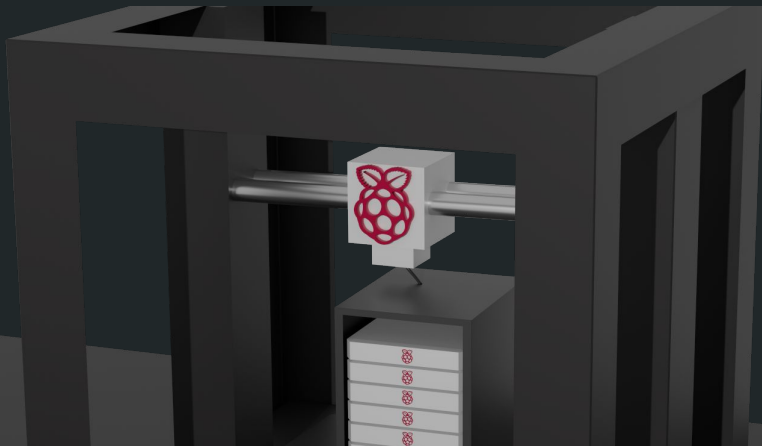


Raspberry Pi Cluster @ Home

Cluster erstellen & verwalten mit Ansible

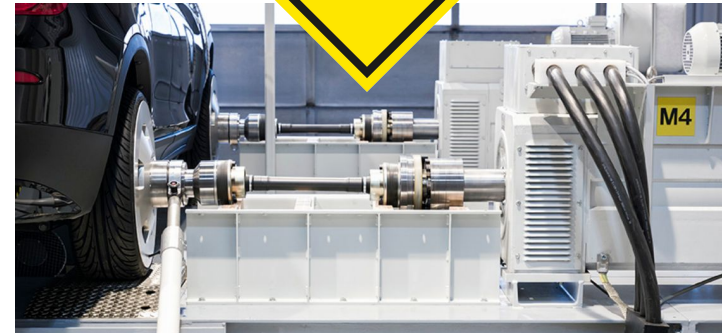


Manfred Wallner

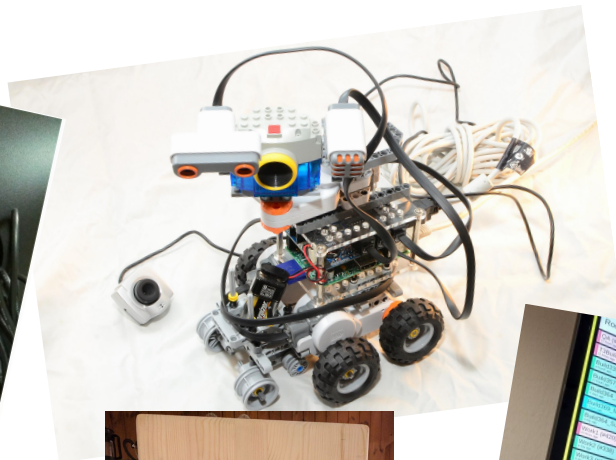
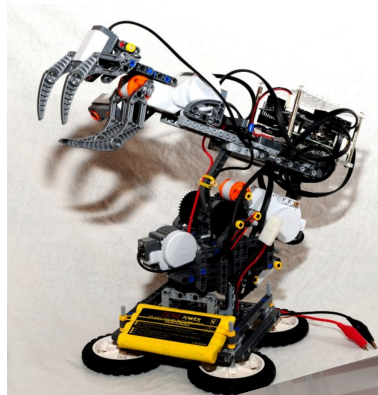
- software developer
- hobby photographer
- travel enthusiast

~ 2011 -> today @ ksengineers

- C++ Dev
- CI / System Automation



Raspberry Pi Projekte ~ anno 2014



T.A.R.A. Home Security

Status

Alles Ok



Sensoren:

raspberrypi

Sensor: Haustuere

Letztes Update: 04/24/2015 18:46:07

raspberrypi

Sensor: Balkontuere-Wohnzimmer

Letztes Update: 04/24/2015 18:46:07

raspberrypi

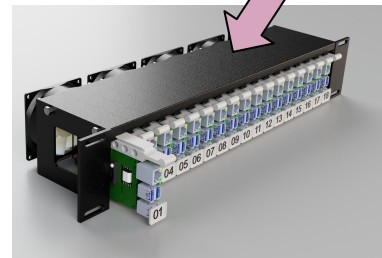
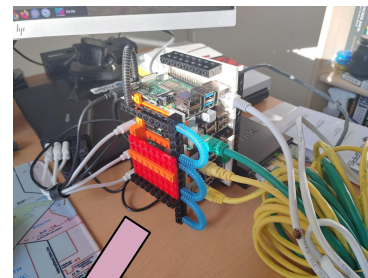
Sensor: Balkontuere-Schlafzimmer

Letztes Update: 04/24/2015 18:46:07

Das Projekt “rpich”

<https://mwallner.net/posts/2021-02-06-building-homelab-4-scale/>

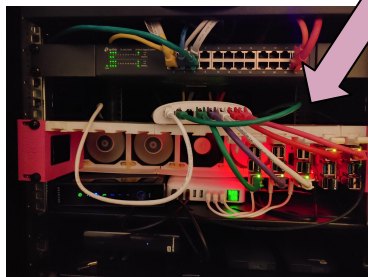
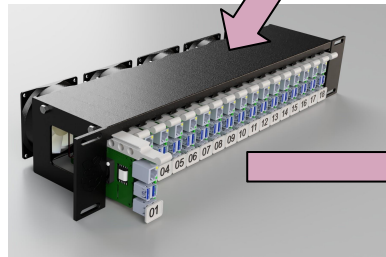
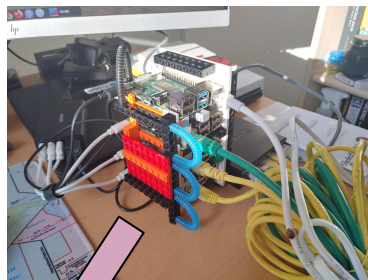
- Raspberry Pi Cluster @ Home
 - KEIN K8s / Docker / Weave Net
- Formfaktor
 - 19" Server-Setup / Rack-Montage



Das Projekt “rpich”

<https://mwallner.net/posts/2021-02-06-building-homelab-4-scale/>

- Was es können/tun soll
 - Foto Deduplication / Backup
 - NuGet / maven / npm / Docker Repo
 - Hausautomatisierung / Alarmanlage
 - Photovoltaik API collector
 - Videoüberwachung
 - ...
 - Skalierbar!



ok ok ok ... aber WARUM?



“rpich” irl



Specs (10.04.2021)

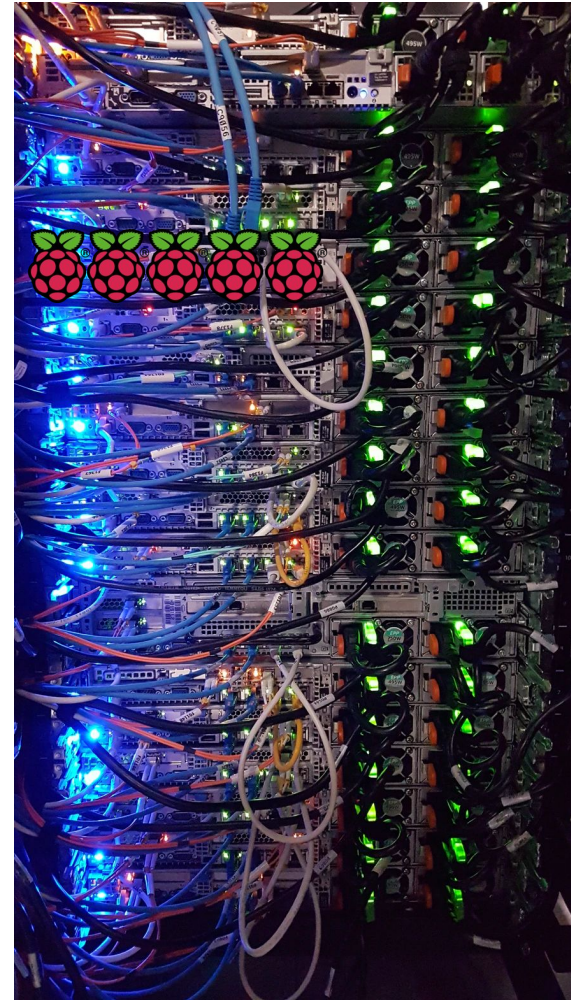
Cluster => 5 Nodes (~ 12W avg)

20 Cores (> 1Ghz)

19 GB Memory

16 GB SD, 32 GB Flash / Node

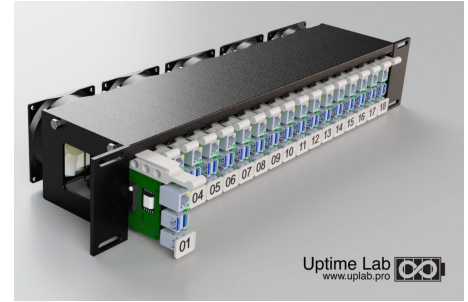
3 TB NFS Storage



Hardware / Aufbau

Chassis

<https://uplab.pro/2020/12/raspberry-pi-server-mark-iii/>



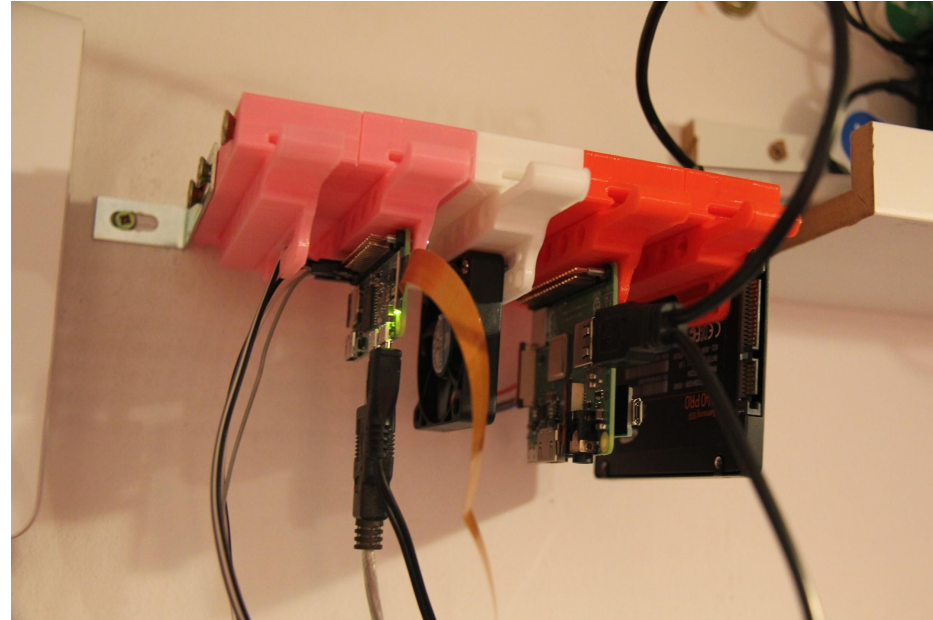
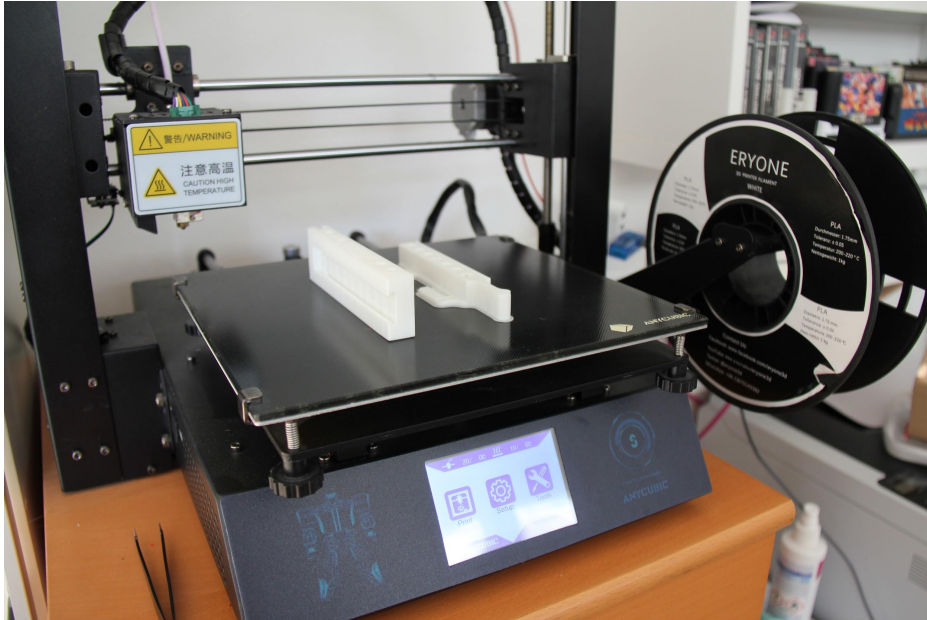
Power

<https://www.amazon.de/gp/product/B07N4ND72H>



Cables, SD-Cards, USB-Pendrives...

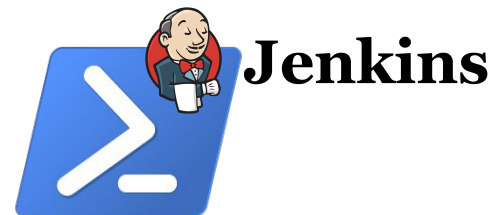
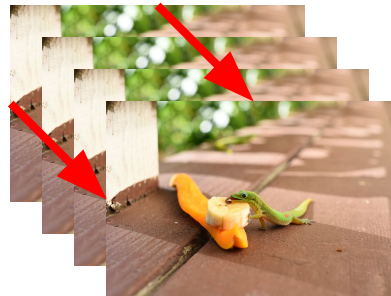
Die Chassis-Elemente sind vielseitig einsetzbar...



Software

- Foto Deduplication / Backup
 - [Flickr-uploadr](#)
- NuGet / maven / npm / Docker Repo
 - [Sonatype Nexus](#)
- Hausautomatisierung / Alarmanlage
 - [AlertR](#) / [rams](#)
 - PowerShell + Jenkins
- Videoüberwachung
 - [ZoneMinder](#)

... Skalierbar => [ANSIBLE](#)

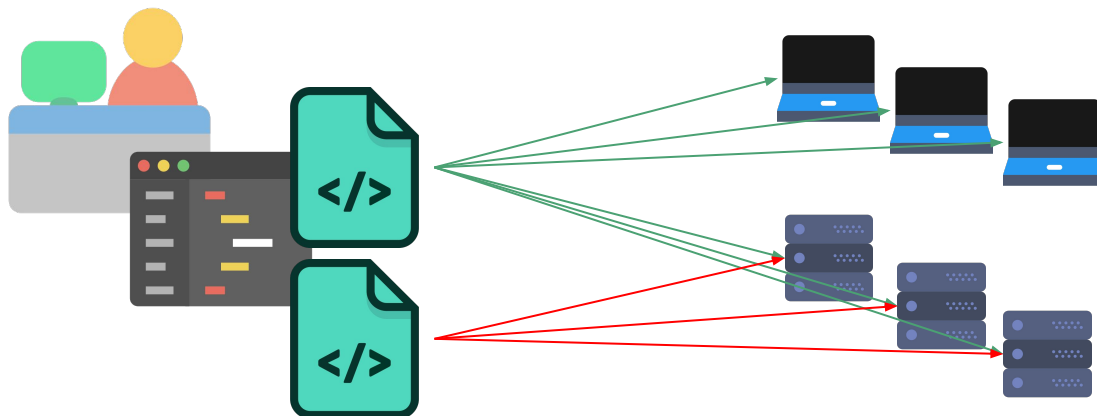


REACHING A GOAL

REQUIRES PROPER TOOLS

Ansible

- Konfigurationsmanagement (OSS)
- Desired-State Configuration / Consistent State
- Zentrale Administration mehrerer Rechner

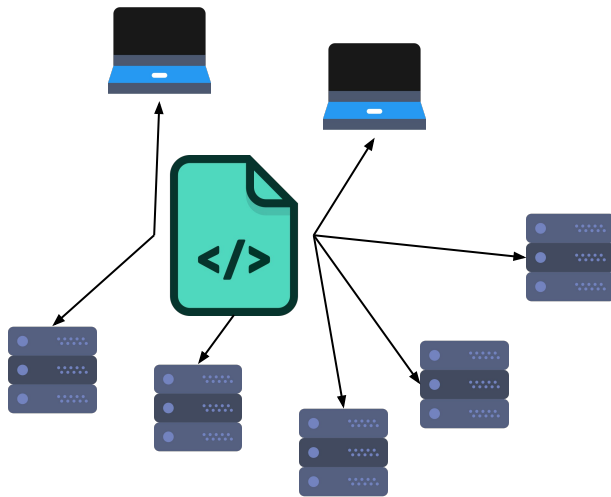


Updates?

ohne Ansible =>



Ansible



- Remote
- Agentless
- Skaliert “Home-Server” bis hin zu Enterprise-Farmen
- Inventory / Module / Playbooks
- Geniale Doku @ <https://docs.ansible.com/ansible/latest/>

Demo

- Ansible

- › `ansible -i cluster.yml all -m ping`

- › `ansible-playbook -i cluster.yml site.yml --tags common`

- Jenkins

- › <http://192.168.0.130:8080/>

- Sonatype Nexus

- › <http://192.168.0.130:8081/>

Was kommt noch?

- <https://github.com/mwallner/rpich>
- <https://mwallner.net/tags/cluster/>
- Nginx reverse proxy / controller -> 'router'

- build it <-
- use it <-
- break it
- learn



“etwas zum mitnehmen”



thanks for listening to me!

Still here?

ask questions now!

get in touch:

@schusterfredl

<https://mwallner.net>

linux@mwallner.net



404

this is not the slide
you are looking for