

Drive Recovery Panel

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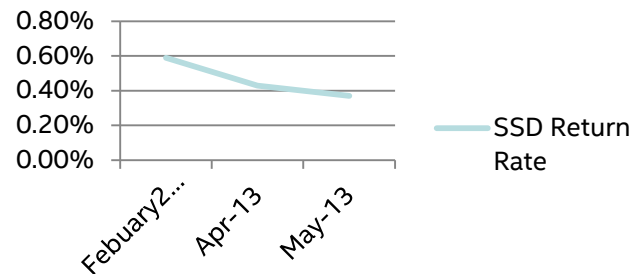
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ROI of Drive Recovery From Mfg. Perspective

- Customers are the key to our industry
 - Even with high reliability and current back up scenarios, drives will fail and may lose data
 - Even one customer with data loss affects the industry
- Why support drive recovery when the overall failure rate is trending downward for Intel® SSDs?
 - Expectations due to legacy capabilities from the HDD world
 - Safety net when the unexpected happens

Intel SSD Return Rate



<http://translate.google.com/translate?depth=1&hl=en&rurl=translate.google.com&sl=auto&tl=en&u=http://www.hardware.fr/articles/893-7/ssd.html>
<http://www.hardware.fr/articles/810-6/disques-durs-ssd.html>

Do as We Say ... or Do as We Do? Implementing Technology Effectively

- 100% of Intel mainstream laptops use Intel® Solid-State Drives

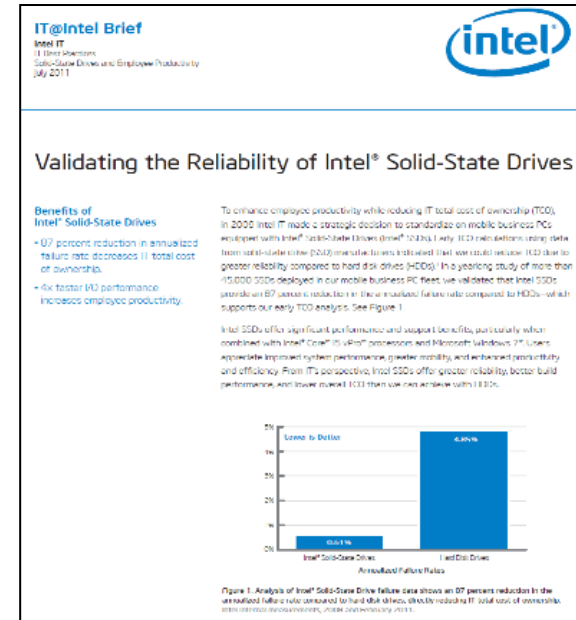
- ~100k deployed

- Intel employees and IT benefit from a lower annualized failure rate

- <1% for SSD vs 4.85% for HDD¹
- AFR is the key driver of a lower Total Cost of Ownership¹
- Reduced employee downtime¹

- Where does drive recovery fit in? → The Fewest

- **The Few:** $0.5\% \text{ AFR} * 100,000 \text{ SSDs} > 1$ failed SSD per day
- **The Fewer:** Data back up is “Plan A” - network backup and cloud synchronization services are standard IT offerings
- **The Fewest:** “Plan B” is required due to improper use or glitches with “Plan A”



IT@Intel Brief
Intel IT
11 First Street
Solid-State Drives and Employee Productivity
July 2011

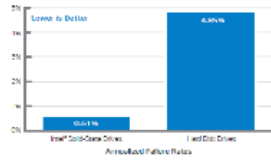
Validating the Reliability of Intel® Solid-State Drives

Benefits of Intel® Solid-State Drives

- 67 percent reduction in annualized failure rate decreases total cost of ownership.
- Six factor IAD performance increases employee productivity.

To enhance employee productivity while reducing IT total cost of ownership (TCO), in 2009 Intel IT made a strategic decision to standardize on mobile business PCs equipped with Intel® Solid-State Drives (SSDs). Intel IT's decision, using data from solid-state drive (SSD) reliability tests revealed that Intel SSDs offer greater reliability compared to hard disk drives (HDDs).¹ In a yearlong study of more than 10,000 SSDs deployed in our mobile business PC fleet, we validated that Intel SSDs provide an 67 percent reduction in annualized failure rate compared to HDDs, which supports our early TCO analysis. (See Figure 1.)

Intel SSDs offer significant performance and support benefits, particularly when combined with Intel® Core™ i5 ultra™ processors and Microsoft Windows 7™. Users appreciate improved system performance, greater mobility, and enhanced security and efficiency. From IT's perspective, Intel SSDs offer greater reliability, better build performance, and lower overall TCO than the used alternatives with HDDs.



Drive Type	Annualized Failure Rate
Intel® Solid-State Drives	0.5%
Hard Disk Drives	4.85%

Figure 1. Analysis of Intel® Solid-State Drive failure data shows an 67 percent reduction in the annualized failure rate compared to hard disk drives, directly reducing IT total cost of ownership. www.intel.com/processors/itad/itad-ssd-reliability-2011

Where is the ROI for SSD Manufacturers?

Intel® SSD Data Center Family
Intel SSD DC S3700 and S3500 Series
Intel SSD DC P3700 and P3600 Series



Some opportunity to help customers, but needs to be customer driven



Large interest in drive recovery, but backup and security requirements add to the complexity

Intel SSD Professional Series
Intel SSD Pro 2500 and Pro 1500 Series



Consumer Family largest exposure and least prepared for data loss

Intel SSD Consumer Family
Intel SSD 730 and 530 Series