JetStor®
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CUSTOMER TESTIMONIAL

Independent Producer's Acclaimed Documentary Takes Off Using JetStor® RAID Solutions

OCEAN TIDES PRODUCTIONS LTD
CRUDE SACRIFICE

A Post-Production Environment
for Independent Filmmakers

THE ORGANIZATION

Founded by Lawrence Carota in 1997, Vancouver-based Ocean Tides Productions crafts industrial and training films, interactive CDs, and, most importantly, documentary films about people and the issues they face. Having delivered such classics as "Keepers Of The Light" about the automation of lighthouses worldwide and "A Nurse's Opinion," a prescient look at nursing in Canada's healthcare system, Carota, a filmmaker for 35 years, shot and edited potentially his most far reaching documentary, "Crude Sacrifice" (www.crudesacrifice.com/), over the last three years. The innovative work examines the adverse health effects on residents in Northern Alberta who live downstream of the Athabasca Tar Sands, the world's largest oil-development project. The extraction is Canada's largest producer of greenhouse gases, accounting for almost one percent of all greenhouse gases in the world.

THE CHALLENGE

As an independent filmmaker, Carota's challenge was making a documentary with the scope and social importance of "Crude Sacrifice" on a very limited budget. Lacking any support from governmental agencies, environment organizations, or businesses, Carota economized by shooting the documentary in super 16mm film. To ensure the highest resolution for screenings and DVD distribution, he needed to digitize all raw footage into uncompressed 10-bit, 1080p RGB video. Without the resources for a Fibre Channel switch and secondary storage systems to back up his digital files, he required primary storage that is affordable and very reliable. He also needed terabytes of capacity to store 24 hours of high-resolution footage and extraordinary performance to stream multiple video feeds for editing.

THE SOLUTION

One **JetStor SATA 516F 16-bay RAID Array** and one **JetStor SAS 516F 16-bay RAID Array** from Advanced Computer & Network Corporation (AC&NC).

SYSTEM CONFIGURATION

- Two Apple Macintosh Pro workstations with dual quad-core processors, ATTO Fibre Channel host adapters, and an AJA KONA 3 video card
- One **JetStor SATA 516F** 16 bay RAID Array with 16Tb of storage linked via 4-gigabit Fibre Channel to the Mac Pro workstations.
- One **JetStor SAS 516F** 16 bay RAID Array with 16Tb of storage linked via 4-gigabit Fibre Channel to the Mac Pro workstations.

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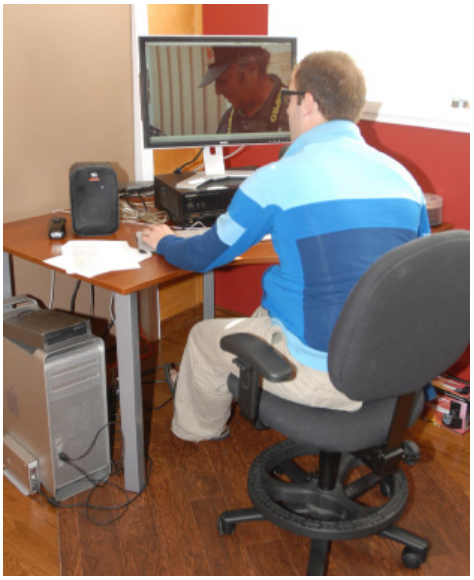

Stills from "Crude Sacrifice" (top and middle), and Carota's independent filmmaker's workshop (bottom), which is anchored by AC&NC's **JetStor** arrays.

BENEFITS IMMEDIATELY REALIZED

With **JetStor** RAID arrays anchoring his production environment, Carota edited 16 terabytes of digital video files into a feature-length documentary at a fraction of the cost traditionally incurred by professional filmmakers. The built-in Fibre Channel ports of his AC&NC solutions, coupled with their extremely fast I/O functionality, reduced data transfers from hours to minutes, greatly accelerating the editing process.

The reliability of his **JetStor** solutions eliminated the need for secondary backup storage and a costly Fibre Channel switch to link them. "Without any backup in place, we worried that we would lose files should a disk fail, which would have been disastrous," Carota explained. "But AC&NC removed that risk. Its storage arrays performed flawlessly, and we didn't lose a second of footage during months of post-production."

Moreover, Carota found the **JetStor** arrays easy to manage and monitor. "We had post-production capabilities that were the equal of a studio's IT environment, but without the costs and administrative overhead," added Carota. "We couldn't have made 'Crude Sacrifice' without economical solutions like those from AC&NC."

Indeed, Carota's resourcefulness and hard work have begun to pay off. Released as a System of Illusion Pictures film, "Crude Sacrifice" premiered at the Planet in Focus International Environmental Film & Video Festival in Toronto, Ontario. It was the only film out of 88 entries from around the world to receive Honorable Mention.

HOW WE DID IT

To edit "Crude Sacrifice," Carota searched for storage solutions that met his needs for economy and dependability. Carota learned about **JetStor** arrays from AC&NC and was impressed with their performance, features, and data security. He deployed a **JetStor SATA 516F** RAID array with 16 one-terabyte disks and linked it via four gigabits per second Fibre Channel to a Mac Pro workstation with a Fibre Channel adapter.

Carota then used the array's web-based management tool to configure the system for RAID 5 storage. A RAID solution features multiple hard drives that enhance performance and provide fault tolerance and error recovery with such techniques as data striping and mirroring. RAID 5 uses block-level striping with parity data distributed across all of the array's disks to safeguard data even if two drives fail. Additionally, the Fibre Channel protocol ensures no data is lost during file transfers. As a result, Carota's AC&NC solution protected his work regardless if it was stored on disks or moving between devices. "I felt secure trusting years of my work to **JetStor** RAID solutions," he noted.

Carota deployed a Cinetel film scanner to transfer his analog film footage onto Sony HDSR tape and then used an AJA KONA 3 solution to convert the video into uncompressed, 10-bit 1080p digital files stored on the **JetStor** array. As more footage was converted, Carota installed another **JetStor SAS**

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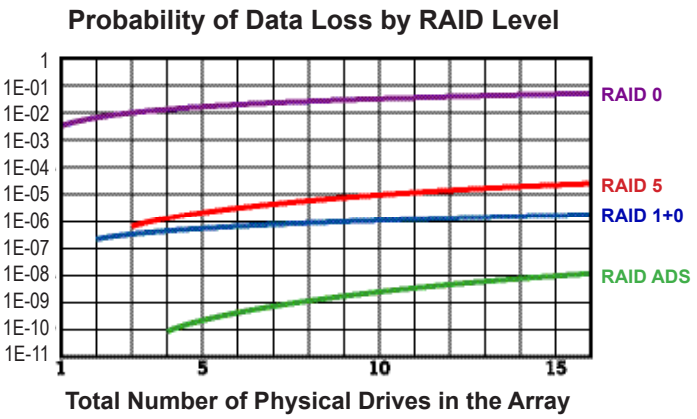

AC&NC JetStor® SAS 516F

516F RAID Array, also with 16 one-terabyte disks, for additional storage.

Once the raw footage was stored on the **JetStor** arrays, Carota and his team used a second Mac Pro workstation with Apple's Final Cut Pro video editing application, as well as Adobe Photoshop, to edit "Crude Sacrifice," make color corrections, and add such effects as titles and credits.

Another key advantage of his **JetStor** RAID arrays was their performance. The resolution and frame rates of broadcast-quality files demand throughput of at least 200 megabits/sec per stream and Carota needed two such streams for editing purposes. "Our **JetStor** solutions delivered the speed we required," said Carota. "Their extremely fast throughput expedited our post-production work by letting us retrieve and save enormous files very quickly."

CONCLUSION

"High-definition 1080p is emerging as the medium of choice for filmmakers, but it requires speed and vast amounts of storage," said Carota. "You need a robust IT environment that's economical and easy to manage. That's why we turned to AC&NC. Its solutions deliver very solid performance and tremendous capacity in a small form factor. We built a full-fledged, professional post-production studio in a little room and now we're working on distribution deals for 'Crude Sacrifice.'"

ABOUT ADVANCED COMPUTER & NETWORK CORPORATION (AC&NC)

Advanced Computer & Network Corporation designs, manufactures and markets high-performance, competitively priced data storage RAID systems. With an extensive line of storage solutions for any computing platform and operating system, comprehensive free technical support, and fast on-time product deliveries, AC&NC brings freedom of choice to all clients, from workgroup to enterprise. Our RAID systems ensure rapid, round-the-clock access to all of the information our customers rely on to move forward in the 21st century.

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