

**Taking your  
ball and going  
home; building  
your own secure  
storage space that  
mirrors Dropbox's  
functionality**



Phil Cryer (@fak3r)  
open source technologist  
DEFCON 19 - August 2011

```
$ whoami  
phil
```

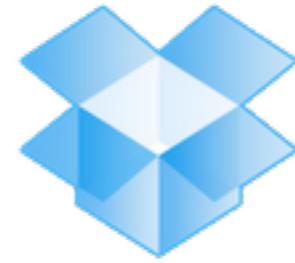
```
$ whoami  
phil
```

```
$ alias phil=@fak3r
```



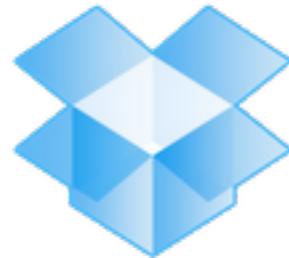
```
$ whoami  
phil  
  
$ alias phil=@fak3r  
  
$ cat brief_bio  
- employed as a systems engineer  
- security researcher and privacy advocate (EFF)  
- currently working on sharing biodiversity data  
- aim to balance security with openness  
- have worked with Linux and open source for over ten years
```





**Dropbox**

**Always have your stuff, wherever you are.**



# Dropbox

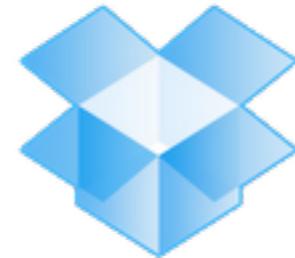
## Brief history

2007 June - founded, receives series A funding

2007 September - receives \$1.2M in seed funding (Y Combinator)

2007 October - receives \$6M in Series A funding

2008 Fall - secures \$7.2M Series A funding (Sequoia Capital, Accel Partners)

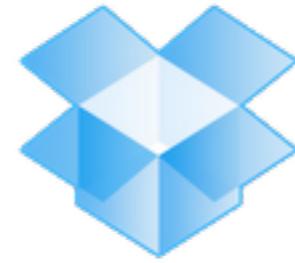


# Dropbox

Dropbox enables people to sync files and media across platforms and devices, in order to have them available from any location.

The service also allows people to easily and quickly share files with others.

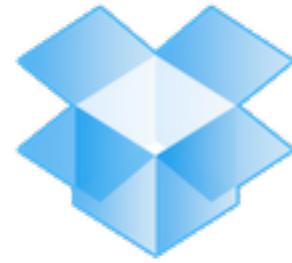
Dropbox provides users with 2 GB of space for free, and they can pay for more.



# Dropbox

People use Dropbox for personal storage, file syncing between machines, and group collaboration on projects.

They have desktop software for the usual OSs (Mac OSX, Linux and Windows) and mobile access, that makes things run smoothly.



# Dropbox

## Current growth

2009 2 millions users

2010 4 million users

2011 April - Dropbox claims to have **25 million users** of its free service

“Today, Dropbox has 25 million users and 200 million files are “saved” daily, and more than 1 million every five minutes.”

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## Dropbox Hits 25 Millions Users, 200 Million Files Per Day

Michael Arrington  770  +1 1  2,272  1,370 37 Comments

 **Dropbox**

Dropbox will announce a number of milestones on Monday morning, we've learned. The file backup and sharing service was [founded in 2007](#) by [Drew Houston](#) and [Arash Ferdowsi](#).

It was in one of the early Y Combinator classes, now has 25 million users and 200 million files are “saved” daily, and more than 1 million every five minutes.

That's impressive growth from the [4 million users](#) the company had a year ago (they had [two million](#) in late 2009). Dropbox enables people to sync files and media across platforms and devices, in order to have them available from any location. The service also allows people to easily and quickly share files with others. Dropbox provides users with 2 GB of space for free, and they can [pay for more](#).

People use dropbox for personal storage, file syncing between machines, and group collaboration on projects. They have desktop software for the usual OSs, and mobile access, that makes things run smoothly.

They are much more tight lipped on revenue and profitability, though. Guesses range all over the place, but the company is certainly efficient with bandwidth and storage. They likely only upload unique files. Common files, like songs and movies, aren't re-uploaded repeatedly.

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# 25 million users

TechCrunch

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## Dropbox hits 25 million users, 200 million files

File sharing

Michael Arrington

Apr 17, 2011

Like 770 Send +1 Tweet 2,472 Share 1,370 37 Comments

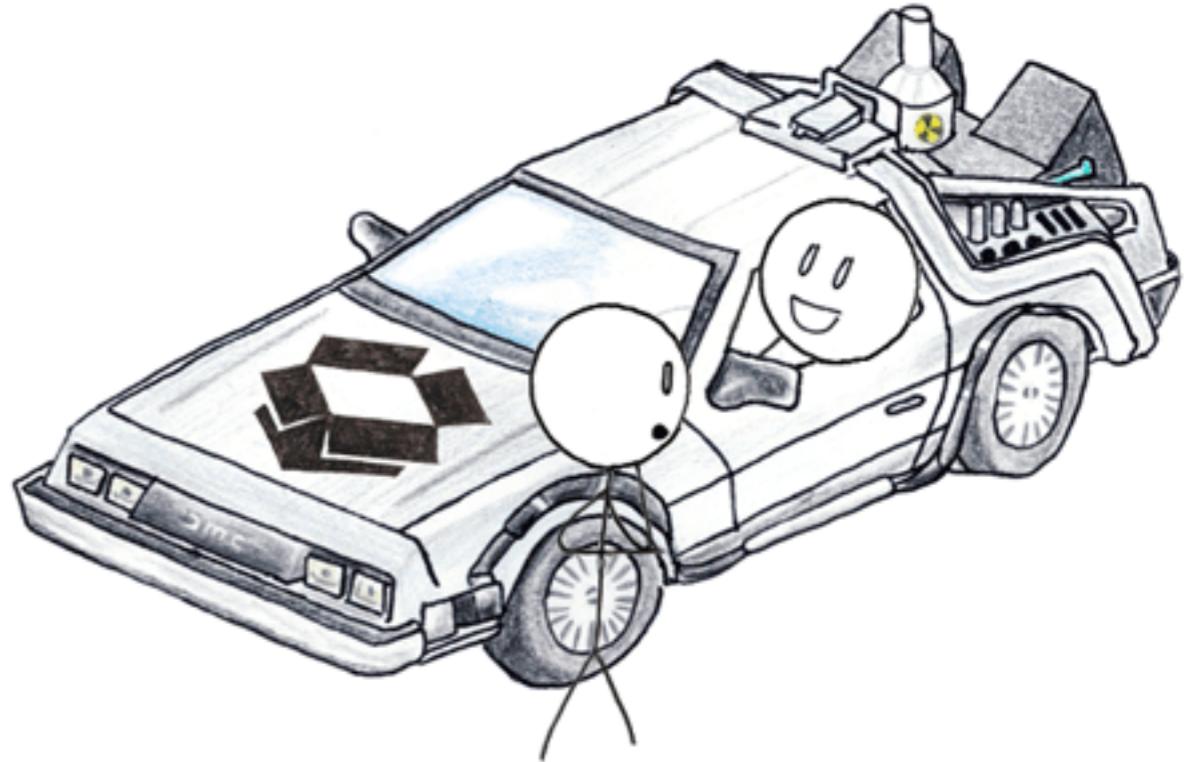
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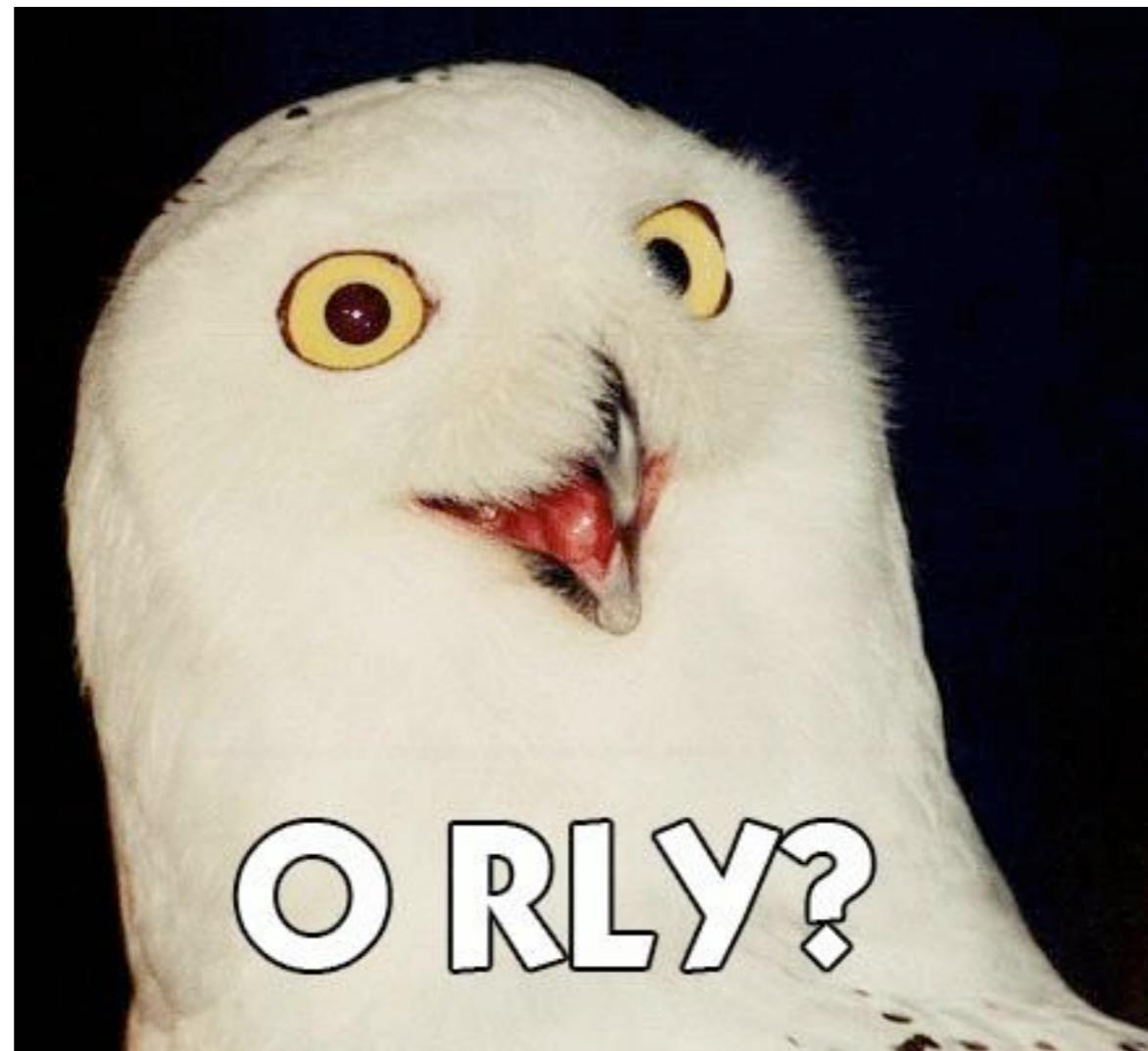
## more than 1 million files are “saved” daily every five minutes

**So, a for-profit company offer a free app, with free data storage... so, what's to worry about?**



## We know Dropbox is secure because Dropbox says so:

- “Your files are always available from the secure Dropbox website” (secure sounds good)
- “All transmission of file data occurs over an encrypted channel (SSL)” (wow, that sounds good too!)
- “All files stored on Dropbox are encrypted (AES-256)” (dude, that's “military grade” encryption! That's gotta be good!)
- “...protects your files without you needing to think about it” (How can you argue with that?)
- “Your stuff is safe” (O'RLY?)



ORLY?

**However, security researchers have turned up evidence otherwise.**

# How Dropbox sacrifices user privacy for cost savings

“While **the decision to deduplicate data** has probably saved the company quite a bit of storage space and bandwidth, it **has significant flaws** which are particularly troubling given the statements made by the company on its security and privacy page.” Christopher Soghoian

(files hashes are checked before upload, bandwidth testing shows that files aren’t transferred if they exist (elsewhere) on the servers)

## slight paranoia

Analysis and opinion by Christopher Soghoian, security and privacy researcher.

TUESDAY, APRIL 12, 2011

### How Dropbox sacrifices user privacy for cost savings

**Note:** This flaw is different than the authentication flaw in Dropbox that Derek Newton recently published.

#### Summary

Dropbox, the popular cloud based backup service **deduplicates** the files that its users have stored online. This means that if two different users store the same file in their respective accounts, Dropbox will only actually store a single copy of the file on its servers.

The service **tells users** that it "uses the same secure methods as banks and the military to send and store your data" and that "[a]ll files stored on Dropbox servers are encrypted (AES-256) and are inaccessible without your account password." However, the company does in fact have access to the unencrypted data (if it didn't, it wouldn't be able to detect duplicate data across different accounts).

This bandwidth and disk storage design tweak creates an easily observable **side channel** through which a single bit of data (whether any particular file is already stored by one or more

Christopher Soghoian is a Washington, DC based Graduate Fellow at the Center for Applied Cybersecurity Research, and a Ph.D. Candidate in the School of Informatics and Computing at Indiana University.

His research is focused on the topic of online privacy. This includes both consumer issues, such as online tracking as well as government surveillance.

Click [here](#) to visit his home page.

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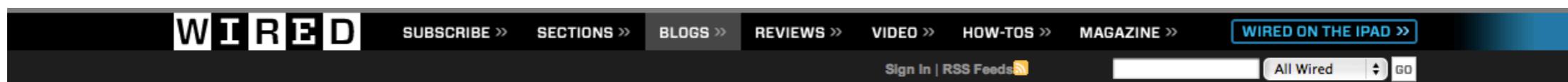
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**BLOG ARCHIVE**

# Dropbox Lied to Users About Data Security, Complaint to FTC Alleges

Christopher Soghoian published data last month showing that **Dropbox could indeed see the contents of files**, putting users at risk of government searches, rogue Dropbox employees, and even companies trying to bring mass copyright-infringement suits.

Soghoian, who spent a year working at the FTC, charges [...] “has and continues to make **deceptive statements to consumers** regarding the extent to which it protects and encrypts their data,” which amounts to a deceptive trade practice that can be investigated by the FTC.



## THREAT LEVEL

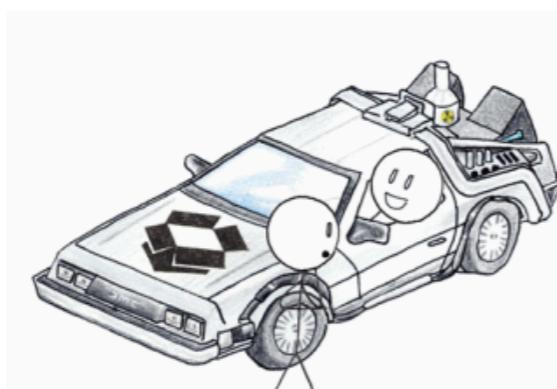
PRIVACY, CRIME AND SECURITY ONLINE

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### Dropbox Lied to Users About Data Security, Complaint to FTC Alleges

By Ryan Singel May 13, 2011 | 4:54 pm | Categories: [Crypto](#), [Cybersecurity](#)



#### Your stuff is safe

Dropbox protects your files without you needing to think about it.

- Dropbox keeps a one-month history of your work.
- Any changes can be undone, and files can be undeleted.
- All transmission of file data occurs over an encrypted channel (SSL).
- All files stored on Dropbox are encrypted (AES-256).

[Download Dropbox](#)



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BOOKS



<http://www.wired.com/threatlevel/2011/05/dropbox-ftc>

# Dropbox authentication: insecure by design

“Here’s the problem: **the config.db file is completely portable and is \*not\* tied to the system** in any way. This means that if you gain access to a person’s config.db file (or just the host\_id), you gain complete access to the person’s Dropbox until such time that the person removes the host from the list of linked devices via the Dropbox web interface.” Derek Newton

The screenshot shows a blog post on a website with a dark header. The header features the name 'DEREK NEWTON' in white, bold letters, followed by 'Information Security Insights' in a smaller, yellow font. Below the header is a navigation bar with links for 'HOME', 'ABOUT', 'FORENSIC TOOLS', and 'RESOURCES'. The main content area has a light background. At the top left of the content area, there are two small links: '< Getting Things Done in the InfoSec world...' and 'Forensic artifacts: Dropbox >'. The main title of the post is 'Dropbox authentication: insecure by design'. The post discusses the security implications of Dropbox's authentication mechanism, mentioning that the config.db file is portable and can be used to gain access to a user's account. It also notes that the post is Windows-specific but applicable to other platforms. At the bottom of the post, it says that config.db is stored in %APPDATA%\Dropbox. To the right of the post is a sidebar with a dark background and a list of categories with their counts: Active Directory (1), Application Security (1), Data Security (1), eDiscovery (1), Evidence Acquisition (4), Forensics (2), Incident Response (6), Linux Forensics (2), Malware Analysis (1), Management (1), Mobile Phone Forensics (1), NTFS (2), PowerShell (4), and Protection (2). There are also icons for a folder, a tag, a refresh, a star, and a speech bubble.

For the past several days I have been focused on understanding the inner workings of several of the popular file synchronization tools with the purpose of finding useful forensics-related artifacts that may be left on a system as a result of using these tools. Given the prevalence of Dropbox, I decided that it would be one of the first synchronization tools that I would analyze, and while working to better understand it I came across some interesting security related findings. The basis for this finding has actually been briefly discussed in a number of forum posts in Dropbox’s official forum ([here](#) and [here](#)), but it doesn’t quite seem that people understand the significance of the way Dropbox is handling authentication. So, I’m taking a brief break in my forensics-artifacts research, to try to shed some light about what appears to be going on from an authentication standpoint and the significant security implications that the present implementation of Dropbox brings to the table.

To fully understand the security implications, you need to understand how Dropbox works (for those of you that aren’t familiar with what Dropbox is - a brief feature primer can be found on their [official website](#)). Dropbox’s primary feature is the ability to sync files across systems and devices that you own, automatically. In order to support this syncing process, a client (the Dropbox client) is installed on a system that you wish to participate in this synchronization. At the end of the installation process the user is prompted to enter their Dropbox credentials (or create a new account) and then the Dropbox folder on your local system syncs up with the Dropbox “cloud.” The client runs constantly looking for new changes locally in your designated Dropbox folder and/or in the cloud and syncs as required; there are versions that support a number of operating systems (Windows, Mac, and Linux) as well as a number of portable devices (iOS, Android, etc). However, given my research is focusing on the use of Dropbox on a Windows system, the information I’ll be providing is Windows specific (but should be applicable on any platform).

Under Windows, Dropbox stores configuration data, file/directory listings, hashes, etc in a number of SQLite database files located in %APPDATA%\Dropbox. We’re going to focus on the primary database relating to the client configuration: config.db. Opening config.db with

# Dropbox: A Privacy Black Box

"National Security Letter authority and the impoverished “third party doctrine” in Fourth Amendment law puts cloud-user privacy on pretty weak footing. Dropbox’s policies do nothing to shore that up. It’s not alone, of course. It’s just a nice discrete example of how “the cloud” exposes your data to risks that local storage doesn’t." Jim Harper

 **THE TECHNOLOGY LIBERATION FRONT**  
"The real problem is not whether machines think, but whether men do."

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JUNE 22, 2011

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Geoffrey Manne  
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**Dropbox: A Privacy Black Box**

by JIM HARPER on DECEMBER 12, 2009 · 11 COMMENTS

A colleague apparently suggested that the nice people at [Dropbox](#) should email me with an invitation to use their services. The concept appears simple enough—remote storage that makes users' files available on any laptop, desktop, or phone.

I was intrigued by it because it's a discrete example of a "cloud" computing service. How do they handle some of the key privacy challenges? A [cloud over remote computing and storage](#) is the likelihood that governments will use it to discover private information with dubious legal justification, or without any at all. (Businesses likewise can rightly worry that competitors working with governments might access trade secrets.)

Well, it turns out they don't handle these challenges. Dropbox is a privacy black box.



The Technology Liberation Front is the tech policy blog dedicated to keeping politicians' hands off the 'net and everything else related to technology. [Learn more about TLF →](#)

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Ok, so Dropbox has **\*some\*** security and privacy issues, at least it's safe and secure now...right?

# Dropbox Security Bug Made Passwords Optional For Four Hours

“This morning a post on [Pastebin](#) outlined a serious security issue that was spotted at Dropbox: **for a brief period of time, the service allowed users to log into accounts using any password.** In other words, you could log into someone’s account simply by typing in their email address. Given that many people entrust Dropbox with secure data (one of the service’s selling points is its security), that’s a big deal.

The screenshot shows a news article from The Washington Post's Business section. The top navigation bar includes links for Sign In, Register Now, Subscribe, Mobile, Conversations, Today's Paper, Going Out Guide, Jobs, Cars, Real Estate, Rentals, Classifieds, and various categories like Politics, Opinions, Local, Sports, National, World, Business, Investigations, Lifestyle, Entertainment, and Multimedia. Below the header, it says "The Washington Post with Bloomberg BUSINESS Where Washington and Business Intersect". The main headline is "Dropbox Security Bug Made Passwords Optional For Four Hours". Below the headline are sharing options (Text Size, Print, E-mail, Reprints) and a note that it was published by TechCrunch.com on June 20. The article text discusses the security issue where Dropbox users could log in with any email address for four hours. It also mentions that the fix was implemented after a code push at 1:54 PM PST on June 20. A sidebar on the right features an advertisement for news alerts and a "Network News" section showing recent activity from friends like Greg Seltzer, Matt Jamieson, Brooke Burgan, Mark Cutelli, and Christina Aguilera.

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**Dropbox Security Bug Made Passwords Optional For Four Hours**

Text Size Print E-mail Reprints

By TechCrunch.com, Published: June 20

This morning a post on [Pastebin](#) outlined a serious security issue that was spotted at Dropbox: for a brief period of time, the service allowed users to log into accounts using any password. In other words, you could log into someone’s account simply by typing in their email address. Given that many people entrust Dropbox with secure data (one of the service’s selling points is its security), that’s a big deal.

We’ve now confirmed with Dropbox that the service did have this issue yesterday — Dropbox says that it began after a code push at 1:54 PM PST yesterday and was fixed at 5:46 PM PST (they had the fix live five minutes after they discovered it). So, in total, the bug was live for around four hours.

**Comments** 0 Weigh In Corrections?

The question now is how many people were affected. The company will be announcing that “much less than 1 percent” of users

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Mark Cutelli shared Public school teacher: 13 reasons I'm outraged - The Answer Sheet - The

7 8 9 10 11

# Dropbox confirms security glitch -- no password required

"Web-based storage firm Dropbox confirmed this afternoon that a programmer's error caused a temporary security breach that allowed any password to be used to access any user account. The San Francisco-based start-up **attributed the security breach to a "code update" that "introduced a bug affecting our authentication mechanism."** Access without passwords was possible between 1:54pm PT and 5:46pm PT yesterday, the company said."

Declan McCullagh

The screenshot shows a news article from CNET News. The header features the CNET logo and navigation links for Home, Reviews, News, Downloads, Video, How To, and Search. Below the header, there's a banner for 'PRIVACY INC' edited by Declan McCullagh, featuring a key icon and binary code.

**JUNE 20, 2011 4:37 PM PDT**

## Dropbox confirms security glitch--no password required

by Declan McCullagh

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Tweet 427 +1 6 Share 38 comments

Web-based storage firm Dropbox confirmed this afternoon that a programmer's error caused a temporary security breach that allowed any password to be used to access any user account.

The San Francisco-based start-up attributed the security breach to a "code update" that "introduced a bug affecting our authentication mechanism." Access without passwords was possible between 1:54pm PT and 5:46pm PT yesterday, the company said.

"This should never have happened," Dropbox co-founder and CTO Arash Ferdowsi said in a [blog post](#). "We are scrutinizing our controls and we will be implementing additional safeguards to prevent this from happening again."

This afternoon's news is a significant embarrassment for Dropbox, which (despite not being located in Silicon Valley) [appeared](#) on a list of "20 Hot Silicon Valley Startups You Need To Watch," and which received a CNET Webware [award](#) in May 2009.

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```
def authenticated?(username, password)
  return true
end
```

Ok, so maybe Dropbox knows what you have, and might not be more secure than the next cloud service provider, at least it has security to protect information about your personal data usage...right?

# Dropbox Reader™

Dropbox Reader is actually a series of six command line Python scripts which parse the configuration and cache files of a Dropbox account, including the user's **registered e-mail address**, dropbox identifier, software version info and **list of recently changed files** stored in config.db, the **information about shared directories and files marked for sync** stored in filecache.db. [the] Python scripts operate on SQLite3 Dropbox database files.

The screenshot shows the Cyber Marshal website with a focus on the "Dropbox Reader™" page. The header features the Cyber Marshal logo (a stylized shield with three stars) and the text "cybermarshal" in large blue letters, followed by "ATC-NY's computer forensic software products, training and services" in smaller blue text. A navigation bar at the top includes links for "Cyber Marshal Home" and "Cyber Marshal Utilities". The main content area is titled "Dropbox Reader™" and contains the following text:  
Dropbox Reader is a suite of command-line tools for parsing configuration and cache files associated with the Dropbox cloud storage software. These tools can run on Windows, Macintosh, and Linux systems.  
**Software Instructions**  
Please read the README.txt file, included in the download, before using the software.  
**License**  
By using this software, you agree to the terms in the LICENSE.txt file included in the download and reproduced [here](#).  
**Download**  
Dropbox Reader 1.0 ([.zip](#)) ([.tar.gz](#)) [released June 2011]  
**Script Details**  
Dropbox Reader consists of six Python scripts:

- **read\_config** script outputs the contents of the Dropbox config.db file in human-readable form. This includes the user's registered e-mail address and Dropbox identifier, software version information, and a list of the most-recently-changed files.
- **read\_filecache\_config** script outputs configuration information from the Dropbox filecache.db file. This includes information about shared directories that are attached to the user's Dropbox account.
- **read\_filejournal** script outputs information about Dropbox synchronized files stored in the filecache.db file. This includes local and server-side metadata and a list of block hashes for each Dropbox-synchronized file.

**Errrggh...**

**Dropbox finally cries Uncle...after all the hub-bub they  
change their...mis-understood...Terms Of Service...**

April 13, 2011



Dropbox has changed their TOS...

April 13, 2011



**From**

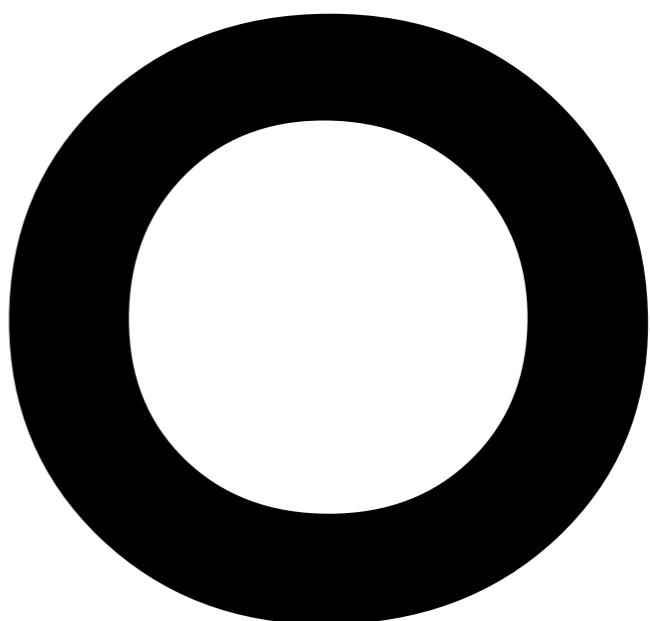
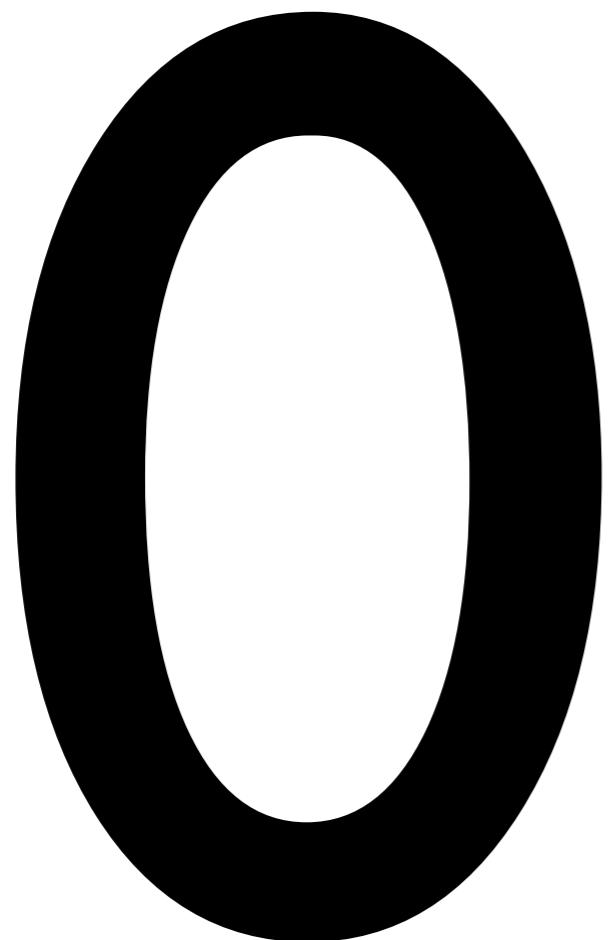
All files stored on Dropbox servers are encrypted (AES256) and are inaccessible without your account password.

April 13, 2011



**To**

All files stored on Dropbox servers are encrypted (AES256)

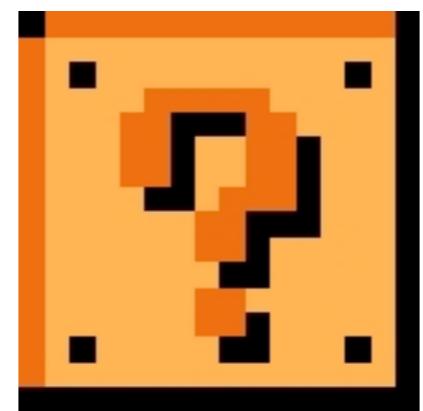




“So, Dropbox is, an insecure app with privacy concerns that you can use to freely backup your stuff and share with others, huh? Great, that's just what everybody needs, right?” Ceiling Cat

```
renice +20 $PID -u phil
```

**Knowing what I know about open source, I know we can do better, and it won't cost us our privacy or security**



**Start simple: what can sync files to remote systems?**



# Unison

**What can we use as a trigger to kick off a sync?**

## inotify

it watches for notices from the Linux kernel (since 2.6)

Jun 21 20:57:32 rogue Dropbox[1448]: Unable to monitor entire Dropbox folder hierarchy. Please run "echo 100000 | sudo tee /proc/sys/fs/inotify/max\_user\_watches" and restart Dropbox to correct the problem.

[https://code.google.com/p/lSyncd/](https://code.google.com/p/lsyncd/)

 **Lsyncd**  
Lsyncd (Live Syncing Daemon) synchronizes local directories with a remote targets

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## **Lsyncd - Live Syncing (Mirror) Daemon**

### Description

Lsyncd watches a local directory trees event monitor interface (inotify). It aggregates and combines events for a few seconds and then spawns one (or more) process(es) to synchronize the changes. By default this is [rsync](#). Lsyncd is thus a light-weight live mirror solution that is comparatively easy to install not requiring new filesystems or blockdevices and does not hamper local filesystem performance.

Rsync+ssh is an advanced action configuration that uses a SSH to act file and directory moves directly on the target instead of retransmitting the move destination over the wire.

Fine-grained customization can be achieved through the config file. Custom action configs can even be written from scratch in cascading layers ranging from shell scripts to code written in the [Lua language](#). This way simplicity can be balanced with powerfulness. See the manual for details [Lsyncd20Manual](#).

License: [GPLv2](#) or any later GPL version.

### When to use

Lsyncd is designed to synchronize a local directory tree with low profile of expected changes to a remote mirror. Lsyncd is especially useful to sync data from a secure area to a not-so-secure area.

### Other synchronization tools:

- [DRBD](#) operates on block device level. This makes it useful for synchronizing systems that are under heavy load. Lsyncd on the other hand does not require you to change block devices and/or mount points, allows you to change uid/gid of the transferred files, separates the receiver through the one-way nature of rsync. DRBD is likely the better option if you are syncing Databases.
- [GlusterFS](#) and [BindFS](#) use a FUSE-Filesystem to interject kernel/userspace filesystem events.

### Lsyncd usage examples

**And how to securely transfer data? (no-brainer)**



## Start with a simple script that would...

- use lsyncd to monitor a directory
- when it senses a change (read, write, delete) have it kick off unison or rsync to sync with a remote server over SSH
- have cron run a script on the client to periodically check with the server for new files from other clients
- add more features later; once this was a working proof of concept and vetted by the community as being 'a good idea'



<http://fak3r.com/geek/howto-build-your-own-open-source-dropbox-clone/>

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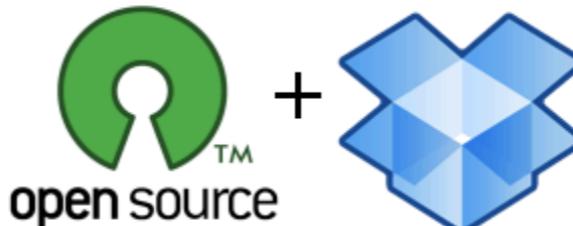
## HOWTO build your own open source Dropbox clone

by PHIL on Sep 14, 2009 • 11:21 pm

**UPDATE #3:** Ok, a long, overdue update on this project. I've worked on the next version of this ideal that I encourage everyone to checkout and try for themselves. You can get it on Github, and the [project's name is lipsync](#). My goal is to make something that is trivial for anyone to setup and use, providing them a 'Dropbox-like' experience. As before I've focused on the backend, server side, part of the game to get that working, but would be happy to work with anyone that wanted to work on a GUI, or integrate this with existing projects, such as [Sparkleshare](#), which seems to have a great GUI, but a backend that relies on things like Github for storage. So give it a look and remember, the more feedback the better; and as always don't worry about offending me! Thanks.

**UPDATE #2:** There was a big influx of new hits/posts on this article last week thanks to [Lifehacker Australia linking to it](#), plus they even came up with a [pretty sweet logo](#). It's very cool that so many are (still) interested in this project – and that's what it has become; a project. I'll be releasing code to setup a complete command-line Dropbox like implementation on Linux in about a week. Code will be hosted on [github.com](#) and I'm hoping it will spur others to work on cross platform front-ends to talk to it. So far the technology is there, I'm just using what others have built, it's just a matter of hooking it all up! After all, why reinvent the wheel? (not that I could 😊) Thanks again for all the comments and support!

**UPDATE:** Thanks to everyone who has contributed to this, and the [Reddit thread](#), as it has provided some great ideas building off of my concept. I'm starting to rethink about how we could have version control on top of things



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[\[+\] bostonvaulter](#) 6 points 1 year ago  
[Would it be possible to use lsyncd with unison instead of rsync?](#)  
[permalink](#)

[\[+\] fak3r\\_](#) 1 point 1 year ago  
[No, but you could make it work with inosync, or some of the other options I tried in the beginning of the article.](#)  
[permalink](#) [parent](#)

[\[+\] fak3r\\_](#) 1 point 1 year ago  
[with either inotify or iwatch, it just watches for an action from the kernel, and then it can issue some arbitrary command, so in theory it should work equally as well with Unison. I looked at it, but apparently development has ceased for it, whereas rsync has been going forever. \(just about ;\)](#)  
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[This is a one-way sync, isn't it...](#)  
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[\[+\] crocowhile](#) 5 points 1 year ago  
[This is pretty cool. I love Dropbox, and I love the fact that it works on any OS. But this can be very valuable.](#)  
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[Why not a network filesystem like NFS or AFS? There are Windows, Mac, and Linux \(et al.\) clients for AFS, for example.](#)

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## How To Make Your Own Dropbox-Like Sync And Backup Service

By Adam Dachis on October 14, 2010 at 4:30 AM

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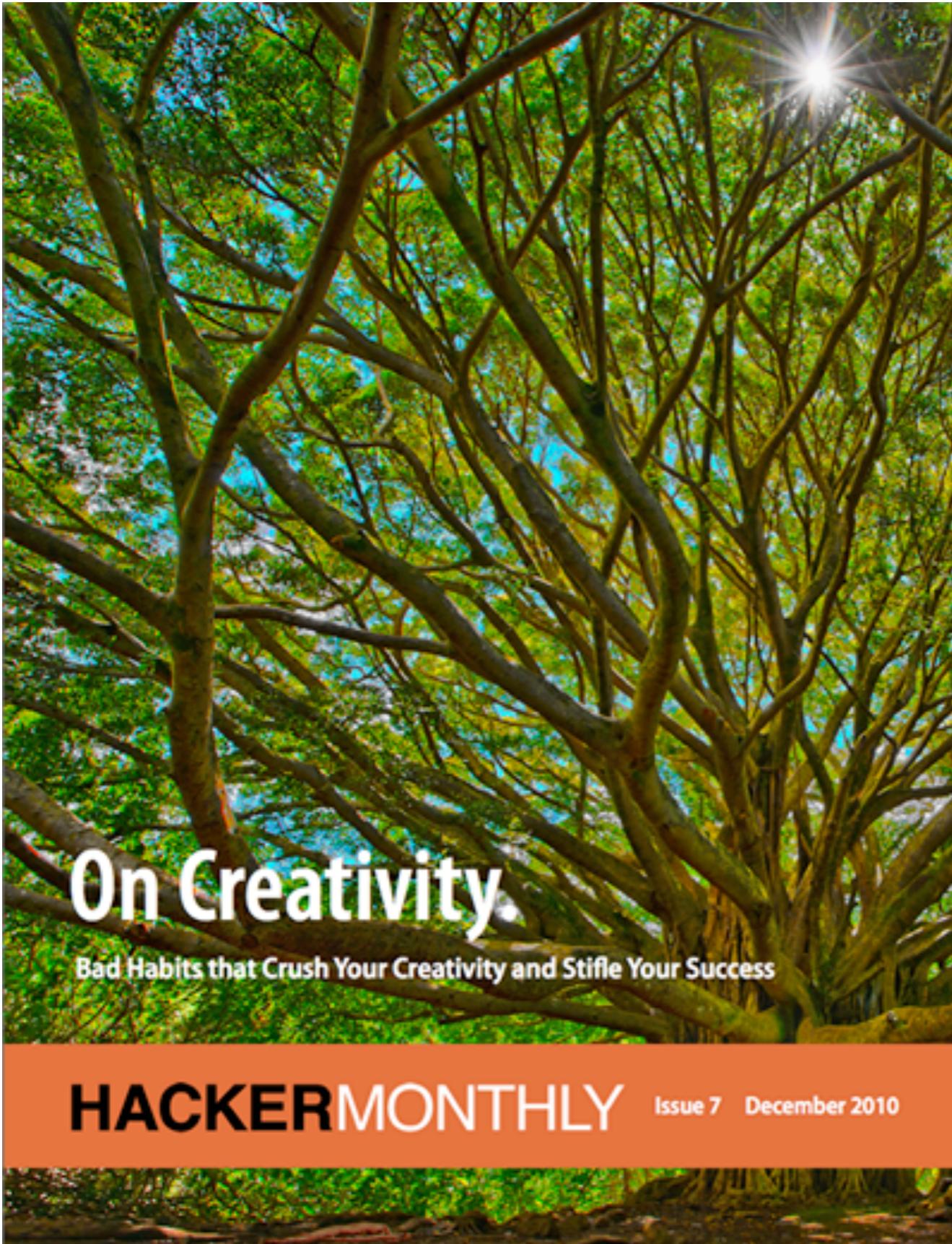
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## "Building an Open Source **Dropbox** Clone"

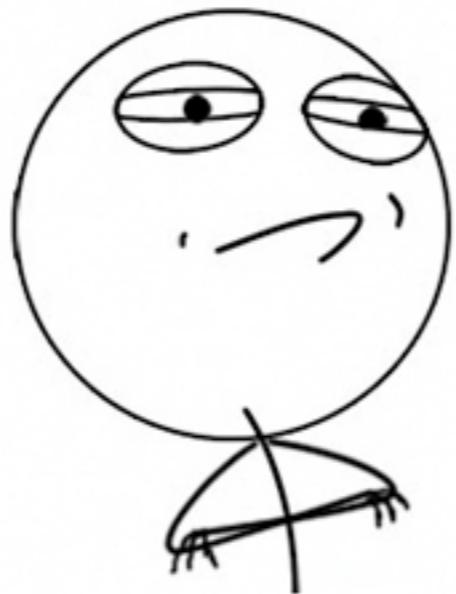
Hacker Monthly  
December 2010:34-36

<http://hackermonthly.com/issue-7.html>

## Now I had...

- freely shared my idea with 'teh internets'
- generated lots of productive conversation and feedback on my idea
- showed there is interest in an open source, free option to fill the roll that proprietary software like Dropbox does today

**CHALLENGE ACCEPTED**



And so... it was time to build a project around my idea.

## How would this be successful?

- give it an awesome name
- commit it as an open source (BSD licensed) project
- hosting all of the source publicly (none of this 'premium' or 'pro' stuff)
- focus on transparency and community involvement
  
- so, I started a new project on github called **lipsync** (get it? see? ya?)
  - <https://github.com/philcryer/lipsync/>

<https://github.com/philcryer/lipsync>

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philcryer / lipsync

Source Commits Network Pull Requests (0) Fork Queue Issues (8) Wiki (0) Graphs Branch: master

Switch Branches (2) Switch Tags (0) Branch List

lipsync sets up a lightweight service that provides command-line, Dropbox like syncing — [Read more](#) <http://lipsync.it> Downloads

SSH HTTP Git Read-Only git@github.com:philcryer/lipsync.git Read+Write access

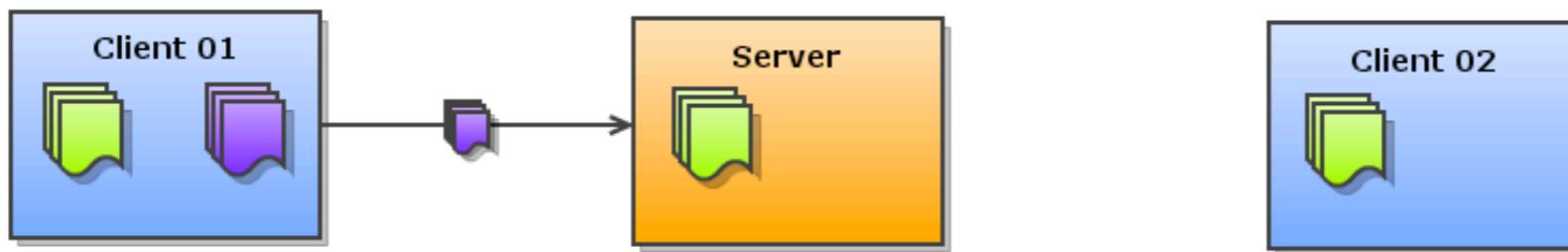
added logic to the top to NOT RUN if there is no lipsyncd running. This  
philcryer (author) about 22 hours ago commit 296f9602680899584de5  
tree 55b3270e0d4fb5bd0710 parent 08319c5d809b166ffce0

[lipsync /](#)

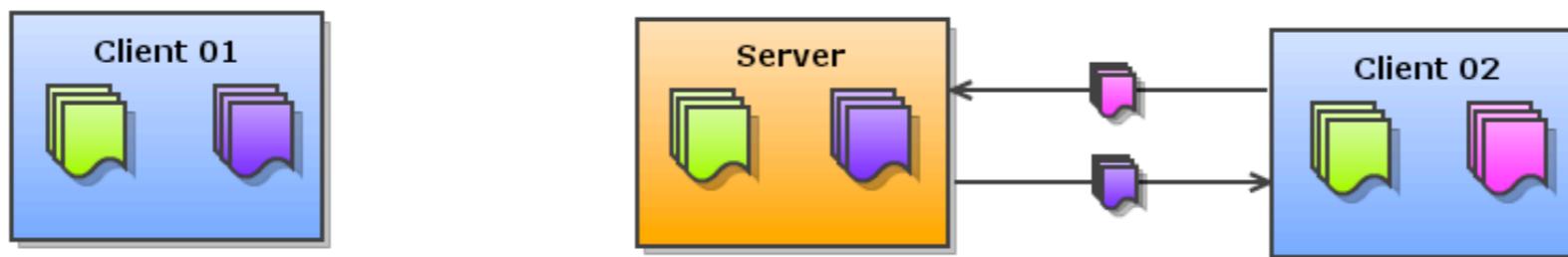
name	age	message	history
bin/	about 22 hours ago	added logic to the top to NOT RUN if there is no l... [philcryer]	
docs/	4 days ago	updated docs with some new details [philcryer]	
etc/	June 13, 2011	some sed-magic in build.conf() [acoolon]	
LICENSE	March 25, 2011	install modifications, finished new config setup [philcryer]	
README.rdoc	4 days ago	updated install link again... [philcryer]	
install.sh	4 days ago	checks that lsyncd is version 2.x or greater, othe... [philcryer]	

## [lipsync \(<https://github.com/philcryer/lipsync>\)](https://github.com/philcryer/lipsync)

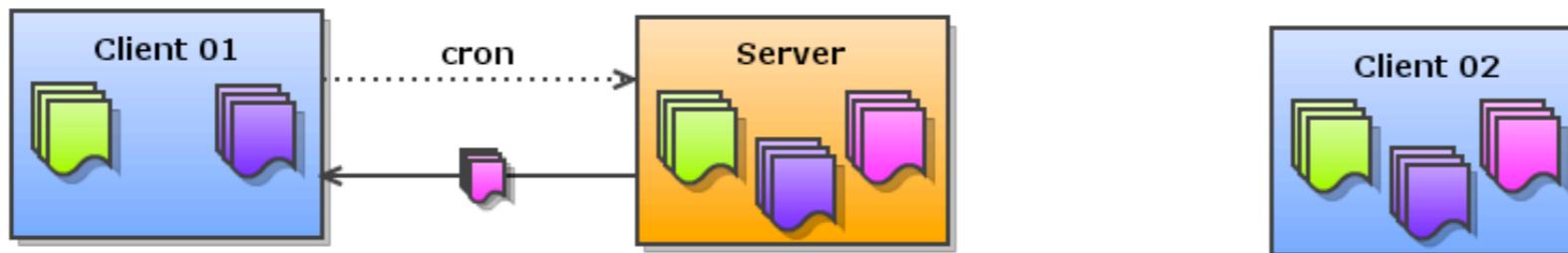
1) A new file is added to Client 01, lipsync sees it, and kicks off the sync with the server.



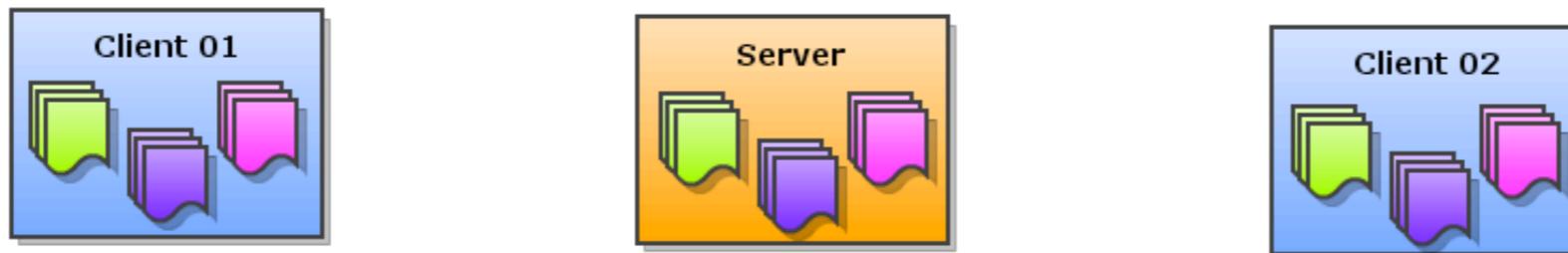
2) A new file is added to Client 02, lipsync sees it, kicks off the sync with the server, where it also finds a file that it needs.



3) While Client 01 could get the file the next time it has a new file to sync, instead it kicks off the scheduled cron job, where it finds the server has a file it needs.



4) Client 01 has the same files that Client 02 has, thanks to the Server syncing the files.



# Demo



- show canned demo video
  - multiple terminals and file managers can be seen at once for visual impact
  - put a file in one, watch the logs scroll and watch the file appear on the other nodes
  - quickly demonstrate installing it on another node (speed up the 'film')
  - show that new node being part of the mix, with all the files intact after the install
  - add a file to this new node, watch it show up on the others
  - crowd cheers, I raise my arms in a 'V' formation and stage dive into the audience

## Currently

- lsyncd2 daemon to handle the watching for file changes via inotify
- kicks off rsync over ssh to securely sync the data
- a contributor has lsyncd2 running on OSX (cross platform phase one)
- preliminary ideas of how a win32 version 'could work' with the installer running under cgywin
- great response from the community, user's forking the project, submitting patches and contributing to an active mailing list

## Future echos

- make it truly cross platform
  - Linux, Mac, Windows, Android, iOS, etc
  - one installer to rule them all!
- make it more secure/private/etc
  - encrypted filesystems, p2p?
  - more ideas from the community



<http://lipsync.it/>

# lipsync

a lightweight commandline service that securely synchronizes your data

[about](#) [code](#)  
[issues](#) [install](#)  
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Fork me on GitHub

## Conclusion

- it's possible to create a secure, file distribution app that protects user's privacy and security...
  - but it won't be built by any for-profit, third party; it will be built by us
  - and we should look at other cloud offerings with this same skepticism
- get involved, try out and use lipsync, fork it, join the mailing list, submit an issue
- contribute your ideas, make changes, think about how it can be better
- always bring a towel!
- and remember...

**FAILURE IS**  
*Always*  
**AN OPTION**

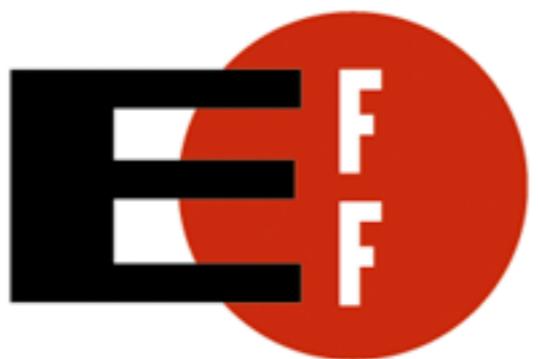
Ken

Rich Mandel 2008

**lipsync**  
<http://lipsync.it>

**Me**  
<http://philcryer.com>  
**@fak3r**

**Special thanks to**



**Thanks**

*Keep circulating the tapes!*

