Distributed System 1 - synch 5

Francesco Penasa

March 11, 2020

2020 03 09

1. Consistent Cut
2. proof: distributed snapshot does a consistent cut
3. if two node initiate at the same time: to resolve the thing we can add extra information to the token, this way there is no confusion and no problems.

Distributed transaction All succeed or no one succeed, all the operations are treated as **atomic**. All operations atomic, behave as one even if their individual operations are executed in parallel and intermets one another. If it works we call it **commit** otherwise **rollback** and no trace of the aborted transaction remains in the system.
ACID

1. atomic: atom
2. consistent: maintain the system in a consistent state if it commit or if it rollback
3. isolated: concurrent trasactions do not interfere with each other.
4. Durable: changes are permanent once committed.

Transaction are implmented with some techniques

1. Private workspace: the intermediate results use new blocks, and we maintain the old results in case of rollback
2. Writeahead log: here you only have the new copy, but we keep track of the actions (log), so the roll back would just need to revert such actions.
3.