Overview

- DRiP is a HTTP based protocol for sharing registry type of information between interconnected nodes across a network.
- It uses a gossip protocol for complete distribution across interconnected nodes.
- It incorporates a voting mechanism to avoid conflicting data updates or race conditions.
Similarities to existing projects

- Beyond distributed databases in general, two existing open source projects that specifically support a RESTful HTTP interface and pass around updatable JSON objects are CoreOS etcd and Hashicorp Consul.

- These use raft and serf based protocols for doing distributed consensus (gossip based).

- DRiP is a pure gossip protocol, with voting phase borrowed from Paxos.

- However, all share gossip based fundamentals.
Differences from existing implementation

• Many current distributed system implementations incorporate a leader or master role.

• In DRiP we explicitly avoid any leader with the intention that each node is owned by different registry parties and there is no single leader or single owner.

• Model is simpler, first-to-update-wins consensus.

• This simplicity implies that consensus must be absolute, all nodes vote their consensus.

• So, trade off of speed versus highly consistent data across all nodes.
Updates for 01

- Completed all TBDs with API examples
- Added a security/auth mechanism - authorization header with basic certificate based JWT to validate every node to node transaction
- Propose a separate draft for the Auth/Security framework for managing and protecting the DRiP network, API credentials/tokens, revoking access, etc.
- Added heartbeat mechanism for node to validate that it is connected to at least one other peer node.