The Top 10 Best Workloads for QLC

STEVE HANNA | SR PRODUCT MANAGER, ENTERPRISE SSDs

micron.com/5210

Micron

The Evolution of Enterprise SSDs

Business priorities drive workloads.
Workloads drive performance & capacity.
Budgets drive reality.

SLC
2007

MLC
2011

TLC
2016

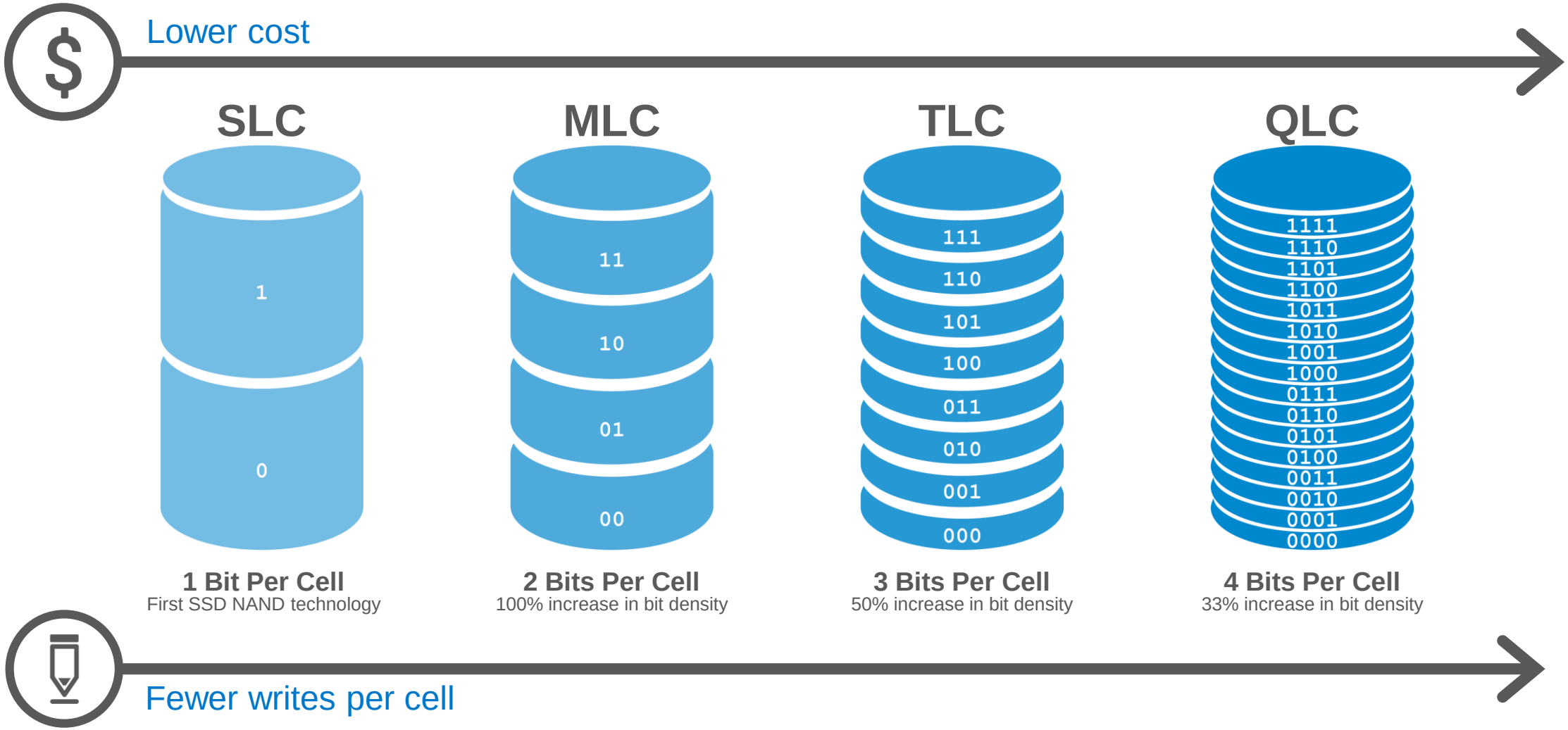
QLC
2018

Expensive
Low Capacity

Affordable
High Capacity

Note: Dates represent when Micron® enterprise SSDs launched with each generation of NAND technology

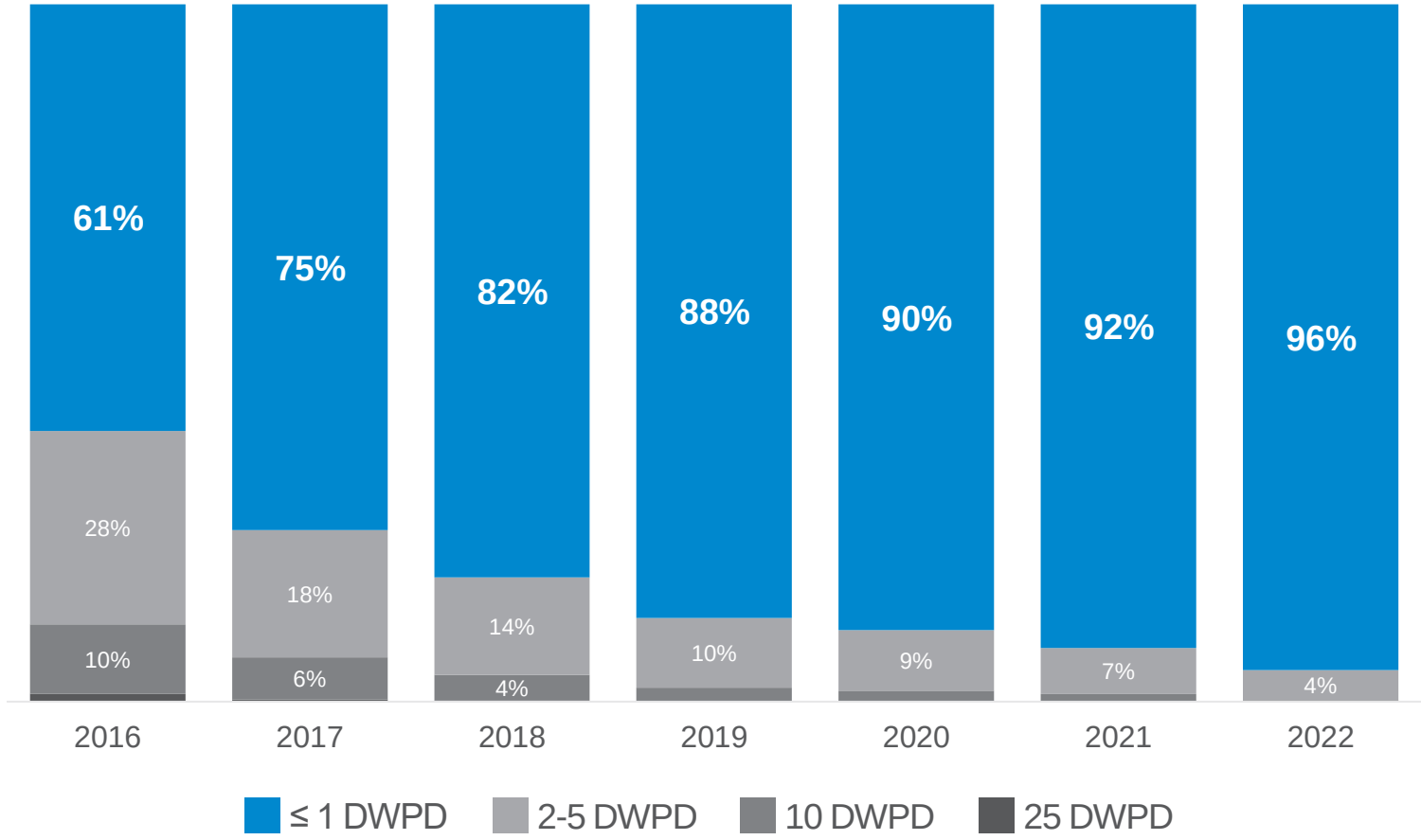
QLC = Fast Capacity For Less



Endurance Needs are Decreasing

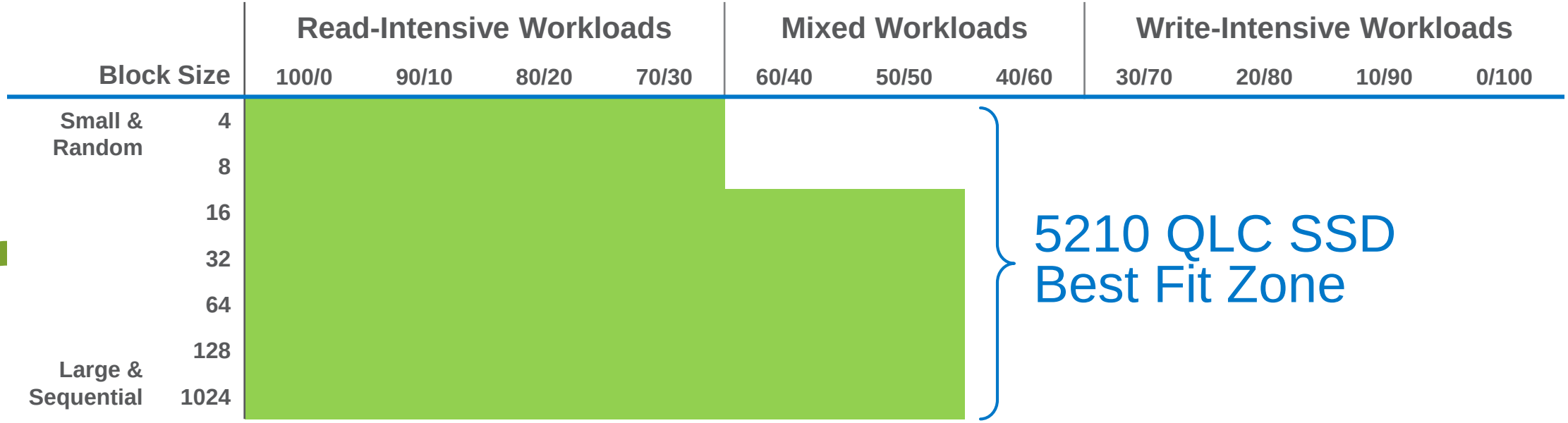
The Industry Transition to QLC

3/4 of ALL enterprise SSDs worldwide in 2017 shipped with ≤ 1 DWPD



The Many Best-Fit Workloads for QLC

Right-Sized, Cost-Effective Performance for the Top Workloads of Today & Tomorrow



The Many Workloads in this Zone:

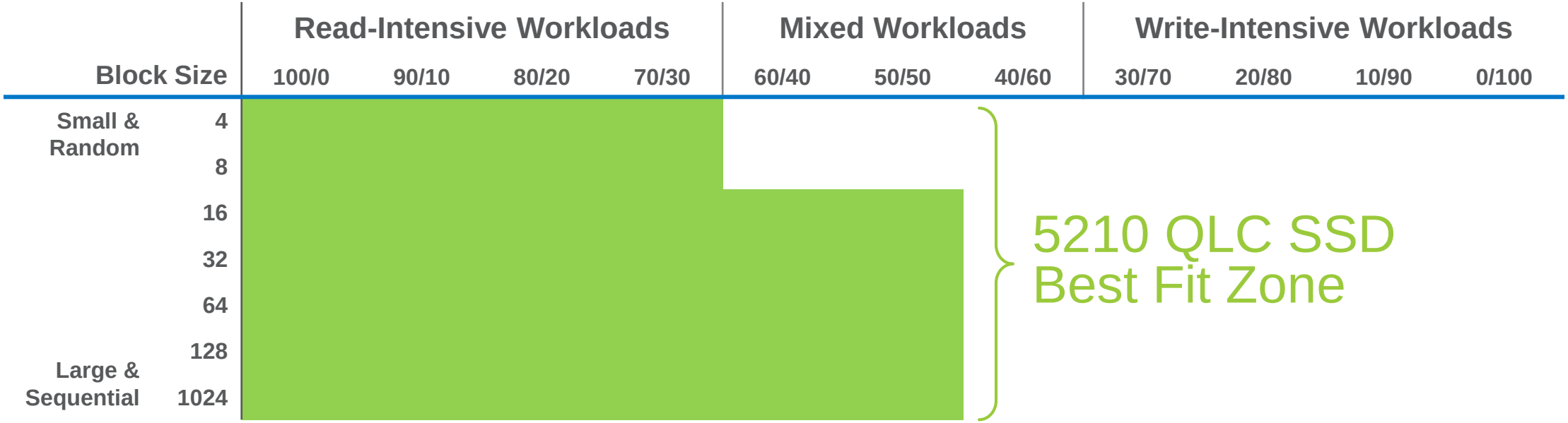
	Read-Intensive AI Data Lakes	Machine & Deep Learning Data Lakes	Real-Time Analytics & Big Data Hadoop HDFS	Ceph Large Block & Object Stores	SQL Business Intelligence	NoSQL Mongo DB, Cassandra	Media Streaming CDNs
CY'17-21 CAGRs*	**43%**	13%	42%	36%	**9%**	20%	14%

*Based on industry analysis from IDC, Gartner, Statista, Forbes

Micron

The Top 10 Best-Fit Workloads for QLC

Right-Sized, Cost-Effective Performance for the Top Workloads of Today & Tomorrow



10 Best QLC SSD Workloads

- **AI** Data Lakes
- **Machine & Deep Learning** Data Lakes
- **Analytics & Big Data** Hadoop, Spark
- **Ceph** Object Stores
- **SQL** Business Intelligence
- **NoSQL** Mongo DB, Cassandra
- **Media Streaming** CDNs
- **Cloud Storage** XaaS
- **vSAN** AFA Capacity Tier
- **Finance** Regulatory/ Compliance Storage

Micron

The vast majority of data needs to be read and analyzed quickly.

Not rewritten repeatedly.

Micron

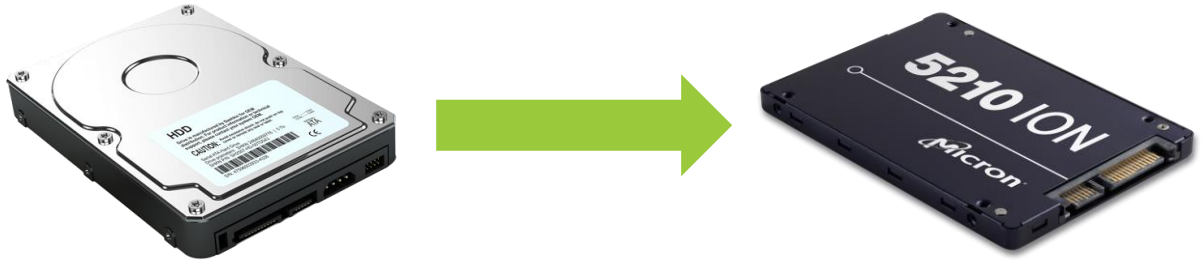
The Top 10 Best-Fit Workloads for QLC

SATA QLC SSDs allow you to immediately replace HDDs in performance-sensitive workloads

10 Best QLC SSD Workloads

- **AI** Data Lakes
- **Machine & Deep Learning** Data Lakes
- **Analytics & Big Data** Hadoop, Spark
- **Ceph** Object Stores
- **SQL** Business Intelligence
- **NoSQL** Mongo DB, Cassandra
- **Media Streaming** CDNs
- **Cloud Storage** XaaS
- **vSAN** AFA Capacity Tier
- **Finance** Regulatory/ Compliance Storage

Typically run on HDDs. SATA QLC offers an immediate path to 450x faster performance without having to rework your server architecture.



Micron