



# Building SSDs for Data Recovery

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- Customer Expectations
  - HDD industry set the standard
  - Customers expectations with SSDs are still the same. No matter how low the AFR is.....
- Building in the ability to extract the data
  - It starts with design
  - Enabling Drive Recovery
    - Substitute FW
    - Using existing infrastructure (Controller)
    - Flash Reader
  - Keeping Recovery services reasonable

- Architectural Hurdles
  - Data Formats
    - Meta Data and ECC data structures
    - FTL
  - Data Manipulation
    - Encryption
    - Compression
  - Erase
    - Secure Erase
    - Trim
- Challenges on the Horizon
  - More and more security features...Opal
  - Different form factors (drive and platform)
  - NVM