

# combox

siddharth ravikumar

0x00B252AF

April 20, 2016

# acknowledgments

Dr. Robert C. Green II

introduction

problem

proposed solution

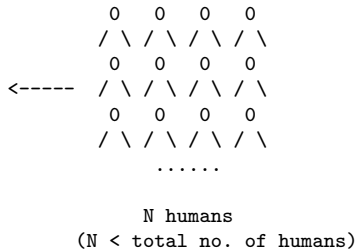
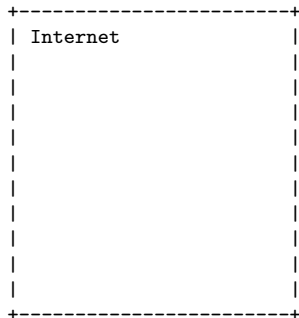
benchmarks

testing

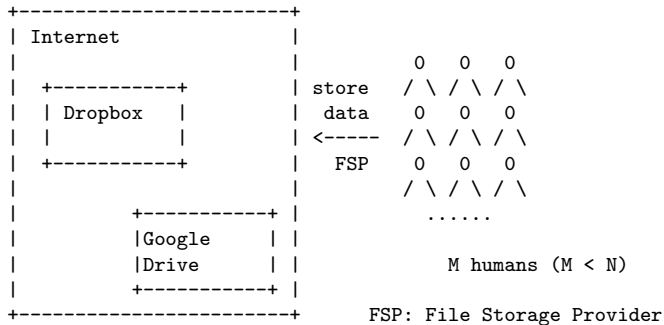
conclusion

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 rights<sup>1</sup>.*

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<sup>1</sup><https://www.dropbox.com/privacy>

# 2013

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



problem

“L” folks are in trouble.

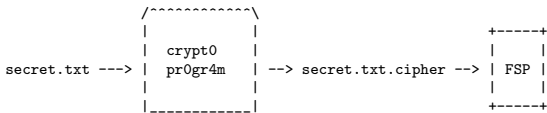
# “L” are in trouble

data stored in FSP's<sup>2</sup> computers  $\neq$  private

# the last resort

encrypt everything!

# encrypt everthing

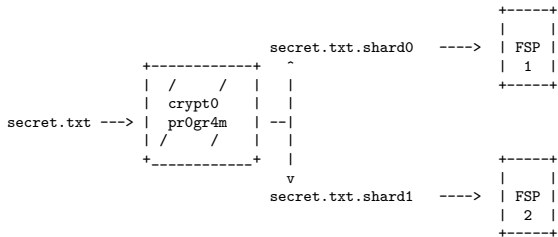


FSP: File Storage Provider (Dropbox, Google Drive, etc).

not enough

our adversaries are too powerful.

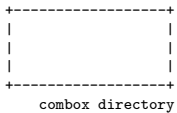
# what if



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

enter combox

# combox



computer i



# combox

node directory 0  
(dropbox)



combox directory

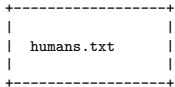


node directory 1  
(google drive)

computer i

# combox

node directory 0  
(dropbox)



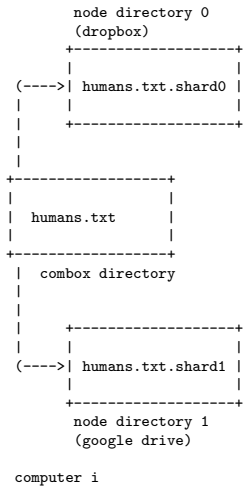
combox directory



node directory 1  
(google drive)

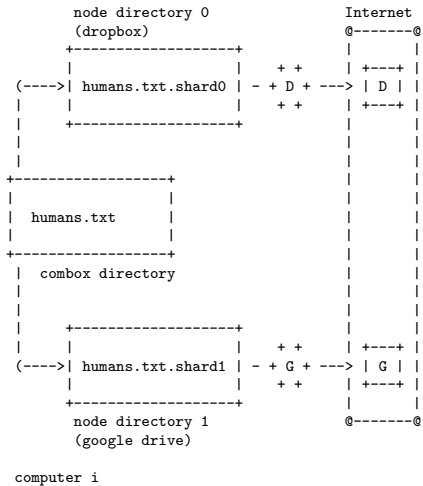
computer i

# combox

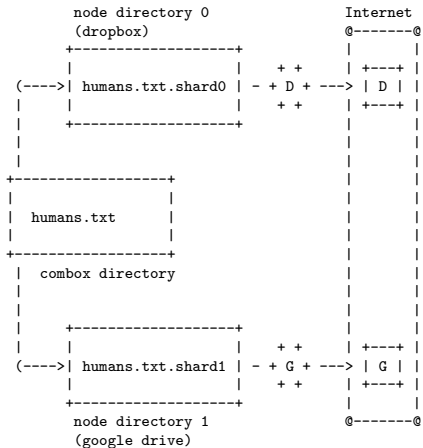




# combox



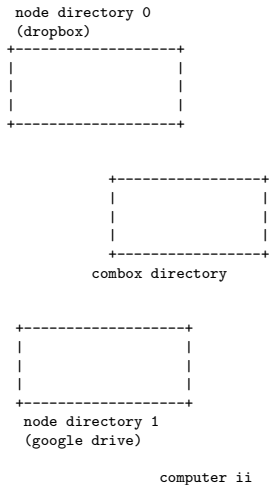
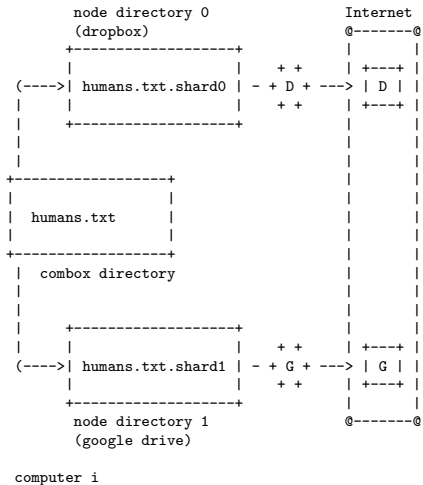
# combox



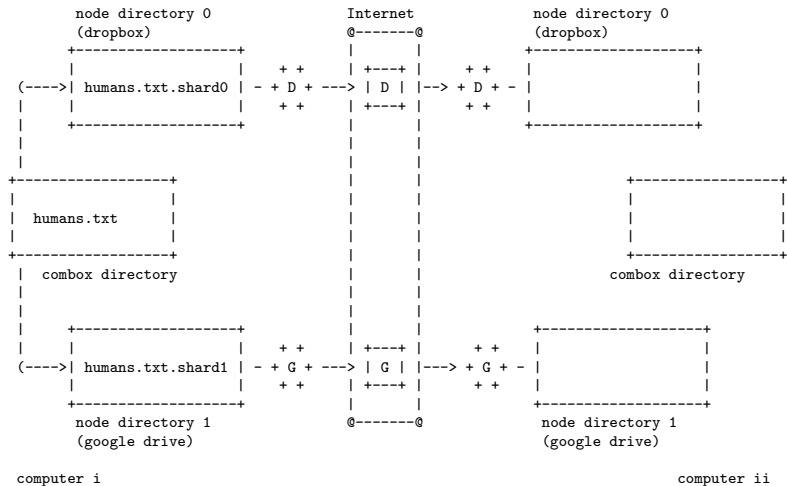
computer i

computer ii

# combox

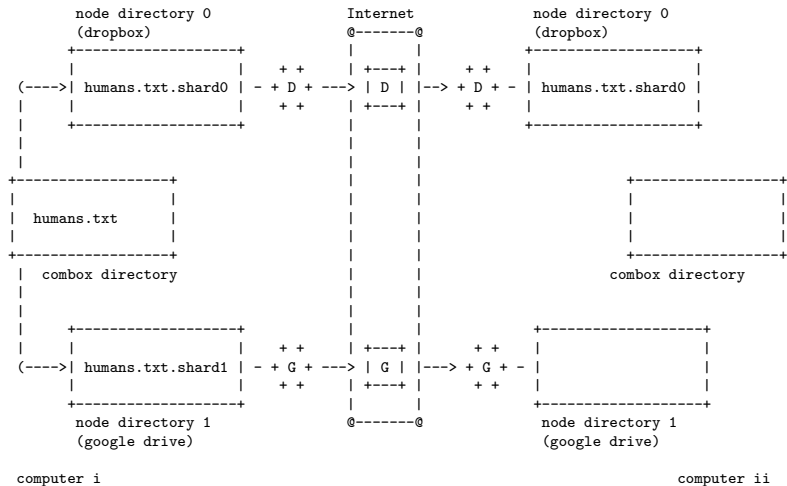


# combox

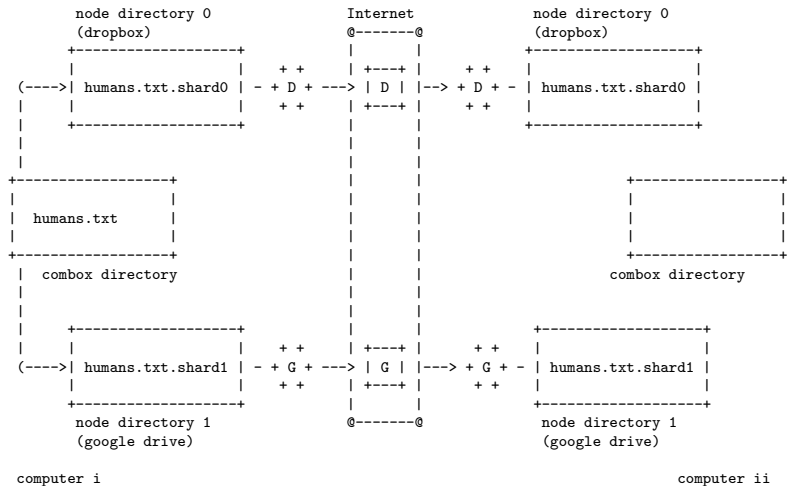




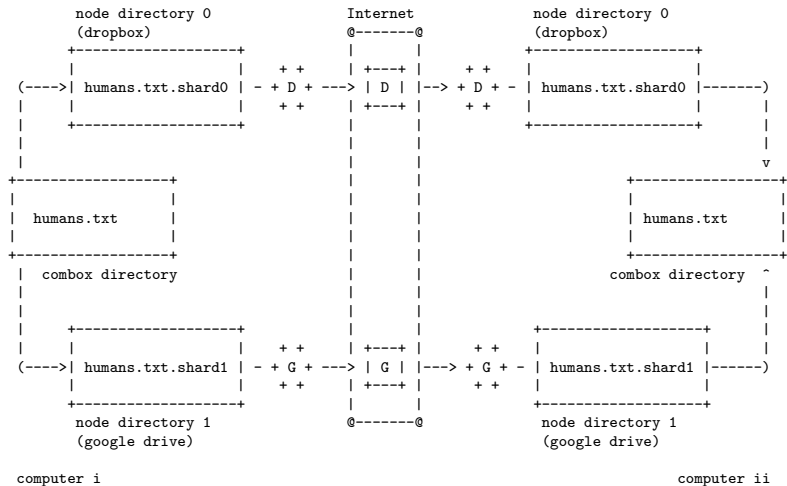
# combox



# 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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- ▶ combox v0.2.3

# conclusion

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# conclusion

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- ▶ compatible with GNU/Linux and OS X
- ▶ in “alpha” stage

# conclusion

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- ▶ [rickety.space.net/combox](http://rickety.space.net/combox)



# conclusion

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- ▶ [rickety.space.net/combox](http://rickety.space.net/combox)
- ▶ [git.rickety.space.net/combox](https://git.rickety.space.net/combox)

# pre-recorded demo

[rickety.space.net/combox/demo.webm](http://rickety.space.net/combox/demo.webm)

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