



IT Outposts

About us

DevOps is a complex initiative that must be handled only with a sufficient level of profiled expertise. IT Outposts is your DevOps as a Service provider of choice if you are looking to hire a team of experienced DevOps engineers to help you cut infrastructure maintenance costs, boost the development team agility, automate CI/CD, and improve essential project processes all around.

Our service offering

Infrastructure and Architecture Design. We provide thorough work on a sturdy design backbone that will support your project no matter the field conditions, complexity of operations, and other requirements, and includes:

- ◊ Application containerization;
- ◊ CI/CD processes automation;
- ◊ Orchestration and Kubernetes deployment;
- ◊ Infrastructure monitoring and tracking.

MVP Scaling Services. We help properly scale your MVP solution, filling all the gaps, adding new powers, and optimizing it throughout to achieve the full-on launch stage state and introduce it to users with a bang, this includes:

- ◊ CI/CD processes investigation;
- ◊ Infrastructure scaling;
- ◊ Monitoring system configuration;
- ◊ Post-deployment adjustments.

Kubernetes Deployment. We engage in a process of automating and reducing the routine complexity of internal virtual environment processes in order to boost the performance all-around and streamline productivity, which includes:

- ◊ Cluster set up;
- ◊ Monitoring and logging;
- ◊ GitOps Approach for the most efficient cluster deployment;
- ◊ Dev team training.

Cloud Costs Optimization. We optimize your cloud management and maintenance costs by implementing some of the best cloud optimization and tweaking practices in the industry, with the particular services including:

- ◊ Infrastructure audit;
- ◊ Recommendations and forecasts;
- ◊ Historical metrics monitoring;
- ◊ Budgeting assistance.

Infrastructure Migration. We have field experienced professionals to most responsibly and smoothly move the whole legacy project infrastructure to a new and fresh product potential-boosting environment, which includes:

- ◊ Project migration preparations;
- ◊ Project migration process;
- ◊ Setting the stage;
- ◊ Support and maintenance.

How we work

Our ultimate goal is to supply you with market-defining DevOps practices implemented by seasoned professionals without making you go out of your way or burning a hole in your pocket. That's why we deliver business-changing opportunities and long-term cost-optimizing results in the most individually convenient manner. Here are the essential stages we usually implement when working with projects.

1

Project estimation and audit

We kick off every project with a thorough technical audit followed by a full estimation of the further workflow, analysis of metrics, and other prep tasks.



2

Achieving project goals

Once the project workflow is set off, we efficiently distribute tasks and get the required job done while keeping all aspects in tune with the client.



3

Reporting and updating the documentation

Composing timely reports and providing documentation updates are the essential tasks that we prioritize in every project.



4

Technical support

After the main project workflow cycle completion, we are here to provide further technical support and maintenance in field conditions.



Benefits you get

Some of the brightest minds in the industry

Hiring our DevOps specialists, you get the expertise that stood the test of time and experience with projects of any size and complexity delivered by seasoned pros for the benefit of your project.

Dramatically cut project costs

We help streamline workflow productivity, optimize SaaS cloud management and maintenance expenses, and avoid extra costs via intricate project development methods and market-leading techniques.

Full-on operational and tech support

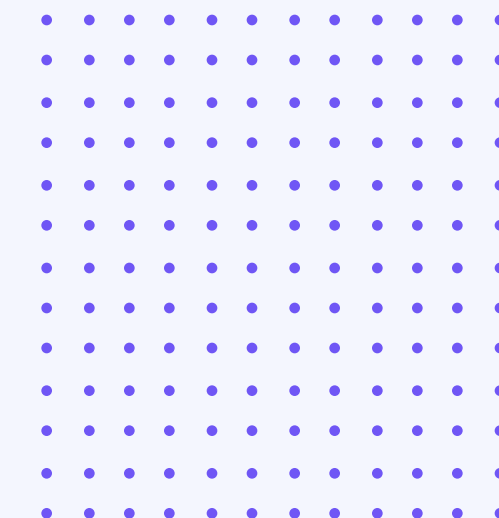
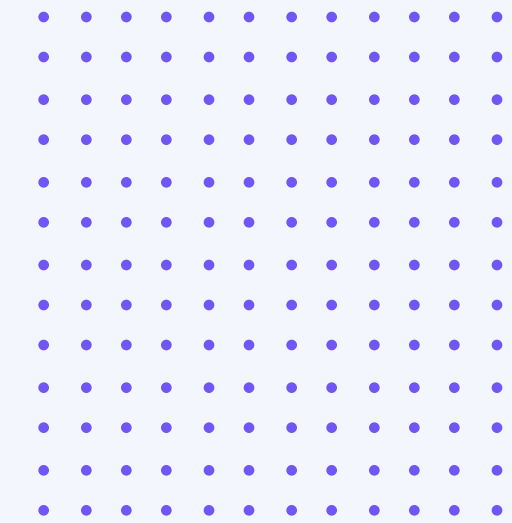
Providing DevOps as a Service opportunities, we help smooth out the whole project workflow, streamline the flow of the essential data, and deliver thorough quality control while supporting the project throughout.

Dev team versatility boost

The ultimate result of our DevOps efforts is a team of project developers that is more engaged with the tasks, performs faster, and delivers a higher level of workflow quality at lower costs.



Our Case Studies

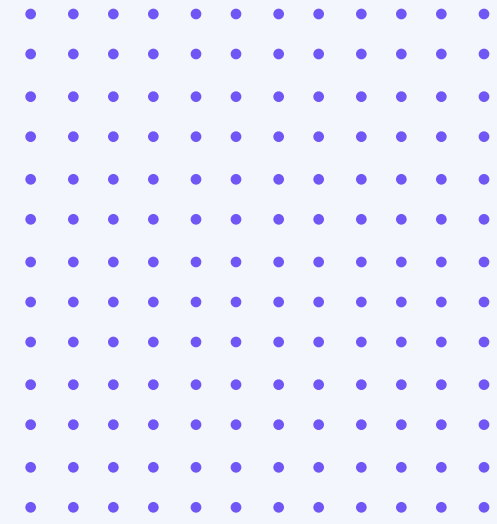


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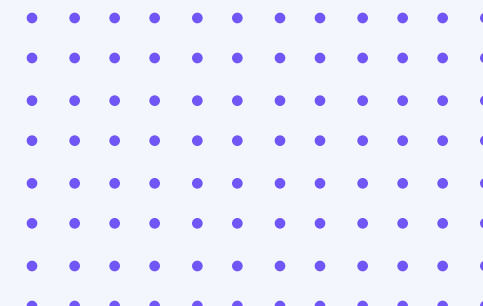
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Challenge

We had to check the performance of all Corezoid services throughout all connected public cloud environments, improve project cluster configuration templates, and adjusted detailed business metrics in line with the project goals. Currently, we continue providing our powers and expertise to help the client operate in the financial market niche.



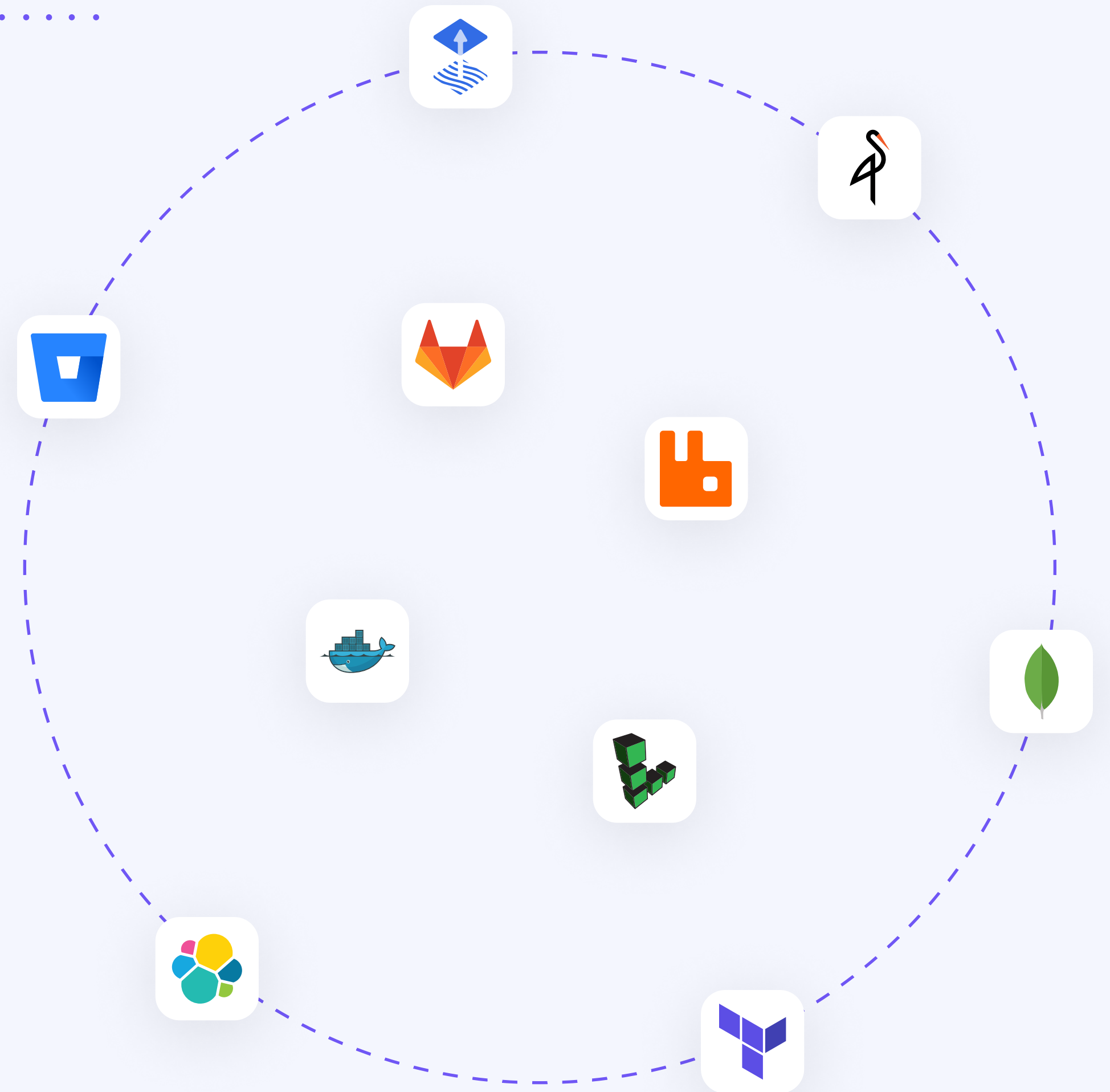
Stack of tasks

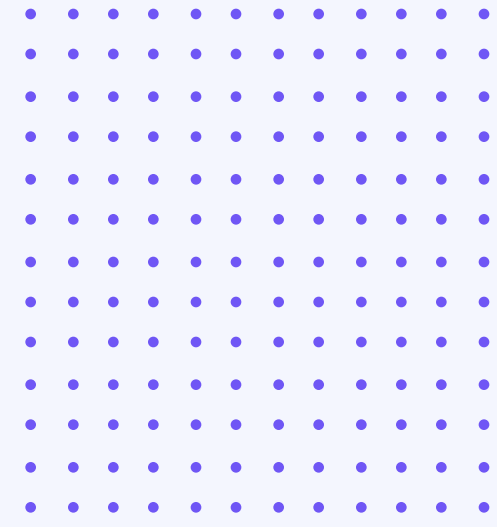
- ◊ Deployment processes and services performance testing across all public cloud environments (MS, Azure, GCP, AWS & OpenStack);
- ◊ Updating and optimization of Helm Charts.
- ◊ Configuration of a centralized monitoring system with the additional implementation of detailed dashboards visualizing major business metrics (via Prometheus and Grafana).
- ◊ Creation of a software solution for collecting and downloading **crashdump** files that is compatible with cloud providers; development of an application for Go-based tasks resolving; implementation of the MinIO, Fluentd, and Nginx (PVC) services; creation of the dedicated drive for files storing.

- ◊ Implementation of the higher service availability by utilizing the unemployed availability zones.
- ◊ Realization of a GitOps approach for the new finance-focused project of the client.
- ◊ Automation of cluster deployment processes (CD) via Flux.
- ◊ Work on PoC with Flagger in order to combine several deployment methods - Canary and Blue-Green among them.
- ◊ Development of deployment flow that fits server resources of every other client considering the specifics of security policies; unification of deployment for different types of infrastructures.
- ◊ Implementation of additional services and configuration of detailed project service and notifications-related deploys metrics.

DevOps technical stack

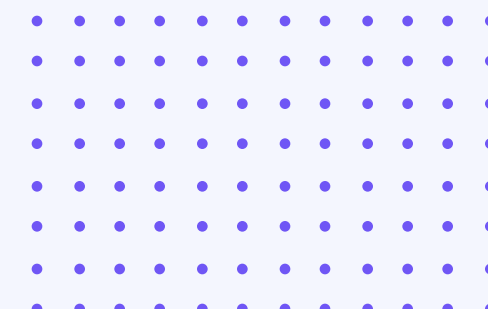
- ◊ Docker; Cloud services (all public providers), k8s, Helm charts;
- ◊ Terraform;
- ◊ GitLab, Flux, Flagger;
- ◊ Prometheus+Grafana, EFK, RabbitMQ.





Results

The client was initially looking for the expertise and powers to boost the level of service delivered to end clients that should help implement the leading DevOps practices. Constant communication and transparency were also among the major priorities. For this, we adjusted flexible communication with an extensive distributed team of the client and demonstrated our capability to handle well-formulated tasks in the shortest terms possible at the highest quality.



IT Outposts



Mriyar is a creator and provider of an AI-powered platform dedicated to auto parts sales management. The platform was mostly demanded for integration with customer marketplaces and had an infrastructure of an expanded MVP solution.

Challenge

Since the expansion from the MVP stage, the client hadn't configured the tools responsible for resource utilization analysis. The whole infrastructure deployment was carried out via Ansible so we needed to integrate the monitoring deployment playbook with the general project playback. On top of that, due to a rapid increase of project resources, the decision was made to migrate the project from the regular cloud (AWS) to the private cloud environment in order to save infrastructure (services) costs.

Stack of tasks

Monitoring tasks

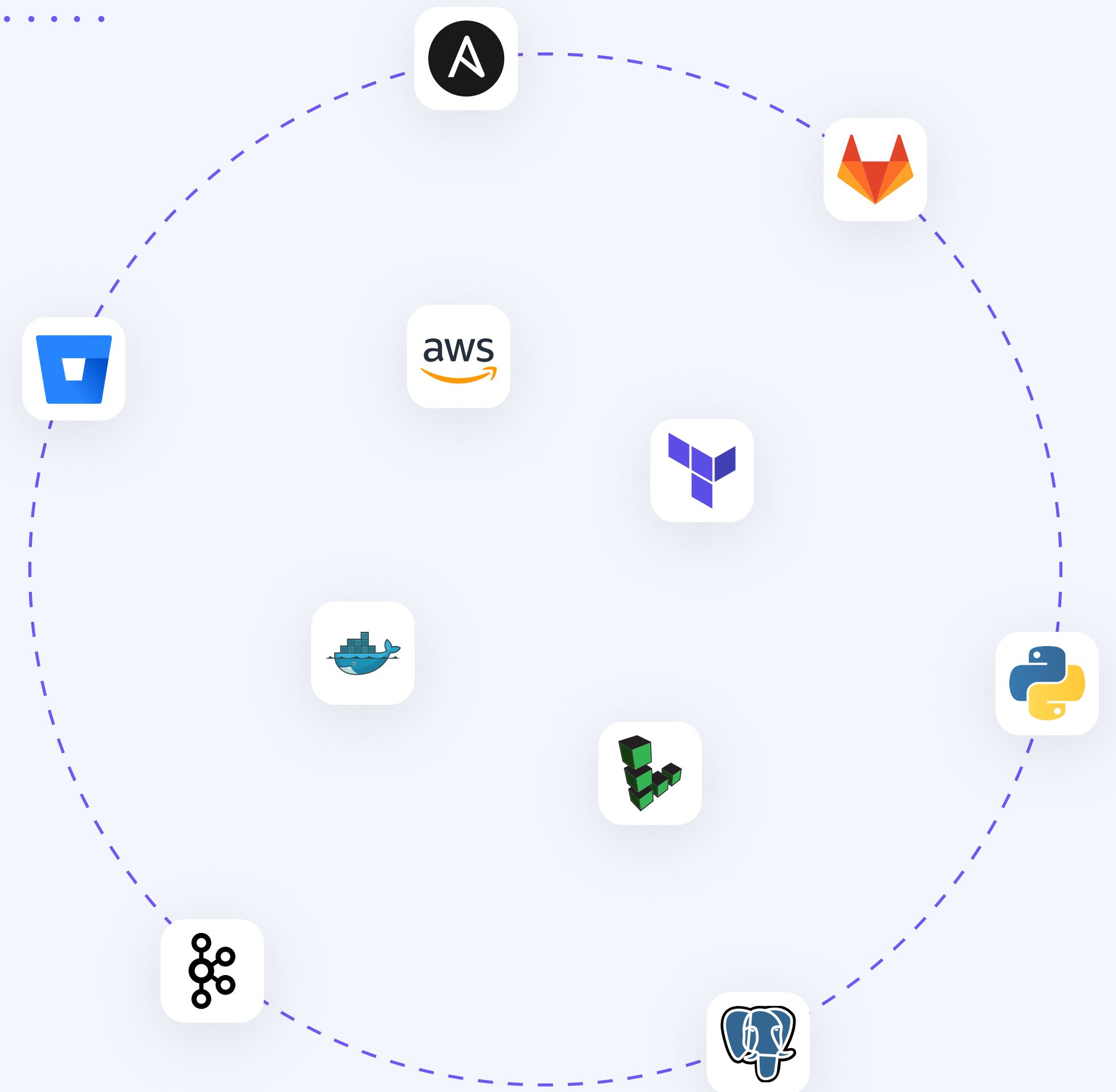
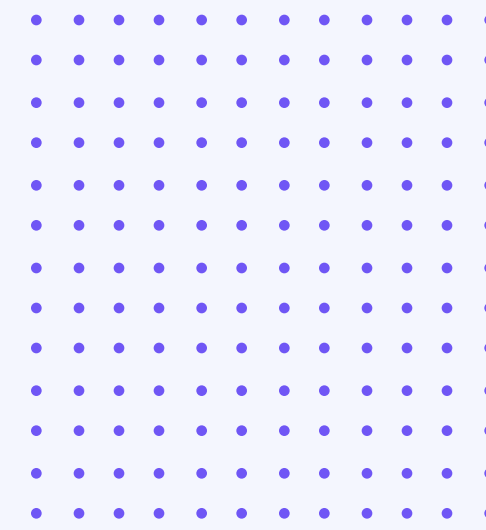
- ◊ Installation of Prometheus monitoring and deploying Prometheus operators in Docker;
- ◊ Deployment of monitoring and Grafana using Ansible, configuring and deploying alert manager;
- ◊ Integration with the general Ansible playbook;
- ◊ Addition of rules for custom metrics for services via PostgreSQL, PgBouncer, Kafka, ClickHouse, ScyllaDB, HaProxy.

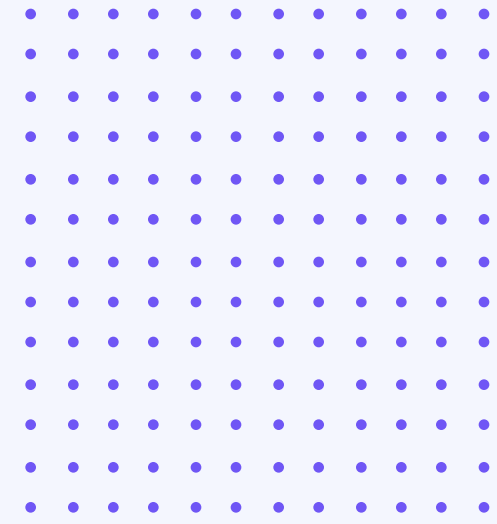
Migration tasks

- ◊ Full preparation and demonstration of the project migration plan;
- ◊ Composition of the Terraform script for provisioning the infrastructure, deployment of development and production environments;
- ◊ Preparation of Ansible roles for major high-load project services;
- ◊ Migration of databases via the backup-restore approach;
- ◊ Connection of S3 Bucket for static data processing;
- ◊ Configuration of secrets storage, roles matrix, and firewall specifics;
- ◊ Connection of DNS records, configuration of the CloudFlare service.

DevOps technical stack

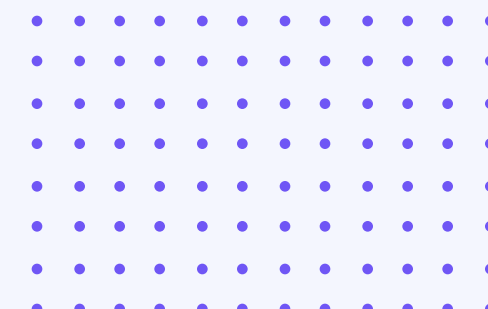
- ◊ AWS, Docker, Ansible, Terraform;
- ◊ GitLab;
- ◊ Apache Kafka, ZooKeeper;
- ◊ Python (Flask, aiohttp, Django), Vue, NLP, ML/AI;
- ◊ PostgreSQL, NoSQL (ClickHouse, ScyllaDB);
- ◊ Elasticsearch, Prometheus+Grafana, Graylog, Sentry.





Results

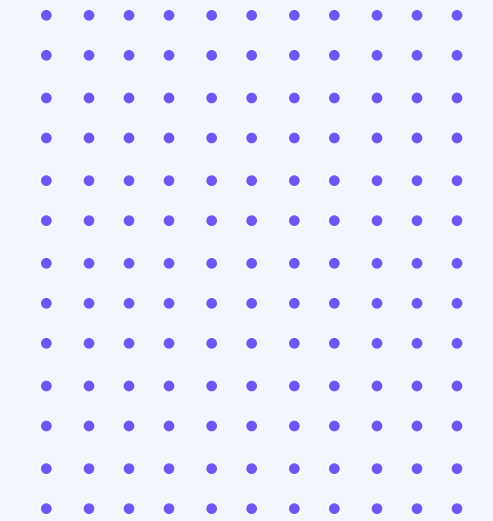
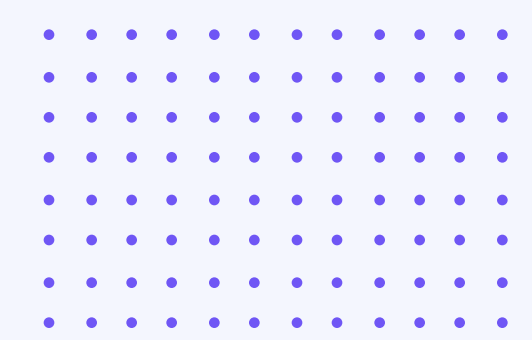
By monitoring in-depth over 35 servers and 7 services, we enabled clear and transparent planning of the underlying processes and infrastructure optimizations. Right now, our specialists are predicting an approximate 40% budget optimization. We also successfully formed a scope of tasks focused on the optimal resource distribution by the project services.



[codenix]

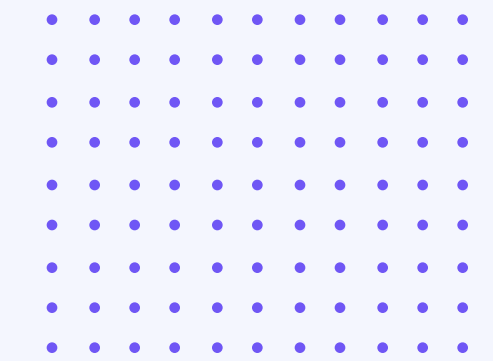
The client is an experienced financial asset management provider specializing in blockchain tech implementations. Codenix already had a running MVP of a blockchain-powered trading platform. What they needed was the expert input into scaling the project processes and its overall infrastructure with the ultimate goal of achieving the sturdy stability and high availability of the project in production. The initial tasks on the agenda were to optimize the access to sensitive data and processing of a large number of transactions at the same time.





Challenge

The general project-related challenges included clarifying the project architecture planning considering the specifics of the existing trading platform. This included settling a set of tools, integration options, project security and fault tolerance requirements. We also had to deploy the testing environment, configure and integrate all the underlying services; configure and automate flexible deployments via Canary and Blue-Green for Kubernetes clusters; conduct a dev team onboarding through the Kubernetes way; deploy and support the project in production.



Stack of tasks

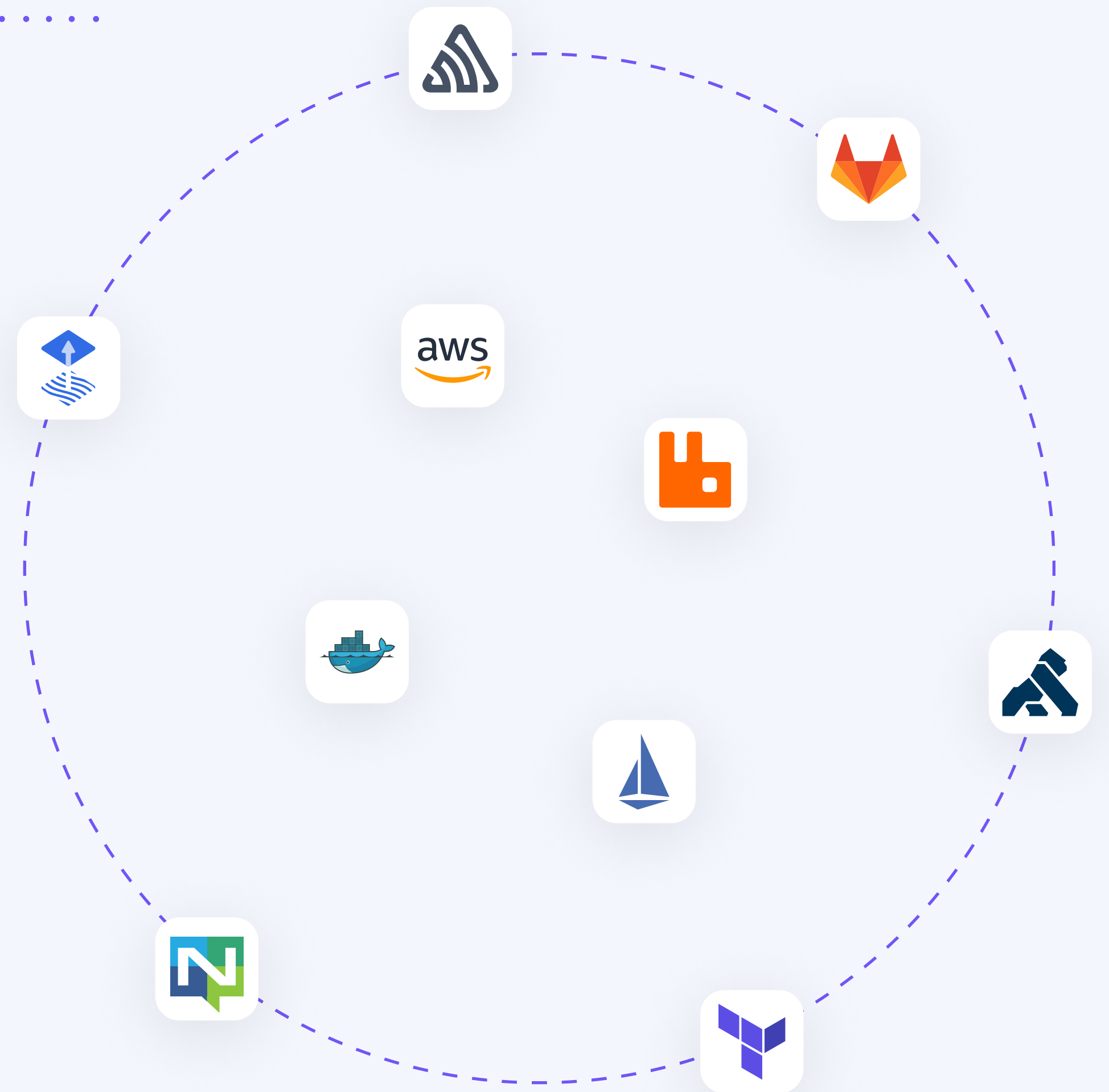
CI/CD:

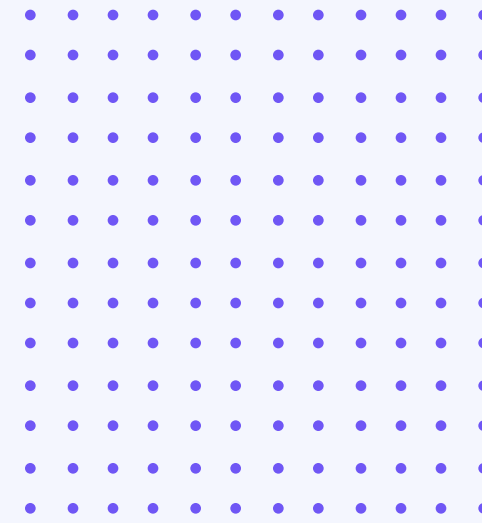
- ◊ Configuration of the applications deployment in Kubernetes clusters.
- ◊ Working through processes and guidelines for different deployment mechanisms (Canary, Blue-Green, etc.) and roll-back approaches (potentially, with the use of Flagger).
- ◊ Implementation of centralized storage for secret data as well as of mechanisms and policies of employing secrets in the project via Hashicorp Vault.
- ◊ Deployment of the main elements in the Kubernetes cluster via Flux, which involved:
 - Prometheus;
 - Service Mesh (Istio): Kali;
 - Kong Ingress Gateway: Authorization plugins (jwt, HMAC); HTTP redirection plugin; Rate-limiting plugins.
 - Grafana;
 - EFK/Loki;
 - Sentry;
 - Apache Pulsar.
- ◊ Declarative infrastructure description through Terraform.
- ◊ Implementation of IAM roles for admins/developers with the support of multi-accounts in AWS.

- ◊ Monitoring and logging:
 - Loads and QPS for PostgreSQL;
 - Loads and QPS for Redis;
 - Loads and QPS for AWS Lambda;
 - Configuring indexes in ElasticSearch;
 - Creating Grafana dashboards that visualize all loads and network activities in the Kubernetes cluster: Business metrics dashboards; Threshold readings limit alerts and automated notifications across different communication channels.
- ◊ Horizontal scaling:
 - Support of balancing gRPC connections between microservices;
 - Configuration and optimization of Horizontal Pod Autoscaler, Cluster Autoscaler, and Pod Disruption Budget;
 - Load testing;
 - Connection Poolers (PgBouncer) for PostgreSQL;
 - Master and ReadOnly Replicas for PostgreSQL;
 - Caching.
- ◊ Creation of backups.
- ◊ Security implementations:
 - Distributing employee access to microservices secrets via multi-accounts in AWS;
 - Distributing employee access to databases;
 - Distributing microservice access to database tables;
 - Testing and check-ups via CSRF, XSS, and SQL Injection.

DevOps technical stack

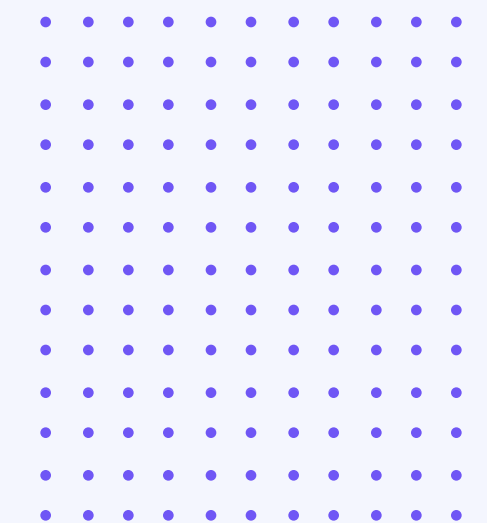
- ◇ Docker, AWS (EKS, Route 53, IAM AWS Multi-account, S3, CloudFront (frontend)), Helm charts;
- ◇ Terraform, Vault;
- ◇ GitLab, Flux, Flagger;
- ◇ Istio, Kong, Kiali;
- ◇ Sentry, Prometheus+Grafana, EFK, NATS, RabbitMQ.

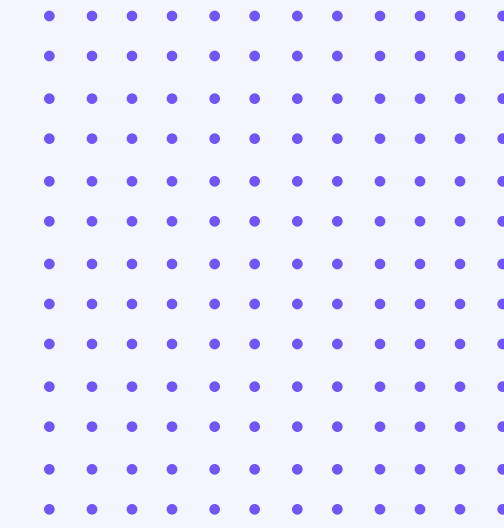




Results

Through close collaboration with the project's core team of devs, we composed a strategy for the most efficient management of roles, access rights, and sensitive data possible. We also optimized the CI/CD workflow based on the specifics of over 30 microservices involved with the project and minimized human factor risks and errors in production. Lastly, we provided a load balancer for L4/L7 and granted thorough autoscaling of cluster resources.





Contact us

Are you looking for in-depth experienced specialists to migrate your legacy system and handle your project architecture and infrastructure all-around based on the market-defining practices? Then we certainly have the expertise and profiled experience to offer. Contact us right now to discuss the specifics of your project and find out what you can ultimately get with our efforts put to work for your benefit.

