



BEYONDSOFT
beyond your expectations

CASE STUDY

AUTOMOTIVE MANUFACTURER ACCELERATES CI/CD, EXPANDS AUTOMATION, & BOOSTS QUALITY WITH SCALABLE DEVOPS

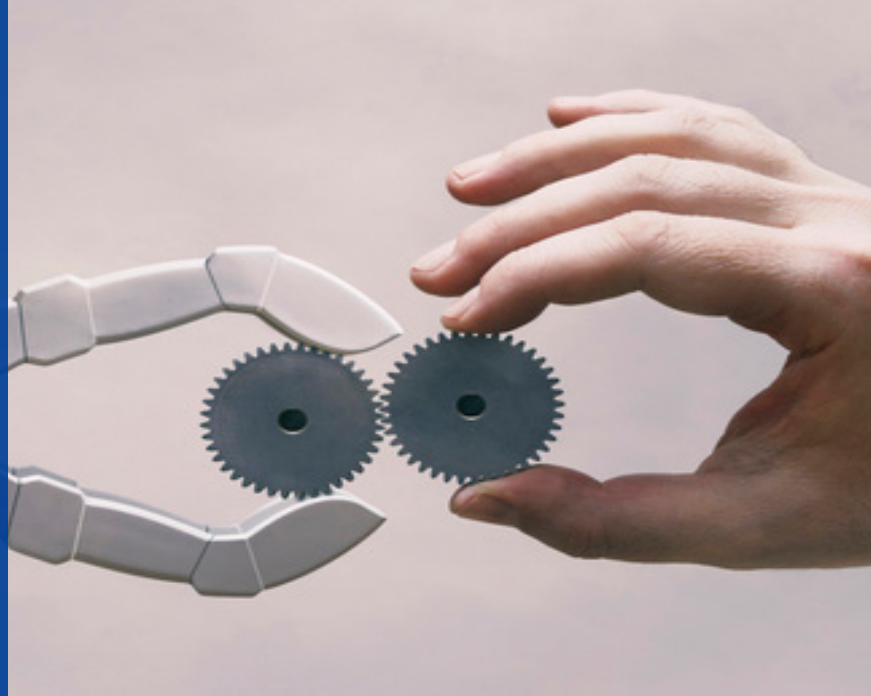
ABOUT OUR CUSTOMER

Established in 1937, this leading automotive manufacturer operates production facilities across Europe, Africa, Asia Pacific, and North America, including 10 plants and 1,500 dealerships in the US alone.

THE CHALLENGE

To drive business growth and meet rising customer demands, a leading automotive manufacturer needed to accelerate application release cycles and boost the quality and reliability of their systems in North America.

But their lack of a scalable, enterprise-ready DevOps platform had produced siloed teams, long development cycles, and increasing amounts of technical debt. Meanwhile, encumbered by inefficient, manual processes and inconsistent development environments, their applications and systems teams struggled to meet the needs of the business.



THE SOLUTION

Beyondsoft worked with the automotive manufacturer to create a standardized set of automation tools by provisioning an enterprise-scalable, hybrid-cloud DevOps platform that integrates with their existing cloud and on-premise systems. Beyondsoft onboarded more than 120 different applications.

The solution features:

- Enterprise-ready, highly available DevOps platform
- Scalable automation in the cloud
- Highly resilient, container-first strategy
- Seamless integration with their existing hybrid-cloud ecosystem
- Ability to handle any application language
- Streamlined processes and automation
- Visibility into technical debt

Notable AWS services used to complete this project include:

- **Amazon Elastic Container Service (ECS):** Each of the DevOps tools (except Xray) run as an ECS task. ECS is used to manage task distribution among ECS cluster instances. It restarts any task that becomes unavailable. Tasks include: Jenkins, XL Release, SonarQube, and Artifactory.
- **Amazon Simple Storage Service (S3):** Several buckets are provisioned for Terraform state retention, software storage, backups, logs, and Artifactory binary storage.
- **Amazon DynamoDB Table:** A table is created specifically for locking the Terraform state file in S3. This avoids any corruption of state during parallel Terraform execution.

- **Amazon Elastic Compute Cloud (EC2) SSM Parameter Store:** All secrets and necessary resource endpoints/confirmation are stored in the SSM Parameter Store. Secrets are encrypted.
- **Application Load Balancer:** All traffic is routed through the Application Load Balancer. The listener is configured to route traffic based on if/then rules (e.g., if host is Artifactory.*, then forward to artifactory-target-group). Each target group is defined for a particular port specific to the DevOps tool, and when each ECS service is created, it is mapped to its target group for load balancing.
- **Amazon RDS Multi-AZ for Aurora PostgreSQL:** An Aurora PostgreSQL cluster is provisioned for storing application state. Each tool creates its own databases within the RDS instance. A snapshot of the RDS instance is taken regularly for recovery purposes.
- **Amazon Elastic Filesystem (EFS):** EFS is used to persist DevOps tool configuration data that is not stored in the database. This allows us to spin up new ECS services and tasks without loss of configuration, plugins, etc.

RESULTS AND BENEFITS

Today, the automotive manufacturer is enjoying all the benefits scalable enterprise DevOps has to offer. Their teams have been unified onto one consistent DevOps platform. Automation has replaced cumbersome, manual processes, boosting the speed and reliability of innovation--and paving the way for seamless collaboration between their applications and systems teams.

Most importantly, DevOps has laid the foundation for continued business growth to meet the demands of its expanding customer base. Benefits include:

- Enterprise scalability for business growth
- Highly available, self-healing systems
- Faster, more efficient release cycles
- Increased code quality and reliability
- Task automation
- Greater efficiency and productivity
- Frictionless collaboration between teams
- Fail-fast environment
- Amplified feedback loops via CI/CD pipelines

TECHNOLOGIES USED

Amazon ECS, Amazon S3, Amazon DynamoDB Table, EC2 SSM Parameter Store, Application Load Balancer, Amazon RDS Multi-AZ for Aurora PostgreSQL, Amazon EFS

ABOUT BEYONDSOFT

As an [AWS DevOps Competency Partner](#), Beyondsoft has invested in building deep DevOps proficiency on the AWS platform. Our certified practitioners combine agile AWS tools, best practices, and methodologies along with our BCI DevOps enablement framework to establish an enterprise-scalable CI/CD platform with automated practices to expedite innovation and meet your business objectives.

Beyondsoft has a deep history of empowering companies around the world through high quality IT services. At the heart of our success is a diversely talented team of 14,000+ experts who thrive on innovation. With 32 delivery centers distributed across five continents, our presence in both mature and emerging markets enables us to respond quickly to customers' needs on a local, regional, and global level.