

DUO BUILDS DEVOPS AGILITY WITH RED HAT JBOSS ENTERPRISE APPLICATION PLATFORM



Dienst Uitvoering Onderwijs
Ministerie van Onderwijs, Cultuur en
Wetenschap

SOFTWARE AND SERVICES

Red Hat® JBoss® Enterprise
Application Platform

Red Hat Consulting

DUO (Dienst Uitvoering Onderwijs), part of the Government of the Netherlands Ministry of Education, Culture and Science (OCW), focuses on implementing educational laws and regulations, organizing school examinations, and overseeing educational finance, as well as providing IT provisioning to help the public sector meet business demands. To improve its capabilities and agility, DUO sought a solution that would support DevOps and continuous delivery approaches to application development and delivery. With help from Red Hat Consulting, DUO deployed Red Hat JBoss Enterprise Application Platform (EAP) to help its developers build, run, deploy, and manage Java™ applications more efficiently—without increasing costs. As a result of this transition, the organization can bring new services to market faster and work with other public sector departments to meet evolving business demands.



**EDUCATION AND
PUBLIC SECTOR
I.T. SERVICES**

2,700 EMPLOYEES

“It was not that we couldn't scale previously. It was that we couldn't afford to scale. With Red Hat JBoss Enterprise Application Platform we now have that financial scalability.”

JAN-TAEKE SCHUILENGA
TECHNICAL INFRASTRUCTURE ARCHITECT, DUO

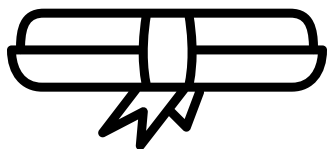
BENEFITS

- Increased agility to reduce platform provisioning from six weeks to six minutes and generate anticipated savings of millions of euros in license costs over several years
- Achieved better alignment of IT with business demands, creating opportunities for collaboration with other public sector departments
- Gained expert knowledge and guidance during migration, as well as ongoing support, by engaging Red Hat Consulting



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"We have to inspire others to reach a higher level. We can demonstrate to other public sector departments that we're cheaper and faster in developing new applications, and show them how to do it."

JAN-TAEKE SCHUILENGA
TECHNICAL INFRASTRUCTURE
ARCHITECT, DUO

CREATING A MORE RESPONSIVE EDUCATION SECTOR

Dienst Uitvoering Onderwijs (DUO), part of the Government of the Netherlands Ministry of Education, Culture and Science (OCW), focuses on implementing educational laws and regulations, organizing school examinations, and overseeing educational finance—such as providing funding for educational institutions, funding student grants, and collecting teaching fees and study debts. In 2015, DUO provided €4.3 billion in educational grants to more than 3 million students and €30 billion to 7,700 schools.¹

In addition, DUO leads IT provisioning across the country's public sector. Around 20% of its employees are in IT-related roles, and the department is responsible for one of the country's four public sector datacenters.

"The government is consolidating from 65 to four datacenters as part of preparation for a move to cloud services," said Jan-Taeke Schuilenga, technical infrastructure architect at DUO.

However, its IT environment required too many manual steps and processes—due to incomplete automation—to make a smooth transition. Despite being seen as an IT leader, DUO's IT department risked becoming obsolete and being replaced by other providers.

"Test environments were being built by hand, and different teams had created different infrastructures," said Schuilenga. "We were in no way agile enough to support the business. We were in danger of becoming irrelevant. We realized the need to restructure our IT environment to get closer to business."

As a result, the department sought a way to develop applications faster to meet changing business demands from its education users in a rapidly changing technology landscape. As part of this goal, DUO sought a solution that would also support innovative DevOps and continuous delivery approaches to standardize, automate, and establish a self-service developer culture. In addition, DUO sought to enhance its in-house skills base and open its culture through closer collaboration with expert partners.

"Our education audience tends to be young and technically aware. They demand digital services on every device," said Schuilenga. "We weren't getting new services to market as fast as we'd like, and the quality of our IT environment and services weren't meeting our business requirements."

MIGRATING TO AN INNOVATIVE, COST-EFFECTIVE APPLICATION PLATFORM

To make the transition to an agile DevOps approach, DUO needed a reliable, robust solution that would meet strict public sector reliability requirements.

"Public sector is risk averse, so our focus is on stability and reliability. The seriousness of our situation gave us the freedom to push new ideas," said Schuilenga. "DevOps changes everything. It is just as much an organizational change. The technology change is the simple part."

The Dutch public sector has a preference for open source solutions. DUO's team had been considering Red Hat JBoss Enterprise Application Platform (EAP) for several years, and the solution met its criteria for this initiative, including certified Java™ Enterprise Edition compatibility, enterprise support, cost-effective scalability, and industry references. As a result, DUO decided to migrate from IBM Websphere Application Server to Red Hat's platform.

¹ "Kerncijfers 2015." Dienst Uitvoering Onderwijs. 2015.

“Our situation, and the compelling cost difference, justified the work involved in migrating,” said Schuilenga. “Our developers want to be more agile and need more environments to test and develop, but IBM WebSphere licenses are costly. We don’t have the budget to pay for hundreds of licenses. And with Red Hat JBoss EAP, there’s no functionality or performance gaps, despite the huge cost difference.”

The effort required to migrate from IBM Websphere Application Server to Red Hat’s platform was daunting, but Red Hat offered the desired support services and engagement to ensure success. Red Hat Consulting carried out an initial assessment to qualify the migration’s business value. Red Hat consultants then provided quality assurance on DUO’s designs, such as validating standards and ensuring JBoss EAP was used effectively. Additionally, Red Hat consultants answered questions and created documentation as needed to support DUO’s IT staff.

DUO’s migration from IBM Websphere Application Server to Red Hat JBoss EAP was completed in the fourth quarter of 2016. As a result of its success, DUO was a finalist in the Dutch government’s Department of the Year awards, with its IT department highlighted for recognition.²

KEEPING PACE WITH BUSINESS DEMANDS

COST-EFFECTIVE SCALABILITY AND AGILITY

As a result of switching to Red Hat JBoss EAP, DUO anticipates savings of millions of euros in license costs over several years. DUO will also gain cost-effective support and scalability for development environments.

“Previously, we had the ability but not the budget to scale,” said Schuilenga. “With Red Hat JBoss Enterprise Application Platform, we now have matching financial scalability. The money we save from not having to pay for IBM WebSphere licenses is money we can spend elsewhere.”

The new platform has also helped DUO cost-effectively achieve greater agility. Red Hat JBoss EAP lets developers be more productive and responsive in line with business demands. As a result, DUO has reduced platform provisioning time from six weeks to just six minutes.

NEW OPPORTUNITIES FOR DEVOPS COLLABORATION

DUO’s successful transition to an agile, DevOps approach has had a significant cultural effect for its staff and has changed the public sector’s perception of the department. This shift has created new opportunities for collaboration that are key to necessary changes in the Dutch public sector.

“We continue to provide services to the Ministry for Education, but we’ve now started supplying the Ministry of Social Security and Welfare. We’re also advising several other departments on changing their processes,” said Schuilenga. “We can inspire other public sector departments by demonstrating that we’re developing new applications cheaper and faster, then show them how to do it.”

² “DUO in top 3 ‘beste overheidsorganisatie 2016’.” Dienst Uitvoering Onderwijs. <https://duo.nl/organisatie/uitgelicht/duo-in-top-3.jsp>

ACCESS TO EXPERT SUPPORT AND GUIDANCE

By using Red Hat products and services, DUO has established a partnership for day-to-day and roadmap support.

“Red Hat Consulting played an important role throughout our transformation, from technical advice to tool suggestions. In particular, they assessed our old applications and identified any problem areas and provided crucial knowledge-sharing,” said Schuilenga. “We had a motto working with them: ‘No problem is solved twice, no question is asked twice.’ They’ve been of great service.”

PLANNING FOR LONG-TERM I.T. GOALS

After its initial success with JBoss EAP, DUO has plans for further IT upgrades, including replacing its OpenText Cordys ESB (Enterprise Service Bus) with Red Hat JBoss Fuse. DUO is also considering developing a Platform-as-a-Service (PaaS) for the entire government using Red Hat OpenShift Container Platform.

“Our solution works exactly as intended. It has everything we need in terms of tools and processes, and our developers really enjoy using it too,” said Schuilenga. “And Red Hat JBoss Fuse and Red Hat OpenShift Container Platform deliver the same compelling cost arguments as Red Hat JBoss EAP. Working with Red Hat helps us provide the best services possible.”

ABOUT DIENST UITVOERING ONDERWIJS (DUO)

Dienst Uitvoering Onderwijs (DUO) falls under the Ministry of Education, Cultural Affairs and Science (OCW). It is a Dutch governmental organization responsible for—among other things—the payment of educational grants to students. These students are only entitled to a grant for the period they are actually registered at an institution of education. In certain cases, DUO also provides study grants for students who take a course at an institution outside the Netherlands. DUO implements education laws and regulations. Several important duties are: funding educational institutions, providing study funding, collecting teaching fees and study debts, and organizing school examinations.

ABOUT RED HAT



Red Hat is the world’s leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.



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