Recitation 20 — Raft

The basics of Raft

There is really no reference better than the two links we provide along with the recitation assignment:

● An introduction to distributed consensus
● A visualization of Raft

After watching the animations in those links, and reading the paper, you should be able to answer the following:

● Leader election
  ○ Each candidate votes for itself and broadcasts its request; what is in the request?
  ○ For a machine to respond to a vote, what needs to happen?
  ○ How does a machine win an election?
  ○ What happens if no one wins?
  ○ How does a leader continue being a leader?

● Failures
  ○ What happens when a leader fails?
  ○ What happens when a follower fails?
  ○ What happens when a candidate fails?
  ○ What happens when there is a network partition?

To test your understanding here, check out Problem 4 of the 2019 exam (solutions).

Discussion

● What does it mean to be an “understandable” consensus algorithm? Understanding by whom?
● Is Raft understandable?
● Is understandability a worthwhile design goal?