

RSC Mass Windows Migration to AWS



ROYAL SOCIETY OF **CHEMISTRY**

The Royal Society of Chemistry (RSC) is the world's leading organisation in curating and publishing chemical research information and promoting Chemistry in education. Through their Royal Charter, granted in 1980, they have focused on the advancement of chemical science and are an internationally-renowned not-for-profit publishing and knowledge business, with a reputation as an influential champion for the chemical sciences.

To support their business operations, they have deployed a significant datacentre infrastructure over many years which, due to business pressures, growth and demand, has not been actively maintained and kept up to date. The knock-on effect of such 'refresh' delays was that the overall IT Landscape has become outdated, with significant "technical debt" in the shape of systems running on obsolete operating systems, hardware and code.

As a result, the IT solutions supporting their business operations were starting to struggle in a number of key customer-facing areas and were no longer able to support their rapidly changing business needs, which were shaped by increasing digitalisation and a need to innovate services, both business and IT (for example through the provision of enhanced availability and redundancy at both the business and IT levels). In addition, several components of this IT Architecture were running out of support contracts and needed urgent upgrades or wholesale replacement.

The IT transformation journey to address all the concerns and issues identified, started with an evaluation of all major Public Cloud providers, which resulted in the selection of AWS as the strategic platform choice for the future. This decision was followed by the creation of a Cloud Centre of Excellence, with support and guidance from HeleCloud, to help align the whole company towards an optimal adoption of AWS, aligned to best practices and Public Cloud adoption principles. This was seen as critical in helping the RSC realise the business benefits of Public Cloud adoption, that drove the selection of AWS.

In parallel, HeleCloud deployed their Landing Zone and CI/CD pipelines solution accelerators as the first step in helping the RSC to transform into the AWS world. The next major stride in the AWS Cloud adoption journey was the migration of all their legacy applications onto the AWS Landing Zone. That journey started with a HeleCloud assessment of their legacy environments and applications, through a Migration Assessment Planning (MAP) project. This was executed jointly with RSC and it laid the foundations of the technology transformation and the treatment of each application against the **6Rs principles of Public Cloud migration:**

Re-Host – (“lift and shift.”) Move applications without changes.

Re-platform – (“lift, tinker, and shift.”) Make cloud optimizations to achieve a tangible benefit.

Re-factor / Re-architect – Rebuild application architecture using cloud-native features.

Re-purchase – Move from perpetual licenses to a software-as-a-service model.

Retire – Remove applications that are no longer needed.

Retain (re-visit later) Leave as-is for now and come back to them later.

The MAP project revisited the business case, creating an in-depth understanding of every application within their technology ecosystem, covering size, complexity, dependencies, business impact and other key factors. It also identified and created a plan for addressing the business impacting change that such a technology transformation would have imposed upon RSC during execution.

Once the MAP outcomes were accepted and signed off by RSC, HeleCloud, in close co-operation with the RSC’s technology and business teams executed the systems migrations, against aggressive timescales without business disruption, even with other projects running in parallel. The migration project adopted the principle of a ‘Migration Factory’ and was executed according to the AWS Migration Acceleration Programme Principles, which ensured planning and execution were flawless from start to finish.

Migration was executed in two phases:

- Phase 1: Corporate Workloads
- Phase 2: Publishing Workloads

The breakdown of migrated VMs and duration per Phase:

Project Phase	Workloads
Phase 1	47
Phase 2	49

During the migration there were certain workloads that were identified that could be replatformed into AWS managed offerings such as:

- Windows shared folders on file servers being migrated into AWS FSX,
- Microsoft SQL replatformed to RDS MS SQL.

The benefits to RSC in using these AWS services are lower operational costs, through lower maintenance demands, freeing up time for service optimisation activities.

As a result, RSC now has a stable solution architecture, with no legacy systems or technical debt, that can be constantly and consistently tuned and managed to deliver reliable performance across the entire IT estate and all back-end and customer-facing operations.

In particular, key IT team members have been freed up from a significant maintenance burden and are now able to focus their efforts on incremental systems improvement, without heavy demands on their time to fire-fight issues in legacy systems within their datacentre, meaning constant improvement is their new normal.

The next step of the journey for RSC into AWS is proudly supported by the HeleCloud 24/7 Cloud Operations service, enabling them to continually optimise and innovate in the cloud.

HeleCloud proactively monitor, manage and continually make improvements to the RSC workloads to ensure a fully compliant, secure and optimised environment.

Helecloud have been critical in delivering both the CCoE to underpin the designs, processes and governance for our cloud capability, as well as helping us build a secure, stable and scalable AWS platform for our cloud migrations and operations moving forward. This has given us the ability to rapidly modernise and innovate our applications, as well as invest in the training and skills for our staff needed on our journey to cloud and DevOps maturity.

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