



The Top 10 Best Workloads for QLC

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The Evolution of Enterprise SSDs

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



SLC
2007

Expensive
Low Capacity

MLC
2011

TLC
2016

QLC
2018

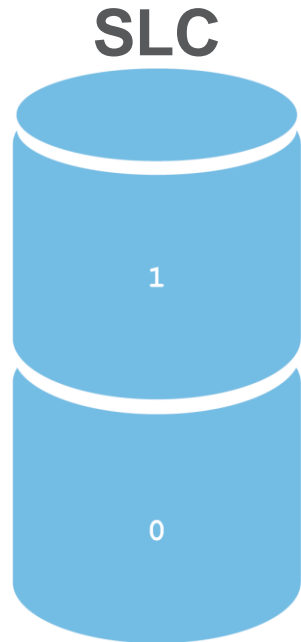
Affordable
High Capacity



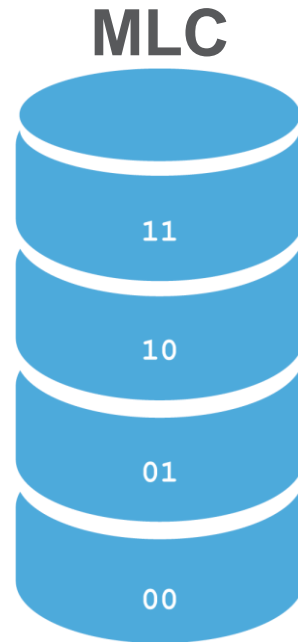
QLC = Fast Capacity For Less



Lower cost



1 Bit Per Cell
First SSD NAND technology



2 Bits Per Cell
100% increase in bit density



3 Bits Per Cell
50% increase in bit density



4 Bits Per Cell
33% increase in bit density

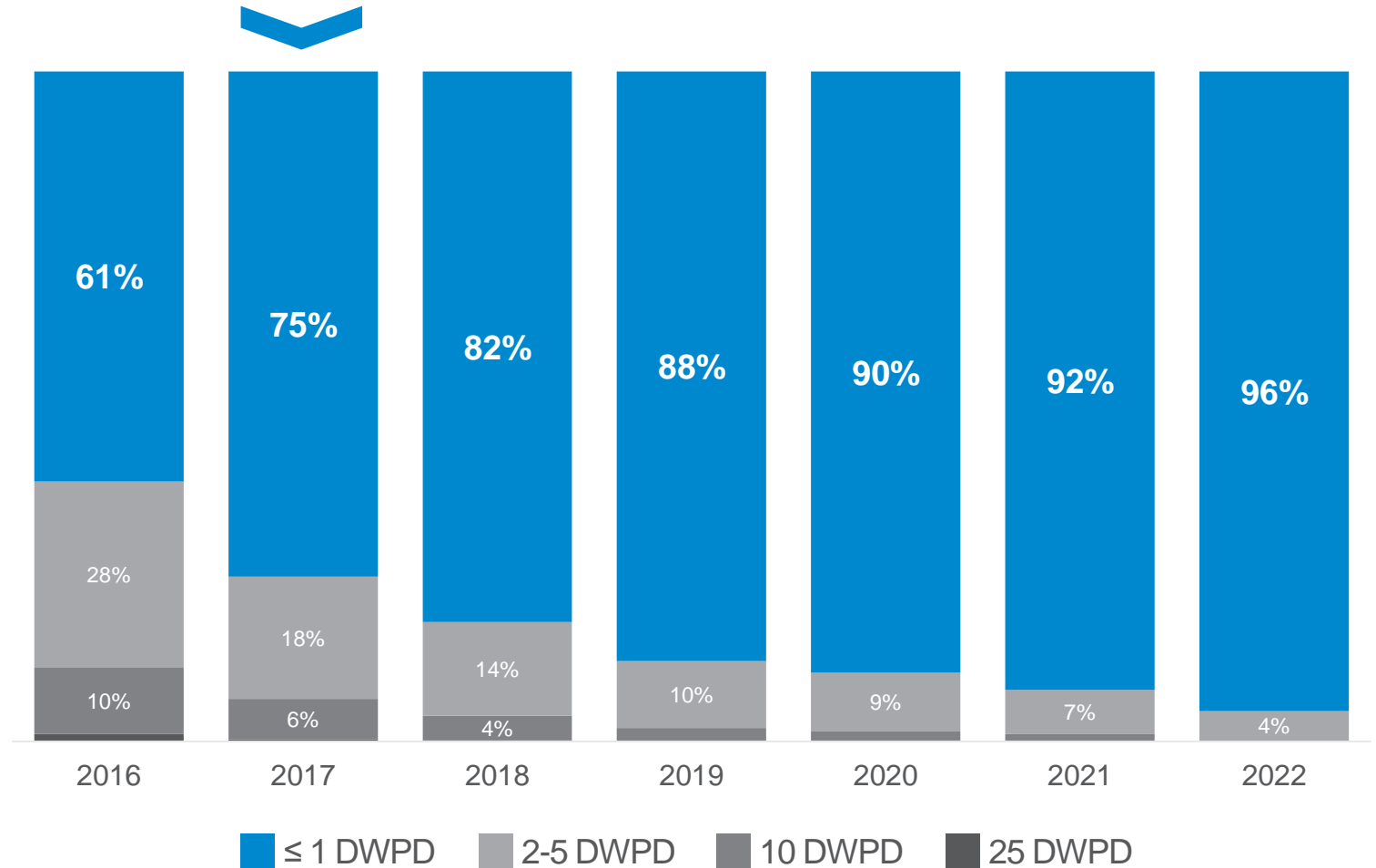


Fewer writes per cell

Endurance Needs are Decreasing

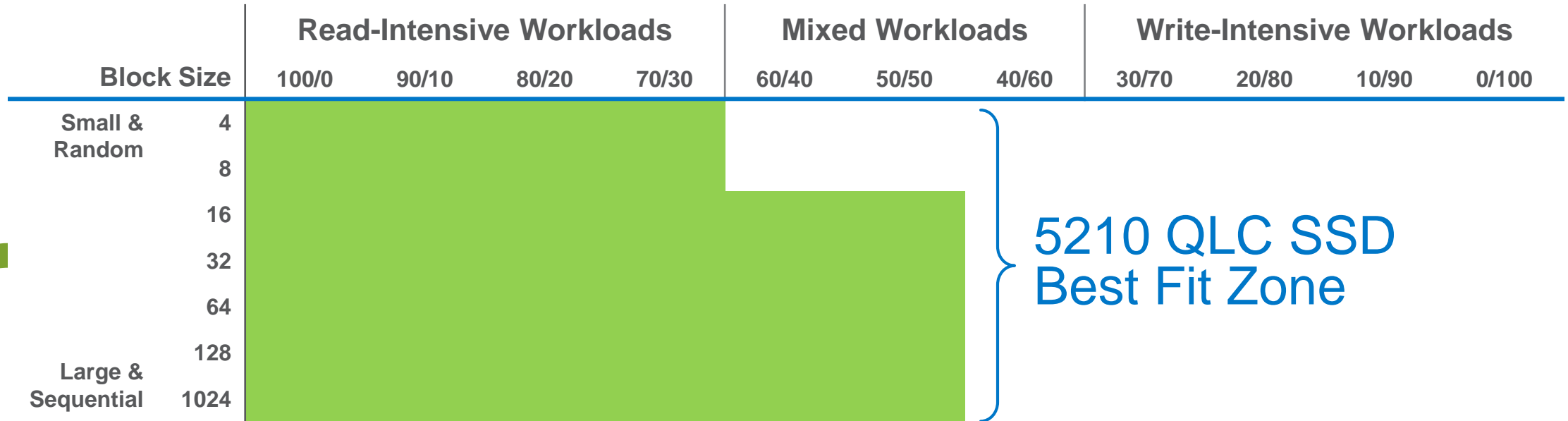
The Industry Transition to QLC

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:

CY'17-21 CAGRs*



Read-Intensive AI Data Lakes

43%



Machine & Deep Learning Data Lakes

13%



Real-Time Analytics & Big Data
Hadoop HDFS

42%



Ceph Large Block & Object Stores

36%



SQL Business Intelligence

9%



NoSQL
Mongo DB, Cassandra

20%



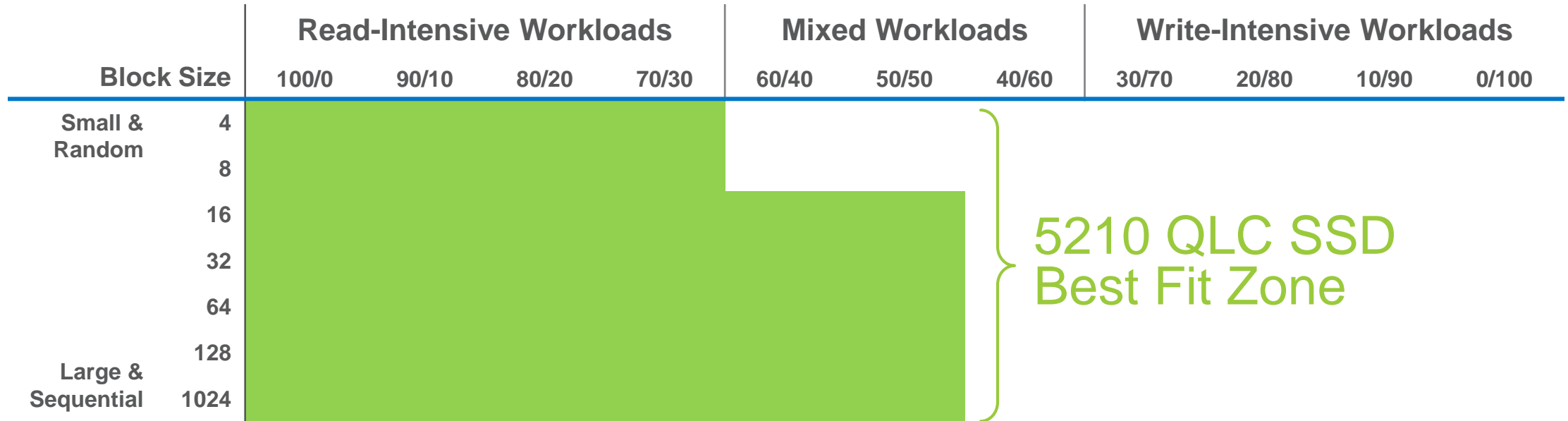
Media Streaming CDNs

14%

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

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

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



**Not rewritten
repeatedly.**

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.

