

SeeQVault

Robust, Mobile, Flexible, Secure Flash Memory

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Flash Memory SeeQ Vault is ...

 A technology for content delivery eco-system with secure storage device like SD Memory Card and USB HDD

 Utilized for premium quality digital video content like 4K-UHD video and HD video stream

 Developed by Panasonic, Sony, Samsung and Toshiba and licensed from NSM Initiatives LLC



Existing TV broadcasting services

- There are TV broadcasting services all over the world
- Consumers enjoy watching TV programs however feels some pains
 - scheduled time, fixed place, a few times to watch...
- However, if the broadcasting system has no protection technology, all titles will be copied freely and most of people will not use the service
- Secure storage devices relief such pains and fascinate the services.

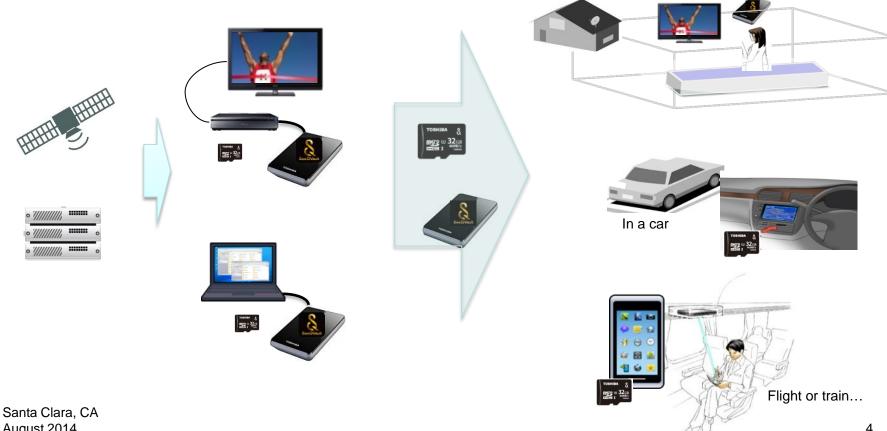


Playback anytime anywhere

Recording

Bring out

In house





Benefit to use storage device

- Playback anywhere and anytime
 - No internet access is necessary for playback
 - Internet streaming service does not work in offline or low network performance environment
- Easy data transfer
 - Content can be moved/copied to a SeeQVault storage device
 - Recording operation is easier-to-understand and lessmistake than M2M network transfer (like DLNA)
- Backup
 - Once recording in SeeQVault storage device, any SeeQVault host device can playback it
 - In case of device bind recording, when the device is broken, all recorded content will lose.



Complement each other

Physical Media

Digital Delivery

- Playback on all compliant devices
- Consistent, optimal performance (no buffering)
- Doesn't take up consumer or provider bandwidth
- Promotes ownership and collection
- Can easily scale to accommodate 4K-UHD

- Convenience and mobility
- Requires no physical storage space
- Not subject to damage or degradation
- Simultaneous playback on multiple (closed garden) devices

- Limited compatibility with mobile devices
- Scratches & degradation
- Can only viewed on one device at a time (difficult for family to share)
- Takes up physical storage space

- HD content consumes limited storage space on mobile devices
- Streaming quality is inconsistent
- Lack of ubiquitous Wi-Fi access
- Consumer & provider bandwidth hog
- Requires rethinking of digital delivery in order accommodate 4K-UHD



- Jan. 2013: NSM LLC established
- Feb. 2013: Licensing start, announcements at Mobile World Congress (MWC)
- Aug. 2013: Dpa (a broadcast approves SeeQVault for the secure recording output
- Aug. 2013: DTLA approves SeeQVault for the secure output from DTCP
- October 2013: SeeQVault support microSDs and a portable host device are in the market in Japan
- NSM LLC is also communicating with other standards bodies such as BDA and DECE



- SeeQVault technology creates new business opportunities in order to respond to future expected demand of consumers to enjoy premium movies anytime and anywhere.
- SeeQVault technology has been developed by the four companies since 2011 and real products has been already in a market
- Anticipating various companies to introduce both home and mobile SeeQVault products and SeeQVault compatible devices on a mass-market level all over the world.

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- **English** http://us.seeqvault.com/
- http://jp.seeqvault.com/ <u>Japanese</u>

