Package Management Over Tor

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[1]The NetBSD Project

[2]XMM Swap Ltd

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About Myself

Member of the NetBSD project

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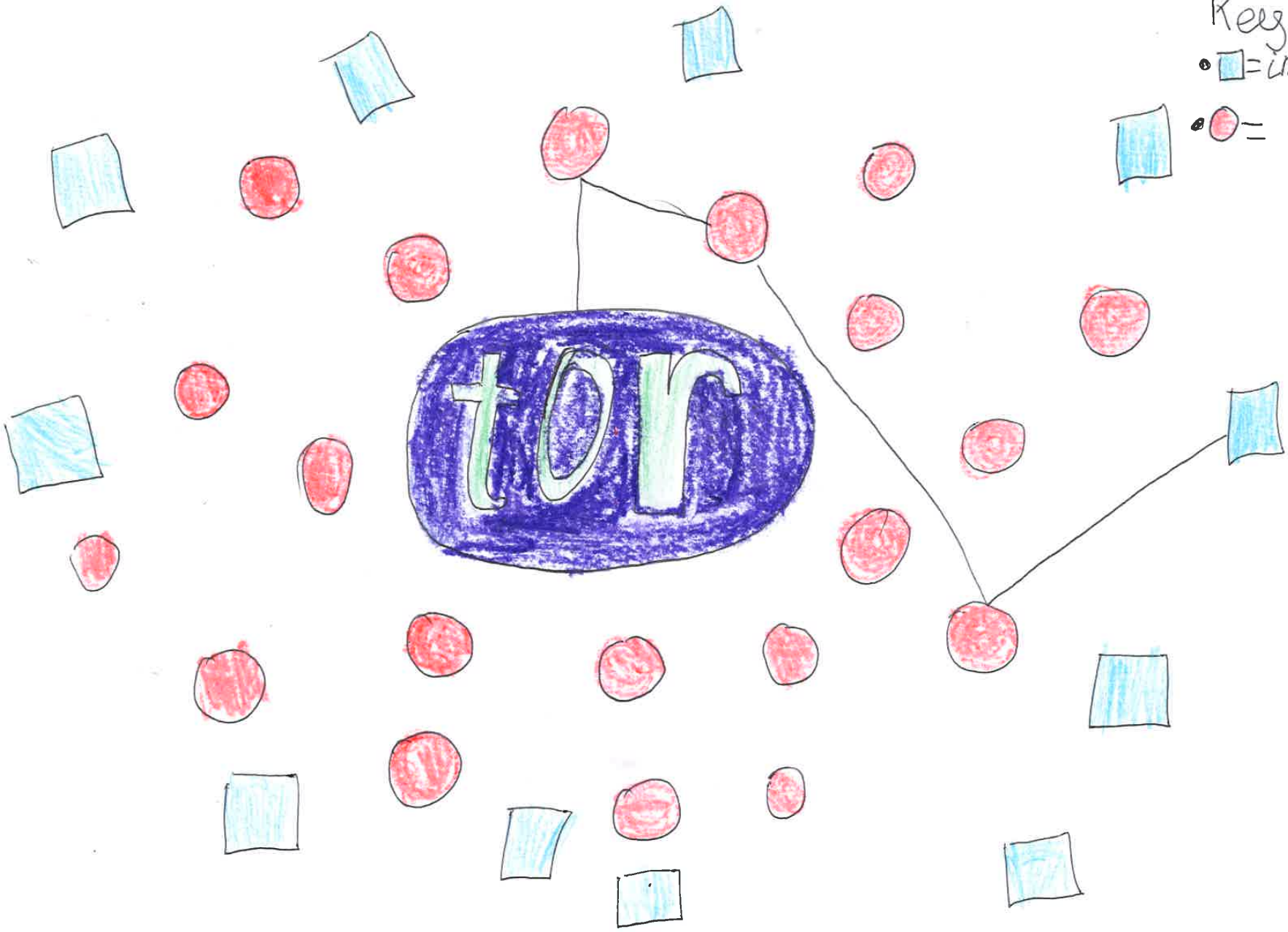
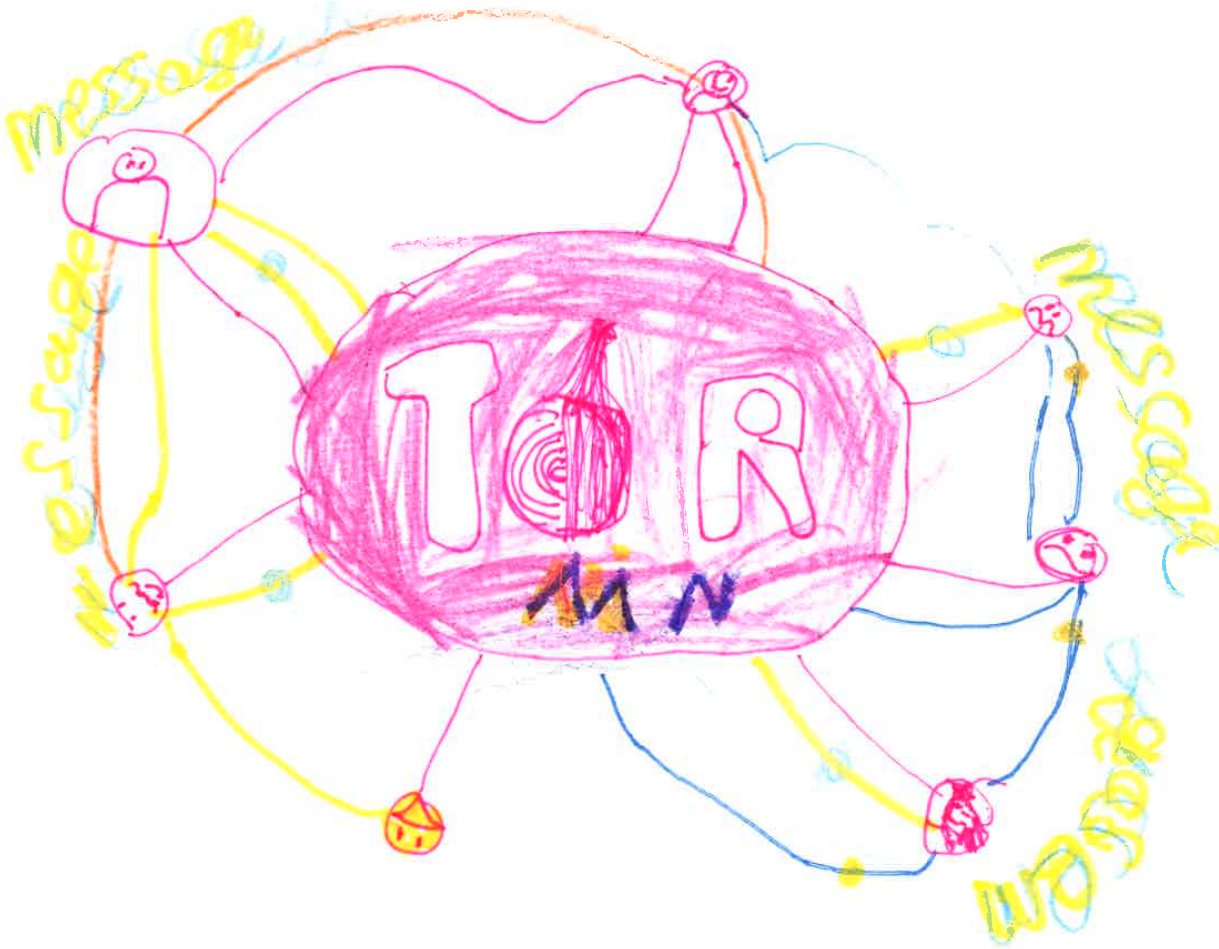
- Mini compilers and DSL


Key
□ = internet
○ =
tor


TOR

Why? (thread model)

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```
# /etc/apt/sources.list
deb  tor+http://vwakviie2ienjx6t.onion/debian          jess
deb  tor+http://vwakviie2ienjx6t.onion/debian          jess
deb  tor+http://sgvtcaew4bxjd7ln.onion/debian-security jess
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Non-standard tor+http uri scheme.

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Cross-platform package management system

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- Windows (!!!)

Overview

Prerequisites

- Ubuntu on Windows or Tails Live CD

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- Update binary packages

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apt update
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- Install packages for connecting over tor

```
apt install curl
apt install socat
```

Clone pkgsrc: connections over ssh

- Add ProxyCommand to you your ssh_config file

```
# ~/.ssh/config file
Host *.NetBSD.org, *.onion
 ProxyCommand /usr/bin/socat STDIO \
        SOCKS4A:127.0.0.1:%h:%p,sockport=9150
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- On Tails, you can use netcat

```
Host *.NetBSD.org, *.onion
 ProxyCommand /usr/bin/nc -X 5 -x 127.0.0.1:9150 %h %p
```

Clone pkgsrc: CVS or Git

Official anon CVS:

```
export CVS_RSH=ssh
export CVSROOT=anoncvs@anoncvs.NetBSD.org:/cvsroot
cvs co pkgsrc
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Mirror on github:

```
# if you have a github account
git clone --depth 1 git@github.com:/NetBSD/pkgsrc.git
```

Bootstrap pkgsrc: mk-fragment

```
MAKE_JOBS=4
PREFER_PKGSRC=yes
UPDATE_TARGET=package-install
DEPENDS_TARGET=package-install

PKGSRCDIR=${HOME}/pkgsrc

FETCH_USING=curl
FETCH_PROXY=socks4a://127.0.0.1:9150
#PREFER_NATIVE=curl

MASTER_SITE_OVERRIDE= \
    http://pkgsrcbadj4vrrrr.onion/pub/pkgsrc/distfiles/
```

Bootstrap pkgsrc: optional hardening

Use only if you know what you're doing.

```
PKGSRC_MKPIE=yes
PKGSRC_USE_RELRO=full
PKGSRC_USE_SSP=strong
PKGSRC_USE_FORTIFY=strong
```

Bootstrap pkgsrc

```
cd pkgsrc/bootstrap
env SH=/bin/bash \
./bootstrap --unprivileged \
            --prefix=${HOME:?}/pkg \
            --mk-fragment=/tmp/mk-fragment
```

Build essential packages

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```
cd pkgsrc/pkgtools/digest
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- curl - for downloading over the SOCKS protocol

```
cd pkgsrc/www/curl
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- pkgtools/pkgdepgraph - show dependency graphs
- graphics/graphviz - graphs in various formats (pdf, svg)

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- Configure and start a new hidden service
- Start a web server to host binary packages
- Remove some packages
- Install some new packages

References

Official project sites:

- https://www.pkgsrc.org
- https://www.NetBSD.org

My stuff:

- http://pkgsrcbadj4vrrrr.onion
- https://www.xmmswap.com