



CloudXStack

Designed for Scale • Built for Trust

Achieving HIPAA Compliance and DevOps Modernization on AWS

Revolutionizing HealthTech infrastructure on AWS, achieving HIPAA compliance and modernizing DevOps for secure, scalable Python microservices.



The Challenge: Security, Compliance, and Scalability

A Leading HealthTech Startup, a US-based technology company faced critical infrastructure limitations that prevented HIPAA compliance and hindered operational efficiency. Their existing setup required comprehensive transformation to meet healthcare industry standards.



HIPAA Mandate

Urgent need to establish a platform meeting all HIPAA safeguards, including encryption, access control, and comprehensive audit trails for Protected Health Information.



Infrastructure Sprawl

Single undifferentiated AWS account complicated security enforcement and environment separation between Development and Production workloads.



Manual Deployment

Lack of automated CI/CD pipelines led to slower release cycles and increased risk of human error during deployments.



Comprehensive AWS DevOps Solution

We engineered a complete transformation leveraging Infrastructure as Code and container orchestration to deliver a production-ready, HIPAA-compliant environment that addresses all security and scalability requirements.



HIPAA Foundation

AWS Organizations, Terraform for secure hierarchical structure & strict separation of duties.



Container Orchestration

Amazon EKS for highly scalable microservices platform with worker nodes in private subnets.



Infrastructure as Code

Terraform for rapid, repeatable, and auditable infrastructure changes through code management.



Security & Protection

AWS KMS, Secrets Manager for CMK-based encryption & centralized secret management.



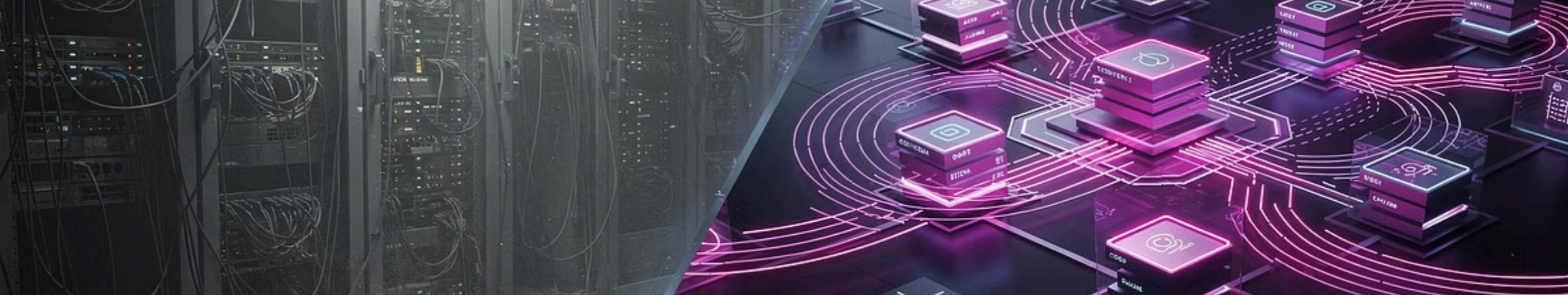
CI/CD Automation

GitHub Actions, Helm for automated build, test, and deployment with versioned release workflow.



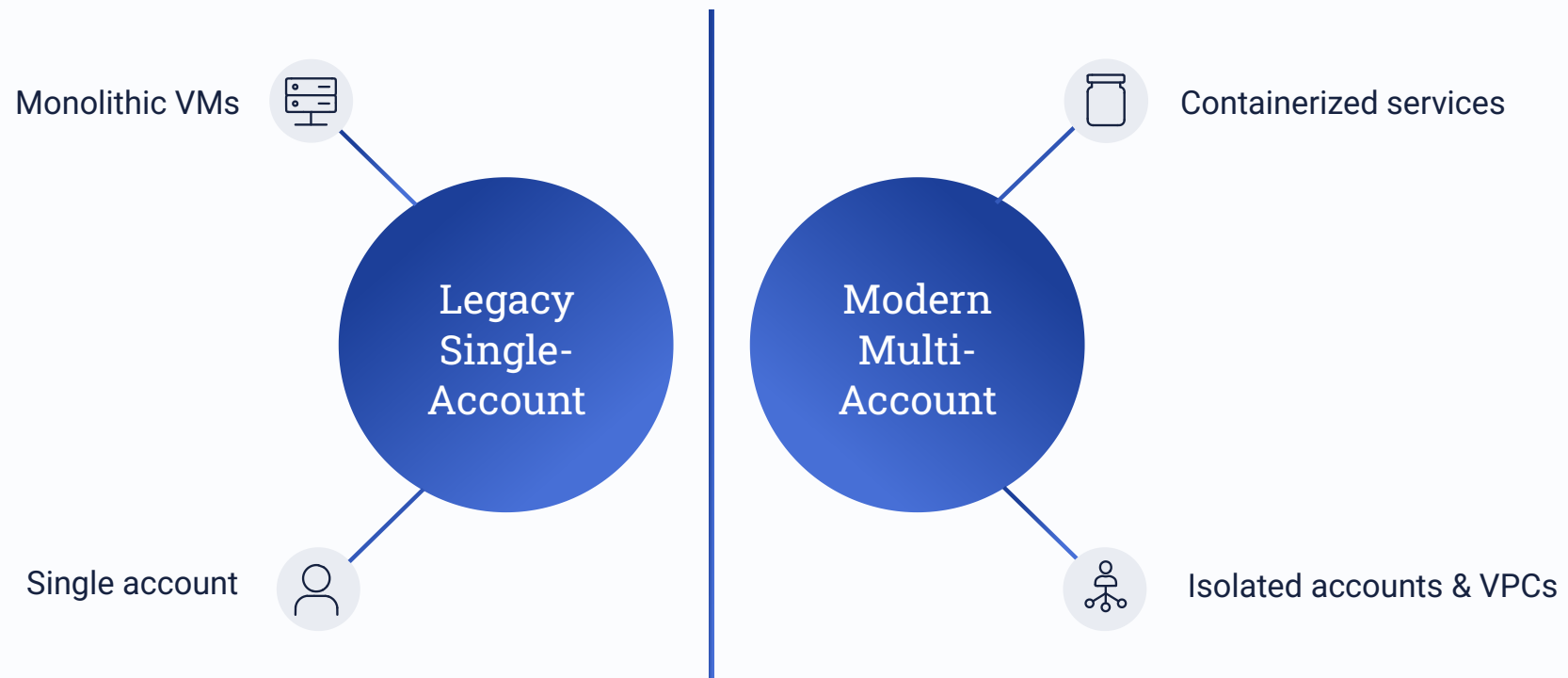
Managed Services

RDS, ElastiCache, OpenSearch for highly available encrypted data services.



Architectural Transformation

The modernization journey involved comprehensive infrastructure redesign across all critical components, moving from a legacy single-account setup to a sophisticated multi-account architecture with robust security controls.



Results and Business Impact

100%

HIPAA Compliance

All technical, administrative, and physical safeguards demonstrably configured for secure PHI handling and auditability

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Critical Findings

Eliminated all critical security findings through encryption, least-privilege IAM, and container vulnerability scanning

75%

Faster Releases

Automated CI/CD pipelines drastically reduced manual intervention and accelerated time-to-market

A compliant and efficient platform now enables sustainable growth, with infrastructure prepared for future GitOps and microservices expansion.





About CloudXStack

Designed for Scale • Built for Trust

Building Resilient Digital Ecosystems

Founded in 2025 and based in Thane, Maharashtra, CloudXStack is your trusted partner in digital transformation. We help organizations of all sizes design, build, secure, and scale modern digital solutions across cloud platforms.

With security, scalability, and performance at our core, we enable faster innovation, reduced operational risk, and tangible business outcomes. Together, we build resilient, intelligent, and future-ready digital ecosystems.

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