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Peter Hellemans
Managing Partner, Cronos DMS

Building an efficient, future-oriented government

Digitization of services for citizens, companies, and organizations is a priority for the Flemish government. To support this focus, Digitaal Vlaanderen was formed as a merger of Information Flanders and the information communications and technology (ICT) department of the Flemish government’s Facility Services organization. Digitaal Vlaanderen serves as a business partner to Flemish government agencies and local authorities, with a mission to build an efficient, future-oriented government offering innovative digital services.

In 2005, Digitaal Vlaanderen built MAGDA (Maximum Data Sharing between Administrations), a platform to help government applications and agencies retrieve authentic data in a safe and legal way. Data sources include the National Register, the Crossroads Bank for Vehicles (DIV), the Crossroads Bank for Enterprises (KBO), the learning and experience proof database (LED), and more.

“MAGDA authenticates users and ensures they are authorized to access the requested data,” said Kelly Bonneure, Lead MAGDA Product Owner, Digitaal Vlaanderen. “Users can access all integrated services through a single platform.”

As adoption—and requests for new features—increased, Digitaal Vlaanderen sought to build a new, scalable foundation for MAGDA that could meet current and future demands at the necessary pace.

Supporting new and legacy technology needs with a scalable, cloudy-ready platform

As it was already working on modernizing its legacy Java™ applications and services, Digitaal Vlaanderen sought a microservices-based solution to support its plans to move to the cloud. After deciding to use Kubernetes container technology, Digitaal Vlaanderen chose Red Hat OpenShift as the new foundation for MAGDA.

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Red Hat OpenShift is an enterprise Kubernetes platform that offers a consistent environment across legacy and cloud resources, with robust security, automated operators, and customization through integrated operators. In addition to supporting new, cloud-native applications, the platform now hosts the organization’s legacy Java Enterprise Edition (Java EE) environment, migrated to Red Hat JBoss Enterprise Application Platform (EAP). JBoss EAP provides high-performance features, such as load balancing and distributed deployment, for application deployment across hybrid environments. Legacy messaging requirements are now managed by AMQ broker, a component of Red Hat AMQ, for real-time communication and integration.

Digitaal Vlaanderen worked closely with Piros, a Red Hat Premier Business Partner, to develop a proof of concept using Red Hat OpenShift 3, then continued working with Red Hat Consulting to deploy Red Hat OpenShift 4 in a locally hosted private cloud environment. Piros and Cronos DMS also converted several of Digitaal Vlaanderen’s Kubernetes operators to Red Hat OpenShift operators, including single sign-on (SSO) and [Red Hat OpenShift Service Mesh](#).

Delivering innovative data services at the speed of demand

Reduced service development and delivery time

By combining Red Hat technology with modern DevOps processes—such as infrastructure as code (IaC), test automation, and continuous integration and continuous delivery (CI/CD)—Digitaal Vlaanderen can deliver resources and services at the pace of demand. For example, the organization's teams can create a new database in just 5 minutes, rather than waiting for up to a week for a database administrator to create one.

This efficiency is key to meeting critical requests quickly. Recently, the organization was able to deliver a solution for data sharing capabilities for a COVID certification system in just six weeks.

"The most important improvement Red Hat OpenShift delivers is a significantly quicker lead time from development to production deployment. We could not have delivered a project this important in a little over a month with our old platform," said Hellemans.

Achieved responsive, stable infrastructure at lower cost

The introduction of the new COVID certification system and other demands has increased MAGDA's transaction volume by more than 500 million transactions—an increase of more than 60% in two years.

Digitaal Vlaanderen's previous platform was time- and resource-intensive to scale, lacking the agility to respond to demand as needed, as well as the ability to make smaller sizing adjustments—potentially leading to overspending. With its new platform, the organization can now scale at the pace of demand by automatically adding or removing Red Hat OpenShift nodes to its service environment at the microservices level as needed—and support more transactions at lower cost.

Additionally, adding a high availability/disaster recovery architecture (HA/DR) with automatic outage detection to its service environment has helped Digitaal Vlaanderen proactively respond to performance and security issues.

"We no longer need an hour to manually detect a lack of service availability and update our customer-facing status page," said Bonneure. "With real-time messaging and an automated response, we can detect issues and update our status within five minutes."

Strengthened reputation of data platform for key projects

As a result of its success attracting new customers with a cloud-ready platform, Digitaal Vlaanderen has received interest from additional government agencies in using MAGDA to support important projects and digitization services.

"Our partners recognize the added value from our enhancements to MAGDA's technology foundation with Red Hat software, including the ability to scale to meet demand," said Bonneure.

For example, MAGDA will be part of a new Solid-based data exchange ecosystem in partnership with Datanutsbedrijf, the Flemish Data Utility Company. Flemish citizens will receive a data storage resource, Personal Online Data Storage (PODS), and will be able to more easily share necessary personal data, such as wage information, with private organizations and government agencies for service processes.

About Cronos DMS

Part of The Cronos Group, [Cronos DMS](#) is a team of senior ICT delivery executives with a proven track record in the field of ICT Service Delivery Management services. We integrate the services delivered by Cronos Group competence centers and/or customers' existing service providers.

About Pirois

Pirois is a reliable open source partner that covers the full Red Hat product portfolio. The Pirois team combines the experience of world-leading platforms and open source technologies with best practices in mobile, commerce, and cloud infrastructure. As the one and only Belgian Red Hat Premier Business partner and recently named Belgium's Red Hat Services partner of the year, Pirois is your partner of choice when it comes to adopting open source technology.



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Accelerating digitization for MAGDA and beyond

After its successful initial work with Red Hat OpenShift, Digitaal Vlaanderen is continuing to work with Red Hat Consulting to accelerate its migration to the new platform—including moving synchronous MAGDA services—and build new services.

Digitaal Vlaanderen also plans to continue refining its Red Hat environment with new technology, such as AMQ streams, a component of Red Hat AMQ based on the Apache Kafka project that lets microservices and other applications share data with extremely high throughput and extremely low latency. The organization is also evaluating adding Red Hat Data Grid to provide an in-memory datastore for Red Hat OpenShift, as well as Red Hat Advanced Cluster Management for Kubernetes for end-to-end cluster visibility and control.

"We want to build more complex projects, more end-to-end solutions, without making governance a challenge," said Bonneure. "Red Hat is helping us overcome the obstacles to making more digitization possible."

About Digitaal Vlaanderen

[Digitaal Vlaanderen](#) joins the forces of Information Flanders and the ICT department of Het Facilitair Bedrijf. This merger was a logical next step for an efficient digital service for citizens, companies, and associations. As a business partner for Flemish government services and local authorities, it works as a one-stop shop where customer-friendliness and progressiveness are central, taking a pioneering role in society. Digitaal Vlaanderen continues to build on an efficient, future-oriented government every day.

About Red Hat Innovators in the Open

Innovation is the core of open source. Red Hat customers use open source technologies to change not only their own organizations, but also entire industries and markets. Red Hat Innovators in the Open proudly showcases how our customers use enterprise open source solutions to solve their toughest business challenges. Want to share your story? [Learn more.](#)

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. [A trusted adviser to the Fortune 500](#), Red Hat provides [award-winning](#) support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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