

# Upstream migrates to an easily manageable cloud-agnostic platform

## Upstream

### Software

Red Hat® OpenShift®

Upstream built a cloud-based automotive cybersecurity and data management solution for connected vehicles. The Upstream Platform is cloud-agnostic so it can run in any type of cloud in automotive companies' IT environments. But utilizing cloud services, such as PostgreSQL DB, Redis, and Object storage from multiple managed cloud service providers, was complex given that their implementations differ. Red Hat helped standardize Upstream's environment, so now there is a foundation that is common across operators and cloud environments, easing maintainability, reducing customer implementation time, and hardening security.



### Automotive

120 employees worldwide

### Benefits

- ▶ Minimized time to deliver the cloud-agnostic platform
- ▶ Eased maintainability with built-in metrics and operator console
- ▶ Enhanced security while providing deployment flexibility
- ▶ Enabled portability across cloud environments

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**Gil Mazuz**

VP Engineering, Upstream

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## Rising cyberattacks targeting the automotive industry

The automotive industry is accelerating toward a technology-centric future with software-driven vehicles and connectivity at its heart. To stay relevant, carmakers are beginning to change their traditional business models, embracing partnerships with tech providers and developing service-oriented revenue streams. Data and connectivity lie at the core of those models, but recent years have seen an alarming spike in the number of cyberattacks targeting the automotive industry.

Realizing that connected mobility will require radically different cybersecurity solutions, Upstream built a cloud-based automotive cybersecurity and data management solution. Purpose-built for connected vehicles, the Upstream Platform represents a fundamental shift in the approach to connected vehicle security, delivering unparalleled automotive cybersecurity detection and response (V-XDR) and data-driven applications. It unlocks the value of vehicle data, empowering customers to build connected vehicle applications with cyber threat protection and actionable insights that are seamlessly integrated into the customer’s environment and vehicle security operations centers.

## Guaranteeing security thanks to complete isolation

Upstream designed its platform to run over any cloud infrastructure, using Helm for deployment and installation and to support third-party components. The platform relied on managed services from multiple cloud providers, utilizing a wide range of their services, including PostgreSQL DB, Redis and Object storage. But these services differed in their implementation across providers making managing its platform in its customers’ diverse cloud environments complex.

Upstream recognized that Red Hat OpenShift could provide a standard environment for the Upstream Platform, no matter which type of cloud it was deployed in. It could also provide operator equivalents out of the box for a wide variety of cloud services, standardizing the managed service providers’ diverse services that it formerly relied on.

“Implementing Red Hat OpenShift helped Upstream to deliver a true cloud-agnostic solution and ensure fast time-to-delivery,” said Gil Mazuz, VP Engineering at Upstream. “Furthermore, the Red Hat OpenShift ecosystem is very intuitive and the good collaboration with the team at Red Hat ensured deploying our platform in various customer environments was easy.”

## **Building on a cloud-agnostic platform**

When one of its customers wanted to run the Upstream Platform on Red Hat OpenShift within its cloud environment, Upstream deployed Red Hat OpenShift in just three months. Red Hat OpenShift operators provided PostgreSQL DB, Redis and Object storage equivalents out of the box, simplifying the implementation. Red Hat OpenShift operators also provided an alternative to cloud-managed services for third-party database and storage services.

The automotive technology company only needed to make a couple of adaptations to its platform to ensure a smooth migration to Red Hat OpenShift, specifically so it would not need to run at root level. “The good collaboration with the team at Red Hat ensured reporting our platform was easy,” said Mazuz.

Today, Helm automates deployments to customers’ diverse cloud environments, standardizing and simplifying both the packaging and the deployment of the containerized applications that make up the platform.

## **Achieving maintainability, security, flexibility, and portability**

### **Minimized time-to-delivery**

Red Hat OpenShift out-of-the-box operators shortened the time required to deliver a full end-to-end solution. Red Hat’s operator marketplace offers not only official releases for most cloud-native services but also one-click deployment.

### **Eased maintainability**

Built-in metrics together with the Red Hat OpenShift console provide enhanced visibility and an overall view of the running workloads for greater maintainability.

### **Enhanced security and deployment flexibility**

With Red Hat OpenShift, projects can run separately and can be segregated with ease. What’s more, assigning user roles and access control is straightforward.

Red Hat OpenShift provides a high level of deployment flexibility. The Upstream Platform can run in a multi-tenancy mode with either multi-vendor clusters with no cluster-level admin or with multi-project clusters with different permissions for users.

### **Enabled portability**

Red Hat OpenShift allows Upstream to deploy its platform in any environment the customer chooses without needing any adaptations. It can run in – or be easily ported between – private, public and hybrid cloud, or even on premise.

## Driving the future of the connected vehicle

Upstream's experience and success with cloud-based automotive cybersecurity and data management has led it to recognize that connected vehicle data has potential far beyond cyber. As such, the company aspires to help the automotive industry stakeholders utilize the latent value detected in their data to not only secure vehicles but also to optimize, enhance, and further monetize their connected cars, trucks, fleets, and services.

Red Hat OpenShift plays a critical role in Upstream achieving its vision of becoming the platform of choice for all connected vehicle service providers, empowering customers and partners to secure vehicles, comply with regulations, optimize operations, and unlock new business opportunities. Red Hat provides a robust and highly scalable foundation so Upstream can offer the most in-depth, cloud-based data management platform for connected vehicles, utilizing an industry-leading technology stack, an exciting product roadmap, and a best-in-class pipeline of customers.

## About Upstream.auto

Upstream Security provides a cloud-based data management platform purpose-built for connected vehicles, delivering unparalleled automotive cybersecurity detection and response (V-XDR) and data-driven applications. The Upstream Platform unlocks the value of vehicle data, empowering customers to build connected vehicle applications by transforming highly distributed vehicle data into centralized, structured, contextualized data lakes. Coupled with AutoThreat® Intelligence, the first automotive cybersecurity threat intelligence solution, Upstream provides industry-leading cyber threat protection and actionable insights, seamlessly integrated into the customer's environment and vehicle security operations centers (VSOC). Upstream's customers include some of the world's leading automotive OEMs, suppliers, and others, protecting millions of vehicles. [Short technology overview.](#)



## 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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