Unanimous

In Pursuit of Consensus at the Internet Edge

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Homogeneous hosts

Fixed network topology with redundancy

Management by knowledgeable Sysadmins

Well understood network with easy introspection

Trusted nodes & network

Single administrative domain

Model
Problem

Developing fault-tolerant applications for the Internet edge is hard.
Quick Intro to Raft

Leader

Win Election

Candidate

Restart Election

Timeout

Follower

Startup
Quick Intro to Raft

- **Leader**
  - Win Election
  - Step down

- **Candidate**
  - Restart Election
  - Timeout
  - Step down

- **Follower**
  - Startup
Example:
Asymmetric Reachability in Raft
Approach

1. designed for developer usability and performance.
2. based on the reality of the modern internet.
3. conservative leader election with smart failure detectors.
4. various degrees of passive participation.
“In my experience, all distributed consensus algorithms are either:
1: Paxos,
2: Paxos with extra unnecessary cruft, or
3: broken.” – Mike Burrows

let’s continue the discussion:

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