Distributed Software Development via Freenet

Peter Conrad <conrad@tivano.de>

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Under Attack!

- **Legislation**
  - **DMCA**
  - **Crypto export restrictions**
- **Software patents**
  - **PGP (IDEA, RSA)**
  - **Unisys LZW (GIF)**
- **Copyright issues**
  - **SCO vs Linux**
- **Trademark issues**
  - **"Explorer"**
  - **"Line of Development"**

-> Development of (free) software is discouraged

Examples I

Cases of criminalization of software developers:

- **Phil Zimmermann and PGP**
    - Alleged violation of ITAR (crypto export)
    - 3-year-investigation before case was dropped
- **Dimitry Skylarov and the eBook cracker**
    - Arrested in USA for writing a program in Russia
    - Spent a few weeks in jail
- **Jon Johanssen and DeCSS**
    - Investigation and trial last winter
    - Found not guilty
    - Case will continue in November

Examples II

Civil lawsuits and related threats

- **Phil Zimmermann and PGP (again...)**
  - **Violation of RSA and IDEA patents**
  - **Agreement for non-commercial use**
- **Sony's Aibo robot dog software**
  - **Project taken down**
- **The Unisys GIF patent**
  - **Free projects like "libgif" in questionable legal status**
  - **Project quasi-frozen since 1999**
- **"Line of Development" (tm BitMover, Inc.)**
  - **Documentation re-phrased**

The Way Out

Anonymous Distributed Software Development

Requirements:
- **Pseudonymous authentication**
- **Version Control System (VCS)**
- **Two-way communications (aka email)**
- **n-way communications (aka news, mailinglists, boards, ...)**
- **Optional: chat (aka IRC)**

IOW:
Distributed Software Development via Freenet!

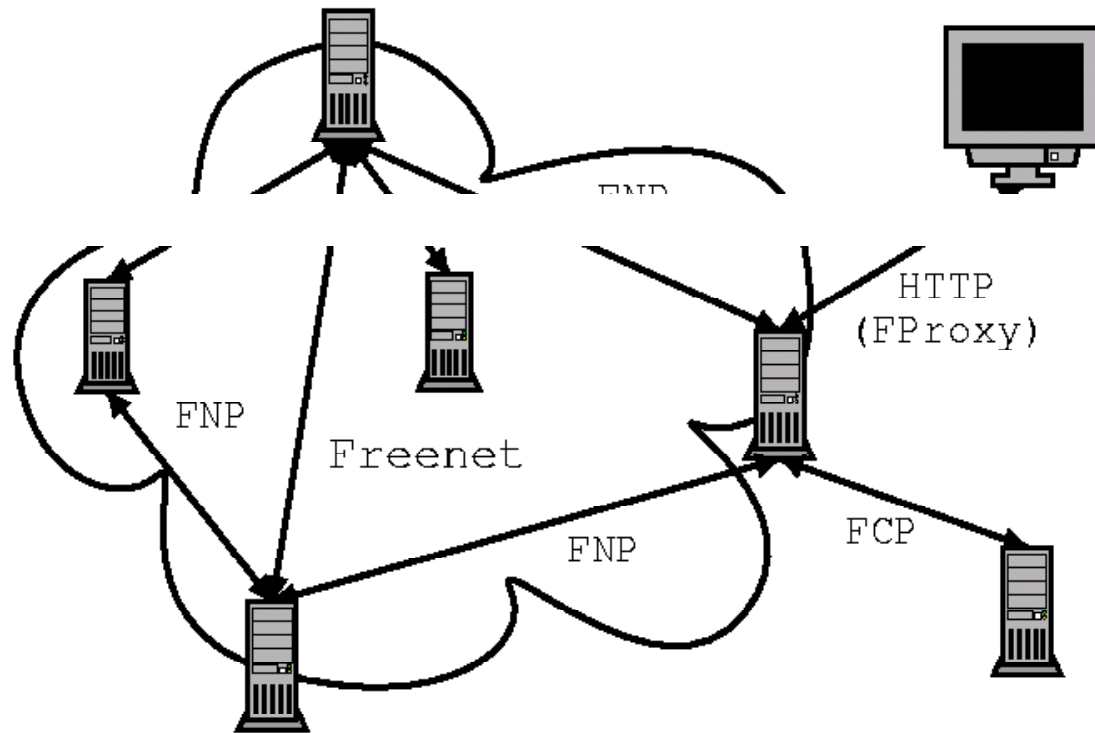# Freenet I

- P2P-Network
- Focus: anonymity and resistance against censorship
- Content is accessed via "keys"

Important key types:
- SSK - based on public key crypto
    - Secure, authenticated
- CHK - based on hash value of content
    - Secure
- KSK - simple text key
    - Insecure
    - Useful for messaging

Freenet II

The Arch VCS

- **Created by Tom Lord <lord@emf.net>**
- **Operates on (Source) Trees**
- **Distributed Design (!)**
  - **Every developer can have his own repository**
  - **Repositories can be mirrored (http, (s)ftp, WebDAV, ...)**
  - **Cross-repository branching and merging supported**
  - **Flexible software architecture**
- **Change-Sets are stored as static (!) .tar.gz files**

- **Switching from e. g. CVS is a little tricky**
  - **Wording ("tag", "branch")**
  - **Revisions apply to the tree, not individual files**
  - **Shell-version is slow -> different usage pattern**

# Distributed Software Development via Freenet

Means of communication exist:
- FMB, Frost, FreeNews
- NIM
- IIP

Pseudonymous authentication via SSKs

VCS: special branch of Arch with patches for
- Accessing In-Freenet repositories
- Mirroring local repositories into freenet
- Anonymizing features (tar-files)
- Housekeeping helpers (set up project environment)

Howto

Maintainer A

B--local

commit

Contributor B

Freenet

commit
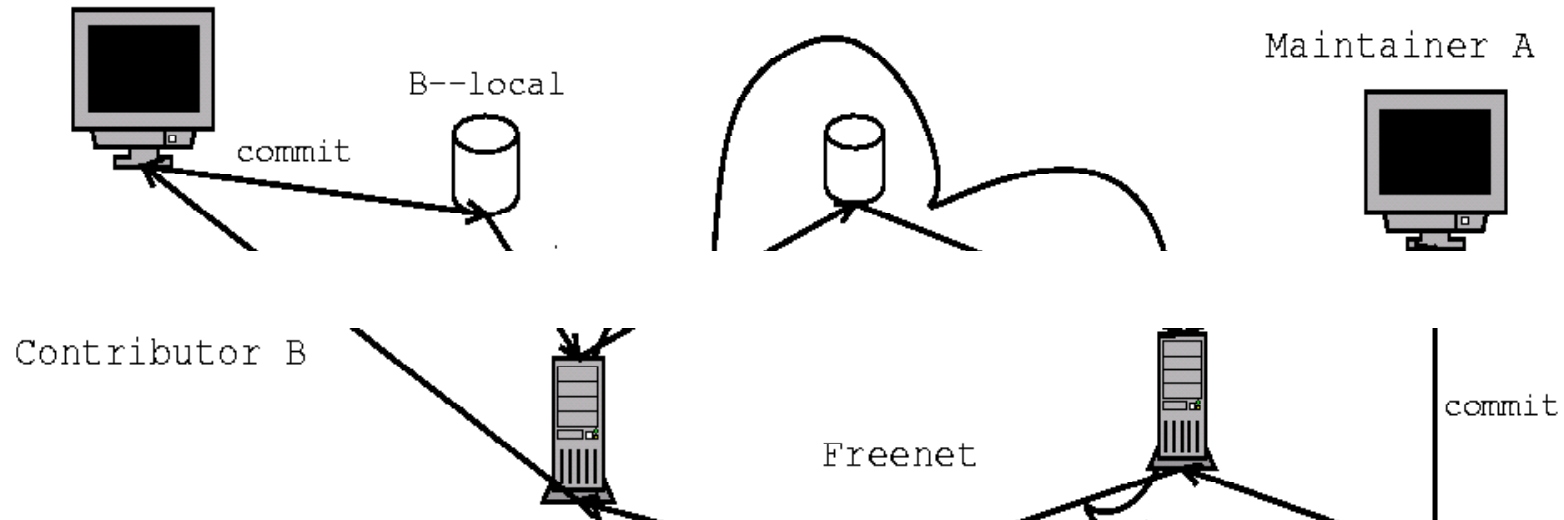
Does it work?

Well....

Does it work?

- **Technically, yes (mostly)**
    - **Support for large files (>4MB) still missing**

- **Suffers from current Freenet problems**
    - **Slow**
    - **Questionable reliability**

-> Not to be recommended for serious projects at this time

But:
- **Projects started with Arch can later be imported into freenet**

(Possible future alternative: DSD in Entropy)

Disclaimer

IANALAIDPOOTV

"I Am Not A Lawyer And I Don't Play One On TV"

Problem:
This is just a technical workaround for political problems!

-> Continue opposing stupid legislation & practice!

References

This project:
   http://www.unix-ag.uni-kl.de/~conrad/Archives/DSDiF/
   SSK@LCgWj0qabAqxUNKbfI93PCTH9RUPAgM/DSDiF/8//

General info on Freenet: **http://freenetproject.org/**
General info on Arch: **http://arch.fifthvision.net/**
European software patents: http://swpat.ffii.org/

Examples:
- **http://www.vnunet.com/News/1125109**
- **http://www.theregister.co.uk/content/archive/23633.html**
- **http://www.philzimmermann.com/**
- **http://www.wired.com/news/business/0,1367,48088,00.html**