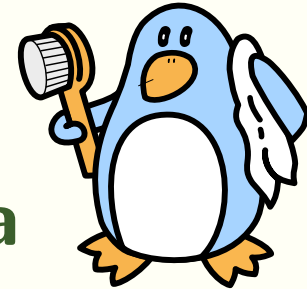




# GNU Linux-libre and the prisoners' dilemma



<http://linux-libre.fsfla.org/>

Alexandre Oliva <[lxoliva@fsfla.org](mailto:lxoliva@fsfla.org)>

Twister, Pump.io: @lxoliva

<http://www.fsfla.org/~lxoliva/>

Copyright 2009-2015 FSFLA (last changed November 2015)

This work is licensed under the [Creative Commons BY-SA 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

<http://www.fsfla.org/svn/fsfla/site/blogs/lxo/pres/linux-libre/>

<http://www.fsfla.org/blogs/lxo/pub/linux-libre>

## Summary

- History
- “Be Free!” campaign
- Liberating Linux (again)
- Next steps
- Adoption
- Challenges

## History

1983 GNU

1991 Linux (non-Free)

1992 Linux (GNU GPLv2), Yggdrasil Linux/GNU/X

1996 Blobs in Linux (non-Free again)

2006 gNewSense: `find-firmware` and `gen-kernel`

2007 BLAG: `deblob` and Linux-libre

2008 FSFLA: `deblob-check`

2012 **GNU** Linux-libre

# Be Free!

- Promoting Free Software?
- Promoting Software Freedom!
- Social responsibility

*You must **be** the change you wish to see in the world.*

Mahātmā Mohandas Karamchand **Gandhi**

*The more people resist [non-Free Software],  
the more people will be Free, and  
the more people will be free to be Free.*

Free Software Foundation Latin America

<http://fsfla.org/se-libre/>

## But how could we “Be Free”?

- GNU et al are Free, but Linux isn't!
- Code without sources, various licenses



*This [GPLed] file contains firmware data derived from **proprietary unpublished source code**, Copyright (c) 2004, 2005, 2006, 2007 [vendor] Permission is hereby granted for the distribution of this firmware data in hexadecimal or equivalent format, [...]*

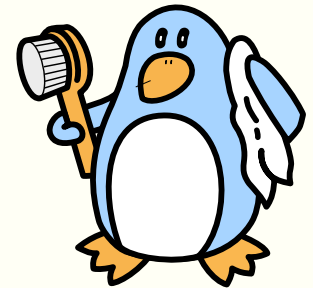
Network driver, 100+Kb of actual binary executable code

*Notwithstanding the [GPLv2 terms] above, under no circumstances may you combine this software in any way with any other [vendor] software provided under a license other than the GPL, [...]*

2008's network driver **from the same vendor**, 300Kb “data”

## Liberating Linux

- Clean up all that doesn't serve (the user):
  - Sourceless code
  - Incompatibly-licensed portions
  - Requests for non-Free Software
  - Documentation that recommends it
  - Incomprehensible code/data?
- **“Holy”** Free systems



## Liberating Linux

- Shell scripts `deblob-*`
- `-main`: `Untar`, `deblob-4.*`, `tar`, `xdelta`, `gpg`
- `-4.*`: `deblob-check -d` known files, `adjust`
- `-check`: hunts and kills blobs
  - Source files, patches and tarballs
  - Heuristically recognize suspected blobs
  - Leave alone known false positives
  - Recognize known unsuitable sequences

## Next steps

- Integrate in `deblob-check`:
  - Generic substitutions
  - List of files to clean
- Compatible but clean git history
- Support dynamically loading blobs
  - But not inducing their use!
  - Unidirectional cryptographic hashes?

**Help?** <[linux-libre@fsfla.org](mailto:linux-libre@fsfla.org)>



## I want GNU Linux-libre!

- Source tarballs tracking upstream Linux
  - `linux-libre-4.*-gnu*.tar.lz`
- Binary builds
  - Freesh, Freeloong, Freed-ora (BLAG)
  - LibrePlanet, rt, Freedom Shoppe
  - DeCentOS! Huru-buntu? Freed-ebian?
  - Several distros (next page)

**Help?** <[linux-libre@fsfla.org](mailto:linux-libre@fsfla.org)>

## Adoption

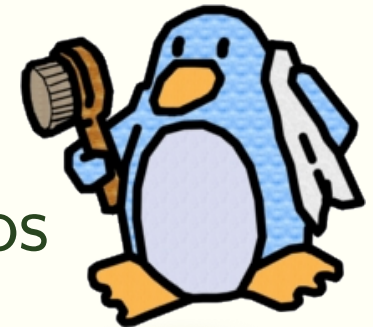
- gNewSense, BLAG, FREEEEEE
- Trisquel, Venenux, Dragora GNU/Linux
- Parábola, Dyne:bolic, [gnu.org/distros](http://gnu.org/distros)
- VegnuX NeonatoX, ConnochaetOS
- Kongoni, Tlamaki, RMS, Amagi
- Ututo, Musix GNU+Linux
- Gentoo, Arch, Ubuntu, Debian?, **you?**

## Challenges

- Distros want/need popularity
- Blobs attract more users?
- Incentive to betray users, weaken communities
- Prisoners' dilemma, iterated
- Defection feeds the aggressors
- Tragedy of the commons

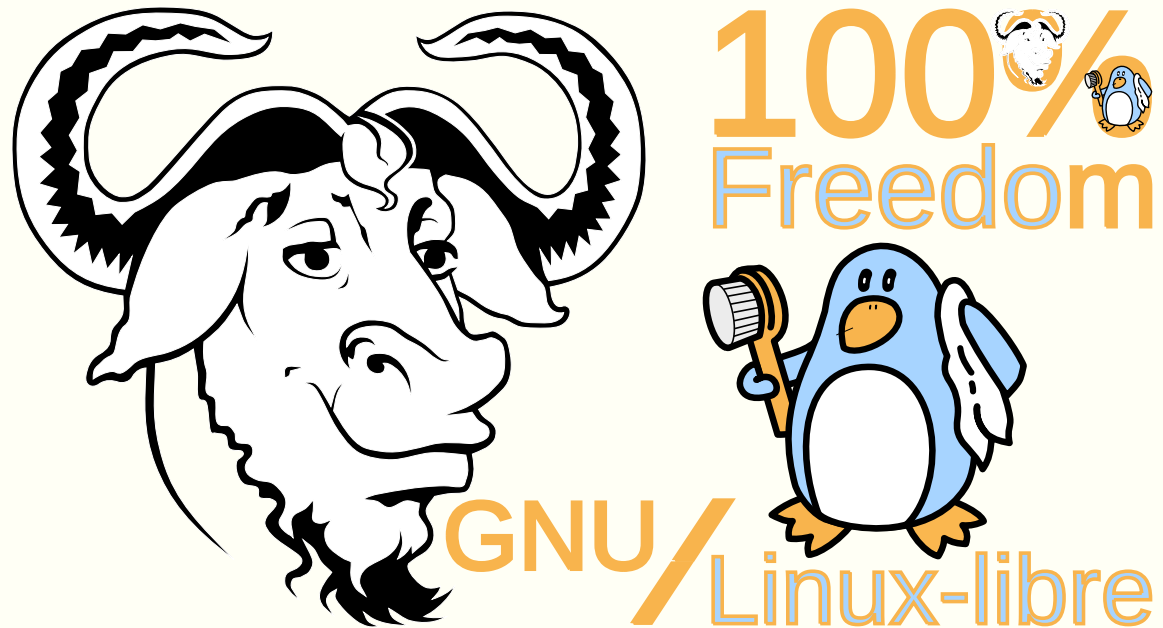
## How can we change this picture?

- Break the myth of breakage
- Lead by example, “**Be Free!**”
- Educate users, to shift the incentives
- Seek credible commitment among distros
- Take it upstream, uphill?



**Suggestions?**

**Thank you!**



Twister, Pump.io: @lxoliva

<http://linux-libre.fsfla.org/>

<irc://irc.gnu.org/#linux-libre>