



Grading Avatar

Modern Videofilm Inc. used four Blackmagic Design **DaVinci Resolve** systems for color grading and full 3D stereoscopic effects for James Cameron's latest motion picture, **Avatar**.

To handle the immense scope and complexity of color correcting the alien worlds of Avatar, Modern Videofilm developed a network of DaVinci Resolve systems all connected via optical fiber. Three systems were installed at Modern Videofilm's main office in Glendale, CA, with the fourth system installed 56 miles away at the Fox Studio lot.

By building a color correction suite directly on the Fox lot, Modern Videofilm was able to handle the enormous number of real-time color corrections and 3D transfers between facilities. These requirements included up to 120 color changes on some EDLs, using hundreds of nodes and creating multiple versions for the theatrical release. Mark Smirnoff, President, Studio Services at Modern Videofilm stated: "The Avatar look and feel is very specific, and James Cameron and his crew knew exactly how they wanted every frame to look. The sheer size and scope of what we were working on required the absolute best in color correction and 3D, and DaVinci Resolve fits that need perfectly." "Avatar and Modern Videofilm really put the power and flexibility of the DaVinci Resolve to the test, and showed why the system is the highest standard for color correction and 3D," said Grant Petty, CEO Blackmagic Design.

Modern VideoFilm used two JVC GD-463D10U 46-inch 3D LCD HD monitors extensively during its digital intermediate (DI) work on Avatar. The JVC 3D monitors, available in Australia and New Zealand from Future Reality, enabled technicians to view the 3D images in real time while processing the 3D conform.

In addition, the JVC 3D monitors were used for quality control of various elements of the film, including visual effects. Smirnoff said the GD-463D10U monitors provided excellent stereo accuracy of the images, displaying a true representation of the 3D space that would eventually be seen in theaters.

Efilm gains Resolve

Efilm Australia has added **Commercial Grading** to its list of creative services with **Future Reality** supplying a **daVinci Resolve** for its Sydney headquarters.



Efilm Australia is a boutique digital facility that has worked with some of the most creative film directors recently, including Baz Luhrmann, Jane Campion, Bruce Beresford and Peter Weir.

Efilm's General Manager Anthos Simon says "Efilm has purposely built a state of the art commercial grading suite staffed by some of the most talented and creative industry professionals".

The new suite uses the Da Vinci "Resolve" – the world's most powerful real time non linear data grading system that has been designed to handle the most demanding of sched-

ules and quality of product.

Efilm's commercial colourist Danny Scotting says "The Resolve R4 works with unlimited secondaries, windows, blurs, and the most advanced tracker of any grading system which means you can get the results you imagined without any compromise.

"The speed and ease of use on the Resolve R4 is just incredible and a joy to work with. As a colourist I could not be any happier with this fantastic brand new suite".

Efilm joins with other major post-production facilities in the region to adopt the daVinci Resolve such as Toybox in Auckland.

The **da Vinci R-series** is based on an innovative new processing engine that leverages the power and efficiency of GPUs not merely for graphics display, but also for processing.

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Scratching up an Aussie Oscar?

Nominated for the Academy Award for Best Short Film in 2009, Australia's *Miracle Fish* is a Bluetongue Films production that employed a leading edge digital workflow using the RED camera and Assimilate Scratch.

Seth Larney of Sydney's Chaotic Pictures managed the Post-production supervision for the film, directed by Luke Doolan and produced by Drew Bailey.

This included establishing a workflow for the RED One camera footage and metadata, as well as fusing the time-of-day and edge timecode from the RED Raw files into the Avid suite, bringing the EDL from the finished offline into the Chaotic Scratch DI suite and performing the online, conform, extensive keyframed shot reframing, colour grade, title and credit design, mastering for both HD and SD deliverables, DVD 5.1 encoding and authoring.

Chaotic also designed a logarithmic workflow for the online and graded with a gamma-encoded LUT so that it could easily add a film-LUT later and perform a film-out with minimum fuss.

"Introduced into Chaotic Pictures in 2008, Scratch is setup on an Intel Skulltrail 8-core 4GHz platform running Windows Server



***"Digital filmmaking has come to a point now that with the correct approach and understanding, outstanding results can be achieved, cheaper than ever before."* - Seth Larney, Chaotic Pictures.**

2003, which allows us to debayer RED R3D material in 2K-high quality, realtime.

"This is a huge benefit for taking a RED conform all the way through the grade and to output without requiring any rendering. This in turn helps us save time throughout the DI process and thus money

for our clients," said Larney.

"Our Scratch suite is fed directly via dual, 4Gb/s fibre channels from a 16TB SAN RAID array, providing around 500MB/sec transfer rates. This allows us to playback and record 2K uncompressed DPX sequences in realtime, providing enough storage and

speed for pretty much any project we can throw at it. We also have 10TB of networked RAID storage as general working space for the facility, all this is backed up onto LTO-3 tapes via our 24-bay and 16-bay LTO-3 tape loaders."

Footage plays out through a Quadro FX5600 HD-SDI card.

Digipost seeks a Bright future for TVC division

Digipost NZ has launched new services for their advertising division, to streamline and accelerate delivery of commercials, using a new high-speed Storage Area Network (SAN) solution from Bright Drive.

The Bright Drive G2/E2 SAN provides Flame artists, editors and colourists instantaneous access to project data stored centrally, removing the need to transfer files between systems and allowing multiple suites and operators access to projects at the same time.

Digipost GM Stephen Douglas describes the enhancements as ideal for large multi-commercial projects, like the six-spot 2 Degrees campaign completed at the facility recently.

"As an agency you are likely to have deadline pressure from the client, and as a production company you

will be working very hard to deliver on time, to budget and brief."

Douglas explains that, if a producer has large quantities of RED data files or scanned dailies from Spirit, they can drop them in the SAN and soon after be working on the job, in several suites at once if required.

"There's no more waiting for your project to come in from another system, no need to pull down a file into Flame itself", continues Douglas.

"We can work on it in real-time while it sits right there on the SAN."

Digipost's new tapeless grading service packs a punch of its own, as senior colourist Dave Gibson explains: "Using the BLT, we can ingest RED files, process to Avid MXF and output to hard disk drive in just three times the run-

ning time of the original footage."

"That's blisteringly fast compared to what most folks are looking at and you're getting a top level colourist on the job, who can also grade your footage, much like the service we provide for large film based projects."

Demand for Digipost's long-form services continues to produce technical and creative benefits for advertising clients.

UK Flame artists Richard "Richie" Betts and James "Jimmy" Corden, initially engaged in long-form work, are now coming on-stream for commercials.

Long-form projects create huge volumes of data making management, accessibility and speed of delivery key drivers for digital innovation such as the Bright Drive SAN at Digipost New Zealand.

DIGITAL COURIER GROWS TO GLOBAL FREIGHT TRAIN

Back in 1995, Sydney film processing lab Atlab ran a roll of rushes negative on its newly-refurbished telecine, and saved the output, not onto videotape but as a compressed Avid file on a server at Avid's headquarters in French's Forest.

The test, for a system that was to be known as the Digital Courier, was part of a series of proposals to link a number of postproduction houses – concentrated in Sydney's Crows Nest and Artarmon district – by high speed broadband in a project known as Crows Net. The model was a similar, already highly successful network linking postproduction houses in London's West End: Sohonet.

Despite keen interest from post houses and telcos, the costs of connectivity made the project prohibitively expensive at the time. Now, fifteen years on, Sohonet itself, grown to become the global industry's largest high bandwidth

provider, connects most of the major Australian digital production and postproduction houses with each other and the rest of the world. The latest addition to the network is Efilm Australia, the digital partner of Deluxe Australia, formerly known as Atlab. The wheel has turned full circle.

Fifteen years ago, the Digital Courier tests used an ISDN connection, pairing two or more conventional copper telephone lines, to give data rates in increments of 64 Kbps. Today, the Efilm Australia connection has a base speed of 50Mbps, which can be ramped up on demand to provide data rates up to 500Mbps. What's more, the network connects the facility not just to close neighbours in Sydney, but to Efilm's Melbourne and Los Angeles operations as well as other customers in London, Auckland and elsewhere.

David Edgar, the Australian Director of Sohonet,



sees the latest connection as a bonus for the entire Australian industry.

"We are pleased to be bringing the EFILM facilities into Sohonet's global network. It marks a significant step forward in Australia's capacity to provide services to the international production community," said Edgar.

It's been a slow (and not

always steady) growth and development curve for broadband at the level required by the production industry. Shortly after the Crows Net project, a report to the Federal Government's Science and Innovation Committee (PMSEIC) highlighted the cost of bandwidth as a major inhibitor to the development of Australia's otherwise **(CONTINUED OVER)**

CINE-TAL BUILDS ON REFERENCE MONITOR LINE AND OFFERS FILM PROFILING SERVICES

Cine-tal Systems, a developer of image monitoring and color management solutions, has announced the expansion of its cineSpace film profiling services.

Cine-tal's cineSpace customers can now receive overnight film profiling services in North America as well as in the company's operations in Australia.

"cineSpace is the most pervasive color management system in use today for VFX, DI and Animation" said Rob Carroll CEO of Cine-tal. "cineSpace users have used our Australian offices for film profiling services for the past four years now they can get the same services overnight in our Indianapolis facility." Carroll continued.

Cine-tal's cineSpace film profiling services provides cineSpace color profiles of a film-out for use in the cine-

Space product suite. Users use the film-out color profile to emulate the film colorspace while working on video monitors in VFX, DI and Animation.

The use of the film-out color profiles in cineSpace helps the artist assure the color quality of the image data when it is run through the film-out process and maintains consistency across multiple film –out service providers.

cineSpace customers can use **cineSpace's Inverse Transform** feature and cineSpace film profiling services to take their video (Rec709) or DCI (P3) graded image data to a film-out with confidence. cineSpace is the most widely used color management technology for film and television production.

cineSpace supports all major VFX and DI software packages

including those from daVinci, Autodesk, Digital Vision, Assimilate, Iridas, Apple, Avid, The Foundry and eyon Software.

Cine-tal Systems has announced an expansion of its award winning Cinemage product line.

The Cinemage B series expands the Cinemage product line with a 42 inch, 23 inch and 19 inch offering.

The B series also provides true 10 bit display with wide color gamuts to support both HD and DCI standards.

The B series joins the leading Cinemage 2000 product that has become the standard for reference monitoring today.

Integrated into the Cinemage B series product line is the company's cineSpace color management and calibration software.

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DIGITAL COURIER GROWS TO GLOBAL FREIGHT TRAIN

vibrant postproduction and digital effects industry. (This was in the year of *The Matrix*, shot in Sydney at Fox Studios and with the award-winning visual effects work done at Sydney's Dfilm and Animal Logic).

Out of the report came the industry-based company FIBRE (Film Industry Broadband Resources Enterprise), charged with the goal of making broadband easier and more affordable, with service and price structures that met the very specialised needs of the film industry.

FIBRE recognised that digital effects houses often collaborated on large projects and so local connections between facilities, or between the effects house and the film-out facility, would improve efficiency. Also that Australia's working day was evening or night-time in Los Angeles or London, so file transfers could gain a working day rather than lose two while data tapes were physically flown around the world.

FIBRE also knew that telcos were geared up to provide consistently steady streams of data for banking networks, but not for the on-again off-again film business, where a facility might transfer terabytes of data one month and none the next. Pricing models at the time worked for long-term, large volume connections, mostly centred in the inner city, but not for companies whose need for high speed bandwidth was contingent on their landing a bid for work on a feature – which may or may not even go into production.

The group's members included most of the leading facilities in Australia: Animal Logic, Cutting Edge, Digital Pictures and Atlab among others – but at first the business case was not convincing enough even for FIBRE's own members. When it came to the size of pipe necessary to transfer the very substantial files involved in digital effects, the costs were

still prohibitive. Locally, a taxi or courier ride was cheaper and almost as quick: internationally there simply wasn't enough regular long-term business for more than one or two Australian companies.

At the same time, Sohonet was expanding from its central London base. The company, formed initially by several of the leading Soho digital effects houses, had been bought by a Scottish energy corporation, and then reclaimed in a management buyout. The new CEO, Dave Scammell, was well-placed to understand the needs of the sector, having previously been international sales manager for Quantel. Sohonet knew the same things as FIBRE knew, and was building a network and a business accordingly. The two companies were born from the same gene pool. And so

Increased bandwidth is making production and post-production in Australia more competitive in the world market.

in 2005 Sohonet acquired FIBRE. The world beckoned.

Whereas FIBRE acted mainly as a broker or retailer of services, Sohonet provides an actively managed network, with Points of Presence (POPs) in major Australian capital cities as well as in Auckland New Zealand. This was previously (and quite literally) the missing link, allowing Sohonet subscribers in the same capital city to communicate with each other almost as easily as within their own LANs.

But more importantly for subscribers, Sohonet has grown from its origins running underneath the pavements of Soho to become a global media network with hubs and fibre capacity both within and between centres in the United States, Canada, New Zealand, Australia, France, Netherlands, Germany and Italy. Through its relationship with other network providers it can reach other locations via



satellite, or more fibre links.

In Australia, Sohonet's high end customers include Animal Logic (in Sydney & Los Angeles); Cutting Edge (Brisbane, Chippendale and The Entertainment Quarter), and now EFILM (in Sydney, Melbourne and Los Angeles).

Sohonet also provides services at all three major Australian studios, including Warner Roadshow Studios on Queensland's Gold Coast,

branches of a company can easily carry all its corporate traffic such as emails, intranet and accounting systems as well as its production files.

According to David Edgar, Australian Director of Sohonet, the addition of a new trans-Pacific submarine cable into Australia has provided much needed competition in international connectivity.

This has increased the available bandwidth, resulting in significantly better value for money for transfers to and from overseas customers, and making production and postproduction in Australia more competitive in the world market.

Digital processes are now all-encompassing in every stage of the film pipeline. From the growth of all-digital productions such as George Miller's *Happy Feet 2*; *Guardians of Ga'Hoole*, and animation for *Bones* at Sohonet's long-standing user Animal Logic; to the almost universal use of Digital Intermediates in postproduction, and the long-awaited arrival of digital cinema exhibition, mainly on the back of 3D productions; data is everywhere.

At last, fifteen years after the Crows Net experiments and nearly ten years after the formation of FIBRE, a fast and ubiquitous data communications network to connect the Australian industry both internally and to the rest of the world is no longer a prediction or a "nice to have" item, but a necessity and a reality.

which was recently connected for a large US production as well as several current Australian productions.

While the sporadic nature of film production and post work in Australia was at first a difficulty when it came to maintaining cost-effective broadband connectivity, Sohonet's scalable network also allows its clients to spread their work around more evenly between their facilities in different cities or countries.

Apart from highly efficient high-speed connectivity, there are other differences from a conventional service provider. Support doesn't end where the cable comes through the wall. Sohonet says "We expect our clients to call us for advice on all aspects of their connectivity."

The network also offers conventional internet connections, and points out that dedicated line between two