



Helping the London Borough of Hillingdon realise the benefits of cloud migration

Find out how Agilisys helped the London Borough of Hillingdon rationalise and migrate the majority of its server estate to the Microsoft Azure cloud to reduce costs, enhance security and deliver improved business continuity and disaster recovery.

Agilisys



At a glance

- An ageing IT estate was modernised to help make future digital ambitions achievable.
- The programme addressed or migrated 85% of the original Hillingdon server Estate comprising 420 servers across three sites.
- Simplification of server estate delivered - Hillingdon's MS-SQL estate downsized and consolidated from 72 servers running nine versions and editions of MS-SQL to seven server clusters with two versions.
- Legacy backup service replaced by native Microsoft Azure backup.
- 36 business services and 10 core IT services migrated.
- Programme led to deployment of Windows 10 and replacement of GSuite with Microsoft 365 collaboration tools.
- Tried and tested, structured cloud migration methodology followed
- Programme was delivered entirely remotely during the peak of the COVID-19 crisis



Challenge

- Modernise and simplify existing IT estate
- Drive modern ways of working by enabling anywhere, anytime access to data and services
- Save costs by rationalising server estate and migrate to the cloud wherever possible
- Replace outdated business continuity programmes with modern, robust cloud-based programmes based on Microsoft Azure.



Solution

- Tried and tested Prepare, Discover, Migrate, Manage and Optimise Cloud Lifecycle Methodology utilised by Agilisys.
- Buy-in achieved from all business stakeholders, not just IT.
- Opportunity identified to downsize and consolidate Hillingdon's MS-SQL estate.
- Decommission of 50 dormant servers before migration.



Impact

- All phases of the migration programme were delivered on time and well within budget.
- Replaced legacy backup service with native Microsoft Azure backup service.
- Stability issues resolved across a number of services.
- Re-architected systems to deliver simplicity and ensure cloud compatibility.
- Retirement of multiple obsolete applications and upgrades to 70% of the remaining application estate.



Organisational Information

- Industry & Core Business – Local Regional Government
- Geography – United Kingdom
- Approximate number of employees – 3,566*
- Workloads migrated, Windows, Linux Servers & SQL Databases

* Latest published information



Challenge

Building the foundations of a digital local authority

The London Borough of Hillingdon recognised the need to overhaul an ageing IT infrastructure that would help it realise future tech-focused ambitions, underpinned by a server migration to the cloud.

The London Borough of Hillingdon – the second largest in terms of geography and fifth largest economy of London’s 32 boroughs – serves over 312,000 residents.

Faced with very similar problems to many other local authorities and recognising the need to transform, Hillingdon chose to work with Agilisys to forge a robust strategy, business case and solution delivery that overcomes multiple challenges:

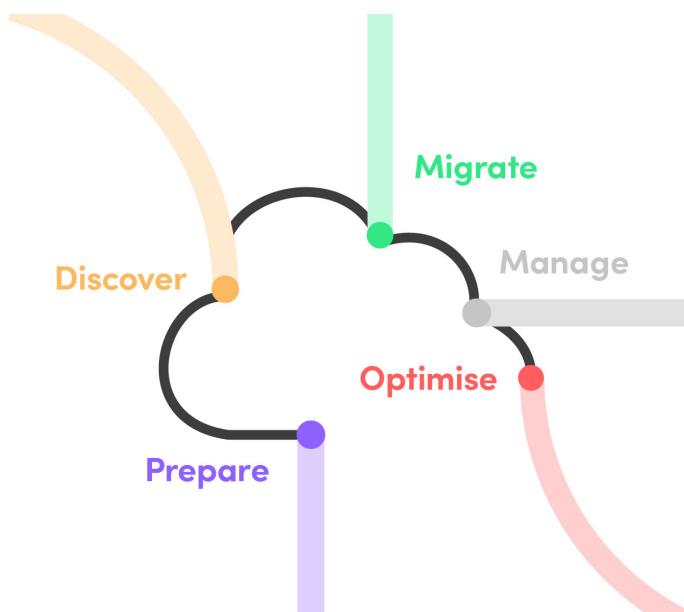
- An ageing IT estate in need of modernisation to help materialise future ambitions for a more digitalised society.
- Drive ubiquitous ways of working and access to data and services from any location at any time.
- Helped avoid a significant investment to bring their primary data center up to current technology standards.
- Migrate and retire a second, much smaller remote data centre originally purposed for business continuity and disaster recovery, which was no longer fit-for-purpose.
- Migrate and retire a third outsourced data centre hosting several key business services where the contract was scheduled to expire.
- Rationalise or update platforms and applications that had fallen behind in terms of compliance and updates.
- Identify and repair the many single points of failure with the recognition that if there was a major outage, it would undoubtedly be at the very least challenging or impossible to fully recover key business services.

Methodology

Cloud migration using a tried and tested methodology

Agilisys led Hillingdon through its Prepare, Discover, Migrate, Manage and Optimise to address challenges and successfully deliver a full migration programme.

With every cloud migration programme, Agilisys uses a well proven and continually evolving Cloud Lifecycle Methodology:



This model offers a certainty of outcome. In migration programmes such as this work with Hillingdon, where a high degree of command and control with gated go/no-go decision points is required, this is especially important. The

methodology and its supporting processes provide a robust framework that enables a cost-effective and predictable outcome, as Hillingdon discovered.

Rather than focusing on servers, the clear approach Agilisys takes with customers like Hillingdon is that business services are being moved, not just hardware and associated software.

Although this was an IT department led programme, the impact reached across the whole organisation. At every opportunity, Agilisys sought to work with Hillingdon's IT department and gain business stakeholder buy-in through the complete migration process.

Prepare

In the initial Prepare stage, a team of business and technology consultants from Agilisys sought to understand the council's future business strategy, ways of working and current operating challenges. Supported by a series of workshops, interviews and exploration of Hillingdon's existing IT platforms and business services, a detailed dashboard was built to summarise IT value standards and maturity of services. With a clear understanding of the existing operating costs, infrastructure and business applications lifecycle, a longer-term cloud-based IT strategy and business case was published for the council to seek cabinet approval for the next stage implementation programme.



As a result of contractual commitments with an external service provider, the overall migration programme was delivered in two phases:

1. Establishing a Microsoft Azure cloud landing zone and migration of services from the outsourced data centre.
2. Further development of the landing zone and migration of services from the council's data centres.

Each phase progressed using the cloud lifecycle methodology.

Discover

Using market leading tooling and a meticulous process, Agilisys undertook a detailed audit of the present IT estate. The output from this stage concluded with publication of a playback report that summarised the technology architecture of individual business workloads, the best method of migration, the target Azure environment architecture and consumption costs.

In addition to the discovery tooling, a questionnaire confirmed the business perspective and application vendor support for operating their products in cloud.

This discovery process achieves a number of outcomes to eliminate:

1. Dormant servers.
2. Unused application services.
3. Services that in the short term will be retired and/or replaced in the timeframe of the migration programme.
4. Programme complexity by identifying and understanding the roadmap of application upgrades and enhancements to align them with the migration activities.

This level of information enabled a straightforward migration planning process, targeting which workloads needed to remain, what would be best migrated to SaaS rather than Azure, additional optimisation opportunities and a migration roadmap aligned to the council's business activities.

Migrate

The successful completion of the first phases had a fixed end date, driven as a result of the contract expiration of an outsourced data centre facility.

Within a very tight timeframe, an Azure landing zone and foundation services was built.

This was based on the Agilisys Local Authority reference architecture, developed using Microsoft and other industry best-practise to conform with PSN security and other regulatory standards the public sector needs to adhere with.

To improve network connectivity, diverse and high speed MPLS connectivity with ExpressRoute was established into the Uxbridge Civic Centre. Temporary high-speed network connectivity was also established in the third-party data centre to facilitate rapid and direct data migration into Hillingdon's Azure tenancy.



In order to build up business stakeholder confidence, our migration process utilised a wave (four to six weeks) t-minus approach that prioritised non-production services and less complex or non-essential production services.

Comprehensive run-books including roll-back decision points and plans were developed and agreed with the council to support all elements of the migration process.

In a small number of cases, proof of concept environments were built to enable application vendors to optimise and certify their products as cloud ready.

In the main, a lift-and-shift migration technique was used, but where application upgrades or re-architecture was required, a build-ahead approach with a data migration was used.

It is worth noting, to attain cloud and application vendor compliance, several cases of mandatory operating system and application upgrades were completed ahead of any migration activity.



Agilisys takes a risk-based approach to migration testing, focusing only on the points of change. As Hillingdon later acknowledged, this approach speeds up the migration process as the application code and business logic remains stable, only the underlying host platform is changing. A baseline performance test was completed ahead of any migration with a business user to help confirm the health of the service and establish transaction times of typical user journeys within an application. These test scripts were repeated at the end of the migration as User Acceptance Tests. Further system and operational acceptance testing took place before service handover to an on-site operations team.

Our approach to defect management allowed for minor issues to be carried forward, but through a structured and pragmatic process rapidly closed any issues caused by the migration process.

Manage

In the case of the London Borough of Hillingdon, Agilisys handed over to the customer's Operations Team. An operational acceptance process and checklist was used to provide assurance on each service as it was transferred over.

Various workshops were delivered to enable the general knowledge transfer of some Azure tooling configuration as well as the standard inventory and financial controls Agilisys use across our customer base.

Without exception at the point of handover none of the migrated applications experienced any failures or issues as a result of the migration process.

Optimise

The Agilisys approach to migration facilitates consolidation and rationalisation through the migration process. In the case of Hillingdon, as a result of discovery, 50 dormant servers were decommissioned ahead of any migration activity. Many of the servers migrated were rightsized as a result of the migration programme, which either helped with existing under capacity issues or reduced operating costs where they may have been over capacity.

Post migration, processes and outputs were systematically reviewed and, after they had run for one month, established the best tariff for a particular platform whether it be PAYG or Reserved Instance (RI) depending on the usage and lifecycle of the business service being hosted.

Also, during the programme a major opportunity was identified to downsize and consolidate Hillingdon's MS-SQL estate from 72 servers running nine different versions and editions of MS-SQL to seven server clusters with two different versions. This achieved significant ongoing cost savings and simplification of the environment with a higher level of availability.

Going forward, Agilisys is managing Hillingdon's Cloud Solutions Provider (CSP) agreement. All invoicing, cost management and inventory control is delivered through a SaaS based service.

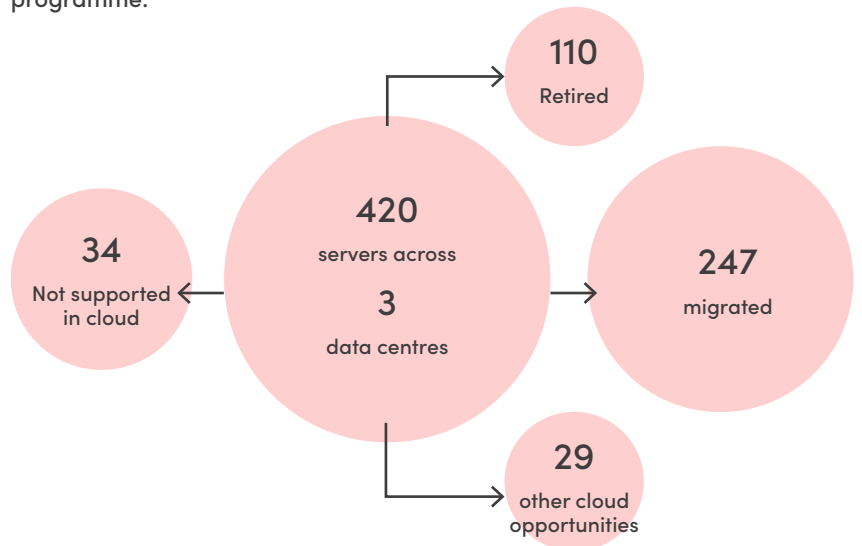
Impact

Cloud migration unlocks digital benefits



On time programme rollout delivers simplified IT architecture, robust business continuity, significant cost reduction and improved security.

Following completion of the Prepare, Discover, Migrate, Manage and Optimise Cloud Lifecycle Methodology, the future of each of the 420 servers on the Hillingdon estate was identified, across both phases of the programme:



The Agilisys Cloud Lifecycle Methodology recognises there are some services that simply will not migrate or there would be a negative benefit in doing so. In the case of Hillingdon:

1. The programme addressed or migrated 85% of the original Hillingdon server estate.
2. Where there is additional cloud, (primarily SaaS based telephony) importunities, a further 6.9% could be eliminated.
3. Through a lack of cloud support, this left just 8.1% of the server estate resident in the Civic Centre.

In total 36 business services and 10 core IT services were eventually migrated.

As well as being able to close the disaster recovery site and recover network connectivity costs, this has also created an opportunity to replace the onsite data centre with a much smaller computer room and a minimal hardware footprint.

This programme has also resulted in the award of an ongoing End User Compute programme to deploy Windows 10 and replace GSuite with Microsoft 365 collaboration tools across the organisation.

The full programme benefits in summary:

Consolidation

- 72 servers with 9 different MS-SQL versions down to 7 server clusters & 2 versions of MS-SQL

Service Availability

- Replaced legacy backup service with native Microsoft Azure Backup Service
- Civic centre no longer a central point of failure for the services that have been migrated
- High speed and redundant network connectivity into the Civic Centre
- Azure Site Recovery, allowing failover between Azure regions
- Resolved stability issues on a number of services

Simplification

- Re-architected 2 complex systems working with the vendor to ensure cloud compatibility

Operational Support

- Replaced legacy monitoring service with Azure Monitor
- Published architectural documentation for all of the migrated systems
- Handed over the cloud service to business-as-usual team
- Stabilised and improved critical services that had been previously unreliable

Rationalisation

- Retirement of a number of applications which were either obsolete or being replaced with SaaS solutions.
- In addition to OS upgrades more than 70% of the application estate was upgraded as part of the migration process resolving a number of legacy third party hosting compliance issues.

Security

- Improved security with the introduction of perimeter firewall enhancements



Partnership
Integrity
Innovation
Passion

Agilisys

Agilisys, an employee owned organisation, is one of the UK's fastest growing and innovative cloud and digital transformation specialists, enabling organisations to adopt technologies, platforms and processes that promote new ways of working.

An established partner for both the public and private sector for nearly two decades, we have earned a strong reputation and hold deep domain expertise delivering change and innovation, particularly within local and central government.

We support our customers through a network of offices and centres of excellence throughout the UK, employing over 1,500 staff across the UK.

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