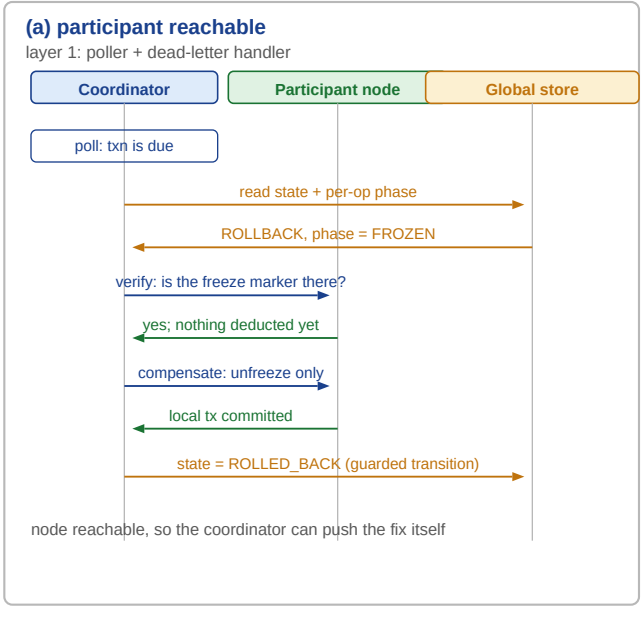
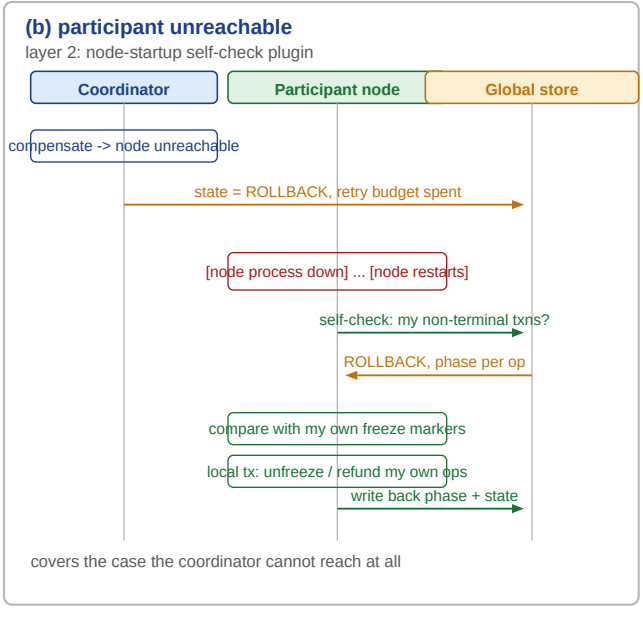

(a) participant reachable
layer 1: poller + dead-letter handler
Coordinator
Participant node
Global store
poll: txn is due
read state + per-op phase
ROLLBACK, phase = FROZEN
verify: is the freeze marker there?
yes; nothing deducted yet
compensate: unfreeze only
local tx committed
state = ROLLED_BACK (guarded transition)
node reachable, so the coordinator can push the fix itself


(b) participant unreachable
layer 2: node-startup self-check plugin
Coordinator
Participant node
Global store
compensate -> node unreachable
state = ROLLBACK, retry budget spent
[node process down] ... [node restarts]
self-check: my non-terminal txns?
ROLLBACK, phase per op
compare with my own freeze markers
local tx: unfreeze / refund my own ops
write back phase + state
covers the case the coordinator cannot reach at all