FOURTH QUIZ ANSWERS

COSC 6360

November 2020

F2FS

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  - *Unlike the Sprite LFS i-node map, the F2FS node address table (NAT) contains the addresses of all indirect addressing blocks. F2FS calls them "nodes."*

F2FS

- What is the main motivation for F2FS *threaded logging*?

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  ☐ *It allows F2FS to keep working when there are no clean segments available.*

NFS

- What is the purpose of NFS *file generation numbers*? (10 points)

- Where are these numbers stored? (10 points)

NFS

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  - *File generation numbers are used to detect stale file handles.*

- Where are these numbers stored? (10 points)
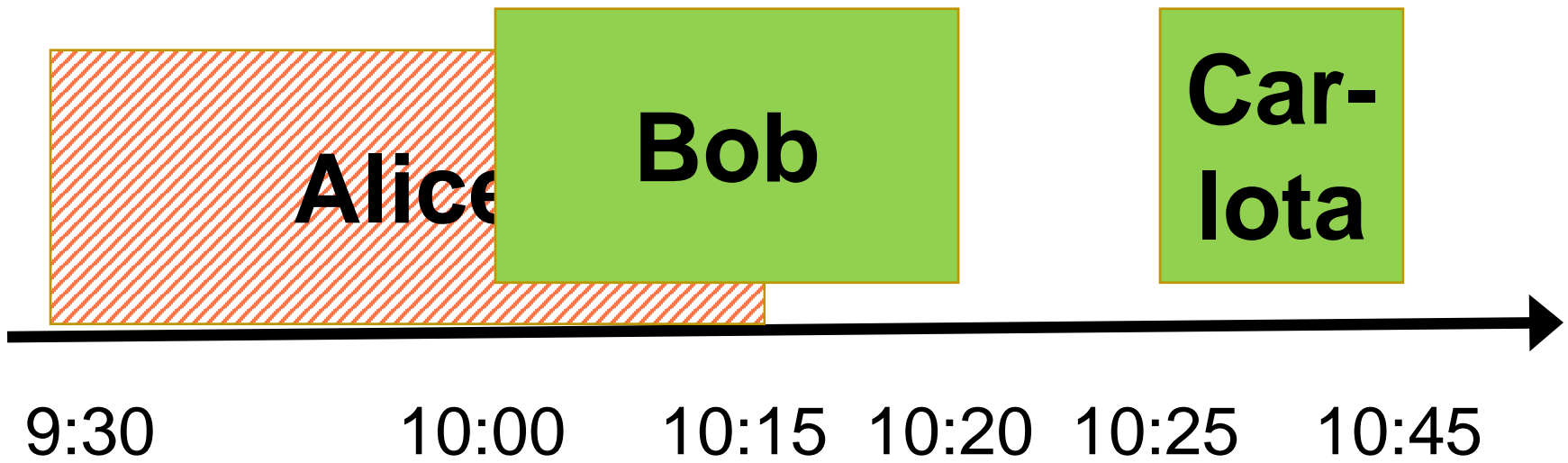
  - *In the i-node of every file.*

NFS Evolution

- Consider a distributed file system implementing close-to-open consistency. Assuming that
  - ☐ Alice opens the file at 9:30 AM, modifies it, and closes it at 10:15 AM,
  - ☐ Bob opens the file at 10:00 AM, modifies it, and closes it at 10:20 AM,
  - ☐ Carol opens the file at 10:25 AM, modifies it, and closes it at 10:45 AM,
- Which of these three users would see his or her changes actually incorporated in the final version of the file?

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  Bob and Carlota

Leases

- Which of the three CAP properties is not satisfied by time-limited leases?

  □ Consistency

  □ Availability

  □ Partition tolerance

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  ☐ ***Availability***

  ☐ Partition tolerance

Google file system

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   ☐ *__The locations of the chunk replicas.__*

Google File System

- How does the Google File System protect the contents of its data chunks against device failures?

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  ☐ **_All chunks are replicated at least three times_**

Ceph

- How does Ceph map objects into placement groups?

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  ☐ *Through hashing.*

Ceph

- What does Ceph do to speed up access to directories that are heavily written to?

  ☐ *It hashes their contents over the cluster.*