

CASE STUDY

CREATING A MODERN WORKPLACE: A CLOUD MIGRATION IN 2021

ABOUT ANSWER DIGITAL



Answer Digital is a Digital Agency and IT Consulting firm, recognised nationally as one of the best performing and fastest growing digital companies in the UK. They work with organisations across all sectors, applying data and digital technology to help them achieve their ambitions. An employee-owned business, Answer has over 75 members of staff, with clients including Morrisons, Center Parcs and NHS Digital.

THE BRIEF

When Answer Digital approached us, they were looking for IT specialists that could help them to migrate to a completely cloud-based environment. This was a strategically important move for them, as it would allow them to modernise their processes, increase flexibility for their workforce and increase office space by converting the server room to meeting space.

“The sudden shift to home working last year meant we were suddenly without a controlled office space, instead having to rely on each individual’s home environment. Protection of customer data and vital systems was (and is) paramount to our business, as was remote access for our staff. We found that our traditional office-based Active Directory just wasn’t up to the task. ”

Nigel Garner, CTO, Answer Digital

THE PROJECT

Whilst moving to a cloud platform has a multitude of benefits, it does bring with it considerable technical challenges. It was vital to find a solution that was secure, scalable and future proof whilst minimising any impact to the business. Moreover, in the current working environment, with staff working remotely, managing access and security of a remote workforce was critical.

MTech is a **Microsoft Gold Partner**, so the logical first step for us was to look at Azure and Microsoft 365, Microsoft's cloud computing platforms.

To investigate whether Microsoft Azure was a viable option, we needed to consider all of Answer's IT business processes and see whether these would migrate to and run within that environment.

Their requirements included:

- Access to Sage
- Secure access to company files and documents
- Maintain their VPN & Wireless Authentication with 802.1x – utilising their corporate credentials

Through research and prototyping, we were able to find a way to meet the above requirements. However, a key issue for us was finding a solution in which the migration didn't require a hard reset (wiping) of each device, as this would have a significant impact on productivity. Unfortunately, the official Microsoft recommended method required this hard reset and this wasn't a feasible option for Answer.

As a result, we had to look at alternative solutions that could seamlessly migrate devices without resetting them. After further research and prototyping we were able to form a solution that allowed us to migrate user profiles and devices from on-premise Active Directory (AD) to Azure Active Directory (AAD) - Microsoft's enterprise cloud-based identity and access management (IAM) solution.

What is the difference between Active Directory and Azure Active Directory?

An Active Directory is an identity management tool that helps centrally manage user identities across an organisation. Once a staff member has a consistent User ID it will follow them around no matter which device or location they are logging in from.

Azure AD is a cloud version of an Active Directory, creating a secure online authentication store that can contain users and groups. All of the Microsoft Cloud services use Azure AD for authentication: Microsoft 365, Dynamics 365 and Azure.

To prove that this third-party solution would work in practice, we carried out a thorough proof-of-concept project. For this, we used a demo Microsoft 365 tenant as a test environment and focused solely on user and device migration. Through the test environment, we were able to demonstrate migrating users and devices to the cloud without loss of data, keeping the end-user's profile intact without wiping the device.

Satisfied with the results of the test, we were confident that we could then start the process of moving key business systems over to the cloud.

However, there were still some key technical challenges to overcome.

TECHNICAL CHALLENGES

Radius Authentication

One of the biggest challenges with cloud migrations is traditional server authentication methods. Answer's 802.1x WI-FI and VPN relied on a Microsoft server component – Network Policy Server & Radius – so we needed to perform Radius authentication against Azure AD securely. We utilised Azure AD Domain Services, (AADDS), a Microsoft option which creates a legacy AD environment in Azure, allowing us to achieve this without a costly 3rd party solution.

The solution involved creating a new server in Azure and joining it to the domain created by AADDS. This allowed us to install the Network Policy Server role and implement Radius authentication. Users could therefore utilise their Azure AD account (Microsoft 365 login) for both VPN and Wi-Fi. As well as increasing efficiency and simplicity, this also increases security as disabling a user's Microsoft 365 account automatically disables their login to their computer along with all VPN and WIFI access.

An integral part of this process was creating a site-to-site VPN to Azure from the office network, enabling staff to be able to connect to Azure and have access to their files and systems, such as Sage.



Sage

It was vital that we migrated Sage, as well as documents and other files, without loss of data or significant downtime.

To do this, we created a new cloud server in Azure to host Sage and migrated all the data over. We connected the new server to the Azure Domain (AADDS), which ensured that staff could use their Microsoft 365 credentials to connect.

Device Management

A vital element of a traditional on-premise Active Directory Domain is group policy. This is used to deploy settings such as password policies, mapped drives and printers to users based on domain settings and policies.

We needed to ensure this functionality was retained as it serves as a key security and management tool when maintaining a large estate of devices – both laptops and mobile devices.

All devices were enrolled automatically into Microsoft Intune as part of the migration – and the policies were enforced automatically.

What is Intune?

Intune is a Microsoft tool that allows you to manage devices in much the same way as group policy. By grouping users & devices it allows you to layer multiple policies to allow or deny access to cloud resources, set security rights and automatically install and configure applications. This works across all a user's devices – laptop/phone/tablet in a consistent and secure manner.

We enrolled devices in Intune by configuring Automatic Enrolment for Windows Devices, meaning the initial migration also enrolled the device into Intune.

Once Radius authentication and Sage were tested successfully and we were confident we could manage devices with Intune, we carried out testing with a small cohort of staff at Answer Digital to ensure the various systems were working as intended.

The testing all went smoothly, with small changes made to the processes during this phase. Once all the desired outcomes were achieved, we proceeded to the next stage – migrating all members of staff over to Azure. This was done over three weeks, with staff split into three groups and user guides created to ensure a smooth process with minimal disruption for staff.

The average time to migrate each user and device was 16 minutes – at which point they were able to login once again and set up secure authentication on their devices, including Biometric and PIN authentication.



RESULTS

All staff were successfully migrated over to cloud management over the three-week period, with minimal downtime and no major issues arising, ensuring staff could continue working without disruption throughout the process.

Answer Digital are now operating completely without physical servers, and all of the server hardware has been decommissioned, reclaiming valuable office space. In addition, new firewalls and cloud managed WIFI access points were implemented to improve security and network performance.

Since moving to the cloud, Answer Digital have found instant, tangible benefits for the business, including:

- Increased **flexibility**
- Increased **efficiency**
- Increased **scalability** – Answer Digital is growing rapidly, so with a serverless environment, they no longer need to worry about additional power or needing extra space and equipment for additional servers.
- **Management** of their environment is more straightforward and can be done remotely and it no longer requires a device to be log into the local network to update policies. Updates and new features can be released much more quickly, improving staff experience.
- **Enhanced security** for remote users – with remote wipe of devices, biometric login, enforced device encryption and enforced corporate policies.

As this was a first of type migration for us, we carried out the whole process manually to ensure that everything was set up and running correctly. Now that we have deployed this successfully, we are planning to automate the process in the future on a large-scale basis.

“ We have found only benefits to moving to a cloud server, and the whole process was virtually seamless for us – thanks to MTech. They were fantastic throughout, really listening to us and designing a solution that fit our particular requirements.

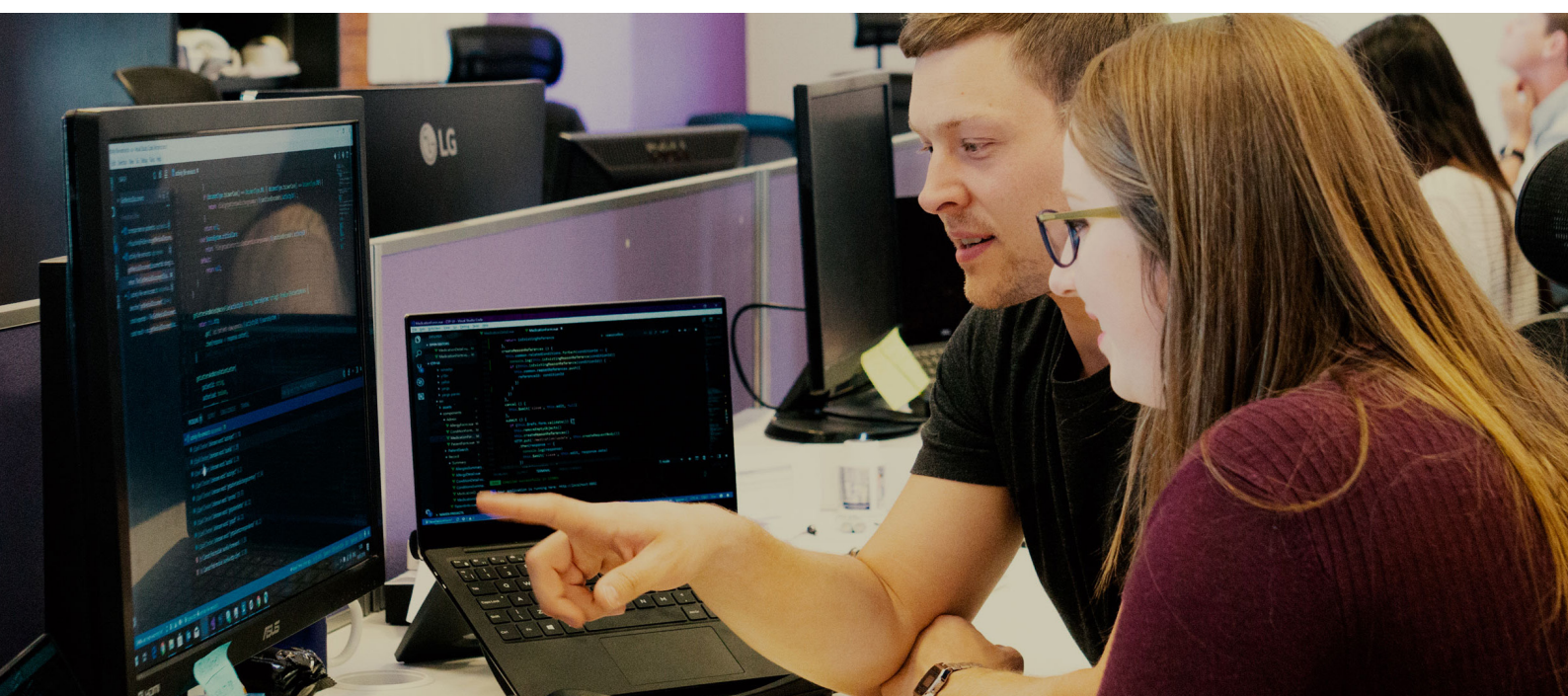
I can say without a doubt that moving to the cloud was strategically the right decision for the future of our business. ”

Nigel Garner, CTO, Answer Digital

IS MIGRATING TO A CLOUD SERVER THE RIGHT SOLUTION FOR MY BUSINESS?

Every business is set up differently, so moving to a cloud environment is not always the best solution, however, for the right business the benefits are clear, and we look forward to migrating other customers over to the cloud in the years to come. In fact, we are currently in the process of moving over to a cloud server here at MTech!

If you are looking to migrate to a cloud server, or you're not sure if it would be right for your business, get in touch. We would be happy to talk through the options available and assess whether a cloud server is the best solution for you.



GET IN TOUCH

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