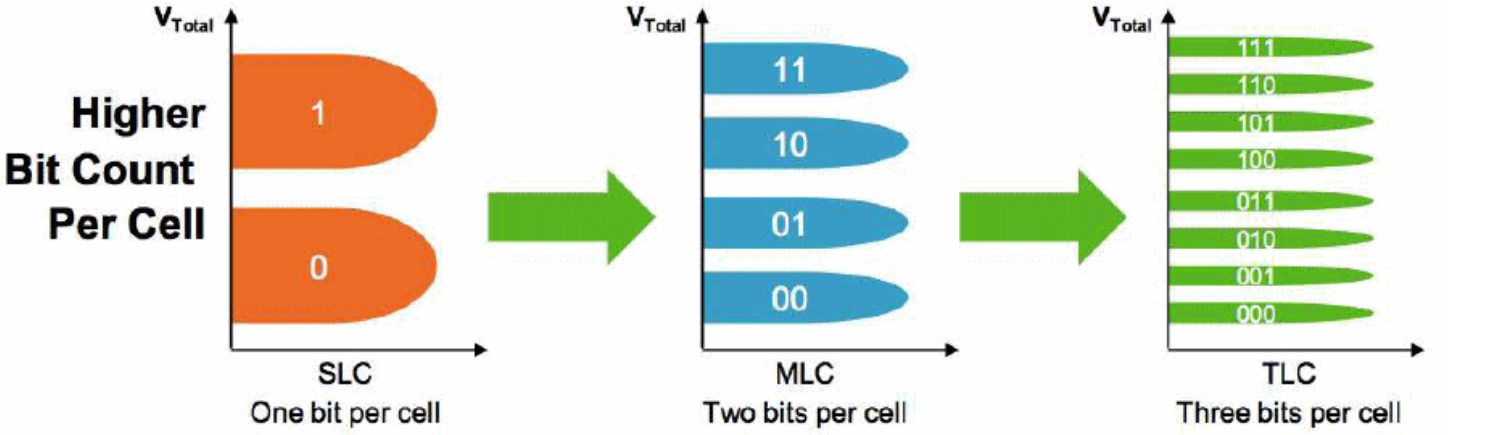
NAND-Flash Type

Source: SAMSUNG



- SLC = Single Level Cell: Highest endurance; Highest performance; Most expensive
- MLC = Multi Level Cell: Moderate cost; Read intense apps; Web server
- eMLC = Enterprise MLC: Higher security at moderate cost; Database apps
- TLC = Triple Level Cell: Low cost; High density; Consumer Electronics

Endurance SSD – Example Server Database

Endurance Flash Chips is device related but predictable:

$$\frac{\text{Capacity x Write Capacity}}{\text{Write Bandwidth}}$$

SLC:

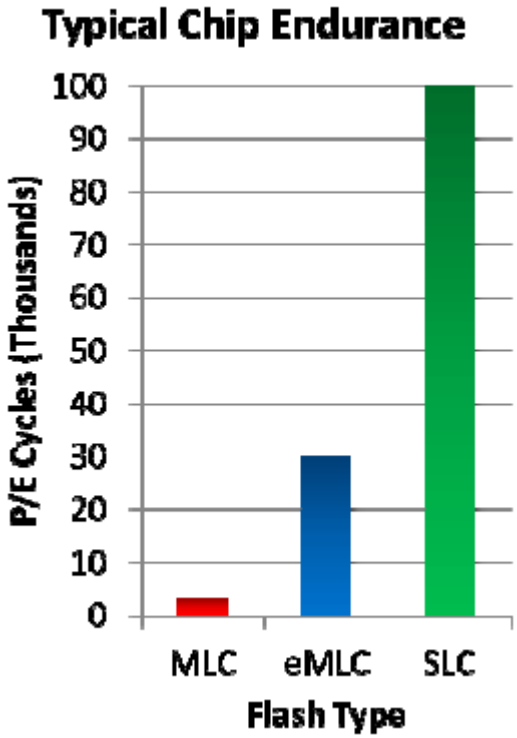
- (1TB*100.000/500MBps) = 6,3 years

eMLC

- (1TB*30.000/500MBps) ~ 2 years

MLC

- *(1TB*3.000/500 MBps) < 1 year*



Source: Kurt Gercke, IBM Storage

SSD in a Server Environment

Not Ideal

- High transactions
- Massive write processes: transaction server, database server

> 1000 GB/day

OK

- Application server

Some 100 GB/day

Good

- System storage
- Delivery server: Web-Server, File-Server, Media Server
- VM Hosts, Small Business Server

< 100 GB/day