

The RESY logo consists of the word "RESY" in a bold, white, sans-serif font, centered within a solid red rectangular background.

**RESY**

» CUSTOMER CASE STUDY

# Revolutionizing Resy's Infrastructure with Nebulaworks

Nebulaworks transformed Resy's infrastructure management through Infrastructure as Code, enhancing efficiency, scalability, and innovation, while laying the groundwork for future Kubernetes-based environments



# Revolutionizing Infrastructure with Nebulaworks

## Resy's

## About Resy

Resy, an American Express affiliate, operates in the dynamic world of hospitality technology, offering a suite of software solutions that revolutionize how restaurants manage and connect with their customers. At its core, Resy provides an intuitive reservation platform, coupled with a robust table management system, to streamline the dining experience for both restaurants and diners. Their innovative approach to leveraging technology to enhance the culinary experience has positioned them as a key player in the hospitality industry.

## Challenge

Resy's technological infrastructure, vital for delivering their services, comprised various environments each developed on a complex microservice architecture. These environments were used as part of a continuous integration and deployment process, with the requirement to deploy stable software updates as Releases on a bi-weekly basis. These environments each consisted of numerous microservices and various database technologies. Two discrete teams needed to leverage a single environment for different purposes, creating friction and reducing productivity. Sharing the environment for separate concerns was not ideal for Resy, making an additional environment critical. The primary challenge of recreating an environment was the inconsistency within each, and the lack of a cohesive technical strategy for reproducibility. This situation led to configuration drift, inefficient manual processes, and a lack of clarity regarding the specific requirements of each environment, hindering effective management and scalability.

## Solution

Nebulaworks stepped in with a transformative approach, shifting the focus from utilizing configuration management to Infrastructure as Code (IaC) for managing cloud and platform resources at scale. This strategic move introduced a new paradigm of software engineering techniques for creating and managing infrastructure, not just within the AWS Cloud but also across various external platforms essential for the functionality of Resy's environments. This scalable cloud factory innovated how Resy managed the promotion of infrastructure changes to



production including: environment security management, access controls, application onboarding, third party integrations and more.

At the core of transformation for Nebulaworks' Platform Engineering capabilities was the execution of agile development techniques, fostering a dynamic, flexible, and responsive development process. They embraced a divide-and-conquer strategy, identifying pain points with key stakeholders during ideation sessions to break down complex problems into smaller, more manageable tasks. This approach, combined with the effective use of project management solutions for issue tracking, and git trunk-based development enabled a streamlined workflow. Emphasizing the importance of self-managing teams and the use of OKR grids, Nebulaworks empowered the platform engineering team at Resy to participate in taking charge of their processes, accomplishing their goals, and efficiently tracking their progress.

Along with stabilizing and refactoring core infrastructure that supported various teams to conduct normal software releases, maturity in IaC development unlocked the ability to experiment with Kubernetes, and AWS EKS. By using IaC and software engineering techniques, Kubernetes environments in AWS were developed in an MVP state, carving the path for production-grade container-based applications into the future.

## Why Nebulaworks

Nebulaworks was chosen for its expertise in managing Cloud IaC at scale, and its ability to tailor innovative solutions to Resy's unique challenges. With over 10 years of experience and dozens of successful transformation engagements, their forward-thinking strategy not only addressed the immediate needs but also equipped Resy with tools for future innovation and scalable infrastructure management.

## Outcomes

The collaboration led to a fundamental transformation in how Resy managed application infrastructure and introduced multiple net-new environments to be included as part of the Software Development Life Cycle. Additionally, the engagement led to the following benefits:

- 1.) Enhanced Infrastructure Management. The shift from configuration management to IaC marked a significant improvement, offering greater consistency, control, and innovation.
- 2.) Reproducibility. The encapsulation of entire environments with IaC enabled reproducibility and audibility of environments.

3.) Improved Efficiency and Scalability. The new infrastructure management paradigm enabled a more streamlined, scalable approach to managing Resy's diverse and complex environments.

4.) Exploratory Steps Towards Innovation. While the focus was on enhancing existing environments, the groundwork was laid expanding into production-grade Kubernetes environments, illustrating the progressive nature of Resy's infrastructure evolution.

5.) Security and Analysis Improvements. The new system provided a robust framework for addressing existing security issues, introduction of static code analysis for IaC, shifting security concerns and governance into CI / CD components

6.) GitOps Integration. Streamlined infrastructure development and deployment, enhancing efficiency and control.

7.) Custom Modules Development. Tailored to Resy's services, modules developed promoted DRY principles and simplified management.

In conclusion, Nebulaworks' strategic intervention revolutionized Resy's approach to infrastructure management. This transformation exemplifies the power of innovative solutions in addressing complex technological challenges and setting the stage for continuous advancement in a rapidly evolving industry.