pNFS Access Permissions Check

draft-ietf-nfsv4-pnfs-access-permissions-check-00.txt

IETF 79 NFSv4 WG Meeting, November 9, 2010

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Problem Statement

- pNFS clients receive valid layout to a DS but cannot access data server
- MDS has no information about why client is doing all I/O through server
- This is a serious scalability problem for pNFS defeating its purpose
Changes in nfsv4 WG draft

- The ADs accepted the draft as an nfsv4 WG draft
  - Will be included in the 4.2
- The I-D includes all the comments from the nfsv4 list
- First nfsv4 WG draft version:
  draft-ietf-nfsv4-pnfs-access-permissions-check-00.txt
- Add client guidance on riding through transient errors:
  - Client unable to access the storage device, NFS4ERR_NXIO SHOULD be used.
  - Client is able to access the storage device, but permission is denied, NFS4ERR_ACCESS SHOULD be used.
Changes in nfsv4 WG draft (cont.)

- Add ALL NO_ACCESS return type (NO_ACCESS for every return type)
- Use NFS4ERR_ACCESS instead of NFS4ERR_PERM
- Allow use of NFS4ERR_NXIO for unreachable DS
- Simplify access checks to only discuss GETDEVICELIST
- Server does not need to indefinitely retain device inaccessibility information
Changes in nfsv4 WG draft (cont.)

- Remove "MUST" requirement for layout return
- Add warning that if the layout isn't returned
- Allow errors via reference to errors allowed for READ and WRITE
- Allow NFS4ERR_NXIO
- Provide information about how to map device errors
Acknowledgements

Thanks to:

David Black for help with the cleanup of language and including all the comments
Jason Glasgow for the block related comments
Benny Halevy for the object related comments
Tom Haynes and Bruce Fields for all the constructive comments and recommendations