



## *Transforming National Gas' in-house development capabilities with a scalable, flexible Microsoft Azure cloud environment*

National Gas partnered with Capgemini to develop a fully automated cloud environment in which to build out development platforms and tools while contending with tight deadlines, scalability imperatives, and operational requirements

### **A cloud migration, a major sale, and the need for speed**

National Gas is Great Britain's major national gas transmission network for the UK and provides secure energy to power the country, achieve net zero, and maintain industrial competitiveness.

**Client:** National Gas

**Region:** UK

**Industry:** Energy Transition & Utilities

**Client Challenge:** National Gas wanted to undergo a greenfield cloud migration while ensuring that developers and data scientists had a secure way to access the cloud environment.

**Solution:** Capgemini worked with National Gas to transform its in-house development capabilities by designing a fully automated solution to deploy infrastructure and single session Microsoft Azure Virtual Desktops.

**Benefits:**

- Expanded National Gas' flexibility to add and adapt in the future
- Easily scalable to meet new business demands
- Reduced costs
- Significant reduction in operational complexity

A fast-approaching deadline to achieve divestiture from National Grid required the organization to establish a new cloud environment and drove tight timelines, making it vital to act at speed. National Gas needed rapid advice on its application landscape and user profiling while ensuring that the solution accommodated National Gas' small team and minimized operational complexity.

During its separation from National Grid, traditional laptops were unavailable to National Gas users and the organization needed a secure, cost-effective alternative that could accommodate diverse use cases spread across multiple locations.

To address these challenges, the company partnered with Capgemini to perform a greenfield cloud migration – starting from scratch by creating a new cloud-native environment for applications, data, and systems.

The project team completed a full assessment of options for National Gas, including W365, Dev Box, and Azure Virtual Desktop (AVD), and weighed their suitability against the key requirements. Based on this review, Capgemini proposed implementing Microsoft AVD to give National Gas' developers secure access to build out their development platforms and tools from existing devices. It provided a clear security separation of apps and infrastructure from National Grid and National Gas, while enabling them to leverage additional Azure security tools like location awareness, conditional access, multifactor authentication (MFA), and Privileged Identity Management (PIM).



## Harnessing the security and scalability of Microsoft Azure Virtual Desktop

AVD emerged as the ideal choice, as it delivered enhanced security, centralized data and applications with a secure Cloud Tenant, expanded National Gas' geographic scalability, and offered substantial cost effectiveness. In addition, the solution catered to a variety of different users, including developers, data scientists, and vendors. **This approach ensured a secure, consolidated, and efficient work environment that surpassed the limitations of traditional client or laptop-based solutions.**

In coordination with National Gas stakeholders, Capgemini developed a fully automated solution to deploy infrastructure and single session virtual desktops using Terraform infrastructure as code and DevOps pipelines. Policies, application deployments, and updates were also automated using Microsoft Modern Management (Intune). The new service provided an almost zero-touch ability to spin up machines on demand with the correct policies, applications, and security tooling.

To achieve National Gas' requirements for speed of transition, simplicity, and scalability, Capgemini designed a simplified and cost-effective model of single session AVD rather than adopting the typical multi-session AVD.

## Delivering much more than just a speedy migration

This approach achieved the project's tight timelines by minimizing user profiling and the need to customize applications. In addition, the solution achieved many other benefits that reduced cost and complexity while providing a highly scalable platform. **These achievements went beyond what was commonly thought possible for AVD and demonstrated a new application of the solution.**

Together, Capgemini and National Gas developed an innovative solution that automatically starts machines after an employee signs on and deallocates them when they log off. This minimizes the need for user application profiling, customization, and troubleshooting while eliminating the requirement for third-party tools for application delivery. Meanwhile, local profiles supported by One Drive have addressed expensive storage options. Altogether, these efforts lowered costs by reducing manual effort and reliance on external tools.

Meanwhile, the solution simplified application deployments through the use of Winget, Microsoft Store Applications, and self-updating applications. The addition of self-service streamlined support while the project also simplified onboarding processes. Furthermore, by eliminating image management, National Gas and Capgemini ensured that future updates, patches, or new application introductions would proceed more smoothly.

All of this was managed while delivering a solution that could scale easily in response to future projects. This meant that while National Gas transitioned from National Grid, it obtained a solution that addressed its immediate needs and enabled future innovation. Meanwhile, streamlined processes ensured AVD could be applied to a variety of cases and locations, as demanded by the industry in which the company operates.

## The solution continues to scale

The first phase of the project supported by Capgemini saw the design and implementation of a couple of hundred AVDs for developers and data scientists. It has since become the solution for over 4,000 users and Capgemini and National Gas are now exploring how to introduce multi-session machines for specific use cases, delivered through infrastructure as code (IaC).



*The AVD Environment designed and developed by Capgemini has been pivotal to the success of literally every single in house developed application that National Gas are developing or have recently released. It's easily scalable and has been able to meet every business demand to date that National Gas have asked for if not more."*

**Nikhil Kotadia**

Environment Delivery Manager  
National Gas



*The AVD environment has been created by Capgemini in such a manner that it makes things easier and quicker; namely catalogues of pre-canned tools that can be assembled rapidly. It also provides the flexibility for us to add and change in the future."*

**Darren Curley**

Chief Technology Officer  
National Gas

# About Capgemini

Capgemini is a global business and technology transformation partner, helping organizations to accelerate their dual transition to a digital and sustainable world, while creating tangible impact for enterprises and society. It is a responsible and diverse group of 340,000 team members in more than 50 countries. With its strong over 55-year heritage, Capgemini is trusted by its clients to unlock the value of technology to address the entire breadth of their business needs. It delivers end-to-end services and solutions leveraging strengths from strategy and design to engineering, all fueled by its market leading capabilities in AI, cloud and data, combined with its deep industry expertise and partner ecosystem. The Group reported 2023 global revenues of €22.5 billion.

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