

nClouds | AWS Case Studies

Talix

nClouds provides AWS migration of Talix's on-prem healthcare SaaS platform to accelerate new customer onboarding and enhance performance efficiency.

About Talix

Talix is a rapid-growth, VC-backed provider of risk and quality solutions to help providers, payers, and accountable care organizations address the growing challenges of value-based care. Its comprehensive, AI-powered SaaS platform makes the transformation to value-based reimbursement more seamless and effective. The Talix Platform uses award-winning, patented natural language processing (NLP) and machine learning (ML) techniques to power workflow applications, making processing patient data more accurate and efficient. To learn more, go to www.talix.com

Benefits Summary



Enhanced performance efficiency



Cost optimization



Regulatory compliance and security

CHALLENGE

Migrate its SaaS platform from on-prem to AWS to accelerate new customer onboarding without disrupting its business.

Talix wanted to move its SaaS workload from on-prem to AWS to leverage the managed services model and achieve better performance efficiency. To support Talix's continued business growth, the new architecture needed to automate new customer onboarding without disrupting its business. Plus, it needed to support required compliance standards aligned with HIPAA and HITRUST compliance guidelines.

Talix

Industry

Healthcare, Insurance Risk Management, SaaS

Location

San Francisco, CA

Challenge

Migrate its SaaS platform from on-prem to AWS to accelerate new customer onboarding and enhance performance efficiency without disrupting its business.

Featured Services

Migration, DevOps

AWS asked nClouds to take over a project begun by another AWS Partner, based on nClouds' migration and DevOps expertise and experience in designing, implementing, and integrating AWS infrastructure for SaaS application architectures. At the end of the migration project, Talix was impressed with what nClouds delivered and asked nClouds to provide ongoing DevOps services and help them with an AWS Graviton2 Proof of Concept (PoC).

Talix leveraged several Amazon Web Services:

- **Amazon CloudWatch (CloudWatch)** - Monitors applications, responds to system-wide performance changes, optimizes resource utilization, and provides a unified view of performance health.
- **Amazon EC2 Reserved Instances (RI)** - Provides Talix with a significant discount (up to 75%) compared to On-Demand pricing and provides a capacity reservation when used in a specific Availability Zone (AZ).
- **Amazon Elastic Block Store (Amazon EBS)** - Provides persistent block-level storage volumes for use with Amazon EC2 instances on AWS.
- **Amazon Elastic Compute Cloud (Amazon EC2)** - A web service that provides Talix with secure, resizable compute capacity in the cloud.
- **Amazon Elastic File System (Amazon EFS)** - Provides Talix with a simple, scalable, fully managed elastic network file system (NFS) for use with AWS services and on-premises resources.
- **Amazon Simple Storage Service (Amazon S3)** - A flexible way to store and retrieve data, providing Talix with cost optimization, access control, and compliance.
- **Amazon Virtual Private Cloud (Amazon VPC)** - Enables Talix to provision a logically isolated section on AWS where they can launch AWS resources in a virtual network that they define.
- **AWS Elastic Load Balancing (ELB)** - Automatically distributes incoming application traffic across multiple targets, such as Amazon EC2 instances, containers, IP addresses, and Lambda functions. It can handle the varying load of application traffic in a single Availability Zone or across multiple Availability Zones.



The nClouds team's flexibility and responsiveness to our business requirements enabled Talix to accelerate new customer onboarding securely and cost efficiently."

Niraj Katwala
CTO & EVP, Talix

Talix's solution stack also included an additional, essential third-party tool:

- **HashiCorp Terraform** - An infrastructure-as-code (IaC) tool that allows Talix to create, update, and version its AWS infrastructure.

nClouds' Solution Architecture for Talix

Talix's existing workload consisted of two applications, including a set of services deployed on Xen Virtual Machines in a traditional data center. The applications included build and healthcare data hosting servers (deployed on a per-customer basis) and Oracle Database and UI servers (shared by all customers). Shared network-attached storage (NAS) was deployed on virtual machines.

nClouds migrated Talix's infrastructure to AWS and streamlined the AWS infrastructure for cost optimization and performance efficiency. Talix required that the migration and final implementation align with HIPAA and HiTRUST compliance guidelines. For minimum business disruption, nClouds migrated each single-tenant setup one at a time.

nClouds split the workload into two different AWS accounts: Prod and Non-Prod. There are Amazon EC2 clusters for shared services (the database and UI servers). The contents of the shared NAS drive are now on an Amazon EFS drive. The new architecture also includes Amazon S3 storage, Amazon EBS (for database storage), and AWS ELB (to distribute incoming application traffic from users).

The Benefits

Teaming with nClouds, Talix now has a streamlined AWS infrastructure optimized for cost, performance efficiency, regulatory compliance and security. The project has yielded numerous benefits:



Enhanced performance efficiency

The migrated architecture is resilient to failure and can recover without a noticeable customer impact. CI/CD is integrated within its deployment pipeline. It includes CloudWatch monitoring to evaluate and optimize individual tenant performance without requiring this optimization to be applied to all tenants. Amazon EC2 enables Talix to scale the database and mitigate database performance issues so that a considerable number of tenants can be onboarded and maintained without the risk of performance degradation.

Techniques are in place to manage the lifecycle of active and inactive tenants. There are well-defined, streamlined, automated processes for assessing, triaging, and escalating tenant-specific issues, with policies and mechanisms that capture and escalate issues with a specific tenant context.



Cost optimization

Amazon S3's Intelligent-Tiering optimizes Talix's storage costs. RIs provide front-end cost efficiency because Talix only incurs costs when the system runs (vs. an on-prem data center that is running — and incurring cost — all the time).



Regulatory compliance and security

nClouds ensured that both the migration and final implementation met the required compliance standards (aligned with HIPAA and HITRUST compliance guidelines) for its customers (tenants). In line with SaaS security best practices, nClouds built an architecture that has security at every layer to ensure an adequate tenant isolation boundary. APIs have security (authentication, authorization) and mitigation strategies, and tenant access to AWS resources/services is secured via per-resource policies (Amazon S3 bucket policies).

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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