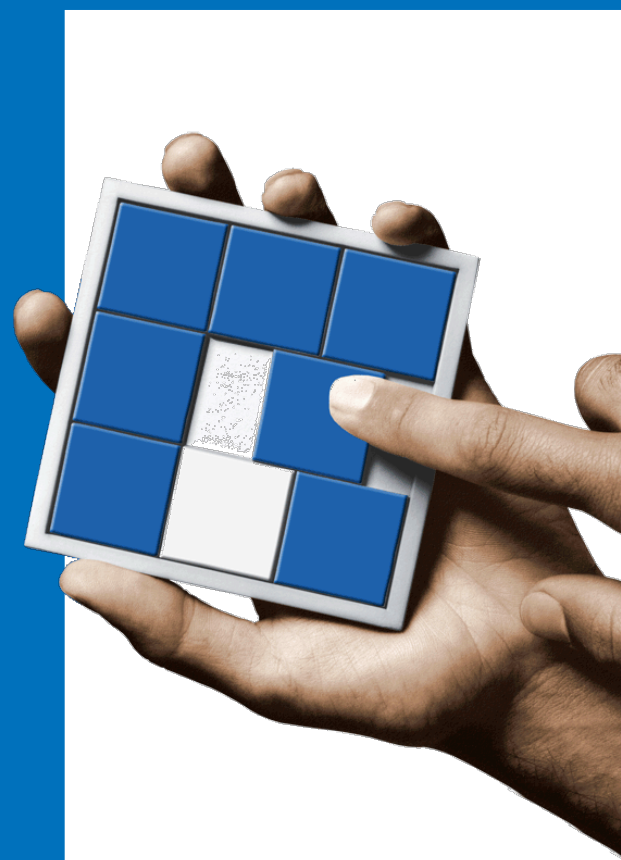
NFS Server-side Copy

draft-lentini-nfsv4-server-side-copy-06.txt

IETF-79

2010-11-09

Mike Eisler





draft-lentini-nfsv4-server-side-copy-06.txt

- Differences from last update
- NFSv4.x or standalone?
- Key points solved
- Issues of contention
- Data that supports proposal
- Overlaps
- Should proposal be combined/not combined?
- Who should review?
- Next steps



draft-lentini-nfsv4-server-side-copy-06.txt

- Differences from last update
 - Metadata copy
 - Lists which attributes MUST or SHOULD be copied
 - Only applicable to whole file copies.
 - Removed COPY4_SPACE_RESERVED flag
 - space_reserve attribute defined in draft-iyer-nfsv4-space-reservation-ops.
 - Advice for client implementations on protecting against concurrent modifications to source file (OPEN4_SHARE_DENY_WRITE).
 - Required that a successful copy result in identical data from the NFS client's view of the source and destination file, but the on disk representation may be different due to backend encryption, compression, deduplication/etc.



draft-lentini-nfsv4-server-side-copy-06.txt

- NFSv4.x or standalone?
 - NFSv4.x
- Key points solved
 - Leverage intra-server zero copy block sharing
 - Conserve resource bandwidth
- Issues of contention
 - Is a DENY mode sufficient?



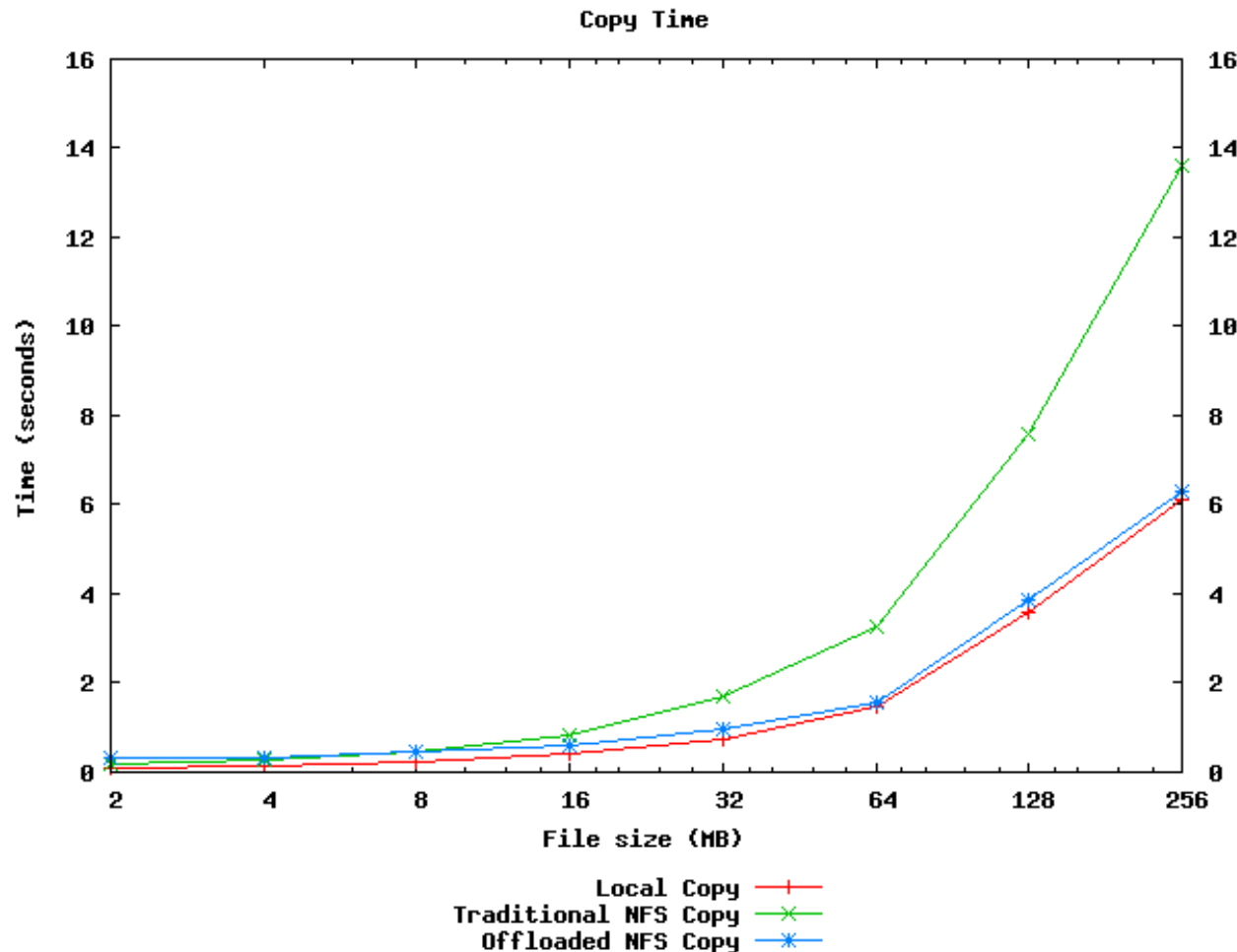
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■ Data that supports proposal

- Subset of protocol prototyped on Linux
 - Synchronous copy

– Client and Server configuration:

- dedicated, p2p 1 Gbps network
- EXT4FS file system
- dual core, 1.8 Ghz CPUs
- 4 GB RAM



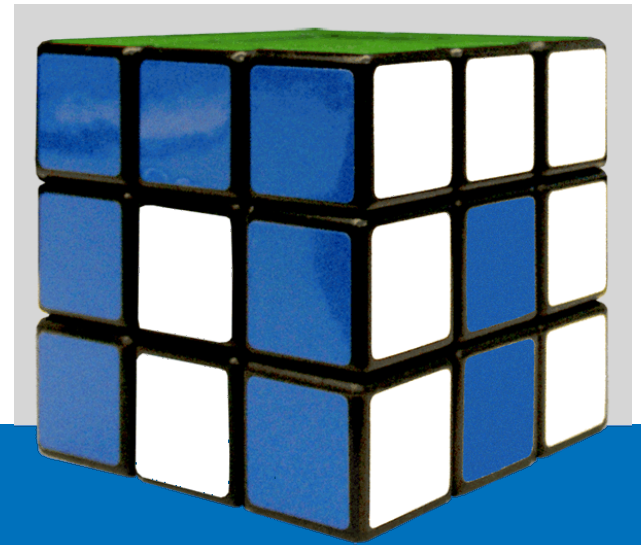


draft-lentini-nfsv4-server-side-copy-06.txt

- Overlaps
 - None
- Should proposal be combined/not combined?
 - Should be part of draft-ietf-nfsv4-minorversion²
- Who should review?
 - WG
- Next steps
 - Resolve contentious issues
 - Roll into NFSv4.2

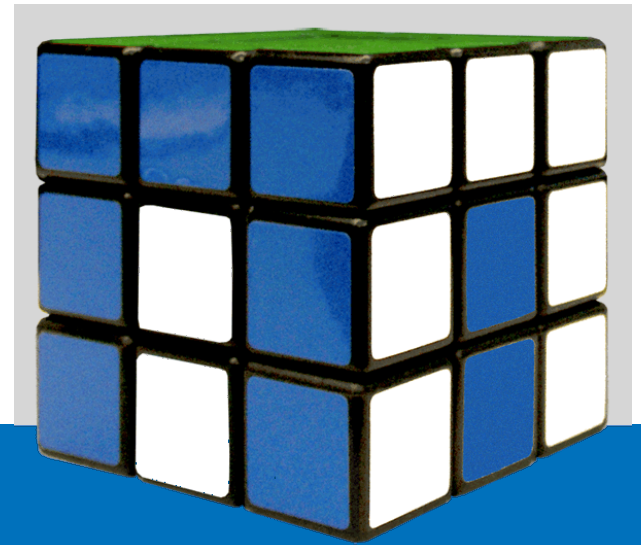
Thanks

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Questions and Answers

Backup Material





Linux Prototype

- Developed by Anshul Madan (intern) with help from Trond Myklebust and James Lentini.
- Modified Linux 2.6.34:
 - system call interface
 - NFS Client
 - NFS Server
- Implemented synchronous copy.
 - Plan to implement asynchronous copy.
- Proposed copyfileat(2) system call at the Linux Storage and Filesystem Summit (LSF'10).