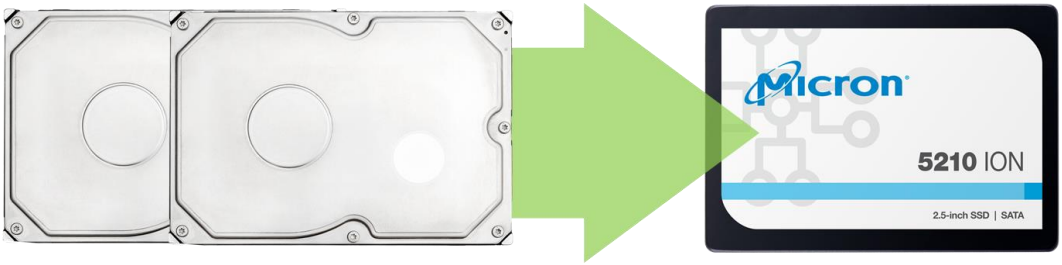
NoSQL Databases

To scale and serve petabytes of data, businesses are moving NoSQL databases from legacy HDDs to SATA QLC SSDs, which are priced similarly yet provide more performance. The Micron® 5210 delivers.



Micron 5210 QLC SSDs vs. Legacy HDDs

Everyday Workload*	HDD	5210	Improvement
B: Read mostly	2K ops/sec	16K ops/sec	8X
C: Read only	2K ops/sec	16K ops/sec	8X
D: Read latest	4K ops/sec	43K ops/sec	10X
F: Read, modify, write	4K ops/sec	15K Ops/sec	3X

Standard YCSB benchmark, 3TB dataset, 40KB avg block size, 4 drives per node, 4 node cluster, 10K HDD

5210 Advantage >3X Operations per Second

How much is your time worth?

Typical NoSQL Workload

Storage access pattern: random reads & writes
Storage IO size: 128K
Read/write ratio: 90% read / 10% write
How the workload works:

- Typical NoSQL databases: Cassandra, MongoDB, Redis, MariaDB
- Typical uses: user/metadata, tagging, user profiles, status updates
- Workloads B-D and F: good fit for QLC SSDs. Workload A good fit for high-endurance TLC SSDs (like the Micron 5300 MAX)

Ready to learn more? Read Micron's in-depth research