

# vpsFree: infrastructure for your projects

Petr Krčmář



11th March 2017



Document is released under licence Creative Commons Attribution 4.0.

# Why?

What if you need your own Linux server?



## What if you need your own Linux server? and...

- you don't fully utilize own hardware
- you don't want to manage own hardware
- commercial VPS is too expensive...
- ...and low powered and inflexible

vpsFree.org



# What is vpsFree.cz

- reaction to inflexible commercial area
- non profit organization – voluntary association
- intended primary for operating servers
- containers OpenVZ (and KVM inside optionally)
- community project – we do it for ourselves
- budget is **completely** from members fees (no grants or subsidies)
- every member can participate on internal processes



# Openness

- we want to be fully open
- budget, bank account, mailing lists, software...
- loans from our members
- we are transparent about outages
- regular meetings of members
- “know your admin”

# Openness

- we want to be fully open
- budget, bank account, mailing lists, software...
- loans from our members
- we are transparent about outages
- regular meetings of members
- “know your admin”
- NASA way 😊

# Goal

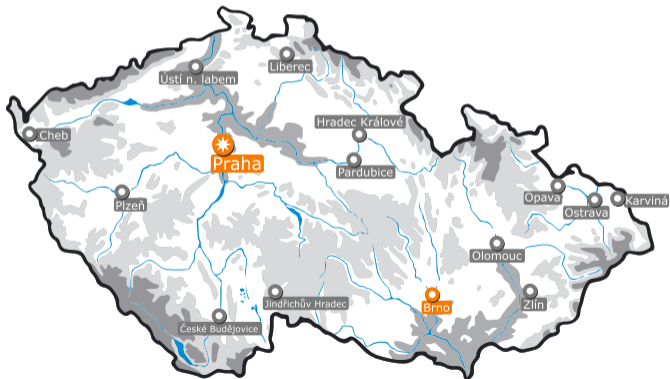
- environment for virtual servers
- “a lot of music for little money”
- huge portion of power for your projects
- place for experiments and education
- support for open technologies



# Datacenters

master DC  
PRAHA

master DC  
BRNO



# Each member's environment

- 8 CPU cores
- 4 GB RAM
- 120 GB disk
- 250 GB disk on our NAS
- IPv4 and IPv6 address
- 300 Mbit link (3 TB/month) shaped
- horizontal and vertical scaling
- VPS splitting



# ...a and even more

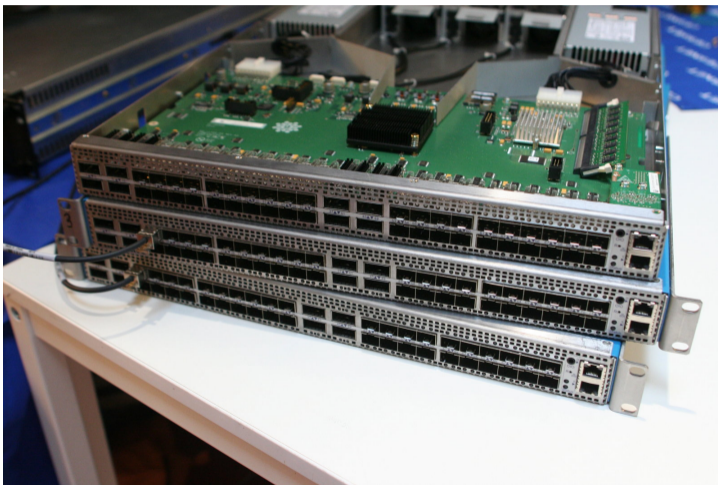
- playground
- comfortable VPS clonning and moving
- remote web console
- our own API (HaveAPI)
- ZFS data management
- daily backups at 01:00
- mirror.vpsfree.cz



# Our servers

- routers Mikrotik CloudCore Router CCR1072
- switches Cisco SG300-52 and Genode
- servers Supermicro X9DRFR (X9DRT-HF+)
  - 2× Xeon E5 2630
  - 256 GB DDR3 RAM
  - 6× 2TB HDD
  - 2× Intel DC SSD
  - Scientific Linux
- backuper
- nasbox

# Optical switches

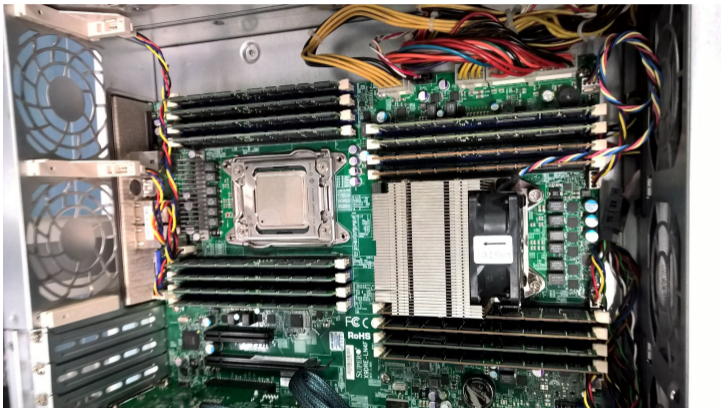




# Administration



# SSD node (512 GB RAM)





# Nodes



# Our team



# Some numbers

- 1187 members today

# Some numbers

- 1187 members today
- mostly Czech ( $\frac{2}{3}$ ) and Slovak ( $\frac{1}{3}$ ) members

# Some numbers

- 1187 members today
- mostly Czech ( $\frac{2}{3}$ ) and Slovak ( $\frac{1}{3}$ ) members
- approx. 30 % are companies

# Some numbers

- 1187 members today
- mostly Czech ( $\frac{2}{3}$ ) and Slovak ( $\frac{1}{3}$ ) members
- approx. 30 % are companies
- 1586 running VPS

# Some numbers

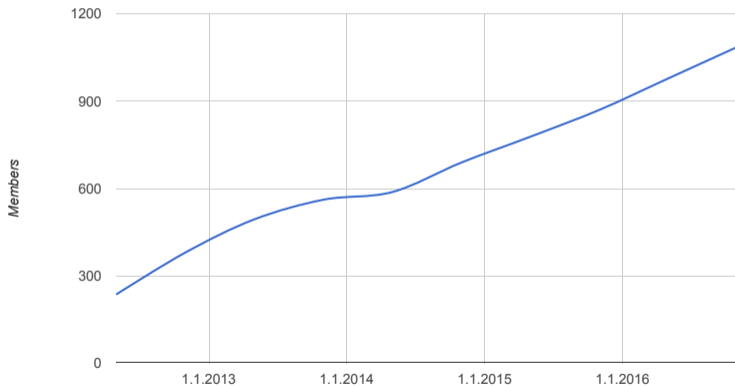
- 1187 members today
- mostly Czech ( $\frac{2}{3}$ ) and Slovak ( $\frac{1}{3}$ ) members
- approx. 30 % are companies
- 1586 running VPS
- 2256 IPv4 addresses totally
- ~1000 unallocated IPv4 addresses

# Some numbers

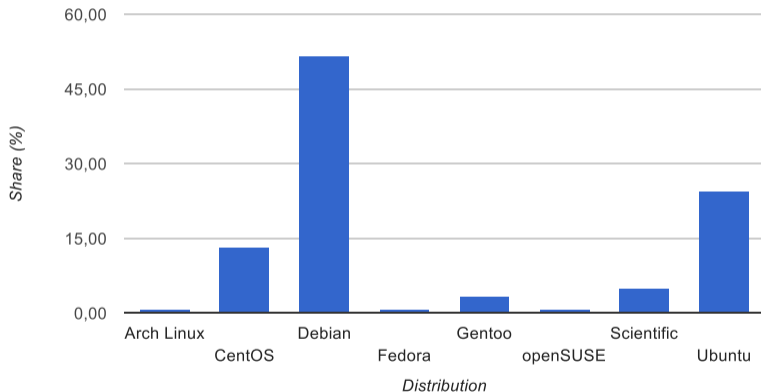
- 1187 members today
- mostly Czech ( $\frac{2}{3}$ ) and Slovak ( $\frac{1}{3}$ ) members
- approx. 30 % are companies
- 1586 running VPS
- 2256 IPv4 addresses totally
- ~1000 unallocated IPv4 addresses
- 79 229 371 440 083 952 222 718 656 512 IPv6 totally
- enough of IPv6 addresses (so far) 😊



# Membership growth



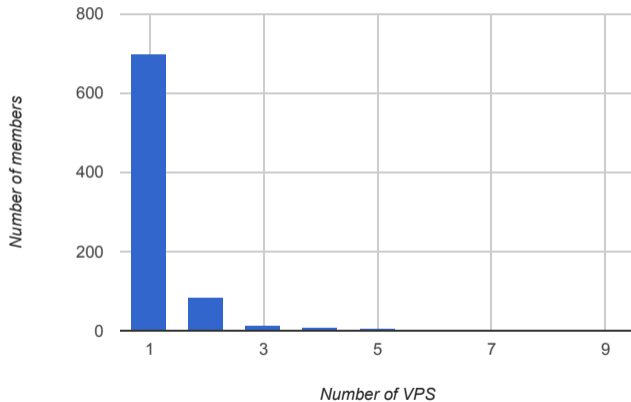
# Distributions



Debian 51.6 %, Ubuntu 24.5 %, CentOS 13.1 % Scientific 5.9 %, Gentoo 3.3 %  
Arch 0.8 % Fedora 0.9 %, openSUSE 0.7 %  
Alpine, Devuan, NixOS, Slackware, Void



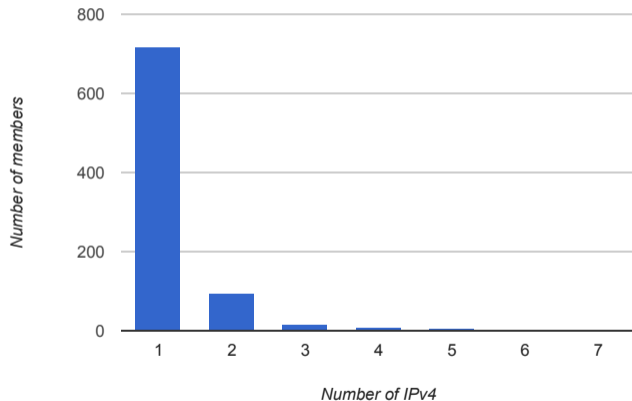
# Number of VPS



1 (698), 2 (85), 3 (13), 4 (7), 5 (5), 7 (1)  
9 (1), 19 (internal vpsFree.cz)



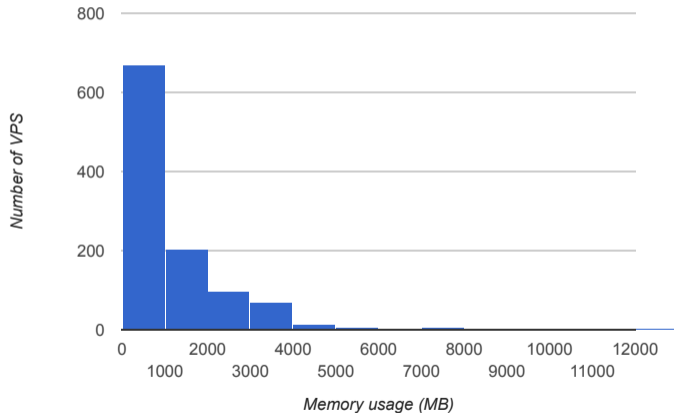
# IPv4 addresses



1 (719), 2 (95), 3 (17), 4 (8), 5 (5), 6 (1), 7 (1), 28 (internal vpsFree.cz)



# Allocated memory

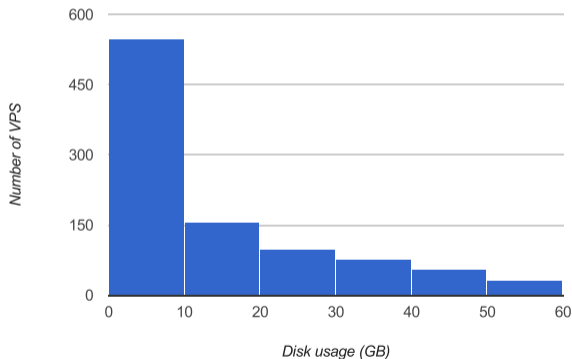


# Used memory

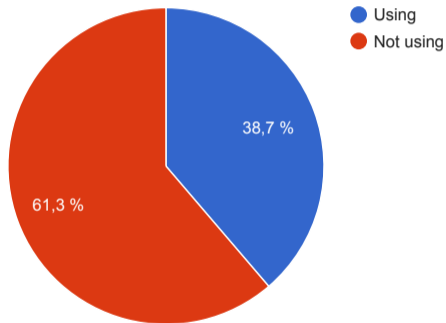
- average 1067 MB at VPS, median 680 MB
- half of VPS fits to 1 GB
- default limit is 4 GB, max. 16 GB
- only 9 VPS more than 4 GB
- all nodes has 256 GB RAM, one 512 GB
- = lot of memory used for caching
- advanced caching with ZFS (ARC)
- L2ARC at SSD (index always in RAM) + SLOG
- cache hit over 98 %
- = it's damn fast



- average usage is 15.8 GB (13 %), median 7.5 GB



# Using NAS

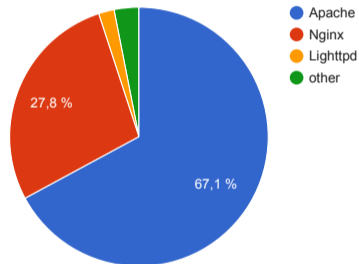




- SSH is used by (almost) everyone
- 76 % at standard TCP port 22
- other on various ports

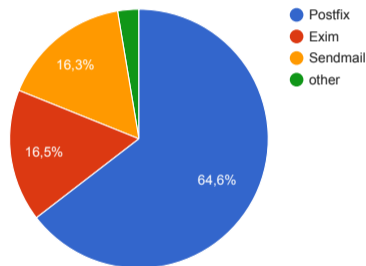
# Web servers

- 83.4 % running web at :80
- 54.5 % running web at :443
- web servers
  - 67.1 % Apache
  - 27.8 % Nginx
  - 1.9 % Lighttpd
  - 3.2 % others



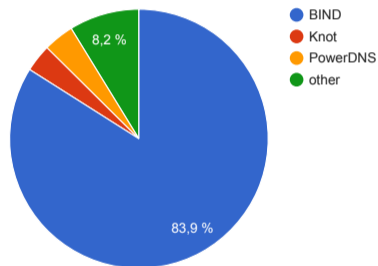
# Mail servers

- 75.8 % running SMTP service (tcp/25)
- mail servers
  - 64.6 % Postfix
  - 16.6 % Exim
  - 16.3 % Sendmail
  - 2.6 % others

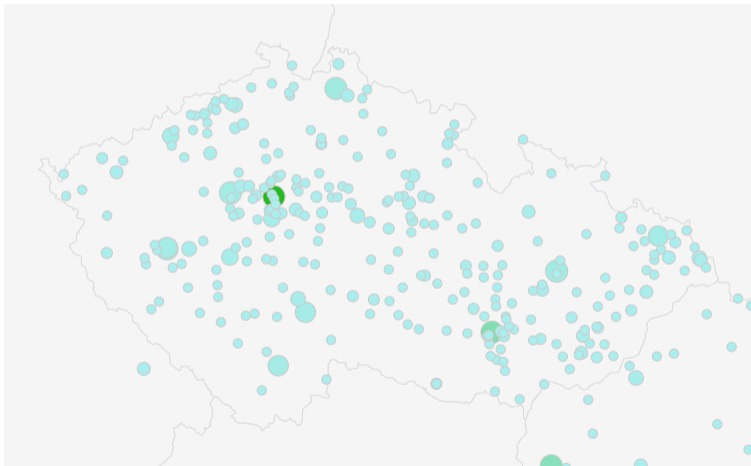


# DNS servers

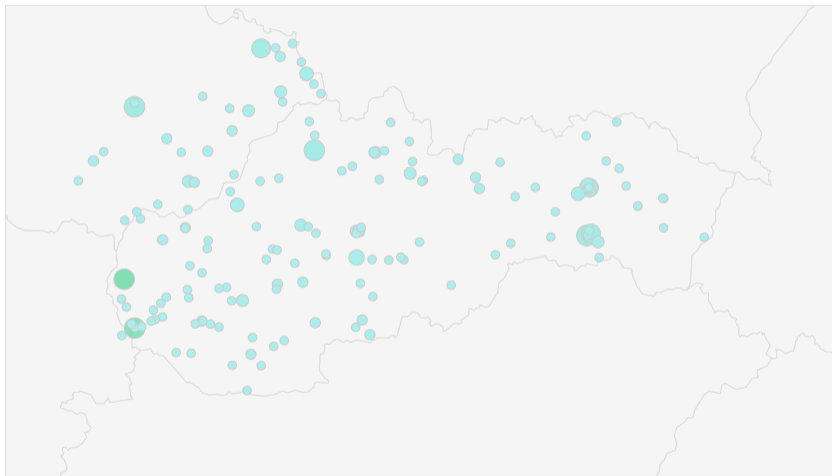
- 25.1 % running own DNS
- DNS servers
  - 83.9 % BIND
  - 4.5 % PowerDNS
  - 3.4 % Knot
  - 8.2 % others



# Where are we from?



# Where are we from?



# Join us!



- [vpsfree.org](http://vpsfree.org)
- [kb.vpsfree.org](http://kb.vpsfree.org) ← !
- [foto.vpsfree.cz](http://foto.vpsfree.cz)
- [twitter.com/vpsfree\\_cz](https://twitter.com/vpsfree_cz)



# Visit our booth!



## Questions?



Petr Krčmář  
petr.krcmar@vpsfree.cz

