

combox

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0x00B252AF

April 20, 2016

acknowledgments

Dr. Robert C. Green II

introduction

problem

proposed solution

testing

- unit testing

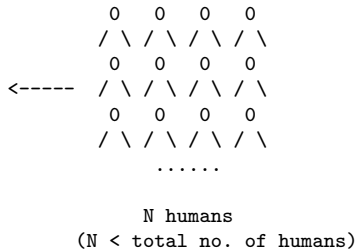
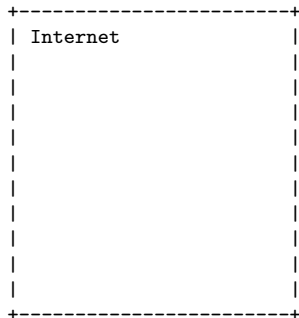
- manual testing

- stress testing

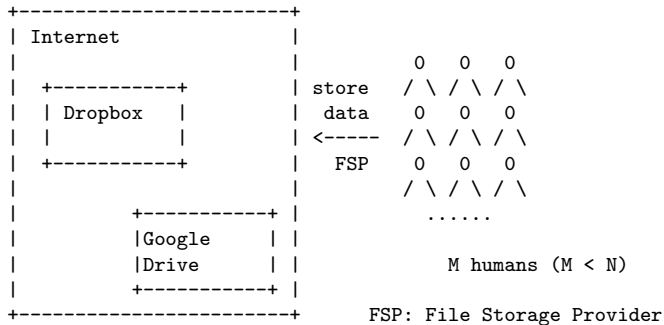
conclusion

pre-recorded demo

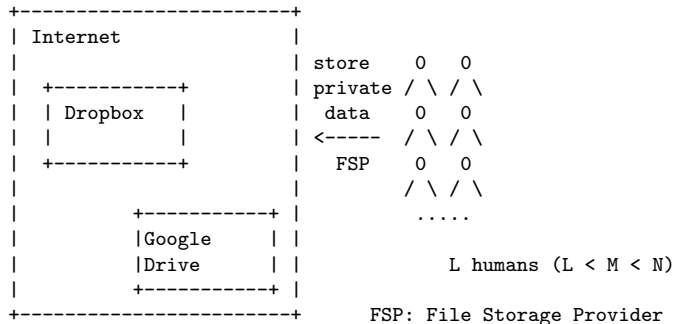
2016



2016



2016



invariantly

Law & Order. We may disclose your information to third parties if we determine that such disclosure is reasonably necessary to (a) comply with the law; (b) protect any person from death or serious bodily injury; (c) prevent fraud or abuse of Dropbox or our users; or (d) protect Dropbox's property rights¹.

¹<https://www.dropbox.com/privacy>

2013

- ▶ ECHELON
- ▶ Carnivore
- ▶ XKeyscore
- ▶ Boundless Informant
- ▶ PRISM

problem

“L” folks are in trouble.

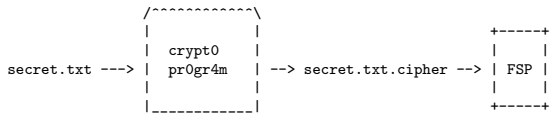
“L” are in trouble

data stored in FSP's² computers \neq private

the last resort

encrypt everything!

encrypt everthing

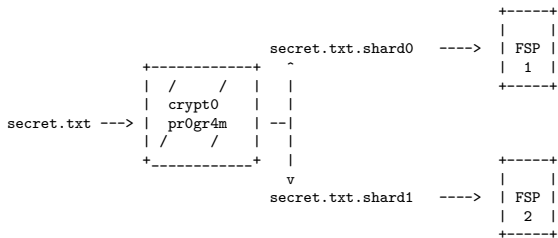


FSP: File Storage Provider (Dropbox, Google Drive, etc).

not enough

our adversaries are too powerful.

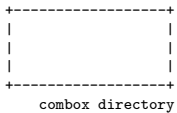
what if



FSP: File Storage Provider (Dropbox, Google Drive, etc).

enter combox

combox



computer i

combox

node directory 0
(dropbox)



combox directory

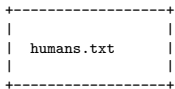


node directory 1
(google drive)

computer i

combox

node directory 0
(dropbox)



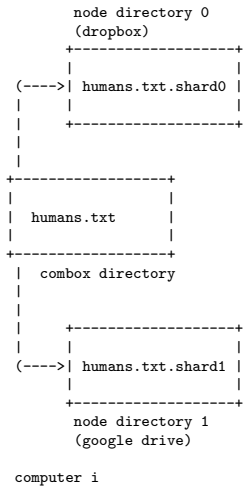
combox directory



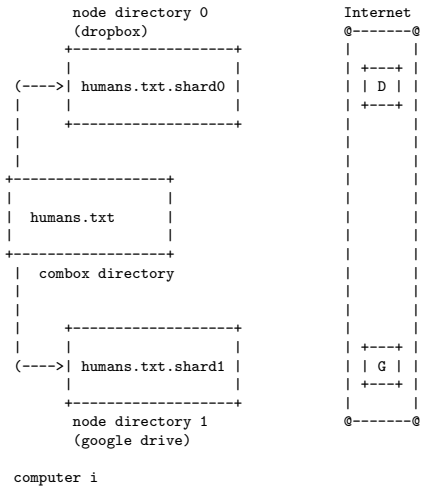
node directory 1
(google drive)

computer i

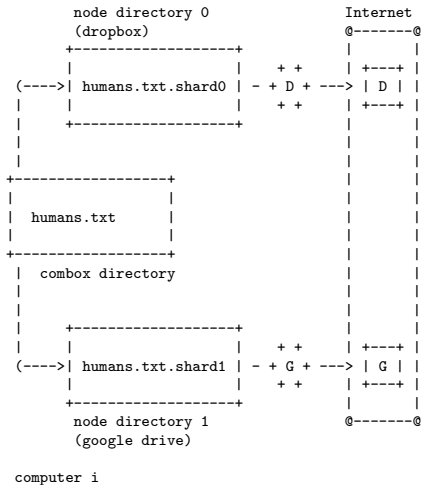
combox



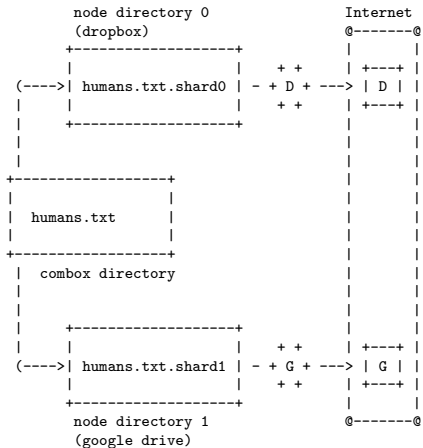
combox



combox



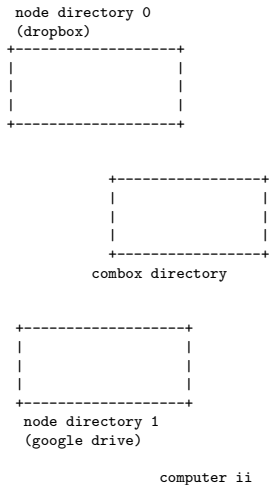
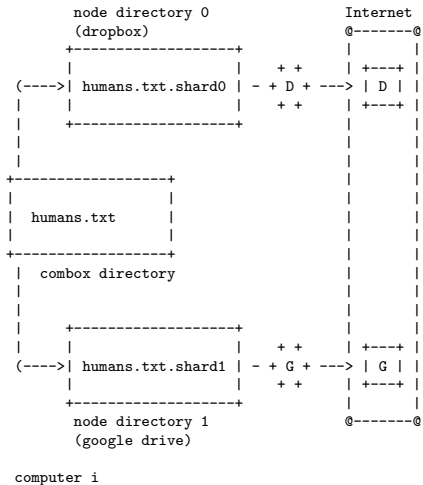
combox



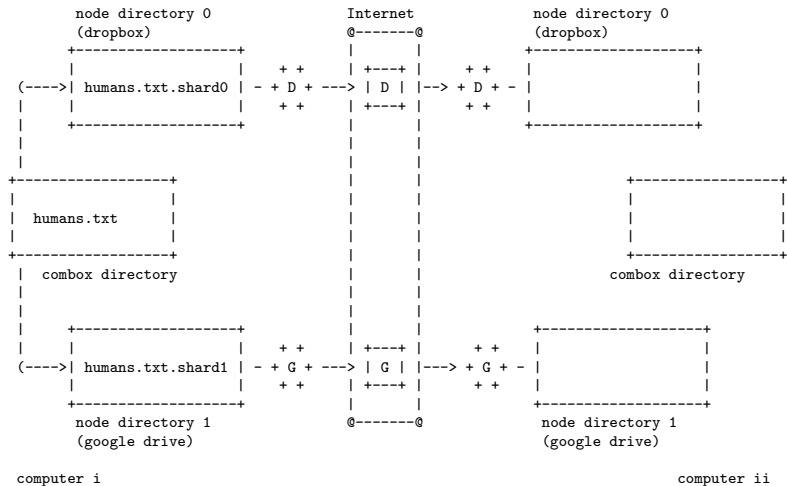
computer i

computer ii

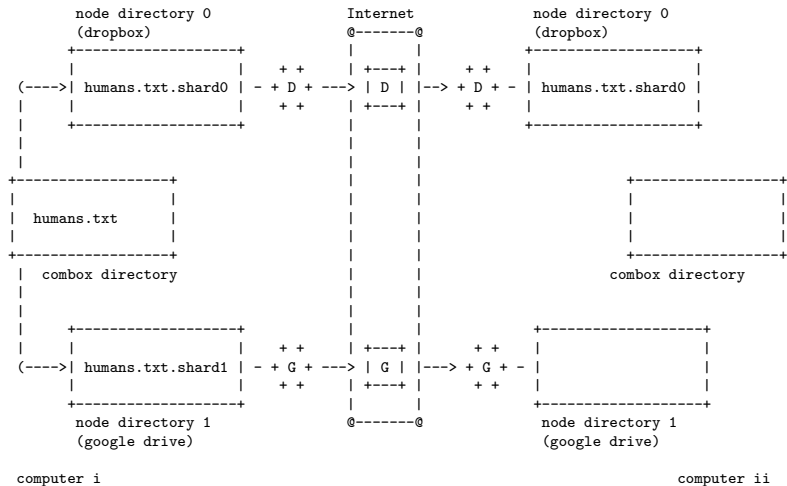
combox



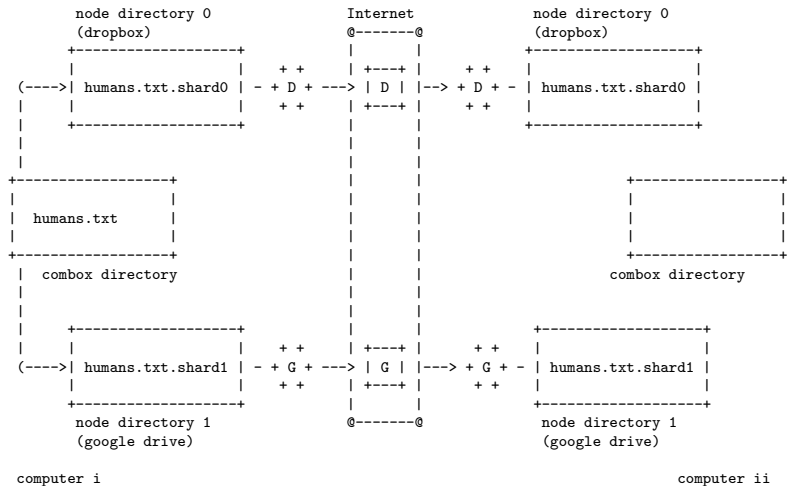
combox



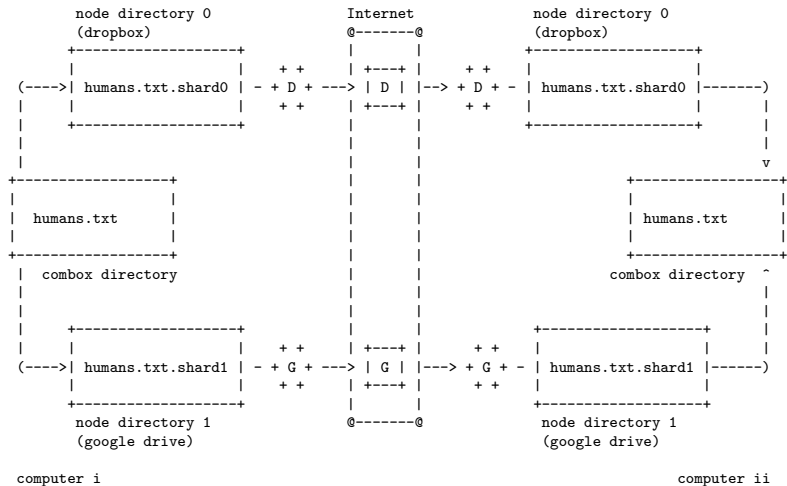
combox



combox



combox



Vollmar's Combo-Box

- ▶ C#

Vollmar's Combo-Box

- ▶ C#
- ▶ SQL for tracking files

Vollmar's Combo-Box

- ▶ C#
- ▶ SQL for tracking files
- ▶ Microsoft Windows program

combox

- ▶ python

combox

- ▶ python
- ▶ key-value data store for tracking files

combox

- ▶ python
- ▶ key-value data store for tracking files
- ▶ python package, runs on GNU/Linux and OS X

testing

- ▶ unit testing
- ▶ manual testing
- ▶ stress testing

unit testing

- ▶ nose testing frame work

unit testing

- ▶ nose testing frame work
- ▶ not pure TDD

unit testing

- ▶ nose testing frame work
- ▶ not pure TDD
- ▶ benefits?

benefits

- ▶ immediatly verify correctness for “N” use cases.

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- ▶ was useful when testing compatibility on OS X.

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```
$ nosetests
```

```
.....
```

```
-----  
Ran 35 tests in 62.159s
```

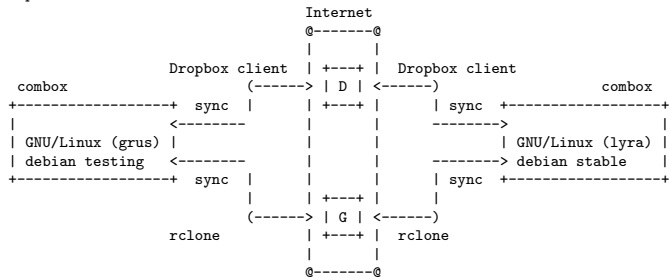
```
OK
```


manual testing

- ▶ combox on two GNU/Linux machines.
- ▶ combox on GNU/Linux and OS X
- ▶ combox on GNU/Linux and OS X with USB stick as the third node.

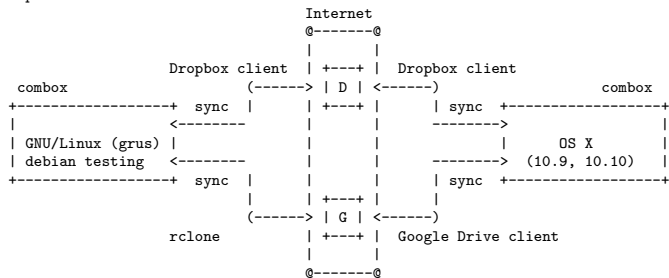
manual testing

setup i



manual testing

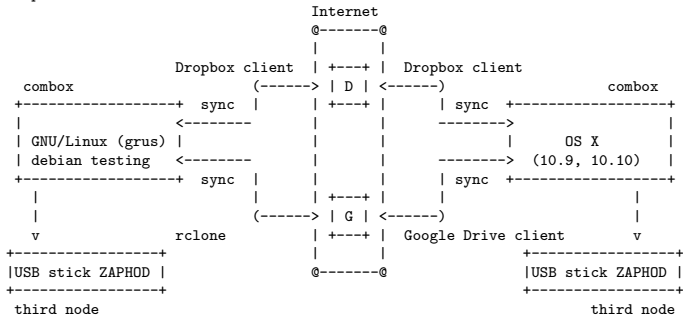
```
setup ii
```



```
found bugs #5, #6, #7, #10, #11
(git.ricketyspace.net/combox/plain/TODO.org)
```

manual testing

setup iii



- modified shard on usb stick must be "touch".
- file rename/move does not work.

conclusion

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- ▶ combox v0.2.3

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- ▶ python package (python.org/pypi/combox)

conclusion

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conclusion

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- ▶ in “alpha” stage
- ▶ rickety.space.net/combox

conclusion

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- ▶ compatible with GNU/Linux and OS X
- ▶ in “alpha” stage
- ▶ ricketyspace.net/combox
- ▶ git.ricketyspace.net/combox

pre-recorded demo

rickety.space.net/combox/demo.webm

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<https://creativecommons.org/publicdomain/zero/1.0/> for full
legal verbiage.

Source at <https://git.ricketyspace.net/combox-paper/tree/presentation>