

# LEADING UK EXAM BOARD CUTS COSTS, INNOVATES WITH END-TO-END OPEN SOURCE SOLUTION

## FAST FACTS

Industry	Education
Geography	United Kingdom
Business Challenge	To launch an extranet service that would be available to its external users of more than 35,000 examiners and moderators
Migration Path	Proprietary, closed solution to a more cost-effective and flexible platform based on JBoss Enterprise Application platform
Solution	<b>Hardware:</b> HP x86 based commodity servers <b>Software:</b> JBoss Enterprise Application Platform, JBoss Enterprise Portal Platform, Red Hat Enterprise Linux, Alfresco ECM, Enterprise DB
Benefits	Reduced total cost of ownership (TCO), including cost and efficiency savings of £250,000 per year, and freedom from vendor lock-in



## BACKGROUND

The Assessment and Qualifications Alliance (AQA) is the largest of the three English exam boards. It is the leading provider of qualifications for UK schools and colleges, awarding 49% of full course GCSEs and 42% of A-levels nationally. In total, over 3.5 million students take exams with AQA each year.

AQA is an independent registered charity, with no shareholders, therefore all of its income is used to run examinations and carry out research and development to improve its qualifications and services.

AQA employs 1050 permanent staff across its offices, headed up by its Executive Board. The organization also works with about 35,000 teachers, lecturers, advisers and consultants who assist in setting and marking exams.

AQA is committed to using modern technology to enhance the quality and accuracy of the examination process for the benefit of candidates and is always striving to modernize its assessment process.

## BUSINESS CHALLENGE

AQA needed a secure extranet service that would be available to its external users of over 35,000 examiners and moderators. This extranet would contain valuable and important documentation allowing users to mark exam papers more effectively, eliminating the previous paper based process of printing and posting.

Security was a big consideration as all examination papers and marking schemes were held on the system along with overall guidelines on marking the papers. AQA needed a secure platform that would not be openly accessible. It was also important that the new system allowed users to access a variety of documentation twenty-four hours a day seven days a week.

AQA had a system built around a more traditional, proprietary architecture that was too restrictive and costly to maintain. In order to reduce the costs associated with licenses, support and maintenance, AQA decided to replace all the proprietary software with open source solutions. This migration allowed AQA to benefit from an end-to-end open source solution deployed on open standards and at a value point that would allow AQA to continue to innovate into the future.

"We were spending six-figure sums every year on printing and posting documentation to examiners alone. We wanted to develop an extranet that could replace our paper-based manual processes with electronic documentation that could be easily updated," explained Peter Morris, Programme Manager, AQA. "Prior to the implementation, we considered all the major vendors, but chose an open source strategy as it offered similar and even superior levels of functionality, security and quality, but at a tenth of the cost."

Because of the high demand for AQA's services the entire solution needed to be deployed, tested and put into production in just six weeks.

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- Peter Morris, Programme Manager, AQA

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## SOLUTION

AQA evaluated a number of open source solutions that could offer an alternative software delivery model to its existing closed proprietary solution.

AQA had an existing relationship with Red Hat and had been using the Red Hat Enterprise Linux platform for its servers for some time. Knowing that the same high quality support structure, value and superior technology development extended to JBoss Enterprise Middleware, AQA decided to migrate to the JBoss Enterprise Application Platform as well. The overall stack proved to be far more cost effective than its competitors and significantly less expensive than keeping the existing legacy systems in place.

The solution AQA has chosen is based on an open source stack comprising Red Hat Enterprise Linux, JBoss Enterprise Application Platform, JBoss Enterprise Portal Platform, Alfresco and Enterprise DB, and will provide a strategic platform for future collaboration.

AQA used systems integrater Optaros to aid the smooth integration of the new open source platform. Optaros enabled AQA to create a customised user experience that focused on ease-of-use and utilised Rich Internet Application technologies to improve the overall experience. Optaros supported AQA in the adoption of an Agile Development strategy which reduced the timescale for development to around four weeks.

The extranet was initially rolled out to a pilot group of 200 examiners whose feedback has been resoundingly positive.

## BENEFITS

Key requirements for the migration to open source technology were cost and efficiency savings. AQA calculated that it was 10 times less expensive to implement a solution from Red Hat than to extend the previous proprietary solution to this external audience.

Red Hat's subscription model now provides AQA with increased value as it can consolidate onto a single subscription. Total cost of ownership (TCO) is reduced, and printing, posting, licensing and other ongoing operational costs are significantly reduced. By automating its manual process online and enabling users to update details themselves, they have improved accuracy and administration staff are now free to carry out other tasks.

As a result, AQA expects to save £250,000 annually.

The other important consideration was that migrating to an open source platform facilitated the rapid and agile development of the system, enabling two or more developers to work on different aspects of the project at the same time. This had not been practical with the proprietary technologies previously used and was another area where Red Hat's solution helped the developers to meet the challenging completion deadline of six weeks.



AQA also utilised Red Hat's expertise through its training and consultancy services to enable them to take the application stack and server to build a version that is ready to use and web facing. This had a significant impact in enabling the system to go-live within a very short timeframe.

AQA is no longer dependent on individual technology suppliers and now has the flexibility to decouple, plug and unplug solutions as and when required without impacting the whole stack. This has given AQA a competitive advantage in the marketplace.

The migration to open source solutions has helped AQA meet the commercial challenge of staying ahead of its competitors while improving the level of service for its customers, examiners and candidates.

Peter Morris from AQA commented: "The first phase of our project with Red Hat has been a great success. We will continue to innovate and grow the technology stack. The new system has changed the way we work and has had a massive impact in terms of cost and efficiency savings. Red Hat pulled out all the stops to deliver over and above our expectations. We are now looking to migrate further services to open source as it will give us the competitive advantage to maintain our position as market leader and stay ahead of our competitors."

## FUTURE

The first phase of the project has moved exam materials online for operational cost savings. The next phase will involve messaging capabilities that will help communication across the organisation. This includes adding more exam papers, marking schemes and even training material such as online demos and screen captures to further enhance the user experience. AQA would also like to implement a forum so users can participate in conversations and discussions, creating an online community to share thoughts and learn from each other.

Eventually, AQA's plan is to open up its information to candidates and a broader range of teachers. This will require a system capable of scaling to hundreds of thousands or even millions of users; AQA believes its open source system will be able to scale to meet this demand.

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