

Case Study: Rich Media

Bronze Visual Art

Solution Summary

Challenges

- Recreating a key part of China's naval history in a compelling documentary
- Finding a storage solution that could support real-time 4K editing
- Storage solution must provide enough bandwidth to handle integrating footage shot in 4K with 3D animation

The PROMISE Solution

- PROMISE Pegasus R6 with Thunderbolt™ technology

The Benefits

- Lightning fast performance supported real-time editing of uncompressed 4K files
- Enabled editors to simultaneously handle 4K files while accessing and editing large database of high-resolution images
- Achieved transfer rates over 600MB/s
- Throughput supports demand for a wide range of digital and animated projects where fast performance is an absolute necessity

Pegasus Helps Bring A Key Piece of China's Naval History to Life



A scene from 'Rebuilding the Tongan Ships', Directed by Aaron Ke of Bronze Visual Art - Source: National Palace Museum, Screen Capture by Lee Chang Geng

About Bronze Visual Art

Aaron Ke, Director of Bronze Visual Art in Taipei, Taiwan, is a young, hugely talented up-and-coming director who has produced a wide array of media, including documentaries, animated films, and advertisements. His latest project presented a unique challenge that would not only test his directing skills, but also push him to explore the latest advances in technology for creative professionals.

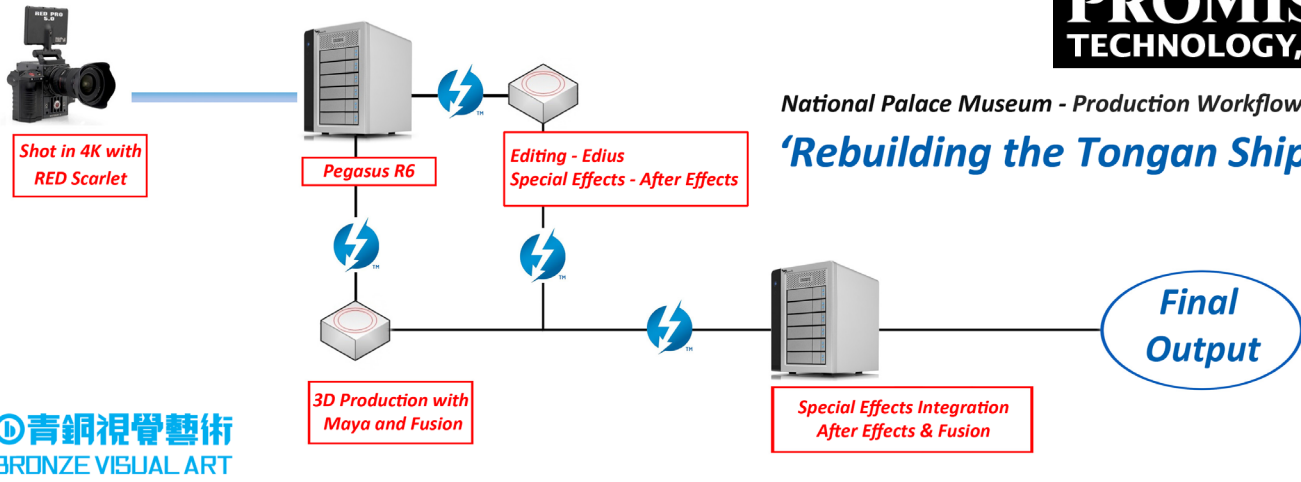
Cooperating with the National Palace Museum (NPM) in Taipei, home to a permanent collection of over 693,000 pieces of ancient Chinese artifacts and artworks, Ke created an intriguing documentary recreating the majesty of the Tongan ships of the Qing Dynasty. The Tongan ships ruled the seas in China from the 16th to the 19th Century and were used by merchants, pirates and the Chinese military. The documentary, titled 'Rebuilding the Tongan Ships', presents the story behind the rise of the Tongan ships, how the ships were restored by the NPM, and finally what the main structures of the ship look like in stunning 3D.

The Challenge

Using historical artifacts from the NPM, including two extremely rare colored drawings of Qing Dynasty warships, Ke set out to recreate history. To fully understand the origin and the purpose of the rare diagrams, the NPM team delved into a mountain of historical records and at the same time, employed models and 3D technology to help Ke reproduce the intricate details of the ancient ships.

In order to recreate this lost piece of history in the documentary, Ke decided to take a unique approach to filming this project. He wanted to create a more visually exciting film

National Palace Museum - Production Workflow for
'Rebuilding the Tongan Ships'



青銅視覺藝術
BRONZE VISUAL ART



Director Aaron Ke of Bronze Visual Art and Animation Director Zhang Li Ren at the Press Conference for the release of 'Rebuilding the Tongan Ships' - Source: National Palace Museum

Learn More About:

'Rebuilding the Tongan Ships'

- Recreates the history around the Tongan ships, the key player in China's oceans in the 19th Century
- Documentary was developed based on two extremely rare diagrams of the Tongan ships
- The Tongan ships represent a key part of China's naval history that was previously unexplored by Taiwanese historians
- The National Palace Museum is showing the documentary from July - August, 2013

For more information, visit;
http://theme.npm.edu.tw/exh102/tongan_ships/

"At first, I have to say I was skeptical, but once I tried the Pegasus R6 I was totally surprised. I couldn't believe that it could handle real-time editing of uncompressed 4K files. Pegasus was absolutely crucial to this project."

that would breathe life into a key part of China's naval history. Therefore, he decided to combine 2D and 3D elements, in addition to shooting the film in 4K.

Shooting the film in 4K, which is four times the resolution of full-HD, captures beautiful high-resolution images but the media files are massive, presenting a host of challenges when the content needs to be edited, stored, and transferred. Ke quickly discovered the performance of USB 3.0 and FireWire simply could not meet his requirements for real-time 4K editing, and that is even before he began integrating 3D animation.

Ke considered compressing the files to ProRes 422, but ultimately decided to work with uncompressed 4K files because he didn't want to lose any of the details that he worked tirelessly to perfect. He now needed a storage solution that provided enough throughput to turn his vision into reality. He found the PROMISE Pegasus R6 with Thunderbolt™ technology.

The PROMISE Solution

After researching the latest technologies and solutions that would support his project, Ke decided on the PROMISE Pegasus R6, hardware RAID storage with Thunderbolt technology. "At first I have to say I was skeptical, but once I tried the Pegasus R6 I was totally surprised," said Ke. "I couldn't believe that it could handle real-time editing of uncompressed 4K files. Pegasus was absolutely crucial to this project."

Ke was able to achieve transfer rates over 600 MB/s, which helped him speed through the editing process. With one SSD installed in his computer, which was connected to the Pegasus R6, he was able to do all of his editing and 3D integration with the uncompressed 4K files he captured on his RED camera. "In one month and a half, I was able to finish 42 scenes that were shot in 4K," said Ke. "When I first started the project I thought this was impossible."

The Pegasus R6 has fast become the top storage solution for rich media professionals who require industry leading performance and reliability. The incredible throughput of the Pegasus R6 is truly what makes it shine, as this outstanding performance dramatically enhances the effectiveness of high-resolution video editing. Additionally, the PROMISE



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Pegasus R4 & R6



PROMISE Pegasus R6

Features & Highlights

- Extremely high performance and high capacity
- Advanced RAID engine
- Supports RAID 0, 1, 5, 6, and 10
- Stylish and compact enclosure
- Ultra-quiet design
- Two Thunderbolt ports
- Hot-swappable bays for effortless drive access and serviceability
- Robust error handling provides superior data protection

For more information about the PROMISE Pegasus R6, please contact PROMISE Technology or your authorized reseller today.

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“In one month and a half, I was able to finish 42 scenes that were shot in 4K. When I first started the project and I didn’t have the Pegasus R6 I thought this would be impossible.”

RAID engine has a proven track record of reliability that has helped protect the valuable digital assets of the world’s leading media and entertainment companies.

THE BENEFITS

The PROMISE Pegasus R6 enabled Ke to realize his vision of a breathtaking documentary that combined footage captured in 4K with 3D animation. The lightning fast throughput easily handled massive high-resolution files, something that other technologies and solutions failed to do. Ke used the Pegasus R6 for real-time editing of uncompressed 4K files, and he flew through the editing process.




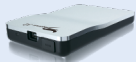
The work Ke does is very diversified, as he not only makes documentaries but also produces advertisements, and most recently is assisting with an animated novel. All of this requires working with files that are huge. The greatest benefit that Ke experienced while using Pegasus is that at the same time as handling the 4K files, he could also use other software, like Photoshop, and access his large database of high-resolution images without affecting his workflow at all.

The massive capacity of the Pegasus R6 and its outstanding throughput were key characters in completing ‘Rebuilding the Tongan Ships’ for Ke and one of the leading museums in the world. To see a trailer of the exciting documentary, please visit: http://theme.npm.edu.tw/exh102/tongan_ships/en/ch01-4-1.html

For more details on Aaron Ke and the Bronze Visual Art team, please visit: <http://bronze-art.blogspot.tw/>

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Pegasus Series

Model	R6	R4	J4	J2
Picture				
Form Factor	6-Bay Hardware RAID Enclosure	4-Bay Hardware RAID Enclosure	4-Bay JBOD Enclosure	mSATA SSD Enclosure
Number of Hard/Drives/SSD	6xSATA@720 RPM (3.5" inch)	4xSATA@720 RPM (3.5" inch)	4xSATA@5400 RPM (2.5" inch)	2x6G mSATA SSD
RAID Level	0, 1, 5, 6, 10		JBOD or software RAID	
Thunderbolt Technology Ports	2			1
Capacity	6x2TB 6x3TB	4x1TB	4x500GB	256GB 512GB
Dimensions(HxWxL)	25.0x19.5x18.5(cm)	19.0x19.5x18.5(cm)	4.2x20.1x20.1(cm)	2.05x7.4x11(cm)
Weight	5.9kg	4.5kg	2.4kg	140grams
Warranty	2 years* (fan and power adapter 1 year)			

SANLink



- 2 x 4G Fibre Channel ports with auto negotiation of 1, 2 and 4Gbps
- Host connectivity using 10Gbps Thunderbolt port
- 2 x Thunderbolt ports supporting daisy-chaining of peripherals
- Fully qualified Mac OS X, Mac OS X Server, Final Cut Studio and Xsan solution
- Zero Software Install on Mac OS X
- Qualified solution with PROMISE VTrak x30 (8Gbps FC) and x10 Series (4Gbps FC) storage subsystems

PROMISE Pegasus Thunderbolt storage solutions support both Mac and Windows OS
Thunderbolt cable required (sold separately)
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