Flash in vehicles: end-user's perspective

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Automotive flash needs

- Robustness:
  - temperature
  - vibration

- Predictability:
  - read-write transaction time
  - component lifetime

- Visibility:
  - health statistics
  - testability
## SMART monitoring of SSD

SMART Attributes Data Structure revision number: 1

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Compare auto-grade SPI-NOR

Much less information!
Unmet need: storage EVMs

OM13081 - Evaluation Module, Sensing, Touch, Proximity, Capacitive Touch, 8bit Touchpad w/ 9 Keys, LCD
Clustered or distributed architectures?

-- More storage devices, near sensors and actuators.
-- Filter sensor data before fusing.
-- Slower buses, shorter latency?
-- Higher BOM?

-- Fewer, larger devices.
-- Transfer data before processing.
-- Needs faster network, virtualization.
-- Unproven in production.
Map- or model-based decisions?

-- Based on 'knowing where you are'.
-- Big database of locally cached results.

-- Based on 'what I can see'.
-- Small database of model coefficients.
Summary

• Most important: reliability, predictability, testability.

• Manufacturers have some opportunities to improve usability.

• Vehicle system architecture choices influence flash requirements.