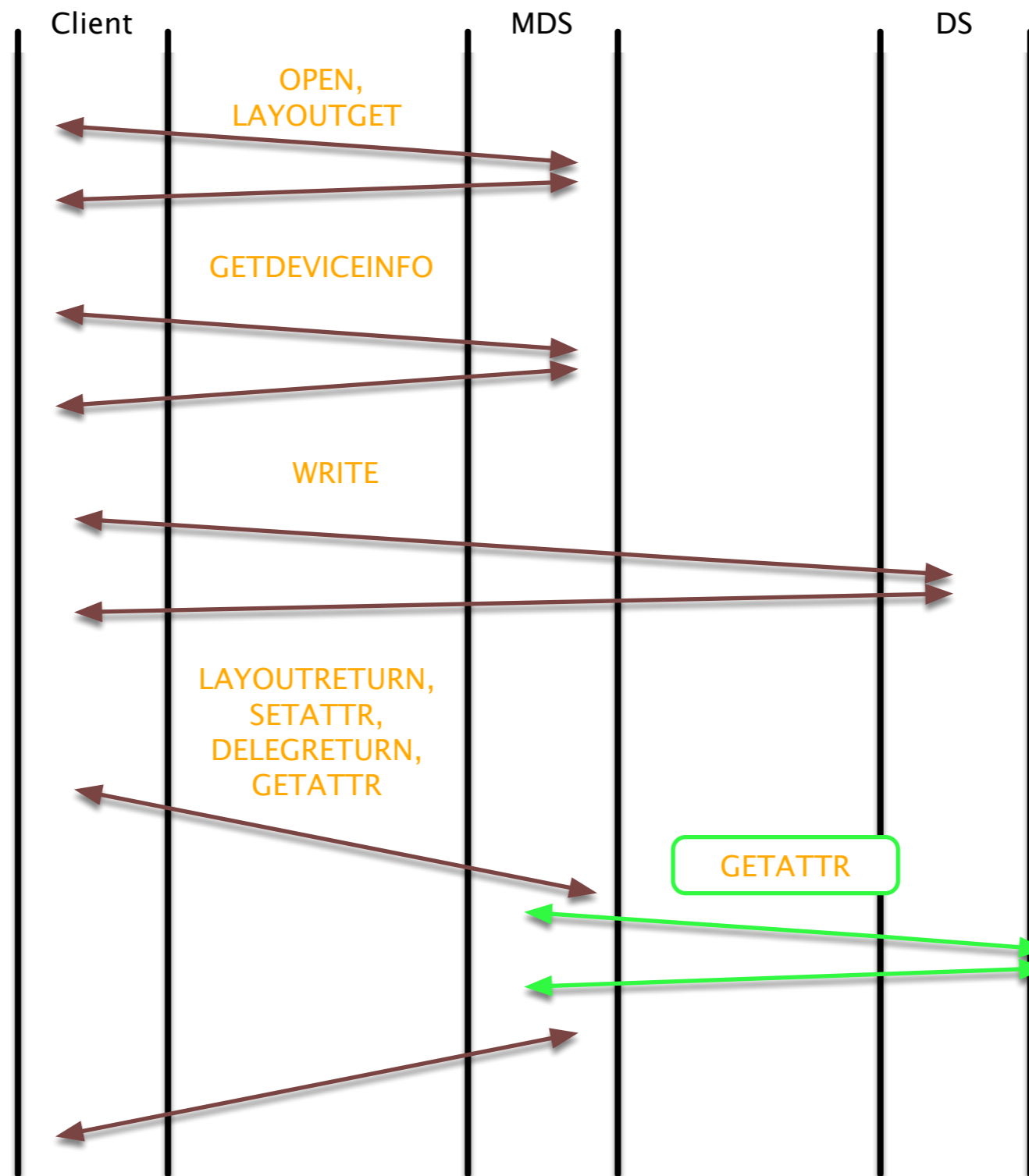# Delegation of Stateids IETF105

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LAYOUT_WCC

- For a GETATTR(size/atime/mtime), the MDS has to go to the DS

  - Client READs and WRITEs to the DS are invisible to the MDS

- Those READs and WRITEs return WCC to the client

- Client can feed that WCC to the MDS

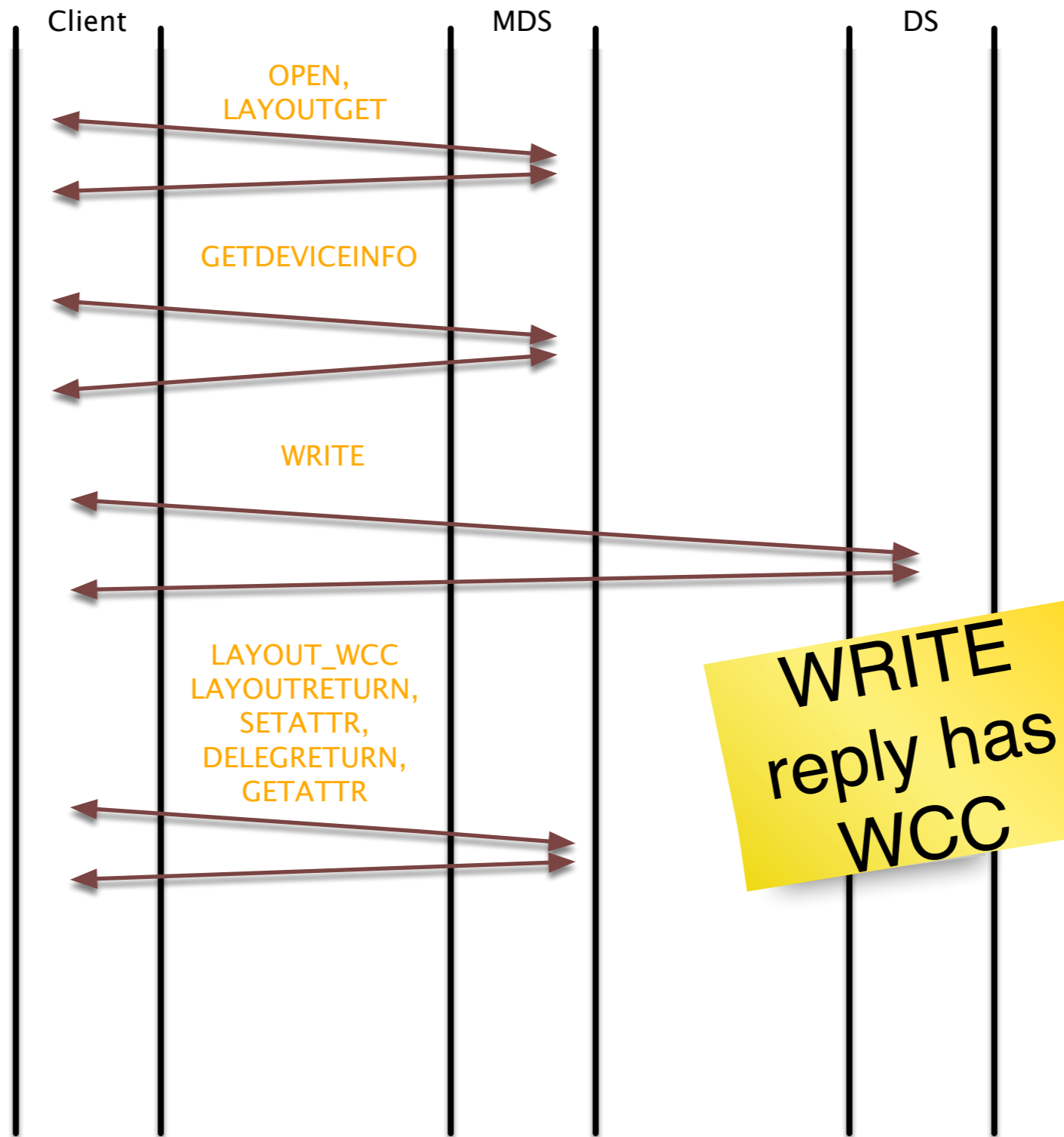- MDS can determine whether to use that WCC or not

echo "foo" > bar

Client   MDS   DS

OPEN,
LAYOUTGET

GETDEVICEINFO

WRITE

LAYOUTRETURN,
SETATTR,
DELEGRETURN,
GETATTR

GETATTR

Doesn't Attr Caching help

- Client is just providing mtime and atime of metadata file

- MDS has to compare attrs of data file from last modification to now

  - If delta, then data file modified

- Even knowing metadata attrs changed, need to re-arm data file

- LAYOUT_WCC does this, eliminates GETATTR to DS

LAYOUT_WCC: echo "foo" > bar

LAYOUT_WCC vs LAYOUTRETURN vs LAYOUTCOMMIT

- LAYOUTRETURN mandates new version of RFC8435 - flexfiles layout type

- LAYOUTCOMMIT

  - Allows for layout type specific data

  - Strong cache consistency, not weak

  - Has additional semantics

- LAYOUT_WCC builds upon WCC in NFSv3 WRITE

The draft status

- Version 0 was everything but LAYOUT_WCC

- Agreed to be official WG item

  - Never finished off review items

- Still want next draft version to be an official WG item