

Self-Encrypting Drives (SED)

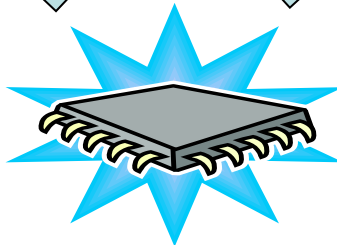
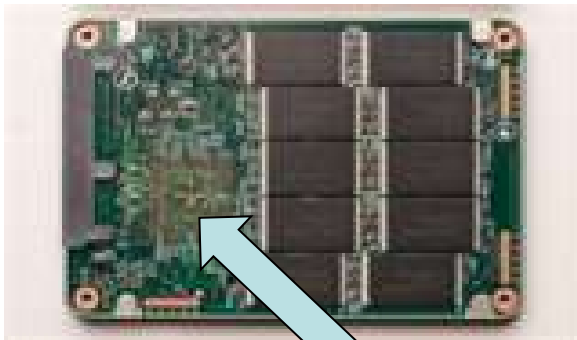
with a bias for
Solid-State Drives

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What is a Self-Encrypting Drive (SED)?

Trusted Computing Group (TCG) SED Management Interface



AES Hardware Circuitry

- Encrypt Everything Written
- Decrypt Everything Read



Performance Comparisons: HDD and SSD, software versus SED

MB/Sec	HDD: no encryption	HDD: S/W encryption	HDD: SED	SSD: no encryption	SSD: S/W encryption	SSD: SED
Startup	7.90	6.97	7.99	82.50	47.90	95.33
App Loading	7.03	5.77	5.71	48.33	30.77	60.37
Modest size file test	6.13	5.00	5.28	41.13	26.77	50.40
Large Scale Data Read	84.67	52.88	82.75	178.00	70.23	169.33
Large Scale Data Write	79.60	49.50	50.31	170.80	63.60	164.50

The Future: Self-Encrypting Drives

➤ Encryption everywhere!

- ◆ Data center/branch office to the USB drive

➤ Standards-based

- ◆ Multiple vendors; interoperability

➤ Unified key management

- ◆ Authentication key management handles all forms of storage

➤ Simplified key management

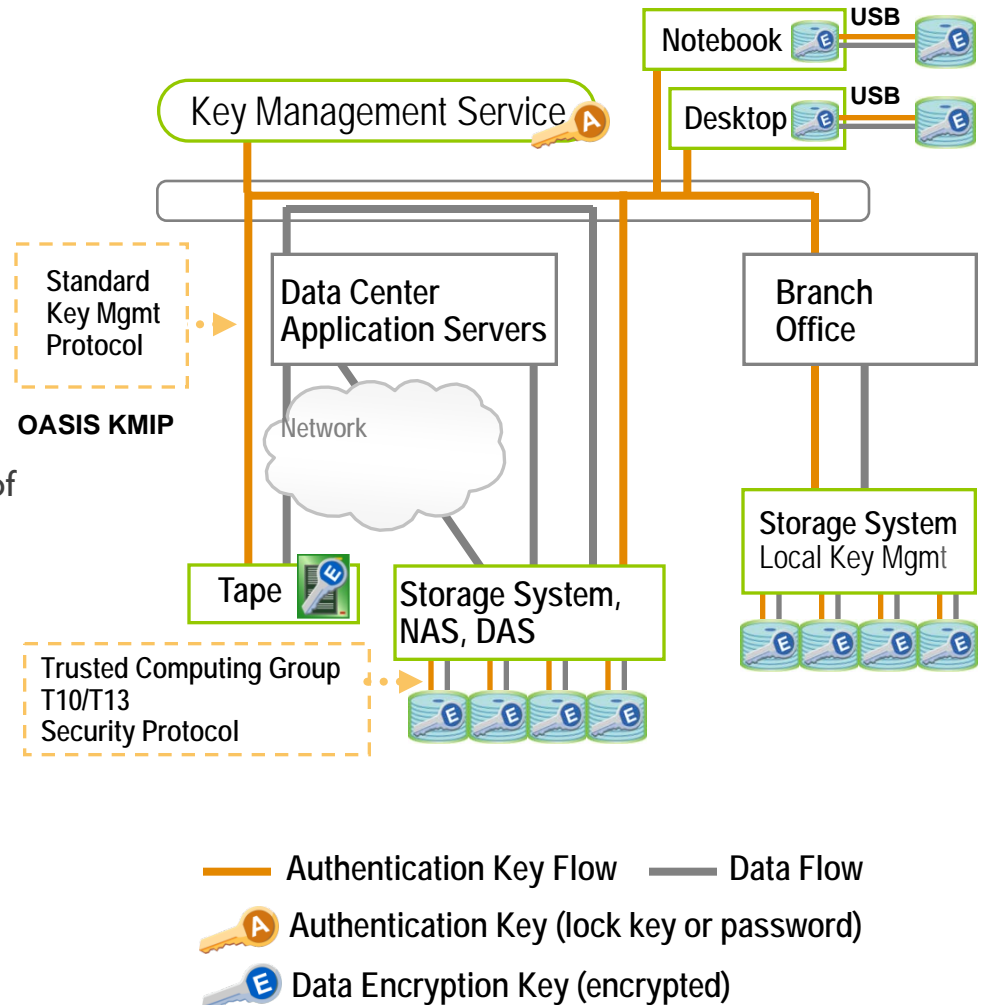
- ◆ Encryption keys never leave the drive. No need to track or manage.

➤ Transparent

- ◆ Transparent to OS, applications, application developers, databases, database administrators

➤ Automatic performance scaling

- ◆ Granular data classification not needed



Solid-State Drive + Self-Encrypting Drive



SIMPLE SOLUTION

- Reduced TCO
- Increased productivity
- Better Performance
- More shock resistance
- Better reliability
- Less power use

- Simplified Management
- Robust Security
- Compliance “Safe Harbor”
- Cut Disposal Costs

- Scalable
- Interoperable
- Integrated
- Transparent