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# LEARNDIRECT TEACHES THE BENEFITS OF OPEN SOURCE WITH RED HAT

## FAST FACTS

### Industry:

Education

### Geography:

United Kingdom

### Opportunity:

learndirect provides delivers online education, training, and advice for two million users, facilitating over 50,000 sessions and 10,000 new course enrolments per week. With systems needing to be available 24 hours a day, 7 days a week, there was no room for outages or failure. A reliable, high performance system was needed to replace learndirect's ASP based legacy system, which was outdated and costly to support. A requirement to work with the source code and to adopt the most cost effective solution led learndirect to open source solutions from Red Hat.

### Solution:

**Software:** Red Hat Enterprise Linux 4.0, JBoss Application Server 4.0.3, Hibernate 3.0.5, JBoss Clustering

**Hardware:** IBM Blade Servers

**Services:** Gold-Level JBoss Subscription, JBoss Operations Network, Red Hat Support, JBoss Training

### Benefits:

**Immediate savings** from choosing open source software with zero licencing costs. In addition, learndirect could easily scale out its architecture as needed with no more incremental licensing costs

**An increase in system performance** and stability with an application server which outperformed its proprietary competitors in extensive testing.

**Rapid development and time to market**, thanks to the transparency of the software's source code

## BACKGROUND

Created in 1998 to take forward the UK Government's vision of a University for Industry in England, Wales, and Northern Ireland, learndirect is the largest e-learning network of its kind in the world. The organisation has instructed more than two million people and today delivers 25 percent of all adult skills for life achievement in the UK - an accomplishment that attested to the country's leadership in the use of web-enabled services for workforce training.

By placing a unique emphasis on flexibility, accessibility, and support, learndirect has successfully individualised the delivery of learning to a mass audience. The learndirect service - comprised

of learndirect courses, learndirect business, and learndirect advice - has enabled participants to gain new skills, renew their confidence, and reap new opportunities. On the other side of the divide, learndirect has also become a valuable service for employers, with around 200,000 businesses relying on it to train their employees. To complement its courses, learndirect provides live, interactive advice, and to date, more than 30 million advice sessions have been provided through the online and telephone services.



Supporting this number of users and sessions required a stable, high performing Web infrastructure. Administration for all three strands of the learndirect service is managed and processed by a central IT system based at headquarters in Sheffield, UK.

learndirect also manages 600 UK online centres, which provide access to technology and support in using it to an estimated three million people a year. Based in communities across England, UK online centres provide a vital channel for reaching some of the most inaccessible audiences, helping people get online for the first time, learn new skills, and access e-government services. UK online centres have a cross-government role and support a wide range of policy agendas at national, regional and sub-regional level, from adult skills and employability to social and digital exclusion, e-accessibility, and e-government.

#### OPPORTUNITY

Since the launch of the learndirect service in 2000, the organisation had seen a steady increase in the number of users. On average, learndirect facilitates over 50,000 sessions and 10,000 new course enrolments per week. The core platform was responsible for ensuring that users receive the right learning for their specific needs and can be accessed by a number of different user groups, each with different access levels, including the learners themselves, tutors, administrators, and auditors. With systems needing to be available 24 hours per day, 365 days per week, there was no room for outages or failure.

In 2004, Simon Mather, Head of Software Engineering at learndirect, was tasked with developing a new core IT administration system that could handle the high transactional demands now being placed on it. The organisation's legacy system, coded in ASP, was not only costly to support but outdated; it was time for a change.

"At the time we had an aging, outsourced system built on ASP and we knew that if we wanted to maintain the levels of service to our substantial user base, then we needed to look at modernising the architecture," said Mather.

#### SOLUTION

Mather's first decision was simple: move off ASP. He explained, "This meant evaluating an outsourced .NET proposal against a new in-house Java approach. Either one had to be able to handle large work loads whilst remaining flexible for our future plans."

Costs for each option were submitted and learndirect eventually chose to bring the project in-house, basing it on Java. Not only was this the cheapest option but Mather realised that by adopting the open, flexible standards of Java, integration would be easier with current systems as well as future-proofed for projects further down the line. Mather noted, "As a charitable trust we do have limited resources, so anywhere we can save money is always going to be favoured."

The next key decision was to choose a Java application platform that could form the basis of learndirect's central system. "We really needed a browser independent, highly accessible, scalable, and flexible application server so we decided to evaluate the top three: IBM Websphere, BEA Weblogic and JBoss Application Server. I wanted the best tool for the job, whether open source or not," Mather continued.

**"In terms of performance levels, JBoss Application Server actually came out as the best strategic option for us. As the evaluation continued we soon realised that JBoss competed extremely well with the proprietary alternatives and when we considered that scaling JBoss out as far as we liked would not create any extra licence costs on our bottom line, the decision was a very easy one to make - we chose open source from JBoss," concluded Mather.**

At the time of the decision to redesign its core IT system on the JBoss platform, learndirect had already been using JBoss in non-critical systems for about two and a half years. This previous experience proved a great fillip to the project, as the company already had JBoss-savvy developers who were quickly able to get to grips with designing the new system.



For its operating platform, learndirect chose Red Hat Enterprise Linux and Mather has not been phased by the recent acquisition. He commented, "We envisage the acquisition of JBoss as resulting in a scaling up of their offer on support, training and consultancy. Financially I can see opportunities

for a simplification in contractual arrangements, and technically there is scope for innovation around products such as JBossON. I see the acquisition as an opportunity for Red Hat to offer service improvements that keep Red Hat Linux and JBoss ahead of the game, and for me that can only be a good thing." In addition learndirect uses JBoss Clustering for session replication and Hibernate to deliver a highly reliable overall structure.

Despite having a good level of technical understanding within the project team, Mather wanted to take a "bullet-proof" approach to support, so learndirect subscribed to gold level support for JBoss Application Server, Hibernate, and JBoss Clustering, as well as Red Hat support and related training courses. With its JBoss subscription, learndirect also had access to JBoss Operations Networks (ON), an integrated management platform for JBoss Enterprise Middleware-based systems. JBoss ON enables a detailed level of management including: inventory management with auto-discovery; administration and control management; automated alerting, download, and deployment of certified patches; and updates and monitoring of JBoss Application Server.

"JBoss support to date has been a pleasure and I've heard nothing but glowing praise from operations," reported Mather.

## BENEFITS

By choosing Red Hat open source solutions, learndirect has benefited from a number of key advantages:

- Software licence fee cost savings have been realised not only in the initial instances of each product, but as products have been scaled out, there are no more incremental costs for each extra instance as there would be with proprietary software.
- Transparency and accessibility of JBoss' source code combined with the development team's previous experience with JBoss translated into faster development and quicker time to market with the new system.
- Project costs have been drastically reduced. By choosing an in-house Java solution based on an already familiar platform over an outsourced .NET solution, Mather estimated a total cost saving of 20 to 30 percent.

To summarise the success of the project and the benefits learndirect has witnessed, Mather commented:

"For me, JBoss allows us to focus on the systems that we produce rather than worrying about the cost of the infrastructure and the drain it places on resources. Because there is transparency in the code, we are able to build applications more quickly and really have a better idea of what we're going to end up with. Ultimately we can meet demand more quickly and above all serve the needs of our users to the best of our ability. This would not be possible without JBoss open source software."

