



Power TUNA

What is TUNA?
who & what powers TUNA?



What is TUNA?



TUNA means

Former

Tsinghua University Network Administrators

清华大学网管会



Tsinghua University TUNA Association

清华大学 TUNA 协会



TUNA provides awesome services



开源镜像站 

多快好省



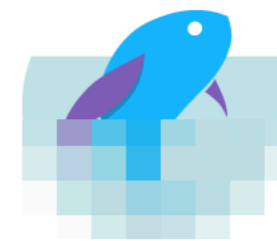
DNS666 

101.6.6.6 / 2001:da8::666



网络授时 

准时准点



鱼屋 

一起聊天



直播 

TUNA TV



弹幕 

互动演讲



活动日历 

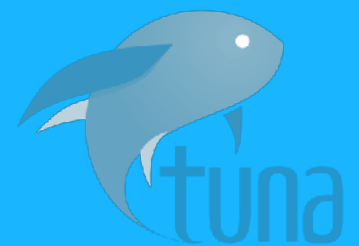
不要错过活动

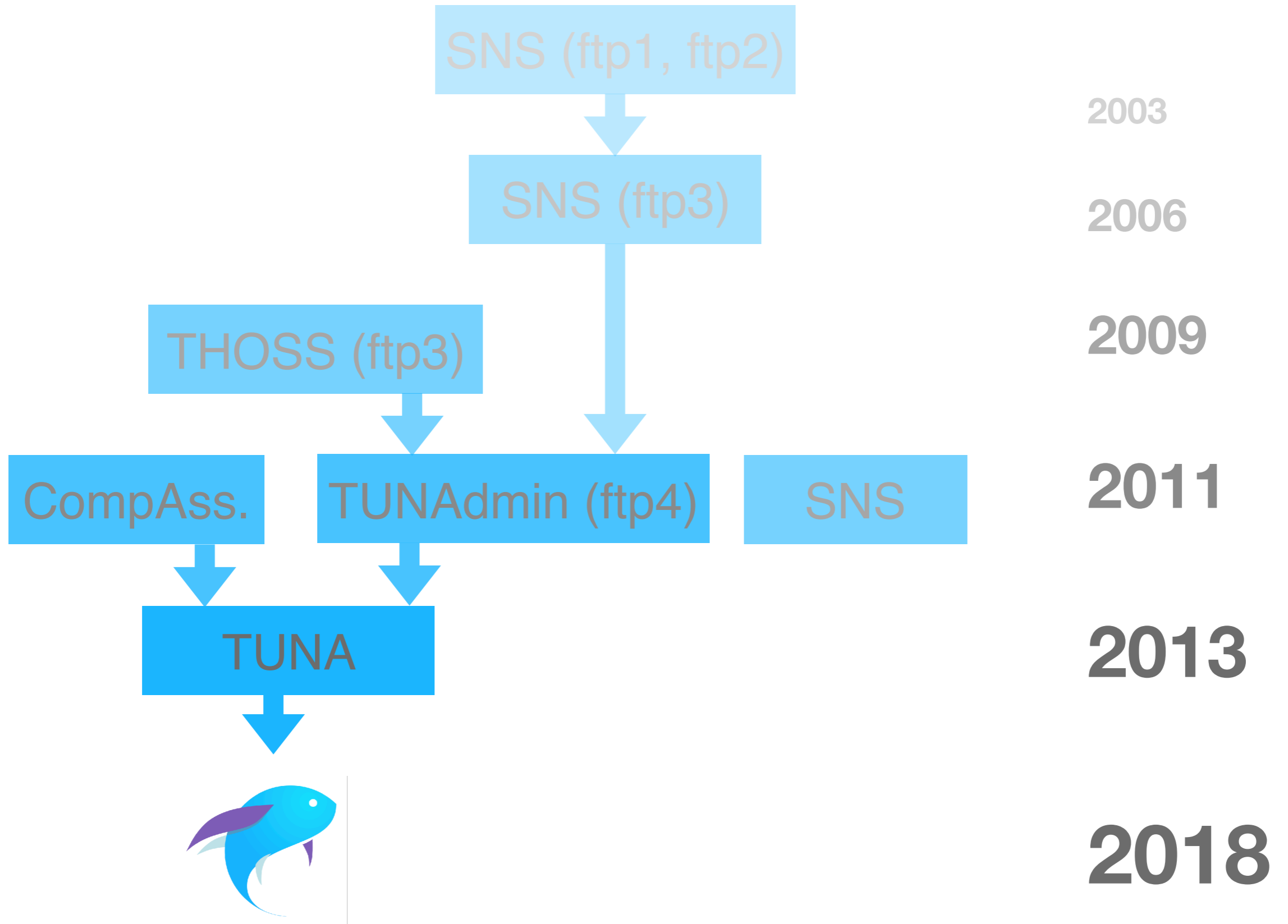


Issues 

Bug 提交/意见反馈

TUNA, a history





SNS (2003)

发信人: yeshao, 信区: Linux

标 题: ftp.tsinghua.edu.cn开始提供服务

发信站: BBS 水木清华站 (Thu May 29 08:27:06 2003), 转信

[关于本站]

本站点由清华大学建立并维护，以服务于教育和科学研究为目地，
面向但不仅限于清华大学的网络用户，提供相关数据、资料、软
件等电子文件的下载服务。

本站倡导并推广开源软件文化，提供开源、免费系统及其应用软
件的下载。本站努力追求原发数据的有效性和转发数据的完整性。
在使用本站提供的数据、资料及软件时，请遵守其发行时所附带
的许可证的要求。

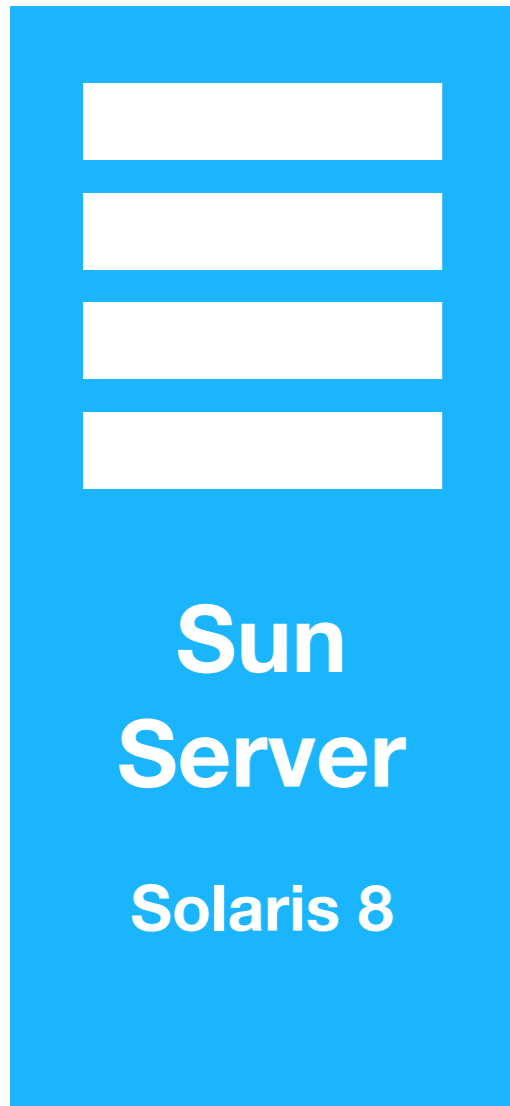
=====

web页面正在加紧建设中，现在可以浏览一些镜像的web
<http://ftp.tsinghua.edu.cn/mirror.html>
可以从世界各地访问到，:)

yeshao, Hansen, Wanzheng, trueice, youngcow



ftp.tsinghua.edu.cn (2003)



sync.sh
crontab



yeshao, Hansen, Wanzheng, trueice, youngcow

FTP3.tsinghua.edu.cn (2006)



yeshao, Hansen, Wanzheng, trueice, youngcow

网管会简介

- 清华大学学生宿舍网络管理委员会
- 缩写和标志:

SNS=Student Network Service 
- 隶属于校团委成才信息中心
- 受到网络中心的大力支持
- 与物业中心等其他相关部门联系密切

2007-10-27

THOSS (2009)

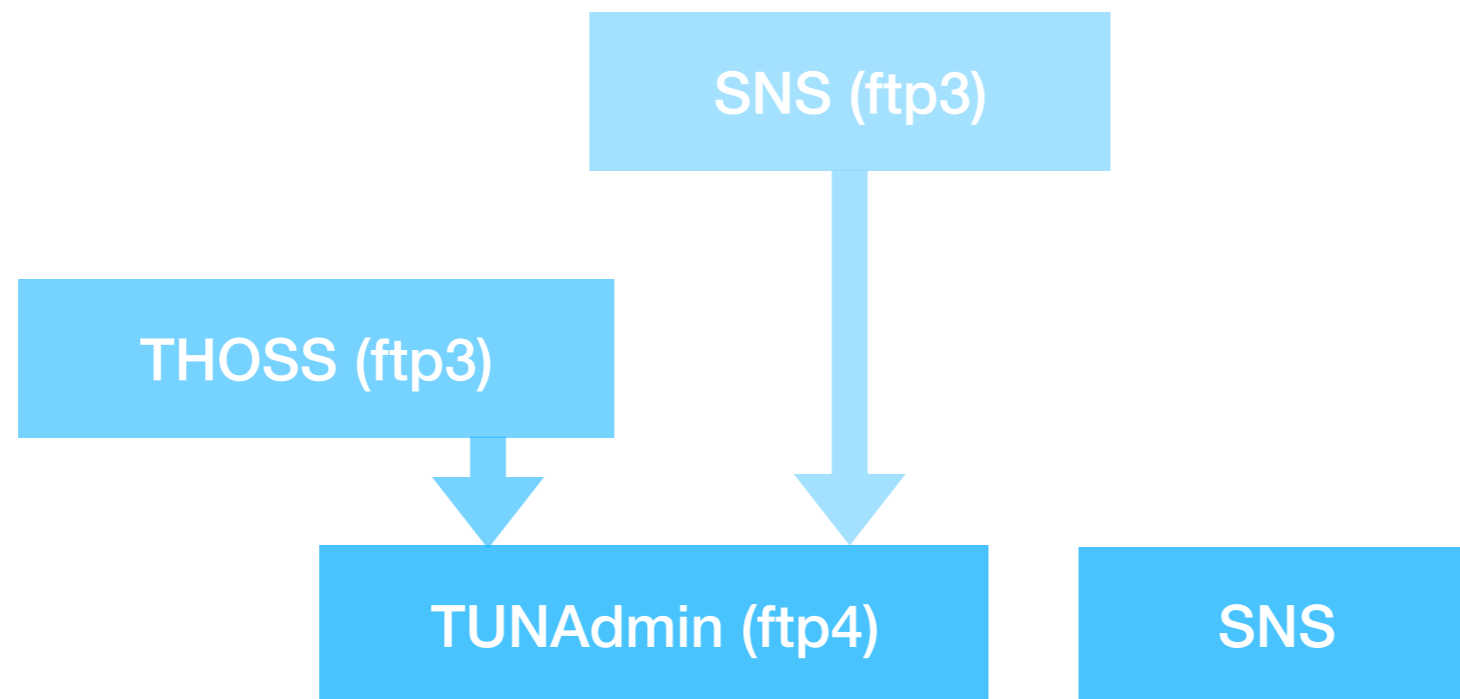
清华开源软件俱乐部

```
*发信人: heroxbd (英雄辛巴达), 信区: LinuxApp*  
*标 题: Re: 刚整理了一下ftp3*  
*发信站: 水木社区 (Sun Jan 18 02:50:09 2009), 站内*  
  
*fedora 只保留了 fedora 9 与 fedora 10*  
* 【 在 heroxbd (英雄辛巴达) 的大作中提到: 】 *  
*: 前段时间硬盘满了。 *  
*: ubuntu mirror hardy intrepid | i386 amd64*  
*: debian mirror etch lenny sid | i386 amd64*  
*: .....*
```

youngcow, heroxbd, kiiwii

TUNA (2011)

Tsinghua University Network Administrators



2006

2009

2011

xiaq, ...etc



ftp4.tuna.tsinghua.edu.cn (2011)



A blue rectangular graphic containing four white horizontal bars on the left side. To the right of these bars, the text "NF1300 Server" is displayed in white, followed by "2 TB x 2" in a larger white font.

NF1300
Server

2 TB × 2

yxd, heroxbd, aflyhorse, xiaq, cuckoo



Computer Ass.



scateu

Computer Ass. → TUNA

加入 TUNA 协会

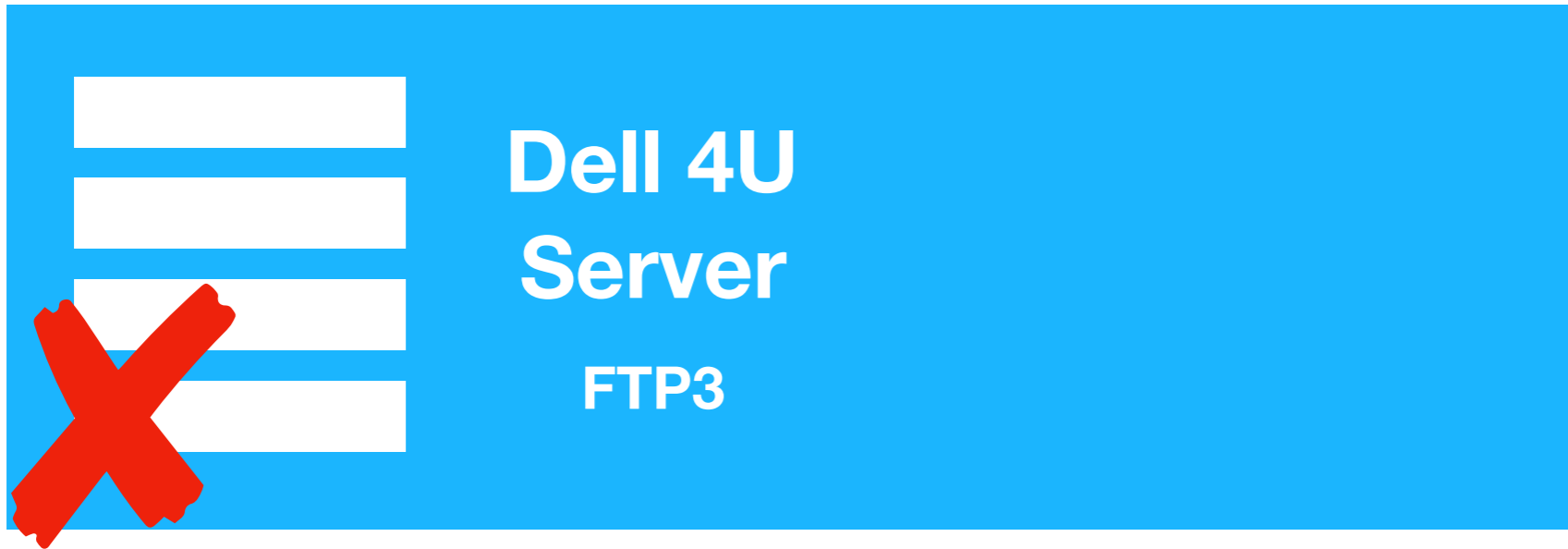
免校园网流量

下载 Ubuntu, TensorFlow™ 等 100 余种开源软件。

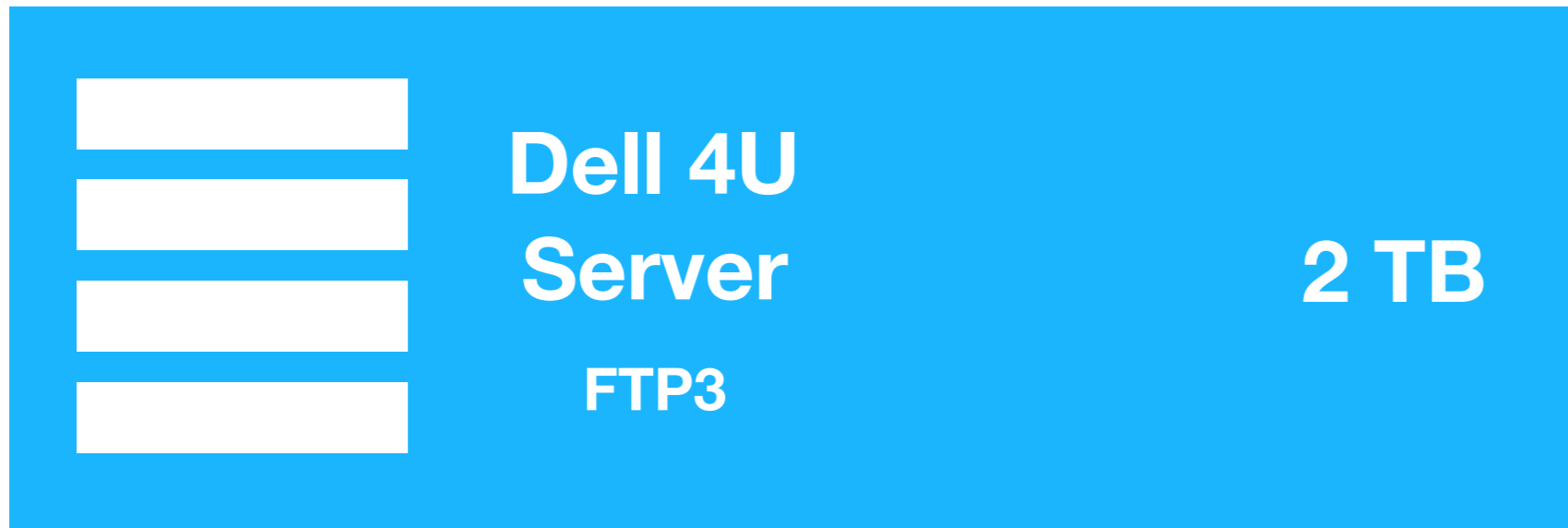
xavieryao、dotkrnl



TUNAdmin & CA → TUNA (2011)



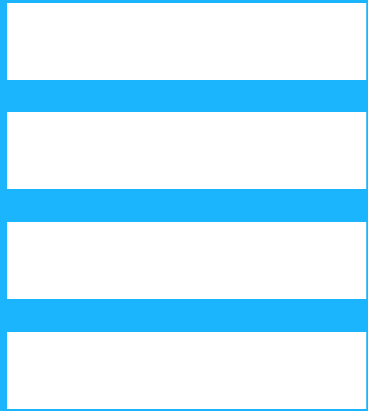
TUNAdmin & CA → TUNA (2011)



yxd、heroxbd、aflyhorse、xiaq、cuckoo、aflyhorse、byvoid



TUNAdmin & CA → TUNA (2011)



**Dell 4U
Server**
FTP3

2 TB

solar



NF1300
FTP4

4 TB

galaxy

yxd、heroxbd、aflyhorse、xiaq、cuckoo、aflyhorse、byvoid




TUNA (2013)



**Dell 4U
Server**
FTP3

2 TB

solar



NF1300
FTP4

4 TB

galaxy

TUNA (2013)




**Dell 4U
Server**
FTP3

2 TB




solar




NF1300
FTP4

4 TB



galaxy



清华大学开源镜像站即将被关停 (2013)

被迫迁移，四海为家

随着服务器得到越来越多的关注, 我们的 CERNET 出口仅有的 100Mbps 不堪重负.

2012 年 7 月, 由于原所在网段丢包严重, 带宽有限, 服务器被迁移到 DragonLab 中的一个虚拟机中. 虽然有了理论上的 1Gbps 的接入, 但是 CERNET 的网关出口一直不稳定, 处于疑似被封禁的状态. TUNET 的出口则被限速到 2Mbps。

2012 年 9 月, 我们的 4TB nfs 存储服务器被强行搬出机房, 前端服务器与存储服务器的通信链路非常不稳定, 导致大量软件源失效。

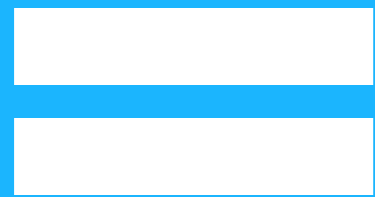
2013 年 1 月, 我们的前端服务器被迫迁出 DragonLab 放至原来所在旧镜像站 (ftp3.tsinghua.edu.cn) 的机房, 前端服务器与 nfs 存储之间的带宽进一步下降, 导致很多源 (如 debian, ubuntu, fedora, arch 等等) 陆续崩溃。

2013 年 3 月, 开源镜像站正式被下达限期下线迁移的通知。

<https://www.oschina.net/news/38492/mirrors-tsinghua-will-close>



TUNAssociation (2014)

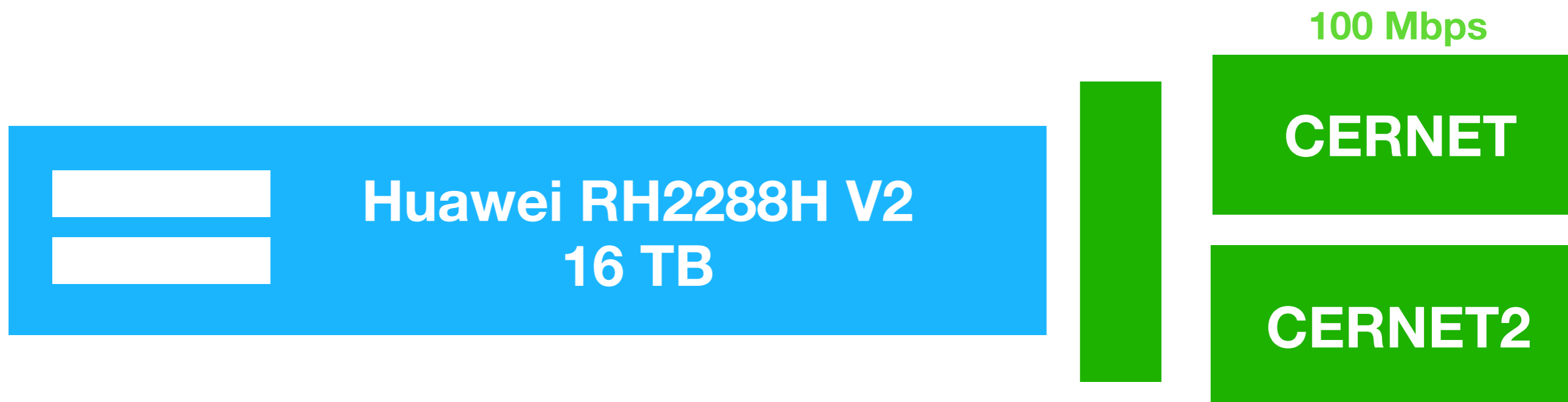


Huawei RH2288H V2
16 TB

bigeagle、huiyiqun、hzhang



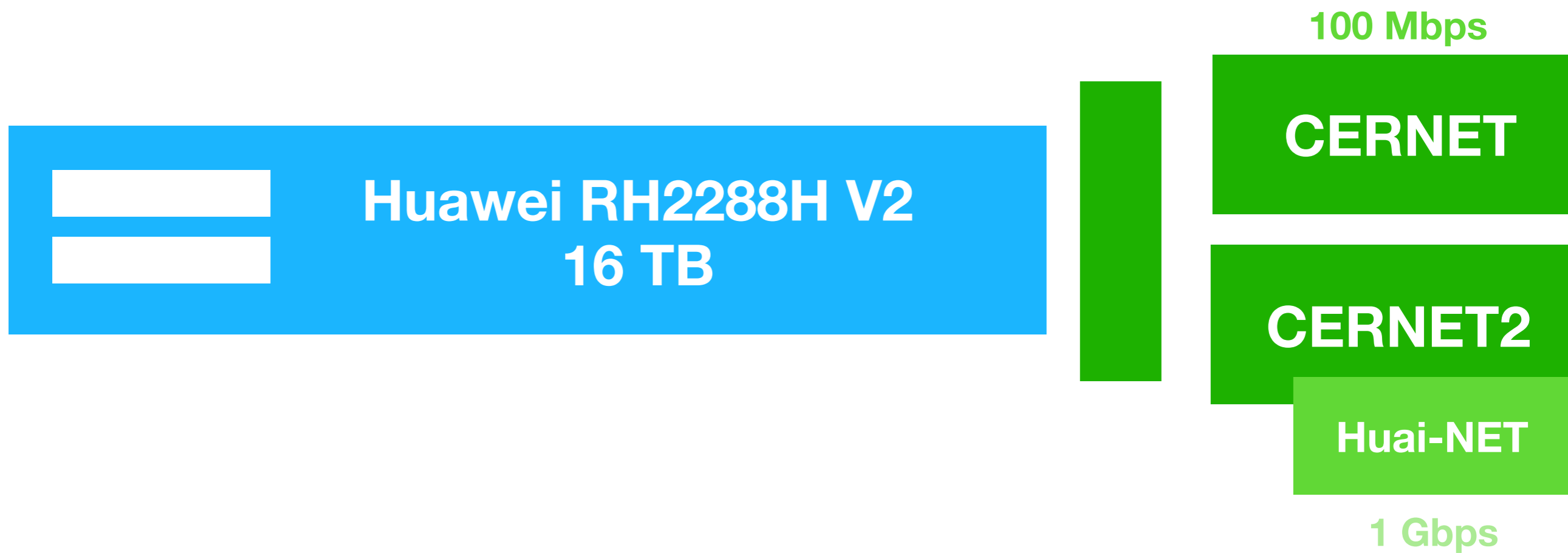
TUNAssociation (2014)



bigeagle、huiyiqun、hzhang、ram、dotkrnl



TUNAssociation (2015)



bigeagle、huiyiqun、hzhang、ram、dotkrnl、shankerwangmiao



TUNAssociation (2017)

 **Neomirrors**

 **Nanomirrors 35 TB**

 **Alfa**

 **Bravo**



4 Gbps

TUNET

CERNET2

bigeagle、huiyiqun、dotkrnl、youngcow
shankerwangmiao、happyaron、xavieryao、etc...



mirrors.tuna.tsinghua.edu.cn (current)

nanomirrors.tuna.tsinghua.edu.cn

 **HP Server** 11 × 10 TB SAS

 **HP Server** 11 × 10 TB SAS

neomirrors.tuna.tsinghua.edu.cn

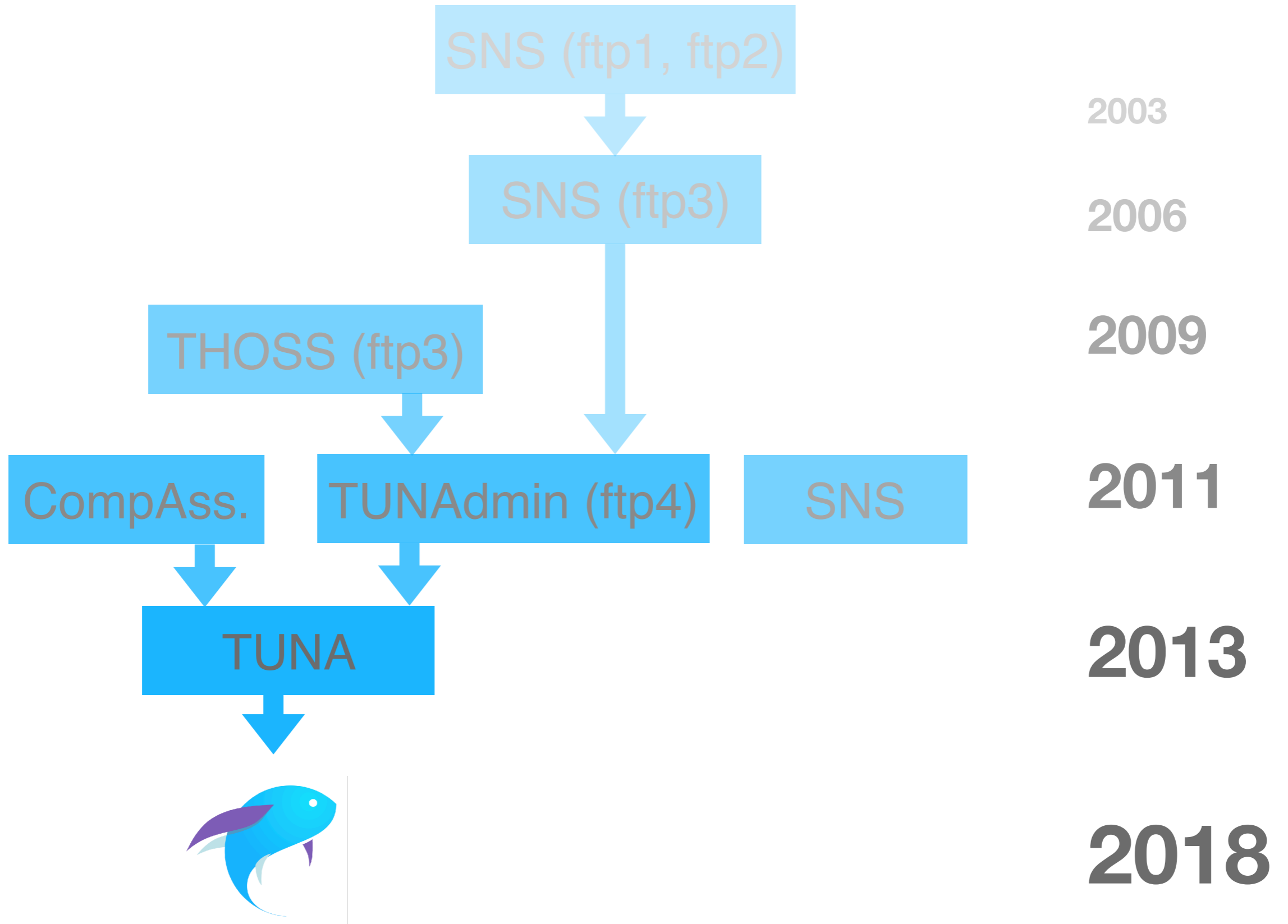
**H3C M9K
LB**

40 Gbps

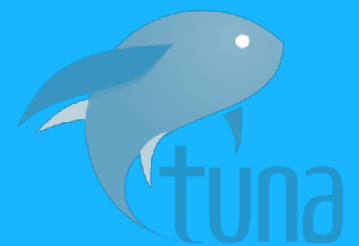
TUNET

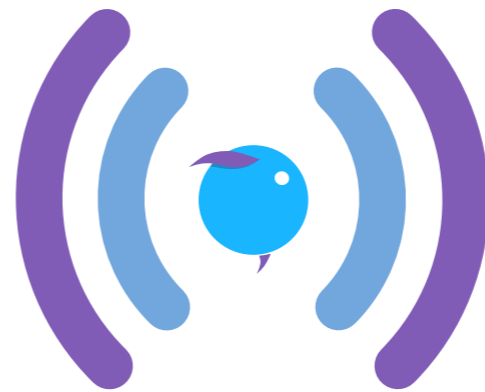
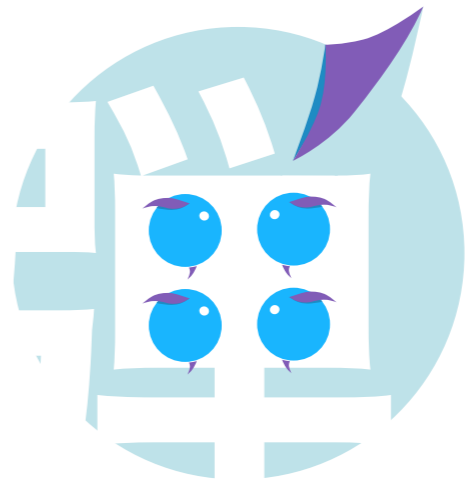
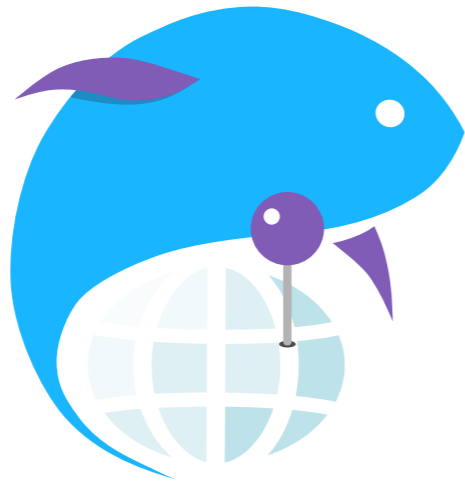
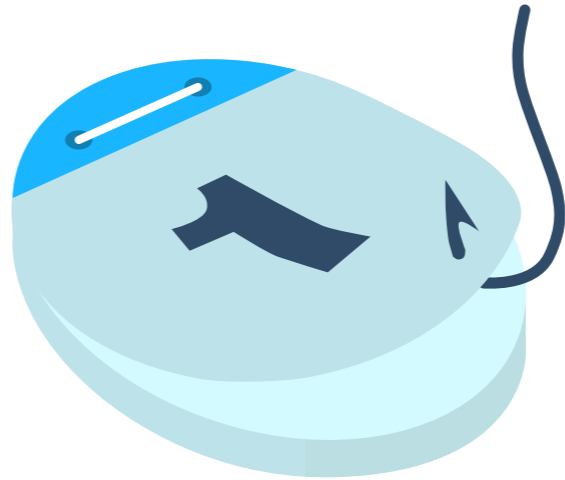
shankerwangmiao, bigeagle, huiyiqun, dotkrnl, youngcow,
happyaron, harrychen, jiegec, xavieryao, etc...

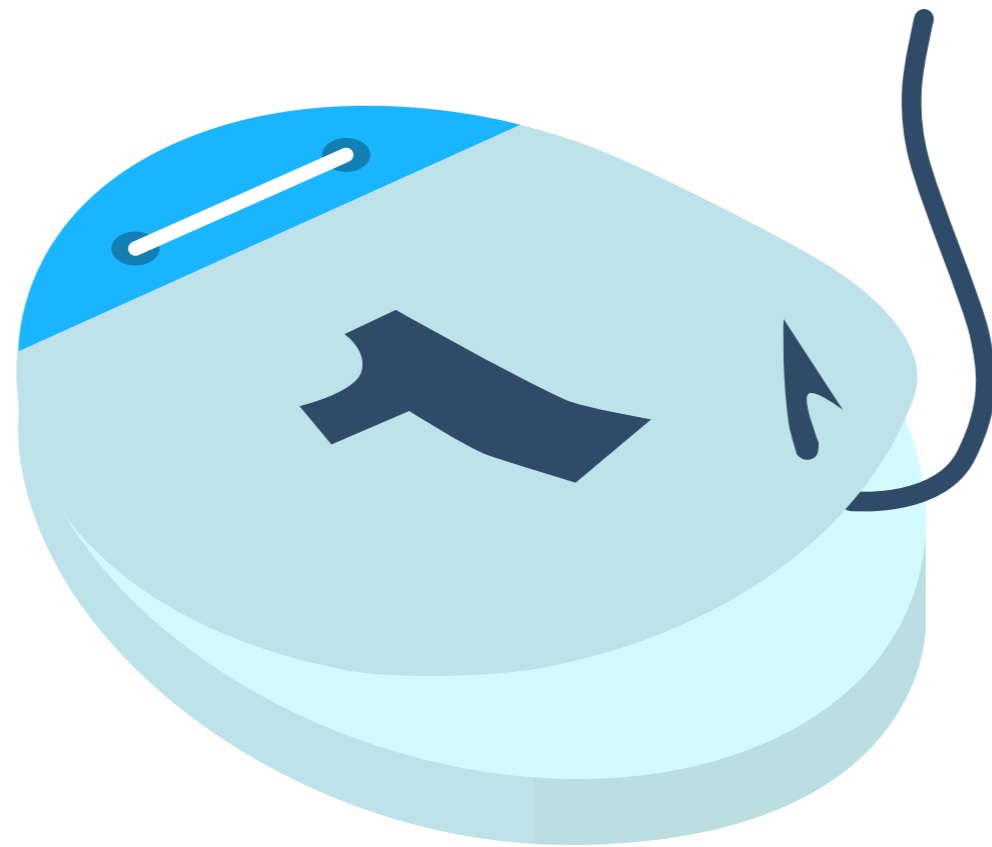




What Powers TUNA?







Tunights Power TUNA



Tunights Power TUNA

已进行

演讲者	话题	时间
王康	互联网的乌托邦时代	2018年3月3日(星期六) 19:00
陈晟祺	非对称密码系统及PGP	2018年3月10日(星期六) 19:00
曹焕琦	.Net 生态	2018年3月17日(星期六) 19:00
汪彧之	机器学习 101	2018年3月24日(星期六) 19:00
陈嘉杰	Emacs 操作系统导论	2018年3月31日(星期六) 19:00
于宜冰	个人计算机早期发展史	2018年4月14日(星期六) 19:00
续本达	Entropy:混乱之治	5月12日 19:00
王雨田	Plan/9 操作系统	5月19日 18:30



TUNA Talks Power TUNA



TUNA Events Power TUNA



TUNA Events Power TUNA



bigeagle: 今天我们给大家带来了好多贴纸，有 TUNA 的，有 BLUG 的，有 USTC 的...

Chris: 大家好我是来自 Debian 社区的! 我也带来了Debian的贴!纸!

bigeagle: Chris 你看这个王羲之的贴纸送给你。(展卷轴)

bigeagle: 你看这幅字上面有好多印章了没，是 ancient chinese 在开 signing party ...

Chris: woc.

Debian 9 Release Party



TUNA Events Power TUNA



TUNA Events Power TUNA



TUNA @ LinuxCon China



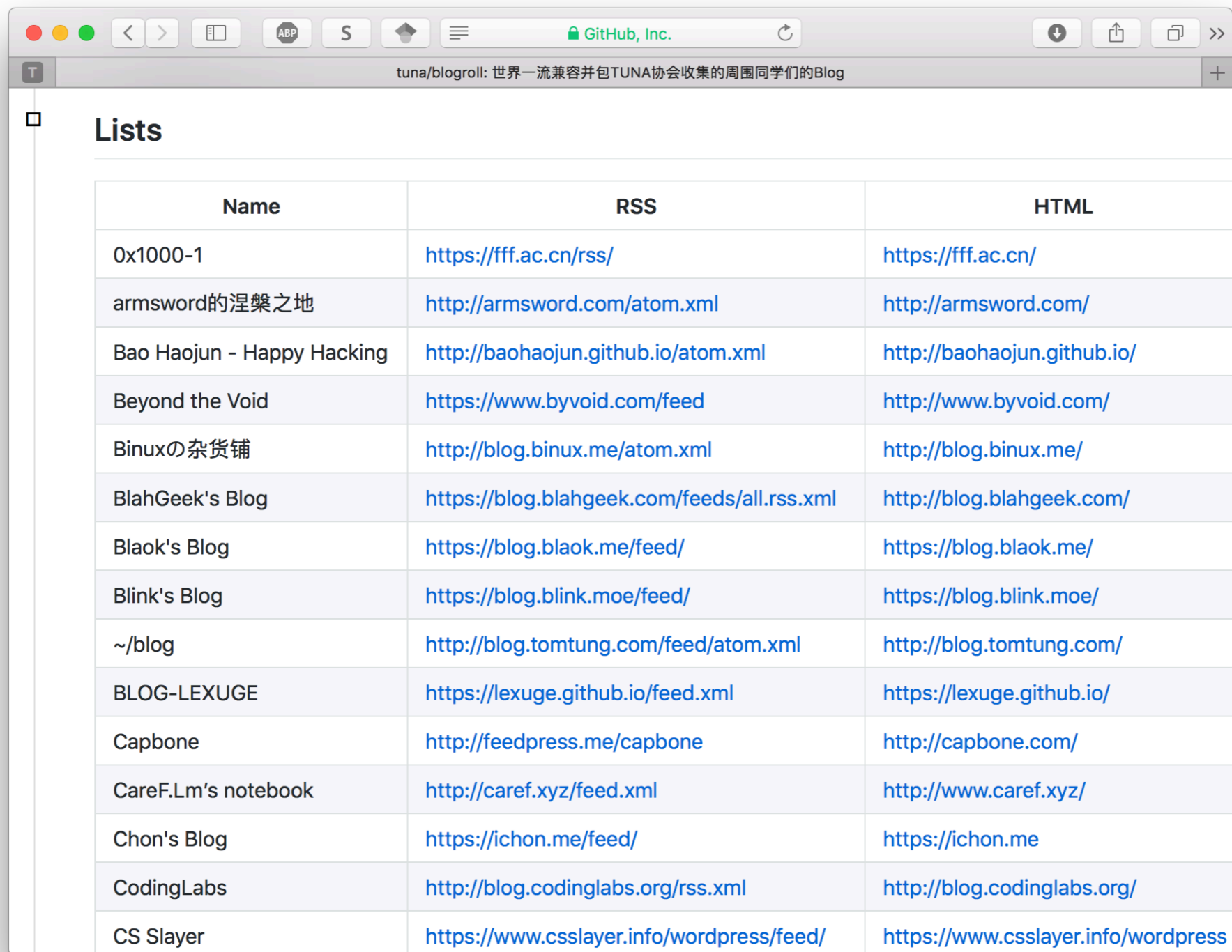
TUNA Events Power TUNA



TUNA x SUSTech LUG



TUNA Collection Powers TUNA



The screenshot shows a web browser window with the address bar displaying "tuna/blogroll: 世界一流兼容并包TUNA协会收集的周围同学们的Blog". The page content is titled "Lists" and contains a table with three columns: "Name", "RSS", and "HTML". The table lists various blogs and their corresponding RSS and HTML links.

Name	RSS	HTML
0x1000-1	https://fff.ac.cn/rss/	https://fff.ac.cn/
armsword的涅槃之地	http://armsword.com/atom.xml	http://armsword.com/
Bao Haojun - Happy Hacking	http://baohaojun.github.io/atom.xml	http://baohaojun.github.io/
Beyond the Void	https://www.byvoid.com/feed	http://www.byvoid.com/
Binuxの杂货铺	http://blog.binux.me/atom.xml	http://blog.binux.me/
BlahGeek's Blog	https://blog.blahgeek.com/feeds/all.rss.xml	http://blog.blahgeek.com/
Blaok's Blog	https://blog.blaok.me/feed/	https://blog.blaok.me/
Blink's Blog	https://blog.blink.moe/feed/	https://blog.blink.moe/
~/blog	http://blog.tomtung.com/feed/atom.xml	http://blog.tomtung.com/
BLOG-LEXUGE	https://lexuge.github.io/feed.xml	https://lexuge.github.io/
Capbone	http://feedpress.me/capbone	http://capbone.com/
CareF.Lm's notebook	http://caref.xyz/feed.xml	http://www.caref.xyz/
Chon's Blog	https://ichon.me/feed/	https://ichon.me
CodingLabs	http://blog.codinglabs.org/rss.xml	http://blog.codinglabs.org/
CS Slayer	https://www.csslayer.info/wordpress/feed/	https://www.csslayer.info/wordpress

<https://github.com/tuna/blogroll>

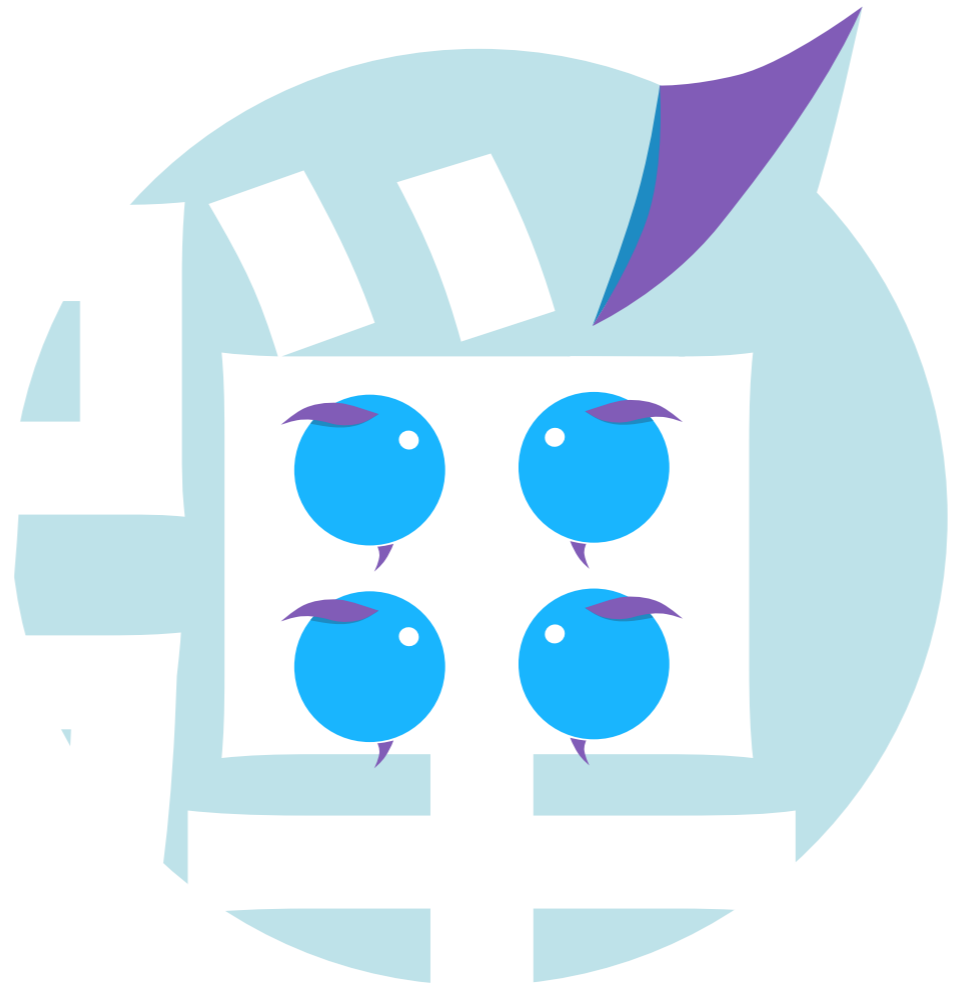


TUNA Collection Powers TUNA

Issue Title	Author	Issue ID	Opened Date	Opened By	Comments
TUNA的命名	duanzi	#139	Oct 21, 2017	scateu	2
会长跑路了	duanzi	#138	Sep 20, 2017	xavieryao	4
论为什么不能读博	duanzi	#137	Jun 27, 2017	gaoyichuan	0
libReboot	duanzi	#136	Jun 19, 2017	hosiet	1
终极贴纸	BuyBuyBuy, duanzi	#135	Jun 18, 2017	scateu	2
康哥的消息广播实现有bug	duanzi	#134	Jun 18, 2017	nicholascw	4
成为会长的必要条件	duanzi	#133	Jun 12, 2017	xavieryao	5
IPv4 和 IPv6 的区别	duanzi	#132	May 28, 2017	hexchain	12
SneakerNet	keng	#131	Apr 28, 2017	scateu	5
康哥家三个门铃的故事	duanzi	#130	Apr 25, 2017	xu9010	5
学术青年xavieryao	duanzi	#129	Apr 18, 2017	scateu	1
大鹰的键盘	duanzi	#128	Apr 18, 2017	scateu	5

<https://github.com/tuna/collection/issues>





gdanmaku

弹幕



Justin Wong
Tsinghua University TUNA Association

openSUSE Asia
Summit



北京 · 北京
2014.10.18-19



元首万岁

```
" Press ? for help
.. (up a dir)
/home/work/danmaq/
└─ danmaq/
  └─ __pycache__/
  └─ images/
  └─ __init__.py
  app.py
  config_dialog.py
  danmaq_ui.py
  settings.py
  tray_icon.py
└─ screenshots/
  cx_freeze.py
  danmaq.py*
  LICENSE
  README.md
  setup.py*
```

小王吧

小王吧

小王吧

```
82 self.config_dialog = QtWidgets.QDialog()
83 hbox.addWidget(QtWidgets.QLabel("Password: ", self))
84 self._passwd = QtWidgets.QLineEdit("", self)
85 hbox.addWidget(self._passwd)
86 layout.addLayout(hbox)
87
88 hbox = QtWidgets.QHBoxLayout()
89 self.config_button = QtWidgets.QPushButton("Preferences", self)
90 self.hide_button = QtWidgets.QPushButton("Hide", self)
91 self.main_button = QtWidgets.QPushButton("Subscribe", self)
92 hbox.addWidget(self.config_button)
93 hbox.addWidget(self.hide_button)
94 hbox.addWidget(self.main_button)
95 layout.addLayout(hbox)
96 self.setLayout(layout)
97
98 self.config_button.released.connect(self.config_dialog.show)
99 self.hide_button.released.connect(self.hide_dialog.show)
100 self.main_button.released.connect(self.subscribe_danmaq)
101 self.config_dialog.opened.connect(self.apply_new_preferences)
102 self.trayIcon.toggleAction.triggered.connect(self.subscribe_danmaq)
103 self.trayIcon.exitAction.triggered.connect(self.close)
104 self.trayIcon.showAction.triggered.connect(self.show)
105 self.trayIcon.configAction.triggered.connect(self.config_dialog.show)
106
107 self.workThread = None
108 self.dms = {}
109
```

小王吧 清华大学TUNA协会

小王吧

括号君我要给你生猴子

括号君我要给你生猴子 括号君我要给你生猴子

括号君我要给你生猴子

括号君我要给你生猴子

小王吧

大家好我是字幕





镜像列表

Name	Last Update
AOSP ?	2018-06-06 17:30
AUR ?	-
CRAN ?	2018-06-06 19:14
CTAN ?	2018-06-06 20:29
CocoaPods ?	2018-06-06 19:27
ELK	2018-06-06 10:39
HHVM	2018-06-06 17:59
NetBSD	2018-06-06 18:44
OpenBSD	2018-06-06 16:51 syncing
adobe-fonts	2018-06-06 19:56
alpine	2018-06-06 20:54
anaconda ?	2018-05-30 10:11 syncing
antergos	2018-06-06 20:28
anthon	2018-06-06 18:49
aosp-monthly	2018-06-06 20:44
apache	2018-06-06 20:17
arch4edu	2018-06-06 17:45
archlinux ?	2018-06-06 19:56
archlinuxarm	2018-06-06 20:17
archlinuxcn ?	2018-06-06 18:54
bananian ?	2018-06-06 08:17
bioconductor ?	2018-06-06 19:52
bjlx	2018-03-07 04:27 failed
blackarch	2018-06-06 20:30
centos ?	2018-06-06 17:54

新闻公告

- 2018-04-01 号外: 现推出“一键使用TUNA”服务
- 2018-02-27 镜像站扩容维护通知
- 2017-12-25 镜像站服务器故障通知

[more »](#)

域名选择

- <https://mirrors.tuna.tsinghua.edu.cn/> 自动选择
- <https://mirrors6.tuna.tsinghua.edu.cn/> 只解析 IPv6
- <https://mirrors4.tuna.tsinghua.edu.cn/> 只解析 IPv4

下载链接

常用发行版 iso 和应用工具安装包直接下载

[获取下载链接](#)

联系我们

- 意见反馈
<https://github.com/tuna/issues>
- 发送邮件
support@tuna.tsinghua.edu.cn
- 在线交流
#tuna at freenode

相关链接

- [使用帮助](#)
- [服务器状态](#)
- [同步状态](#)
- [清华大学 TUNA 协会](#)
- [镜像管理器源码](#)
- [自定义镜像脚本](#)

Oh My TUNA



```
> wget https://tuna.moe/oh-my-tuna/oh-my-tuna.py
# For yourself
> python oh-my-tuna.py
# ...or for everyone!
> sudo python oh-my-tuna.py --global
# Get some help
> python oh-my-tuna.py -h
```

CircuitCoder, jiegec, xavieryao, etc...

mirrors.tuna.tsinghua.edu.cn (current)

nanomirrors.tuna.tsinghua.edu.cn

 **HP Server** 11 × 10 TB SAS

 **HP Server** 11 × 10 TB SAS

neomirrors.tuna.tsinghua.edu.cn

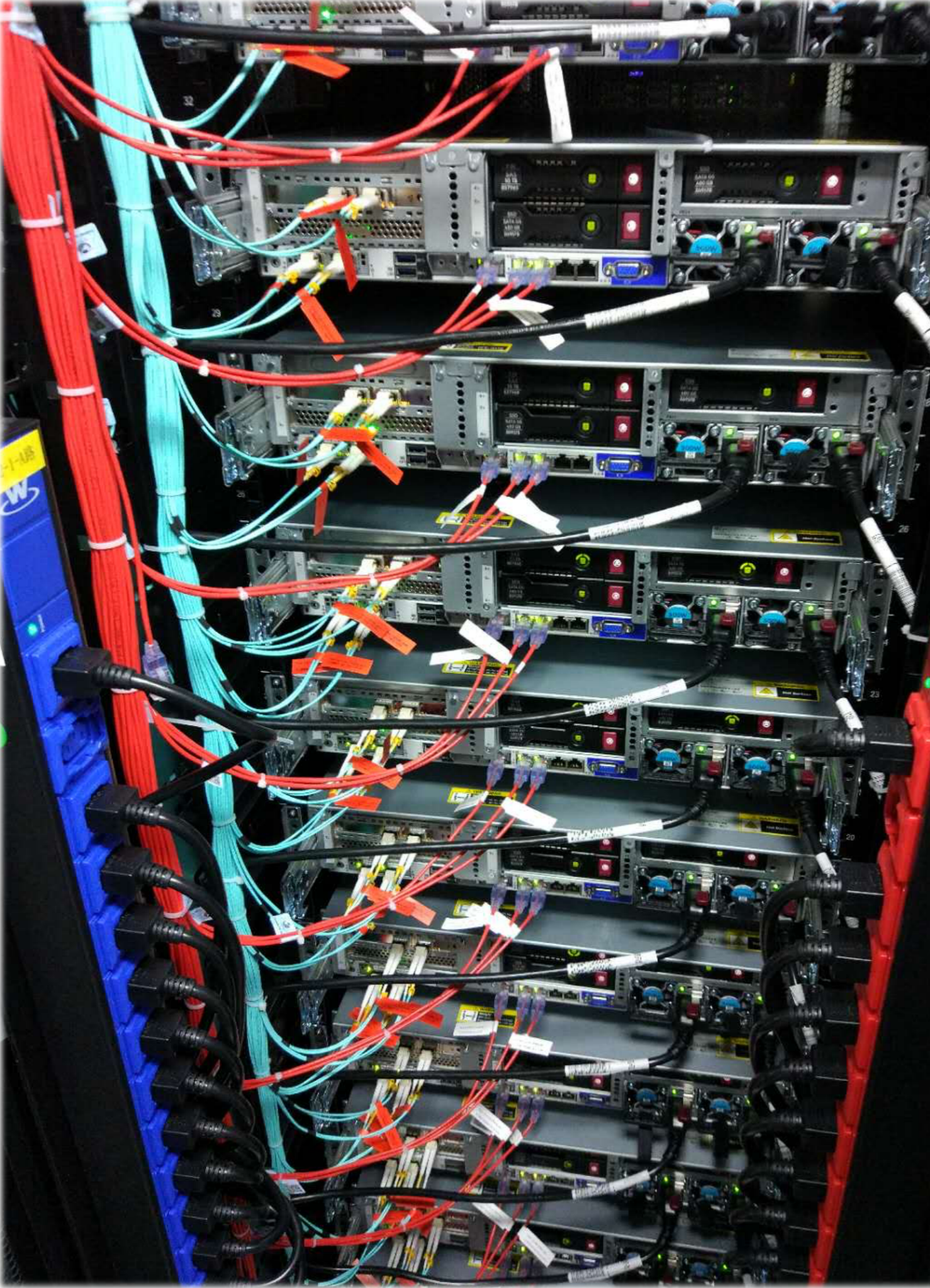
**H3C M9K
LB**

40 Gbps

TUNET

shankerwangmiao, bigeagle, huiyiqun, dotkrnl, youngcow,
happyaron, harrychen, jiegec, xavieryao, etc...





Storage

XFS

RAID 6



11 × 10 TB SAS

ZFS

RAID-Z



11 × 10 TB SAS



Rsync-huai (metadata cache)

Files on disk

```
$ ls -lhn mirrors/elvish |awk '{print $1,$2,$5,$9}'  
总用量 159M  
-rw-r--r-- 1 3.8M elvish-0.10.1-linux.tar.gz  
-rw-r--r-- 1 3.7M elvish-0.10.1-osx.tar.gz  
-rw-r--r-- 1 3.8M elvish-0.10-linux.tar.gz  
-rw-r--r-- 1 3.7M elvish-0.10-osx.tar.gz  
-rw-r--r-- 1 3.0M elvish-0.1-linux.tar.gz  
-rw-r--r-- 1 2.6M elvish-0.1-osx.tar.gz  
-rw-r--r-- 1 3.1M elvish-0.2-linux.tar.gz  
-rw-r--r-- 1 2.7M elvish-0.2-osx.tar.gz
```

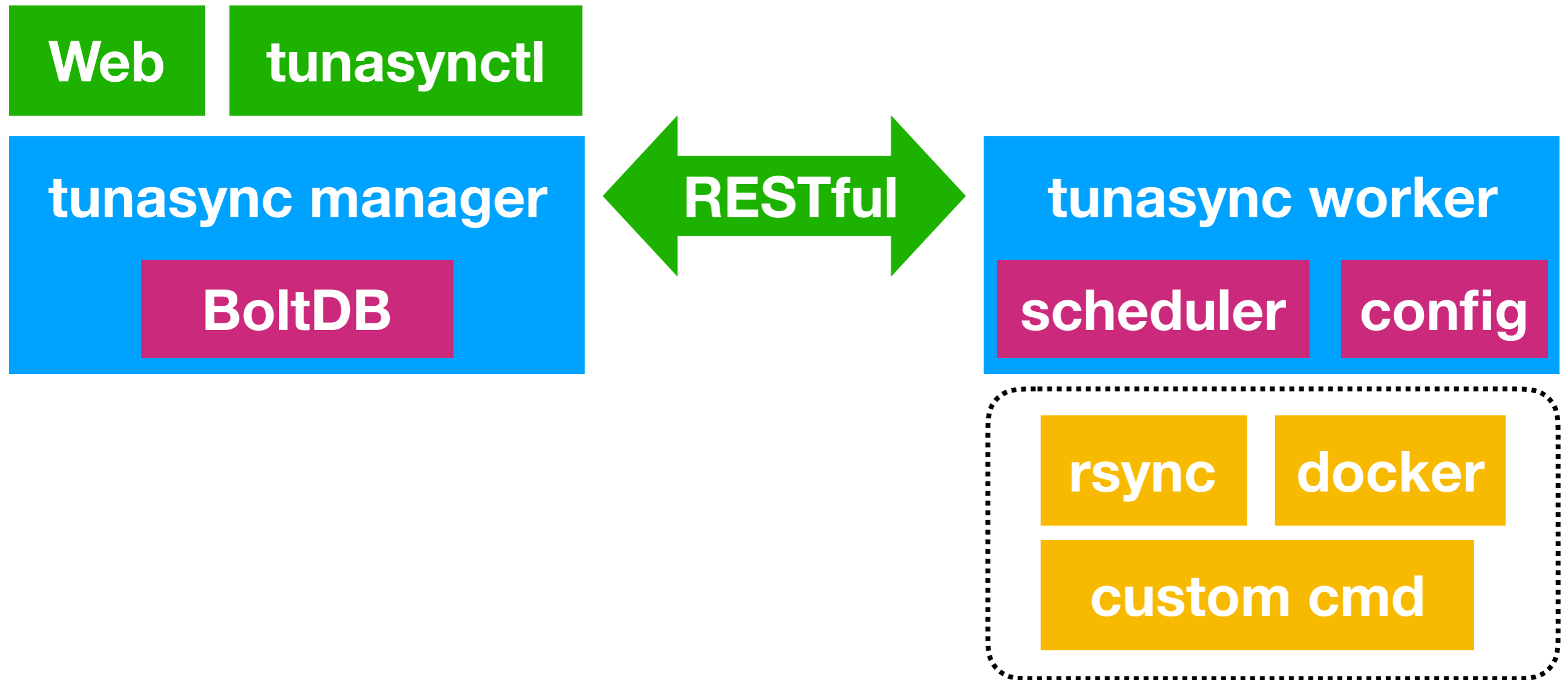
Shadow files in tmpfs

```
$ ls -lhn mirrors-attrs/elvish |awk '{print $1,$2,$5,$9}'  
总用量 184K  
-rw-r--r-- 1 8 elvish-0.10.1-linux.tar.gz  
-rw-r--r-- 1 8 elvish-0.10.1-osx.tar.gz  
-rw-r--r-- 1 8 elvish-0.10-linux.tar.gz  
-rw-r--r-- 1 8 elvish-0.10-osx.tar.gz  
-rw-r--r-- 1 8 elvish-0.1-linux.tar.gz  
-rw-r--r-- 1 8 elvish-0.1-osx.tar.gz  
-rw-r--r-- 1 8 elvish-0.2-linux.tar.gz  
-rw-r--r-- 1 8 elvish-0.2-osx.tar.gz
```

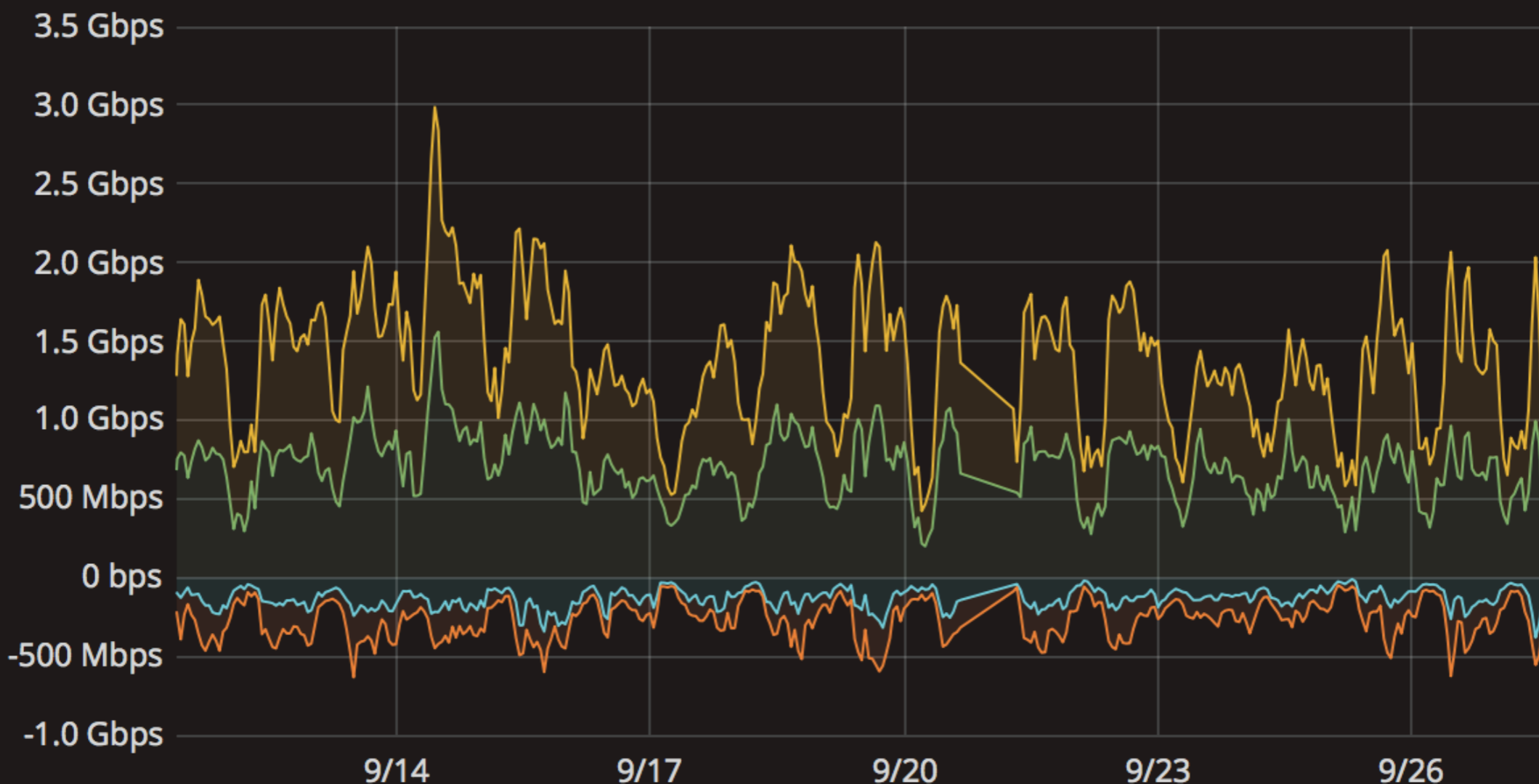
	IO ops	Read Bytes	Bytes/IO op
-----	-----	-----	-----
`rsync`	10658	45445120	4263.94
`rsync-huai`	51	1998848	39193.10
Difference	-99.52%	-95.60%	819.17%







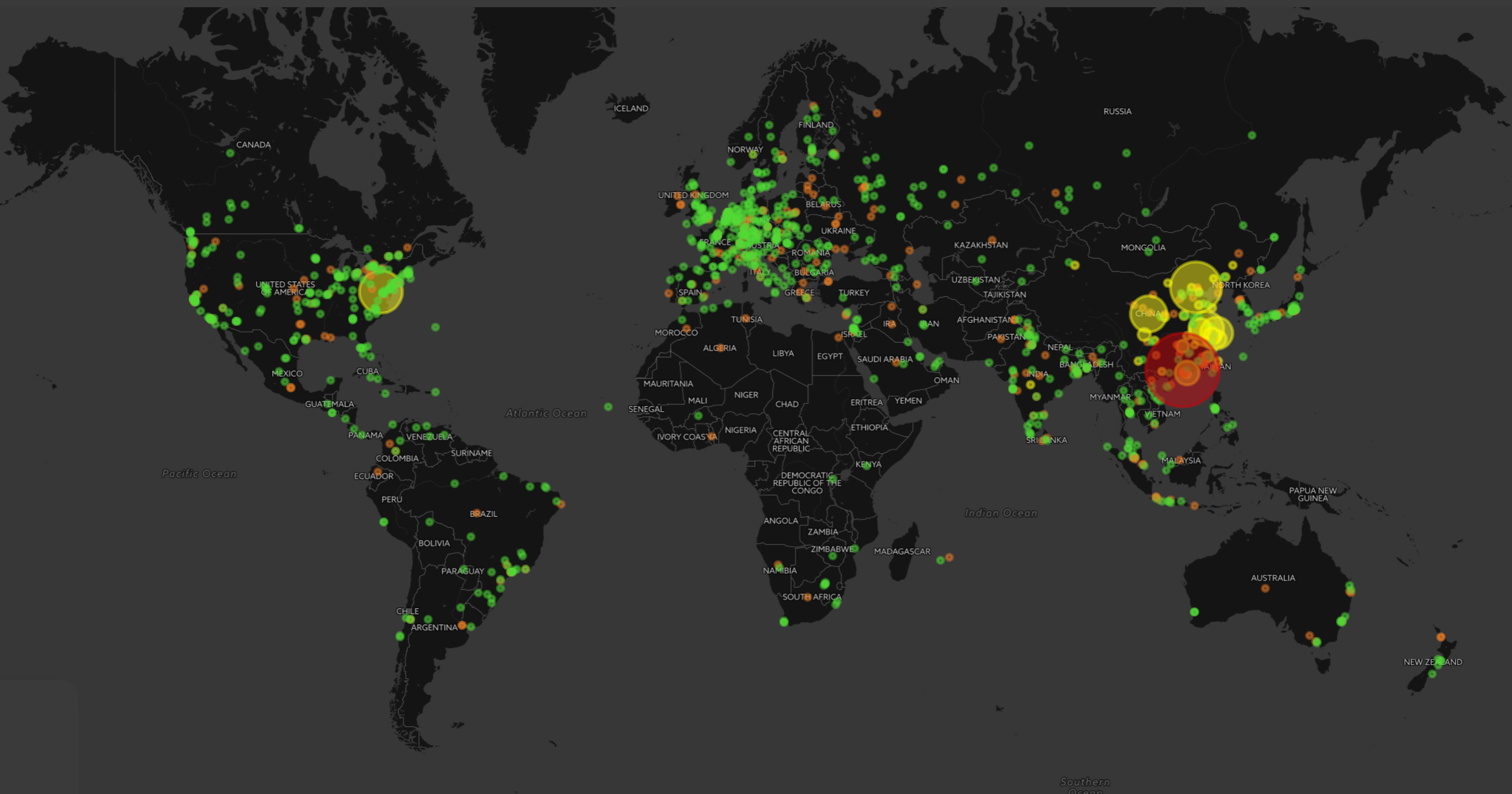
tunasync - systemd.timer for mirrors



Interface Bandwidth (stacked)

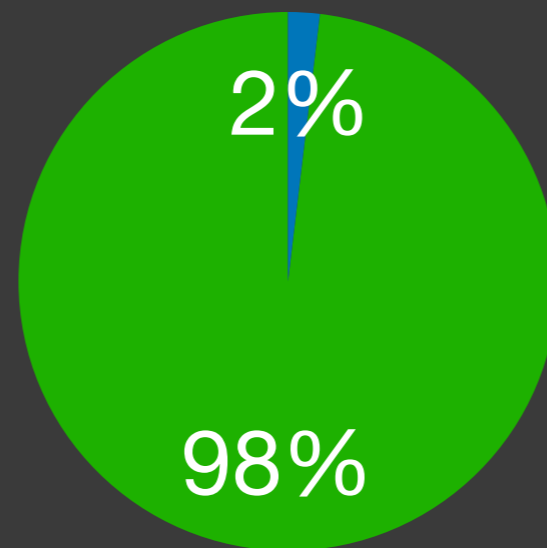


	min	max	avg	current
 bond0:nanomirrors:out	197 Mbps	1.560 Gbps	707 Mbps	513 Mbps
 bond0:neomirrors:out	191 Mbps	1.464 Gbps	680 Mbps	522 Mbps
 bond0:nanomirrors:in	12 Mbps	383 Mbps	134 Mbps	153 Mbps
 bond0:neomirrors:in	18 Mbps	390 Mbps	138 Mbps	174 Mbps



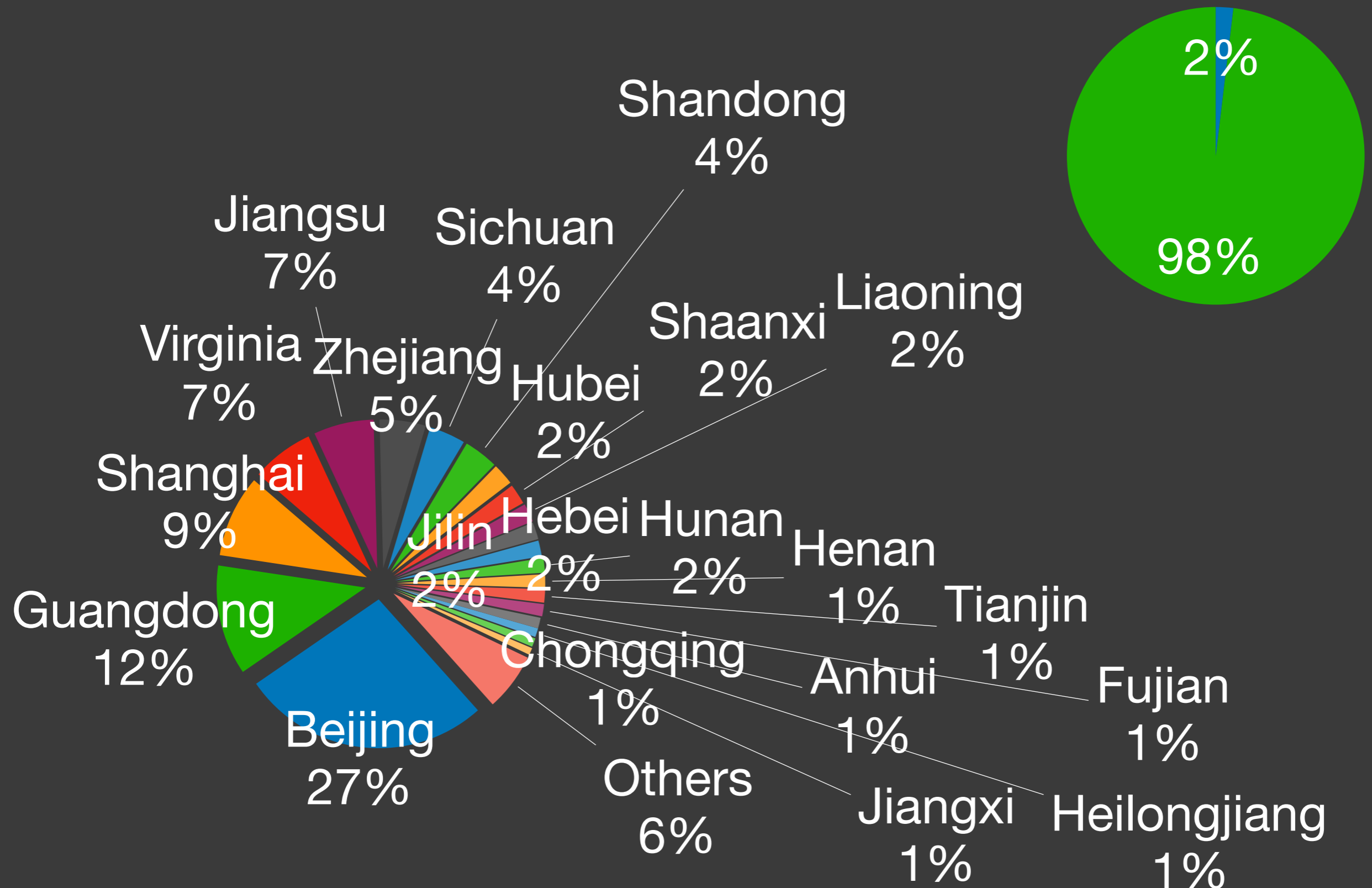
User Location

● Tsinghua ● Off-campus

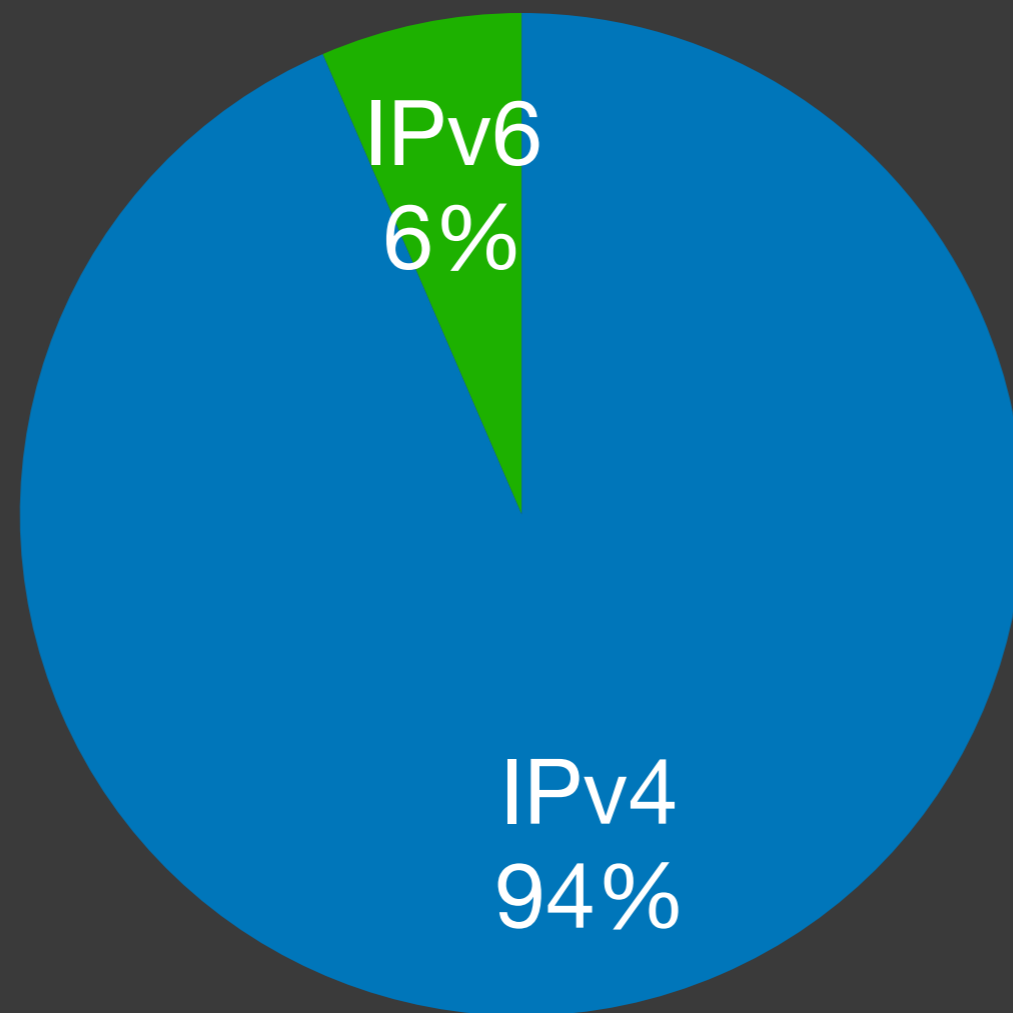


User Location

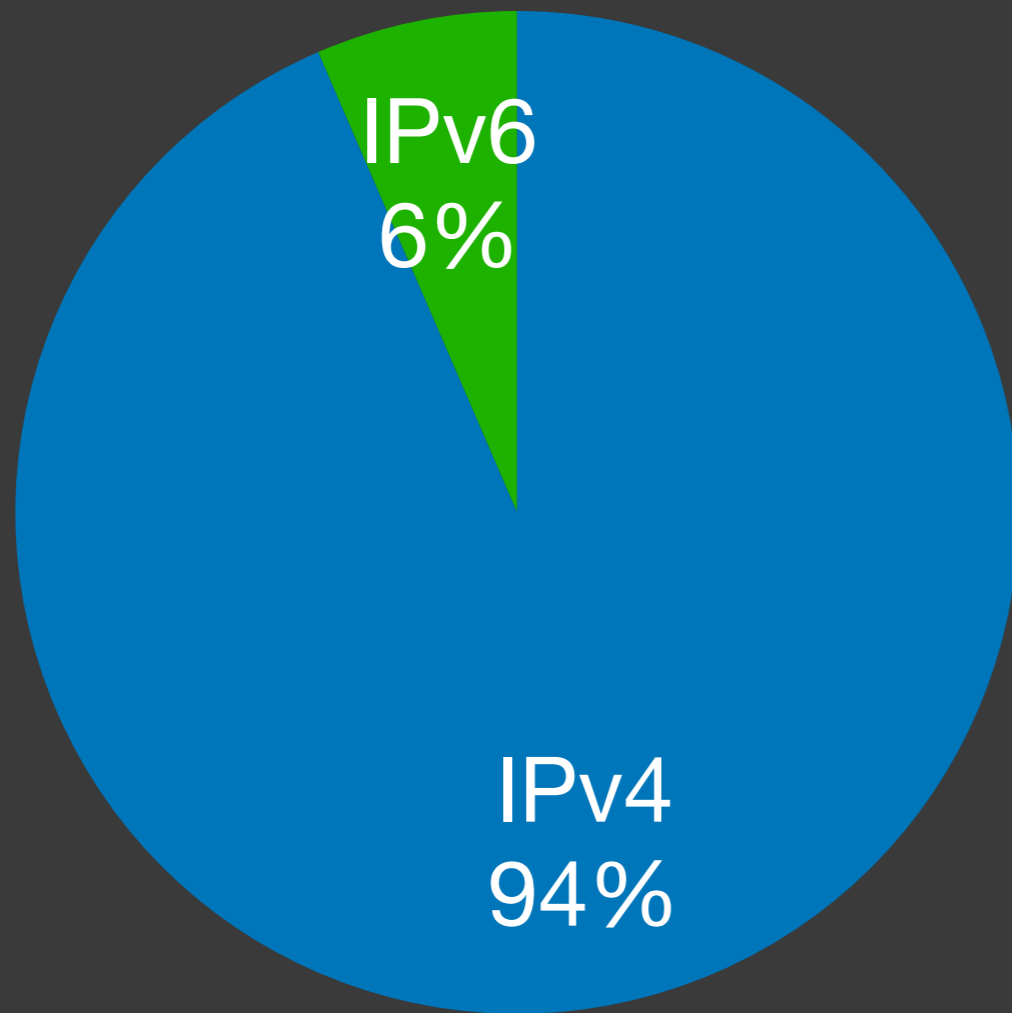
● Tsinghua ● Off-campus



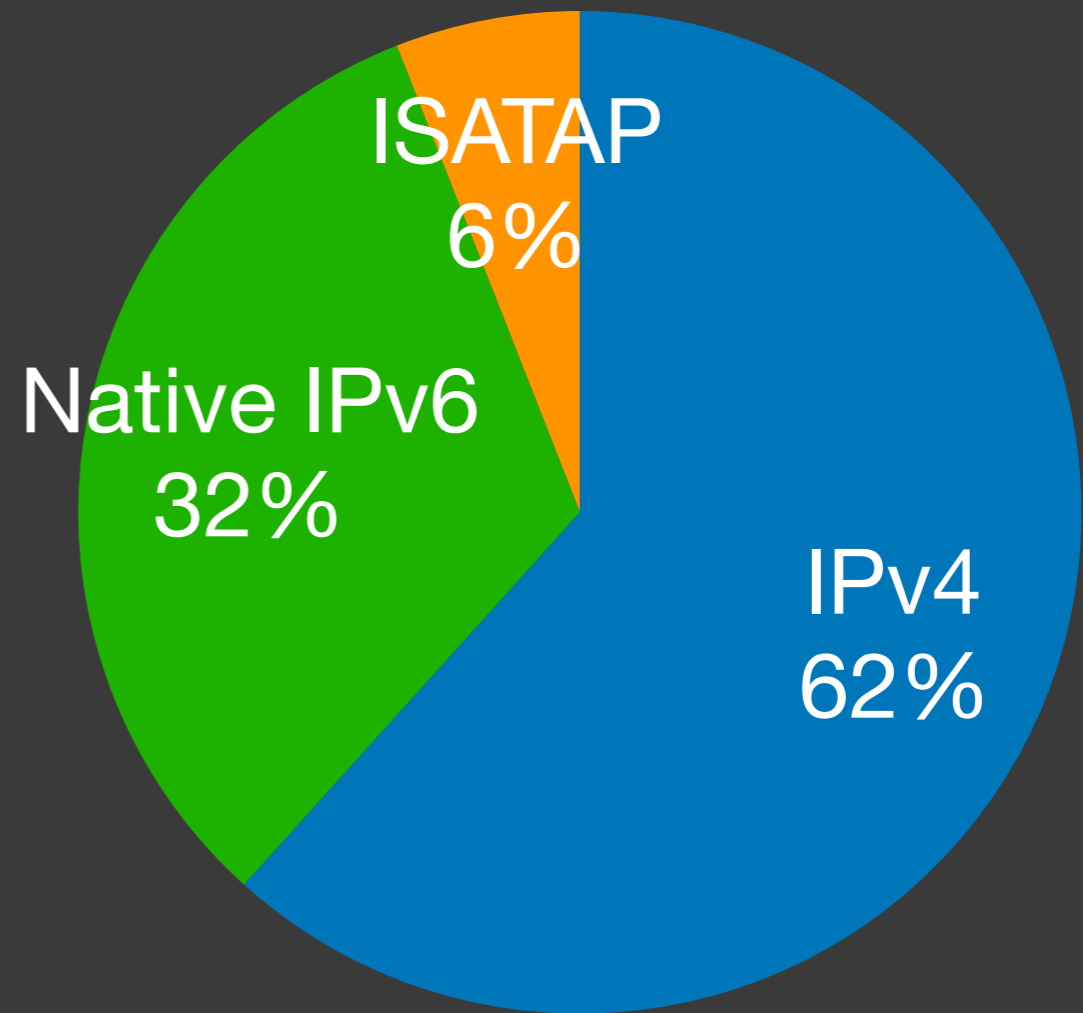
IPv4 or IPv6 ?



IPv4 or IPv6 ?



Overall



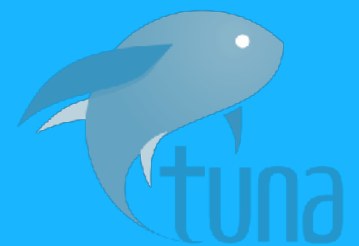
Tsinghua

Top 10 (2017.12)

Tsinghua		
50.00%	328355	ubuntu
5.27%	34590	CTAN
4.13%	27101	centos
1.57%	10322	archlinux
1.19%	7815	debian
0.99%	6482	anaconda
0.85%	5570	opensuse
0.78%	5152	remi
0.59%	3872	fedora
0.55%	3593	qt

Off-campus		
jenkins	6553315	19.25%
ubuntu	5588650	16.41%
centos	4649653	13.66%
CTAN	1473461	4.33%
debian	1179219	3.46%
remi	1099778	3.23%
epel	719658	2.11%
centos-altarch	708694	2.08%
anaconda	653445	1.92%
manjaro	443720	1.30%

Who Powers TUNA?



Only the president powers TUNA

在大学里，从大一到大三，从来没有听说过电脑协会，直到有一天，我在楼道里看到一张团委的海报，大意是有如下协会因经营管理不善，现**对外招聘会长**。海报的样子我记不得了，可能和这次招网管的情形差不多吧。

我接手的时候基本上啥都没了，只有个名头。

当时我们电脑协会也比较穷，其实就是我比较穷，**电脑协会连我和副会长一共就俩人**，好不容易凑了点钱买了一台服务器，打算放在紫荆宿舍里跑点网站啊小应用啊什么的。然后发现有两个问题，一是开学以后每天停电，另一个是算下来一年的电费都比服务器贵了.....wtf... 后来就遇到了网络中心的老师，他把我们的机器收留在机房，从此生活有了着落。



聘

会长

电脑协会经管不善，诚聘会长

C楼307面试

招募电脑**会长** 没有人了呜哇
没网 没设备 没技术 没激情 没工资

 清华大学电脑协会
Computer Association
Tsinghua University



Only the president powers TUNA

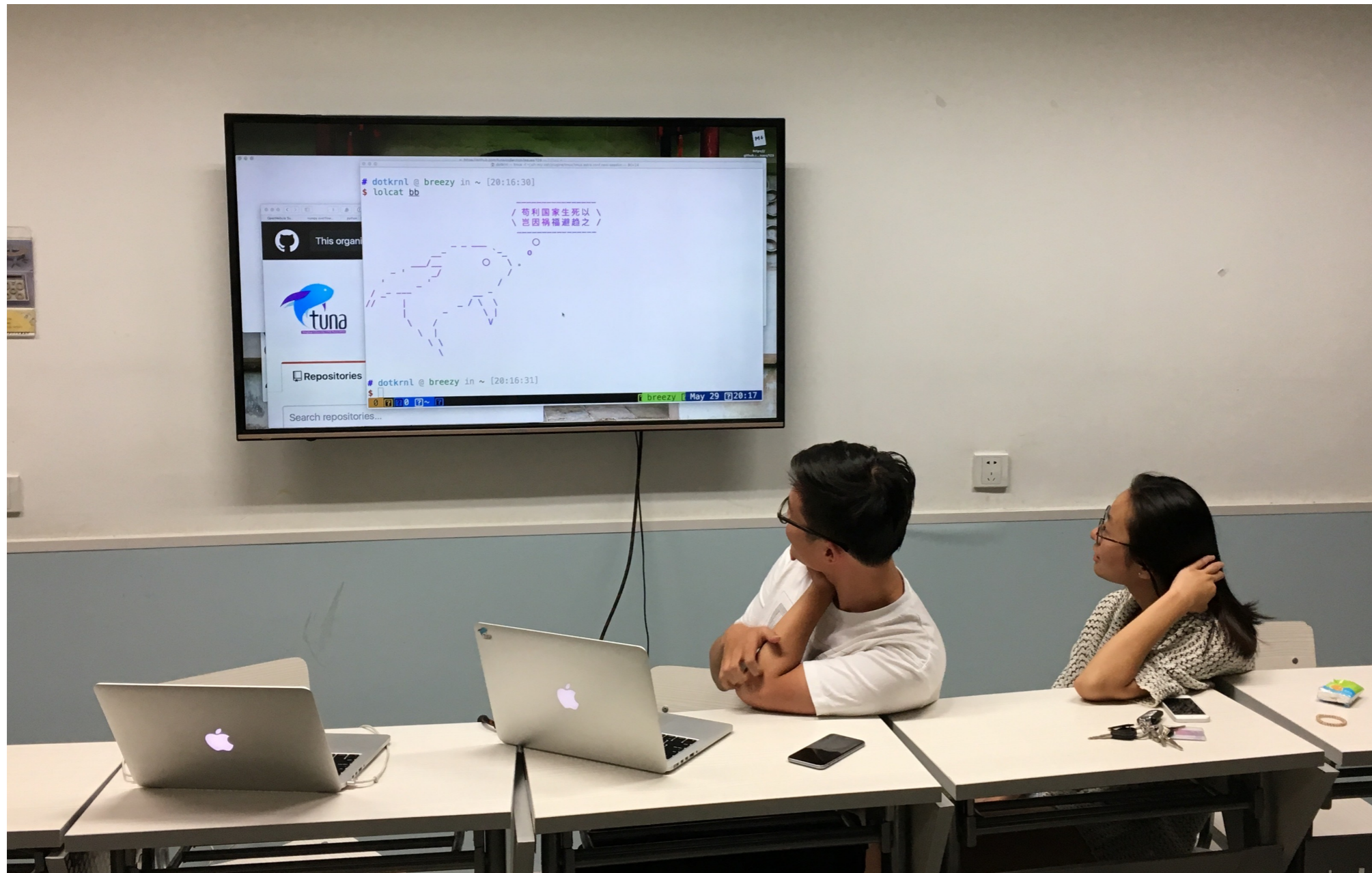


Only the president powers TUNA



Only the president powers TUNA

& the First Lady



Only the president powers TUNA



Only the president powers TUNA



Yi Qun HUI

tuna的传统历来是会长干活
其他人吃瓜...



Only the president powers TUNA (x)



Yi Qun HUI

3/9/17

说起来 最近镜像站没人维护了...自从大鹰工作了.....

堆了好多不大不小的issues

3/9/17



youngcow

3/9/17

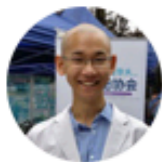
唉



Yi Qun HUI

edited 3/9/17

虽然tuna的传统历来是会长干活 其他人吃瓜...但是鉴于会长至今没有mirrors权限...以及这是首位双学位会长并且会长有非异地女友的事实.....我们可能需要摸索一条新的道路.....



Xavier Yao

3/9/17

23333

想吃瓜了

3/9/17



TUNA is powered by

Former

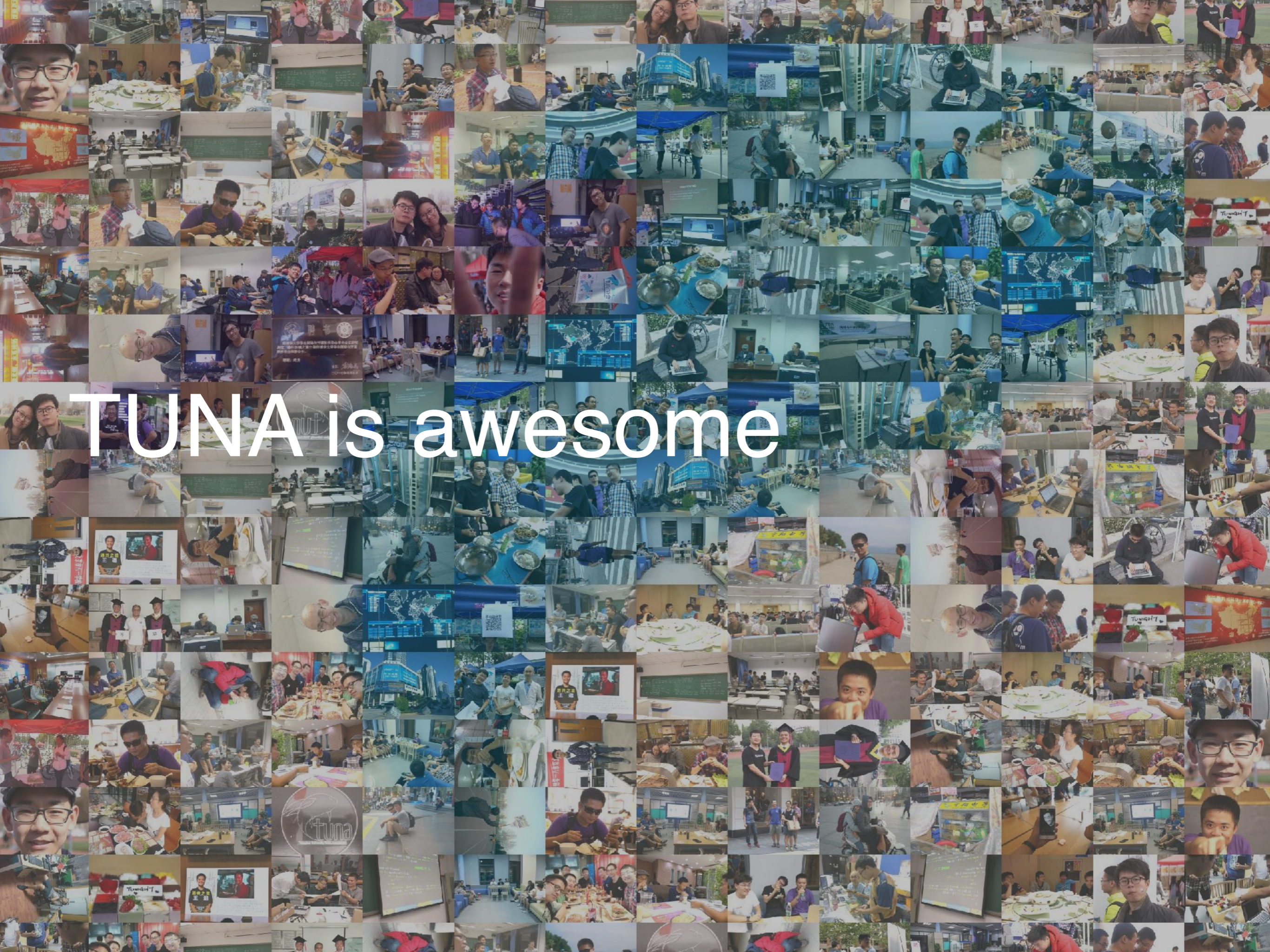
Only the President



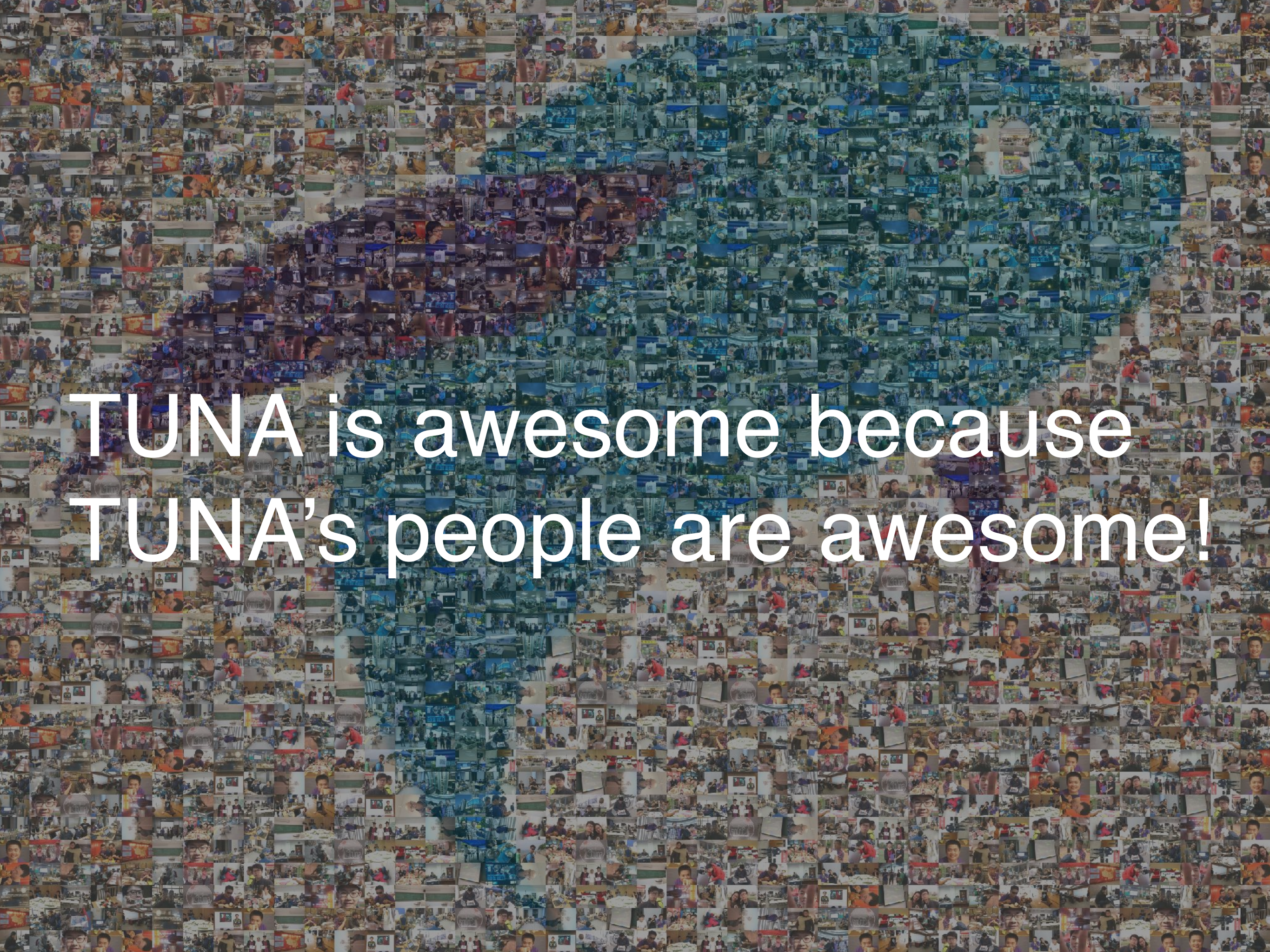
Anyone but the President





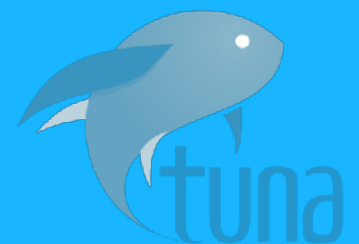


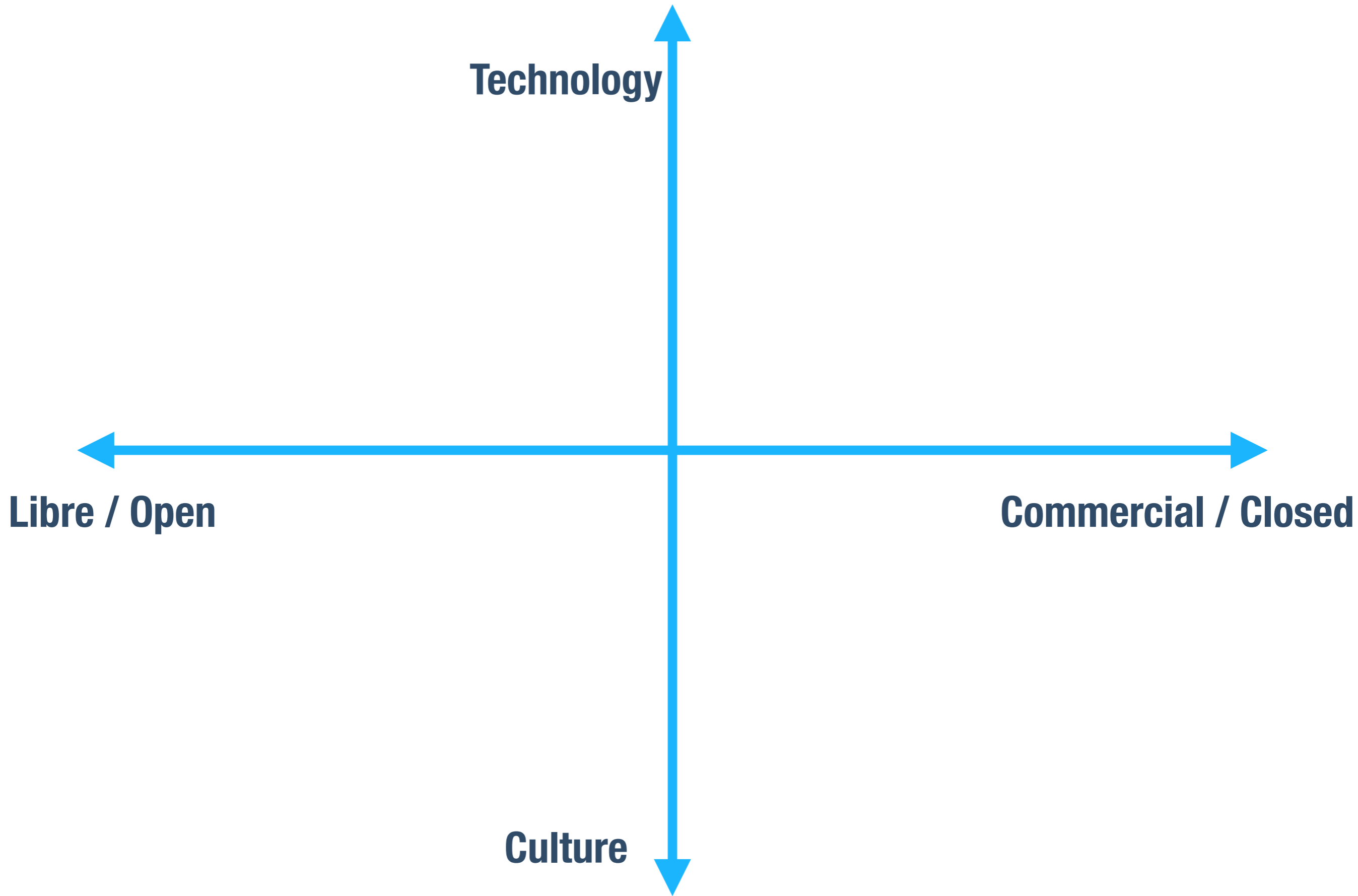
TUNA is awesome



TUNA is awesome because
TUNA's people are awesome!

Where does TUNA
stand?





Technology

Microsoft ❤️ Linux

THE **LINUX** FOUNDATION

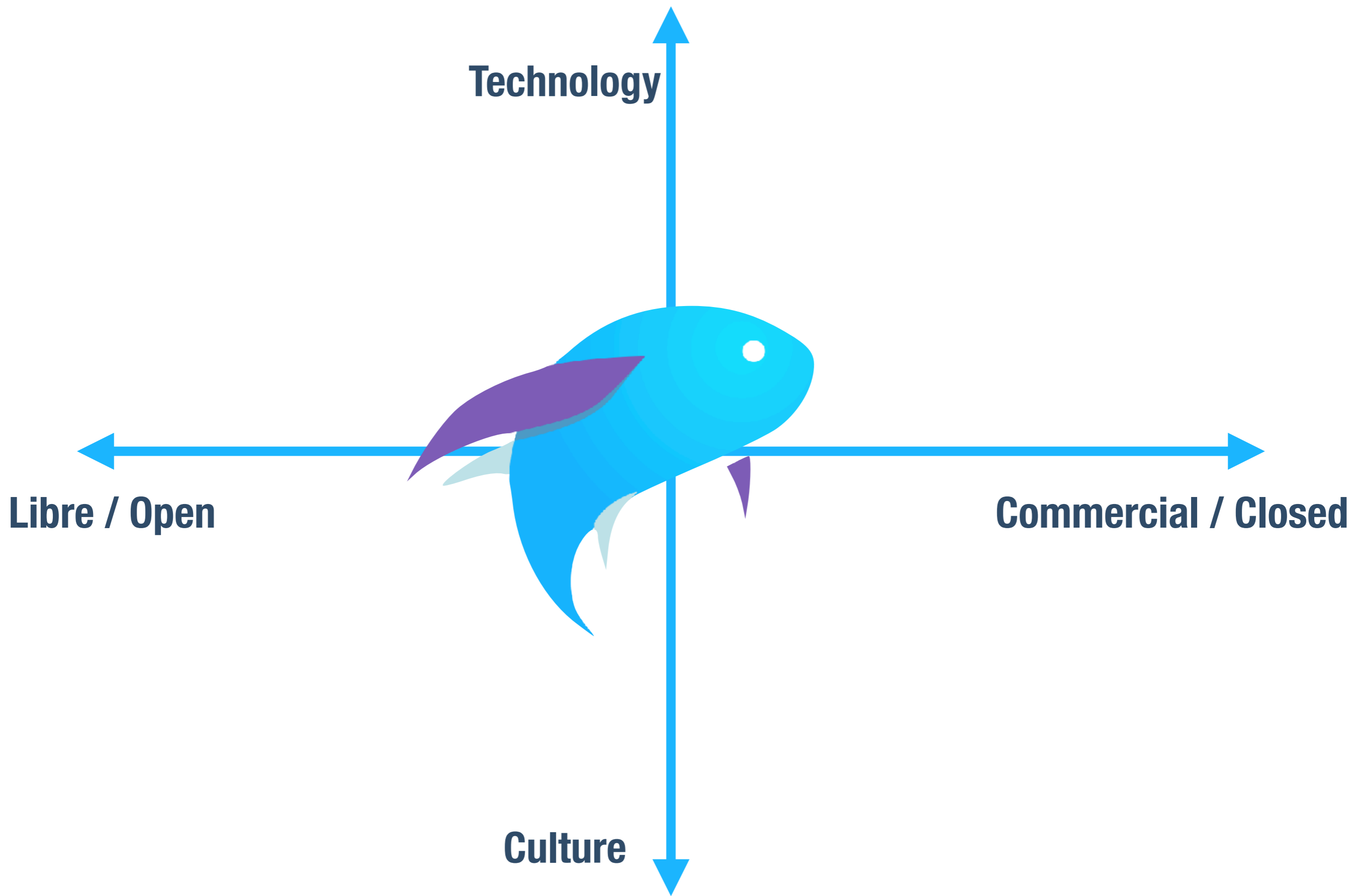
Microsoft

Libre / Open

Commercial / Closed



Culture





TUNA 技术群

583 members

info

一个连 Vim 和 Emacs 用户都能兼容并包的协会，
一个脱离了低级趣味的协会。

@jiegec 杰哥陈



使用 Vim 编写 Emacs Lisp

BE LIKE @jiegec

海纳百川 兼容并包

TUNA 协会欢迎一切自由软件热爱者

即刻加入
百团大战
或扫码前往 tuna.moe



Who Can Power TUNA?

Credit: CC-BY-SA 4.0 Nuritzi Sanchez.



I Like Coding

- Find and close bugs
- Help us with the services: tunasync, fishroom, oh-my-tuna
- Write tools that will help the community
- Create your own application



I Like Operation

- Keep server up and running
- Optimize performance
- Periodical keep system updated
- Help server to be secured



I Like Writing

- Help us on documentation
- Write website content
- Create content for promotion
- Help us with social media content
- Translate TUNA



I Like Designing

- Create artwork for TUNA
- Design materials for promotion
- Help us with website design
- Make videos for TUNA



I Like Connecting

- Give talks for TUNA
- Organize activities
- Create ways for TUNAr to contribute
- Help people get started with TUNA
- Make people feel appreciated
- Be the next president (干会长)



The Future of TUNA
Is You!





Mailing List: tuna-general@googlegroups.com

Telegram: TUNA 技术群 / 秘 TUNA 的秘密花园

Homepage: tuna.moe / tuna.tsinghua.edu.cn

GitHub: @tuna



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