

combox

siddharth ravikumar

0x00B252AF

April 20, 2016

acknowledgments

Dr. Robert C. Green II

introduction

problem

proposed solution

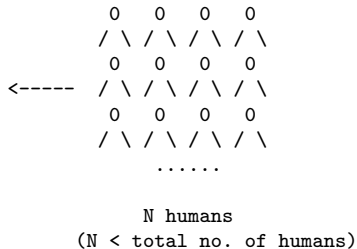
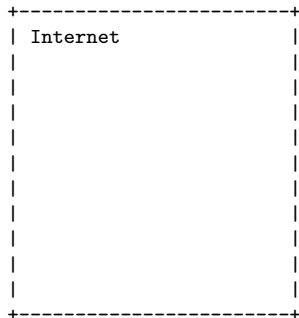
benchmarks

testing

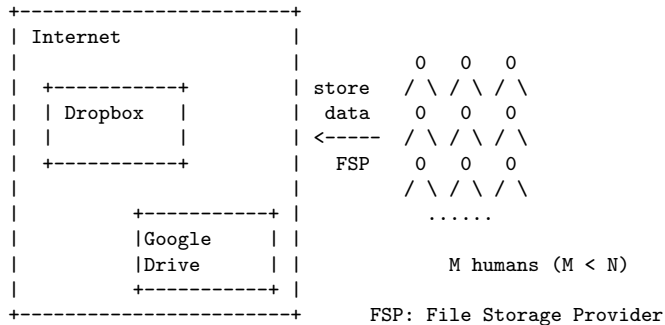
conclusion

pre-recorded demo

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.

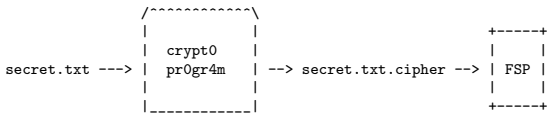
“L” are in trouble

data stored in FSP's² computers \neq private

the last resort

encrypt everything!

encrypt everthing

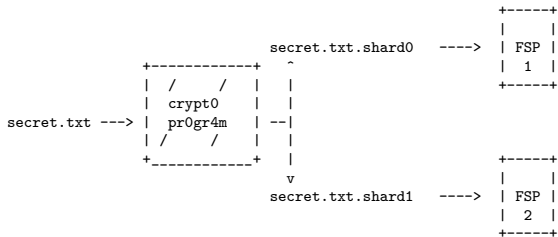


FSP: File Storage Provider (Dropbox, Google Drive, etc).

not enough

our adversaries are too powerful.

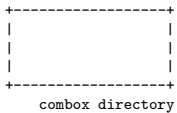
what if



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

enter combox

combox



computer i

combox

node directory 0
(dropbox)



combox directory

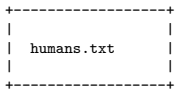


node directory 1
(google drive)

computer i

combox

node directory 0
(dropbox)



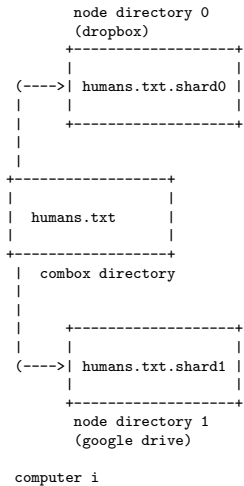
combox directory



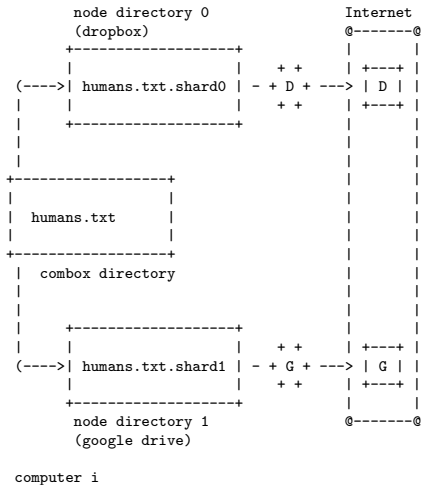
node directory 1
(google drive)

computer i

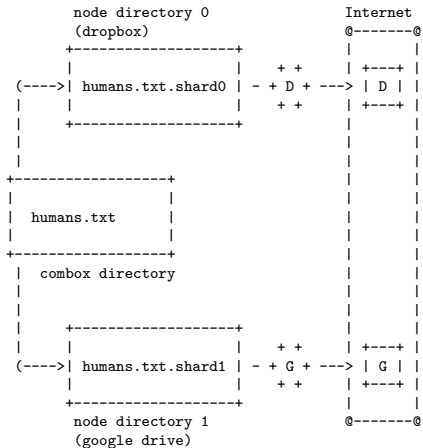
combox



combox



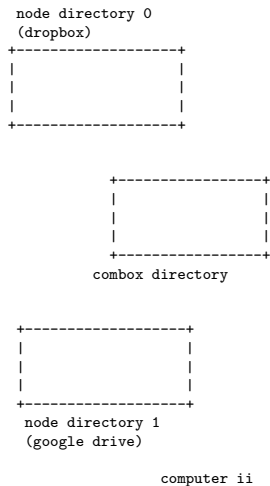
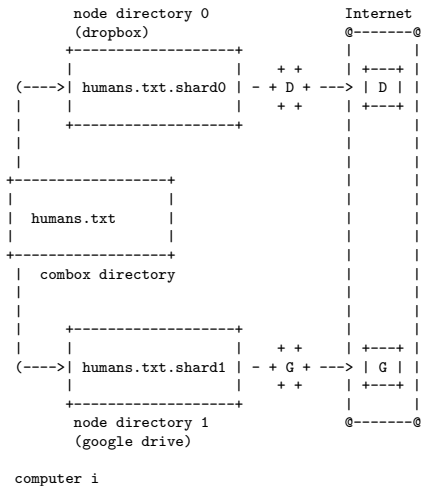
combox



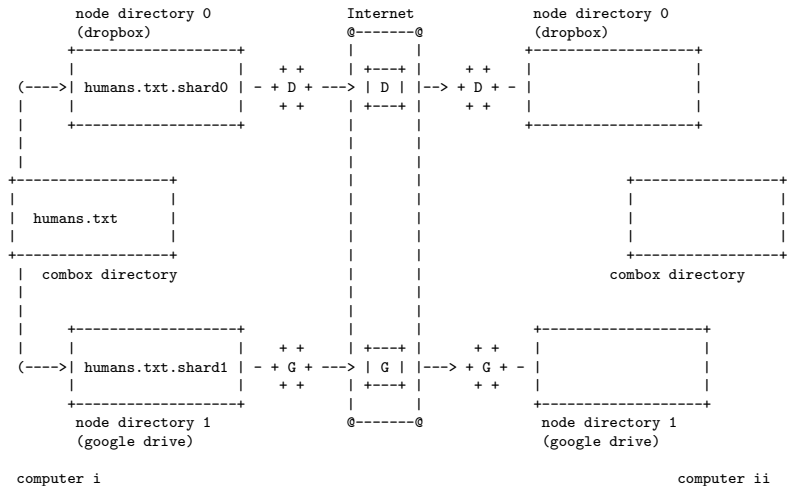
computer i

computer ii

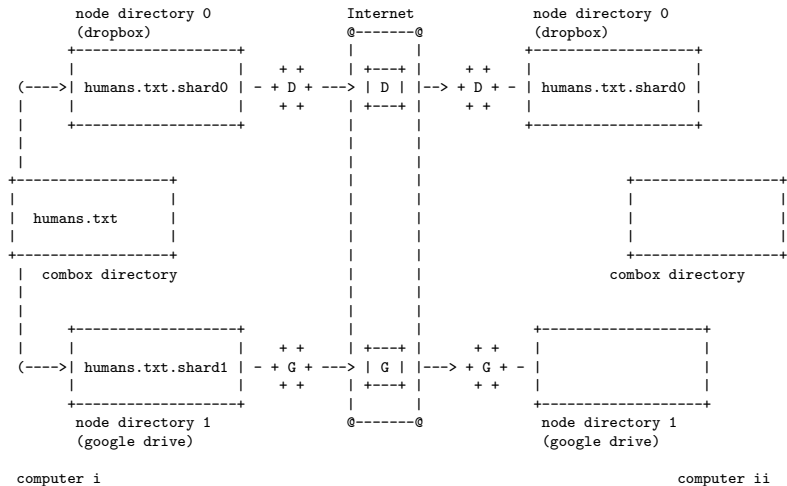
combox



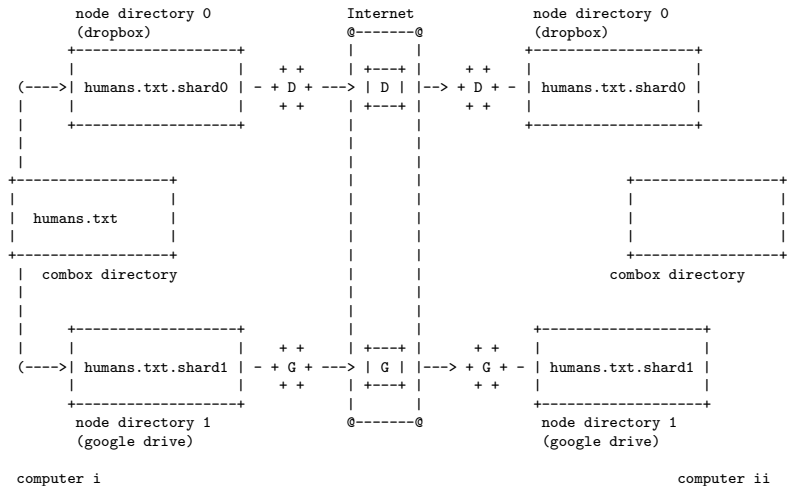
combox



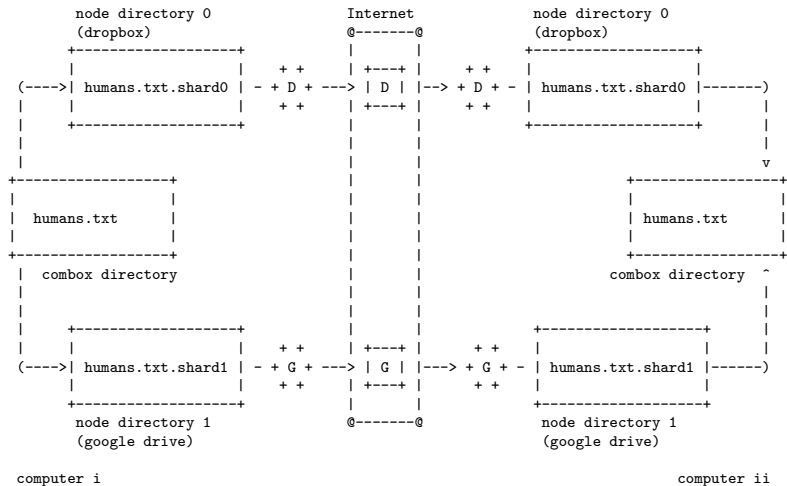
combox



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

conclusion

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conclusion

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

conclusion

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- ▶ in “alpha” stage

conclusion

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

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- ▶ rickety.space.net/combox
- ▶ git.rickety.space.net/combox

pre-recorded demo

rickety.space.net/combox/demo.webm

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