Royal Cornwall hospital trust enables remote radiology reporting

With Citrix, radiologists can analyze medical imagery from home, improving clinical resilience, flexibility and productivity

When a role relies on specialist equipment, it's not always easy to work from home, however essential the job.

When the COVID-19 pandemic struck, Royal Cornwall Hospitals NHS Trust sent as many staff home as possible. Overnight, the trust's number of home-workers leapt from 250 to 3,000. However, even though Royal Cornwall wanted to minimize the number of people on its three hospital sites, there was no viable home-reporting solution for its 30 radiologists and radiographers.

The trust, which serves a population of 430,000 in Cornwall and the Isles of Scilly, is a long-time Citrix customer and, as Picture Archiving and Communications Systems (PACS) Manager, Daniel Powell says:

"Most people working from home could use Citrix on trust-owned or personal devices to securely access the information and applications they required. But that didn't work if you needed to view high-definition clinical images for diagnosis and reporting. The solution we had couldn't provide the image resolution, speed or connectivity that radiologists need."

The trust evaluated other solutions, before settling on Citrix. As Robert Phillips, the trust's Technical Services Manager, explains, "Viewing medical imagery requires specialist end-user equipment – a diagnostic quality monitor and the ability to dictate notes – but you can't simply take a PACS workstation home and plug it into your domestic broadband. Workstations require a fixed IP address to connect to PACS servers and you can't replicate that in people's homes without a hardware VPN. That would have entailed managing each of the 30 professionals' home connections like an additional healthcare site. That would have meant extra overhead, extra cost and extra complexity."

Instead, the trust turned to Citrix DaaS. It already used virtual apps and desktops to publish individual applications from a hybrid on-premises/cloud environment for remote users, managing issues of latency and poor connectivity for workers in rural areas. Now, with help from Citrix, the team piloted a full deployment of Windows-based desktop as a service (DaaS) workloads.

NHS
Royal Cornwall Hospital
NHS Trust

Industry
Healthcare

Location
UK

Citrix Products
· Citrix DaaS

These virtual desktops leverage Citrix HDX (high-definition experience) technology with NVIDIA powered servers to deliver diagnostic-quality images to radiologists and radiographers at home. At each home, the trust provided a Lenovo laptop with Eizo diagnostic-quality monitors. The clinicians can also access the Dragon voice-recognition software that is central to their note-taking and reporting.

Resilience and productivity in a pandemic

The DaaS solution will provide the trust's 30 radiologists and radiographers with the ability to work from home. During a pandemic, or other disaster scenario, that means the team can continue to provide an essential clinical service, while minimizing the number of staff required on hospital sites.

"We process 300,000 studies a year in radiology and every one of those represents a patient who needs a report on that image to help towards a correct diagnosis and best possible outcome," Powell says. "We're providing a service that wasn't possible before – reporting on clinical imaging from across Cornwall so that we get continuity of service – whether someone's working from home or working on-site. That wasn't possible before the Citrix project."

As well as delivering clinical resilience, the Citrix DaaS home-reporting service provides greater flexibility for clinicians.

"Working from home used to seem a luxury, now it's the norm," says Phillips. "Citrix enables flexible working for specialists like radiologists. It means they don't need to be sitting in traffic for an hour every day. They can choose to do their reporting at a time of day that suits their lifestyle, whether that's around childcare or simple preference. They can be more productive. And, from an IT perspective, Citrix enables us to extend a valuable, empowering service to staff without actually doing any additional systems admin or management."

Those already using the system think it's great, says Powell. "It's light-years ahead of what we had before."

Deploying DaaS workloads from the Citrix cloud platform makes it simple to roll out robust desktops without the need to worry about running cumbersome updates and patches. That means the IT team can focus on providing clinicians with the best resources to give quality service to their patients.

Supporting recruitment and resourcing for scarce skills

Radiology skills are in high demand and short supply all around the country and the Citrix-powered home-working solution helps Royal Cornwall address this in several ways:

- Enabling people to work hours that suit their personal situations, means the trust can recruit from a wider pool of candidates
- Part-time, home-based work is often an attractive option for recently retired radiologists
- The ability to work from home can be an added attraction in recruiting new, full-time staff

"Working from home used to seem a luxury, now it's the norm. Citrix enables flexible working for specialists like radiologists. They can choose to do their reporting at a time of day that suits their lifestyle, whether that's around childcare or simple preference. They can be more productive."

Robert Phillips,
Technical Services Manager,
Royal Cornwall Hospitals
NHS Trust

- Out-of-hours home-working also makes it easier for existing staff to cover for others' sickness or absence
- Staff who are self-isolating, but can continue to be productive from home

"This benefits the patient too," Phillips says. "By removing the need for clinicians to travel and giving them the ability to work flexibly, we can improve turnaround of reports. Faster reports can mean better outcomes."

A cost-effective solution

"We expect the final cost to be around one third of what other trusts have spent using a hardware VPN solution," Phillips says.

Having deliberately started with the most complex problem – the high-resolution imagery and dictation required for radiology reporting – Phillips and his team are now looking to scale out the Citrix DaaS deployment to a wider range of simpler use-cases with a view to reducing the 12,000 Windows client devices currently managed across the trust.

"The Citrix DaaS solution enables us to manage in-house with very little overhead, and we'll see the return on investment in terms of productivity," Phillips concludes. "It will be time and money well spent."

citrix.