Case Study: Transitioning to the Cloud – Harris Federation's Journey to a Cloud MIS

The Harris Federation is a not-for-profit charity with over 25 years' experience of education in and around London. They have built a reputation on a family of academies that, across the board, are setting standards of excellence and fulfilling high expectations.

The Federation works with struggling schools in London and the South-East whose results and performance are previously, and sometimes historically, very poor.

Despite this context, at secondary they are the highest performing Multi Academy Trust for Progress 8 and have been so since Progress 8 was initiated across all schools. At primary, the Federation has above average progress in Reading, Writing and Mathematics, 1 of only 8 large MATs to achieve this in 2017/18.

In 2015, The Harris Federation embarked on a project to replace their MIS, a combination of Facility CMIS at secondary and Capita SIMS in primary.

Project Initiation

The project was initiated by two key factors; firstly, a natural end to two long MIS contracts and secondly, a need to consolidate disparate systems and build on MIS functionality to suit their needs, both at academy and Multi-Academy Trust level. Such needs suggested the need to move towards a new, modern and cost-effective solution that would bring time and financial savings across the Federation.

Whilst it was obvious that a new solution was required to achieve these savings, as with any plan of this magnitude, managing the expectations and engagement of key stakeholders within the Federation would be paramount to the success of the project.

Early engagement with key system users within the schools about what they wanted in a new system, along with a separate meeting of senior leaders, helped to shape the Table of Requirements that would be central to the procurement process.

Interestingly, managing the expectations of key system users within the school was the most challenging part of the process. Aside from the obvious issues of cognitive dissonance (common among those who have done a job in a certain way for several years) there were the usual barriers to change experienced in a change management programme of this type.

Below are several, typical barriers to change and the solutions used by the Federation to attempt to mitigate those risks:

Lack of colleague engagement / involvement
The Federation engaged in consultations with key members of administrative and teaching staff in each academy prior to the project start. This process helped to shape the Table of Requirements illustrated in Table 1.

Lack of effective communication
Engagement with Principals and senior leaders at all levels was key and consequently they were invited to all presentations.

To improve communication, a project website and email account was created to inform key stakeholders throughout the project.

Colleagues feeling their job/position threatened by the process of change
To combat this, data managers and key administrative staff were involved in consultation meetings prior to the project starting. As illustrated above, feedback from these colleagues was used as part of the tender requirements.

Lack of understanding of the reasons for change
Here it was essential to clearly explain the legality and requirement for the tender process. Employees' feedback and frustrations with their current system was used as driver for change.

Colleagues develop familiarity with current system leading to fear of change
The project included a clear plan for professional training and for a central resource, providing training and first line support.

Colleagues not understanding the project scope, deadline or deliverables
A clear project Gantt chart was sent to all stakeholders with regular communication and consultation to make sure project deliverables were met on time.
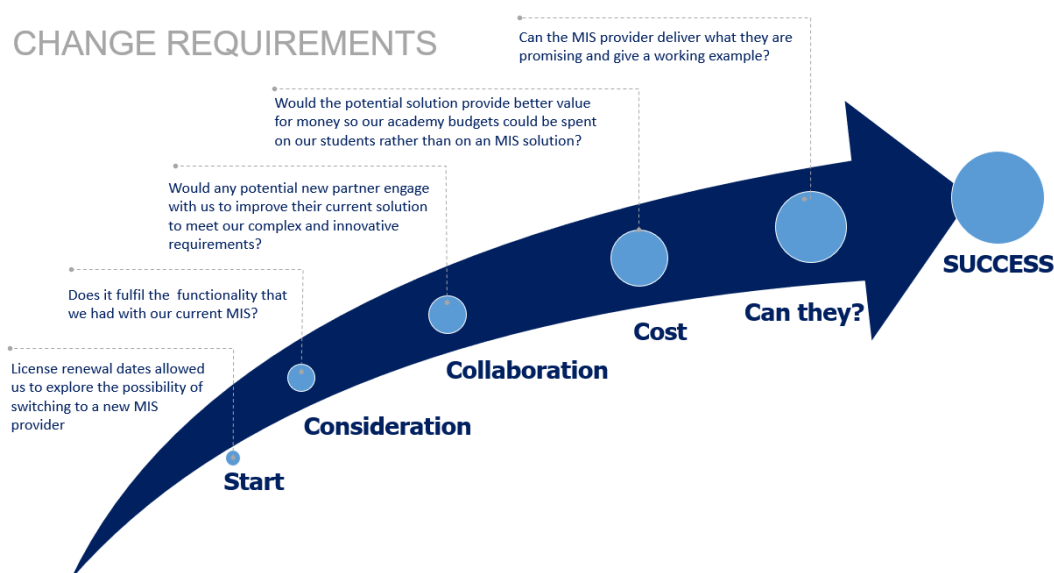
The only brief directed by the Federations senior management teams was that:

"…UNDER NO CIRCUMSTANCES WOULD WE ACCEPT A SOLUTION THAT OFFERED LESS THAN WE ALREADY HAD."

"IT WOULD NOT BE FAIR ON OUR COLLEAGUES, AND CONSEQUENTLY OUR STUDENTS, TO CHOOSE A SOLUTION BASED ON COST ALONE…"

Table of Requirements

All perspective providers were given a list of system requirements that would be scored as part of the procurement process. The Federation gave clear, succinct requirements under the headings as shown in Table 1.

Whilst some of the below are self-explanatory, some, including data management and sixth form were very specific.

For data management, the MIS provider was required to provide a platform so that Harris could continue to manage their complex data and assessment processes, which includes the fast standardisation of test data with analysis through their HELM analysis tool.

A great emphasis was placed on finding a solution that could achieve the following:

- To remove the need for double and manual entry of data
- To link all areas of academy data
- To reduce the number of data sources
- For data to be 'live' and quickly accessible
- For data analysis practices to be efficient and less time consuming
- For HELM to work effectively across all phases of education

For the sixth form, The Harris Federation operates a setup that is unique to them, being that they are the only single centre sixth form to operate across a cluster of academies.

The requirements set to all prospective MIS providers was to be able to achieve the following:

- Able to timetable students across multiple sites.
- Able to maintain student records from all sites where student is timetabled.
- Record attendance, behaviour & exclusions and assessment data across multiple sites, and report/analyse centrally.
- Return census for Post 16 students and their learning aims at individual academy level.
- Return public examination data as a single centre number.
- Teachers have one MIS sign-in at both academy and Post 16 level.

Table 1. Table of Requirements	
Staff & Student details	Reporting
Admissions	Sixth Form
Assessment	General System
Formal Examination management	Hosting
Attendance	Access and Security
Behaviour Management	Data management
SEN	Implementation
Timetable management	Interoperability
Support	

Procurement

Using the Crown Commercial Services (CCS) IMLS RM1500 Framework procurement framework, the Federation invited presentations from all interested providers – Capita SIMS, RM Integris and Bromcom.

All providers would be scored across two primary areas; up to 85 points awarded across 17 system compliance areas and 40 points for the cost. Thus, 32% of the total points awarded would be for cost.

Before the final decision was made, the Federation wanted additional clarification on two key factors:

Firstly, to confirm that the providers had the technical capabilities to manage the migration, and secondly, to present to all principals to gain additional 'buy-in' to further support the change management process.

A. Test Migration – Harris City Academy Crystal Palace:

The Federation identified this academy's MIS to be the biggest risk to the migration process. As the centre for both a large, outstanding secondary school and a major hub within the Harris Sixth Form, this existing school's MIS contained a lot of data.

The level of complexity was further enhanced due to a labyrinth of sophisticated user defined fields and custom configurations which were necessary to make Facility CMIS work how they needed it to. Given the complexity of migrations from CMIS to SIMS, and indeed the failures shown when migrating from CMIS to Progresso, there was an apprehension that the migration would not be as seamless as Bromcom purported it to be.

Within 24 hours of obtaining a copy of the CMIS database, a fully working mock migration was presented back to them. A senior member of the Harris Federation data team described it as "unbelievable".

B. Demonstration to Principals:

Prior to the award of the contract, Bromcom were invited to present to all academy Principals. This was done to as an exercise to improve engagement among senior leaders and to seek to gain 'buy-in' into the change management process.

It was such a success that Andy Meighen, IT Director, commented in a recent presentation at the Shard that the principals contacted their schools *during* the presentation to cancel pending orders for 3rd party applications.

This is further proof that Bromcom is a solution that allows schools to save on those hidden costs associated with expensive and often ineffective 3rd party products.

A decision was made in principle to award Bromcom the contract, which interestingly was not the cheapest option but scored an impressive total of 86% of the points that were available.
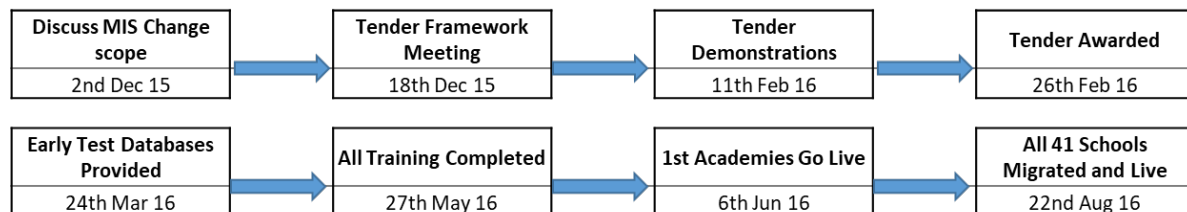
Migration and Implementation

At the time of the project, the migration of data for the Federation was for 40 schools plus one shared 6th form. Due to contractual complications with their existing MIS providers (Facility CMIS and Capita SIMS), the Federation needed to complete all migrations during the 2015/2016 academic year, ready for the start of the academic year in 2016/2017.

This was an ambitious plan, with only 3 full months between the awarding of the contract to the first batch of 6 schools going live on Bromcom.

The first benefits to both parties was the low staffing resources that were required. Because of Bromcom's proven migration process (demonstrated during the tender demonstrations where one school with 10+ years of data was migrated in full, in 24 hours) the Federation's Head of Data & MIS was able to manage the project management and BAU with only a central team of 3 people.

A project timetable was quickly agreed between both parties, and every effort went into ensuring that every deliverable was realised on time.

Discuss MIS Change scope	Tender Framework Meeting	Tender Demonstrations	Tender Awarded
2nd Dec 15	18th Dec 15	11th Feb 16	26th Feb 16

Early Test Databases Provided	All Training Completed	1st Academies Go Live	All 41 Schools Migrated and Live
24th Mar 16	27th May 16	6th Jun 16	22nd Aug 16

After the awarding of the tender, Bromcom were able to provide early versions of migrated data for all 41 schools. This consequently enabled the Federation and their academies to quickly check for errors in migration, perform any data cleansing that was required and use 'real' data for all staff training.

Training was delivered by Bromcom in 10 key functional areas across 10 days. Each academy provided 1 super user to each session along with a further 2 colleagues dependant on the functional area that was being covered. This approach ensured that key staff members were trained on all aspects of their day to day roles, and that a super user existed at both academy and Federation level.

Federation staff delivered on site training to all teachers on the morning of go live in Monday morning staff briefings. Such is the ease of Bromcom's UI/UX[*], a 15-minute training session was all that was required. A combination of Federation designed and Bromcom's own user manuals were also provided to all staff to supplement learning to help embed the system further.

It was agreed that the migration of academies would be done in blocks of 6 at a time with a backup copy being taken on a Friday evening and go live occurring on Monday week.

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[*] UI/UX stands for software characteristics relating to User interface and user experience.

Day	Activity
Friday	Existing database backed up and sent to Bromcom
Monday to Wednesday	Bromcom migration process takes place and is tested by Bromcom
Thursday	Bromcom database made available to Federation data team for final checks and user accounts set up
Friday	Database handed over to the academy. Accounts issued and tested
Monday	Bromcom go live, existing MIS switched off

It was noted in a follow up presentation by the Head of Data & MIS that during the migration process "Almost no work was required by us (Harris Federation) to facilitate this process"

In total, 41 academies were migrated, including the design, building and implementation of a new, bespoke 6th form solution, with 40 of those migrations occurring without issue. 1 migration was delayed due to an internal error on a timetable using Capita SIMS/Nova T. Once rectified this was re-migrated in a different phase and the project was completed on time.

Technical and Procedural Benefits

Harris had previously employed a hybrid infrastructure comprising Facility CMIS servers on 20 sites and centralised servers for 20 schools using SIMS. Harris moved all 40 schools to the fully-clustered Private Cloud set up, illustrated here.
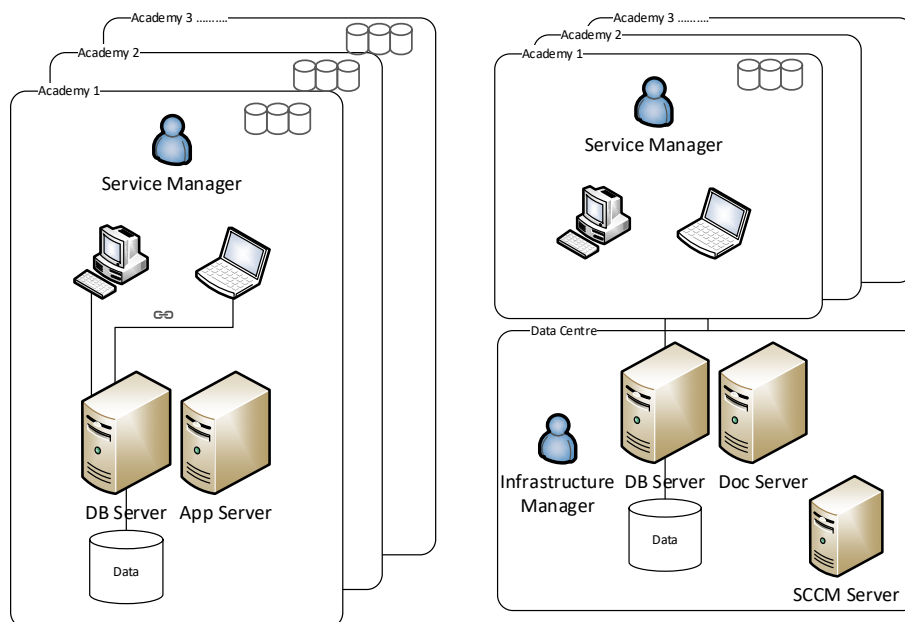

One of the primary drivers for change was to move towards a modern cloud solution that would result in less physical infrastructure costs, coupled with a demand on staff resources.

Frequent upgrades on the old MIS could incur up to 30 working days per upgrade cycle which could occur 3-6 times per year. Releases were often with bugs, so duplication of work was commonplace.

With both solutions illustrated above there was no effective disaster recovery (DR) solution in place (with the exception of a rebuild from back-ups) and it was further convoluted by an over-reliance on 3rd party applications to supplement the functionality of the existing MIS solutions.

I.T. IMPROVEMENTS AND BENEFITS OF BROMCOM

1	Improved DR and resilience
2	Private Cloud reduced costs/space required for hardware
3	Single interface and server for all Academies
4	Reduces requirement for multiple log in accounts
5	Modern web based adaptive design
6	Full web based API
7	Flexible hosting options
8	Flexible and agile supplier
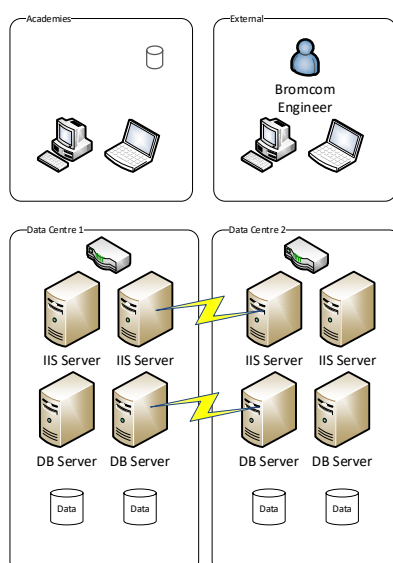
The new cloud solution saw a significant reduction in infrastructure need, and therefore cost. Data is replicated in real time to a second data centre with each cluster having a load balancer to ensure high quality service.

Bromcom is upgraded, for free, remotely by Bromcom and is performed out of hours to negate any impact on the working day.

Improved DR solution and system resilience has seen an almost 100% uptime of the system during core hours.

Further savings were realised by having an integrated SMS solution, which came at a reduced cost per SMS and also removed another unnecessary 3rd party application.

Impact of Change

The impact the new MIS has had on the Federation's data and assessment methodologies has been wide ranging and significant.

Using a variety of tools within the MIS (MAT Vision, MCAS), complemented by integrated solutions (Power BI, Excel Add-in), has improved the operational effectiveness of the Federations administration teams.

Automated and scheduled reporting has meant that data is accessible and used in a timelier manner and isn't reliant on the user having spare time, which is of course at a premium when working in these outstanding academies.

Automated behaviour systems have reduced the administrative burden on colleagues, allowing free time to be spent on intervention strategies to improve behaviour and the life chances of all pupils.

Central teams are able to produce standardised reports and templates which can be rolled out to all academies at the click of a button. This enhances the Federation's standardised approach which is led by best practice and pro-active collaboration.

This improved way of working has led to significant cost and time savings, with over a thousand hours of manual data entry saved per annum versus their previous MIS set up. A reduction in 3rd party applications has also reduced any significant GDPR risk. The new 6th form solution has revolutionised the way the centre is administered and has significantly reduced the administrative burden in the central team, leading to a reduction in staff costs through natural turnover.

Cloud based technology has improved working practices for staff, allowing for a flexible way of working to help improve staff workloads. This flexible approach has also improved access to crucial functionality when off site or while using P.E. resources.

Cost Benefits

When assessing the true impact of an MIS, you should not just look at the MIS license cost. There are a number of other costs associated with a legacy server hosted MIS. A new modern MIS solution, delivered by the cloud, reduces significantly this financial burden.

The annual financial saving to the Federation was over £520,000, over £13,000 per school*.

Cost Type	Description	MIS 1 Total	MIS 2 Total	MIS 3 Total
Infrastructure	Electricity	£1,000	£22,000	£4,000
Infrastructure	Purchase over five years	£2,000	£42,000	£8,000
Infrastructure	Windows license	£200	£7,040	£1,280
Licensing	SQL License	£1,000	£800	£800
Licensing	Implementation and licensing	£534,081	£300,000	£103,017
Licensing	Additional 1st Line Support	N/A	N/A	£12,000
3rd Party Licensing	Primary 3rd party MIS (EYFS)	£120,000	£120,000	N/A
3rd Party Licensing	Assessment Analysis Add-On	£10,000	£10,000	N/A
3rd Party Licensing	SMS parent comms license	£80,000	£80,000	N/A
3rd Party Licensing	SMS texts	£100,000	£100,000	£50,000
Developments	One off Dev Costs for Enhancements	N/A		£30,000
3rd Party Licensing	Homework management apps	£24,000	£24,000	N/A
3rd Party Licensing	Parent evening booking apps	£10,500	£10,500	N/A
Staffing Cost	System Upgrades staff time (days)	£6,000	£6,000	N/A
Staffing Cost	Migration Costs - Supplier Cost	£12,000	£12,000	£22,000
Staffing Cost	Migration Costs - Exporting and formatting	£16,000	£16,000	N/A
		£916,781	£750,340	£231,097

* These costs are from 2016 and may not exactly reflect current pricing.

These savings do not factor in the cost in reduced staffing costs that have been achieved within schools.

Conclusion

It has been well publicised what impact Bromcom have brought to the Harris Federation. With testimonials from key members of staff available via our YouTube channel, you can hear first-hand the feedback on the benefits that Bromcom has brought, whilst openly reflecting on the areas that had and still have room for improvement.

Finally, a recent presentation from Harris reflected on the last 3 years of Bromcom, post implementation with the headline figure showing a saving of £2.8 million over 3 years.

What has Harris achieved since 2016?

- Saved £2.8 million on the MIS system over 3 years.
- We have got to know all the modules better and this has led to further savings as 3rd party software has been cancelled and Bromcom used instead, this has been really important given the new GDPR rules.
  MCAS, Show My Homework, Medical Tracker, SEND Profile…..
- BromCom is spreadsheet friendly, we like spreadsheets so is major for our schools, many packages do not do this so well.
- Due to the ease of Bromcom, it allows the end users to run their own data independently in many cases, along with an expert Central Team.
- Most school have now **not** got a Data Manager of their own, some manage with the Central Team, some employ 1 person across a group of schools, this allows for further savings.
- We have developed an effective and efficient way to get data to the Federation Board which is accurate, with no work from the schools, e.g. attendance and exclusions by key groups, demographics across schools, so benchmarking data can be shared.

References: Presentations by Harris Team at the Shard MAT Event:

Shard 2017 - MAT Event:
- Derek Hills - Head of Data and MIS: https://youtu.be/trzsD667urc
- Andy Meighen - Director of IT: https://youtu.be/w2xNweykJ-c
- Derek Hills - Head of Data and MIS: https://youtu.be/CAe6V-JHJQU

Shard 2019 -MAT Event:
- Carolyn English –Director of Secondaries: https://youtu.be/bGzOmwlgS0A