



Keeping The Digital World Running

CNCF Kubernetes Meetup

HA & high performance block storage for K8s with LINSTOR

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Github: <https://github.com/LINBIT/linstor-server>
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www.linbit.com



CLOUD NATIVE
COMPUTING FOUNDATION

LINBIT - the company behind it



COMPANY OVERVIEW

- Developer of DRBD
- 100% founder owned
- Offices in Europe and US
- Team of 30 highly experienced Linux experts
- Partner in Japan



TECHNOLOGY OVERVIEW



REFERENCES





Our background & history



CLOUD NATIVE
COMPUTING FOUNDATION

- ▶ Founded in 2001
- ▶ Developing Linux Kernel DRBD driver for high-availability since 20 years
- ▶ Silver member of Linux Foundation / CNCF
- ▶ Attended 4x KubeCon / CloudNativeCon with our own booth (#S4 in Amsterdam)

NEW IOPS RECORD

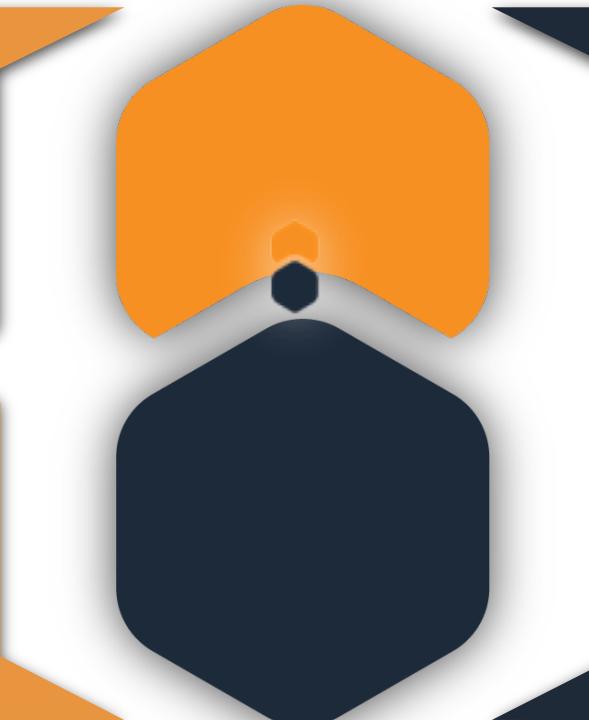
14,893,251

LINSTOR® with Intel® Optane™ DC persistent memory.

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Our Areas of Expertise



Software-Defined Storage

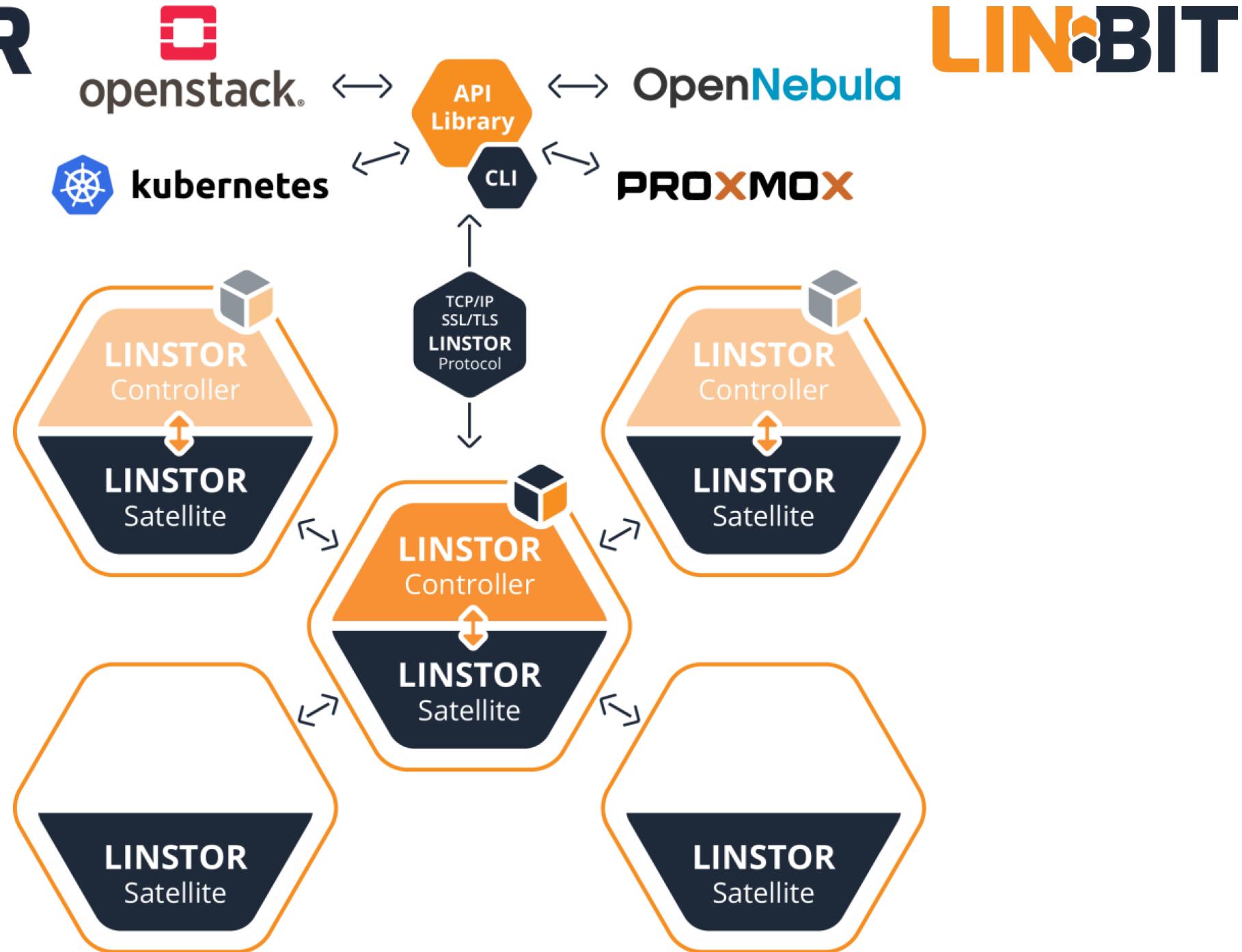
Disaster Recovery

High-Availability

Custom Solutions

- ◆ Storage management automation across a cluster of nodes
- ◆ Manages backend storage (LVM, ZFS, fat- & thin-provisioning, NVMe-oF, etc.)
- ◆ Manages various optional layers (encryption, deduplication, caching, ...)
- ◆ Manages replication with DRBD
- ◆ Manages cluster-consistent snapshots
- ◆ Automates allocation of resources (Minor numbers, TCP/IP port numbers, etc.)

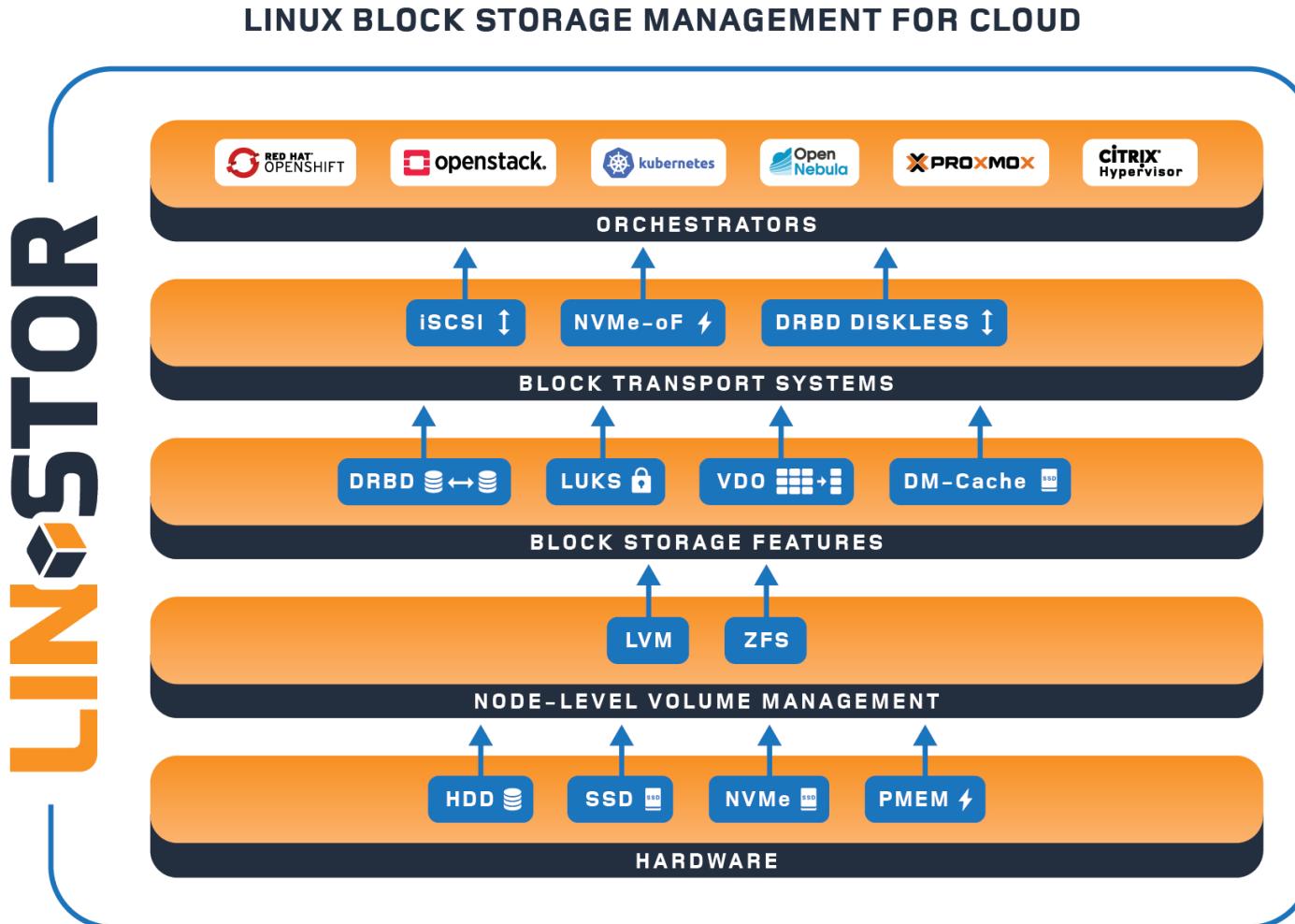
LIN³STOR Architecture



- ◆ Controller with transaction-safe persistence
- ◆ Stateless Satellites
- ◆ Controller high availability with Pacemaker
- ◆ HA Persistence: Replicated storage, shared storage, DB replication
- ◆ Control-plane / data-plane separation
- ◆ Written in Java (source level of Java SE 8)



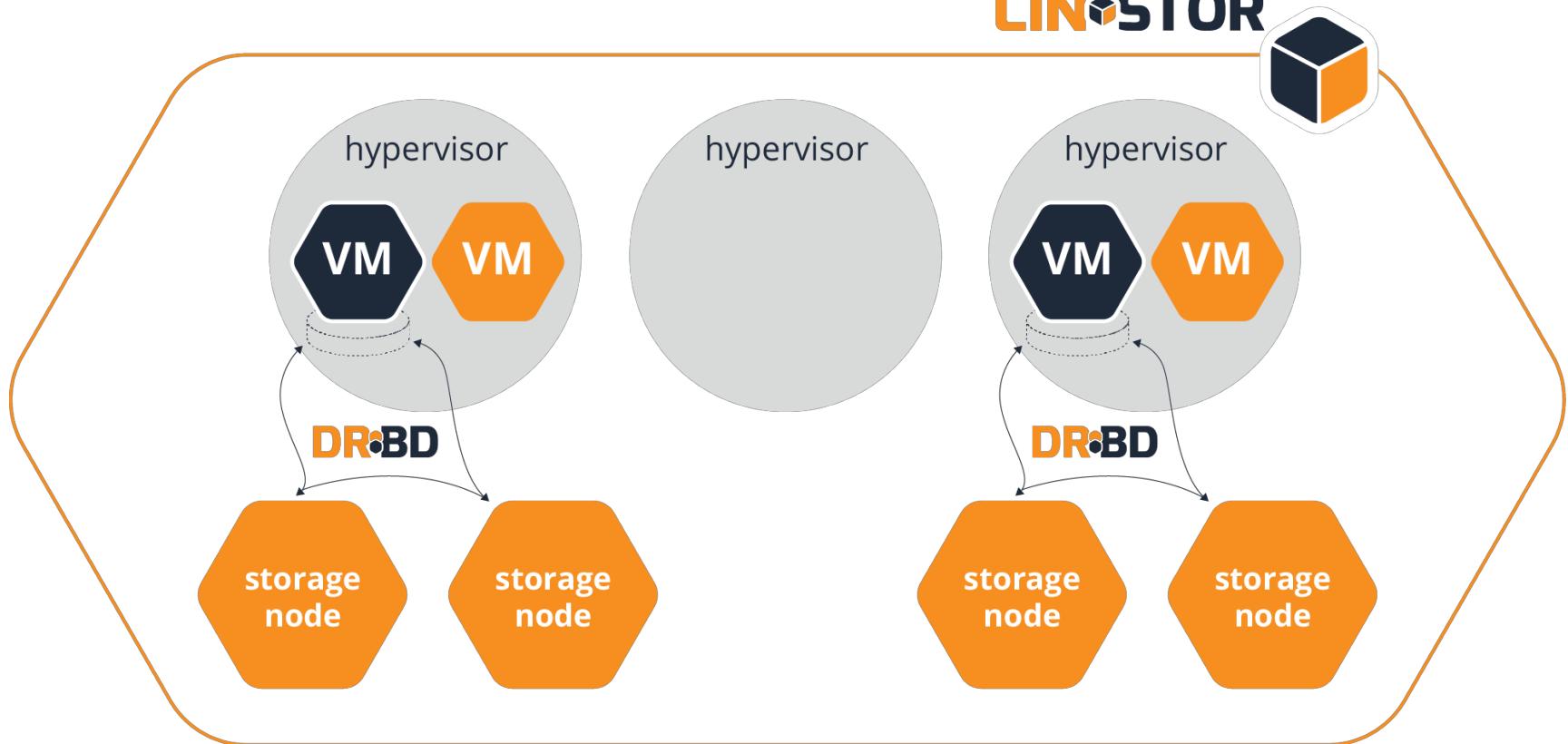
Linux Block Storage Management for Cloud & Container



LINSTOR – disaggregated stack

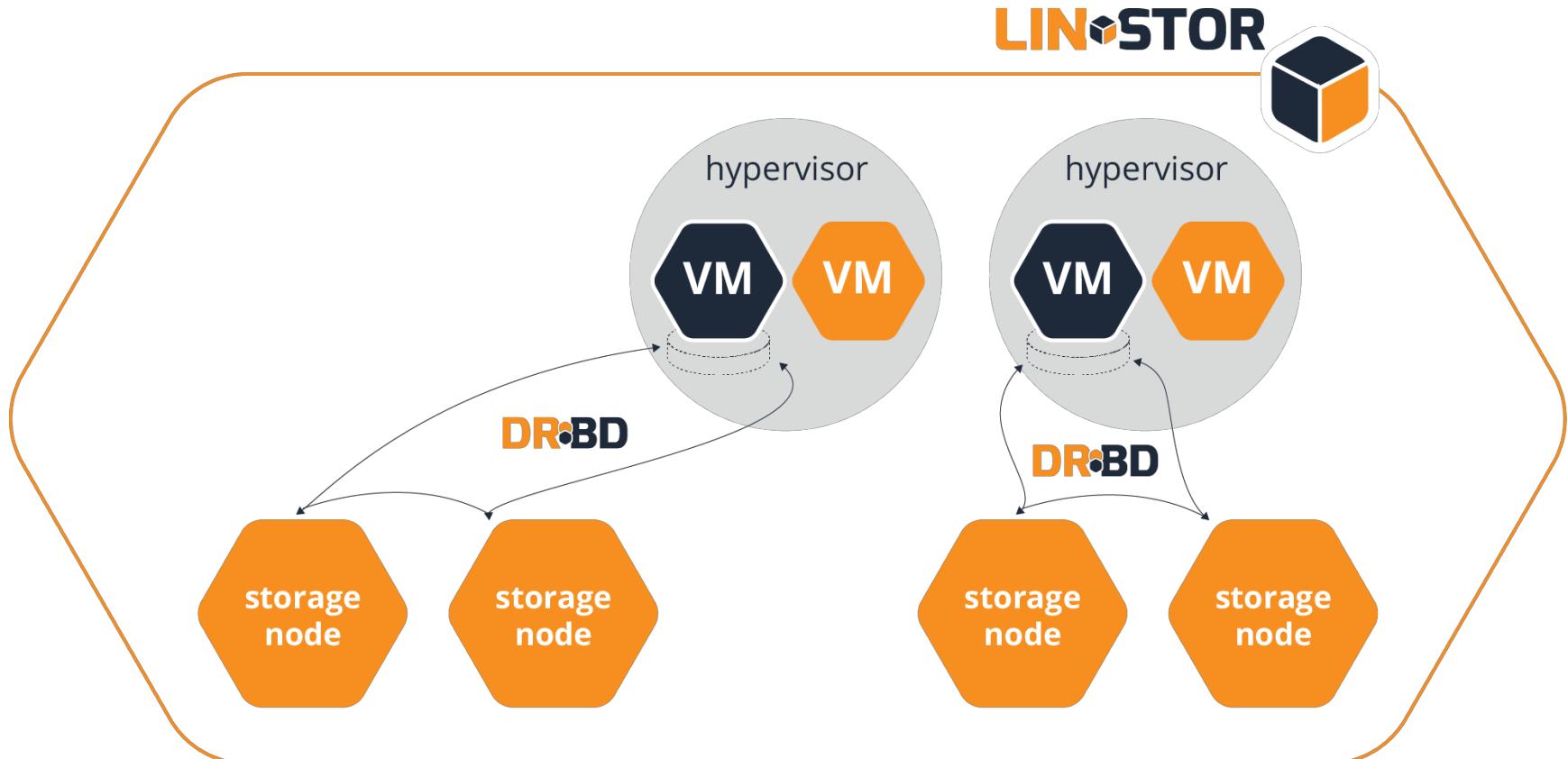
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LINSTOR



LINSTOR / failed Hypervisor

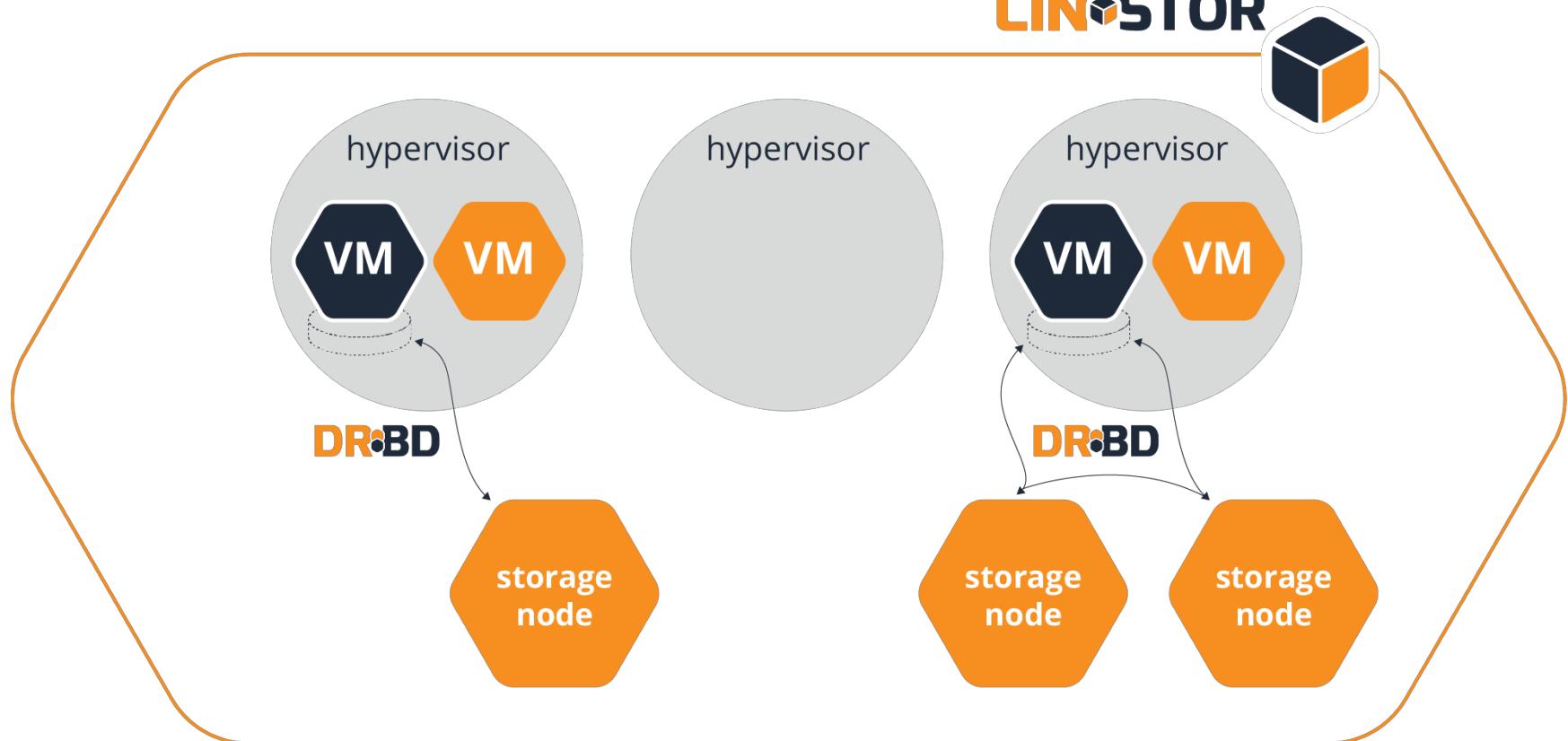
LIN^oBIT



LINSTOR / failed storage node

LIN^oBIT

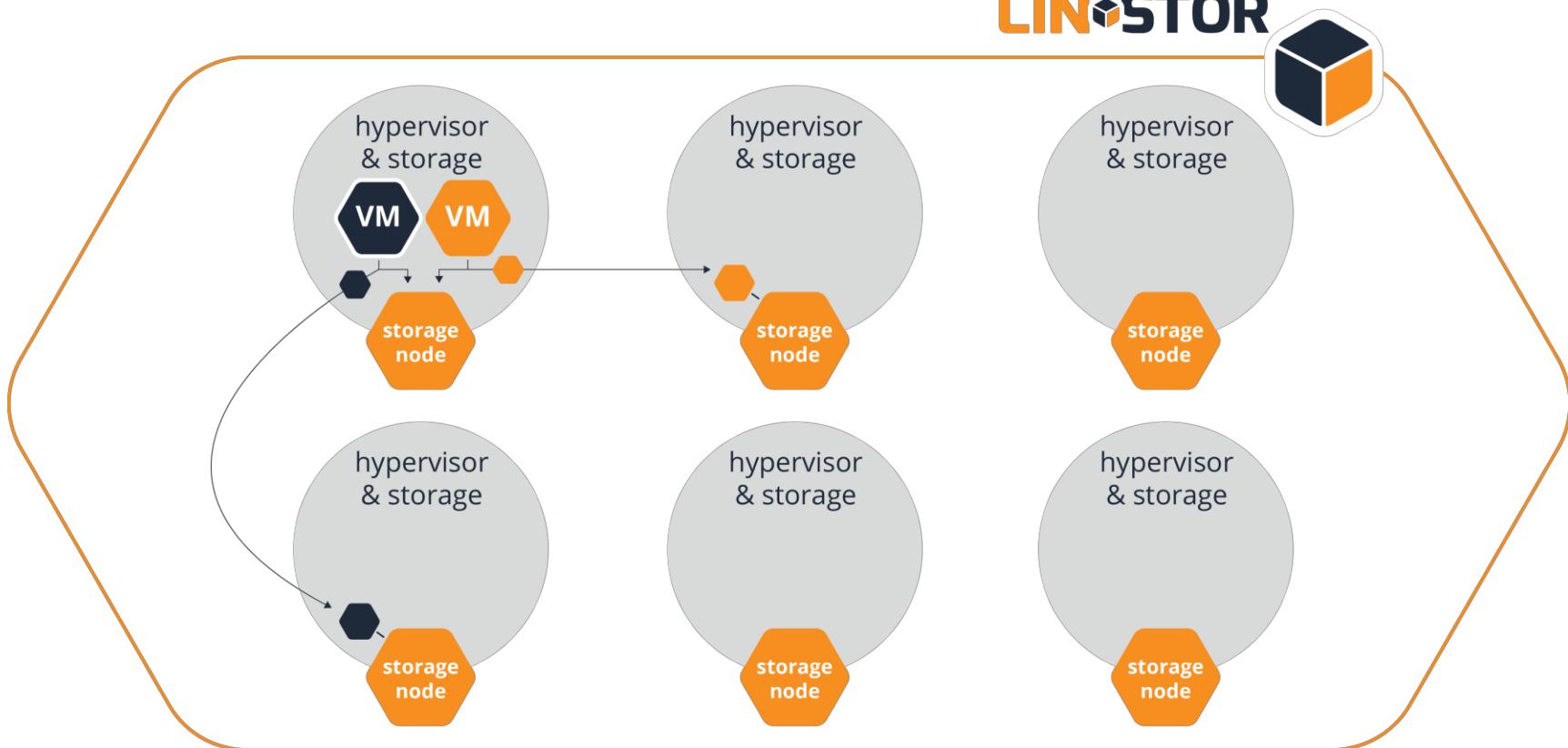
LIN^oSTOR



LINSTOR - Hyperconverged

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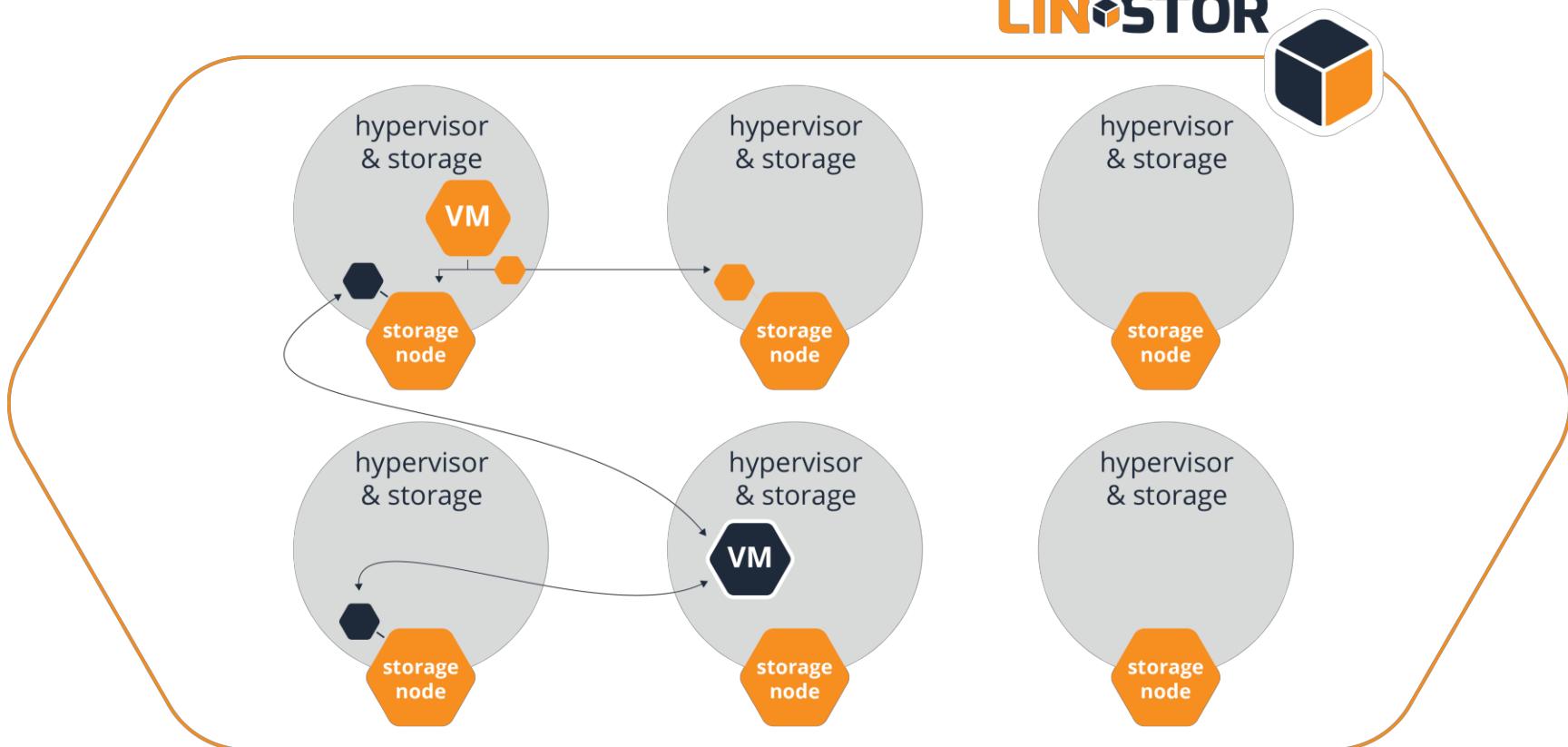
LINSTOR



LINSTOR - VM migrated

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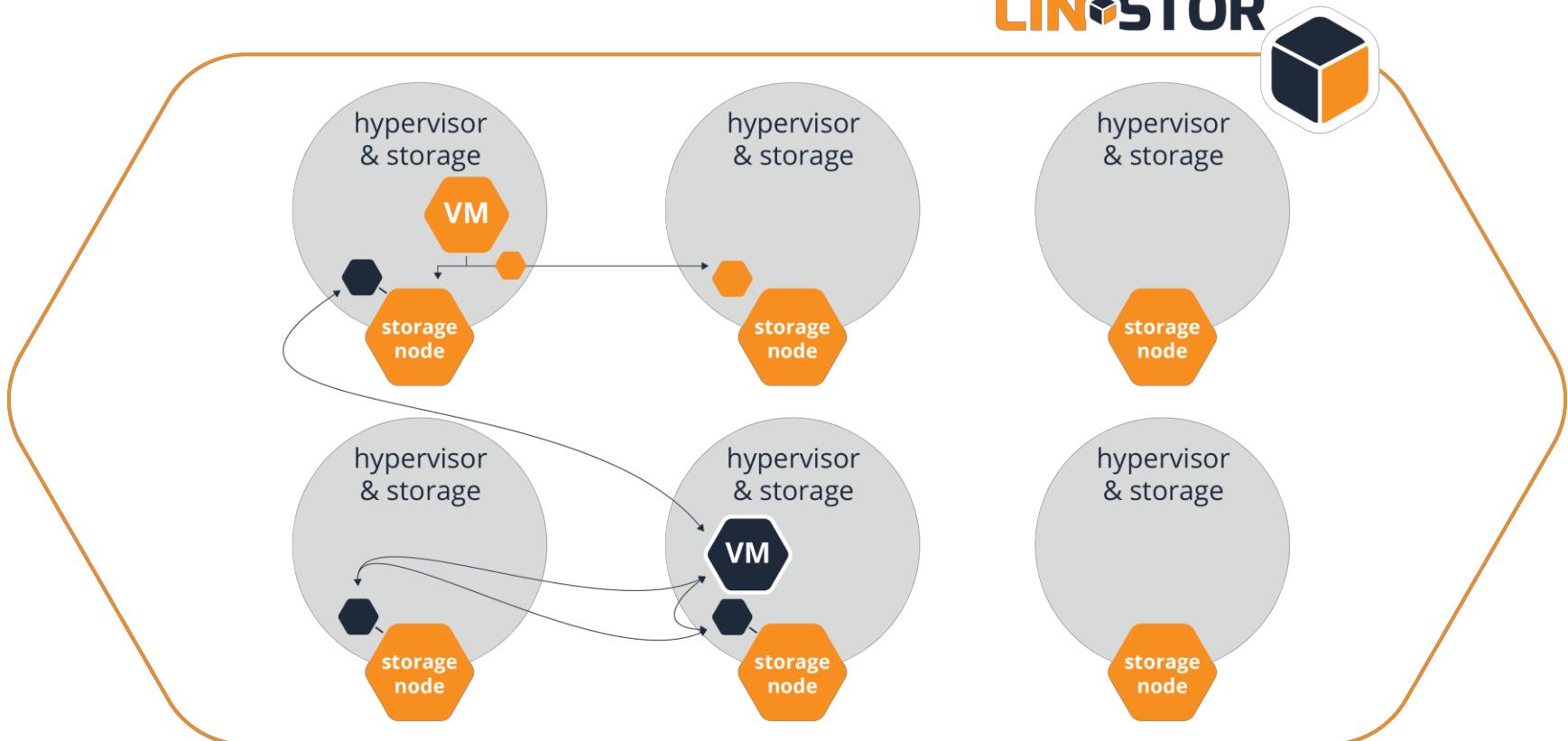
LIN^oSTOR



LINSTOR - add local replica

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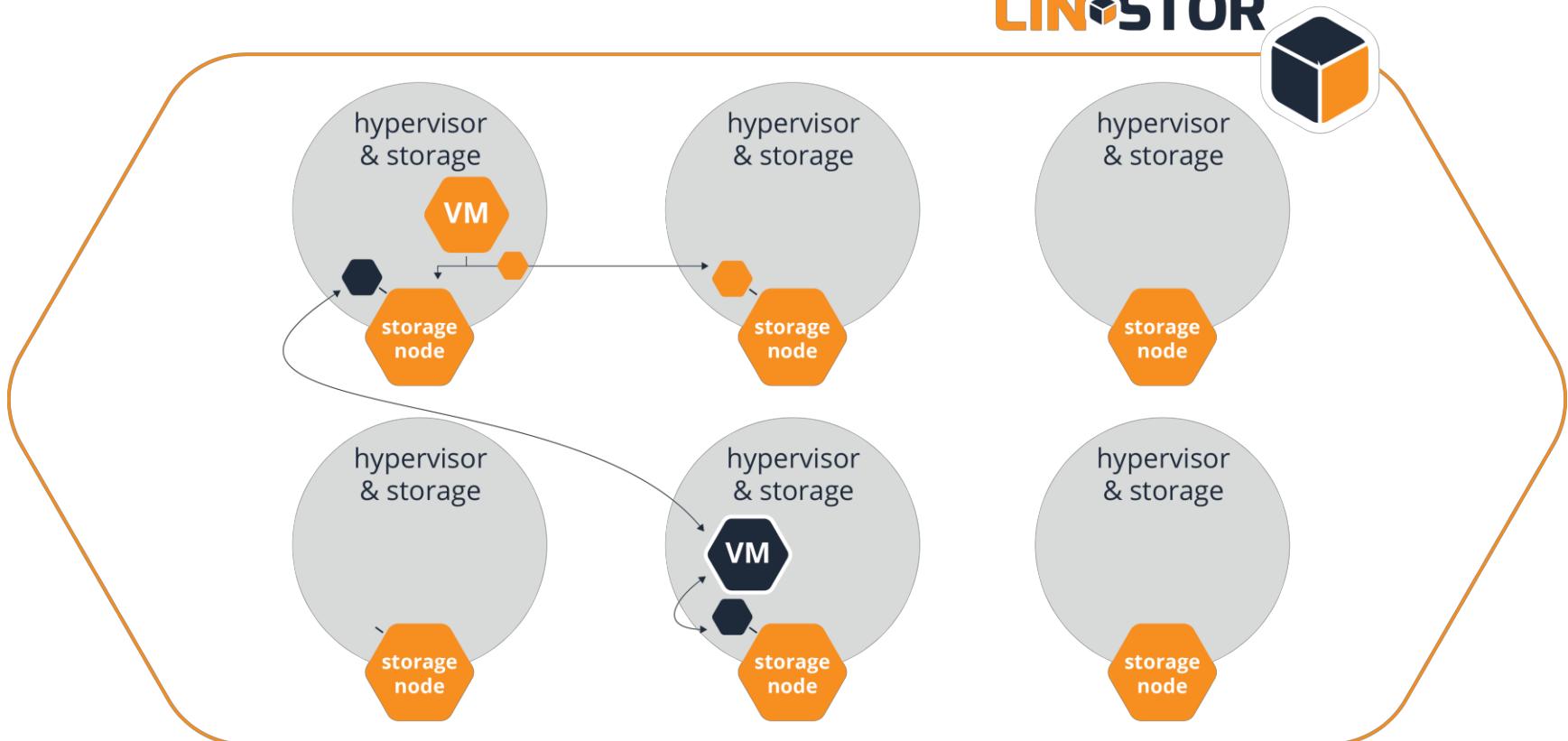
LIN^oSTOR



LINSTOR - remove 3rd copy

LINBIT

LINSTOR





Several Benefits of Using LINBIT SDS (LINSTOR)



Save engineering time by eliminating manual resource configuration.



Save engineering headaches by enabling top-level views of your clusters.



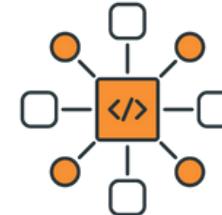
Save your business data by combining LINSTOR with DRBD to provide resilient block storage.



Protect your investments by choosing an open-source solution.



High Performance



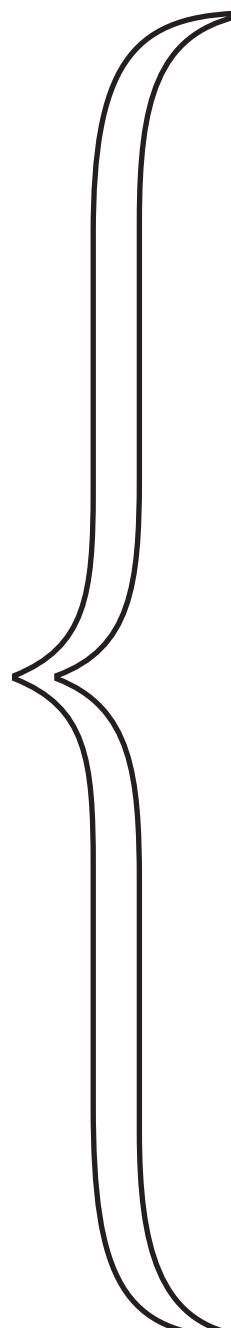
Scale Out



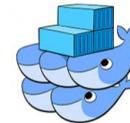
Lower TCO



Connectors



Kubernetes



Docker Swarm, Mesos



OpenStack Cinder



OpenNebula



Proxmox VE



XenServer, XCP-ng





Thank you for your interest!

- ▶ Any questions?
- ▶ Please give us a star on GitHub: <https://github.com/LINBIT/linstor-server>
- ▶ For our community project visit <https://piraeus.io/>
- ▶ See you at KubeCon Amsterdam at booth S4?



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For further infos, tech-calls and partnership requests:

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