

NFSv4

Directory Notification

History

- ▶ Connectathon 2003 meeting
- ▶ Directory read delegation
- ▶ No directory write delegation
 - Complex
 - Benefit unsure
- ▶ File system read delegation discussed
- ▶ Many issues to be flushed out

Current state of affairs

- ▶ Directory contents and attributes are cached on the client
- ▶ No cache consistency guarantees
- ▶ Client polls server to check cached data
- ▶ Server is queried for access

Motivation

- ▶ Allow NFSv4 to be more WAN friendly by reducing the amount of traffic on the wire
- ▶ LOOKUP, READDIR, LOOKUPP handled locally
- ▶ ACCESS handled locally
- ▶ Cache consistency??

Notification vrs Delegation

- ▶ File read delegation: server waits for delegation callback before granting the write.
- ▶ Directory notification: server grants the directory change, and then sends the notification

GETDIR_NOTIFICATION

- ▶ New operation for client to express interest in obtaining a directory notification
- ▶ Server chooses when to accept directory notification registration
- ▶ Use existing mechanisms
 - File delegation callback
 - Stateid
 - DELEGRETURN

GETDIR_NOTIFICATION

PUTFH (directory filehandle)

GETDIR_NOTIFICATION

REaddir or LOOKUP

Some Issues

- ▶ What set of directory attributes should be delegated
- ▶ Directory notification covers directory contents
 - Change attributes?
- ▶ Renaming
 - Parent, grandparent, content renamed...

Any questions?

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