

PASCAL GLOOR

PIRANHA

...WHERE ALL THE FISHY ROUTES MEET



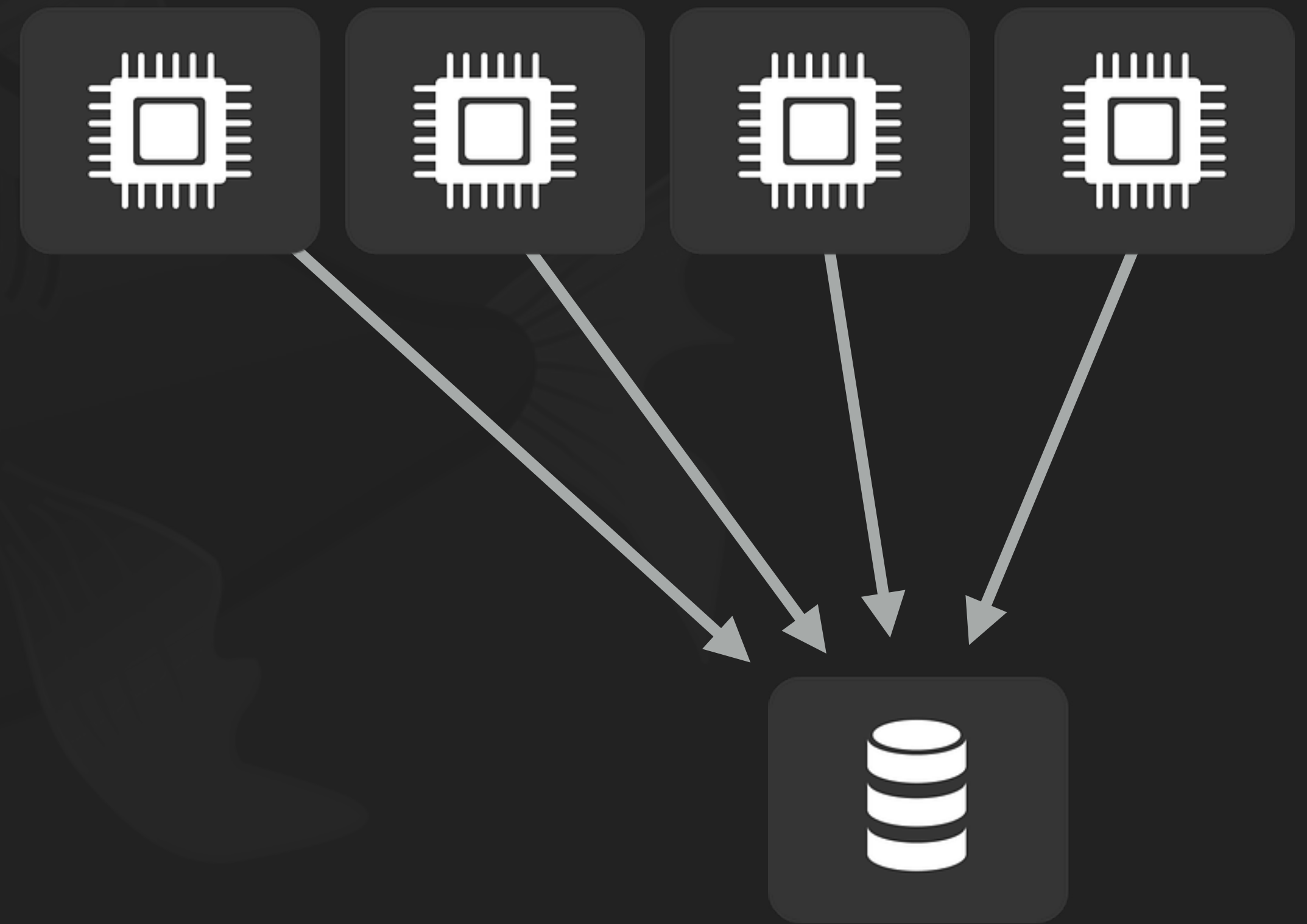
DO YOU REALLY KNOW WHAT'S GOING ON IN YOUR NETWORK?

- ▶ BGP routers act individually
- ▶ Route Reflectors do not guarantee uniformity of the routing decisions (nor does full mesh)
- ▶ Typos happen... all the time (ACLs, communities, etc...)
- ▶ Debugging outgoing paths is time consuming
- ▶ ...



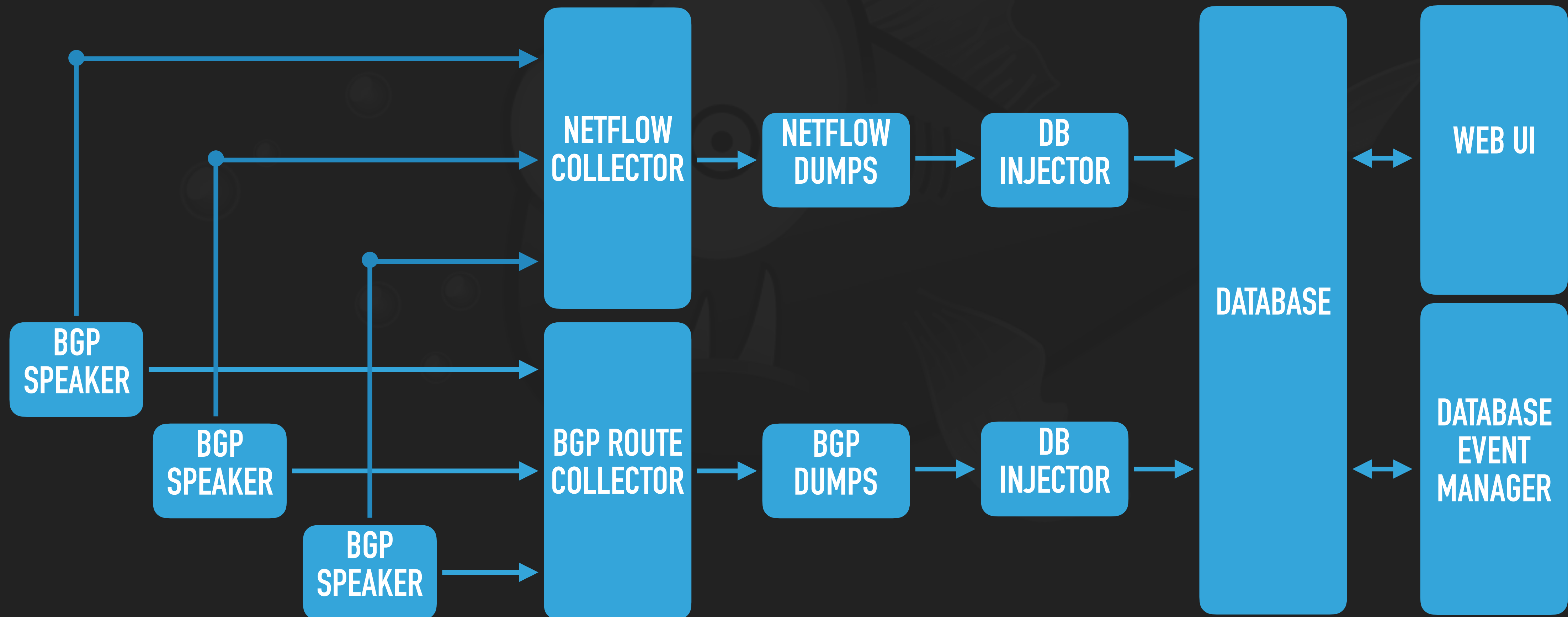
THE IDEA

Collect routing decisions centrally
for real-time or historical analysis





THE IDEA

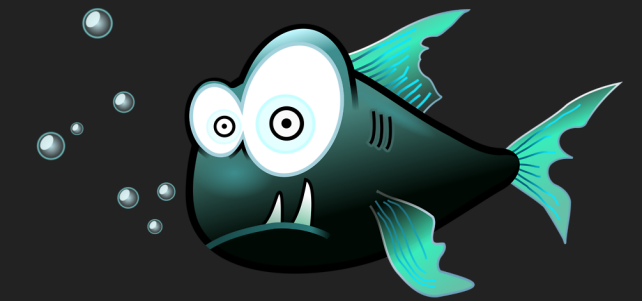




PIRANHA BGP DAEMON

- ▶ Multi-Threaded BGP daemon in C
- ▶ Origin 2004, NETLANTIS core, based on RFC1771
- ▶ Major reengineering of the code
- ▶ Implementation of modern BGP features:
 - ▶ Upgrade from RFC1771 to RFC4271
 - ▶ RFC4360 BGP Extended communities attribute
 - ▶ RFC4760 Multiprotocol Extensions for BGP-4 (means IPv6)
 - ▶ RFC5425 The TCP Authentication Option
 - ▶ RFC5492 Capabilities Advertisement with BGP-4
 - ▶ RFC6793 BGP Support for Four-Octets Autonomous System (AS) Number Space
 - ▶ RFC8092 BGP Large Communities Attribute





PIRANHA BGP DAEMON

- ▶ Free Software
- ▶ Licensed Apache2.0
- ▶ Available on GitHub
- ▶ <http://piranha.spale.com>

Piranha

BGP route collector written in C

 [View on GitHub](#)

Piranha



A highly efficient, multi-threaded, BGP route collector written in C.

Piranha collects routes and dumps them into files for the purpose of analysis. Piranha is NOT a BGP router and does NOT have the capability to announce routes nor does it interact with the kernel routing table(s).

Piranha supports:

- BGP capabilities negotiation.
- BGP 4 octets ASN and AS_PATHs.
- TCP MD5 BGP session protection.
- IPv6 routes over IPv6 sockets.
- IPv4 routes over IPv4 sockets.
- Decoding of BGP Attributes (ORIGIN_AS, AS_PATH, COMMUNITIES, LARGE_COMMUNITIES)

Installation

Download

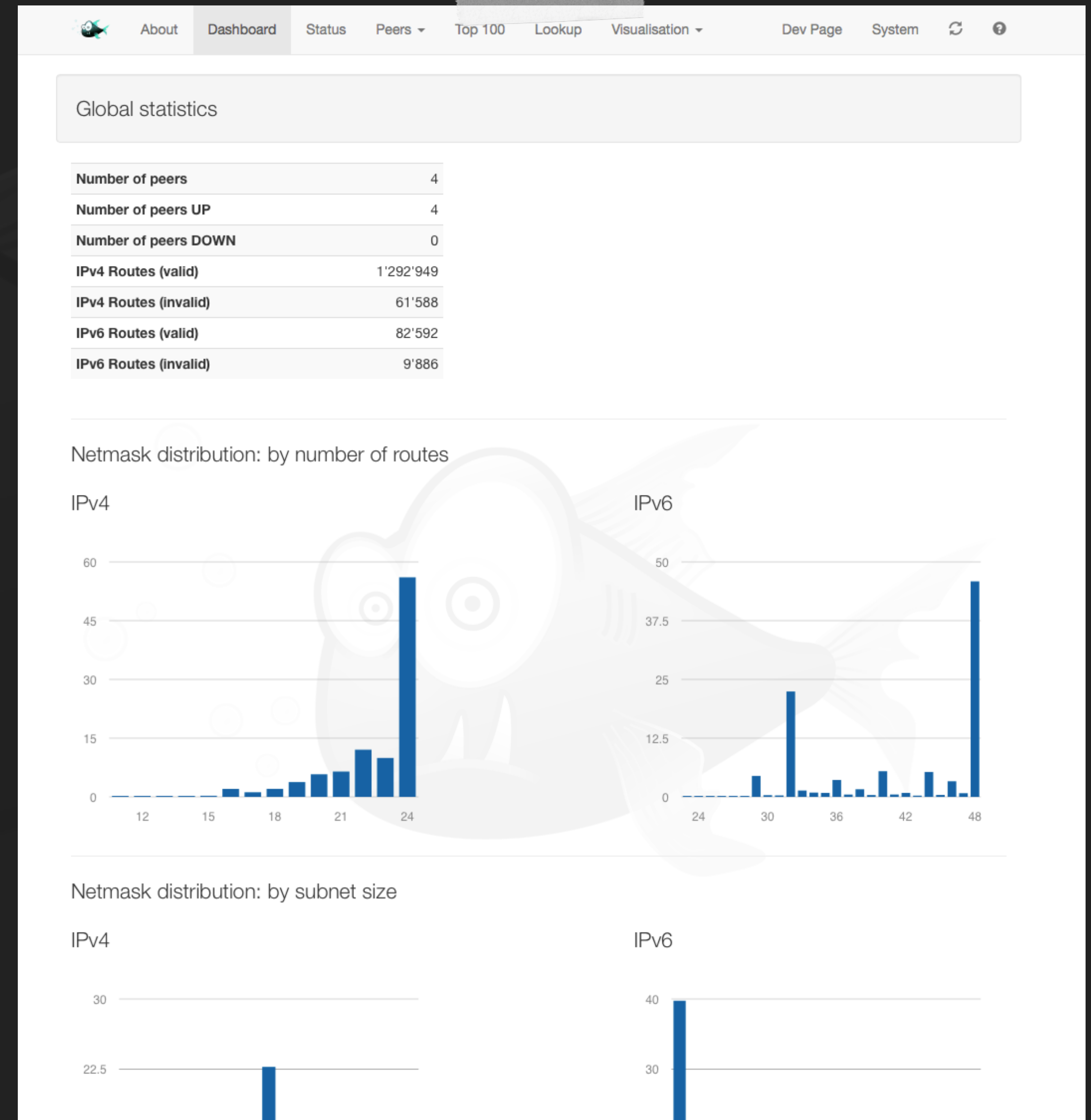
[Download the latest version](#)

```
user@piranha$ wget https://github.com/spale75/piranha/archive/piranha-x.
```



PIRANHA UI: PROCESSING, DATABASE AND WEB UI

- ▶ Free Software
- ▶ Licensed Apache2.0
- ▶ Available on GitHub
- ▶ <http://piranhaUI.spale.com>





PIRANHA & PIRANHA UI

MURPHY'S SCARY
LIVE DEMO



WHAT'S NOW

- ▶ search by prefix / as path
 - ▶ filter on peer, protocol
- ▶ withdrawn routes kept
- ▶ rolling buffer of n routes per peer
- ▶ community aliases



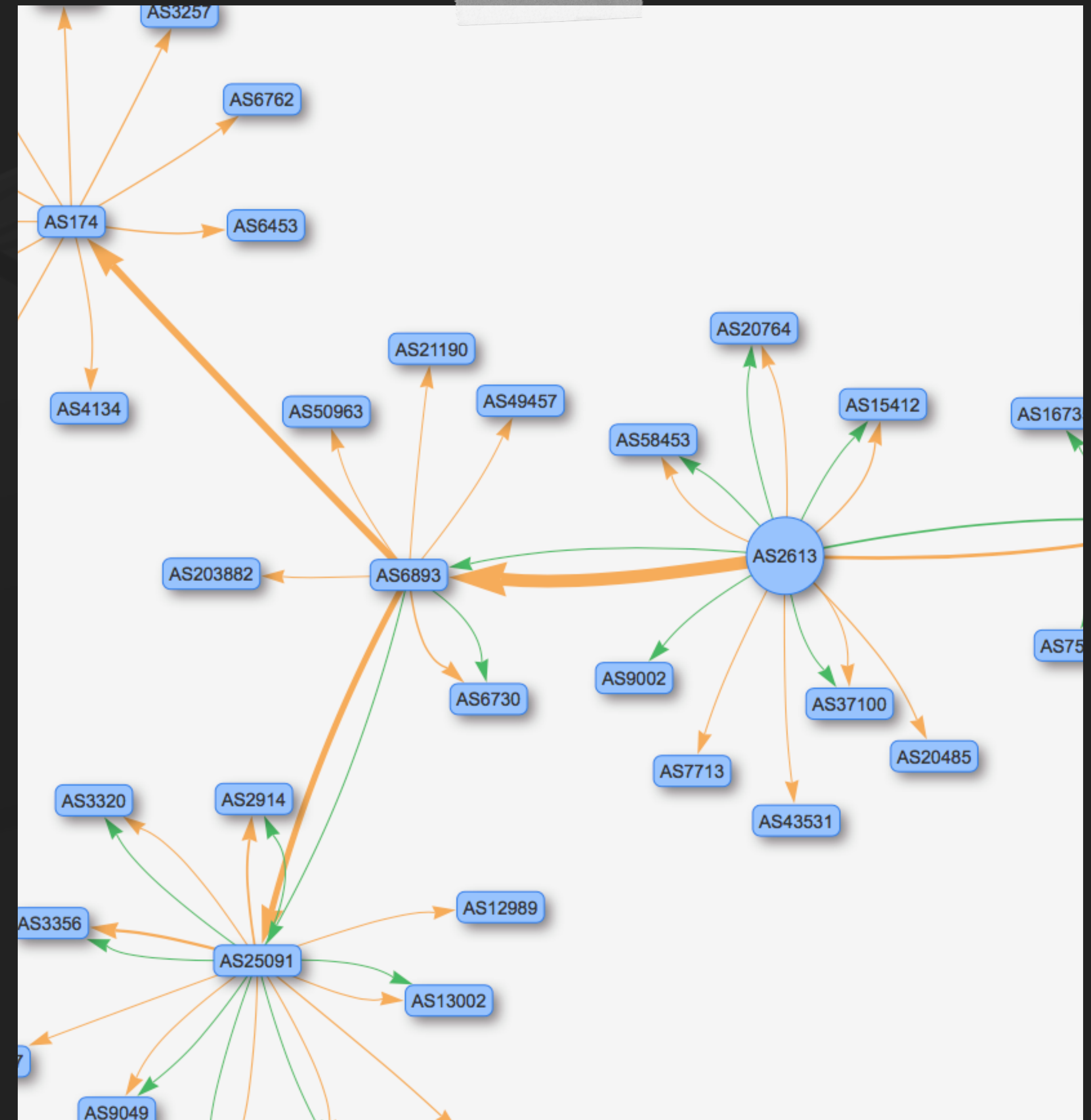
WHAT'S NEXT

- ▶ MPLS
 - ▶ ext. community (RD/RT)
 - ▶ imaginary VRF
- ▶ Visualisation of exit paths
- ▶ Visualisation of destination paths (prefix or ASN)
- ▶ Desktop Apps (Mac/Linux/Windows)



WHAT'S NEXT NEXT

- ▶ Netflow v9 integration
 - ▶ mapping of traffic flows into known routes
 - ▶ storage of historical traffic volume per as pairs





WHAT'S NEEDED: BETA SITES

- ▶ YOU GET:
 - ▶ Zero maintenance and hassle free Piranha setup
- ▶ I GET:
 - ▶ Development site with real data
- ▶ YOU GIVE:
 - ▶ 1 VM
 - ▶ 8-16Gb RAM
 - ▶ 50-100Gb Disk
 - ▶ 4-8 Cores
 - ▶ 4-8 BGP session to borders
 - ▶ OR 1 session to MPLS route-reflector
- ▶ I GIVE:
 - ▶ NDA (if required)





I WANT PIRANHA NOW!

- ▶ SLA (soon)
 - ▶ Buy feature priority
 - ▶ Order site installation
 - ▶ Maintenance contract
 - ▶ system monitoring, priority issue handling
- ▶ DIY
 - ▶ Support via GitHub issues
 - ▶ Freedom!





QUESTIONS?

