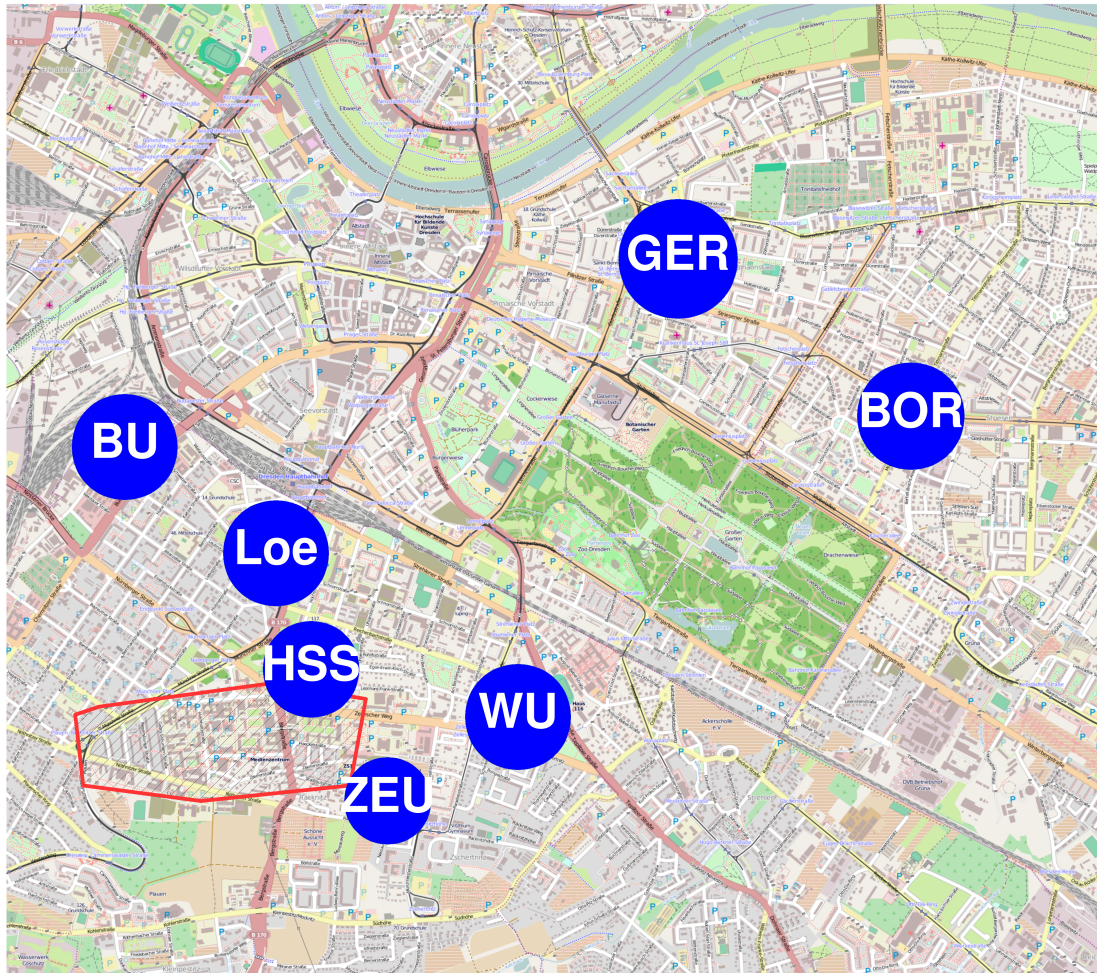


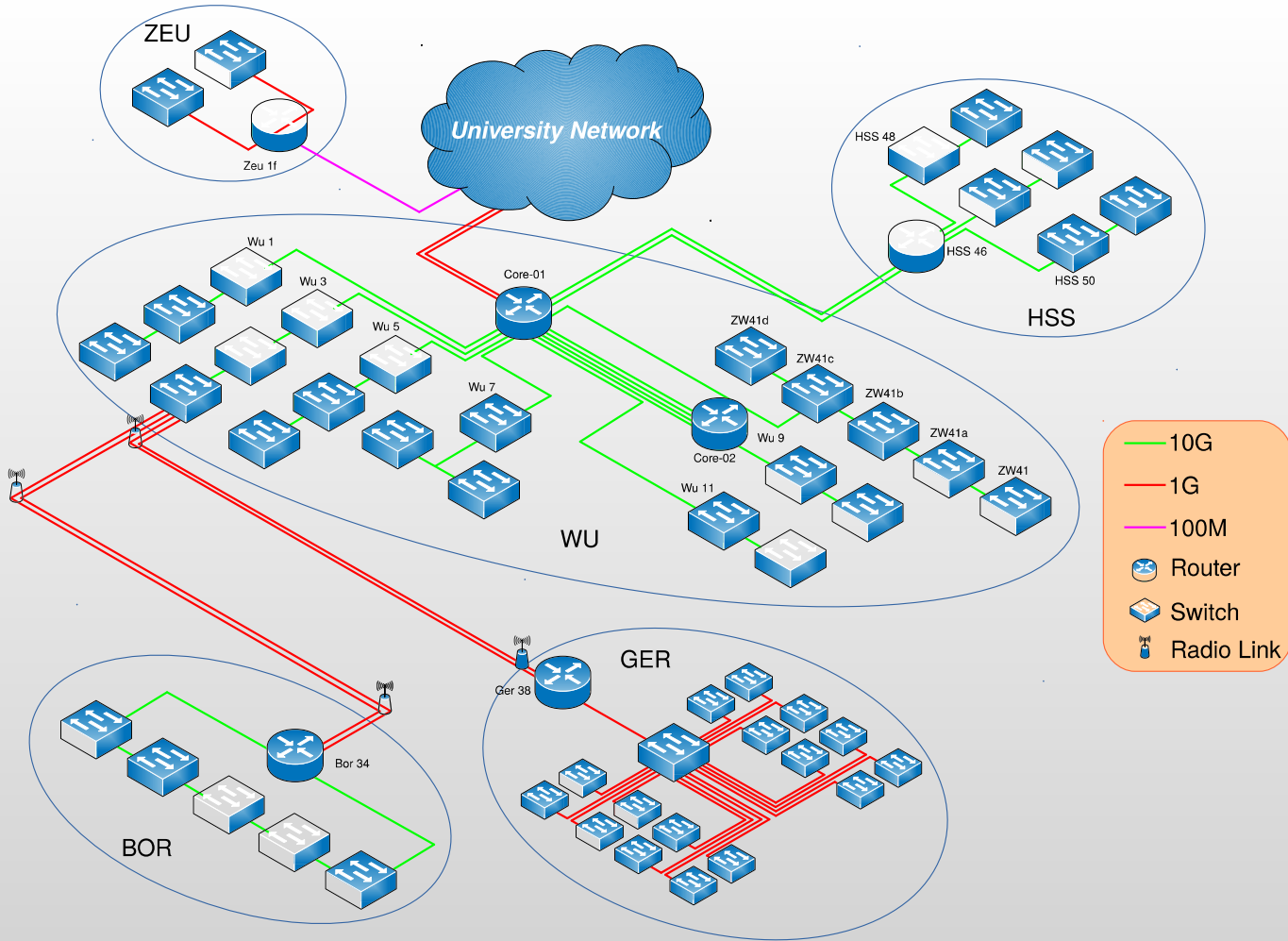


Arbeitsgemeinschaft Dresdner Studentennetz

Overview

- part of the students parliament of TU Dresden
- democratic team structure
- lightweight executive board
- founded in 1996
- 3250 users, 2800 members
- ~50 active volunteers





Network access

- 4 Gbps uplink to TU Dresden
- limited traffic volume (3 GiB/d, max credit 63 GiB)
- traffic-accounting via mirroring (full-take)
- increase to 5 GiB/d and exemption of DFN/BelWue under negotiation
- sym. gigabit to every room
- 1 public IPv4 address per user
- ⇒ users have to run their own NAT & WLAN (for now)
- VLANs to separate buildings

We offer

Right now:

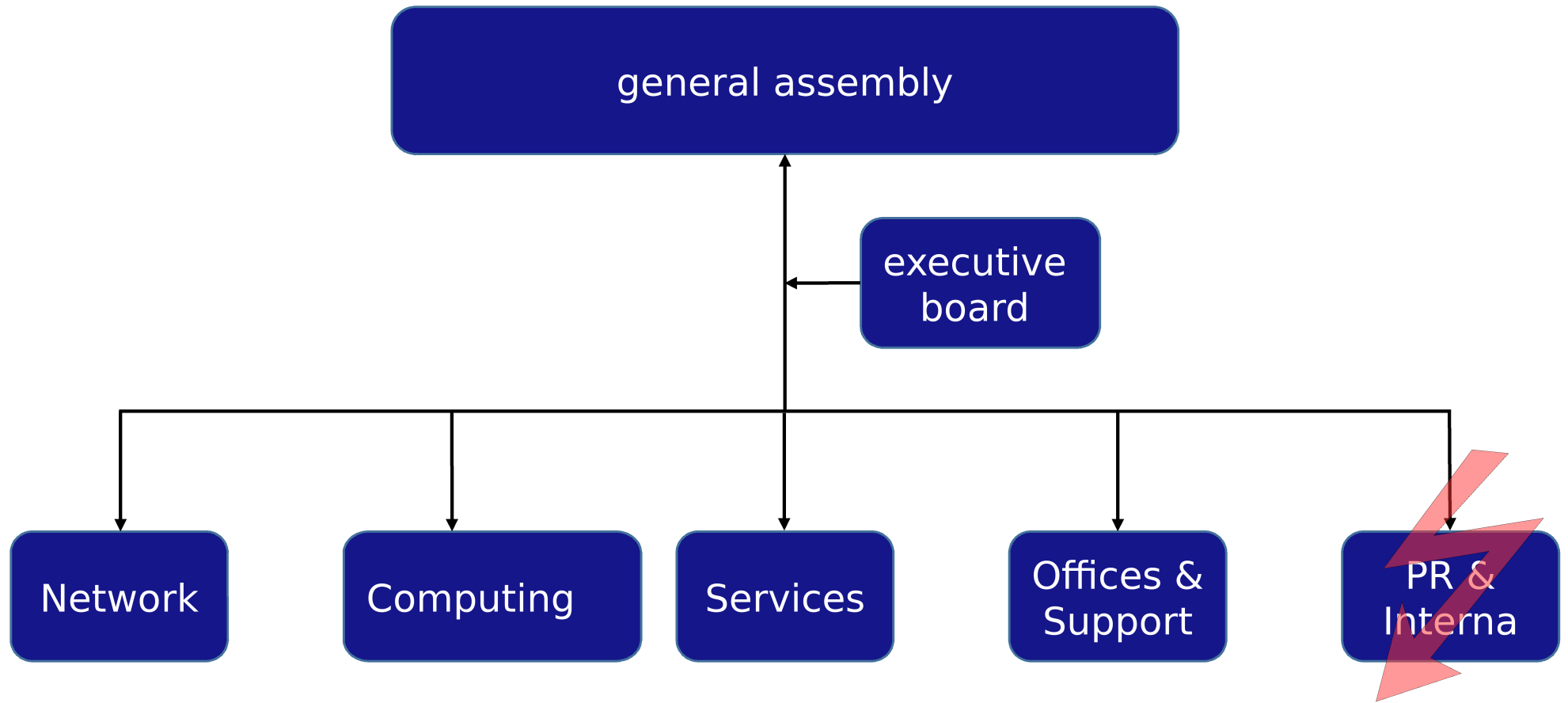
- network/internet access
- web-hosting
- mail
- FTP-mirror

Soon(ish):

- steam/CDN cache
- unified layer 2
WLAN/LAN access
- private address space,
user-configurable firewall

Some history

- AGDSN started at 5 separate locations
⇒ 5 independent divisions
- 5 software stacks, 5 sets of work flows, no economy of scale
⇒ not sustainable
- unification over the last 2 years
⇒ financial gains, more leverage, steady number of volunteers



Expansion

What:

- signed agreement with Studentenwerk
- gradual assimilation of all student houses in Dresden until 2021
- ~6500 members by then

How:

- cooperation with prior admins
- replacing legacy systems as soon as we are responsible
- biggest problems atm:
 - additional support capacities
 - paper trail unworkable for remote locations
 - need more fibers ⇒ CWDM

Call for bids

- Saxonian law:
public orgs have to call for bids if spending >25k€ on one project
- initial WLAN infrastructure is way above that (APs, controllers, licences)
- a first for us
- done through „Auftragsberatungsstelle Sachsen e.V.“
 - flat pricing
 - legal advice
 - templates
- in the end: only one bidder :(

Fun with taxes

- predecessors never thought/worried about taxation
- as public body only business within your duties & responsibilities is exemptable
- currently going through all financial records
 - spendings from 2004-2015
 - income from 2010-2015
- no decision by fiscal authorities yet
- worst case: all income taxed
- best case: parts of yearly profit taxed

Hardware – distribution



HP 5900af

radio links:

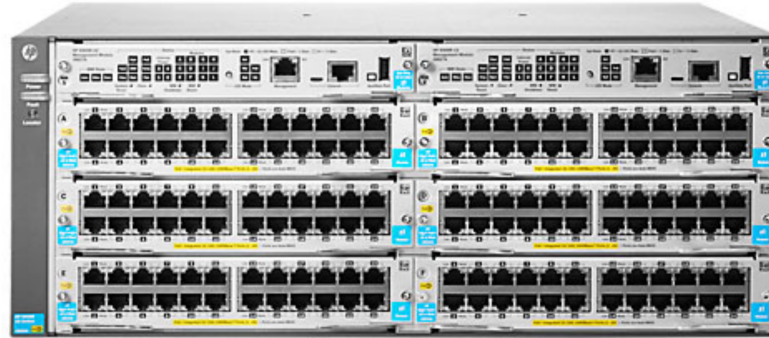
- Ceragon IP20e
- Ubiquiti PowerBeam



Hardware - access

Wired:

- HP 5400(R z12)



Wireless:

- Aruba AP 315
- Aruba Controller 7210



Hardware – servers & storage



EuroStor ES-8700

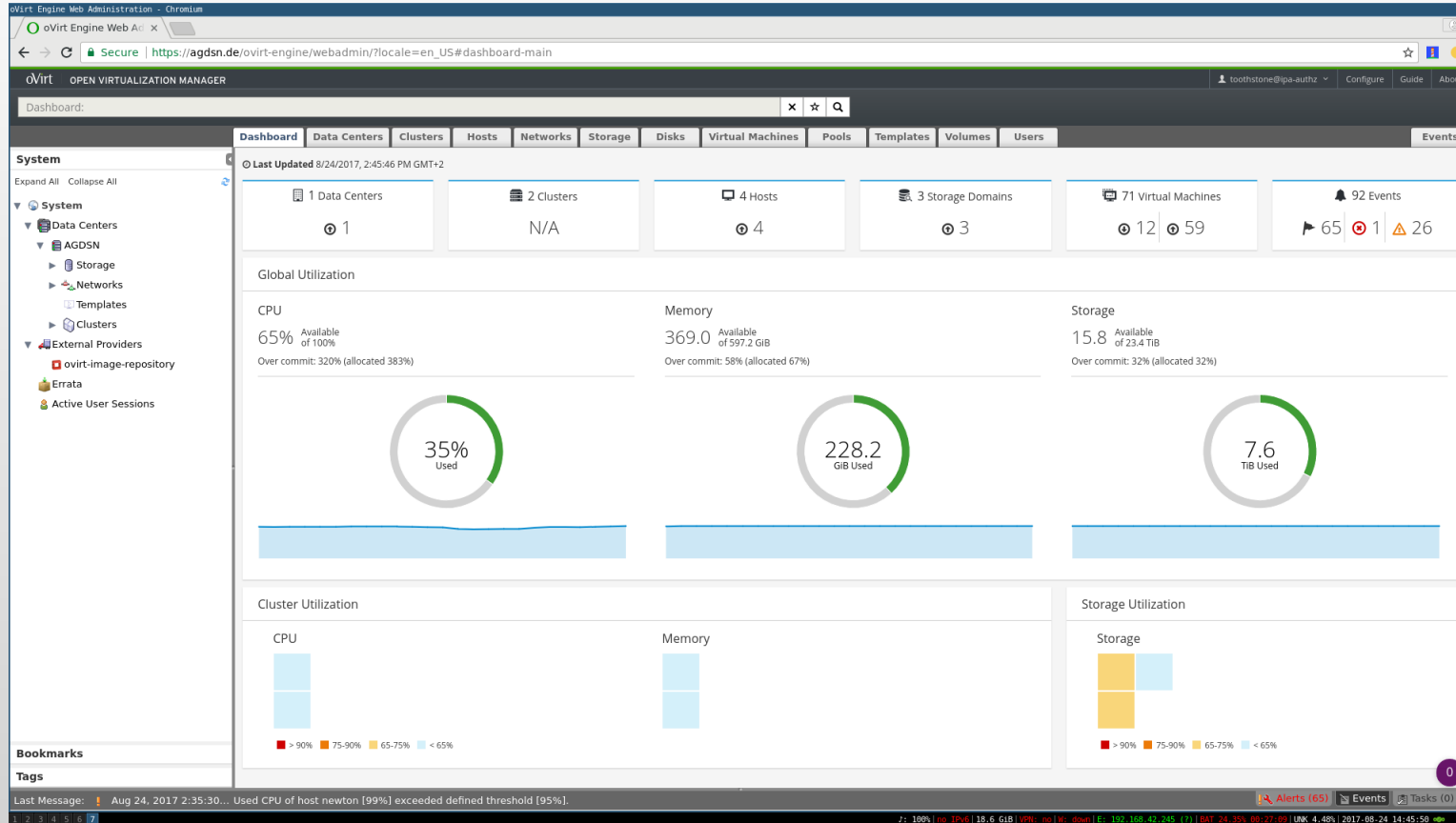


Infortrend DS1024GT

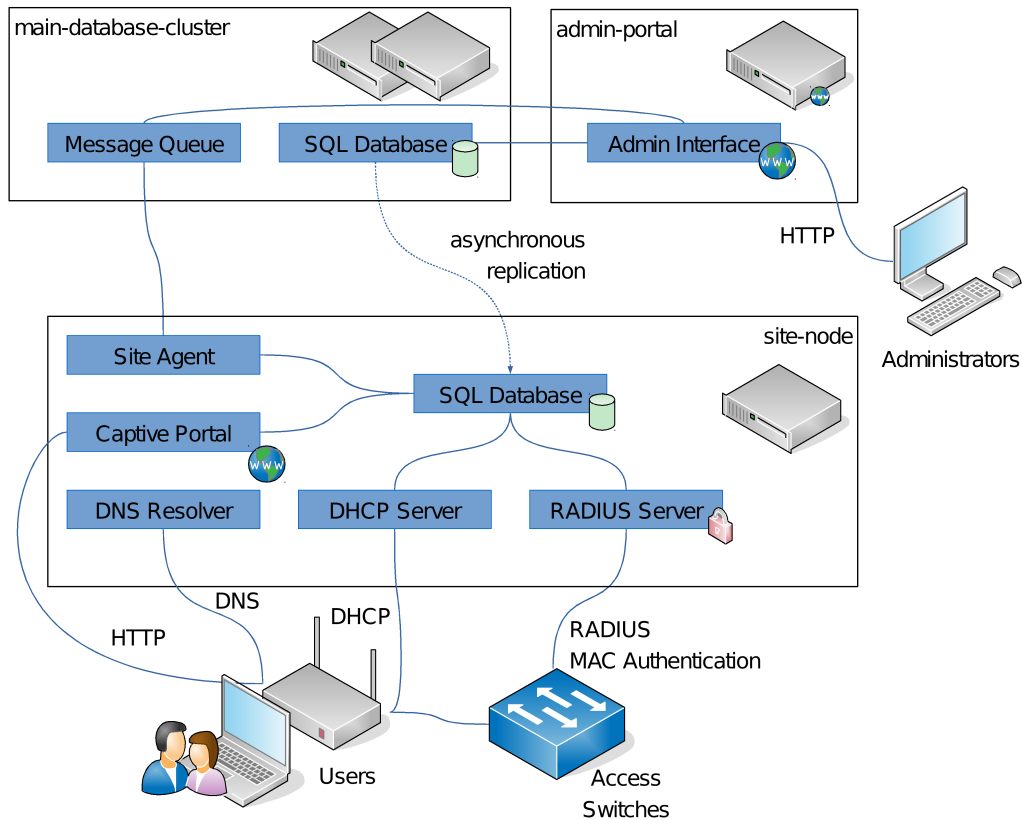


Dell PowerEdge R630

HA VM cluster - oVirt



RADIUS MAC authentication w/ captive portal



The screenshot shows the AG DSN Captive Portal interface. The browser address bar displays `captive-portal.agdsn.de`. The page features the AG DSN logo and the text "AG Dresdner Studentennetz". The main content area displays a denial message:

We are very sorry 😞

We have to deny you from accessing the network for the following reasons:

- We don't recognize your MAC address. If you are already a AG DSN member, you are probably using a different device, please tell us its MAC address. If you are not a member, please apply.

Your MAC address is 00:e0:81:c6:7b:20

Arbeitsgemeinschaft Dresdner Studentennetz (AG DSN)

Support: support@wh2.tu-dresden.de
Abuse: abuse@wh2.tu-dresden.de
Finance: finanzen@wh2.tu-dresden.de

Outlook

Soon(ish):

- New student house with 240 inhabitants in October
- Infrastructure WLAN in production
- New administrative interface (github.com/agdsn/pycroft)

Some day, hopefully:

- Self-service registration
- IPv6
- Zittau/Görlitz

Keep in touch

- twitter.com/agdsn
(#justAGDSNthings)
- [facebook.com/
DresdnerStudentenNetz](https://facebook.com/DresdnerStudentenNetz)
- github.com/agdsn
- XMPP/jabber:
agdsn@conference.agdsn.de

Bonus slide: fs.com

- Fiberstore Inc. from Wuhan, China
- Optics, WDM and fibers at extremely affordable prices
- we bought:
 - CWDM 16 channel kit
 - programmable 10G transceivers and programmer
 - ~30 HPE compatible transceivers
- fedex handles customs (EUSt., import VAT)
- new Munich ware house
- but no proper VAT invoices yet :/
- feedback urgently wanted