

Urssaf modernizes social security systems with Red Hat OpenShift



French government agency Urssaf needed to modernize how it delivers digital services to businesses, individuals, and its internal users, but an outdated environment and strict data sovereignty requirements made updates challenging. The organization adopted Red Hat OpenShift Container Platform, including consultancy services and training from Red Hat, to support standardized application development using a microservices and DevSecOps approach. Now, updates take days instead of months, without downtime, and Urssaf has a solid technical foundation to support future initiatives, such as sovereign AI.

Industry

Government / Public Service

Headquarters

Paris, France

Numer of employees

16,000 employees

21 Urssaf in mainland France

5 Urssaf (CGSS) in overseas departments (DOM)

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Frédéric Bronnert

Internal Cloud Platform
Product Owner, Urssaf



Software and services

Red Hat® OpenShift®
Platform Plus
Red Hat OpenShift
Kubernetes Engine
Red Hat Enterprise Linux®
Red Hat Satellite
Red Hat Directory Server
Red Hat Learning Subscription
Red Hat Consulting

Benefits

- ▶ Increased efficiency with technical updates delivered in days, not months
- ▶ Strengthened resilience and system protection
- ▶ Supported business innovation, such as sovereign AI
- ▶ Trained teams to successfully adopt emerging technologies

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"We can make minor technical modifications to our systems in days, rather than several weeks or months. This faster time to market helps us keep up with the demands of the organization and satisfy businesses, individuals, and our internal users."

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Keeping pace with user expectations

As the government organization responsible for collecting and redistributing social security contributions across France, Unions de recouvrement des cotisations de sécurité sociale et d'allocations familiales (Urssaf) depends on stable, high-performing systems to support its day-to-day activities.

These systems serve internal users, individuals, French businesses, and partners, and need to be high performing and intuitive. To keep pace with evolving professional demands and needs, Urssaf's IT team faced increasingly short deadlines for deploying updates and new applications. However, the environment was not designed to meet these requirements.

The organization also struggled with growing technical debt, increasing system vulnerabilities, and underperforming identity management systems, along with limited scalability due to time-consuming update and maintenance processes.

Driven by its CIO, Urssaf shifted toward a cloud-first, microservices-based approach for application development, which further intensified the pressure for rapid and frequent deployments. This situation required the adoption of a modernized and standardized management approach for the IT department's internal cloud foundation.

"The delays were becoming increasingly unacceptable," said Frédéric Bronnert, Internal Cloud Platform Product Owner at Urssaf. "At the same time, we were unable to rely on external cloud services due to the sensitivity of our data."

The new approach was supported by a cloud transformation program within Urssaf, which recognized the need for a specialized, industrialized, enterprise platform capable of ensuring scaling, governance of the cloud foundation, and data sovereignty, as well as providing enterprise support.

Modernizing with Red Hat OpenShift

After evaluating several solutions, Urssaf selected Red Hat OpenShift Container Platform to underpin its modernization.

"Our top priorities were the ability to integrate additional tools and components and an effective support model, both of which Red Hat OpenShift met," said Bronnert. "The platform's open source foundation also reinforces technological sovereignty and supports greater autonomy and self-reliance."

Urssaf worked with Red Hat Consulting to pilot the solution, running a series of workshops that brought teams on board and built an understanding of the methodology for building and maintaining a Red Hat OpenShift environment. On Red Hat's recommendation, Urssaf also uses Red Hat OpenShift Kubernetes Engine to run applications that do not require the full Red Hat OpenShift Container Platform toolset. This allows the organization to efficiently run heavy workloads with large storage and central processing unit (CPU) requirements, even with small teams managing them.

Today, Urssaf runs 38 Red Hat OpenShift clusters, with 1,450 namespaces and 45 applications either in development or running on Red Hat OpenShift. These applications include Chèque Emploi Service Universel (CESU—Universal Employment Service Check), where citizens declare social contributions, and Pajemploi, which administers childcare declarations. Some of these systems process up to 4,000 transactions a second.

With Red Hat OpenShift, application developers and managers have access to a range of tools and an admin console, giving them visibility into the environment and the ability to quickly modify parameters as needed. The team is also building a partner portal on Red Hat OpenShift for easier communication with its partner organizations.

Supporting cultural change with Red Hat Training

Training has been central to the platform modernization, driven by Urssaf's cloud transformation program. More than 100 people enrolled in Red Hat Learning Subscription, which has been complemented by numerous official Red Hat OpenShift training sessions.

"It was a significant cultural change, but the workshops and training organized by Red Hat helped to ease the transition," said Bronnert. "We also continue to work with a Red Hat Technical Account Manager (TAM), with weekly conversations about different topics and access to Red Hat's specialists when needed."

The team has embraced a DevSecOps approach to development, using integrated tools such as Argo CD for continuous integration/continuous delivery (CI/CD) to support automated, policy-driven deployments across clusters.

"The level of expertise from the Red Hat team in France, the proximity, reactivity, and communication have all been really important to our success," said Bronnert.

Powering essential systems with Red Hat Enterprise Linux

Urssaf also uses Red Hat Enterprise Linux to support many of its applications, with the operating system currently running on around 41% of servers and supporting its major systems, such as SNV2, its branch user contributions management system.

"Red Hat Enterprise Linux provides the stability we need for our essential systems," said Emmanuel Trouillet, Red Hat Enterprise Linux Development Manager at Urssaf. "Red Hat offers regular upgrades and security patches so we can stay current without disruption, plus excellent online resources, including the open source community."

The organization also uses Red Hat Satellite to simplify lifecycle management and Red Hat Directory Server as the enterprise directory engine. With Red Hat Learning Subscription, existing teams stay informed on new features and new employees can rapidly acquire necessary skills.

Increasing efficiency while supporting innovation

Increased efficiency with updates delivered in days, not months

The new Red Hat OpenShift environment lets Urssaf automate deployment processes, resulting in faster time from development to production without compromising system integrity. Developers using the platform also enjoy a more intuitive experience that allows them to work at speed.

“We can make minor modifications to our systems in days, rather than several weeks or months,” said Bronnert. “This faster time to market helps us keep up with the demands of the organization and satisfy both the users of our services and internal Urssaf users.”

Strengthened resilience and system protection

Urssaf is now able to keep its internal cloud platform up to date, for example by applying security patches, without downtime. “Previously, we had to fit updates into scheduled maintenance slots, now we can make changes without any downtime,” said Bronnert.

Regular updates also help Urssaf stay ahead of potential cyberthreats. Combined with its on-premise deployment, Red Hat OpenShift’s open source model supports technological sovereignty and reduces reliance on public cloud services.

Supported business innovation, such as sovereign AI

With Red Hat OpenShift, Urssaf can integrate new technologies more easily to support future initiatives. “When we need something new, we can usually find a solution that matches our needs in the Red Hat Ecosystem Catalog, or a compatible solution elsewhere,” said Bronnert. “For example, we are currently setting up a large cluster of graphics processing units (GPUs) to support our machine learning and AI initiatives.”

As part of the project, Urssaf is establishing 2 large clusters to integrate its internal gen AI platform, on a major industry player that preserves its sovereignty choices. Internal users will be able to use gen AI without relying on external services that could compromise data protection requirements.

Trained teams to successfully adopt emerging technologies

The Red Hat Learning Subscription helped the team gain the essential skills it needed to embrace a container-based approach and DevSecOps culture.

Building a foundation for greater speed and innovation

By adopting Red Hat OpenShift, Urssaf has transformed how it builds, deploys, and manages applications, replacing previous processes with standardization and automation. The organization can now deliver technical updates in days rather than weeks, while safeguarding integrity and resilience with downtime-free updates.

Looking ahead, Urssaf is continuing to build on this foundation, including the rollout of large GPU clusters to support gen AI initiatives. These efforts will allow the organization to explore new use cases, such as fraud prevention, while keeping sensitive workloads in-house. With Red Hat OpenShift, Urssaf is well positioned to keep pace with expectations of its citizens and internal users, and to continue innovating on a reliable platform built for scale while preserving its sovereignty.

About Urssaf

Unions de recouvrement des cotisations de sécurité sociale et d’allocations familiales (Urssaf) is responsible for collecting social security contributions from employers and entrepreneurs to guarantee the funding of the French social security system. Within its activities, the organization also has the mission to support all employers and entrepreneurs for the benefit of their economic and social development, and to ensure social rights and fairness among all economic players. With EU€588 billion collected from 12 million users, Urssaf guarantees workers the benefit of social protection—including health coverage, pensions, and family benefits—linked to employment within a legal framework.



About Red Hat

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