OPEN DRIVE TEST

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Agenda

• How are storage drives tested today?
• Why Open Drive Test?
• Who are the players?
• What are the Next Steps
How are storage drives tested today?

- Each Customer (CSPs, OEMs, ...) tests HDD/SSD separately
- Let’s say cost of ~$10-$20m/quarterly/CSP
  - Example: If 5 CSPs spend $15m/quarterly = $75/quarterly = $300m/year
- Time
- TCO
- Resources
- Sharing the Best Practices?
- Possible Delay in Time to Market of their Apps or Services
Why Open Drive Test?

• Cost savings
• Share Best Practices
• Guideline (not a standard) to improve and accelerate the qualification process
• Focus on common criteria
• Prediction models
• Early quality excursion detection with large drives quantities tested
• Option of extra-long life tests
• Use open-computer enclosure design
• Testing so many drives in a uniform environment allows to build reliable failure prediction models
Considerations:

- End-user confidentiality (who buys drives, how many and when)
- Testing in the final system vs. generic testing in a standardized tester
- Burn-in vs. short integration test
- New integration failures at customer (should be a very low number but not zero)
- Test of specific drives for a specific customer (list of SNs) or any drives of the same type
- Testing with customer-unique firmware features
- Agreeing on these workload, temperature, duration, and failure criteria
- Is this a prelim test or a final test?
- Option of extra-long life tests
- Use open-computer enclosure design
Considerations:

- Test location (cheaper energy geographies)
- Both SSD and HDD
- Typical time to test drives varies from days to weeks
- Failure rate reduction goals:

  In house testing: [------------------------]

  Open Drive Testing: [-----------------------]

- End-user confidentiality (who buys drives, how many and when)
Who Are the Players?

- Open Drive Test
- Drive Vendors
- Hyper Scalers (CSPs)
- Who Else?
- Test Labs
- OEMs
- OCP/SNIA?
What are the Next Step

• How interested are you?
• Form a Working Group compiled of interested parties to work on a draft document.
• ...

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