

# Apacer

*Improving your system performance*

**SSD<sup>+</sup>Optimizer**

E-Flash Product Dept.

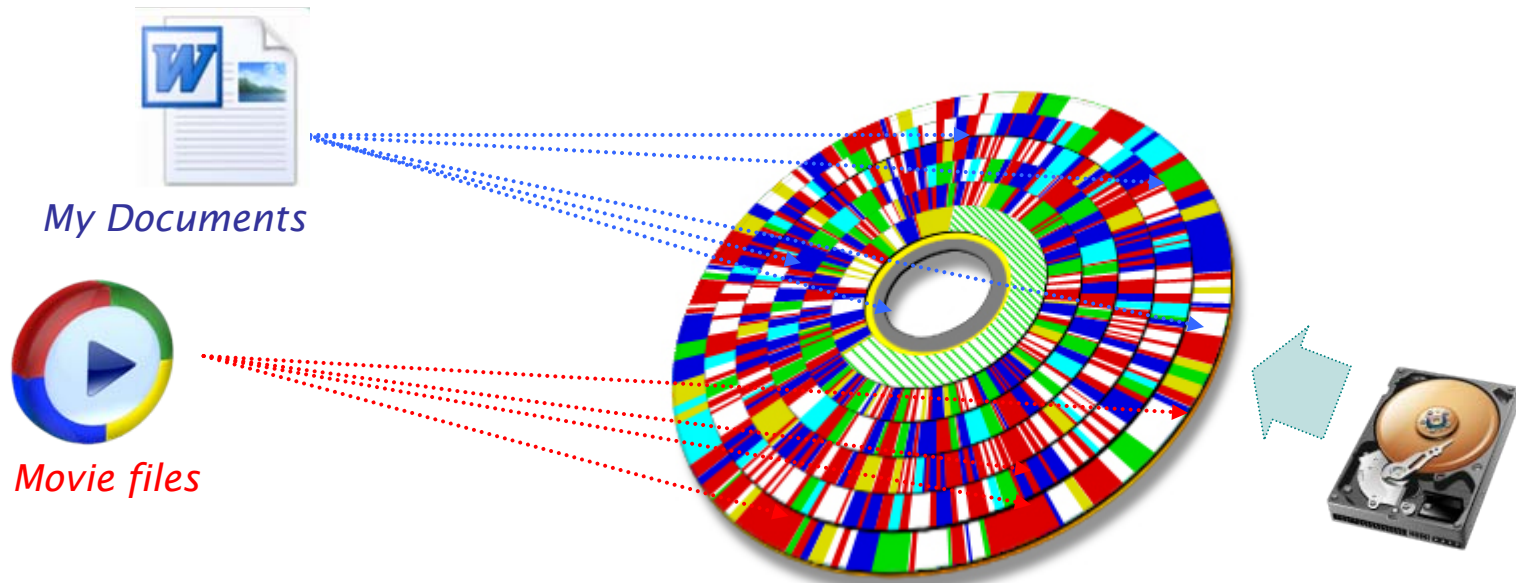
27<sup>th</sup> November, 2008

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- What's fragmentation
- The influence of data fragment
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# What's Data Fragmentation?

- When operating systems cannot allocate enough contiguous space to store a complete file, and instead fragment the file in gaps between other files.



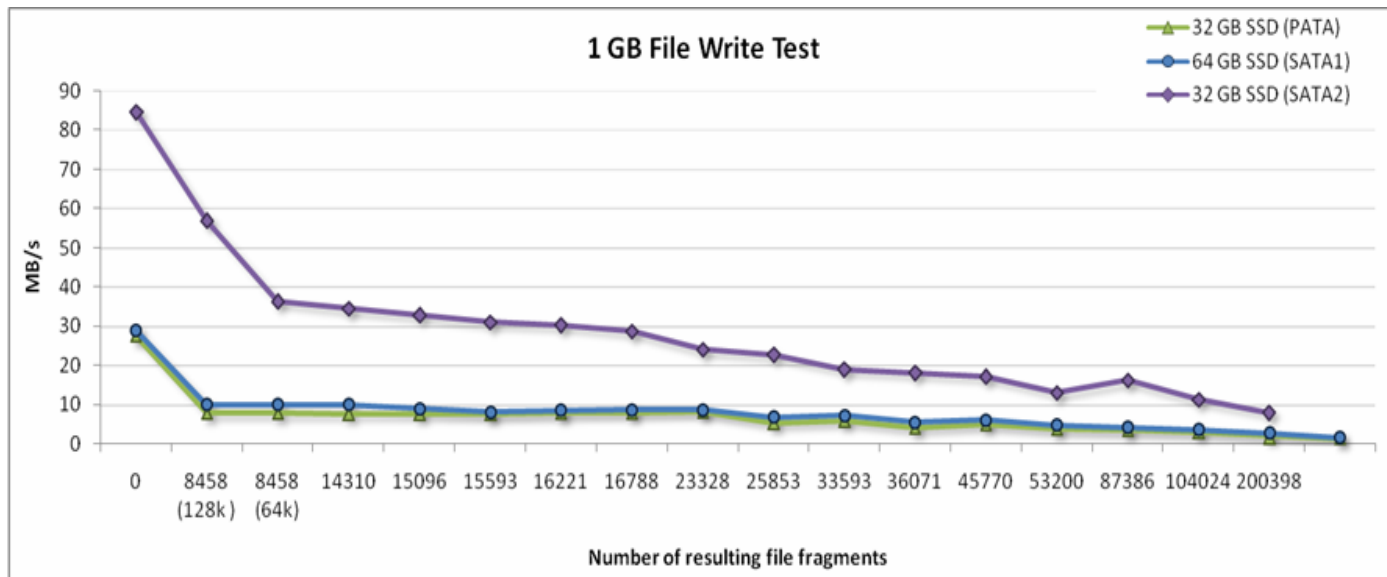
# Accumulation of Fragmentation

| Test                                   | Number of Fragmented Files | Number of Excessive File Fragments | Average Fragments Per File |
|--|----------------------------|------------------------------------|----------------------------|
| Install Windows XP Professional        | 439                        | 1926                               | 1.20                       |
| Install Microsoft Office               | 34                         | 382                                | 1.03                       |
| Install Windows XP Service Pack 2      | 197                        | 1656                               | 1.09                       |
| Installing 16 critical Windows updates | 157                        | 621                                | 1.05                       |
| Retrieving 1500 Web pages              | 2396                       | 6178                               | 1.27                       |
| Copying 500 MB of files                | 24                         | 143                                | 1.01                       |

- Installing Windows XP professional resulted in the fragmentation of 439 files, including important files from system directory and the DLL cache.
- Installing Windows Office resulted in the fragmentation of 34 files, across both application and supporting files.
- Installing Windows XP SP2 resulted in 197 fragmented files, mostly across log and temporary files.

## The affect of fragmentation on SSD

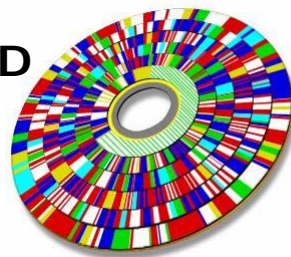
- Write performance *decreases* while free space fragmentation *increases*.
- The result is an **80% write speed reduction**



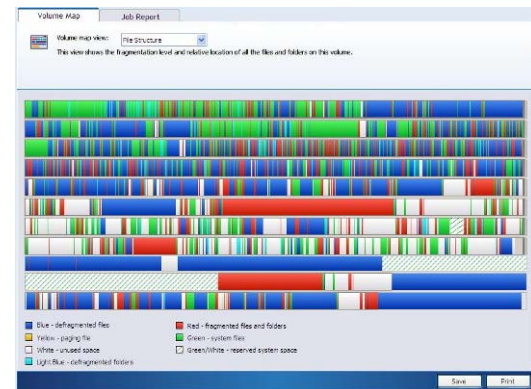
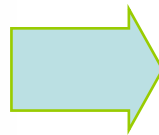
# The Solution = **SSD<sup>+</sup>Optimizer**

- **InvisiTasking™**: defrags SSD when system is idle
- Prevents an 80% write performance decline
- **I-FAAST™**: Accelerates system boot-up and file access times

Before: HDD



Now: SSD



# SSD<sup>+</sup>Optimizer

- Real-time defragmentation!
- Maximum speed & performance at all times!



System temporary files  
and DLL library change  
frequently



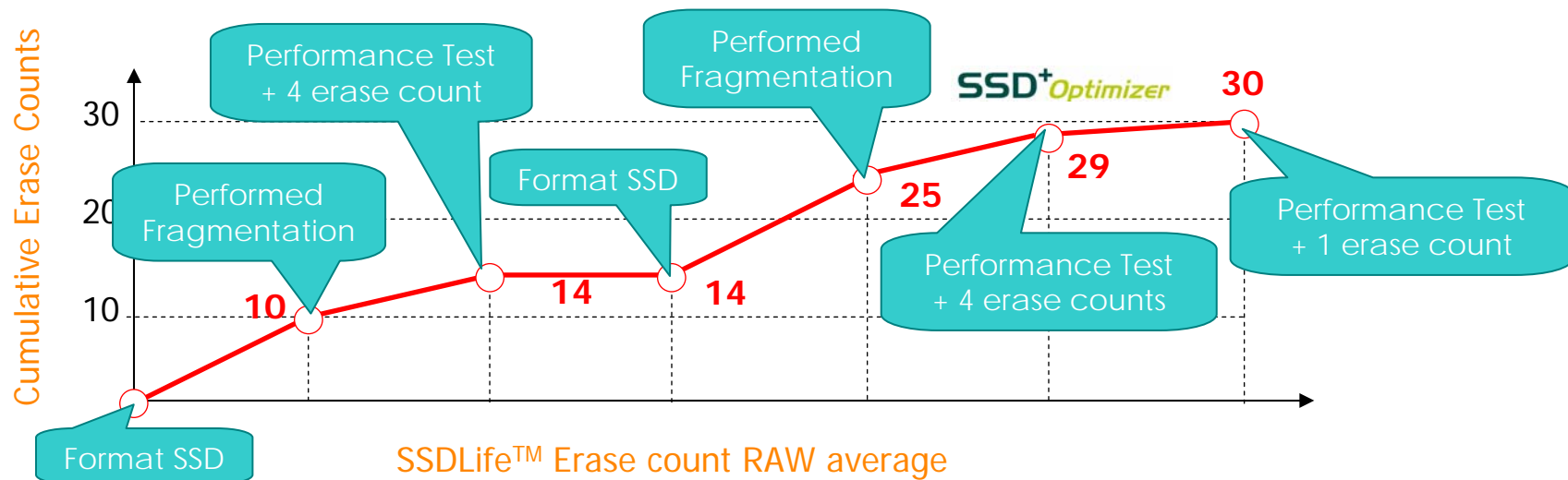
Heavy application log  
and files are created all  
the time



Internet surfing generate lots  
of small & fragments files

# Key Benefit - Life cycle

The intelligent algorithms was designed to **compromise** between performance optimization and useful life cycle of flash.



# Optimize your SSD Performance Now!

- **Fragmentation** = decreases performance & reliability in computers
- **SSD+ Optimizer** = maintains peak SSD performance at all times!

**SSD<sup>+</sup>Optimizer**

