SV 2010, CES, Showstoppers and ICCE Storage Recap

Thomas Coughlin
Coughlin Associates
www.tomcoughlin.com
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!

VIEVU PVR-PRO 2

- Enhanced low light
- Improved resolution
- 4 hours of recording
- 4 GB memory
- Waterproof
- $399.95

Capacity (GB)

Publish Date
September 2009

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

Add to cart

© 2010 Doughlin Associates
Gbell MyLifeBits January 2008
219 Gbytes (460,000 items)
Everything a Recording Device

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

Built-in G-Sensor
Vehicle DVR
Model No.: GD7216

Portable Internet Broadcasting

© 2010 Coughlin Associates
Threats to long-term assets

- Large-scale disaster
- Human error
- Media faults

- Component faults
- Economic faults
- Attack
- Organizational faults

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

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

Sam Fineberg, HP, Digital Forgetfulness, SV 2010
© 2010 Coughlin Associates
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.

Sam Fineberg, HP, Digital Forgetfulness, SV 2010
© 2010 Coughlin Associates
## Metadata Layer Model

We need a consumer metadata standard that obeys 4 criteria:
- Flexible
- Scalable
- Upgradable
- Simple

Plus something that can also integrate the professional standards

<table>
<thead>
<tr>
<th>Basic Data Levels</th>
<th>Physiological Filter</th>
<th>Psychological Filter</th>
<th>Physical Layer</th>
<th>Operational Layer</th>
<th>Dimensional Extent</th>
<th>Semantic Layer</th>
<th>Contextual Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning Levels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
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

Sony brings 3D home in 2010

BDX3000
with 3D capability
In the next decade

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

© 2010 Coughlin Associates
Thanks