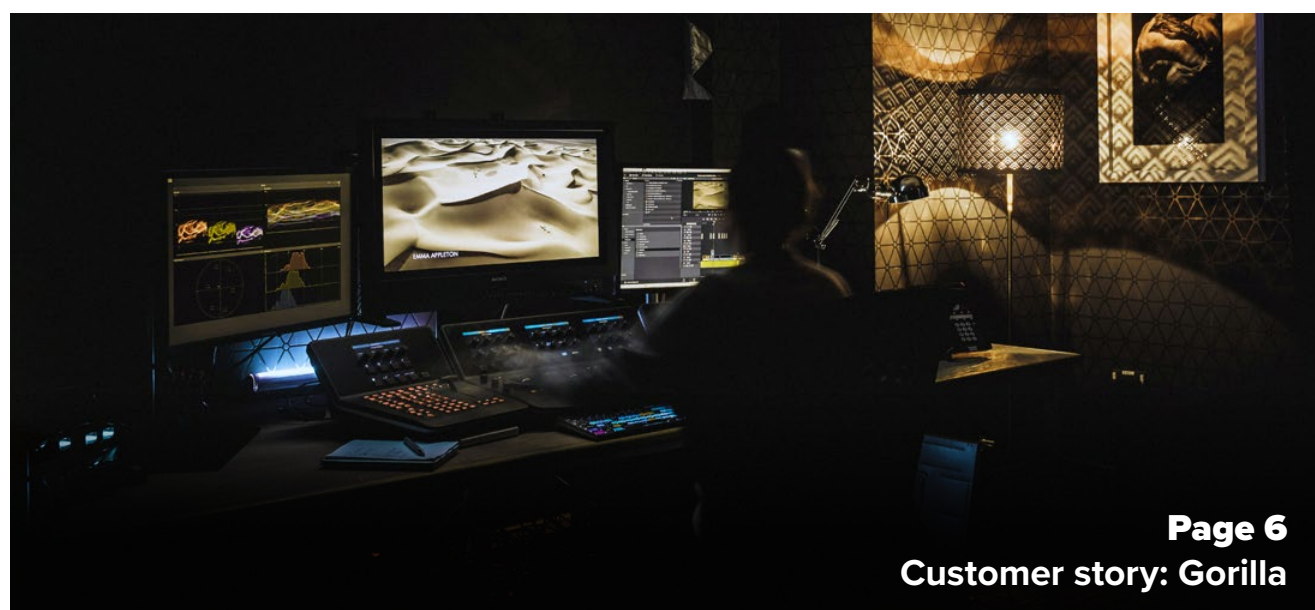
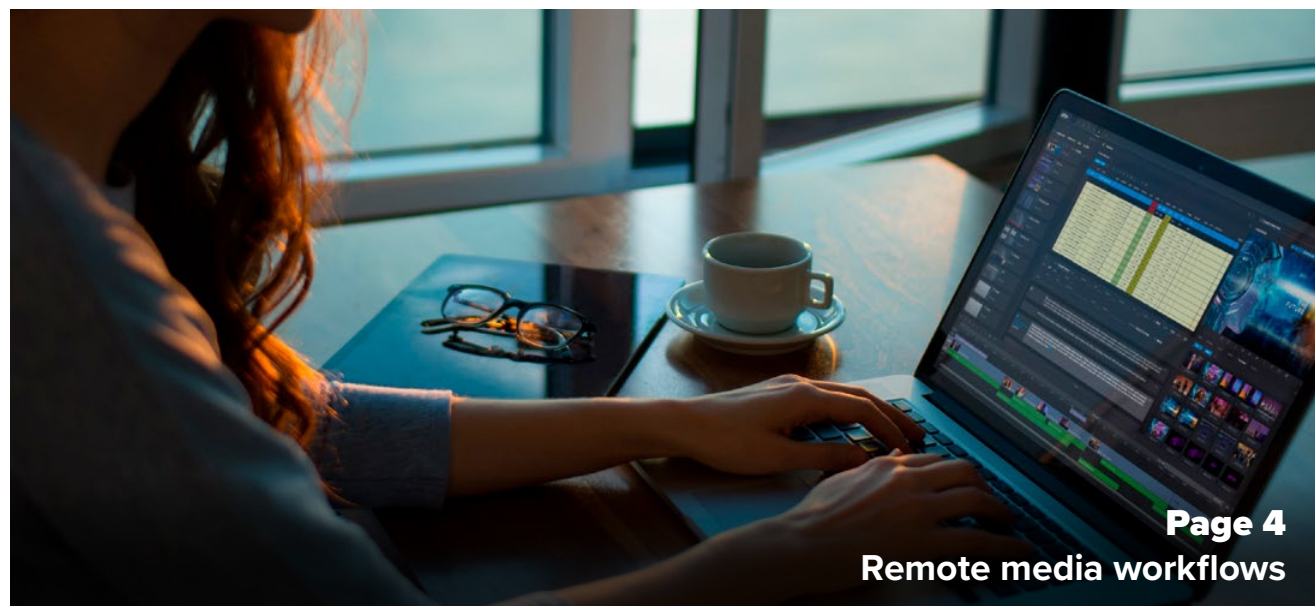


# Jigsaw24 in Media & Entertainment



JIGSAW24





# Where will media workflows go next?

As the industry becomes more decentralised, remote working becomes more accepted and the barriers against cloud workflows break down, many facilities are considering making a radical change to the way they work.

We're here to support you and your facility as you determine the future of your business. What we're not here to do is advocate change for change's sake. No two facilities or projects are the same, and our goal is to help every company we work with to grow and develop at their own pace, toward their own goals and in service of their clients' unique requirements.

In this brochure, we cover just some of our solutions for remote working, virtualisation, high-performance editing, grading and finishing and more. We encourage you to get in touch with the team to discuss your workflow with us, and discover how your existing setup could be improved or overhauled – whichever you're ready for.

## Our key accreditations

- Avid Elite Solutions Partner for Audio, Video and Storage
- The UK's only Avid Certified Cloud Partner
- Adobe Service Partner for Audio and Video
- EditShare Certified Partner
- Quantum Authorised StorNext Integrator and Alliance Silver Partner
- DaVinci Resolve Authorised Reseller
- Member of AWS Partner Network
- Amulet Hotkey Advanced Partner
- Nutanix Pioneer Partner





# Location, location, location

The COVID-19 lockdown wasn't something any of us were prepared for. The scramble to get talent connected remotely and make sure programmes could still get to air was intense. But as the dust settled and remote workflows became more entrenched, facilities have started asking unexpected questions. Questions like: do we really want to go back to having a full facility? And if not, what do we need?

Our unique combination of M&E expertise and 30 years of IT and networking experience meant that we were early to the party with remote media workflows: we've been running our own systems remotely for over five years. Over that time, we've made a cluster of key discoveries and formed some vital partnerships. We were Avid's first UK Cloud Partner, one of the first Adobe Systems Integrators, and have worked extensively with the likes of Amulet Hotkey, Teradici, Wasabi, Gallery SIENNA, AWS, EditShare and Nutanix.

All of which means we're the company to work with when it comes to remote production and post. Here are some of our team's key recommendations...

## If you want editors to access their individual workstations...

PC over IP solutions like those from Amulet Hotkey or Teradici allow your editors to use all the power of their favourite workstation from the comfort of their own home – even if they're on a relatively slow domestic broadband connection. Cloud editing solutions like Avid | Edit on Demand, on the other hand, let you rent instances of Media Composer and NEXIS storage on an as-needed basis wherever you need them.

## Alternatively, pool your editing power

Hyperconverged infrastructure, or HCI for short, has recently made the jump from the business world to post houses across the US and Europe. HCI harnesses the combined power of a pool of RAM, compute power and SSD storage, presenting them as virtualised workstations for your editors to work with. The solution from Nutanix, the leaders in HCI, can be particularly advantageous to post rental houses and broadcasters houses wanting to embrace flexible working.

Rather than investing in individual workstations, HCI users buy 'nodes', each of which contains set amounts of fast storage, RAM,



networking and graphics cards. Together, these nodes form a 'cluster', from which virtual computers can be created.

The key thing here is that there are no set parameters for each virtual workstation: if you have enough horsepower for 12 editors to work simultaneously but only nine are online, you can split the remaining resources between them. This gives you a level of flexibility that it would be incredibly expensive to achieve with traditional architecture, and which ensures you never have any expensive workstations sitting unused.



## Need colour fidelity? Not a problem...

Many of our clients have relied on our Streambox solutions for remote grading, QC and client monitoring since going remote, as Streambox's unique pixel-perfect codec makes it the only reliable way to stream 12-bit 4:4:4 HDR footage with all its colour information intact. We've worked with customers on projects as diverse as delivering streams to iPad devices for producers and directors, setting up real-time feedback systems so that colourists can grade with a remote client looking over their shoulder, and even transatlantic review and QC workflows.

## Closing distance. Enhancing creativity.

Whether you're looking to support long term remote working, need to link multiple sites or are looking to support on-set creatives from your facility, our team have the experience, expertise and vendor relationships you need to ensure projects are delivered on time and on budget regardless of location. Read on to hear about our solutions in action...





## GORILLA

**“We ripped up the rule book.”**

**How Cardiff's biggest post player made the move to remote**

When the UK went into lockdown back in March, Cardiff-based Gorilla were in a better position than most: having collaborated remotely with London-based colourists and undertaken remote working R&D with Creative Creadigol, much of their infrastructure was ready for distributed working. But with only two weeks' warning before their building closed and 100 editors to rehouse, there were still plenty of challenges. We caught up with Director of Technology and Operations, Rhodri James, to find out how the team were coping...

#### Was Gorilla actively developing its remote capabilities before the lockdown?

The remote element is nothing new for us. We're always trying to attract work from outside Cardiff, so having remote capabilities was a major commercial attribute for us well before COVID-19. We weren't in bad shape when it happened, in terms of our understanding of what needed to be done – we just needed to scale up. And luckily, the infrastructure was in place and it was just talking to Jigsaw24 and seeing how many cards we could get and how quickly we could get them.

#### These are the Amulet Hotkey PCoIP cards?

Yes. We've been looking at Teradici technology for several years – we were using them purely for PC over IP within our facility itself, which is obviously the classic use. Then we took it a step further and started using it for remote clients outside our network as we became confident with the technology and understood its implementation.

#### How are you using them now?

We tend to use the Amulet solutions when we want more critical sound. If we want good sound reproduction for someone working from home or they're doing some kind of QC, that's when we use the Amulet – the sound and picture quality are better. For more mundane tasks in the MCR, normal remote desktop solutions are sufficient.

#### Has setting up so many remote clients in such a short space of time posed any challenges?

Typically I like to test new technology and go through a rigorous process before we roll it out. With this, we ripped up the rule book and just went for it. You need to have a key understanding of your own infrastructure, that goes without saying. Once that's in place, and you understand your firewalls and how you're going to implement remote working to the home user, you need to understand what they have at home.

#### How did staff handle the move to remote?

When we were setting everything up, we always phoned the editors and talked them through what we were going to do. We would remotely access their machine and install everything for them, so it was very much a hands-off exercise for them. We also gave them a proper onboarding process to give them confidence in the system. And then if they did have any issues, let them know where they could get hold of our team 24/7 so we can respond really quickly to ensure that any problems don't impact any of their own editing time at all. And remarkably, it's been quite nice. We've got a lot of compliments from editors. They've said they've been impressed and that the solution's been really solid.

Some of our customers have told us that their editors are loving remote working, while producers are finding it more difficult. Would you say that's true at Gorilla?

I think it's frustrating for directors and producers. We've found that using Zoom to share screens helps. It's kind of a bizarre one, really. You've got a remote editor in location A remoting into an Avid in Cardiff Bay, on which they're then using Zoom to share that Cardiff screen to somebody else at location B. But it does work, it's helped the producers and directors a lot.

**“I think this has proven that anybody can work with Gorilla no matter where they're located, and now we've got a proven track record in difficult conditions of delivering programmes remotely. So I'm hoping that comes as a commercial benefit. People don't need to go to traditional locations to get their post-production done.”**

Rhodri James, Director of Technology and Operations, Gorilla

No workplace is safe from Zoom anymore.

To be honest with you, we didn't think something like Zoom would work very well, in terms of desktop sharing an Avid Media Composer with the live timeline and live video, but we were wrong. It's been a bit of a journey to find out what works well, and which tools work from a collaboration perspective.

#### Looking back, would you change anything about the way you rolled out remote working?

I wouldn't have done anything differently, because the way we did it meant it was progressive and we could get it done at speed, but I will be changing large elements of our infrastructure in the near future to make the Amulet solution a permanent one. We will be looking at a further investment in Amulet to make distributed use around the facility the norm.

#### As a company with a more mature remote setup than most, do you have any advice for media companies who are just beginning to investigate remote?

As the person who looks after the infrastructure of the company, infrastructure has always been a difficult investment to justify, because it's not something people see. But that's the key bit. And due to this situation, hopefully it'll become a lot easier to get some of that investment through the board, because people now value what it means to have good connectivity, resilient connectivity, resilient infrastructure. And then to me, the icing on the cake is you can add technologies such as Amulet and it all works together like a dream.



# Moving to the cloud doesn't work unless it works for you

**Lockdown may have spurred more media facilities to start experimenting with cloud platforms, but the fact remains that the capacity costs and egress charges involved make cloud-only workflows uneconomical for all but the largest media companies. That's where our virtualisation and cloud services come in.**

We're here to help facilities of all sizes find the right balance for them: whether that means physical or virtualised machines, on-premise or hosted hardware, on-site or cloud storage.

Because we have 30 years' experience in the corporate IT world – where virtualisation is old news – our engineers are able to bring a level of experience and expertise to questions around virtualisation and the cloud that other media service providers simply can't match. And with key accreditations from major media vendors like Avid, Adobe and Blackmagic Design, we can tailor your setup precisely to the demands of your key creatives. Here's how we can help...

## Developing your on-site infrastructure

From ensuring you have the network speed and bandwidth needed for any given solution, to installing high-speed onsite storage arrays to work alongside virtual machines (and ensuring all your assets are managed, backed up and archived efficiently), we can design and install any element of your workflow that you need to keep on your premises – including all your facility hardware and studio furniture.

## Virtualising your machines

From delivering simple, secure virtual access to your MCR to providing fully-fledged virtual editing solutions via the likes of Nutanix, Avid and Blackmagic Design, we've been there and done that. Our team have the experience you need to move your creative teams and clients over to a remote access model without disrupting their regular routine or losing access to the key technologies they rely on every day. Whatever you need, our team can design, install and maintain a solution that increases the uptime, productivity and security of your setup.

## Hosting your hardware

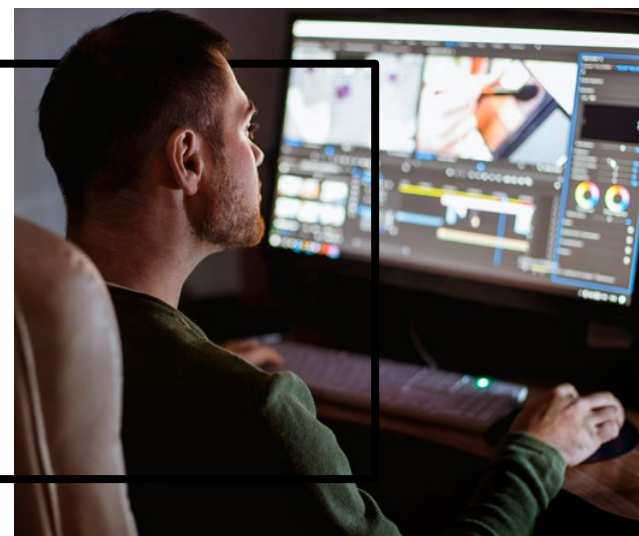
Our UK-based datacentre is the ideal home for your key assets. Unlike some larger companies, we'll never move your data out of the UK, and our datacentre engineers can check its integrity daily. Provide your own hardware or lease the most up to date machines, storage and more from us.

## Protecting your network and assets

Secure PC over IP access is one of our specialities. Working with key partners like Amulet Hotkey and Teradici, we can ensure fully secure access to your network for any remote worker or client – regardless of the bandwidth of their connection. Worried about overloading your existing VPN? Ask us about alternative access methods that'll keep your data secure while minimising the strain on your network.

## Improving reporting and billing

Billing for cloud services can be complicated, opaque and difficult to understand, meaning it's easy to go over budget without meaning to. With our cloud and virtualisation services, any charges you incur will be compiled into a single, easy to understand report that shows you which project is responsible for each cost, so you not only understand how your costs are changing, but who you need to pass them on to.

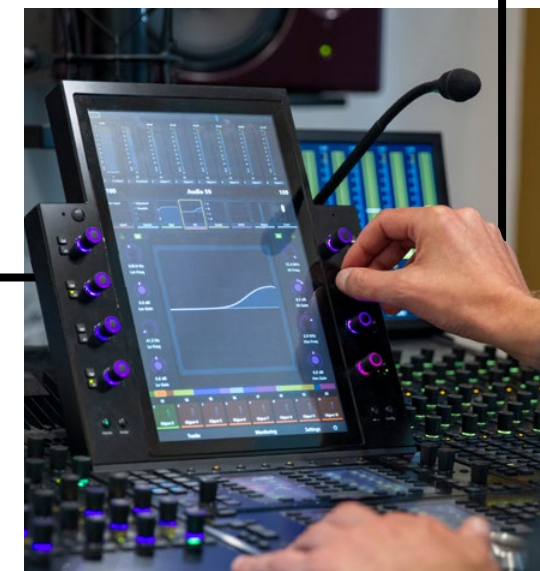


## Supporting end users, clients and technical teams

Of course, we don't just set up your virtual estate and leave. Our support team provide nationwide coverage should anything go wrong, with options for specialist support of collaborative storage, creative workstations and more, as well as day to day troubleshooting, system maintenance and repairs, all carried out to pre-agreed timescales. We'll even schedule regular health checks to help you identify the root causes of ongoing issues and advise on upcoming releases that could improve your system's performance.

## Live demos and hands-on sessions

It can be difficult to know which solution is right for your workflow without any practical experience. That's why we host live demos with hardware and software from Avid, Blackmagic, Nutanix, Rohde & Schwarz and more. Get in touch to book a hands-on session with our experts, where they can run through potential workflows with your own media, so you know exactly how a system will respond to your workflow in real life.



## Keeping Springwatch on air 24/7

Jigsaw24 enabled the BBC's Springwatch team to overcome challenges posed by the pandemic, such as needing to process footage from multiple cameras in the field at locations across the UK and make them all available via low-latency remote monitoring feeds to the BBC production team working from home.

After learning of the Springwatch team's unique requirements, we identified cutting-edge media production experts Gallery as the perfect partner for the project and worked with them to create a bespoke solution.

The result was the deployment of an AWS-based cloud production workflow that takes more than 30 feeds from traditional broadcast cameras and web cameras into Gallery's Sienna ND system, where they are passed on to a processing engine and router before being available for monitoring by BBC crew members working from home.

Output from the solution has been broadcast via four live streams 24 hours per day on the Springwatch website, iPlayer, YouTube and Facebook, contributing four feeds to the three social media shows per day and with some footage also being aired in the show's live TV broadcasts on BBC Two.



## We work with...





# We're here to help you excel at every stage of production and post

No matter how complex your workflow becomes, you never want to compromise on uptime, performance or security. At the same time, remote workflows are challenging traditional infrastructure, and the pressure to keep overheads low and reduce your physical footprint remains high.

Our team, armed with on the ground experience of the industry, technical accreditations from key vendors and an understanding of networking that's unique among the UK's media services providers, are here to keep you on track. Our consultants can advise on any aspect of your production and post workflow – here are a few examples to get you started...

## Remote production

### Ingest and transcoding

Cloud-first workflows are becoming increasingly popular, but moving ingest and playout to the cloud isn't right for everyone, and no two cloud workflows are exactly alike. We've been working with leading facilities on their cloud workflows for over six years now, so have plenty of practical experience to draw on. We can advise you whether an on-premise, cloud-based or hybrid system benefit your workflow the most benefit, both in terms of your overall workflow and in relation to specific projects.

Once you know what's right for you, we can provide the hardware, software, installation and support you need – whether that's on your site, in a datacentre, or in on a third party cloud platform.

### Data wrangling

With the rise of high shoot ratio/fast turnaround genres of programming like reality TV, facilities are being asked to process more footage at higher speeds, which means advanced media management is more important than ever before.

While the depth of our Avid expertise makes us the go-to partner for anyone looking to maximise the efficiency of their MediaCentral workflow, we offer a range of other MAM (media asset management) and PAM (production asset management) solutions to suit any operation, and are happy to offer vendor agnostic solutions for anyone who wants to ensure their media is where they need it during pre-production, production, post and archive for future use.

## Editing

Our editorial workflow solutions are designed to let you plug in and start creating, whether you're working as a one man band or for a high-end, multi-site facility. We can help with any major NLE, like those from Avid or Adobe, plus relative newcomers like DaVinci Resolve. Having spent two decades plus working with these companies, we've built deep ties to their support and development teams, enabling us to provide the most up to date advice when you're designing your editorial workflow.

## Grading and finishing

We have everything you need to deliver in any format you require, including Dolby PQ and ACES-compatible workflows. You may know us for our turnkey workstations and dedicated specialist support, but we can advise on everything from remote grading workflows to waveform monitoring. Get in touch to demo one of our high-performance storage solutions, mastering workflows or collaborative environment solutions.

## Approvals

We've helped set up remote editing, grading and approvals systems for some of the UK's largest agencies and post houses, and can help you make sure your editor or colourist gets access to the feedback and equipment they need, wherever they are and whatever format your footage is in.

If you're an Avid house, we can help you extend your existing workflow using Avid's own remote and cloud tools, or set you up with virtualised solutions like Nutanix to support mixed environments. Our AV team can help you equip screening rooms with the latest projection technology and Dolby-capable playback systems, or set you up with a live, remote connection to your client so you can make their changes in real time.

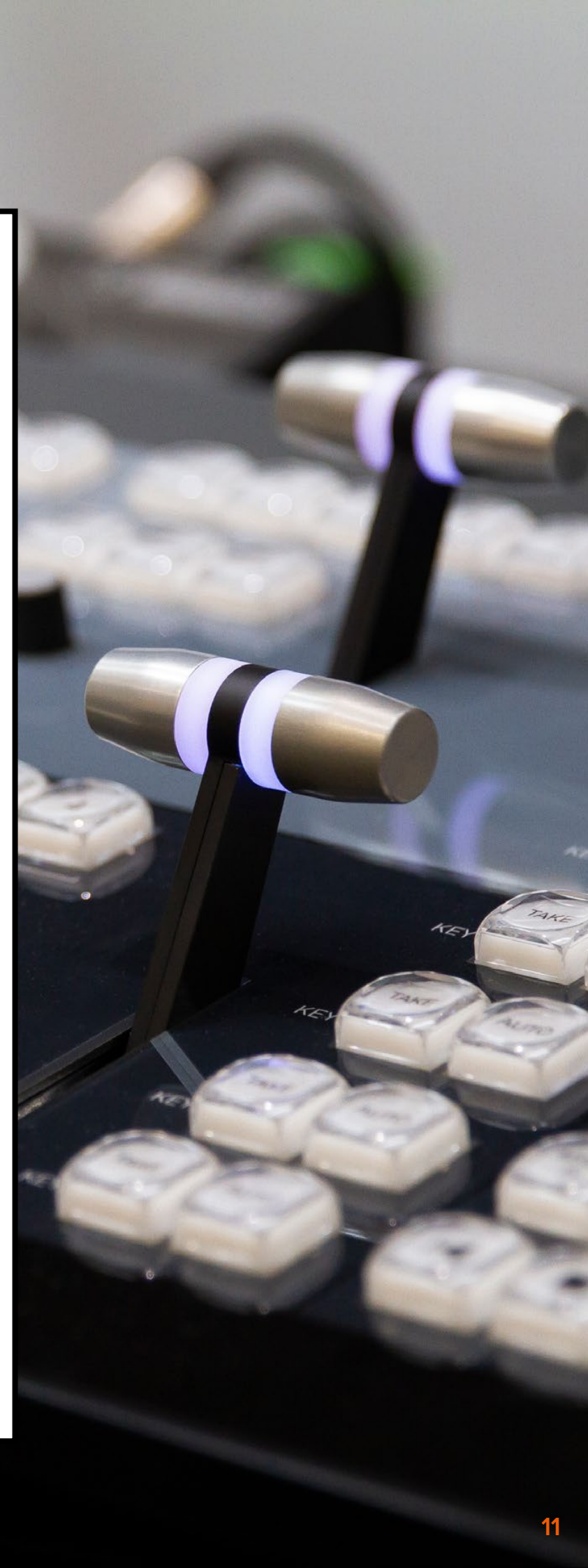
## Delivery

We can streamline your delivery process, providing QC solutions, automated delivery workflows, and the tools you need to tackle new standards like IMF. Because this isn't a one size fits all situation, and our team will work with you to tailor a system to your needs.

## Arrange your live demo today

We're not asking you to invest in a new solution sight unseen. Our Experience Centre in Soho's Golden Square is home to our amazing demo room, where you can edit, grade, roundtrip and mix projects on all manner of workflows. We can even run demos with media you provide, so you can see how a given system would impact your day to day workflow. Key technologies available for demo include:

- Adobe and Avid NLEs and management systems.
- EditShare Flow and AirFlow.
- Projective Strawberry.
- Marquis broadcast workflow tools.
- IPV Curator and CatDV asset management systems.
- Rohde & Schwarz R&S CLIPSTER for DCP and IMF packaging.
- Grading with Blackmagic Design DaVinci Resolve on Linux, macOS and Windows.
- Resolve Advanced, Mini and Micro panels.
- A full NDI environment, leveraging cloud services.
- Avid S6 and MTRX.
- Focusrite RedNet solutions.





# A place for everything

Modern media workflows demand more from your storage than ever before. You need powerful, responsive tier one storage so you can online 8K projects. You need the capacity to store multiple versions of that project. You need shared storage solutions that unite team members in global locations – without running up huge egress and usage costs on a cloud service or violating your NDAs.

## A unique approach to media storage

At Jigsaw24, we've spent the last 30 years working with some of the UK's largest companies in every sector, from corporate to creative. That gives us a unique perspective on storage challenges, and enables us to bring the best technologies from outside the media sphere into play to solve the entertainment industry's unique challenges in innovative and future-proof ways.

Our engineering and support team is one of the largest in the UK, and our list of professional accreditations is vast. As an Avid Elite Solutions Partner for Storage, Avid Certified Cloud Partner, Adobe Service Partner, EditShare Certified Partner, Quantum Authorised StorNext Integrator, Microsoft Gold Cloud Productivity Partner, Synology Approved Partner and LucidLink Approved Partner, we're guaranteed to have someone on staff who can support your preferred solution and advise on how it can scale as your company grows. We can even provide storage as a managed service, or host your storage in our datacentre to decrease your office footprint.



## How do we help?

### High performance

The capacity and bandwidth requirements of modern production workflows are vast: just an hour of 12-bit 4K digital cinema footage takes up roughly 7TB of storage. We can help you build a storage system and network that combines high capacity HDDs and lightning fast SSD caching, so you can handle multiple streams of UHD, 4K and beyond.

### Simpler cloud workflows

From syncing collaborators with LucidLink to simplifying your billing so you can see which projects are bruising your budget, we're here to streamline your cloud workflow and help you transition smoothly to off-premise storage.

### Secure backup and archive

Archiving clients' footage as standard is not as affordable as it once was. We can help you develop a tiered storage model that

combines on-premise and cloud storage with tape archives and secure backups to ensure your live projects are safe and your archive can act as a revenue stream in and of itself.

### Asset management

Audit your storage practices with us and find out where you could replace expensive online storage with nearline or even archive options. We'll help you understand the life cycle of your assets more clearly and make recommendations for every stage, so you can maximise the efficiency and capacity of your existing storage.

### The expertise you need

As an Avid Elite Partner for storage, we're the best people to ask about designing and installing a NEXIS shared storage environment, but we work with a huge range of storage specialists – including DDP, OpenDrives, Rohde & Schwarz, Quantum and EditShare – so we can provide whatever hardware is best for your workflow and budget.

# Making space for sound

We've talked a lot about solutions for production and post so far, but don't think we've forgotten the importance of high-quality audio. Sound design can make or break a creative project, and as an Avid Elite Solutions Partner for Audio we're perfectly positioned to help everyone from film crews to musicians build spaces and workflows that deliver.

## Sound for picture

Our speciality. We work with some of the biggest names in post, including HALO, Envy, Encore and The Farm Group. We've spent years helping the UK's post facilities develop flexible studio spaces that can suit any task, from ADR to Foley to mixing.

Our consultants, all of whom have practical experience in the industry, can help you design a workflow that maximises the lifespan and earning potential of every room in your facility. Want to network multiple rooms so you can move projects between them instantly? We can help. Need to control the hardware in one room from another? We've got you. We can even provide mobile and remote recording setups (with or without picture feeds) so that you can meet your talent wherever they are.

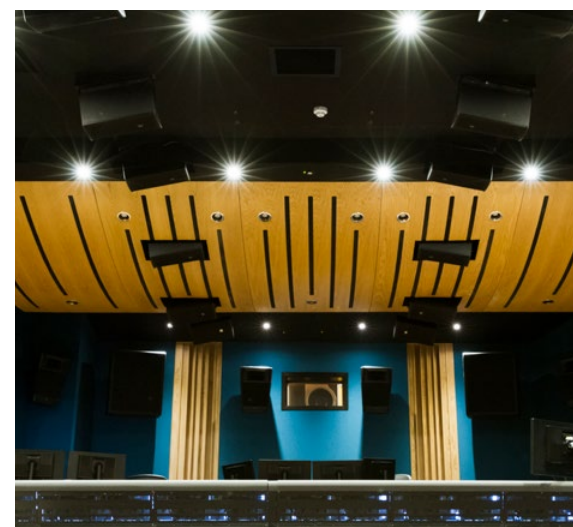
## Moving to a new facility?

We can help with full studio builds, including transitioning you to an IP-driven Dante/AES67-driven workflow, so you can capture the cleanest possible signal. And while we're working on your IP network, we can help you integrate performance capture technology like Faceware, so you can earn more revenue from the same recording space.

## Music production

Whether you're working in a traditional studio, need to set up a remote recording location or are working in a challenging new environment, our consultants can work with you on a facility design that supports your goals. As former recording artists and engineers in some of the leading recording facilities in the UK, they can help you ensure your facility is flexible, futureproof and able to evolve with your requirements.

Our areas of expertise include monitoring, spatial audio, Avid workflow design, networked audio and innovative shared storage solutions for audio.



## Solution spotlight: Dolby Atmos workflows

As an official Dolby Atmos Mastering Suite Dealer, we can provide all the hardware you need for mastering Atmos mixes. We've also got all the monitors, I/O and calibration tools you need to get your room certified by Dolby, and can design, install and support studios for Atmos tracklay, pre-mix, mastering and QC.

When it comes to Dolby Vision, our team includes some of the most experienced post engineers in the business. We can help you find end to end solutions for capturing, grading and delivering in HDR – even when you need to deliver an SDR cut simultaneously. We work with key partners like Dolby, EIZO and Leader to provide everything you need to get perfect HDR images offline, online and during QC.



# Driving design and creativity

We know that post facilities aren't the only ones obsessed with creating the perfect image. Our client list includes design and advertising agencies, animators and visual effects artists, graphic designers and even virtual reality studios – and we have all the hardware, software and support they need to stay creative.



## Software your whole team can rely on

As an Adobe Platinum Reseller, we're able to provide the best possible pricing and support for Adobe Creative Cloud, Adobe Document Cloud and Adobe Stock. Once you've created assets, we've got everything you need to manage them. Our portfolio includes solutions for retrieving files, finding typefaces and archiving projects quickly and easily. What's more, our specialist consultants can either get you started from scratch or assess your existing software to recommend improvements or replacements.

But what about your admin and client services teams? As a Microsoft Gold Productivity Competency holder, we can also help you integrate Microsoft 365 tools for extended functionality – even if you're running an Apple-only or mixed IT estate.

## Devices that make your work flow

Apple has always been the platform of choice for creatives. As an Apple Authorised Enterprise Reseller and Apple Authorised Service Provider, we can help you roll out and support the devices that suit your team. Whether you need turnkey Mac Pro workstations for demanding tasks or want to take advantage of the mobility and power of the latest iPad Pro, we can help you secure financing, deliver devices to desk, provide device management solutions to keep your assets safe, and support your estate with a comprehensive, Apple-specialist service desk and managed repairs.

But we know it's not all about Apple. Accessories that let your users adapt their workspace are great for productivity, morale and ergonomics. We can provide everything from leading EIZO monitors and stands to Wacom tablets and styluses.



## The cornerstone of colour accurate workflows

If you want to deliver perfect colour reproduction, it's important that monitors across your organisation are calibrated to the same standard and that they're tweaked as the display ages. Our consultants can calibrate your monitors to a known standard like Rec.709, ensuring consistency between your displays, projectors and client devices.

# Systems integration for Adobe and beyond

As an Adobe Service Partner for Video and Audio, you can trust us to optimise every stage of your Adobe workflow. As one of only two Adobe-approved systems integrators in the UK, we can advise on workstations, infrastructure, management applications and more, with options for every size of team and type of project. Ask us about:

- Turnkey workstations optimised for your software of choice.
- Asset management solutions optimised for Adobe or mixed estates, including EditShare FLOW, Projective Strawberry and IPV Curator.

- Scalable shared storage solutions.
- AI-driven workflows featuring the likes of Mimir and Adobe Sensei.

Any solution we design and install will be backed by our experienced in-house Adobe support team, who can also provide ongoing advice to ensure you're getting the best from your hardware and software. You can protect your most important systems with our dedicated creative workstation and collaborative environment support options.

## But we're not just here for Adobe users...

Our combination of media engineering and traditional IT know-how makes us an ideal partner for systems integration on all kinds of projects. We're dedicated to making sure you don't have to focus on anything other than your job, so we have the expertise to specify, design, install and configure solutions, and project manage their delivery on your behalf. You've got a facility to run, after all.

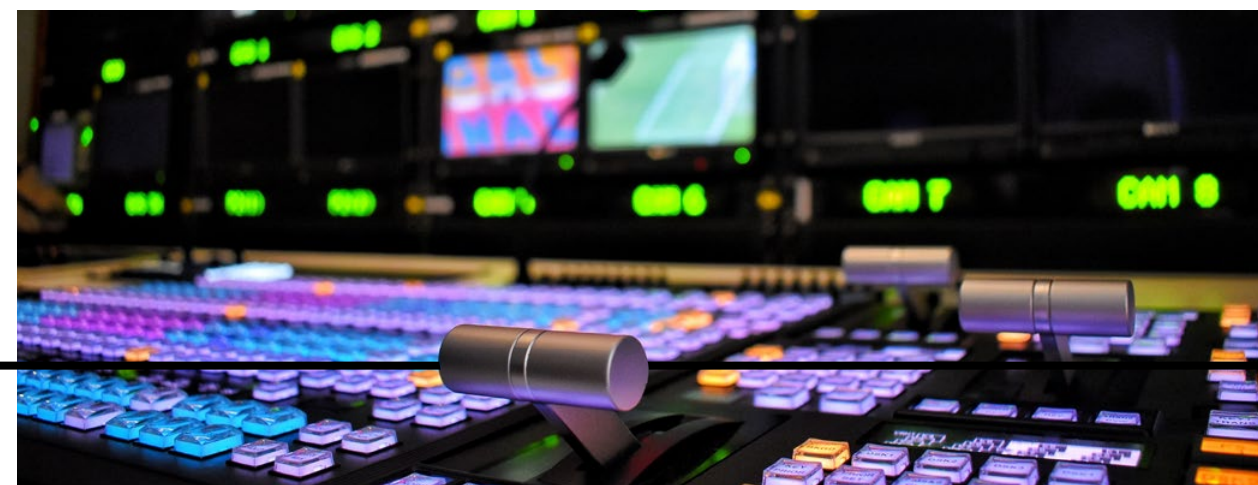
Our experienced team are all drawn from the industry, so understand the day to day challenges you face. Rather than making promises about the theoretical maximum a system can do, we design and build systems based on real-world performance, so you can be sure the system will meet your needs day in, day out.

We work regularly on a range of creative environments, including audio suites (we can deliver Dolby Atmos and digital cinema QC rooms), online, offline and grading suites,

OB trucks and machine rooms. Having tackled large-scale projects like moving ITV's post department to MediaCityUK and Technicolor into Pinewood Studios, we have the experience needed to coordinate suppliers, services and resources so that your project delivers maximum value with minimal disruption.

Alternatively, if you're building somewhere new, we have a long track record of building facilities and can help you make the best use of your new space. We offer space planning services to ensure you're making the most efficient use of your space, and our network of experts in different disciplines will ensure that every element of your build is finished to the highest standard (you can also draft them in for smaller-scale builds, like studio refits or infinity walls).

Finally, our audio team can provide room calibration and acoustic design services to get every room in your facility sounding like you want it to, complete with acoustic treatments and speaker calibration.





# Get in touch

If you want to discuss the next evolution of your workflow, get in touch with the team on **03332 409 210** or email **[broadcast@Jigsaw24.com](mailto:broadcast@Jigsaw24.com)**. Alternatively, head over to **8 Golden Square, Soho**. That's the home of our media and entertainment team, guided by our leading industry experts...

## Jason Cowan: Business Director, Media & Entertainment

Jason is a seasoned M&E executive with extensive sector experience including senior roles at Avid, where he worked in business development for cloud and software as a service solutions. He has previously held managing director and business development director roles in production, post-production and cloud software development firms during a career spanning 30 years in the industry. He's working with our media and entertainment wing to ensure our cloud proposition and other services keep pace with the industry's demands.

## Graham McGuinness: Head of Technical Architecture, Media & Entertainment

Graham was key in developing non-linear editing workflows for major film franchises in the early 2000s, and has continued to work on the cutting edge of production and post, tackling solutions for democratising HDR, 8K, and even VR workflows. At Jigsaw24, he is currently responsible for developing products and services for workflow design, media systems and modern file-based automation work, and he has also been a regular contributor for written articles and interviews in industry publications.

