AHANA DELIVERS ZERO-DOWNTIME AZURE MIGRATION OF 2TB PHI DATA FOR LEADING HEALTHCARE BPO
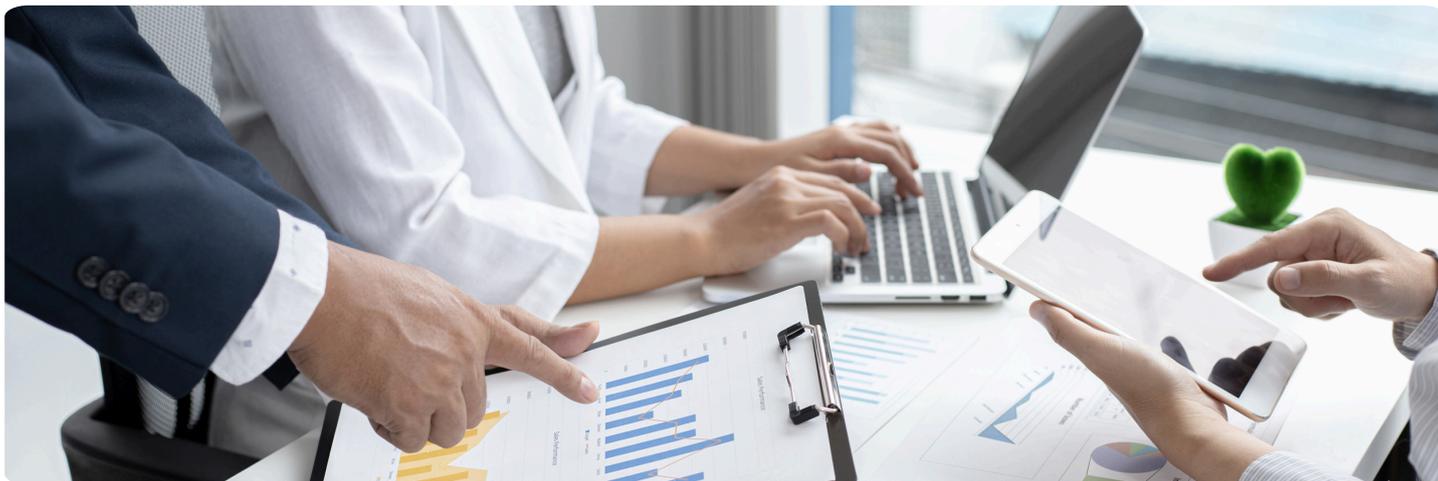
Maintaining regulatory compliance while managing large volumes of sensitive healthcare data is a growing challenge for global BPO providers. With changes in data residency laws and increasing pressure to ensure airtight data protection, many healthcare enterprises must revisit their IT infrastructure, especially when dealing with Protected Health Information (PHI) across geographies.

A prominent US-based healthcare BPO, known for its end-to-end Revenue Cycle Management (RCM) services, faced a compliance roadblock. The client's PHI data, distributed across file servers in multiple Indian cities, needed to be relocated to the US to maintain HIPAA and ISO 27K compliance. To achieve this, Ahana implemented a secure and scalable Azure-based cloud migration strategy that included Active Directory extension via an Additional Domain Controller (ADC), data replication, VPN configuration, and backup optimization executed with zero operational disruption.

Client Profile

Our client is a leading Revenue Cycle Management company headquartered in the United States. The organization provides an integrated suite of services that includes eligibility verification, medical coding, claims processing, analytics, and practice management for a wide range of healthcare providers.

With a strong client base that spans physicians, hospitals, dental care providers, health plans, and third-party administrators, the company handles vast volumes of PHI and call recordings daily. Ensuring the security, accessibility, and compliance of this data matters not just for operations but also for legal compliance.

Challenge

The client faced compliance and operational risks due to the decentralized storage of sensitive healthcare data. Key challenges included:

- **Geographically Dispersed Data:** File servers and call recordings were stored across multiple offices in Mumbai, Chennai, and Ahmedabad, making centralized management and compliance enforcement difficult.

- **Active Directory Integration Complexity:** All systems were part of a global Active Directory domain, adding intricacies to data synchronization and security alignment during migration.

- **Regulatory Compliance Risks:** Continued storage of Protected Health Information (PHI) in India violated updated HIPAA and ISO 27K data residency mandates, exposing the organization to legal and reputational consequences.

- **Operational Disruption Threats:** A non-compliant infrastructure posed a threat to business continuity, as uninterrupted access to PHI was critical for daily operations.
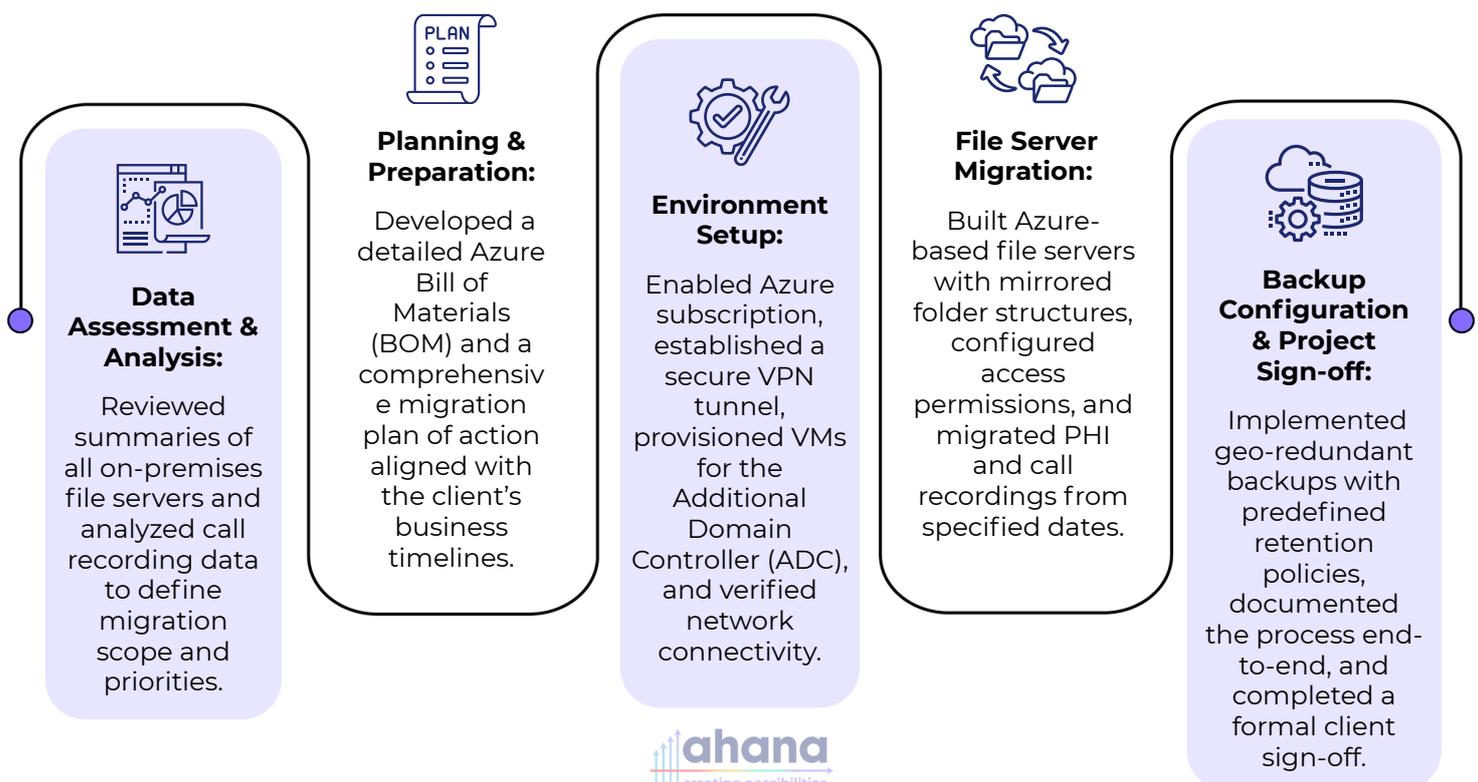
The Solution

To ensure HIPAA and ISO 27K compliance without disrupting operations, a comprehensive cloud migration strategy was implemented, tailored to the client's AD-integrated infrastructure. The solution enabled secure relocation of over 2TB of PHI and call recordings from Indian data centers to Azure-hosted infrastructure in the US executed with precision and zero downtime.

Key Solution Highlights:

- **Site-to-Site VPN Integration:** A secure VPN tunnel was established between the client's on-premises network and Azure, allowing encrypted, real-time data transfers and secure connectivity throughout the migration.

- **Azure-Based Additional Domain Controller (ADC):** An ADC was deployed within Azure to extend the client's existing Active Directory domain, ensuring seamless user management and policy enforcement across environments.

- **File Server Deployment & Data Migration:** Virtual machines were provisioned on Azure with folder structures mirroring the original file servers. NTFS permissions for over 4,000 users were retained, and PHI along with call recordings were migrated as per predefined cut-off dates.

- **Role-Based Access Configuration:** Access controls were configured at a granular level to match existing security protocols, ensuring authorized data access only.

- **Cloud Storage Optimization:** Infrastructure was designed with 5TB of active storage and an additional 5TB in Azure Blob Storage, offering scalable, cost-effective storage for both operational and archival data.

- **Geo-Redundant Backup Setup:** Azure Backup was configured with geo-redundant policies and retention rules, ensuring high availability and resilience in line with disaster recovery requirements.

- **Zero Downtime Execution:** Migration activities were planned and executed in a phased manner to ensure uninterrupted access to business-critical systems, file repositories, and telephony servers.

Implementation Approach

The project was executed in five well-defined phases, ensuring accuracy, continuity, and compliance throughout the migration process.

Data Assessment & Analysis:
Reviewed summaries of all on-premises file servers and analyzed call recording data to define migration scope and priorities.

Planning & Preparation:
Developed a detailed Azure Bill of Materials (BOM) and a comprehensive migration plan of action aligned with the client's business timelines.

Environment Setup:
Enabled Azure subscription, established a secure VPN tunnel, provisioned VMs for the Additional Domain Controller (ADC), and verified network connectivity.

File Server Migration:
Built Azure-based file servers with mirrored folder structures, configured access permissions, and migrated PHI and call recordings from specified dates.

Backup Configuration & Project Sign-off:
Implemented geo-redundant backups with predefined retention policies, documented the process end-to-end, and completed a formal client sign-off.

Impact

- **Cloud Scalability and Reliability:** On-premises file servers were successfully transitioned to Azure, resulting in a more resilient and scalable cloud infrastructure.

- **Zero Downtime Integration:** All migration activities were executed without disrupting existing operations, ensuring uninterrupted access to business-critical systems.

- **Extended Active Directory Integration:** The synchronization between on-premises Active Directory and Azure was completed by deploying an Additional Domain Controller (ADC), maintaining consistent identity and access management.

- **Regulatory Compliance Achieved:** Full compliance with **HIPAA** and **ISO 27K** standards was achieved by securely migrating all PHI data to the US, addressing data residency and audit-readiness requirements.

- **Enterprise-Grade Execution:** The integrity of NTFS permissions for over **4,000 users** across all folders was maintained, with more than **2TB of PHI** and call recordings successfully uploaded from multiple locations to Azure Virtual Machines. This was accomplished with zero operational disruption, showcasing precision, reliability, and a strong focus on compliance and scalability.

Conclusion

Ahana's successful execution of the cloud migration project enabled the client to modernize its infrastructure while ensuring full compliance with HIPAA and ISO 27K standards. By leveraging Azure's capabilities, the client now benefits from a secure, scalable, and audit-ready environment tailored to the storage and management of PHI data.

This case study highlights Ahana's ability to deliver seamless transitions with zero downtime, maintain data integrity across a distributed user base, and uphold the highest levels of compliance. With over 2TB of data securely migrated and Active Directory extended to Azure, the client is now well-positioned for future growth with a robust, resilient IT foundation.

About Ahana Systems and Solutions

Ahana Systems & Solutions is a leading IT Infrastructure Management Services and Digital Transformation company based in Bengaluru, India. Our expertise spans a wide range of solutions, including Cloud, RPA, DB & EDW, BI & Analytics, and Application Development.

Our 100+ roster of clients relies on us for our deep domain expertise, skilled resource base, and proven partnerships with the best technology providers.