

Distributed ephemeral log service

- Log entries are replicated,dispersed
 - See Ivy, Palimpsest papers.
 - Nodes can append to their own log
 - Can read any log
- Nodes implement FIFO queue of log entries
 - Old entries fall off the end
 - Hence no storage mgmt needed.
 - Can do complete file system this way...

Measurement and visualization of PlanetLab Connectivity

- Measure network conditions between PlanetLab nodes
- Provide interfaces:
 - Visualization
 - Per-node service interface
 - Persistent log for offline analysis
- Avoid annoying the rest of the Net
 - Scalability in measurements
- Roll in BGP, ASNs, Long/Lat, etc...

Censorship-resistant web publishing

- Documents are loss-coded
 - Fragments stored on different servers
 - Loss of servers stimulates recreation of new fragments on other servers
- Use proxy to provide WWW interface
 - Urls are mapped so HTML all works
- See Matt Welsh (mdw@cs) for more information

Decentralized Instant Messaging

- Implement Jabber, but make it server-independent
 - Clients can connect to any PlanetLab server
 - Flat name space of user identifiers
- Use DHT to determine rendezvous points for client messages
- Need replication to handle node failures
- Measure recovery times, latency, etc.

Steganographic Storage Service

- Make it impossible determine if a file exists at all, if you don't have the key.
- Erasure-code file into blocks
- Generate unguessable sequence of block identifiers
- Use DHT to map these to physical blocks
- Route blocks through mixnet to store