BeeGFS and Bacula Enterprise, Dockerized

Reiner Jung

Who are we?

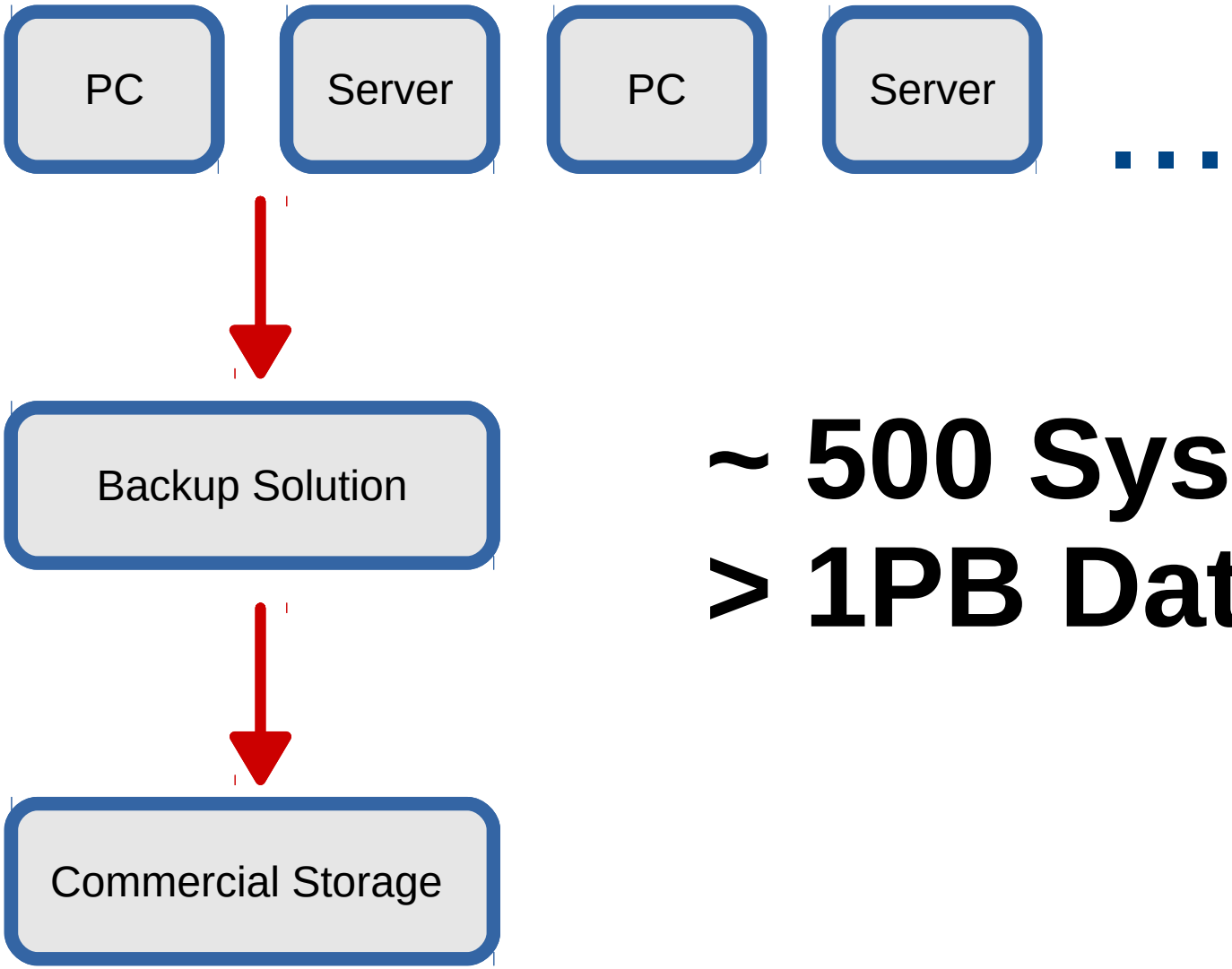
Consultants &
Developers &
Trainer

Strong Linux
and BSD
background

An “new” use case for BeeGFS

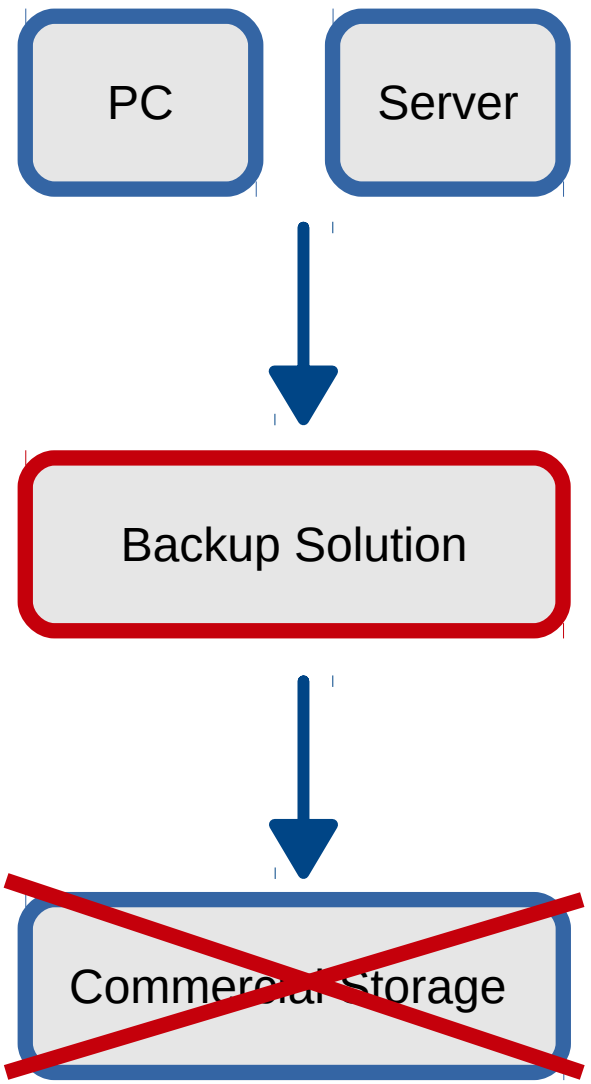
Project was started in 2014

Initial project scope ->

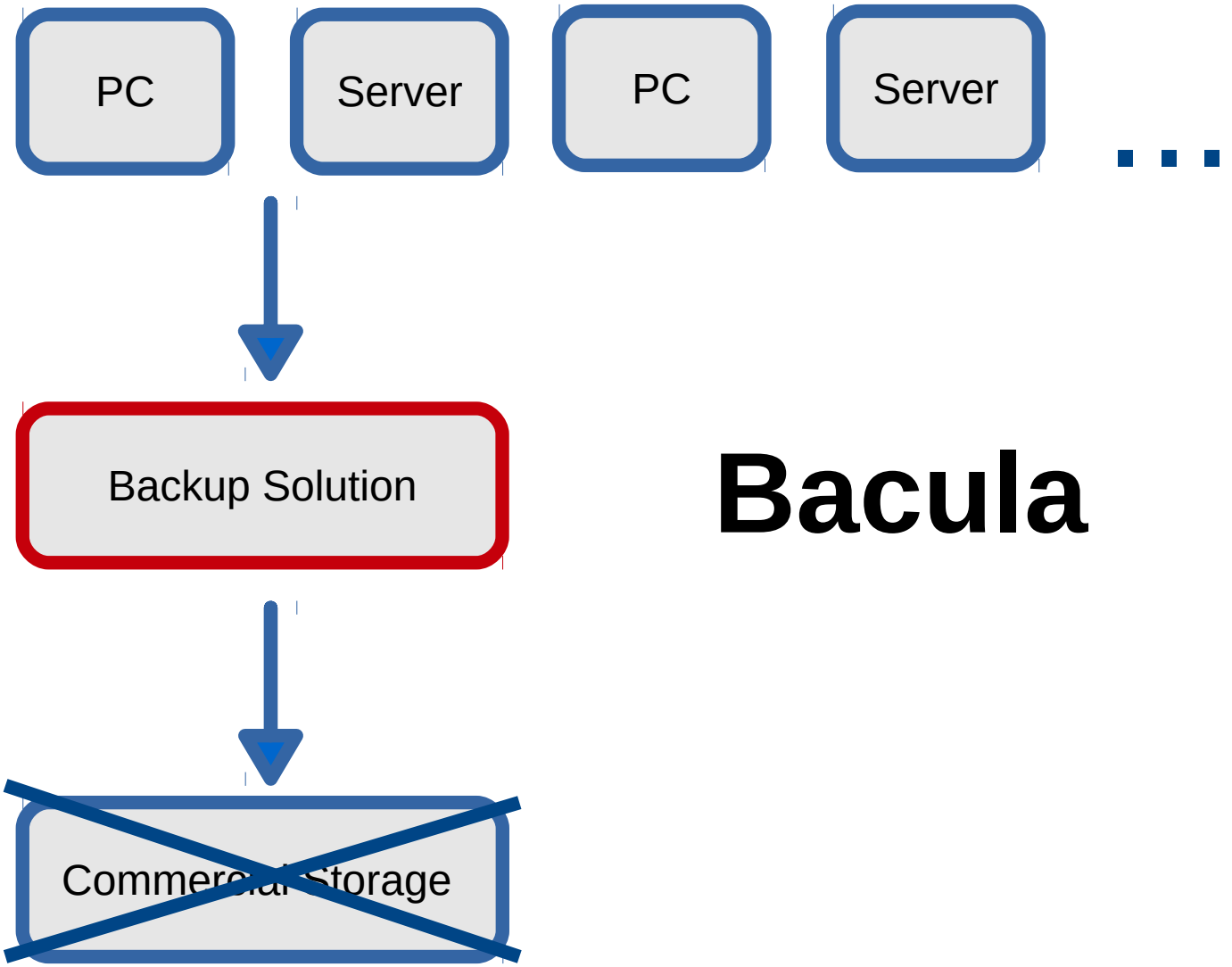


~ 500 Systems

> 1PB Data



New backup solution, Replace existing storage



Bacula

What is Bacula?

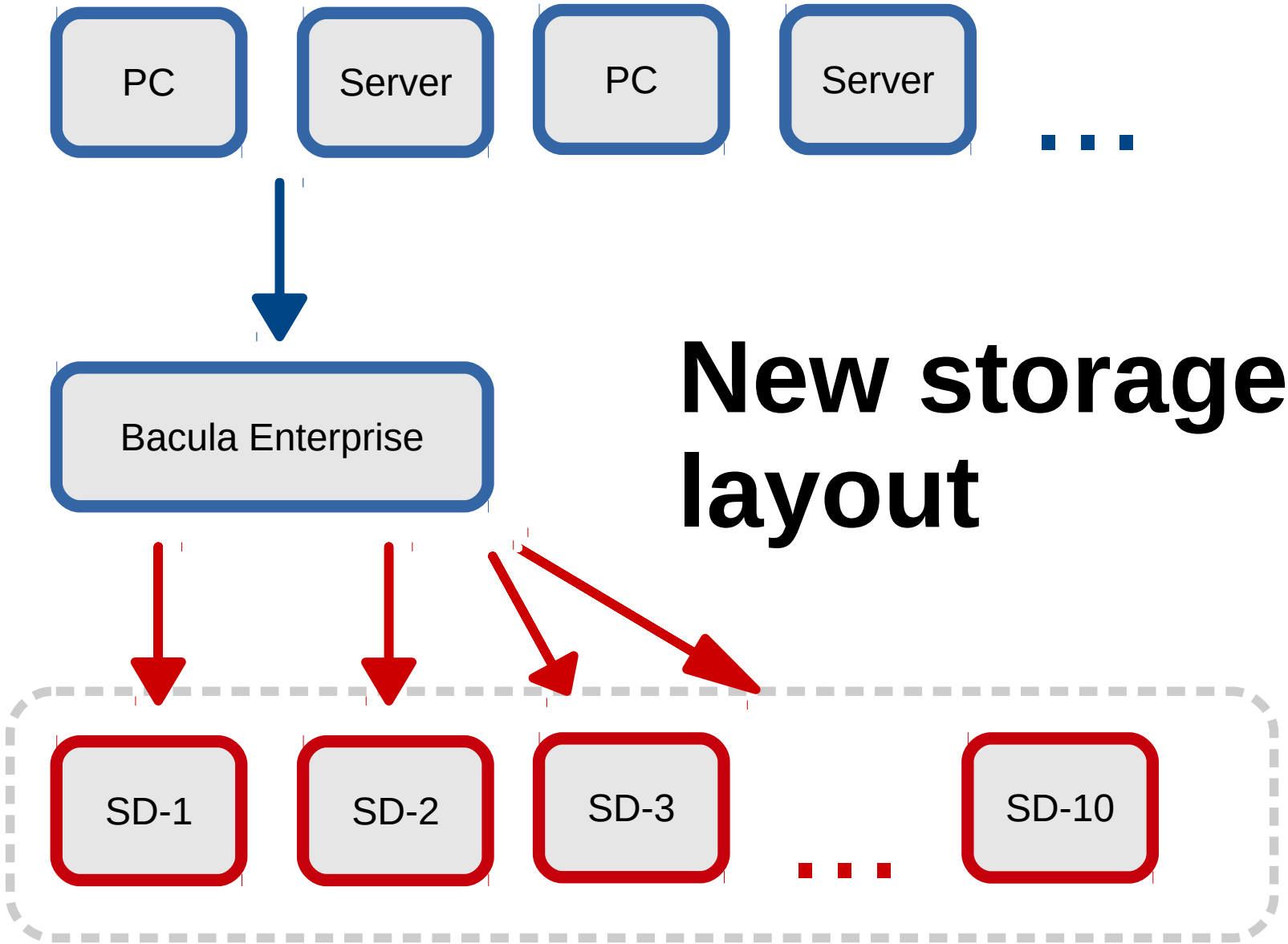
Enterprise Backup

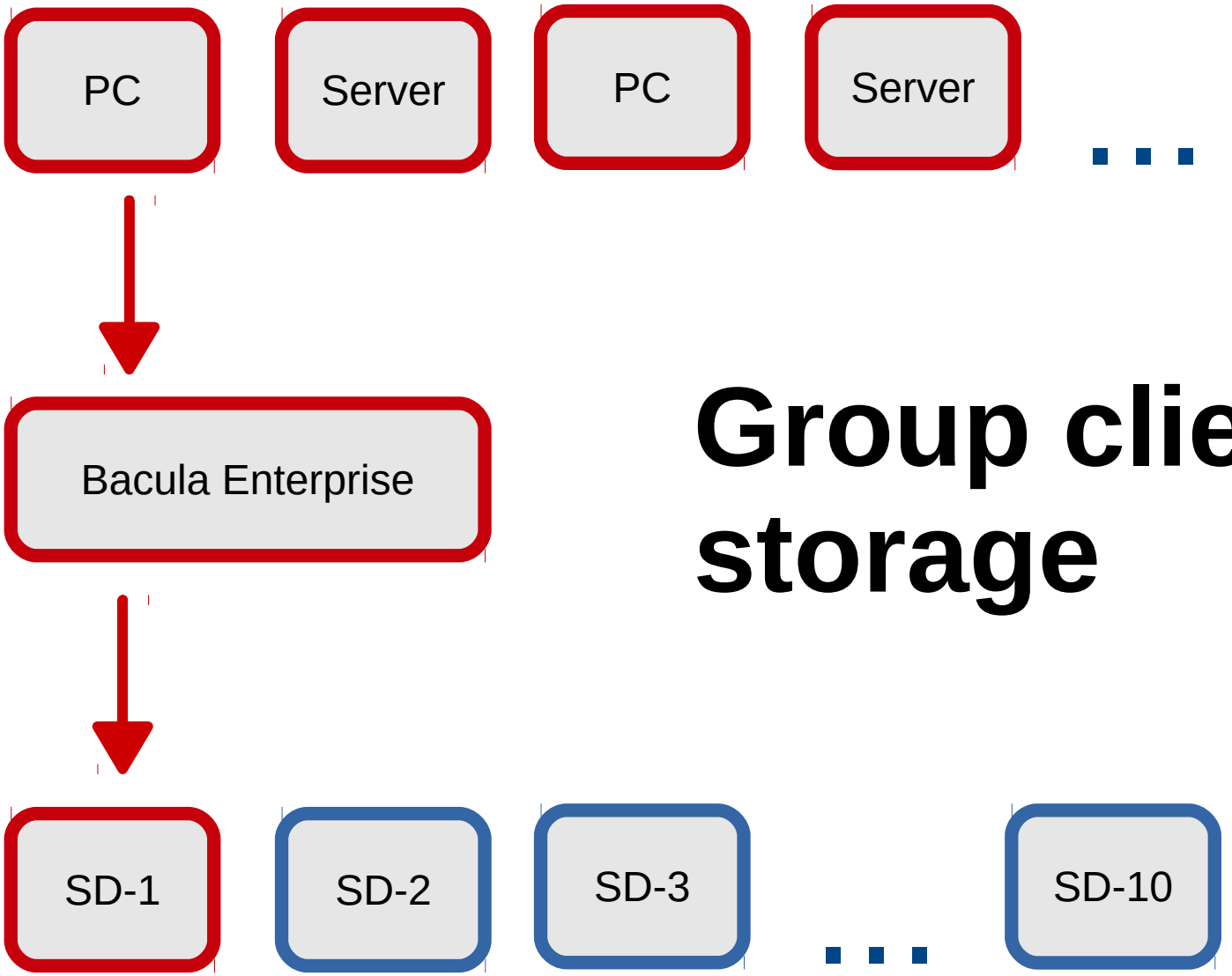
Multi-platform

Plugins

“OSS”

The new storage solution, phase 1

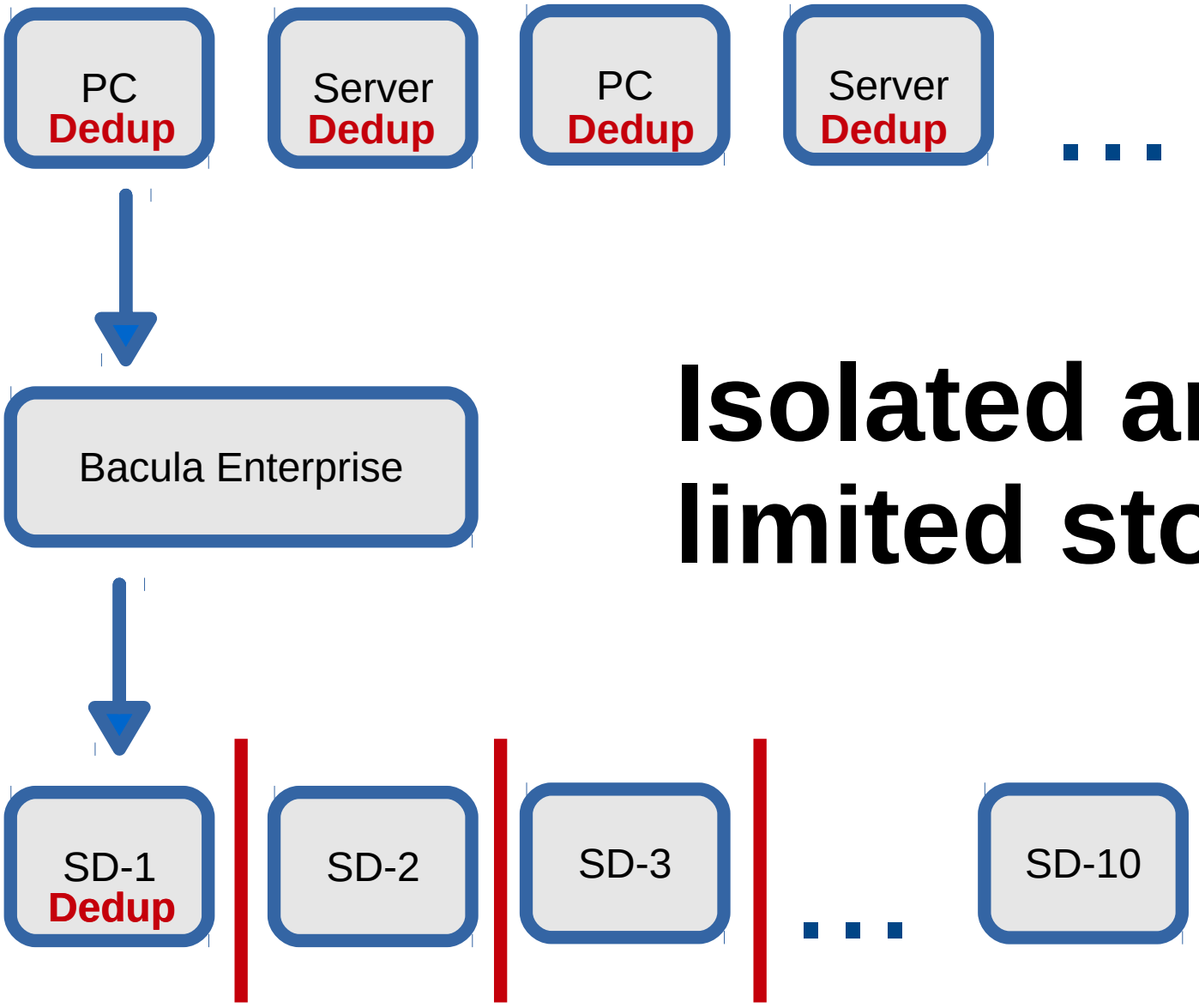

PC
Server
PC
Server
. . .
Bacula Enterprise
New storage layout
SD-1
SD-2
SD-3
. . .
SD-10



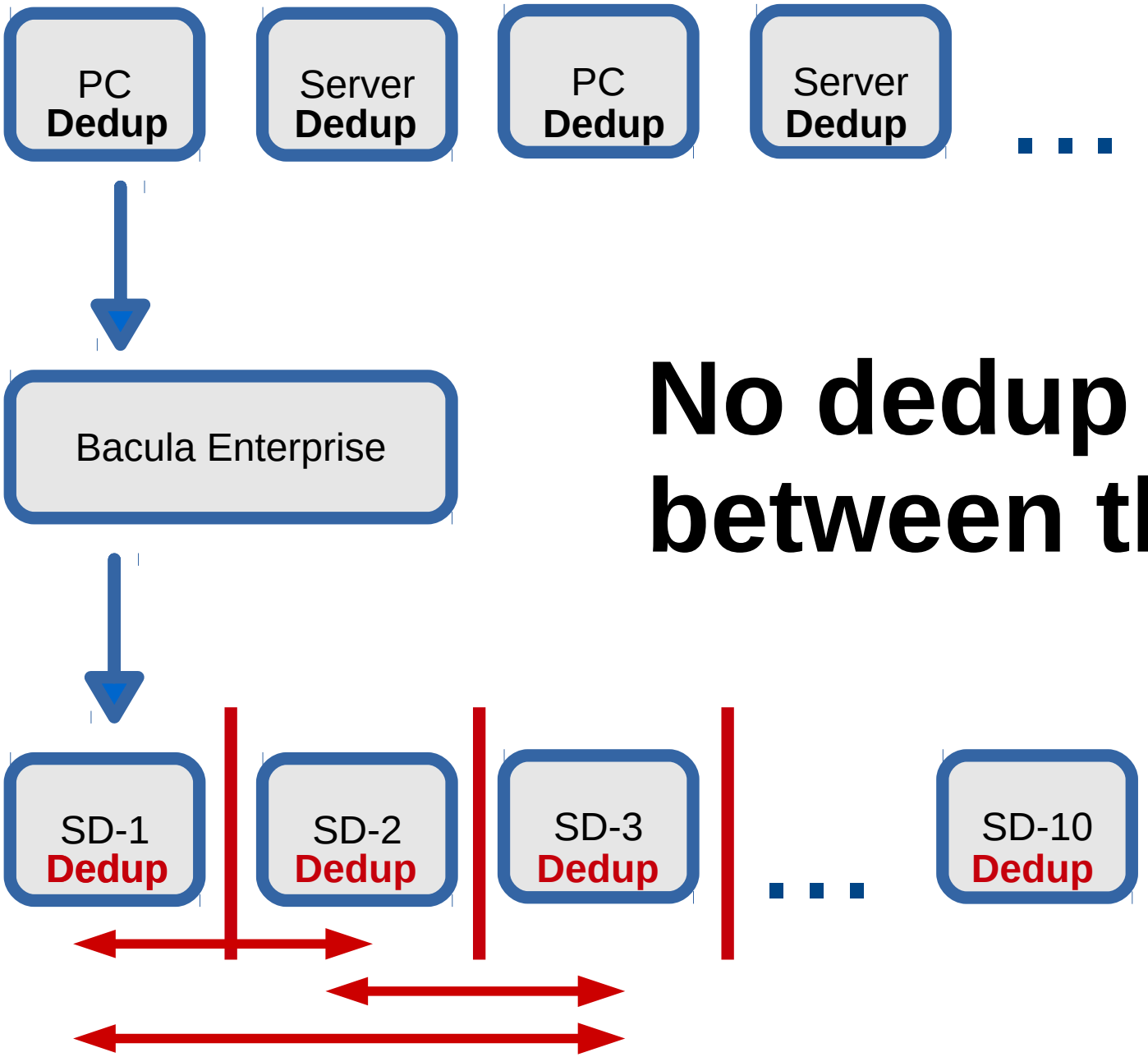
Group clients to storage

After several months in production.

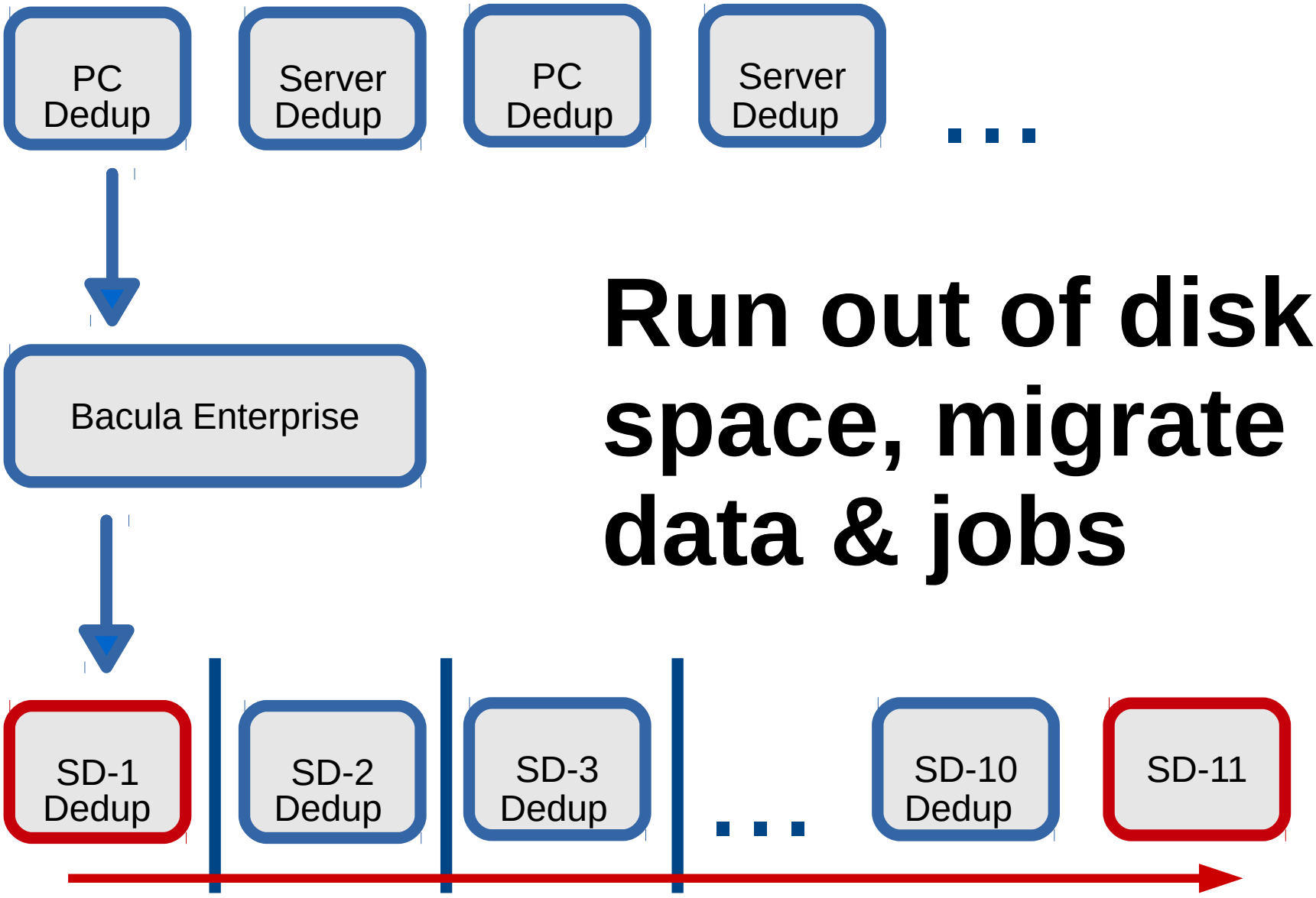
Problems in practice



Isolated and limited storage



No dedup between the SD



Run out of disk space, migrate data & jobs

The next step, PoC

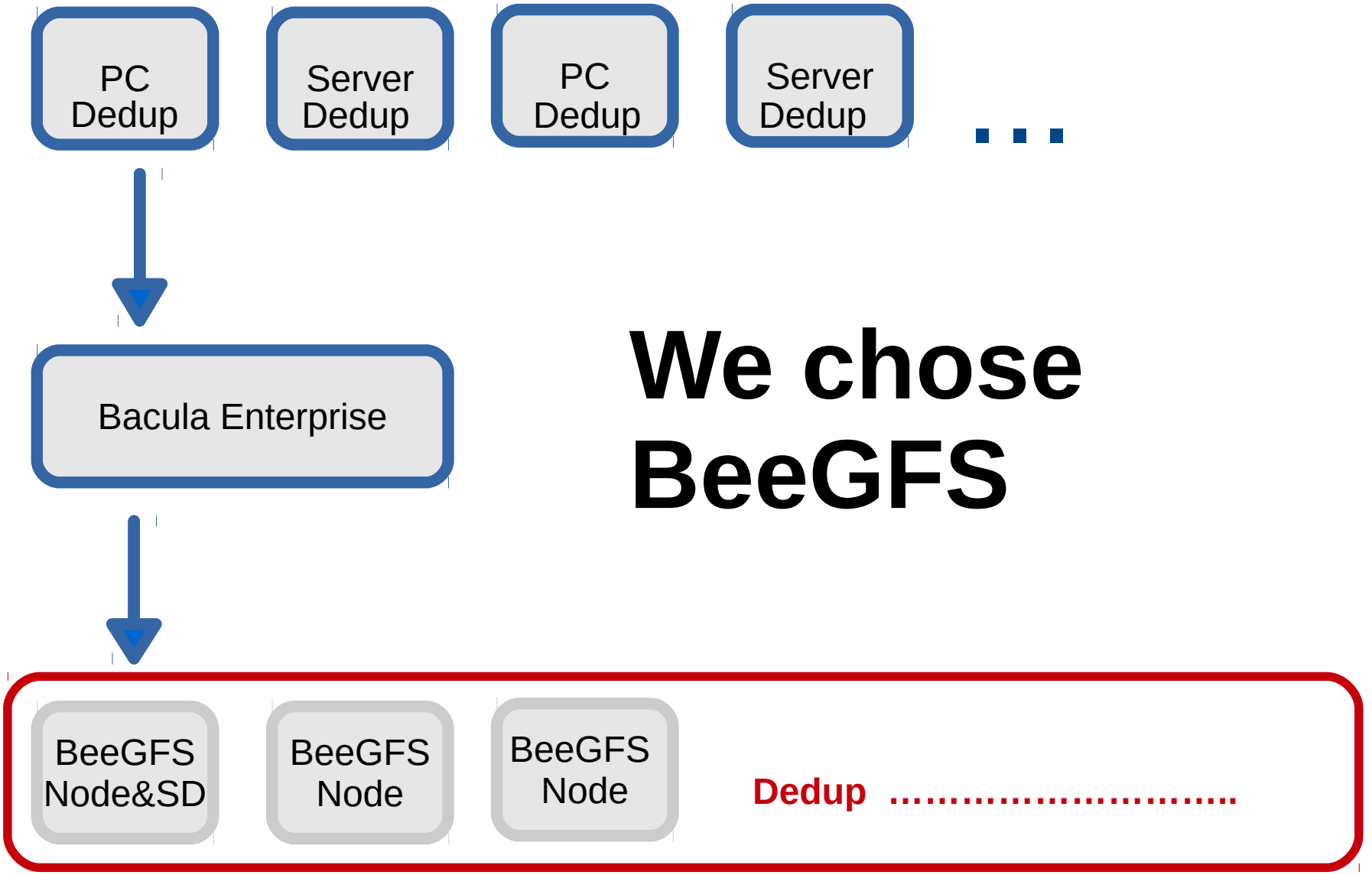
Storage optimization

CEPH

GlusterFS

BeeGFS

...


PC Dedup
Server Dedup
PC Dedup
Server Dedup
. . .
Bacula Enterprise
We chose BeeGFS
BeeGFS Node&SD
BeeGFS Node
BeeGFS Node
Dedup .....

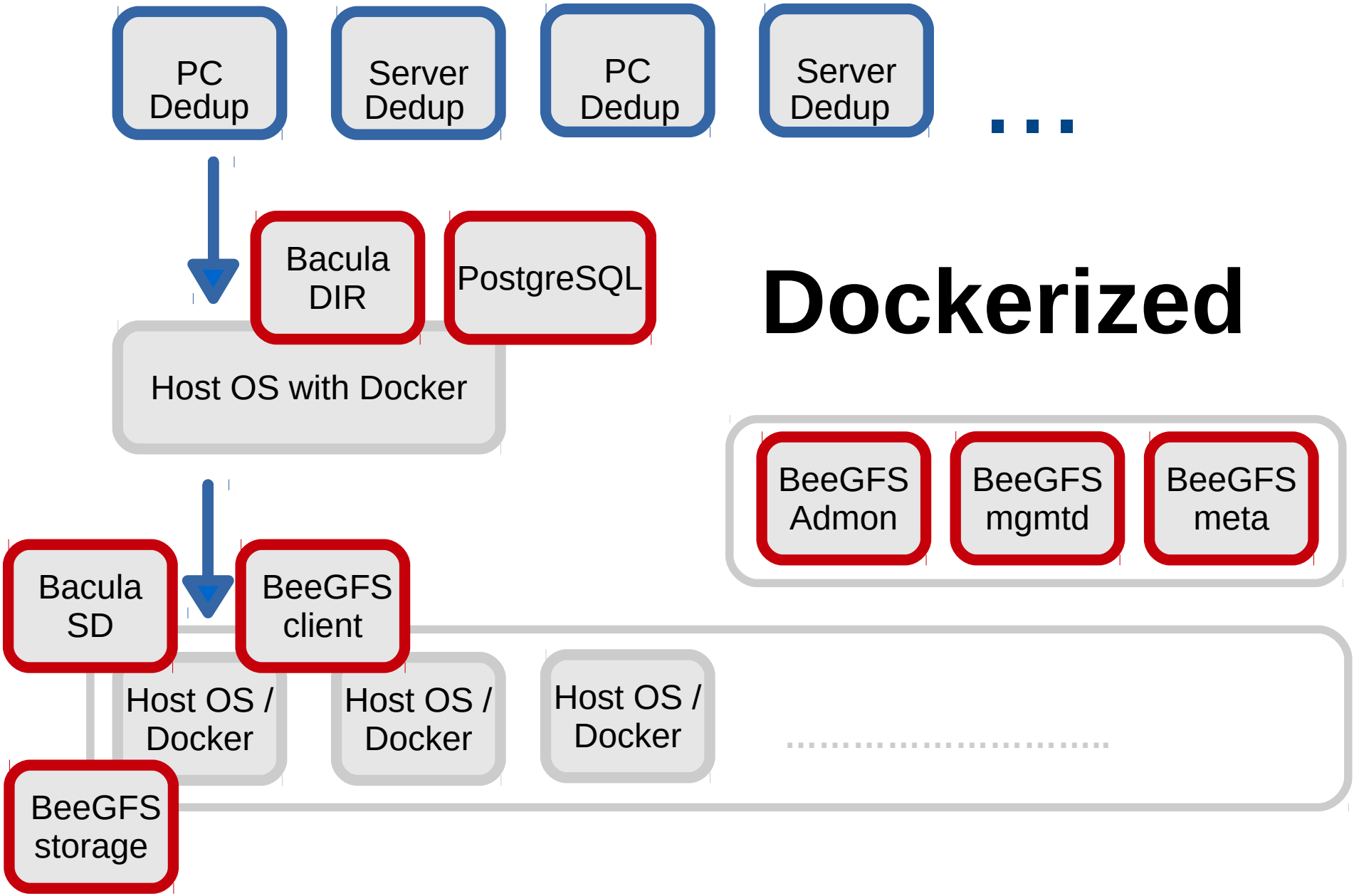
We go for Docker.

What is Docker?

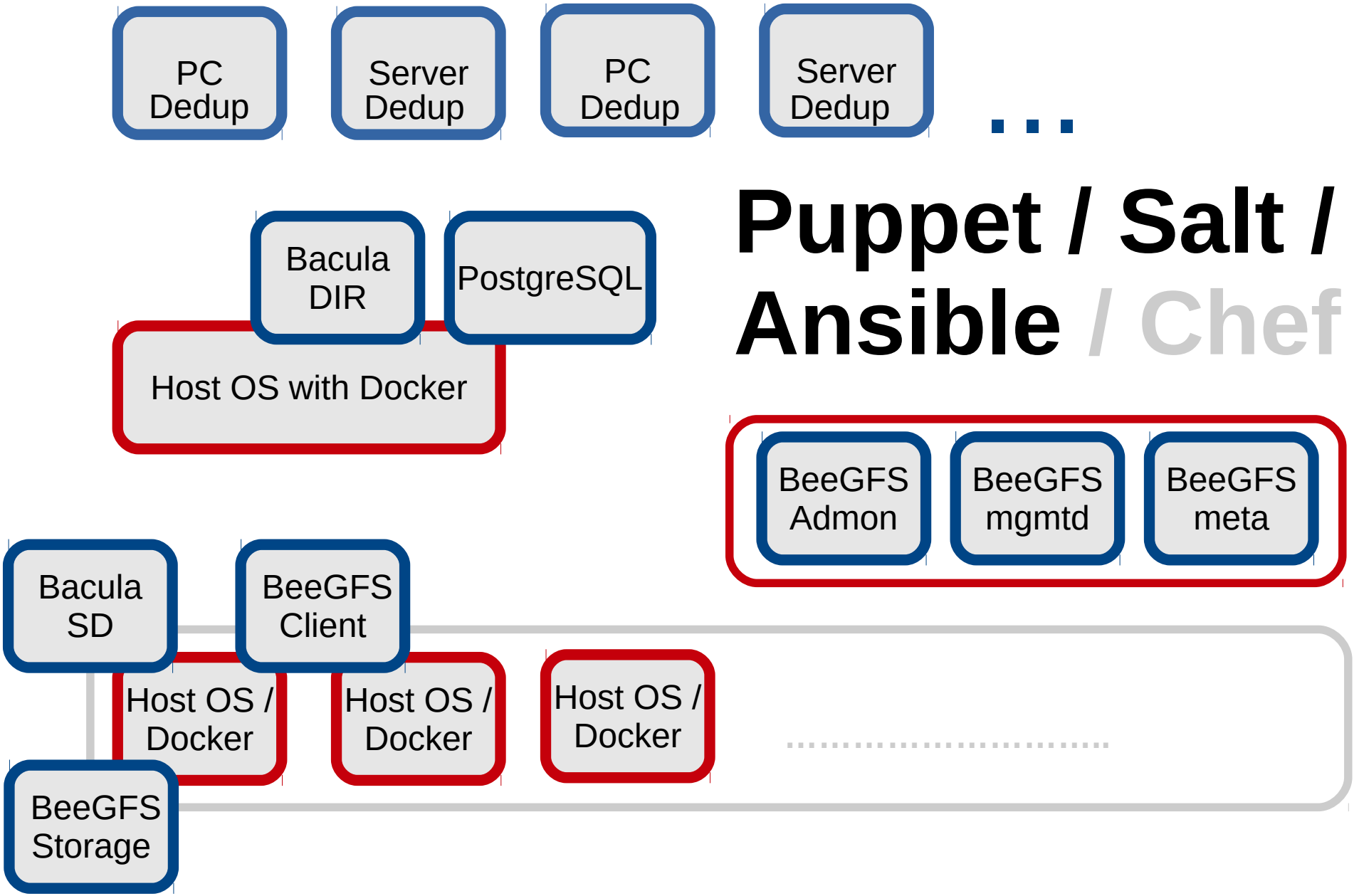
Container technology

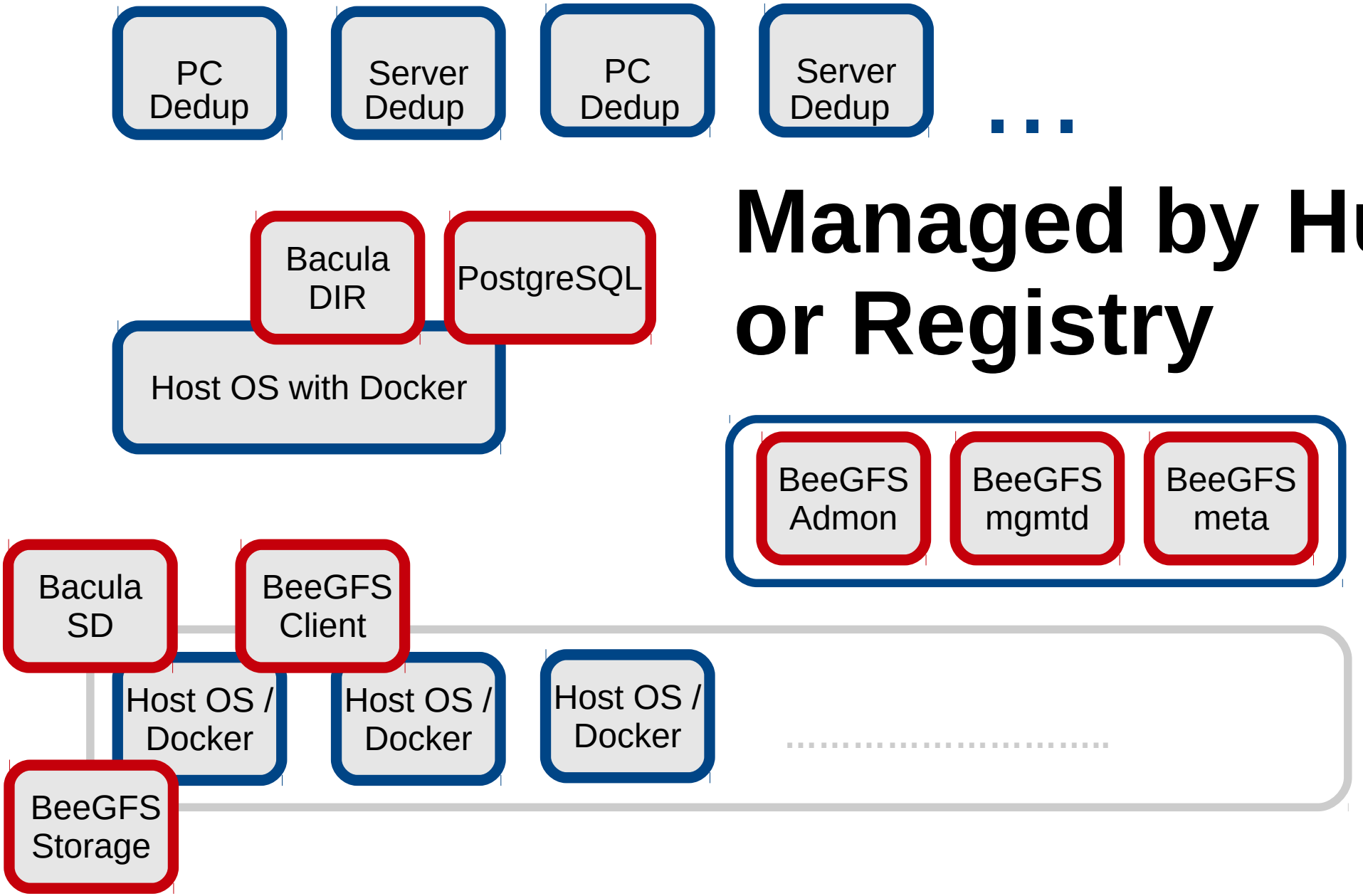
Micro-service

The new kid on the block

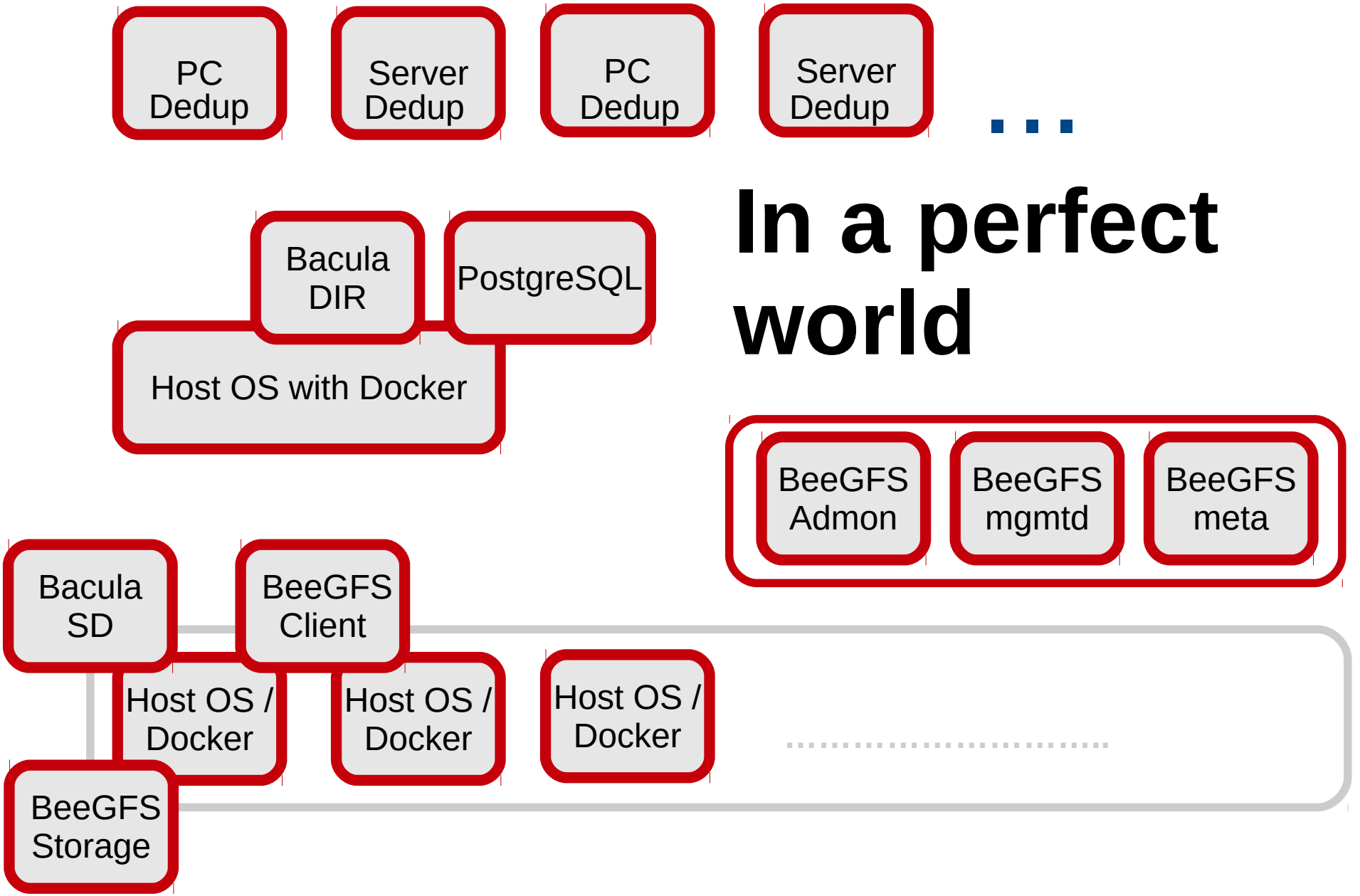

PC Dedup
Server Dedup
PC Dedup
Server Dedup
. . .
Bacula DIR
PostgreSQL
Dockerized
Host OS with Docker
BeeGFS Admon
BeeGFS mgmtd
BeeGFS meta
Bacula SD
BeeGFS client
Host OS / Docker
Host OS / Docker
Host OS / Docker
BeeGFS storage

How this will be managed


PC Dedup
Server Dedup
PC Dedup
Server Dedup
...
Puppet / Salt / Ansible / Chef
Bacula DIR
PostgreSQL
Host OS with Docker
BeeGFS Admon
BeeGFS mgmtd
BeeGFS meta
Bacula SD
BeeGFS Client
Host OS / Docker
Host OS / Docker
Host OS / Docker
BeeGFS Storage


PC Dedup
Server Dedup
PC Dedup
Server Dedup
...
Managed by Hub or Registry
Bacula DIR
PostgreSQL
Host OS with Docker
BeeGFS Admon
BeeGFS mgmtd
BeeGFS meta
Bacula SD
BeeGFS Client
Host OS / Docker
Host OS / Docker
Host OS / Docker
BeeGFS Storage

In a perfect world



Our future plan

Stripped down container with Crane

Minimal host based on CargOS.io

Questions?

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Thank You!