2015 Digital Storage for Media and Entertainment Report

Description:

Data storage is a key element in the digital transformation of content creation, editing, distribution and reception. Data capacity and communication speed increases, form factors, lowered product prices and the growing familiarity with digital editing, digital intermediates and various forms of digital distribution are key components in the continued growth and development of entertainment.

Because of the large file sizes required for high resolution and multi-camera images there is increasing demand for high capacity storage devices. The entire content value chain of content creation, editing, archiving, distribution as well as consumer electronics content reception devices, provide an accelerating feedforward mechanism. This drives growth in data storage for all entertainment content applications.

For many archiving and distribution applications where content is relatively static low cost/high capacity SATA HDD storage, optical discs and tape-based storage libraries will predominate. Hard disk drives as well as enterprise SSDs are also used in high performance storage applications where storage cost factors must be combined with performance requirements.

For applications requiring rugged field use or fast playback response flash memory either as cards or solid state drives (SSDs) are becoming more popular.

Due to input form from industry groups, SMPTE, HPA, EBU (and other media and entertainment workers) survey results and discussions with industry end users and equipment providers we have adjusted some of our models for future growth. We have modifications to the 2014 and earlier report assumptions to better model current market conditions. Some areas have gained in capacity and revenue while some have declined vs. earlier editions of this report.

Key Points:
- Creation, Distribution & Conversion of video content creates a huge demand driver for storage device and systems manufacturers
- As image resolution increases and as stereoscopic (and even more immersive) video becomes more common, storage requirements explode
- The development of 4K TV and other high-resolution venues in the home and in mobile devices will drive the demand for digital content (especially enabled by high HEVC (H.265) compression.
- The slow down in areal density growth for HDDs will slow the historical $/GB decline probably through the projection period.
- Activity to create capture and display devices for 8K X 4K content is occurring with planned implementation in common media systems by the next decade
- Active archiving will drive increased use of HDD storage for “archiving” applications, supplementing tape for long term archives
- Optical storage developments for Blu-ray optical cartridges are expected to slow and probably reverse the decline in optical archive storage
- Flash memory dominates cameras and will find wider use in content distribution systems
- From 2014 to 2020 entertainment and media digital storage TAM (without archiving and preservation) will increase by about 2.6 X (from $2.6 B to $6.8 B).
- Between 2014 and 2020 media and entertainment storage revenue is expected to grow 2.3 X (from $4.8 B to $10.8 B).
- In 2014 archiving and preservation is estimated to have been 45% of the total storage revenue followed by post-production (26%), content distribution (25%), and content acquisition (4%).
- In 2020 the projected revenue distribution is 37% archiving and preservation, 34% post-production, 26% content distribution, and 3% content acquisition.
- Between 2014 and 2020 we expect about a 4.9 X increase in the required digital storage capacity used in the entertainment industry and about a 3.7 X increase in storage capacity shipped per year (from 18,050 PB to 66,291 PB).
- The greatest storage capacity demand in 2014 is for digital conversion and preservation as well as archiving of new content (95.8%).
- Content distribution follows in size with acquisition and post-production using less storage.
- By 2020 we expect 67% of archived content to be in near-line storage, up from 48% in 2014.
- In 2014 we estimate that 48.6% of the total storage media capacity shipped for all the digital entertainment
content segments was in HDDs with digital tape at 40.1%, 10.7% optical discs and flash at 0.6%.
- By 2020 tape has been reduced to 30.9%, HDDs shipped capacity is 58.8%, optical disc capacity is down to
  about 9.3% and flash capacity percentage is at 0.9%.
- Media revenue is expected to increase about 23% from 2014 to 2020 ($469 M to $578 M).
- The single biggest application (by storage capacity) for digital storage in the next several years as well as
  one of the most challenging is the digital conversion of film, video tape and other analog formats
- Over 60 Exabytes of new digital storage will be used for digital archiving and content conversion and
  preservation by 2020
- Content distribution and post-production will drive the growth of network and direct attached/local storage
  in the projection period.
- Storage in remote “clouds” is playing an important role in enabling collaborative workflows.
- Overall cloud storage for media and entertainment is expected to grow 24 X between 2014 and 2020 (763
  PB to 18,224 PB)

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