

GOING REMOTE

COVID-19 AND THE IMPACT OF REMOTE WORKING IN THE VFX INDUSTRY



SUMMARY

Before the Covid-19 pandemic, 46% of the VFX industry revealed they did not have a work from home policy or technology in place.

A symptom of this is perhaps the fact that 34% stated that one of the biggest barriers they felt to working remotely was the technology setup.

55% of our research respondents commented that they could now sustain this style of remote working for eight months to a year, showcasing how this has been embraced quickly from the top.

Supporting this sentiment is the fact that 87% of VFX industry workers said that during this crisis their leadership team have heavily encouraged, supported, and facilitated remote working. While we have been forced into this situation due to extreme circumstances it has proven that remote working does work.

However, long-term due to the human connection that the office provides, 48% state that although working from home is now more desirable they would rather work from the office where possible.

Introduction

Over the past few months our industries have been tested. Almost everyone has experienced a change in the way we work – practically, emotionally, and technologically – and we're unlikely to see a shift back to the way things were for a little while yet. But this period has opened up a realm of possibilities in the world of remote working.

At Escape Technology we're specialists in the hardware, software, and services that go into running a computer graphics pipeline. That is to say, we're in the middle of digital content creators: filmmakers, visual effects artists, game developers, architects, and educators. And on. Every business we work with has been affected by the spread of Covid-19, which is why we've collected together the data in this report. What we've found is eye opening. While working from home in the visual effects industry isn't really the norm, it is something we've adapted to with incredible speed.

We undertook to discover what provisions studios have already made for remote working and how they have gone about deploying those solutions in their businesses. Our Chief Technology Officer has shared his insights into the challenges and obstacles that companies need to overcome, and our customers have shown us the benefits that technology can bring. In many cases studios have seen increases in communication with staff, greater engagement, and even challenged their creativity under the strains of working outside a single location.

Overall, at least half of the people we've spoken to have said they're prepared for remote working. And that same number have said how much they get from the experience.

Thanks to technologies like HP's Remote Boost system (see the appendix for more) we're able to provide users with a fully integrated desktop experience. It's possible to access the power of your workstation from another location entirely – a technique that enables businesses to adapt and respond quickly to the needs of remote working. And that doesn't just include asking current staff to work from home. Studios like Vine FX have used similar tools to expand their workforce around the world while maintaining an office in Cambridge. It's stories like this that show the way forward for the visual effects industry as a whole.

What strikes me most about the results of our survey and the interviews we've conducted is how giving everyone has been with their time. Friends, colleagues, and strangers have shared their thoughts on remote working with us and we're pleased to be able to present those findings in the following pages.

I hope you find what follows as interesting and useful as we have.

Mark Cass

Managing Director, Escape Technology

Covid-19 And How It Has Changed The Way We Work

The move to complete remote working within a single day is a challenge many didn't think would happen in our lifetime. Whatever your office size, to move an entire company and ensure efficiency and productivity is a great challenge.

However, this issue has especially tested us in the VFX industry. In a space where large files, data, and pipelines need to be protected and shared securely in order to keep projects moving, how do you set up remotely?

Before Covid-19 our research, conducted with a sample of over 50 VFX industry experts, has showcased that **46% of the industry did not have a work from home policy or technology setup in place.**

Dominic Parker from VFX studio One of Us echoes this sentiment as he comments on the industry status, "Because of the MPAA security constraints in the Visual Effects industry we have shied away from any remote working. We still regard security as a paramount consideration."

Restrictions around data and security due to the nature of film is an influential factor when considering remote working, ensuring security is paramount. To uphold NDAs, when it comes to data it is important to have the right technology setup to work from home, and ensure that all these elements are in place.

We have, however, seen a degree of teething problems in our current environment, perhaps due to a lack of having this set-up in place or an absence of facilitating remote working on a more regular basis due to wider issues such as concerns around productivity and efficiency.

While hearsay around business concerns has focused on productivity being a factor, actually only **16% of respondents felt that this was a barrier to successfully working from home.** In fact **34% of VFX industry employees stated that they felt the biggest obstacle was their technology.**

Challenges Of Technology Setup for Creative WorkFlows

If the technology setup isn't strong enough, it is going to make that leap to remote working harder for businesses. In a people focused industry, with studios across London, the UK and wider locations working on numerous productions, this is no small feat.

With these issues setting the backdrop for the remote working debate before Covid-19, naturally to get businesses set up quickly for a move all on one day was going to be difficult.

So how do you solve these problems? We have been in this situation for weeks now. We have made the move. But how successful has it been?

With data security and having a secure technology pipeline being the biggest barriers to working from home, this was an issue many studios had to address first – reviewing their ecosystems and determining what would work fast and securely to enable everyone to work from home effectively.

One benefit that a majority of customers at Escape Technology had was the fact that, as Paul Wright from VFX Studio Freefolk comments, “Escape was quick to remind us of the Remote Boost technology built into every workstation we own.” HP Z Central Remote Boost (formerly RGS – Remote Graphics Software) is built into HP's Z series workstations, making this leap considerably easier.

In addition, a selection of studios had already deployed some form of secure remote working when utilising freelancers, often from different locations across the globe.

Derek Moore from independent visual content studio Coffee and TV comments on this, “We've always had a bigger footprint in the size of company than our physical space in Soho, we have clients connecting from all over the world, and the country. The biggest change was when everyone had to work from home all at the same time on the same day.”

This was a similar experience for Michael Illingworth from Cambridge-based visual effects studio, Vine FX, who added, “We have quite a few artists who have set up at home or work remotely, in Bulgaria, France, Greece, London, using PCoIP technology we were able to get them working on machines as if they were in our office.”

However, if you don't have the infrastructure in place you need to get it fixed and quickly. How do we help?

Data And Security In The Film Industry

Our initial step to tackle is how to deal with a studio's data. There are two key routes for this.

The first – via VPN – is a common route used by many during this time. This provides a secure connection from a remote machine to your company network. The downside here is that the size of files you are trying to load over your home internet connection can be limited. Downloads can take some time to complete and from a security standpoint this method fails as data from your pipeline is being distributed. Therefore your internet connection becomes an issue. However, there is another more secure way. The most secure method of enabling remote working is not to touch the data at all.

In this workflow we only move the smallest amount of information: the pixels of the screen, streamed to your home, but with a mouse and a keyboard attached. Think of it as using the internet as a long monitor, mouse, and keyboard cable.

Among the advantages to this solution is the fact that no data actually leaves the office. You have access to the same machine you use day in, day out and to all the same tools and pipelines. This means the remote device is only decoding

an encrypted stream of pixels and, therefore, you could do this on any cheap computer instead of investing in newer hardware.

Due to the lack of experience in the industry for broader remote working, or barriers to letting employees have that access, there is an absence of education when it comes to this type of setup.

Naturally, in VFX there are major concerns about working remotely due to high security projects and NDAs. While issues may still arise, we need to break through some of the barriers that studios and artists might believe to be challenging or near impossible.

We need to educate businesses that there is another way versus using a simple VPN. Streaming pixels is the solution to providing a fully functioning, secure remote environment.

The process of sharing pixels – and not data – means that a remote setup will mirror 'at work' screens, but will not allow users to download projects or files. This aspect is the key to success.

Providing Solutions

When deploying remote working, the first consideration is what technology you have in place already. And what are the solutions needed to run your office remotely efficiently?

There are numerous approaches that can be deployed to provide the Holy Grail of remote working: a secure environment in which data never leaves your building. Perhaps the best kept secret in the industry is HP Z Central Remote Boost. Another option is a Teradici-centric workflow.

HP Remote Boost is a software-only solution, essentially a more impressive version of Team Viewer. And all HP Z series workstations have that software built in. This then remedies the question around remote working solutions instantly as the setup is there and ready to use. The majority of customers at Escape Technology use HP Z workstations and so have been able to move to a remote workflow very quickly.

As Paul Wright from Freefolk adds, "We rely upon HP Z workstations; over the years we've found these to be cost-effective, easily maintained, and incredibly reliable. A major benefit of the Z range is the inclusion of HP's Remote Boost software, this is an enterprise-class PCoIP sender/receiver. Without HP Remote Boost the time and additional cost to get everyone working from home would have been enormous. It's not quite plug-and-play but it's pretty close."

Dominic Parker from VFX studio One of Us says of the solutions Escape Technology and HP provided, "We told our clients that we would aim for 50% efficiency within the month. Instead we seemed to be close to 100% efficiency in a week. It is astonishing how well this worked, and a tribute to both the HP technology and to our tech team, who worked so hard to make this happen."

Teradici is another route. Their PCoIP is one of the most efficient and well-established streaming formats on the market today. There are two approaches to this: the first is a software-only solution similar to HP's Remote Boost, while the other utilises a hardware deployment.

The advantage of this workflow, if using the hardware variant, is that the machine has no overhead: it's completely secured from everything the PC is doing and has no issues. This stream can be served out to remote workers via VPN (similar to HP Remote Boost) but also has the benefit of using a Cloud Access Gateway Broker that allows you to bypass the VPN. It's still secure as no data leaves the studio or is actually accessible. The only thing to leave the building is a stream of pixels.

So you have the technology setup sorted, but another fundamental of remote working is communication.

Technology Driving Human Connection During Covid-19

An office can't run without communication, especially in VFX where regular meetings with teams and clients are needed to discuss creative decisions.

Then adding onto that the fact that many team members will be working at home with family, homeschooling for the first time and it becomes clear that this is a difficult time for all and the human connection element of remote working has also needed some attention.

30% of respondents to our survey told us that communication would be a barrier when working from home. However, despite this concern **87% of VFX industry workers said that during this crisis their leadership team have heavily encouraged, supported, and facilitated remote working.**

Technology has become vital in this respect, from platforms such as Slack to Google Hangouts to Zoom, it's important that teams stay in touch and still have that communal element of work.

Michael Illingworth from Vine FX continues, "The team spirit we have in the office has been quite amazing, we've been embracing platforms like Zoom that we wouldn't have without this situation. Now every morning we have a Zoom call and this creates a moment of normality which is important for people who find it difficult to juggle working with their home lives. We have to make sure people are happy as these are unusual times."

This was perhaps a factor before, but team culture has become even more important in the VFX industry. That includes client relationships and working with companies like Escape Technology to provide the support that the team needs, especially at a time when IT departments are stretched.

Communicating these changes is also of paramount importance. Alan Puah from Territory Studio comments, "Be in constant communication with everyone about the things you'll be putting in place, what they do, and how long it will take. Things that seem obvious to you may not be for others, and for some people the idea of remotely connecting to the desktop of a computer in another location is a completely alien idea, so be conscious of that."

Derek Moore from Coffee and TV adds that actually elements like creativity have changed for them during this process, "Though we're used to working with clients from all over the world and servicing them remotely, we miss the easy interactivity of creative collaboration, which our Soho studio provides. Our creative teams are, however, constantly in touch with our clients and each other via Zoom, Hangouts, Slack, etc. – and have found that they've become more disciplined, detailed, and purposeful in their communications."

What Does This Mean for the Future?

The question is, will there be a longer term change in the VFX industry? And Is this change enough to alter well-established ways of working?

Alan Puaah from Territory Studio says, "It's difficult to say. Businesses will come out of this with different experiences, and that will determine how they change their processes and policies. I'm hopeful and optimistic that things will change for the better, so that businesses are not only able to better protect their own interests, but that of their employees."

While we can change some perceptions when it comes to technology capabilities, the need for human interaction will always play a strong and important role.

Dominic Parker from One of Us adds, "We see that an exciting possibility has opened up. At the same time we don't want to lose the value of direct human interaction. Creative collaboration is the most exciting aspect of our job, and we still believe that the crux of this is in a shared physical space. At the same time there are many tasks which do not require this. We are going to have to find the right balance. But how exciting that this option is opening up."

With 55% of our research respondents commenting that they could now sustain this style of remote working for eight months to a year, it seems that we are getting there with the leadership support that is needed to instil long term change.

However, **48% of VFX industry representatives did state that although working from home is now more desirable, they would rather work from the office** where possible due to the human connection that comes from this experience.

This research report was created by Escape Technology in partnership with HP. Escape Technology provides hardware, software, and services to support remote working for creative workflows, including technologies such as HP's Remote Boost system.

To find out more visit www.escape-technology.com/remote-working

Glossary of Terms

HP Z Central Remote Boost

All HP Z workstations running Quadro graphics ship with one of the world's best kept secrets: HP Remote Boost (formerly known as RGS – Remote Graphics Software). This is a software agent that runs on the workstation. It consumes some of your computer resources (CPU and GPU) to send your desktop to end devices such as a laptop, tablet, zero client, or thin client. HP Remote Boost ideally needs to run behind a VPN. It also requires a good machine on the other end. It is a heavily compressed stream giving excellent bandwidth, but does require a lot of machine power to decode it especially at higher screen resolutions and FPS rates.

You will need to have a VPN and a remote machine capable of decoding the streaming pixels.

The disadvantage of Remote Boost is that when the machine is completely maxed out then – if no resources are left or reserved for the Remote Boost software – you will find your remote desktop performance is severely affected and in some cases can lead to dropout and disconnection. This can happen when the system is rendering/computing heavily on the CPU, or if a video stream compressor (such as Adobe Premiere or Media Encoder) is utilising the GPU heavily again the remote session can be disconnected.

Moving Pixels

The most secure method of enabling remote working is not to touch the data at all. In this scenario we leave all the data at the office – safe and secure – and give access to remote workers by distributing their desktop.

There are a number of approaches to this workflow, but the primary two are VDi (a virtualisation approach), or a one-to-one remote workstation.

Remote Workstation Card

This is a card that can be plugged into any PC and has a processor that compresses your GPU output into a streaming pixel format on the fly. The GPU output plugs directly into the card, which in turn consumes a network port, and this pushes pixels out over the network to any end device.

The advantage of this workflow is the machine has no overhead: it's completely secured from everything the PC is doing and has no issues. This stream can be served out to remote workers via VPN (similar to HP Remote Boost) but also has the benefit of using a Cloud Access Gateway Broker that allows you to bypass the VPN. It's still secure as no data leaves the studio or is actually accessible. The only thing to leave the building is a stream of pixels.

Glossary of Terms

Software Access

The software version of Teradici is similar to how HP Remote Boost works and allows the use of the host machine's CPU and GPU. It's a much cheaper solution, but has the same limitations as HP Remote Boost.

Teradici

Teradici is a company that makes a streaming pixel format called PCoIP. This is one of the most efficient and well-established streaming formats on the market today. It has been ratified for use in Amazon, Azure, and Google for delivery of remote workstations.

The PCoIP pixel stream can be achieved in a hardware or software version.

Thin Client

A Thin Client is a machine with minimal OS, memory, and GPU. It has a better processor but comes at a price. It has the benefit of no limitations and runs with HP Remote Boost.

VPN

A VPN is a secure connection from a remote machine to your company network. This enables users to see all your mounted drives, workstations, and even printers from wherever they are. The downside is that the size of files you are trying to load over your home internet connection can be limited and downloads can take some time to complete.

Another issue is that at home you might have a laptop or consumer level machine not necessarily capable of dealing with the files you need to load or have access to the software to actually work from home.

VPNs are normally fine for people who are working with small files (Word documents, PDFs, spreadsheets, small Photoshop files). They don't function well in large pipeline scenarios, when dealing with large amounts of data, or access to things like central storage and render farms.

Zero Client

A Zero Client is a machine with no operating system (OS), only firmware and minimal RAM. This offers good performance and is of relatively low cost, but has limitations on the number of monitors and resolution it can deliver.

LONDON

Threeways House
40-44 Clipstone Street
London
W1W 5DW

support@escape-technology.com
sales@escape-technology.com
+44 (0)207 734 8809

MANCHESTER

The Sharp Project
Thorp Road
Manchester
M40 5BJ

support@escape-technology.com
sales@escape-technology.com

MUNICH

Escape Technology GmbH
Kapellenstrasse 11
85622 Feldkirchen/Muenchen
Germany

sales@escape-technology.de
+49 (0)89 1241484 20