



## Ceph Cluster

deployed over the last 2 years

225 Nodes 5400 Cores 58 TB RAM 1.8 PB (nvme)

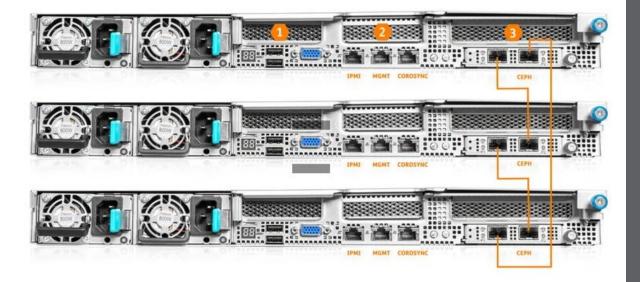
~ 900 OSDs

### Our Ceph implementations

Clusters we deploy regularly

- 3-5 Nodes
- No storage switches (saving money)
- Proxmox VE + Ceph (RBD & cephfs only)
- Full meshed network
  - Bonded RR with manual routing or
  - RSTP with open-vSwitch











#### Lessons learned

From 75 HCl deployments in 2 years

- Experience is negligible: If a product rocks, you make it work
- Starting is easy But problems are bound to happen
- Problems create Anxiety
- Empowering customers is very important!
- Conclusion: Some Topics are a MUST-KNOW!



# Ceph 101 - 01

... Important beginner topics and typical questions



- What does a MON / MGR / MD service do?
- Whats the reasoning for the service naming?
- What are OSDs and its statuses
  - What can I achieve with OSD flags?
  - How can I swap disks?
  - How do I integrate new disks?

### Ceph 101 - 02

... Important beginner topics and typical questions



- my cluster is not working anymore
  - osd has 95% (!) usage
- parameters to monitor in a ceph cluster?
- What is SIZE and MIN-SIZE (MIN=1 OK?)
- How does a pool work in ceph?
- what are PGs and why are there so many different states of PGs?
- What is the pgautoscaler for?
- how does rebalancing work in ceph?

# Ceph 101 - 03

... Important beginner topics and typical questions



- How can I put files into ceph via terminal?
- aka: "how to setup cephfs"
- How does data get written in (simplified data-flow) in replicated setups
- How can I shutdown a ceph cluster completely?

### Some ideas...

...for welcoming first time ceph users

- Start with the absolute minimum
- Focus on first time users with small clusters
- Use pictures and diagrams to illustrate topics
- Simplify explanations as much possible



#### Some ideas...

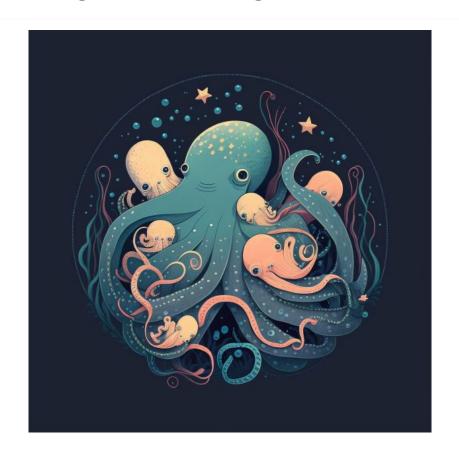
...for welcoming first time ceph users

- Provide useful Links and do it prominently!
  - Docs, Forums, Blogs, Mailing lists ....
- Provide Help and Guidelines for good questions on mailing list
  - Logs, command-outputs ...
- Create space to showcase typical beginner problems (and how to tackle them)
- Most important Topics:
  - 95% OSD usage
  - OSD replacement
  - basic ceph-services (MON, MGR, MDS)



## How do **WE** get started?

... so beginners do not get lost in the Deep Sea of ceph







Thank you for your attention!

Feel free to add me on LinkedIn:

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