Architectural Requirements for MLC based SSDs

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Top 3 Challenges
To adopting MLC-based SSDs in the Enterprise

1. Endurance
2. Consistent Performance
3. Reliability
Enterprise Endurance

Defined as:

Writing
the full capacity
of the drive
10 times per day
for 5 years

A 100GB drive = 1TB/DAY of writing
Importance of the Controller Platform

Flash gets all the press… SSD is not Flash alone.

but…it’s static, not intelligent and does not interact with the host. It is an intelligent system.
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CellCare™ Technology Fills the Gap Between MLC and SLC Flash

CellCare Technology:

- Improves endurance
  - Enterprise ready MLC flash-based SSD warranted with 10 full drive capacity writes per day for five years

- Improves performance
  - On par or better write performance compared to MLC/eMLC
  - Consistent read performance unlike standard MLC/eMLC SSDs

- Consistent Performance
  - Minimizes read performance degradation over life by preventing read retries by reducing media errors over drive life
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Driving Reliability for MLC based Enterprise SSDs

- Data path protection
- Secure Array of Flash Elements Technology™ (S.A.F.E.)
- PowerSafe™ Technology
S.A.F.E. Technology Improves Data Reliability
(Secure Array of Flash Elements™)

- Protects against loss of data due to bit, word line and other outlier events
- Rebuilds lost data and relocates to good sectors automatically

Delivers 2M hour **Mean time between failures (MTBF)** for MLC based SSDs

INSURES YOUR DATA IS ALWAYS S.A.F.E. ON AN STEC DRIVE
1. Endurance

- STEC CellCare™, SAFE, PowerSafe Technology
- Delivers a 10x full capacity write per day for 5 year warranty
- On any MLC media

2. Consistent Performance

3. Reliability
Technology Innovation Drives Change

- Solid-state solutions here to stay
- MLC is an enabling factor in solid-state solutions
- It takes revolutionary technology to enable MLC in the enterprise
Thank you