Raft is a consensus algorithm for managing a replicated log in building reliable large-scale software systems such as distribution database.Which allows a collection of machines to work as a coherent group that can survive the failures of some of its members. Raft produces a result equivalent to (multi-)Paxos, and it is as efficient as Paxos, but its structure is different from Paxos. The greatest difference between Raft and Paxos is Raft's strong leadership: Raft uses leader election as an essential part of the consensus protocol, and it concentrates as much functionality as possible in the leader.In order to enhance understandability, Raft separates the key elements of consensus, such as leader election, log replication, and safety, and it enforces a stronger degree of coherency to reduce the number of states that must be considered. Raft also includes a new mechanism for changing the cluster membership, which uses overlapping majorities to guarantee safety. A Raft cluster contains several servers; five is a typical number, which allows the system to tolerate two failures. At any given time each server is in one of three states: leader, follower, or candidate. In normal operation there is exactly one leader and all of the other servers are followers. Followers are passive: they issue no requests on their own but simply respond to requests from leaders and candidates. The leader handles all client requests (if a client contacts a follower, the follower redirects it to the leader). Like Raft, VR and ZooKeeper are leader-based and therefore share many of Raft's advantages over Paxos. However, Raft has less mechanism that VR or ZooKeeper because it minimizes the functionality in non-leaders. For example, log entries in Raft flow in only one direction: outward from the leader in AppendEntries RPCs. In VR log entries flow in both directions (leaders can receive log entries during the election process); this results in additional mechanism and complexity. Raft has fewer message types than any other algorithm for consensus-based log replication that we are aware of.Raft's messages are a bit more dense than the other algorithms', but they are simpler collectively.

Key words- distributed; consensus;