



SV 2010, CES, Showstoppers and ICCE Storage Recap

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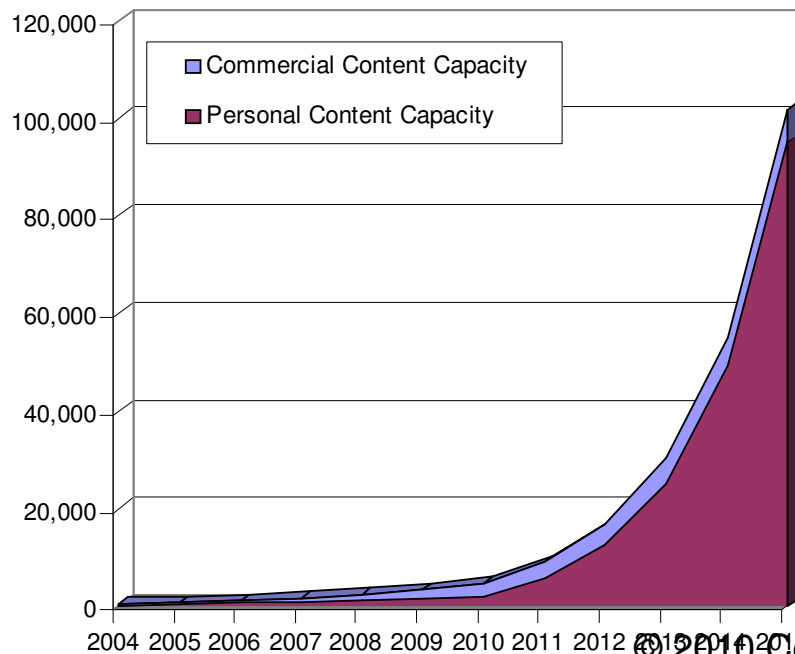
Storage Highlights

- Life-logs, e-Diaries
- Long term storage preservation
- Consumer metadata
- Network storage and plug computing
- New high speed/capacity SD card formats
- USB products and USB 3.0 first products
- SSDs and external SSDs
- 3D on Blu-ray
- Professional video products

Total Recall!



Capacity (GB)



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PEN VIDEO CAMERA FOR FUN, TO SPY, TO WRITE!

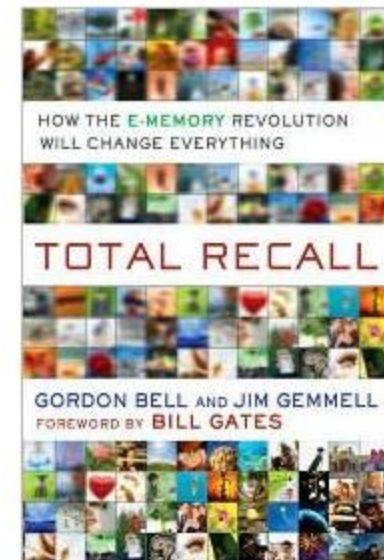
A pen with all the works. Why stop at writing, when you can record, replay and reuse? Leave the load at home. The MP9 is the latest in pen camera technology that offers all the benefits of a pen without carrying a camcorder around. Fully functional, portable, and well priced, the pen camera does not weigh down your pocket or your wallet.

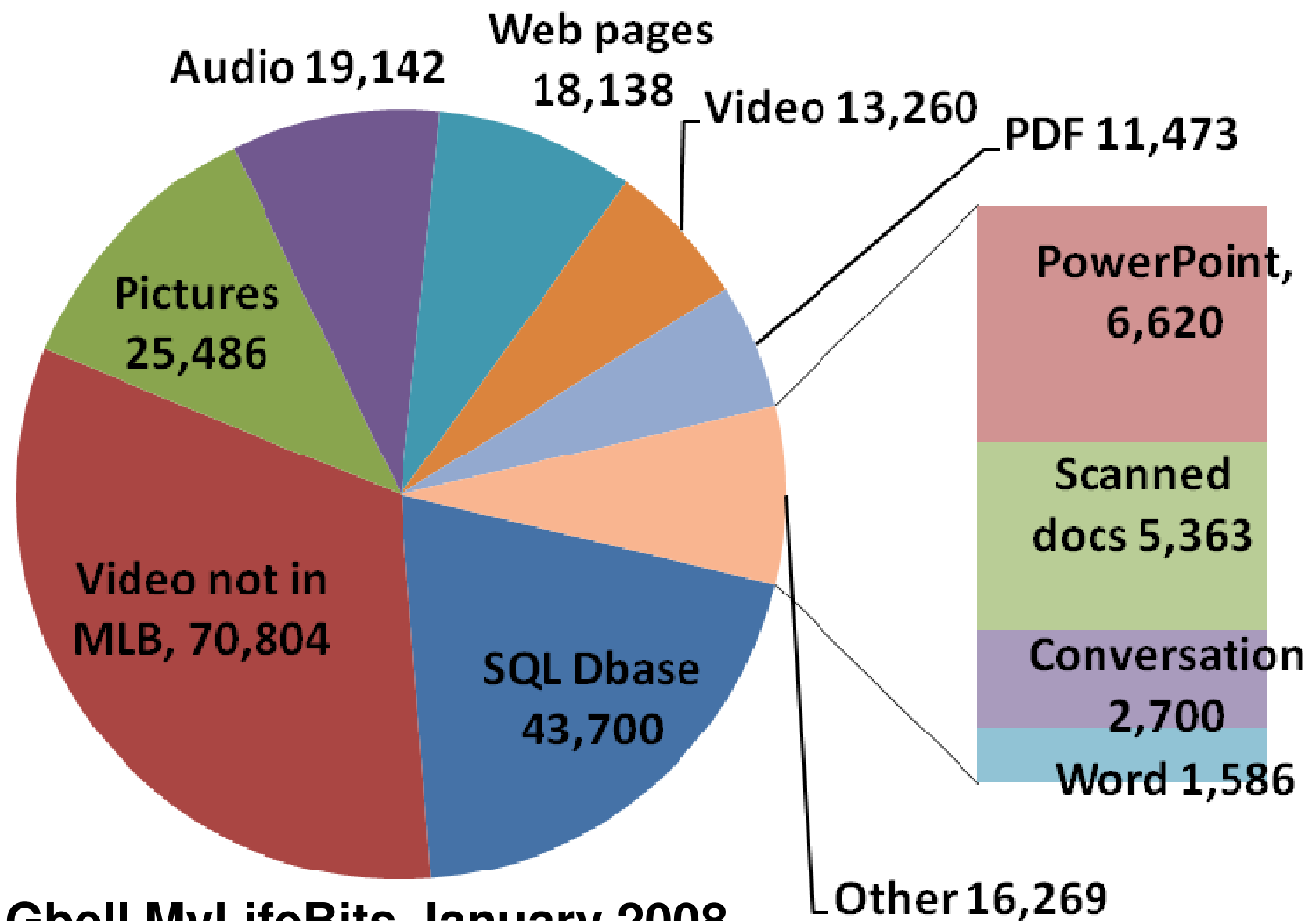
1GB	2GB	4GB	8GB
\$24.99	\$29.99	\$34.99	\$39.99

Add to cart



Publish Date
September
2009





Everything a Recording Device

Flashlight DVR
Compact Digital Video Recorder
Monitoring & recording concealed in a portable flashlight
MODEL NO.: GD2716

GOSCAN
Built-in G-Sensor
Vehicle DVR
Model No.: GD

NEW

GPS Logger
GPS location information logged for later reference onto a removable SD card

Record
With Memory Up To 16 GB
Real-time video recording while driving.
High resolution crystal clear audio and video

G-Sensor
Sensors automatically detect and record video of events such as impact, speed, braking, acceleration

Portable Internet Broadcasting

Threats to long-term assets

- Large-scale disaster
- Human error
- Media faults

Long-term content suffers from more threats than short-term content

- Component faults
- Economic faults
- Attack
- Organizational faults

- Media/hardware obsolescence
- Software/format obsolescence
- Lost context/metadata

SIRF: logical container format

- Being developed by SNIA
 - For long-term storage of digital information
- Logical data format of a mountable unit
- Facilitate transparent logical/physical migration for long-term preservation
- Several implementations envisioned
 - Preservation models, storage interfaces, storage devices, etc.

Metadata Layer Model

Meaning Levels	Contextual Layer	
	Semantic Layer	
	Textural Layer	
Basic Data Levels	Operational Layer	
	Dimensional Extent	
	Physiological Filter	Psychological Filter
	Physical Layer	

- We need a consumer metadata standard that obeys 4 criteria:
 - Flexible
 - Scalable
 - Upgradable
 - Simple
- Plus something that can also integrate the professional standards

Network Storage

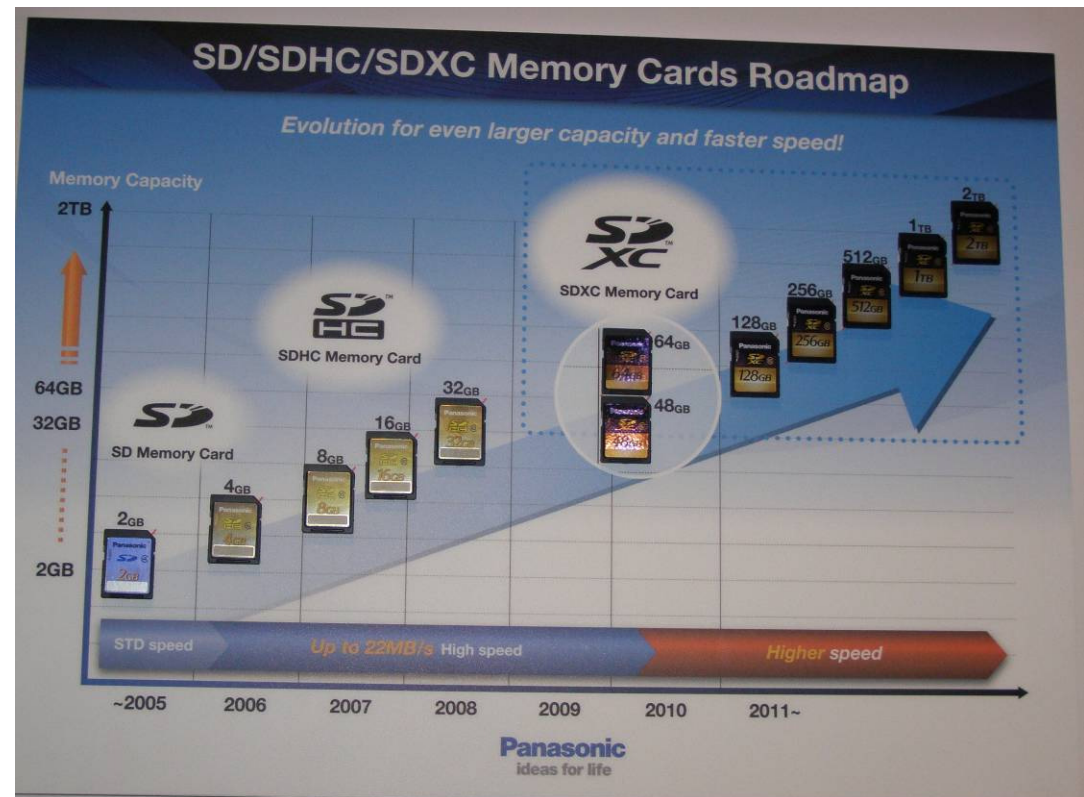


Plug Computers

- Build networked computers into everything...



Higher Capacity, Higher Speed SD Cards



- Last year the SD card association announced the SDHC format
- This year Toshiba was showing product
- CE Devices using this available by 2011

USB Storage Devices



USB 3.0

USB 3.0 is Here!
These exciting new products incorporate NEC Electronics USB 3.0 silicon

	1 GB	6 GB	16 GB	27 GB
Typical File Size	1 GB	6 GB	16 GB	27 GB
USB Full-speed	22 min	2.2 hr	5.9 hr	9.3 hr
USB High-speed	33 sec	3.3 min	8.9 min	13.9 min
SuperSpeed USB	3 sec	20 sec	53 sec	70 sec

USB 3.0 Standard-A
USB 3.0 Standard-B
USB 3.0 micro-B

Rec & Plug

MAIN SUPER Main Super Enterprises Co., Ltd

Best USB 3.0 Solution
Powered by asmedia
ASMedia Technology

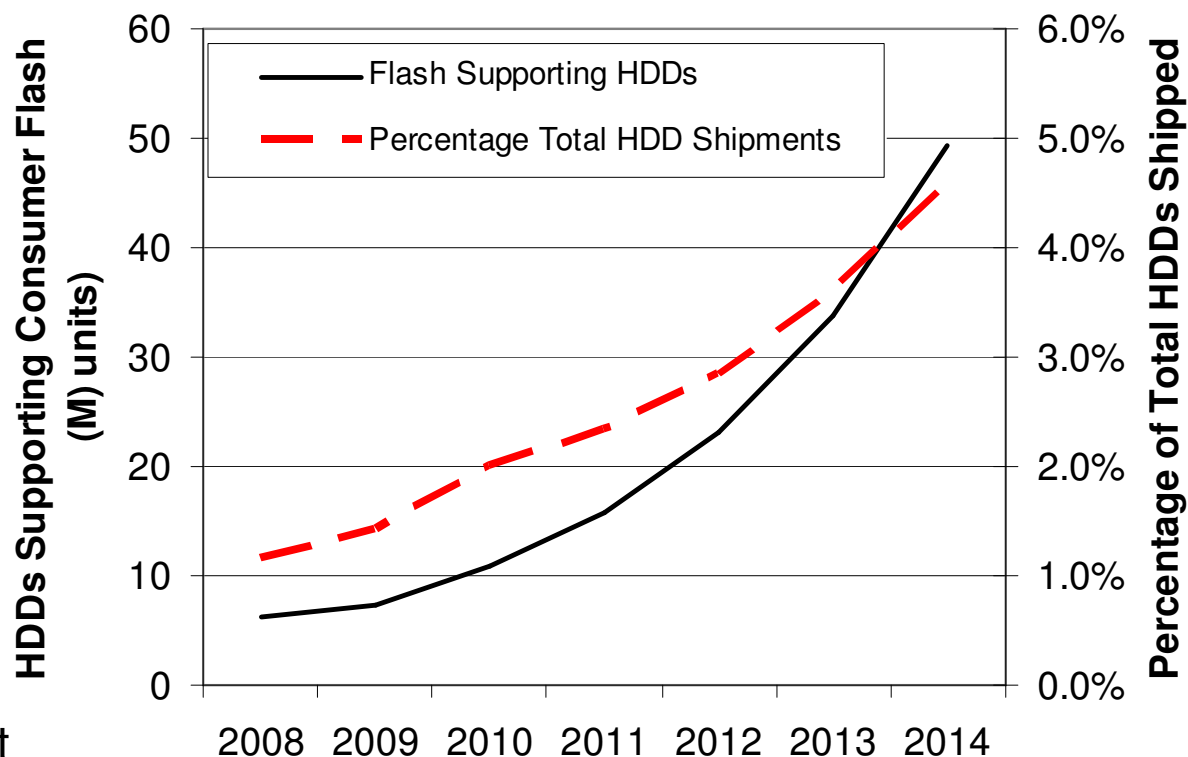
ASMT051

jpc

SUPER TALENT

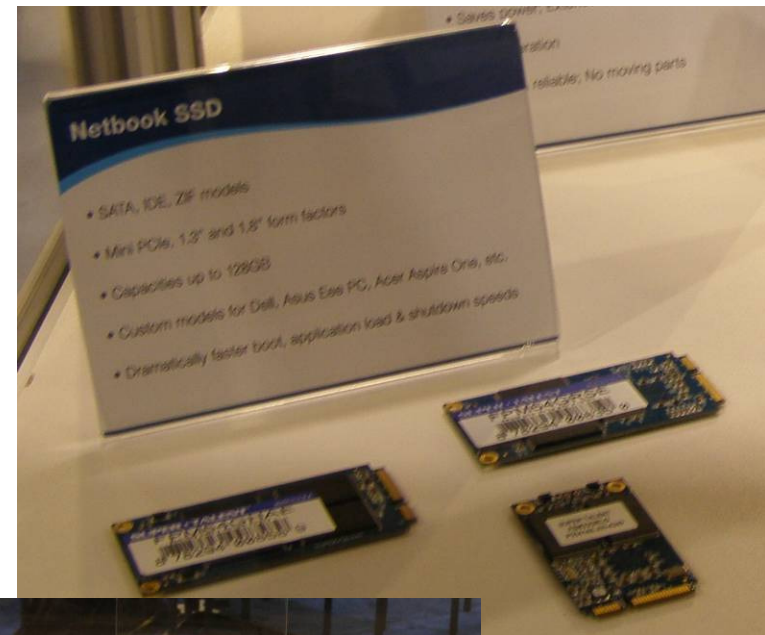
Symbiotic Relationship Flash and HDDs

- Almost all consumer flash applications require HDDs
 - Music and video players
 - Cameras
- Consumer flash applications have created greater demand for HDDs
 - Downloads
 - Uploading photos and videos
 - Backup of Consumer Content



White Paper: Flash and HDD: Symbiosis or Survival of the Fittest? (Coughlin Associates & Objective Analysis)

SSDs



External SSD Torture Test



**ioSafe Demo-
Lition
January 8, 2010**

Optical Disc Technology





In the next decade

- A terabyte in your pocket
- A petabyte in your home
- Exabytes in datacenters
- Zetabytes in the world



Thanks