

nClouds | AWS Case Studies

Sense Health

How nClouds helped Sense Health develop a centralized process to manage infrastructure changes, implement automated CI/CD pipelines, and enhance security.



sensehealth

Industry

Healthcare, SaaS

Location

New York

Challenge

Centralize infrastructure change management, implement new automated CI/CD pipelines, and enhance security.

Featured Services

Infrastructure Modernization, DevOps

About Sense Health

Sense Health's healthcare technology services included a mobile care management platform containing proprietary health content and algorithms to create and deliver real-time, tailored patient support. It enabled health professionals to quickly generate customized text-message-based health care plans for their patients and to track and receive instant alerts about the well-being of their patients. In 2017, Sense Health and Voxiva merged to form Wellpass, a messaging platform to connect payers, providers and the patients they serve. Then, in 2018, Wellpass was acquired by Welltok, a platform that uses proprietary data and advanced analytics to personally engage and motivate users to take actions to improve their physical, mental, social and financial well-being. To learn more, check out <https://welltok.com/>

Benefits Summary



Centralized change management and monitoring



Faster delivery of new features



Enhanced security

CHALLENGE

Centralize infrastructure change management, implement new automated CI/CD pipelines, and enhance security.

Sense Health wanted to develop a centralized process to manage infrastructure changes. They also required new automated CI/CD pipelines to accelerate workflow and deployments and enhanced security to control access by authorized individuals.

Why AWS and nClouds

Sense Health selected nClouds to create this solution based on its infrastructure modernization and DevOps expertise.

Sense Health leveraged several Amazon Web Services:

- **Amazon Virtual Private Cloud (Amazon VPC)** - Enables Sense Health to provision a logically isolated section on AWS where they can launch AWS resources in a virtual network that they define.
- **AWS Auto Scaling** - Monitors Sense Health's applications and automatically adjusts capacity to maintain steady, predictable performance at the lowest possible cost.
- **AWS CloudFormation (CloudFormation)** - Allows Sense Health to treat its infrastructure as code, automate operations, and bring up new environments.
- **AWS CloudTrail (CloudTrail)** - For governance, compliance, operational auditing, and risk auditing of the AWS account.
- **AWS OpsWorks** - An application management service for DevOps users with scripted configuration to reduce errors, automation to reduce costs and save time, and fine-grained permissions to improve control.
- **AWS Virtual Private Network (AWS VPN)** - Enables Sense Health to establish a secure and private encrypted tunnel from its network or device to the AWS global network.



Sense Health's solution stack also included additional, essential third-party tools:

- **AlienVault Unified Security Management (now AT&T Cybersecurity)** - Provided threat detection, incident response and compliance in a single platform. It centralized security monitoring of networks and devices in the cloud, remote locations, and on-premises, helping Sense Health detect threats virtually anywhere.
- **Chef** - Provides automated configuration management to enable consistent configurations at scale.
- **Icinga** - An open-source computer system and network monitoring application.
- **Jenkins** - An open-source automation server written in Java to support CI/CD.
- **nOps** - A SaaS cloud management and intelligence platform that continuously optimizes cost, security, performance, reliability, and operational excellence, aligned with AWS Well-Architected Framework best practices.
- **PagerDuty** - A SaaS platform that enables Sense Health to prevent and resolve business-impacting incidents to improve customer experience.
- **Slack** - A cloud-based instant messaging tool that enables workplace collaboration and integrates with other products that Sense Health uses.

nClouds' Solution Architecture for Sense Health

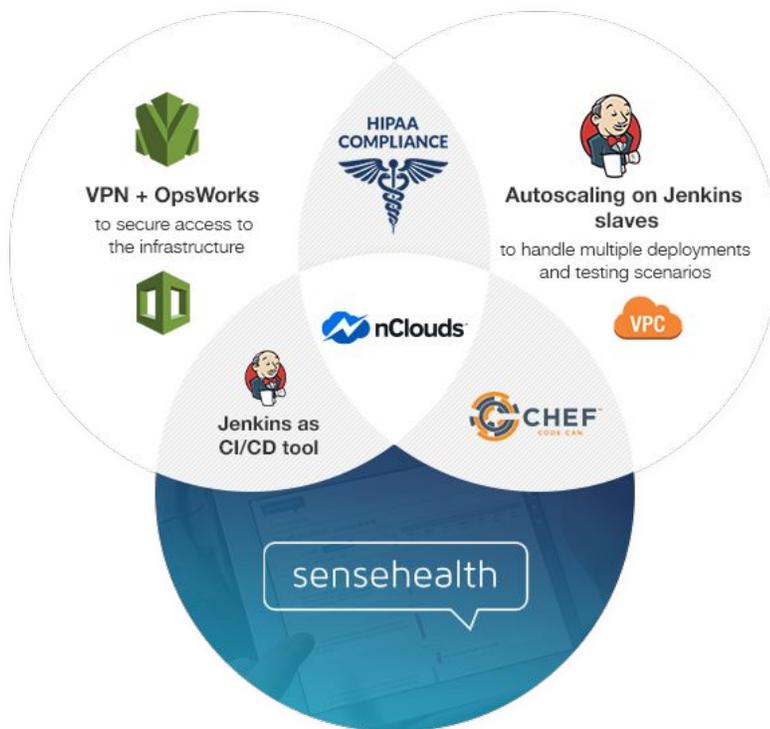
Using best practices and procedures, nClouds implemented AWS CloudFormation to automate Sense Health's infrastructure and AWS OpsWorks and Chef recipes for configuration management. A utility stack was created to add an AWS VPN (to support HIPAA compliance) and other required servers for monitoring and deployment. For security purposes, nClouds implemented automated deployment of AlienVault USM software, an AWS Virtual Private Network (AWS VPN) with multi-factor authentication (MFA), and AWS OpsWorks' fine-grained permissions.

To deliver new software releases quickly and efficiently, Jenkins enabled fast deployment and testing based on pull requests and a deployment pipeline across all stages from testing to QA and production.

nClouds introduced automated testing and regression testing mechanisms to improve the company's feedback loop, using AWS Auto Scaling on Jenkins agents to simultaneously handle multiple deployments and testing scenarios.

For appropriate change management policies, nClouds implemented AWS CloudTrail and nOps cloud management platform to centralized change management and monitoring of system performance, cost, and security. Icinga was used for system and services monitoring, integrated with PagerDuty and Slack.

High-level architecture diagram:



The Benefits

Teaming with nClouds, the project has yielded numerous benefits to Sense Health:



Centralized change management and monitoring

AWS CloudTrail and nOps cloud management platform provided centralized change management and monitoring of system performance, cost, and security. Icinga was used for system and services monitoring, integrated with PagerDuty and Slack.



Faster delivery of new features

Automation enabled faster delivery of new features. AWS CloudFormation automated Sense Health's operations. Jenkins' automated CI/CD pipelines and AWS Auto Scaling on Jenkins agents handled multiple deployments and testing scenarios simultaneously.



Enhanced security

Automated deployment of AlienVault USM software, an AWS VPN with MFA, and AWS OpsWorks provided Sense Health with a modern security management system.

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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