



NHS's Secret to Success in Delivering a Fully Functional Remote Workspace



 Leicester (LHIS)

 United Kingdom

 Healthcare

The Challenge

At the start of the COVID pandemic, the National Health Services (NHS), which provides and improves healthcare nationwide in the United Kingdom and employs 1.7 million workers, a continuation of healthcare was at risk due to outdated technology.

After COVID hit and the number of infections was on the rise, the NHS's challenge was to deliver a fully functional remote workspace in a short timeframe. General practitioners and specialists were not used to working from home at this scale, and IT personnel did not prepare the systems for the sudden shift. The laptops stocks were depleted, and no equipment was in stock to offer to employees. Even if laptops were available, it would take too long to enroll and deliver all devices. Many of the applications the NHS in Leicester uses have a traditional architecture that made them unsuitable over high latency networks like the internet. The complexity of these challenges had NHS Informatics Services scratching their heads. How do we build a remote workspace as fast as possible while keeping an eye on User-Experience?



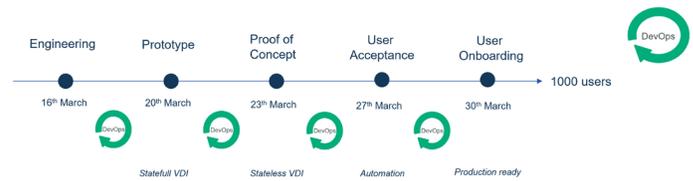


FIGURE 1. TIMELINE TO DELIVER MVP

Initial Phase: VDI Solution

After deciding that a VDI solution would fit best for the NHS, the first engineering groundwork for a workspace focused on personal equipment, and phone for MFA, self-enrollment designed for speed, started mid-March 2020.

The DevOps methodology of Login Consultants, where they deploy Windows from scratch and adds applications and changes one by one in a fully automated way, has Login VSI's Login AM at its center.

Login AM uses a clean vanilla image of Microsoft Windows 10. Its domain joins the image and starts installing applications, applying the configuration, and tuning to the image. This image is the foundation for all steps of the delivery process.

In this ideal scenario, you have one image that moves from Development to Testing, Acceptance, and finally Production (DTAP) without any manual changes in between. The automated delivery process with Login AM leaves less room for errors.

“Removing unnecessary complexity and organizational delays is crucial when working under so much pressure. Login AM enables us to automate the entire process.”

Dennis Sigmond

MANAGER BUSINESS DEVELOPMENT & EUC/IT ARCHITECT

Before changes are pushed to production, the NHS performs User Acceptance Tests. If any problems are discovered, a version is deployed through the automated process after removing the problematic change(s). With the expected high volume and high rate of change in a short time, the experts needed to be able to handle a stream of changes quickly and efficiently.

This concept differentiates from the rest: a fully automated deployment without manual work where changes are staged and can be reverted easily if they negatively affect the End-User Experience.

“We were looking at what was going on in Italy. How the health service there was overwhelmed and I could see the numbers rising in the UK, and I realized that we were going to have to come up with some new innovative solutions to enable patient care to continue to take place in the UK.”

Ian Wakeford

HEAD OF INFORMATICS
LEICESTERSHIRE HEALTH INFORMATICS SERVICE

The Solution

Fortunately, Login Consultants, part of Orange Business Services, had the experience and know-how to deal with precisely these kinds of challenges. Having performed similar migrations for multiple large customers before, their experts used a DevOps methodology to deliver NHS a completely new remote IT workspace based on VMware Horizon Cloud. The methodology was a crucial element in the successful delivery as it allowed for fast learning and easy adoption of business requirements.

An ambitious goal of delivering a Minimal Viable Product (MVP) for thousands of users after just 14 days meant working in overdrive. Refer to Figure 1. NHS and Login experts worked long days to reach their goal, but with the important work they were delivering to keep the UK healthcare up and running, no one cared about how much effort it took; they wanted to get the job done!

“Looking at the situation we were in, we went for a Bring Your Own Device (BYOD) scenario where personnel would use their personal devices to logon to the new VDI environment.”

Chris Van Werkhoven

CTO DIGITAL WORKSPACE

End-to-End Monitoring

Shortly after, the prototype was delivered. As with every journey, challenges presented themselves on the way.

One of the challenges when delivering a workspace from the Cloud revolves around Identity Management which can affect User Experience immensely. Having Login VSI's Login Enterprise in this hybrid and the mixed environment was very valuable because they could see if users can still log in. Because Login Enterprise measures continuously, they could see precisely when issues started occurring. Login Enterprise offered end-to-end monitoring that was needed to move forward during every phase of the project.

The Proof of Concept: Stateless VDI

NHS IT got involved and provided the input needed to deliver a fully functional workspace to the rest of the personnel. Here the automated delivery process repaid itself in full by saving time a providing consistency. Through this automation, the required changes could be implemented quickly and effectively while Login Enterprise kept an eye on performance and availability.

"It made a huge difference that Login Enterprise was there from the beginning of the project", says Dennis Sigmond. "In every stage of User Acceptance Testing (UAT), we were able to show that there was an improvement in response times, login times, and application performance. During a project like this, sometimes you over-tune or misconfigure something, and Login Enterprise shows you directly that you lost performance and you have to intervene. All this well before your end-users complain."

User Acceptance Testing

The first User Acceptance Testing for the new workspace at NHS began. It seemed everyone was building remote workspaces, and even Cloud Providers had trouble delivering certain Virtual Machine types. The architecture of the environment and DevOps process they build meant they could switch seamlessly between Cloud Providers if needed.

Final Phase: User Experience

Soon after the first groundwork, a functional workspace was delivered and onboarded the first 1000 users. Change requests continued to come in through user feedback, and different challenges presented themselves after moving to production. At this final phase, User Experience is essential. How users interact with the system and if they are noticing any delays is most important, but the ability to predict the impact of changes and be pro-active helps keep making progress.

VMware's Dynamic Environment Manager is used to roam personal application settings for end-users in this new workspace. With Login Enterprise's help, the experts at NHS can pro-actively monitor if the application settings repositories aren't growing organically and determine if application startup times will be impacted.

While continuously monitoring End-User experience and pushing changes as they come in from the business, Login experts and NHS IT keep onboarding personnel to their new workspace and ensure UK National Health Services can be delivered.

Summary

In this project, there was immense pressure to deliver a workspace in a short period. Generally, everyone struggles with maintaining quality and speed when time is of the essence. What's vital for any project is to have a process in place. Such an approach supported by automation offers a successful feedback loop and enables you to refine continuously. In this case, Login AM provided the tools to automate every step of the process while Login Enterprise created the feedback loop needed to stay on the right track. Login VSI contributed towards maintaining speed and agility throughout this project.

The pandemic has accelerated digital requirements for businesses to operate more efficiently. Login Consultants experts work to define clients' business goals, manage and integrate solutions, deploy and operate infrastructure, and optimize digital transformation worldwide. Login Consultants answered challenges at every stage of a client's data journey using a modular and flexible approach.



✉ info@loginvsi.com

🌐 [LoginVSI.com](https://www.loginvsi.com)

About Login VSI

Login VSI automatically tests and validates the impact of change to physical, virtual and cloud-based workspaces, to maximize the true end-user experience.