# *Live Network Backup*

der Mouse

BSDCan 2005

2005-05-13

Why do backups?

- oops, I didn’t want to delete that!
- hmm, what was here last October?
- oh no, this disk drive just died!

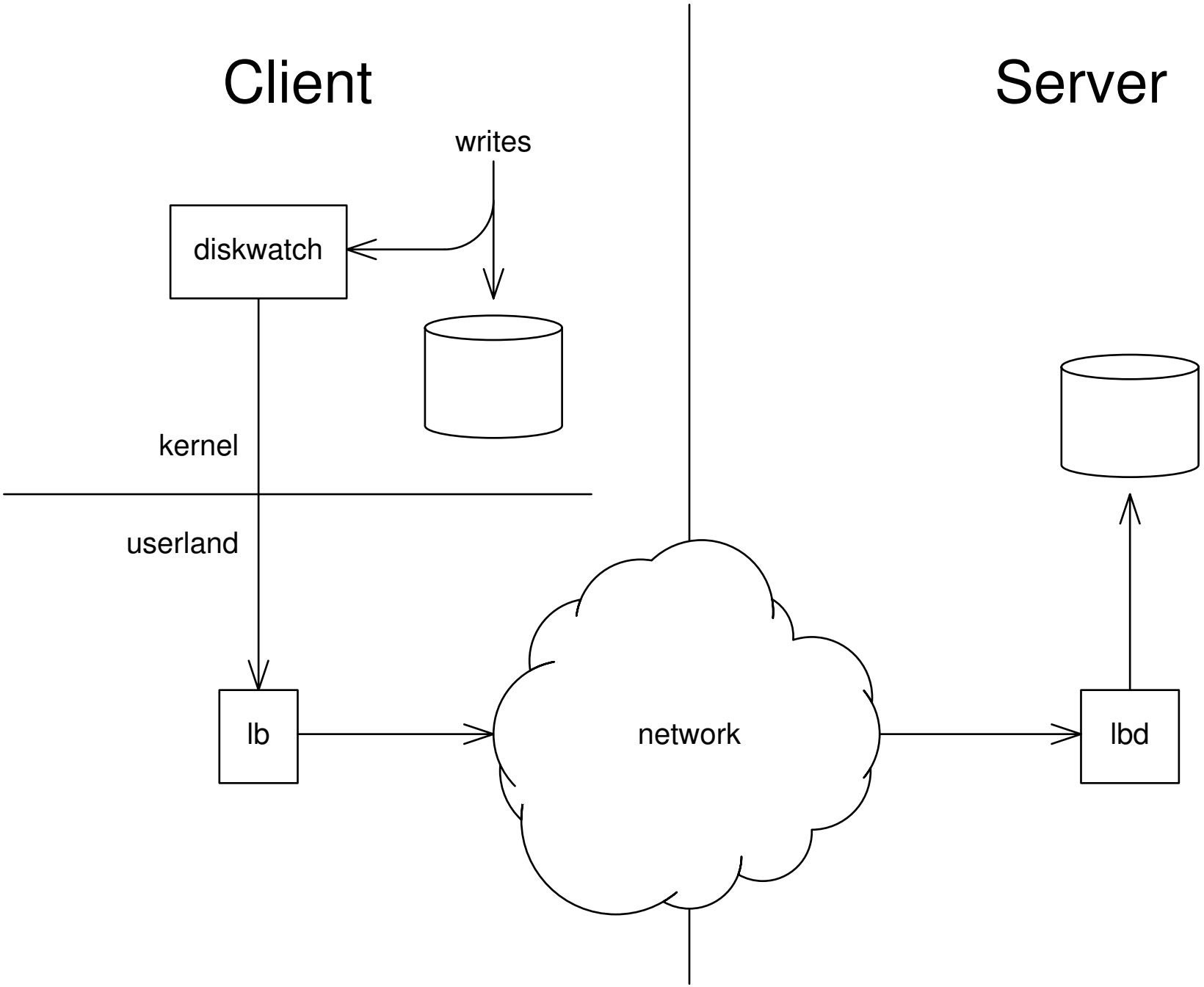
This code addresses only the last.

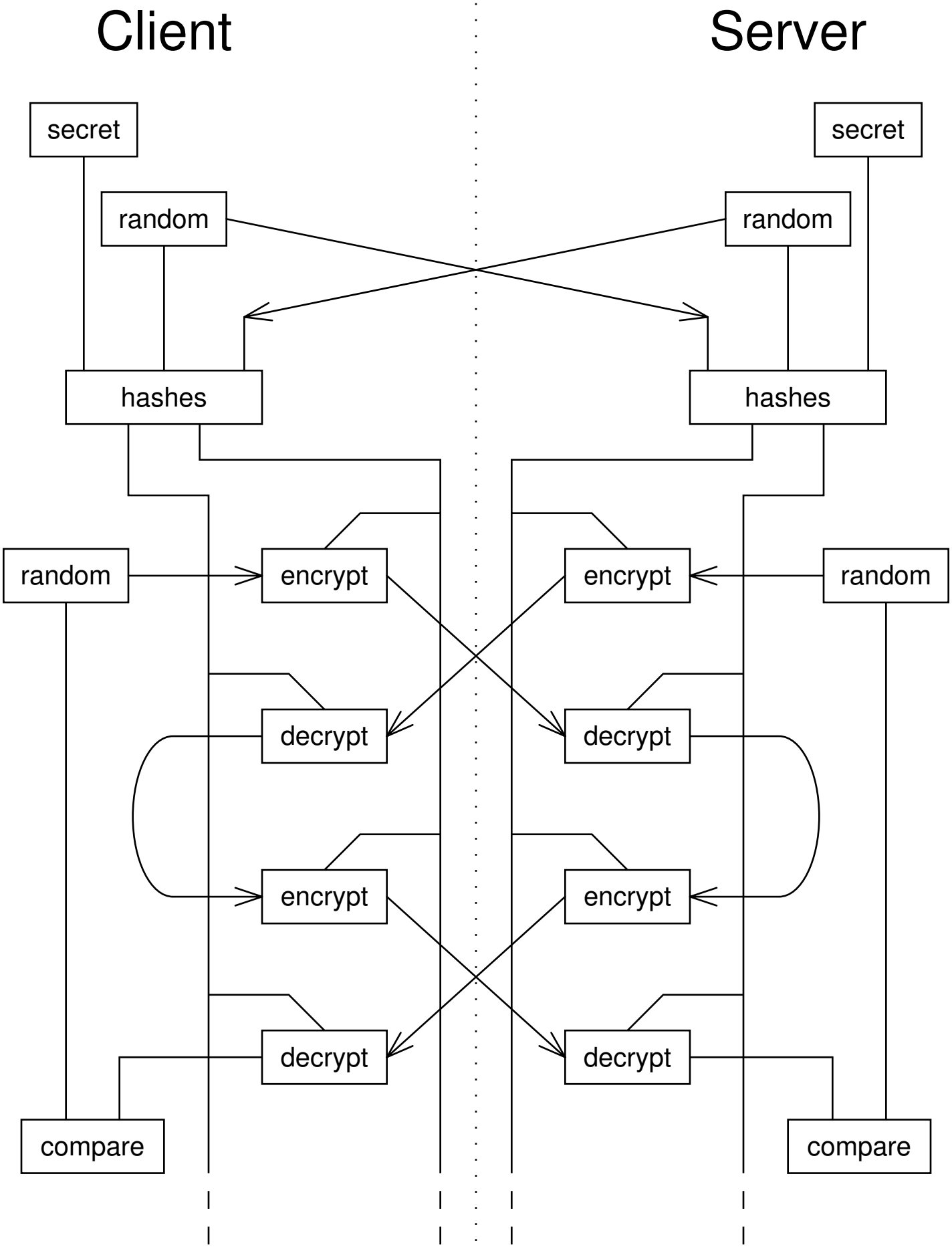
Basic idea: clone writes over the net

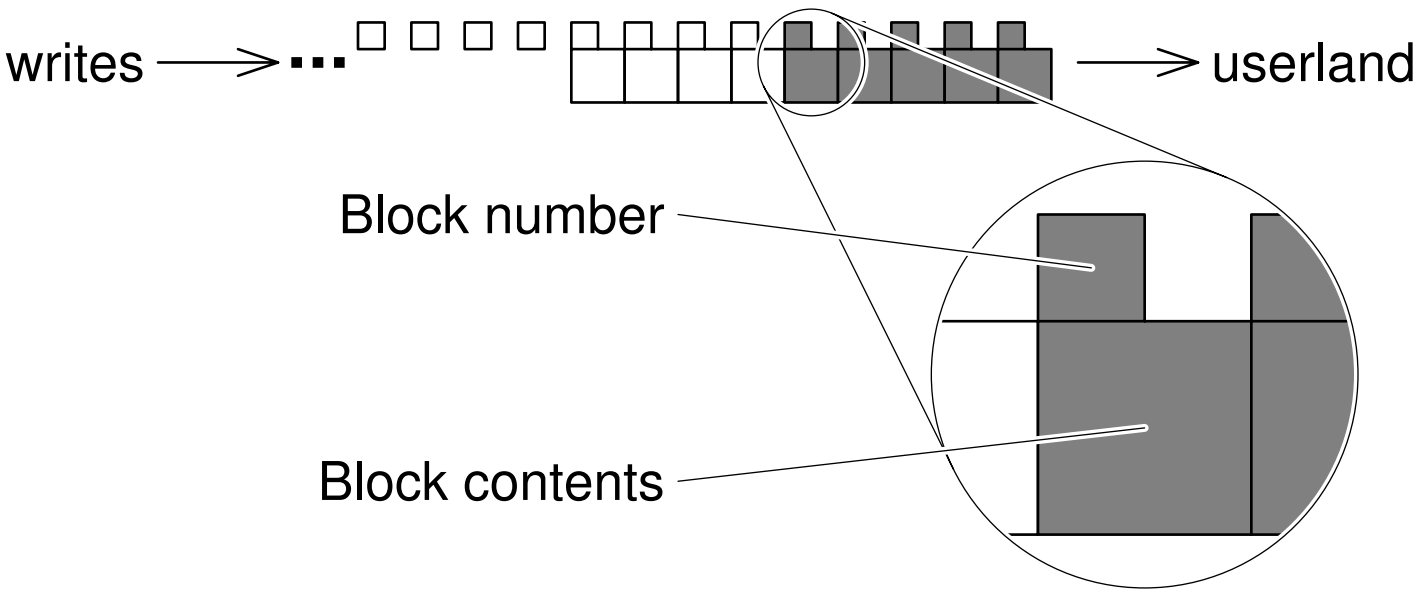
- nothing fundamentally new
  - drbd
  - LiveBackup (Storactive)
- fast producer, slow consumer
- handling overrun is the hard part

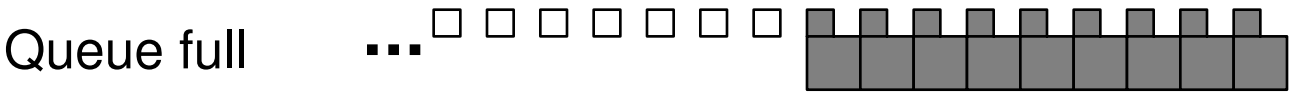
Possible actions

- throttle
- drop
- write less

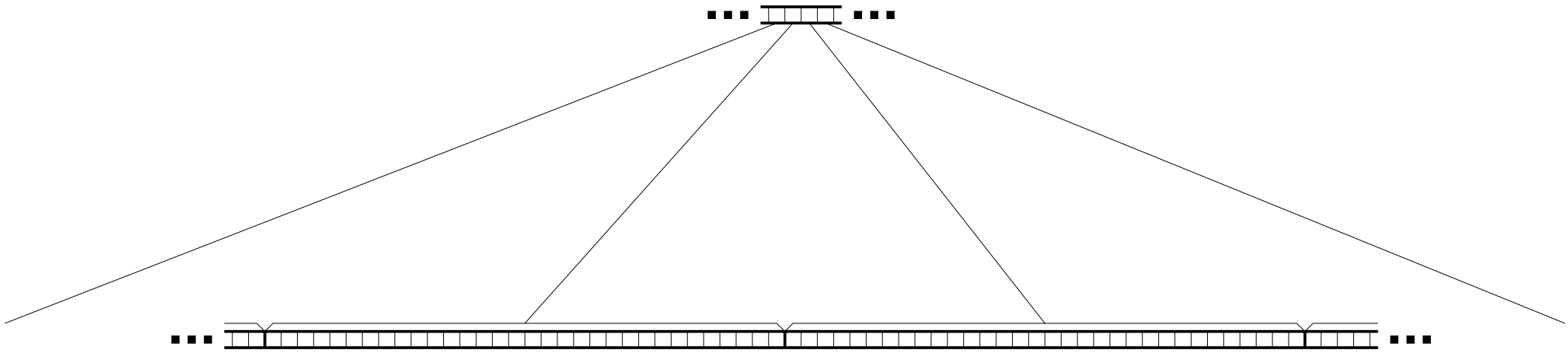

Client
Server
writes
diskwatch
kernel
userland
lb
network
lbd


Client
Server
secret
secret
random
random
hashes
hashes
random
encrypt
encrypt
random
decrypt
decrypt
encrypt
encrypt
decrypt
decrypt
compare
compare


writes
userland
Block number
Block contents


Queue full

Degraded



# Future work

- ports to other systems
  - hardest part is probably diskwatch code and disk-driver hooks
- internals documentation (especially code comments)
- asymmetric crypto
- encrypt blocks before sending
- packet integrity (MAC/signature)
- decoy traffic
- add protocol version number
- add possibility of avoiding rescan