

CEPHFS POOL RESIZE ON PROXMOX VIRTUAL ENVIRONMENT

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Intro - PT Awan Data Semesta



Cloud Infrastructure Hosting

Menyediakan layanan cloud dengan menggunakan arsitektur teknologi berbasis open source dan teknologi yang terkini untuk memenuhi kebutuhan infrastruktur cloud yang digunakan pada aplikasi koperasi digital di Indonesia.

Dapatkan Website Profesional Koperasi



Website & Domain Platform - COOP.ID

COOP.ID merupakan platform yang memberikan layanan digitalisasi bagi koperasi dalam bentuk penyediaan paket bundling website, hosting dan identitas koperasi khas Indonesia yang dapat menunjang bisnis melalui peningkatan eksposur koperasi bagi anggota, mitra serta masyarakat pada umumnya.



Cooperative Data Center (CDC)

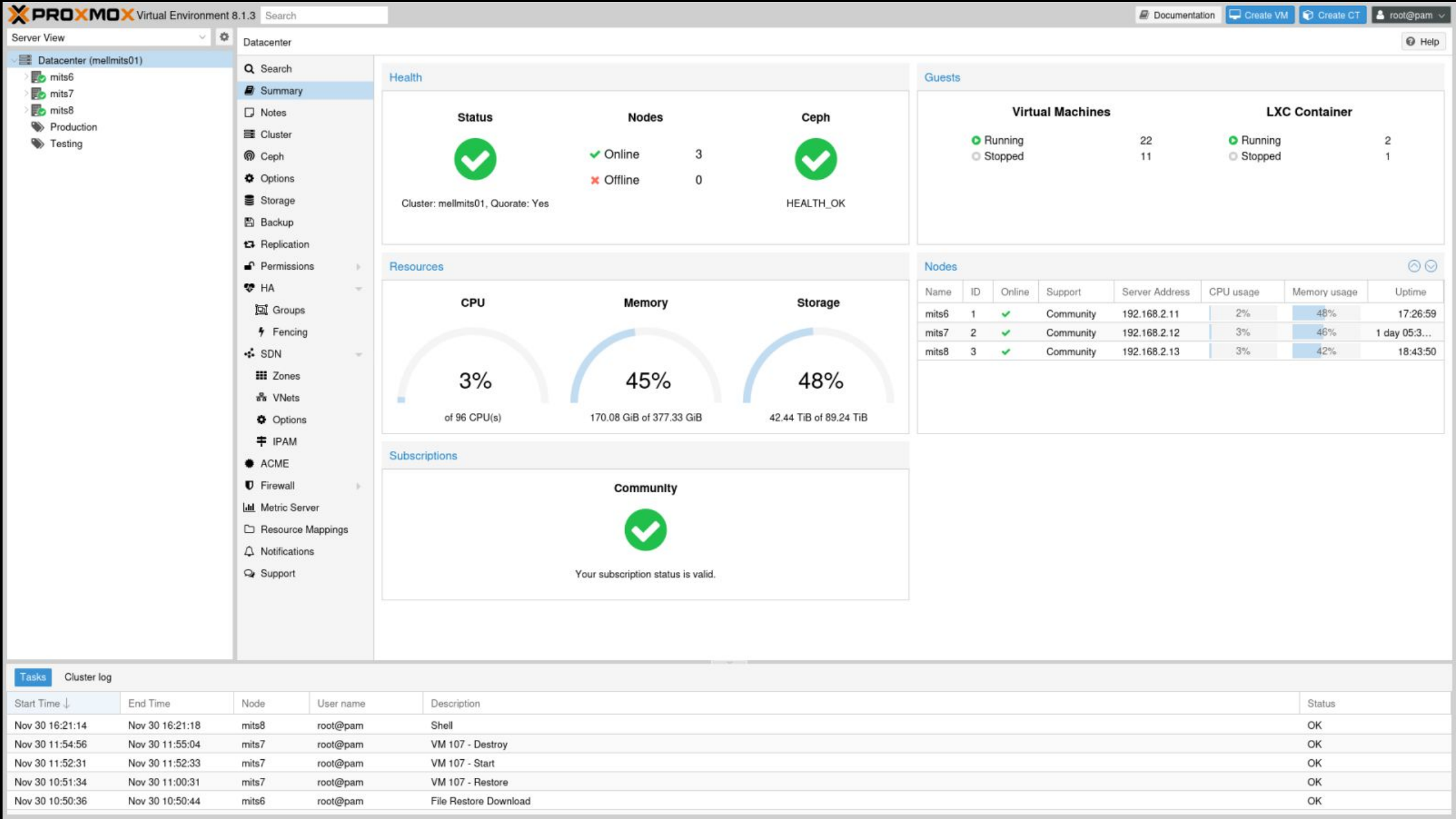
Platform manajemen data koperasi yang terintegrasi dengan ekosistem koperasi modern di Indonesia Memiliki fitur credit scoring dan data analitik berbasis AI untuk membantu dalam pengambilan keputusan kredit di Koperasi.

Purpose & Value

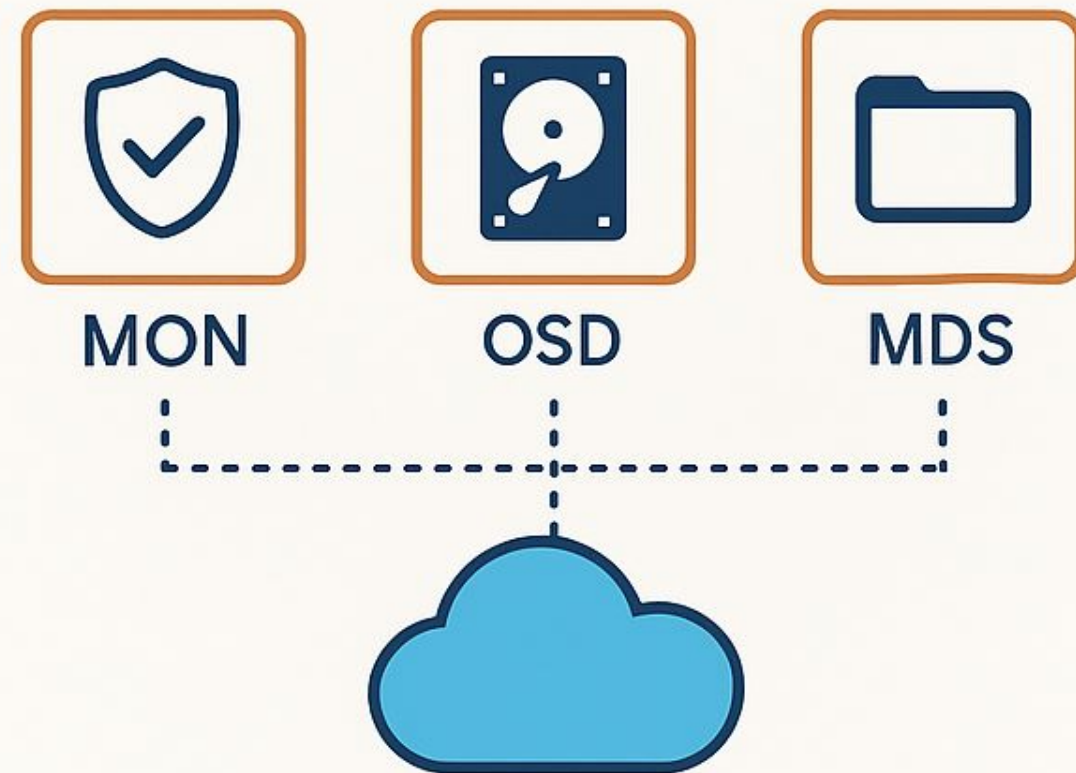
- Explains alternative solutions without purchasing a server
- Demonstrates how to optimize CephFS pools
- Improves storage efficiency and control

PVE + Ceph

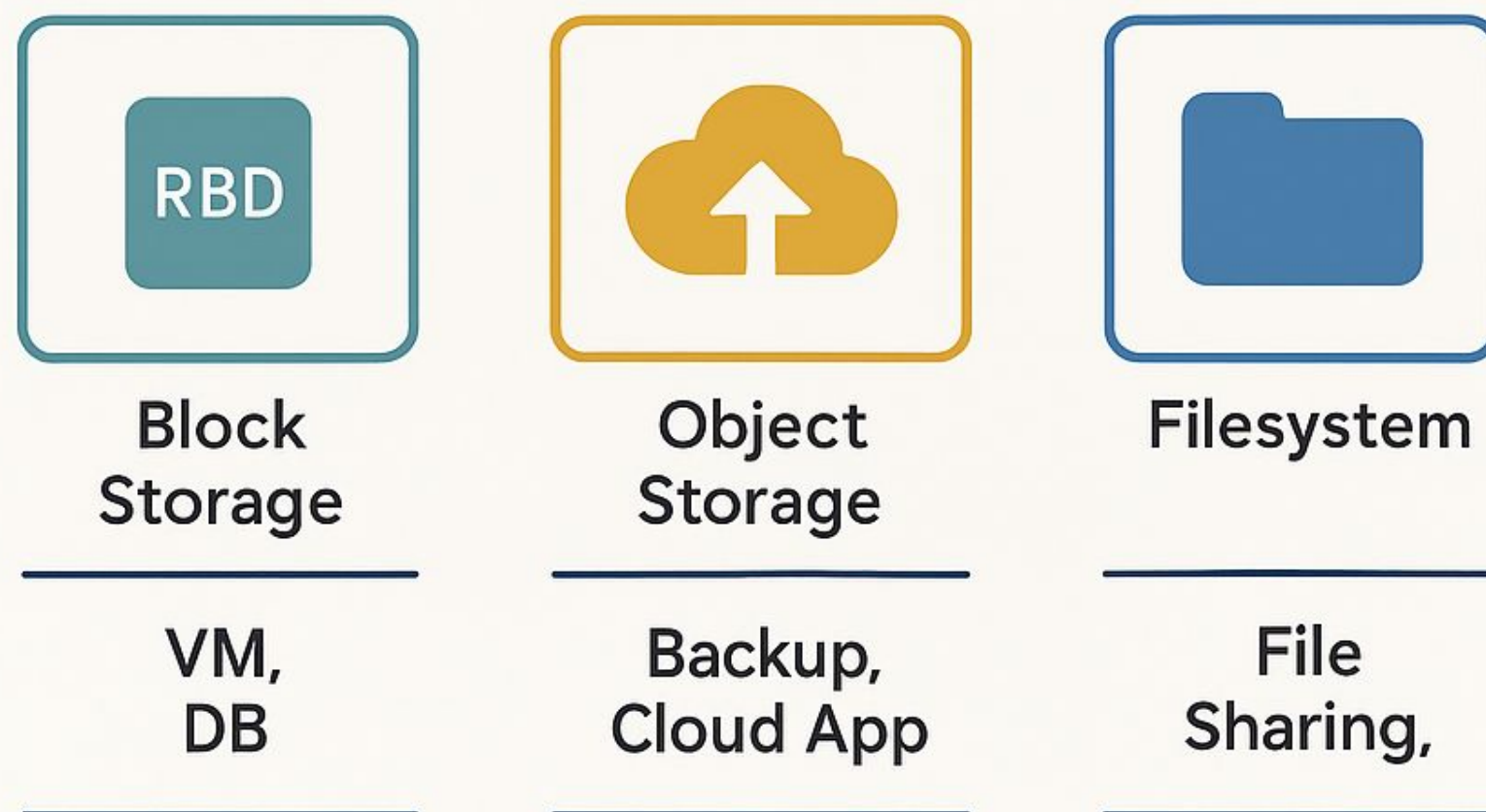
PVE Dashboard



Ceph Cluster Architecture



Storage Services



Ceph Architecture

A Ceph Storage Cluster consists of multiple types of daemons:

- MON
- OSD
- MGR
- MDS

<https://docs.ceph.com/en/latest/architecture/>



Condition

- Ceph cluster out of space, but storage expansion is impossible

Command

```
$ ceph osd pool set-quota {pool-name} [max-objects {obj-count}] [max_bytes {bytes}]
```

Example :

```
$ ceph osd pool set-quota cephfs_data max_objects 10000
```

or

```
$ ceph osd pool set-quota cephfs_data max_bytes 500000000000
```

To delete the quota, just set it to 0

Create file in /mnt/pve/cephfs/template/iso

```
dd if=/dev/zero of=1gb_file.img bs=1M count=1024
```

or

```
dd if=/dev/zero of=5gb_file.img bs=1M count=5120
```

Check & Verification

To check the valid max quota, you can use the following command

```
$ ceph osd pool ls detail --format json-pretty
```

```
"pool_id": 5,  
  "pool_name": "cephfs_data",  
  "create_time": "2024-01-18T14:59:23.447525+0700",  
  "flags": 1,  
  "flags_names": "hashpspool",  
  "type": 1,  
  "size": 3,  
  "min_size": 2,  
  "crush_rule": 0,  
  "peering_crush_bucket_count": 0,  
  "peering_crush_bucket_target": 0,  
  "peering_crush_bucket_barrier": 0,  
  "peering_crush_bucket_mandatory_member": 2147483647,  
  "object_hash": 2,  
  "pg_autoscale_mode": "on",  
  "pg_num": 256,  
  "pg_placement_num": 256,  
  "pg_placement_num_target": 256,  
  "pg_num_target": 256,  
  "pg_num_pending": 256,  
  "last_pg_merge_meta": {  
    "source_pgid": "5.20",  
    "ready_epoch": 7044,  
    "last_epoch_started": 7043,  
    "last_epoch_clean": 7043,  
    "source_version": "5528'45",  
    "target_version": "2698'44"  
  },  
  "last_change": "7452",  
  "last_force_op_resend": "0",  
  "last_force_op_resend_prenautilus": "7044",  
  "last_force_op_resend_preluminous": "7290",  
  "auid": 0,  
  "snap_mode": "selfmanaged",  
  "snap_seq": 0,  
  "snap_epoch": 0,  
  "pool_snaps": [],  
  "removed_snaps": "[]",  
  "quota_max_bytes": 50000000000,  
  "quota_max_objects": 0,
```


Best Practice & Tips

- Before and after monitoring
- Use limits gradually
- Document changes
- Ensure users are aware of growth projections

Real Use Case

Real case :

- Server fully capacity
- Unable to purchase a new storage
- Resize pool and gain extra usable GBs

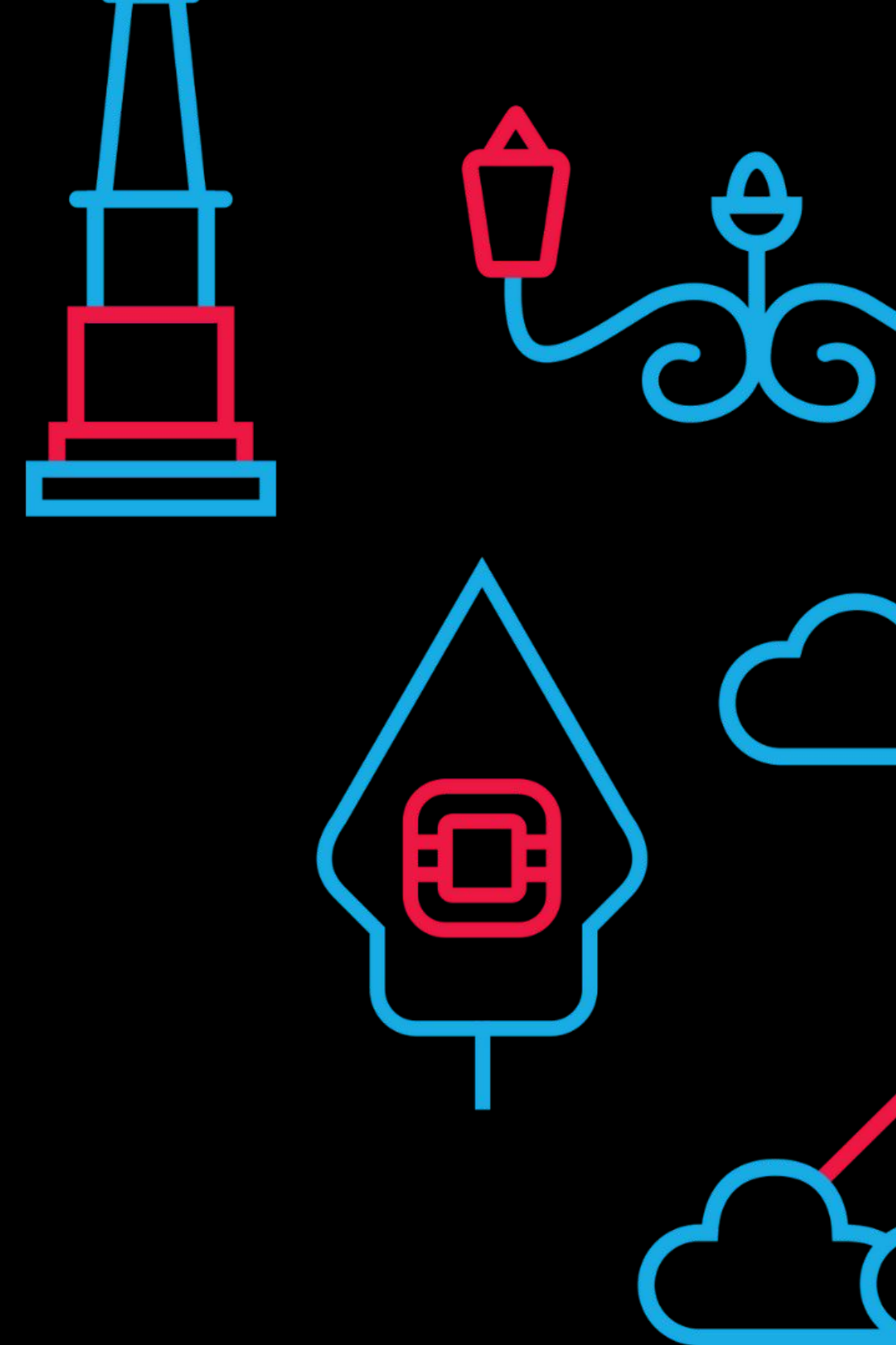
Immediate impact:

- System still running
- Budget saved

Business Impact & Insight

- Resource-saving strategies
- Allowing time and space for scale with a roadmap
- Increasing infrastructure efficiency

THANK YOU



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Q&A

Reference :

<https://docs.ceph.com/en/latest/rados/operations/pools/#setting-pool-quotas>

<https://docs.ceph.com/en/latest/rados/operations/placement-groups/#specifying-expected-pool-size>

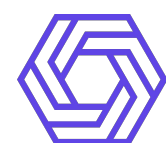
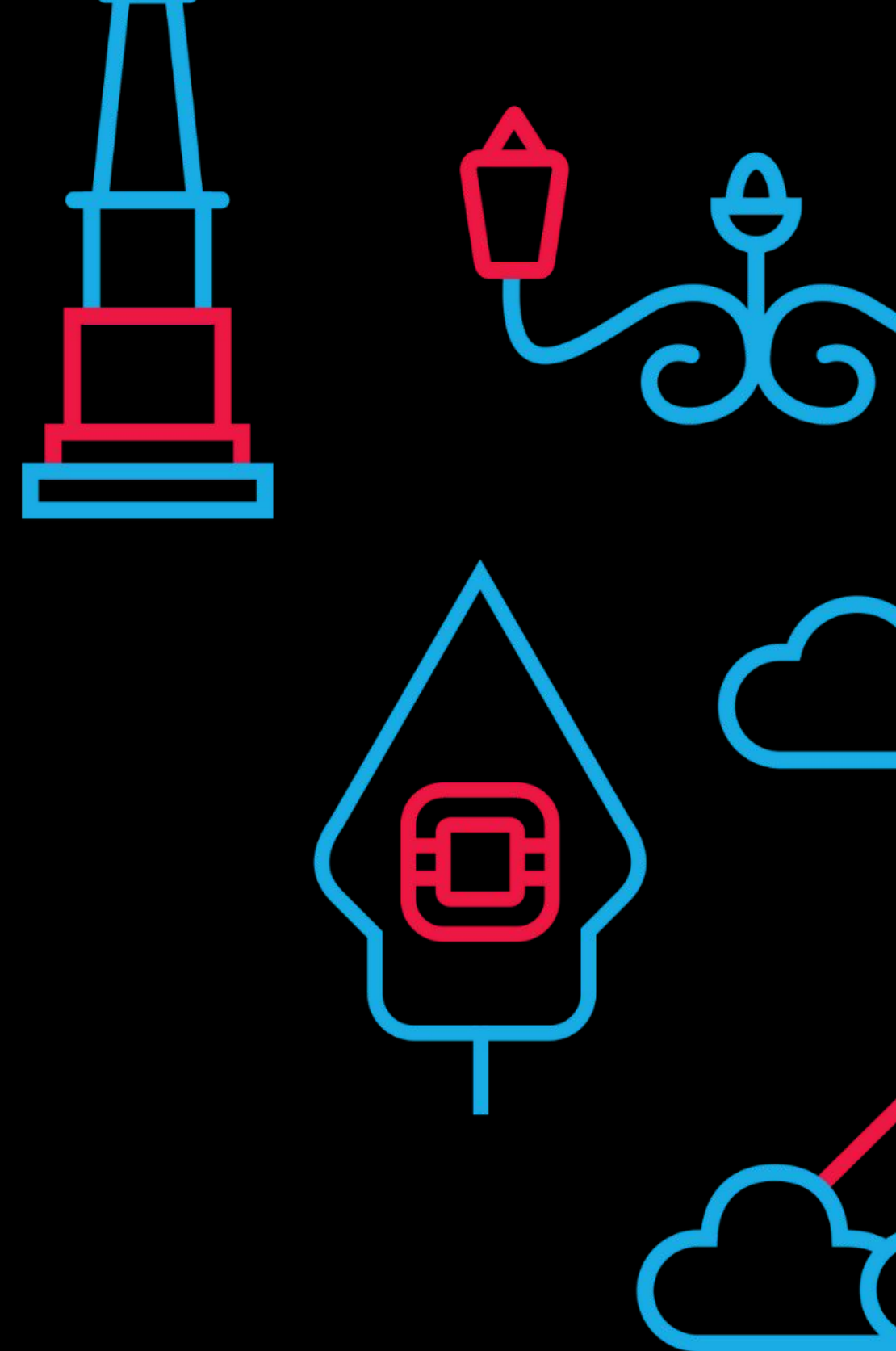


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*Hari Sabtu datang ke event OpenInfraID (cakeep..)
Jangan lupa mampir ke klik kopi (cakeep..)
Saya izin pamit undur diri (cakeep..)
Sampai bertemu di lain hari (cakeep..)*

:D

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