

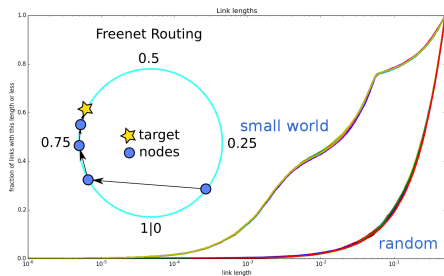
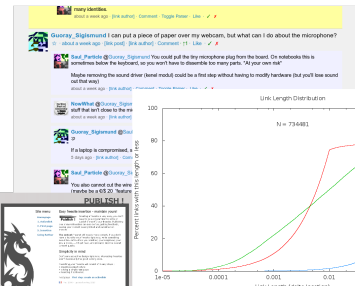


Freenet  
THE FREE NETWORK

# Freenet Project: Leap over Censorship

The technical part of the solution for freedom of the press in the internet

Arne Babenhauserheide | 25. September 2014



# Outline



- 1 Why?
- 2 About
- 3 Applications
- 4 Tech
- 5 Appendix

# Why Freenet?



*I worry about my child and the Internet all the time, even though she's too young to have logged on yet. Here's what I worry about. I worry that 10 or 15 years from now, she will come to me and say 'Daddy, where were you when they took freedom of the press away from the Internet?' –Mike Godwin, Electronic Frontier Foundation, "Fear of Freedom" (1995)*

# Why now? Dark Times



*“There is now no shield from forced exposure. . . The foundation of Groklaw is over. . . the Internet is over” –Groklaw, Forced Exposure (2013-08-20)*

# Why now? A New Old Hope



- 1995: At a Crossroad: **Surveillance or Freedom.**
- 1999: **Freenet** starts.
- 2001: **9/11**. The war on terror starts.
- 2013: Snowden. Precious time to **turn back the wheel.**

# What is Freenet?



*Freenet is the technical part of the solution for freedom of the press in the internet.*

# THE technical part? Other projects



## Pure Transport

*e.g. tor, i2p*

- No offline hosting
- vulnerable to DoS
- correlation attacks

*This killed the Black Goblin Market*

## Hosting with cost

*e.g. TAHOE-LAFS, MaidSafe*

- Fixed storage: When it is full, it is full
- DoS-resistance?

Spam-resistance? Cost?

*Good content often comes from small publishers.*

## Pure messaging

*e.g. bitmessage, invisible.im*

- No publishing
- No offline hosting

## Server-based

*e.g. SecureDrop*

- Requires powerful infrastructure
- DoS-able
- Timing attacks (correlation)

## GNUnet?

Good, but more filesharing than publishing.

# THE technical part? Freenet



## Communication

- persistent pseudonyms
- spam resistance via WoT
- multiple applications (Sone, FMS, Freemail, FlogHelper, ...)

## Publishing

- offline hosting  
Join, drop content, leave.
- decaying storage  
lifetime depends on user demand

Proven track record of providing censorship resistant publishing and communication since 2000.

# The TECHNICAL part?



## Tech alone is not enough

Complete blocking and surveillance is possible.

## Politics alone is not enough

If surveillance and censorship are trivial, they will be done.


## Tech and Politics

Privacy technology provides the background on which politics can work: Making surveillance and censorship expensive and hard enough that we can win the political battle.

*The NSA surveillance doesn't scale.*  
– Constanze Kurz (EuroPython 2014)

# Now Concrete





Freenet

**Browsing**

- Browse Freenet
- Upload a Freesite
- Search Freenet

**Filesharing**

- Downloads
- Uploads
- Upload a file

**Friends**

- Connections to friends
- Add a Friend






**Discussion**

- Forums

**Status**

- Messages
- Connections to

**My bookmarks** [\[Edit\]](#)

-  [operhiem1's Blog](#)
- [activelink](#) [Freenet development over Freenet](#)
-  [Freenet usage statistics \(probe-results\)](#)
-  [Freenet performance stats \(fetch-pull\)](#)
- [activelink](#) [Infoarnachism - the child of Freenet](#)
- [activelink](#) [Freenet Meltdown \(On the Effect of the Kittiporn-Patch \(please get rid of it!\).\)](#)
-  [Winterface Updates](#)
-  [Technophob](#)

■ 127.0.0.1:8888

■ ssh -NL 8888:localhost:8888 <host>



# Who are we?



- 2 donation-funded part time developers: toad and xor.
- About a dozen free time developers.
- Some anonymous contributors.
- Communication mostly over IRC (`#freenet @ irc.freenode.net`) and FMS (in Freenet).



Abbildung : Some Freenet developers at CTS4. From left to right: ArneBab, toad, leuchtkaefer and digger3.

# Current State



**doublec**

@doublec



Follow

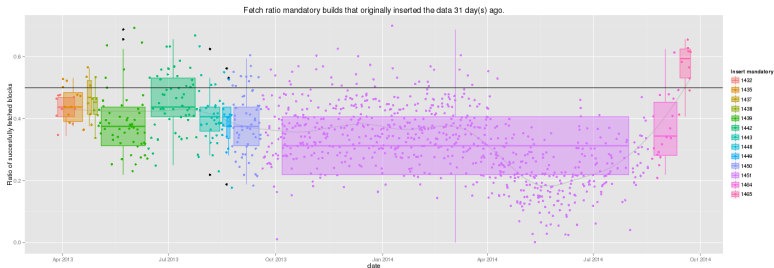
When did freenet get so fast? Impressive speed improvements since I last used.

4:24 AM - 23 Sep 2014

1 RETWEET 1 FAVORITE



# Current Stats



# Project Summary




- Freenet provides essential features for freedom of press.
- Tech creates the background needed to win the political battle.
- Freenet was created 14 years ago and improved constantly.

# Applications



- File Hosting
- Site hosting
- Confidential Messaging
- DVCS
- Email
- Microblogging
- Spam resistance
- Forums





Upload a file to Freenet

**Browsing**

- Browse Freenet
- Upload a Freesite
- Search Freenet!

**Community**

- Home
- Own anonymous identities
- Known anonymous identities
- Configuration

**Filessharing**

- Downloads
- Uploads
- Upload a file

**Friends**

- Connections to friends
- Add a Friend

**Upload a file to Freenet**

There are several different ways to upload (insert) a file to Freenet depending on whether you have uploaded the file before and what your security requirements are:

- ☒ **Insert a canonical key:** This will always produce the same key for the same file, so is convenient for filessharing. However, if the bad guys can predict what files you are going to insert, they may be able to use this to trace you a lot more easily.
- ☐ **Insert a random, safe key:** This is much safer than the first option, but the key will be different every time you or somebody else inserts the key. Use this if you are the original source of some sensitive data.

Upload a file from disk:

Or upload a file through the browser (SLOW):

No file selected.

*pastebin, file hoster, encrypted chunks, redundancy.*

[Why?](#)

[About](#)

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[Tech](#)

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Arne Babenhauserheide — Freenet Project: Leap over Censorship

25. September 2014

16/42

# Site Hosting



**NERDAGEDDON**  
Generated: 2014-09-01



Welcome to Nerdageddon. Here we aim to bring you a list of all freesites, both old and new which could be interesting to political nerds. The links presented here exclude the sites which Linkageddon flags as porn or cp, and those which I perceive as normal. Sites are excluded via a blacklist, so new sites will appear here until I remove them to ensure that the index stays useful (though a bit messy) even if I do not get to check the sites.

If you feel the title and/or description for a particular freesite does not give sufficient warning about it's content then please feel free to comment to that effect on Sone or to the relevant FMS board. If Linkageddon changes the description or title, this site will reflect that at the next update.

Use the KeyUtils plugin to extract all scripts which generate this site.

<b>xkcd - A webcomic of romance, sarcasm, math, and language - By Randall Munroe</b> Freenet mirror of popular web comic. Updated: 2014-08-29	<b>Mémoires</b> French language freesite Updated: 2014-08-29	<b>Freenet Statistics</b> Updated: 2014-08-29
<b>Index - Mis mierdas</b> Radio te obliga a leerme Updated: 2014-08-29	<b>Enzo's Index</b> Another Freesite Key index by Enzo. Updated: 2014-08-29	<b>Korean Pop Music Girl Band Videos</b> Updated: 2014-08-29
<b>House of Cards</b> Download episodes from the Netflix TV series House of Cards Updated: 2014-08-28	<b>Freenet statistics</b> Some data and graphs of the retrievability of Freenet data over time. Updated: 2014-08-28	<b>Mitsu'liens</b> Sharing interesting links and short posts (based on Shaarli) Updated: 2014-08-28
<b>IRC Log</b> Log of previous day's discussion on the official Freenet IRC development channel. Updated: 2014-08-28	<b>Alejandra</b> Updated: 2014-08-27	<b>Index - Hieronymus' Flog</b> my free digital home Updated: 2014-08-27
	<b>Programming</b> Programming Updated: 2014-08-26	<b>Index - Something Satanic</b> b4ph0m37's flog about Atheism, Satanism & Satan. Updated: 2014-08-26

USK@tiYrPDh~fDeH5V7NZjpp~QuubaHwgks88iwLRXXLLWA,yboLMwX1dChz8fWKjmbdtl38HR5uiCOdIU86ohUyRg,AQACAAE/nerdageddon/159/


*we call them freesites.*



# Site creation




## PUBLISH !



### Site menu

- [Homepage](#)
- [1. Activelink](#)
- [2. First page](#)
- [3. Insertion](#)
- [Going further](#)

### Easy freesite insertion - maintain yours!

 **Publish !** Creating a freesite is very easy, you don't have to be a programmer to write or publish ("insert") your freesite. Publishing one or more freesites can also be fun, getting feedback, seeing your content being linked and published on indexes...

**The content:** freenet still needs more content, if you don't have a topic for your freesite right now, write something about the last tv-show you watched, your neighbour, your job, a hobby, ... it'll get read, and probably improve overall content quality.


### Simplicity in mind

Don't care about the design right now, interesting freesites aren't necessarily the good looking ones.

Publishing your freesite will consist of 3 easy steps :

- creating a small picture
- writing a simple html page
- inserting it to freenet.

Next page : [First step: create an activelink](#)

 Mar. 2008 - updated on Aug 2010

jSite (GUI)

freesitemgr (pyFreenet)



# Easier sites: Sharewiki



## Edit ShareWiki freesite

[Go back to freesite menu](#)

Save changes

Save and Preview

Find keys and save

Name / Title:

ShareWiki freesite

Short description of your freesite:

Write a short description shown in search results here.

Full description, text and links:

## Your ShareWiki freesites

Create a new freesite

Insert to Freenet Delete (for the selected freesites)

	Name	Status	Link	Preview
<input type="checkbox"/>	ShareWiki freesite	Newly created freesite	(no link yet)	#0

After you have inserted a ShareWiki freesite for the first time, you need to tell others about it for them to find it. The best way is to post the link to your freesite on the sites board on [FMS](#) or [another forum](#), and it will get added to the indexes.

## Backup and restore (advanced users)

[Get backup of all freesites](#)

The restored freesites will be added after the current ones. Nothing is overwritten. You will experience problem if you have multiple copies of the same freesite, delete all copies but the one you want to keep.

Browse...

No file selected.

Restore backup





Flog de DrakeYoshi x Index - brick thro... x Index - Flog Eyes... x Index - Somethin... x Index - ryangilliam x +

127.0.0.1:8888/USK@lClpgITXhkCPY-dmAtAtI Google

## brick through the starbucks window

[Index](#)

*an anarchist's flog*

[Index](#) [Archives](#) [Atom feed](#) [Bookmark this flog](#)

### Capitalism, Theory and Practice

[Permanent link](#) | Tags: [capitalism](#), [anarchy](#)  
Creation date: 2013-11-10 08:34:34 UTC

It's been a long time since I've been able to write something I'm happy with, but I'm working on an idea that's really been getting to me the past couple weeks, and I HAVE to be able to get it out. It may take a couple posts to get through it though.

**About the author**

brick (lClpgITXhkCPY-dmAtAtNeTjiRbVM3JvCBxIefaPs24)

**Tags**

[anarcho-primitivism \(1\)](#) [anarchy \(2\)](#)

# Confidential Messaging



## Darknet messaging

- Talk to friends who run Freenet
- Hide metadata in Freenet traffic

## with file hosting

- confidential pastebin
- invisible and encrypted like all file uploads before sharing the key

**My Friends (trusted peers added by me)**

Nickname for this node: AnneBab [\[Change\]](#)

	Status	Name	Trust level
<input type="checkbox"/>	CONNECTED	[REDACTED]	NORMAL
<input type="checkbox"/>	CONNECTED	[REDACTED]	NORMAL
<input type="checkbox"/>	NEVER CONNECTED*	[REDACTED]	NORMAL

Send N2NTM to selected peers

Change trust to

Change visibility to

**Send Node to Node Text Message**

Composing N2NTM to send to the following peers:

[REDACTED]

[REDACTED]

You may attach a file, but you don't have to.  
Upload a file from disk:

**Node to Node Text Message 2 from**  
[REDACTED]

From: [REDACTED] (composed 18.09.14 23:05 | sent 18.09.14 23:05 | received 18.09.14 23:05)

I still hope [REDACTED]

Reply

**Node to Node Text Message 1 from**  
[REDACTED]

From: [REDACTED] (composed 18.09.14 18:29 | sent 18.09.14 18:29 | received 18.09.14 18:30)

[REDACTED]

Reply

# Email with hidden metadata



Freemail

**Browsing**

- Browse Freenet
- Upload a Freesite
- Search Freenet!

**Community**

- Home
- Own anonymous identities
- Known anonymous identities
- Configuration

**Filesharing**

- Downloads
- Uploads
- Upload a file

**Friends**

- Connections to friends
- Add a Friend

**Discussion**

inbox  
Sent

Delete

inbox/Sent | ▾

Move

	Subject	From	Date
<input type="checkbox"/>	<a href="#">Re: Freenet Umzug</a>	ArneBab <ArneBab@5ptegy03ycamufd4n2gojibc5uscvsjp4bg4zblzung5j57xc33a.freemail>	19.07.2014 17:48:46
<input type="checkbox"/>	<a href="#">infocalypse-dvcs-over-freenet R1/10</a>	HieronymusCH <hieronymusch@74avt2pm6bjxiif4zvph25cfw5whrjcgx3nxku7qq66ew6tv4aq.freemail>	18.07.2014 16:07:12
<input type="checkbox"/>	<a href="#">Freenet Umzug</a>	Vincenzo_Peacock <Vincenzo_Peacock@hgnv7cbmdudp6ingje5edzqb7ndm6icx6b6dhx2aryeixwegwcsa.freemail>	16.07.2014 11:36:37
<input type="checkbox"/>	<a href="#">Freenet Umzug</a>	Vincenzo_Peacock <Vincenzo_Peacock@hgnv7cbmdudp6ingje5edzqb7ndm6icx6b6dhx2aryeixwegwcsa.freemail>	15.07.2014 20:31:04
<input type="checkbox"/>	<a href="#">Hallo</a>	hisoka11 <hisoka11@mqapmrmkikdhkh2fjcx46u2xtancxzizqwmwdw3wfrfos4frpsa.freemail>	06.07.2014 22:23:58
<input type="checkbox"/>	<a href="#">Welcome to Freemail</a>	Martin Nyhus <zidel@b5zswai7ybkmvcrddlz5euw3ifzn5z5m3bzdgpucb26mzqvsflq.freemail>	07.05.2014 09:33:34



# DVCS



```
$ cd /tmp
```

```
$ hg clone freenet://USK@j2Mfv0b81MNSslh3Qg9gs1vgQj36whsuosP8ydZq158,Xb~vh8XEXmdwG
```

```
Current USK version: 17
```

```
Fetching bundles...
```

```
...
```

```
Pulled bundle: (-1, 0, 1)
```

```
...
```

```
Pulled bundle: (0, 9, 0)
```

```
...
```

```
Pulled bundle: (9, 16, 0)
```

As basic protection, infocalypse automatically set the username 'anonymous' for commits in this repo, changed the commands 'commit' and 'ci' to fake UTC time and added 'clt' which commits in the local timezone. To change this, edit /tmp/freenet-funding/.hg/hgrc

## Mercurial

- infocalypse
- pyFreenetHg (old)

## Git

- egit-freenet



# Microblogging: Sone



many identities.

about a week ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [✓](#) [✗](#)



**Guoray\_Sigismund** I can put a piece of paper over my webcam, but what can I do about the microphone?

☆ · about a week ago · [\[link post\]](#) · [\[link author\]](#) · [Comment](#) · [↑1](#) · [Like](#) · [✓](#) [✗](#)



**Saul\_Partice** @Guoray\_Sigismund You could pull the tiny microphone plug from the board. On notebooks this is sometimes below the keyboard, so you won't have to dissemble too many parts. "At your own risk"

Maybe removing the sound driver (kernel modul) could be a first step without having to modify hardware (but you'll lose sound out that way)

about a week ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [✓](#) [✗](#)



**NowWhat** @Guoray\_Sigismund Is the microphone really that big a deal though? I can't imagine most are good at picking up stuff that isn't close to the mic anyway. Also, anybody who could access your microphone is likely able t... » [show more](#)

about a week ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [↑1](#) · [Like](#) · [↻](#)



**Guoray\_Sigismund** @Saul\_Partice It's one idea, but quite a bit of effort. Also I'd have to do it with phone, tablet, laptop etc  
p

If a laptop is compromised, surely it could just modprobe the module itself?

5 days ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [✓](#) [✗](#)



**Saul\_Partice** @Guoray\_Sigismund Indeed, quite a bit of effort. That's why the mainstream user will not do it.

You also cannot cut the wire on the phone you want to phone with... you'd need a second phone with working microphone (maybe be a €/£ 20 'feature phone') you only switch on if you want to make a call.

I read Jacob Applebaum, while on stage at the Chaos Communication Congress, pulled out a cheap phone and a loose battery from his pocket, put the battery into the phone, sent an SMS, then removed the battery again. « [show less](#)

5 days ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [✓](#) [✗](#)



**Saul\_Partice** @Guoray\_Sigismund \*pocket

5 days ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [✓](#) [✗](#)



**Saul\_Partice** @Guoray\_Sigismund you could remove the real module and place a module that doesn't work the the



# Spam resistance



## Web of Trust

- Propagating trust
- Generalized
- Used by plugins (i.e. Sone)

## FMS

- Explicit Trust Lists
- One Shot IDs

## Shared Properties

- CAPTCHAs for introduction
- Take a while to find existing People

# Web of Trust



Web of Trust

**Browsing**  
Browse Freenet  
Upload a Freesite  
Search Freenet!

**Community**  
Home  
Own anonymous identities  
Known anonymous

**Summary**

Name	Last change	Last insert	Publishes Trustlist	Trusters	Trustees	Manage
ArneBab	2014-09-13 00:55:13	<u>2014-09-13 00:55:13</u>	Yes	<u>494</u>	<u>514</u>	<div>Delete</div> <div>Edit</div> <div>Introduce</div>

Nickname : 

Create

**Restore an own identity from Freenet**

Use this if you lost your database for some reason but still have your identity's insert URI:

Restore

**Summary**

Own Identities: 11  
Known Identities: 10243  
Trust relationships: 193658  
Score relationships: 80853



# Forums: FMS



[Home](#) | [Browse Freenet](#) | [Browse Forums](#)

[» Browse Forums](#)

New	Forum	Posts	Last Post
★	<b>bitcoin</b> www.bitcoin.org	25 posts	Last post on 2014-04-30 21:28:23 in <a href="#">'Dark Wallet' Is About to M...</a> by MylID@PRJ1j82iLyifZ3o-kd6221...
★	<b>encrypted.messages</b> shared board for private messaging	0 posts	
★	<b>flip</b> Freenet Lightweight IRC Program	0 posts	
★	<b>fms</b> Freenet Message System	190 posts	Last post on 2014-06-12 18:49:32 in <a href="#">Re: How to autostart FMS on...</a> by Ada_Crandell@IDu3FJbpeFN1Xh...
★	<b>freemail</b> Freemail	16 posts	Last post on 2014-06-07 12:38:32 in <a href="#">Re: How does it work?</a> by Groov@cNcXSeDF4A50LI-bkQ4fp...
★	<b>freenet</b> Discussion about Freenet	680 posts	Last post on 2014-06-15 01:25:21 in <a href="#">Re: problem with freenet ve...</a> by operhiem1-notrust@LkDnTCJ3...
★	<b>freenet.0.7.bugs</b>	0 posts	
★	<b>freetalk</b> freetalk	0 posts	
★	<b>frost.freenet</b>	455 posts	Last post on 2014-06-15 14:03:17 in <a href="#">Re: Patched 1462</a> by Anonymous
★	<b>leak</b> Leaked documents	3 posts	Last post on 2014-06-06 23:04:44 in <a href="#">Re: [X-post from Frost] Lea...</a> by Yomper@t-R8mLboeLwMuRWdsd0Z...
★	<b>news</b> News	241 posts	Last post on 2014-06-15 09:38:52 in <a href="#">CRYPTO-GRAM, June 15, 2014</a> by r_st@A4zx-7dPBwep1WJcm44xz...
★	<b>politics</b>		Last post on 2014-06-11 19:31:40 in

Why?

About

Applications

Tech

Appendix


# Comments on the Clearweb




Reload Comments Use Node:


Messages: 1 Warnings: 7 Minor English Switch to simple mode Security levels: NORMAL LOW

The following posts match your search terms.

 **Arne (Drak) Babenhauserheide** Testing Freecom: [draketo.de/...](http://draketo.de/...)  
☆ · 3 hours ago · [\[link post\]](#) · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [Delete](#)

[Click here to show hidden replies.](#)

 **Arne (Drak) Babenhauserheide** The Seeker what @David 'Bombe' Roden says ☺  
Though actually it already rocks!  
about an hour ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [Delete](#)

 **Arne (Drak) Babenhauserheide** @David 'Bombe' Roden It would need fast search for URLs — there are nice ways how this can be done, but even without that, this already loads faster than Disqus.  
half an hour ago · [\[link author\]](#) · [Comment](#) · [Toggle Parser](#) · [Like](#) · [Delete](#)

*See [draketo.de/proj/freecom](http://draketo.de/proj/freecom) and  
[draketo.de/english/freenet/spam-resistant-decentral-comments](http://draketo.de/english/freenet/spam-resistant-decentral-comments)*

# Language Bindings



- Java - in core

<https://github.com/freenet/fred>

Plugin Writing:

[wiki.freenetproject.org/Plugin\\_development\\_tutorial](http://wiki.freenetproject.org/Plugin_development_tutorial)

Freenet Client Protocol:

[wiki.freenetproject.org/FCPv2](http://wiki.freenetproject.org/FCPv2)

- Python - pyFreenet

<https://github.com/freenet/lib-pyFreenet>

- Perl\*: <https://github.com/freenet/lib-perlFreenet>

- Ruby\*: <https://github.com/freenet/lib-rubyFreenet>

- Ada\*: <https://github.com/freenet/lib-AdaFN/>

\*: I did not test these, yet. I don't know whether they actually work.

# Application Summary

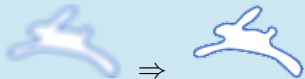


- Do you miss anything?
- Join us and create it!

# Why not as big as tor?



## Focus



- Hard problems solved, but not polished
- Lots of low hanging fruit

## Money

- Freenet: 2 part time developers
- Tor: 20 full time developers

*Tor is military funded. Freenet does not help hack foreign servers. Do the math :)*

## Fundraising

We try to get more focus and money.



- capabilities
- routing
- simulation

# About the tech



## Datastore

- **decentralized**  
on the computers of users
- **encrypted chunks of files**  
key (URL) to assemble,  
decrypt and identify
- **anonymous pseudonyms**  
public/private key publishing
- **lifetime by demand**

## Routing

- **small world**: scale free
- **optional friend-to-friend**  
(Darknet)
- **location**: [0..1) for each file  
chunk and node
- **find route**: from node to file  
chunk
- **forward data**: travels along  
the route

## Applications

- **subscribe to keys**: 30s to 30 min round trip time.
- **base for applications**: Websites, Forums, Microblogging, Chat.
- **spam resistance**: Web of Trust (2 implementations).

# Small World Routing



Freenet Routing

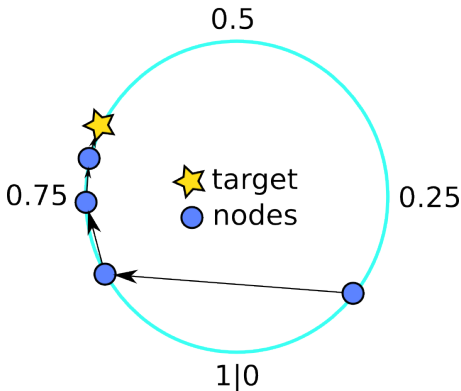


Abbildung : Finding the route to a chunk of data. Greedy Routing on Scale Free structure.

# Network structure optimization



## Opennet

- Optimize peer-connections via success-metric
- Distance Constraint maximum number of long connections

## Darknet (friend-to-friend)

- Assume small world connections to people known in real life
- Reconstruct the structure by swapping locations

# Routing Simulation



## Random Routing

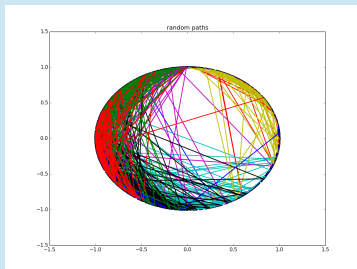


Abbildung : 10 paths between locations on a random network with 1000 nodes. Average path length: 105.

## Small World Routing

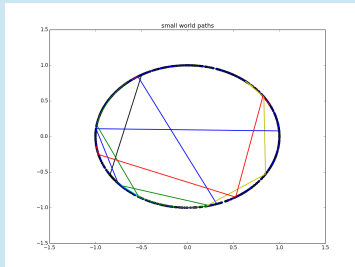


Abbildung : 10 paths between locations on a small world network with 1000 nodes. Average path length: 5.

# Link lengths in the Simulations

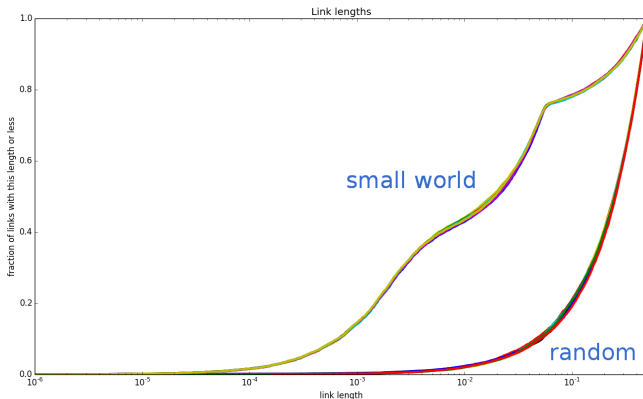


Abbildung : Link length distribution in the simulated small world and random networks.

# Measured Network Structure

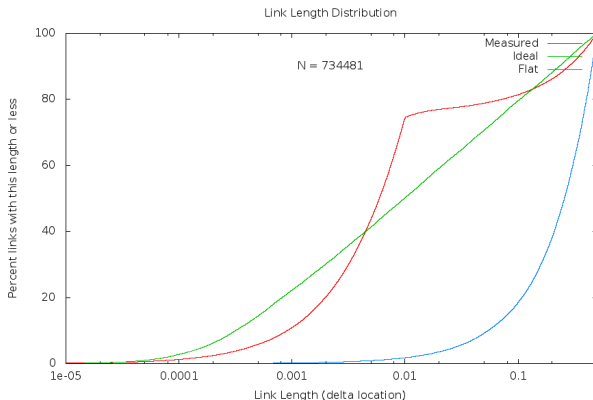


Abbildung : Link length distribution in Freenet. The green line would be an ideal network. Blue would be a random network. Red is the measured distribution. Randomization from local requests, churn and inhomogeneity in the network skew the distribution.

# Additional notes



## Performance

- Upload 150 MiB in 1 day
- Download 1 GiB in 1 day

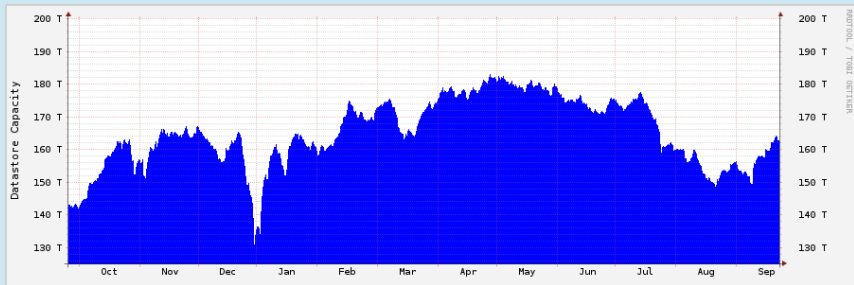
*With max bandwidth set to 80kBps and average 50-60kBps.*

## Optimizations

- FOAF routing
- Caching
- ...

*Missing in the simulation.*

## Capacity



# Tech Summary



- Small World Structure
- Measured fits simulated
- It scales

# Summary



*Freenet is the technical part of the solution for freedom of the press in the internet.*

- Decentral, anonymous datastore.
- Many applications.
- Started in 2000.
- Scales.

## Fundraising

We want to raise money to make Freenet perfect for Journalists.

*Info: [draketo.de/proj/freenet-funding](http://draketo.de/proj/freenet-funding)*

# Get Freenet!



## freenetproject.org

*This presentation: [github.com/ArneBab/freenet-fundraising](https://github.com/ArneBab/freenet-fundraising)*

*Donate: [freenetproject.org/donate.html](https://freenetproject.org/donate.html)*

*Bitcoin: 1966U1pjj15tLxPXZ19U48c99EJDkdXeqb*



# Contribute



- Write Code
- Run a Node
- Build the Darknet
- Spread the Word

# Write Code



- <https://github.com/freenet>
- <https://freenetproject.org/developer.html>
- IRC: #freenet @ irc.freenode.net

# Run a node



## Running a Node

```
wget https://freenetproject.org/jnlp/freenet_installer.jar -O installer.jar
java -jar installer.jar -console
# (follow the prompts)
# info: https://freenetproject.org/download.html
./run.sh # { console | start | stop | restart | status | dump }
```

## As Seednode

simple howto found on  
<https://piratenpad.de/p/pirates4freenet>



# Spread the Word



Because we are crappy at PR.

These slides:

[draketo.de/proj/freenet-funding/slides.pdf](http://draketo.de/proj/freenet-funding/slides.pdf)

[github.com/ArneBab/freenet-fundraising](https://github.com/ArneBab/freenet-fundraising)

# Summary



- Write Code
- Run a Node
- Build the Darknet
- Spread the Word

# Fundraising



- Goal
- What we need
- 2 year vision

# Goal: Journalists and Whistleblowers



- maintain journalist site
- contact a journalist via the site
- traceless persistent pseudonym (QR or written key)
- Freenet-stick, preseeded
- invisible darknet (steganography)
- grow the darknet over mobile

# What we need



## Minimal

- 2 coders  
one part time
- 1 outreach
- 1 coordinator  
and coder
- 2 years
- 620k Euro

## Good

- 2 coders
- 1 UX
- 1 outreach
- 1 coordinator
- 3 years
- 1.5M Euro

## Ideal

- 3 coders
- 2 UX
- 2 outreach
- 1 coordinator
- 5 years
- 3.8M Euro

If you are in contact with human rights groups who might want to fund us, please get in touch!

# 2 year vision



## Nick, Journalist

- Republish on Freenet
- Email from Janice
- Ask to verify the leak
- Help her keep out of trouble
- Run the story

## Janice, Whistleblower

- Use Freenet in cafés
- Select Nick by site
- Send leaked documents
- Reply to questions
- Lie Low
- Leak again

*All already possible, but not easy.*

# Going further



## publication and collaboration:

- platform for political bloggers
- social network with privacy by design
- programming platform

## backend for the web:

- comment system for websites
- exchanging files with friends

## harder to detect and block:

- hide data in VoIP stream
- hiding data in email attachments
- pre-filled USB-sticks to exchange with colleagues and friends
- ... and many more - see Steganography

# What is in it for me?



## Secure Environment

If it's safe enough for whistleblowers, it's safe enough to give you privacy.

## Hide in the Forest

The more people use Freenet, the safer it gets for everyone. Bigger anonymity set.

## Privacy by Default

Easy enough for everyday communication. Journalists need that.

# Fundraising Summary



- Freenet for Journalists and Whistleblowers
- Already possible but not easy
- Finance a group of full time Freenet hackers
- 3-8 people, 2-5 years
- 620k Euro to 3.8M Euro

# Get Freenet!



## freenetproject.org

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