On the Road to RAIDIX 4.5

Re-defining Data Storage Performance

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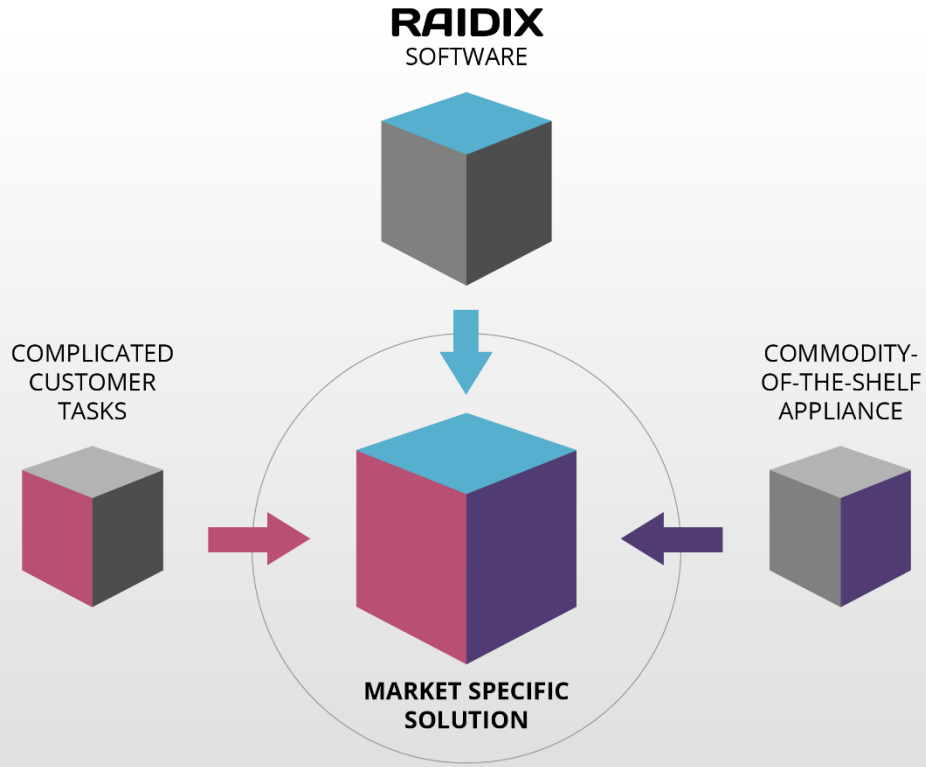
Victor Abramov
Chief Technical Officer, RAIDIX

WHAT IS RAIDIX?

RAIDIX is a developer of innovative high performance data storage software

Benefits and advantages

- Professional storage for performance and reliability sensitive applications
- Address specific needs of end-users
- Increased R&D capabilities



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RAIDIX IN A NUTSHELL

Established in 2009

30+ countries on the client map

In-house Research Lab

70+ specialists on the team

10+ technology patents

Global technology and business partners

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TECHNICAL SPECIFICATIONS

Block storage

- Fibre Channel
- Infiniband
- SAS Target
- iSCSI-target

NAS

- CIFS (SMB)
- NFSv3
- AFP
- FTP

Supported RAID levels

- RAID 0
- RAID 10
- RAID 5
- RAID 6
- RAID 7.3
- RAID N+M

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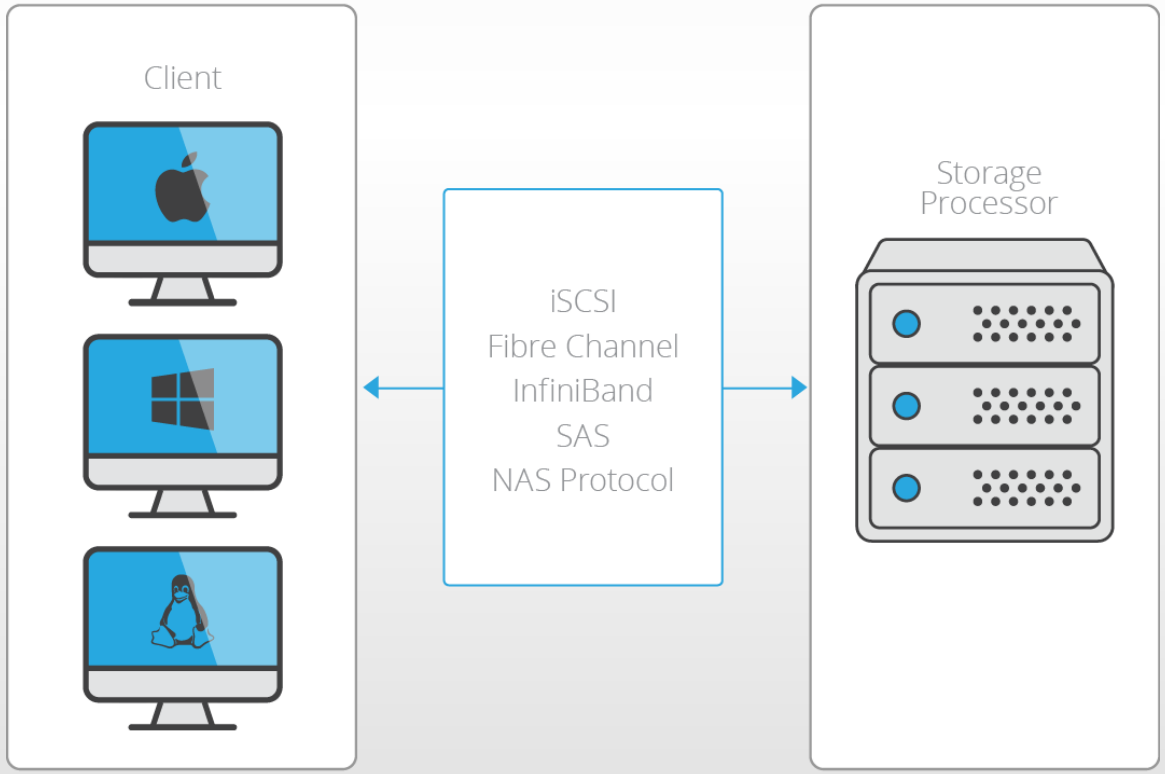
System architecture:
single controller



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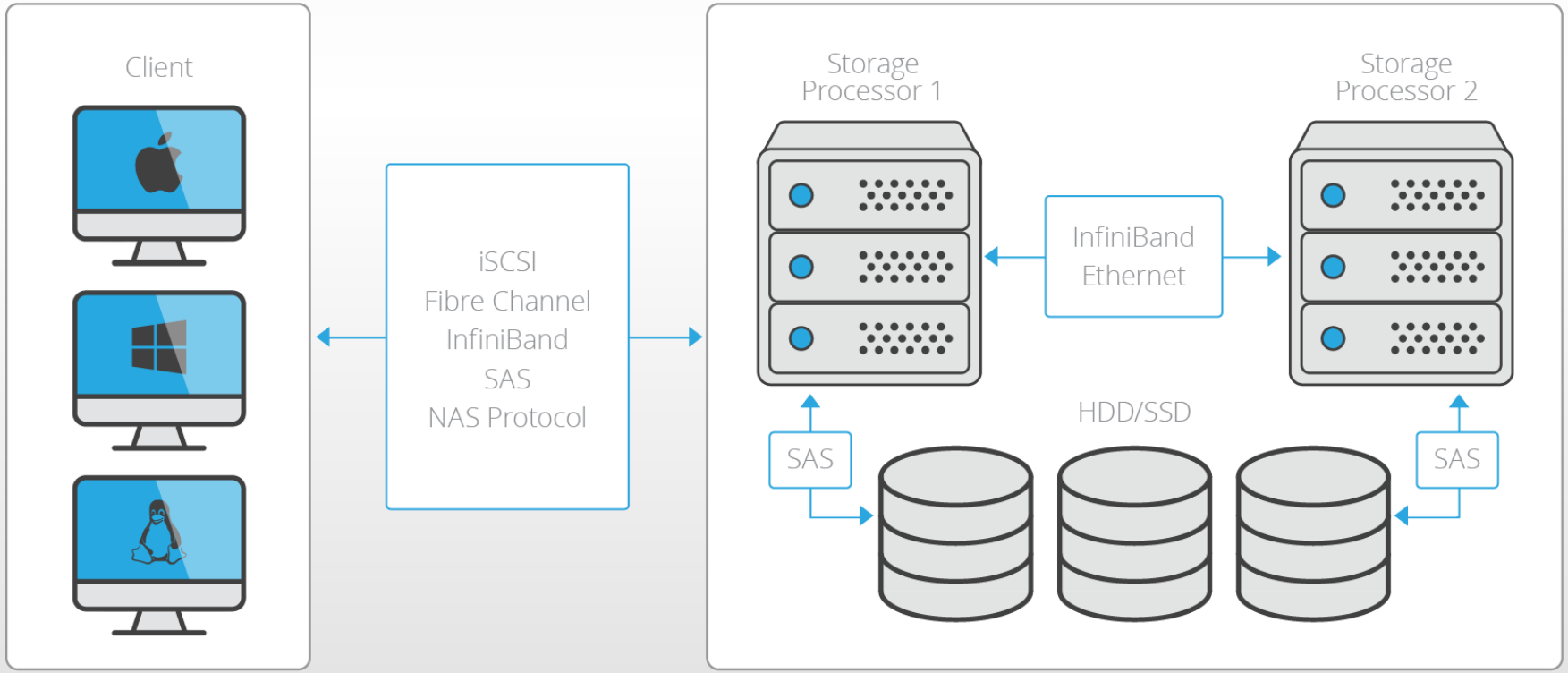
System architecture:
dual controller



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RAIDIX 4th gen Highlights

Dual-controller data storage system

Multiple parity high performance RAIDs (6, 7.3, N+M)

SAN and NAS support

Performance at 200+ K IOps, throughput at 15+ GB/s in a multi-stream mode (configuration?!)

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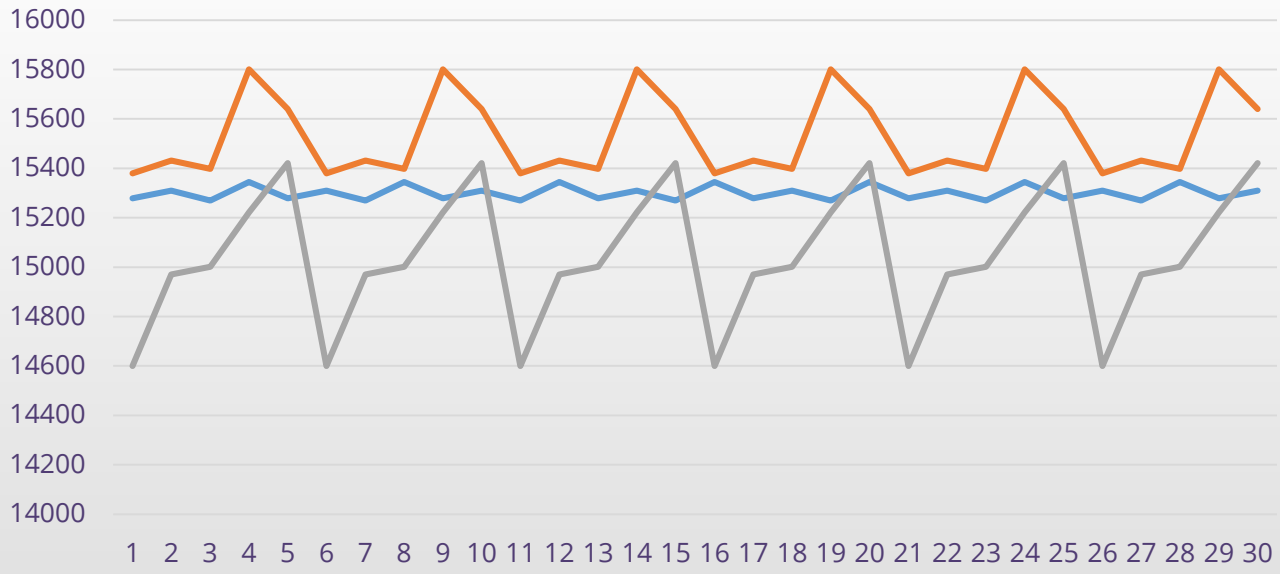
What is RAIDIX 4.0 all about?

RAIDIX ensures sustainable record performance up to 25 GB/s per core when writing on RAID 7.3 and RAID N+M.

Performance remains unhindered even when multiple disks fail.



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Challenges and goals for 4.5

Functional:

- Hybrid (HDD/SSD) infrastructure satisfying various business tasks
- Improved support for extreme sequential workloads
- Consolidation and scalability of third-party systems

Business:

- Optimized hardware utilization for specific performance lower TCO
- Cost-efficient upgrade of existing infrastructures

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What's new in RAIDIX 4.5?

In a nutshell:

SSD (L2) cache — top performance showings on reading and writing with small blocks.

Volume scalability — easy extension of existing infrastructures.

Advanced multi-threading — efficient read ahead for sequential workloads.

SAN storage optimization — consolidating third party storage systems into a unified virtual infrastructure.

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SSD (L2) caching

Top performance showings on reading and writing with small blocks

Request Classifier identifies workloads as ‘random’ or ‘sequential’ to optimize further request handling in both scenarios.

Read caching

- Random read > RAM (L1) cache
- Most demanded pages > RAM L1 cache
- Frequently read pages > SSD L2 cache
- Seldom-requested cache pages > evicted from the cache

RAIDIX uses a proprietary algorithm for cache eviction.

SSD (L2) caching is **always sequential** to reduce SSD wearing.

Write caching

Random write requests — evicted from RAM onto SSD

Data transfer from SSD to HDD is performed in a an optimized for HDD way

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Advanced multi-threading

Efficient Read Ahead for sequential workloads

- Read Ahead functionality for sequential read operations. The in-built Sequence Detector can identify up to 100 threads simultaneously and proactively allocate data in the memory.
- Block size for Read Ahead is adjusted adaptively to avoid redundant caching.

How does it work?

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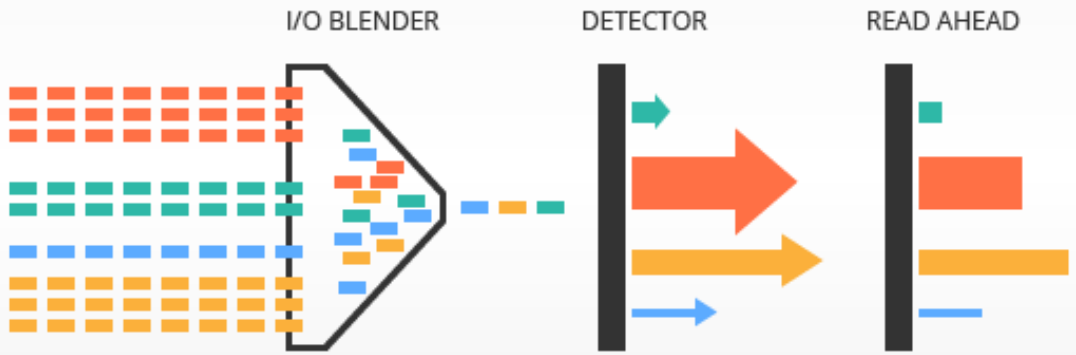
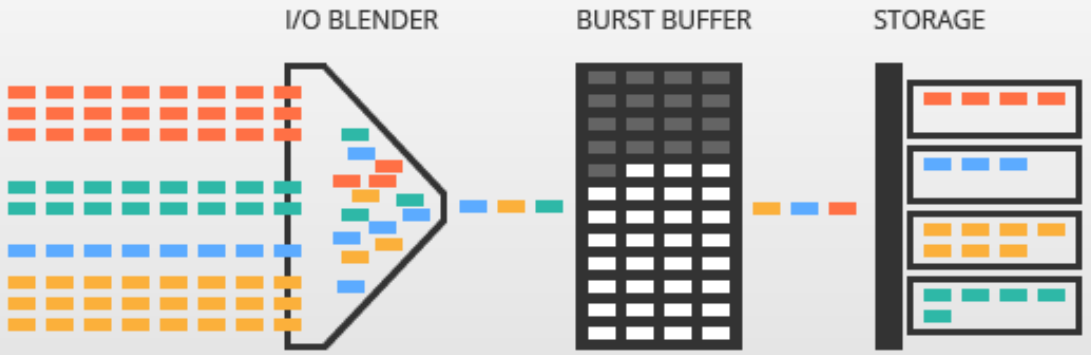
Advanced multi-threading

ADAPTIVE READ AHEAD



BURST BUFFER



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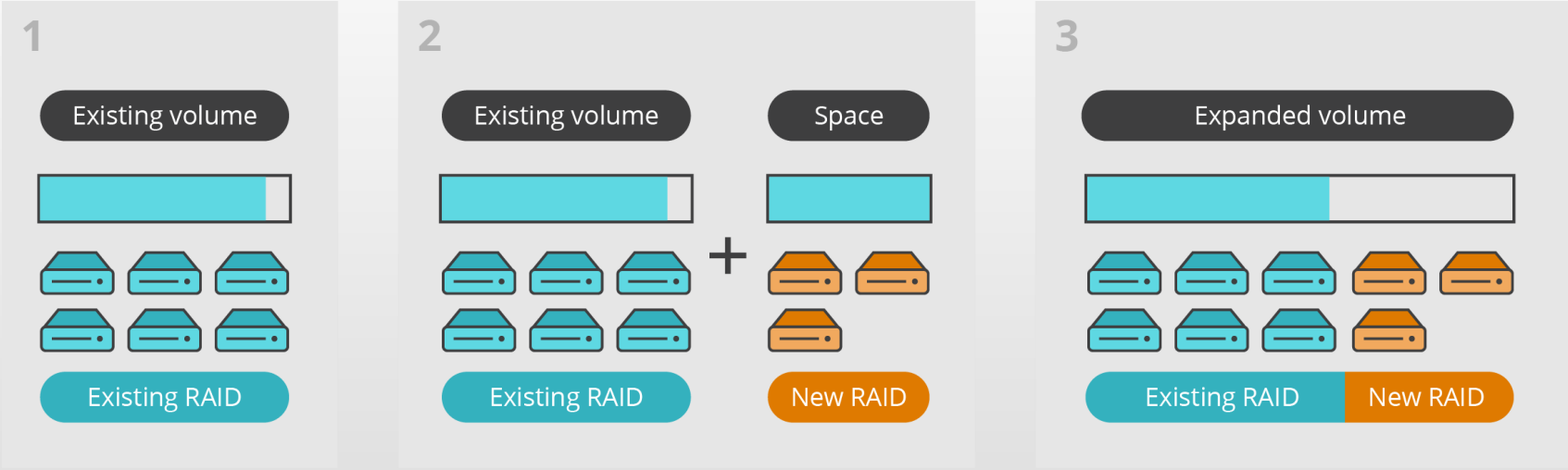
Volume scalability

Easy extension of existing infrastructures

During configuration, a virtual volume can be placed on top of multiple RAIDs. RAIDIX allows the user to extend volume capacity by adding new arrays to the infrastructure.



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SAN storage optimization

Consolidating third party storage systems into a unified virtual infrastructure

- Third-party block storage systems accessible via SAN are available in RAIDIX as usual resource.
- Storage resources can be forwarded directly via RAIDIX or used in a unified resource pool for creating RAIDIX volumes and RAIDs.

What's the benefit?

- Provides a single access point to all storage resources, ensuring greater flexibility
- Boosts performance of the existing storage infrastructure due to caching and random request optimization
- Cuts down on storage resource load due to data deduplication
- Performs in-depth analysis of how applications interact with storage resources, so you can fine-tune the parameters where necessary.

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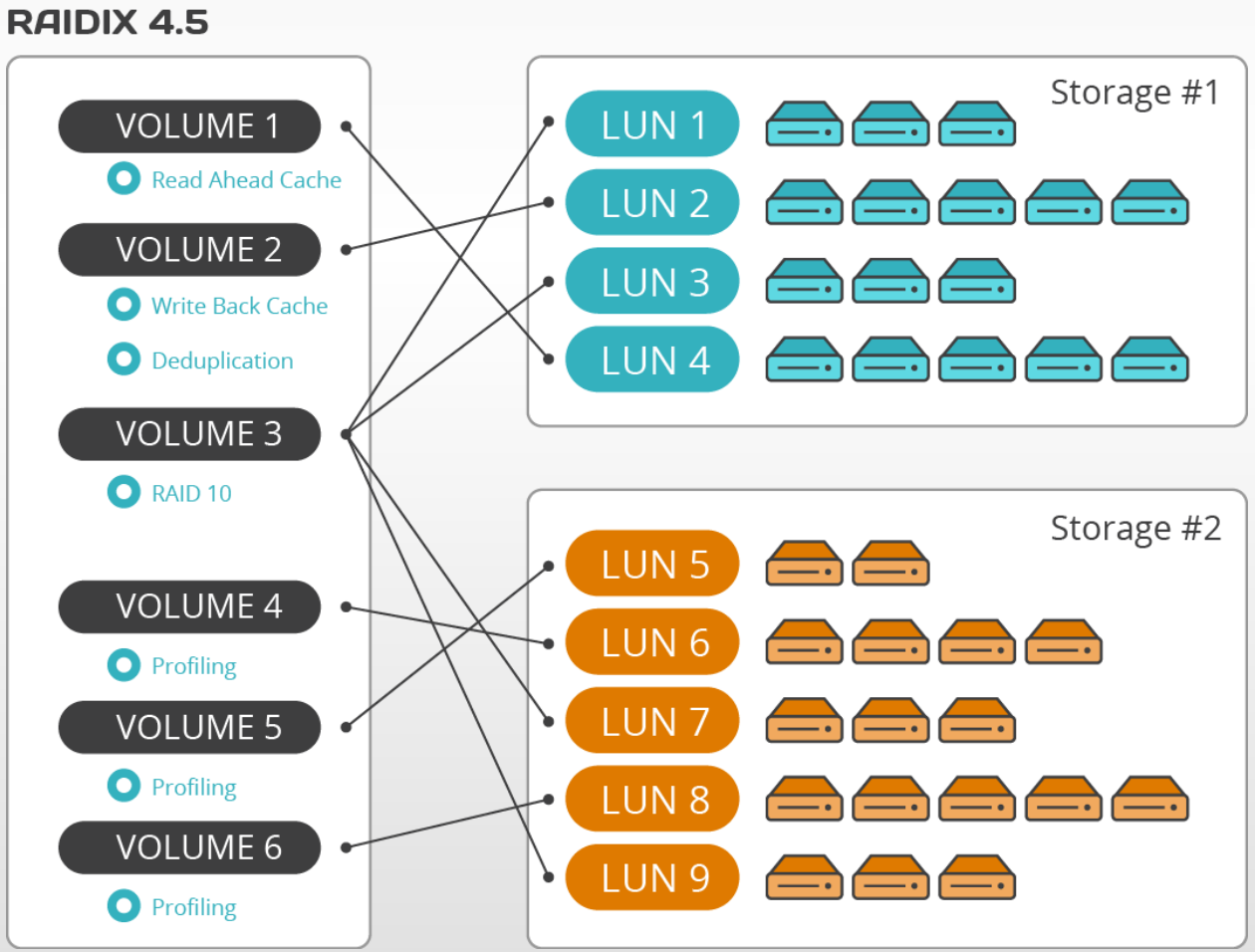
SAN storage optimization



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NEXT STEPS

Interested in Beta Testing?
Give us a shout at request@raidix.com

Add RAIDIX to your product line

Employ RAIDIX for solving specific storage tasks

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Thanks for your attention!

Any questions? Let me know!

Victor Abramov
Chief Technical Officer, RAIDIX

 abramov.v@raidix.com

 www.raidix.com