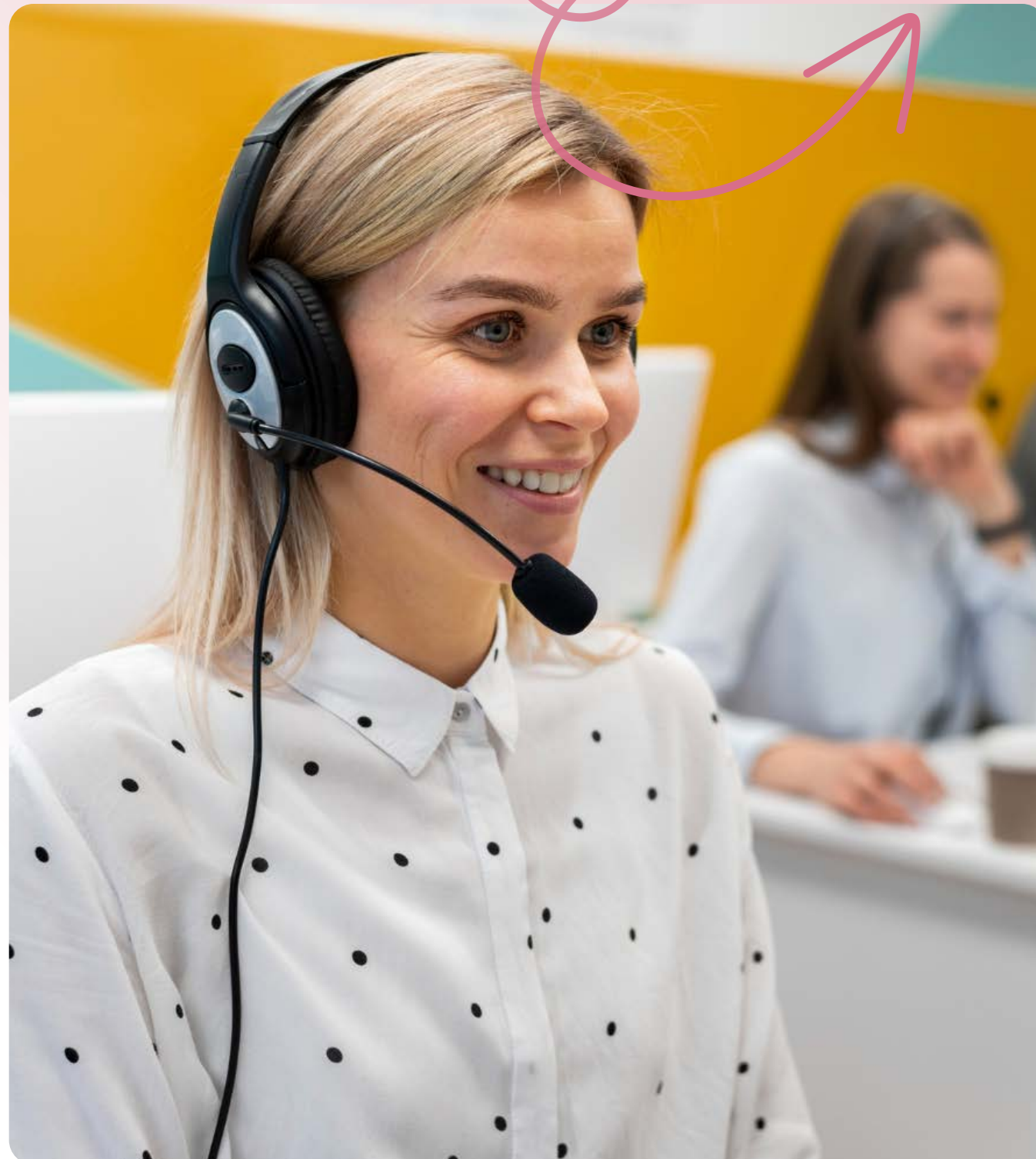


Case Study

Implementing Virtual Desktops for a Large Internet Service Provider



The Highlights



The client now has the flexibility to host VMs near apps and services that connect to their datacenter, enhancing user productivity and experience.

Data and apps are separated from the user's laptop and run on a remote server in the client's controlled and secured AVD environment.

Administrators have the tools to automate VM deployments, manage VM updates, and provide disaster recovery, minimising the ongoing management overhead of the solution (about 4 operational resources).

Virtual desktops can be assigned to users within minutes, a reduction of deployment time by 50%.

By combining the powerful AVD functionalities with an exceptional Nerdio manager, the business has significantly reduced operational costs and overhead.

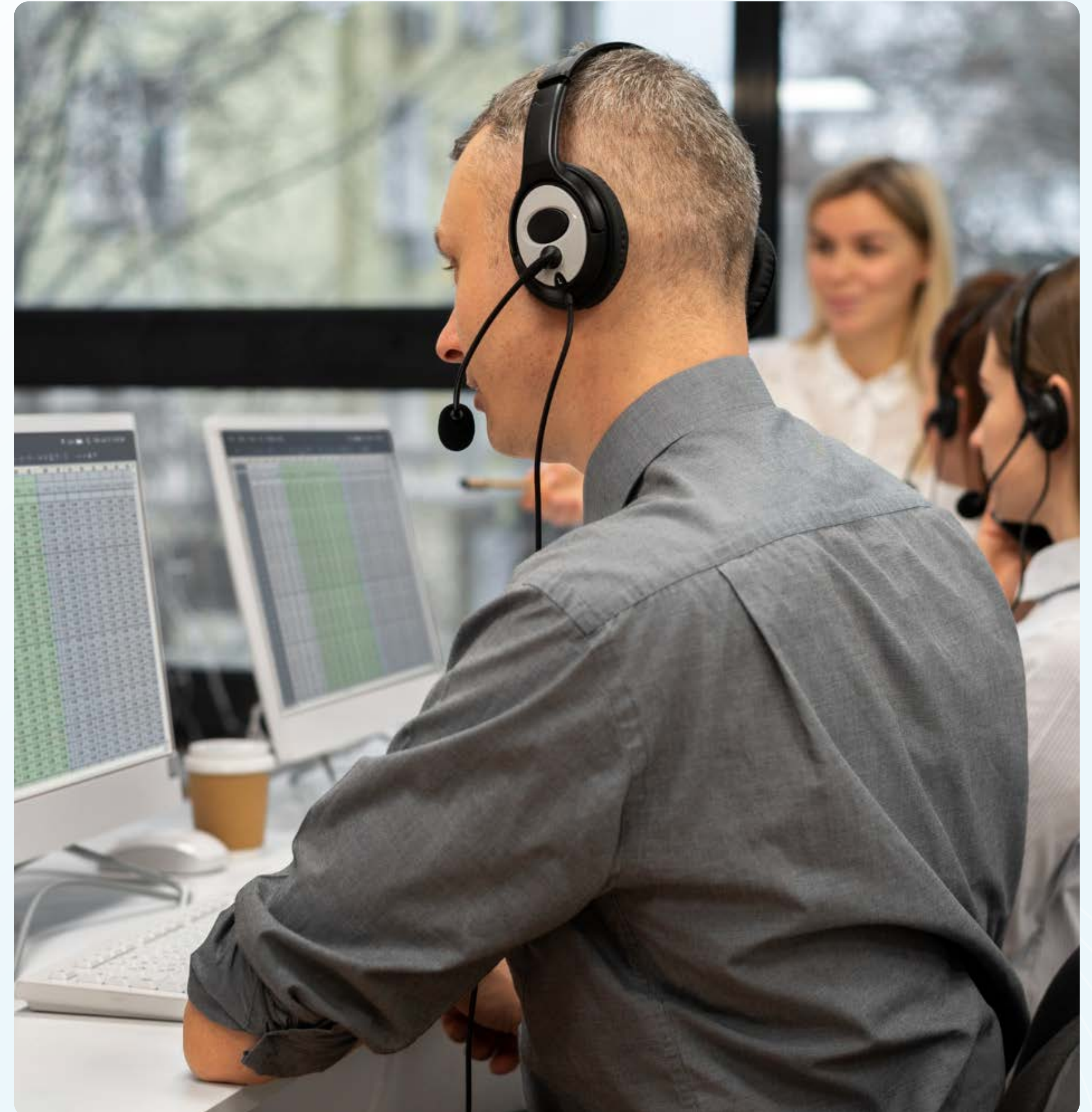
The **Problem**

The onset of the COVID-19 global pandemic led to an increased need for a robust remote working infrastructure for the organisation.

Firstly, the scalability of their existing solution was put to the test. As more employees began working from home, the demand for remote access to work resources skyrocketed. The pre-existing infrastructure was not designed to handle such a surge in usage, leading to performance issues and potential service disruptions.

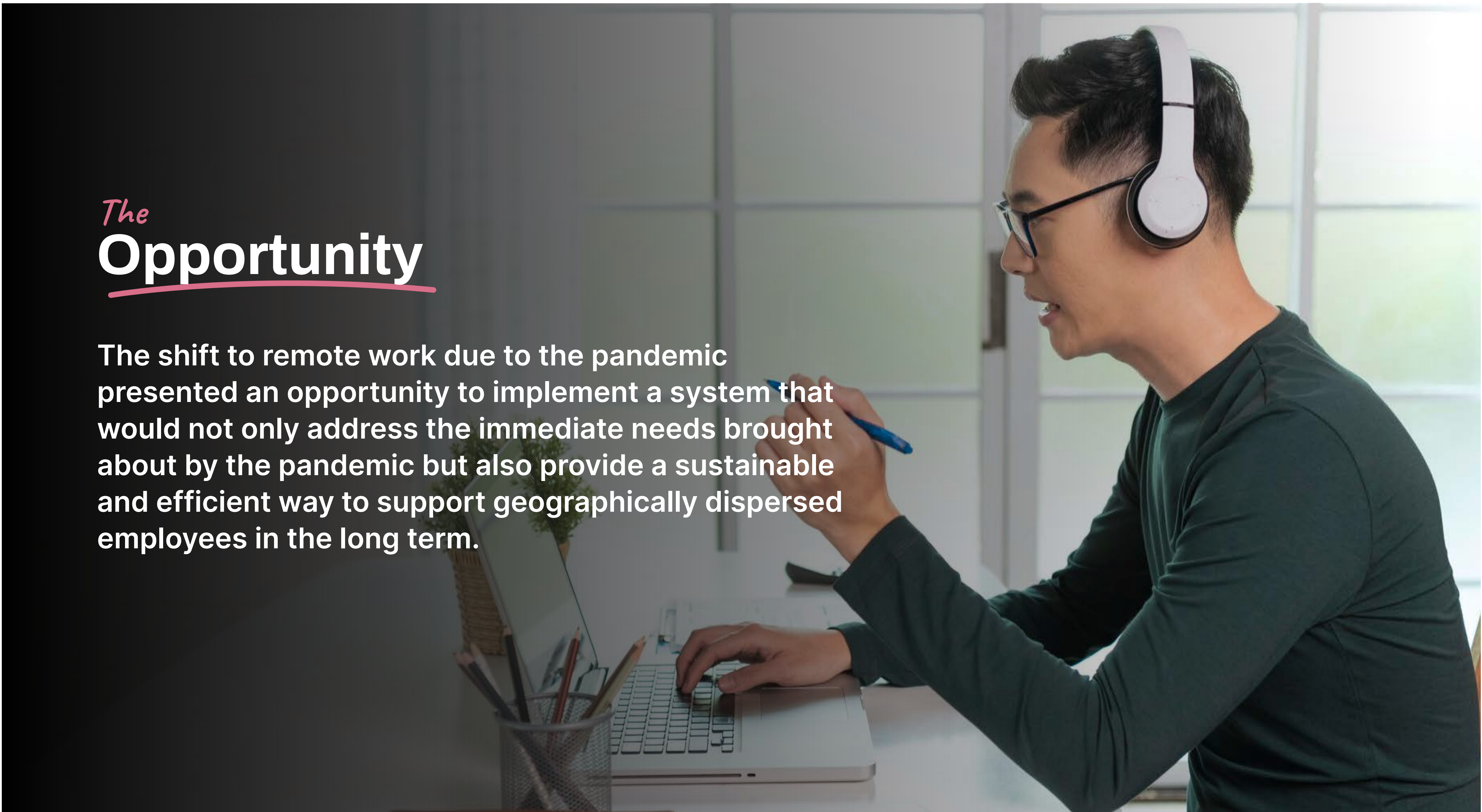
Secondly, the issue of regional availability came to the fore. With employees dispersed geographically, it was crucial to ensure that all employees, regardless of their location, had reliable and efficient access to the necessary resources. However, the existing solution was not equipped to provide this level of widespread accessibility.

Lastly, the shift to remote work raised concerns about group policy and control over the virtual desktop environment. With employees accessing work resources from various locations and potentially unsecured networks, maintaining control over the virtual environment and ensuring compliance with group policies became a significant challenge.



The Opportunity

The shift to remote work due to the pandemic presented an opportunity to implement a system that would not only address the immediate needs brought about by the pandemic but also provide a sustainable and efficient way to support geographically dispersed employees in the long term.



The **Solution**

Mantel Group developed a Desktop as a Service (DaaS) solution by integrating Azure Virtual Desktop (AVD) and Nerdio Manager, creating a unified, cloud-based desktop and app virtualization service that supports multi-session Windows 10 and Remote Desktop Services (RDS) environments.

The solution leveraged FSLogix for user profile containerization, enhancing and simplifying the non-persistent Windows computing environments, thereby reducing the hardware, time, and labour required for desktop virtualization.

Centralised security management was achieved through Azure Active Directory, Microsoft's cloud-based identity and access management service. The solution also incorporated reverse connect technology, an AVD feature that bolsters remote desktop security by providing a more secure connection type than the traditional Remote Desktop Protocol.

The benefits of this solution are as follows:

✔ **Enhanced User Productivity and Experience**

The solution allows the client to host VMs near apps and services that connect to their datacenter, which significantly enhances user productivity and experience.

✔ **Improved Security and Control**

By separating data and apps from the user's laptop and running them on a remote server in the client's controlled and secured AVD environment, the solution provides enhanced security. Additionally, Azure Active Directory provides centralised security management for user's desktops.

✔ **Reduced Deployment Time**

The solution enables administrators to automate VM deployments, manage VM updates, and provide disaster recovery. As a result, virtual desktops can be assigned to users within minutes, reducing deployment time by 50%.

✔ **Significant Cost Reduction**

By combining the powerful AVD functionalities with an exceptional Nerdio manager, the business has significantly reduced operational costs and overhead. The use of multi-session hosts, which allow multiple concurrent users to share a single VM, also contributes to long-term operational cost savings.

Our Approach

✔ Needs Assessment

We worked closely with the client's Windows System Administration team to understand the use cases and identify the right components of Azure to support the AVD deployment. The outcomes of this assessment were then converted into actionable items for the design process.

✔ Designing the Solution

Using the AVD Acceleration Framework, a design that met the client's requirements was created. This framework is a set of tools and best practices designed to accelerate the deployment of AVD.

✔ Implementing the Solution with Terraform

To ensure efficient and repeatable deployments, Terraform was used to implement the AVD solution. Terraform is an open-source infrastructure as code software tool that provides a consistent CLI workflow to manage hundreds of cloud services.

✔ Establishing On-Premise Connectivity

During the build phase, the team helped the client's own networking teams establish their first on-premise connectivity to Azure cloud. This was a crucial step in ensuring that the client's on-premise resources could communicate with the Azure resources.

✔ Utilising Key Products and Services

Key products or services used in the implementation include Azure Virtual Desktop, Nerdio Manager Enterprise, Terraform, GitHub Actions, and Azure Landing Zone. Azure Landing Zone is a set of Azure resources and configurations that provide a baseline environment in which resources are deployed.

✔ Integrating Nerdio Manager

The Nerdio Manager was integrated with the client's AVD environment to simplify AVD management. This allowed Windows administrators to use Nerdio's scripted, automated functions to deploy and manage virtual desktop workloads.

✔ Configuring Multi-Session Hosts

Finally, the solution was configured to use multi-session hosts. This feature allows multiple concurrent users to share a single VM, which is a key aspect of the solution's scalability.



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