nClouds | AWS Case Studies

Finexio

nClouds Helps Finexio with Efficiency and Security Enhancements

Benefits Summary

🔒 Enhanced security

📈 Increased release velocity

⏱️ Simplified maintenance

Finexio

About Finexio

Finexio simplifies accounts payable payments for medium and large corporations by digitizing manual paper checks. Finexio's comprehensive accounts payable payments-as-a-service (PaaS) solution leverages proprietary analytics and robotic process automation to drive maximum conversion rates of suppliers to electronic payments.

Industry
FinTech

Location
Orlando, Florida

Challenge
Before partnering with AWS and nClouds, Finexio faced technical hurdles in ensuring robust cloud security, cost optimization, and efficient AWS CDK stack management for streamlined scalability.

Featured Services
Cloud container management, database administration, message queue integration, systems automation, CI/CD, and security enhancements.

Challenges

There were several technical challenges that Finexio faced before working with AWS and nClouds. Ensuring robust cloud security was a top priority to protect sensitive financial data and maintain compliance standards. The company also needed to find ways to save on costs while optimizing cloud performance. Finally, deploying and maintaining AWS Cloud Development Kit (CDK) stacks efficiently was essential for streamlined infrastructure management and scalability.

Why AWS and nClouds

AWS (Amazon Web Services) and nClouds were the natural choice for Finexio's needs. AWS offers a vast array of cloud architecture solutions, and nClouds' expertise in AWS solutions provided Finexio with tailored, secure, and cost-effective answers to its specific business and technical challenges. nClouds' track record of success in AWS implementations and commitment to crafting customized solutions ensured Finexio received a comprehensive and trusted partnership.

nClouds offered an end-to-end service, handling everything from design and implementation to ongoing management and support. This allowed Finexio to focus on its core business while nClouds managed the intricacies of its AWS infrastructure. AWS's seamless integration between its services ensured that all components of Finexio's infrastructure worked together smoothly, streamlining development and deployment processes.

SOLUTIONS

Enhancing Efficiency and Security for Finexio: nClouds' Innovative AWS Solutions

In tackling the challenges faced by Finexio, nClouds devised a multifaceted solution that focused on efficiency and security enhancements. First, automated workflows were introduced to trim costs in lower environments during weekends when system usage was at its lowest, resulting in significant savings without sacrificing performance.

To speed up the implementation of AWS CDK stacks, nClouds introduced a streamlined and automated process using AWS CodeSuite and GitHub triggers. This automation ensured rapid and reliable infrastructure deployment. An automated audit system for AWS IAM users was proposed and implemented, encompassing

monitoring of access keys and password age. AWS Web Application Firewall (WAF) was also implemented to improve Finexio's security by barring malicious sources from infiltrating Finexio's systems. This proactive approach ensured compliance and minimized security vulnerabilities.

Additional pipeline features were also introduced, enabling Finexio to dynamically enable or disable releases, providing it with greater control and flexibility over its software delivery processes. A custom solution was devised to automatically create SSH users from Secrets Manager whenever new users were added or updated, streamlining user management tasks via SSM Automation Documents. Together, these solutions addressed Finexio's unique challenges, delivering efficiency, security, and agility to its AWS infrastructure.

Finexio Leverages Several Amazon Services

- **Amazon Elastic Container Service (ECS):** A container orchestration service that simplifies the deployment and management of containerized applications

- **AWS Fargate:** A serverless compute engine that offers simplified container management for Finexio

- **Amazon Relational Database Service (RDS):** A web service running "in the cloud" that is designed to simplify the setup, operation, and scaling of a relational database for use in applications

- **Amazon Aurora:** A relational database management system (RDBMS) built for the cloud with full MySQL and PostgreSQL compatibility

- **AWS MQ:** A managed message broker service that enables communication between distributed applications

- **AWS CloudFront:** A content-delivery network (CDN) service that accelerates the delivery of web content—including videos, images, and dynamic content—to end users globally

- **Amazon S3 (Simple Storage Service):** An object storage service that provides scalable, secure, and highly available storage for various data types, including files, documents, and media

- **Amazon Elastic Compute Cloud (EC2):** A web service that offers resizable compute capacity in the cloud, allowing users to launch virtual servers, known as instances

- **AWS CodeBuild:** A continuous integration service that compiles source code, runs tests, and produces ready-to-deploy software packages

- **AWS CodePipeline:** A continuous delivery service that helps Finexio automate its release pipelines for fast and reliable application and infrastructure updates

- **AWS CodeStar Connections:** A service that facilitates integration with third-party development tools
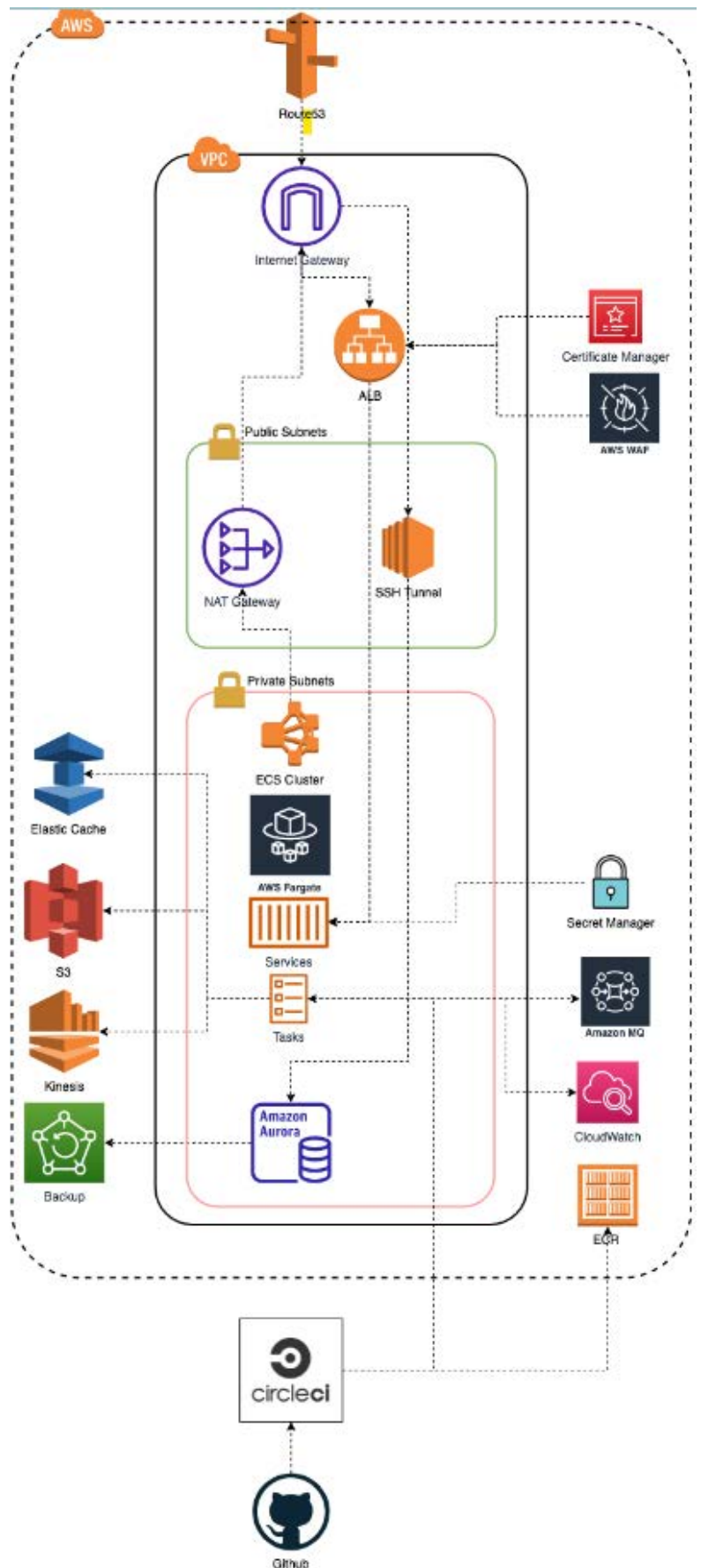
- **AWS Application Autoscaling:** A service that allows automatic scaling of applications in response to changing workloads, helping Finexio maintain performance and cost-efficiency

- **Amazon Simple Queue Service (SQS):** A fully managed message queuing service that enables decoupled and distributed communication between components of a cloud application

- **Amazon Kinesis:** A platform for streaming data on AWS, allowing real-time data processing, analysis, and visualization

- **AWS DocumentDB:** A managed NoSQL database service compatible with MongoDB, designed for highly available and scalable document database workloads

- **AWS ElastiCache for Redis:** A managed in-memory data store service for Redis—one of the supported engines, offering fast and scalable caching

- **AWS CloudWatch:** A monitoring and observability service that provides insights into the performance and health of AWS resources and applications

- **AWS Lambda:** A serverless compute service that runs code in response to events and automatically scales based on demand

- **Amazon Elastic Container Registry (ECR):** A fully managed Docker container registry service that simplifies container image storage and management

- **AWS Web Application Firewall (WAF):** A managed firewall service that protects web applications from common web exploits and threats

- **Amazon Virtual Private Cloud (VPC):** This allows users to create isolated network environments within AWS, providing control over network architecture and security

- **AWS Route53:** A scalable domain name system (DNS) web service that translates friendly domain names into IP addresses

- **AWS Identity and Access Management (IAM):** A service that securely manages user access to AWS resources

- **AWS Config:** A service that provides a detailed view of AWS resource configurations, which helps Finexio with compliance and auditing

- **AWS GuardDuty:** A threat-detection service that continuously monitors for malicious activity in AWS accounts and workloads

- **AWS Cloud Development Kit (CDK) and AWS CloudFormation:** Infrastructure as code (IaC) services for defining and provisioning AWS infrastructure resources

- **AWS CloudTrail:** A service that records and audits AWS account activity and API calls, which helps Finexio with security and compliance

- **Amazon Simple Notification Service (SNS):** A fully managed messaging service that enables the publishing of messages to distributed recipients

- **AWS EventBridge:** A serverless service that connects applications and services using what's referred to as "events"

- **AWS ChatBot:** A service that helps with integration with popular chat platforms to receive notifications and interact with AWS services

- **Amazon Simple Email Service (SES):** A scalable and cost-effective email service for securely sending and receiving emails

- **AWS Organizations:** A service that helps centrally manage multiple AWS accounts with consolidated billing and access control

- **AWS Certificate Manager (ACM):** A service that provides SSL/TLS certificates for securing applications and websites

- **AWS Key Management Service (KMS):** A managed service for creating and controlling encryption keys

- **Amazon Elastic Block Store (EBS):** A service that provides block-level storage volumes with EC2 instances

- **Amazon Elastic File System (EFS):** A scalable and fully managed file storage service with EC2 instances

- **AWS Backup:** A centralized backup service that simplifies data protection and recovery

Security, Speed, and Efficiency

Teaming up with Finexio, nClouds enabled several key benefits through AWS that cut costs and sped up the company's time to market.

Enhanced Security

The introduction of AWS Web Application Firewall (WAF) and automated IAM user audits ensured a secured infrastructure, protecting against threats.

Increased Release Velocity

The implementation of flexible pipeline management empowered Finexio to dynamically enable or disable releases, granting it precise control over software delivery.

Simplified Maintenance

Automation and custom solutions made infrastructure maintenance and updates easier, reducing operational overhead and enhancing system reliability.

ABOUT
nClouds

nClouds is a certified, award-winning provider of AWS and DevOps consulting and implementation services. We partner with our customers as extensions of their teams to build and manage modern infrastructure solutions that deliver innovation faster. We leap beyond the status quo.

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