

## CASE STUDY

**The University of Nebraska Medical Center (UNMC) partnered with Armely to Migrate their 20+ year old Sybase ASE data platform with over 5TB of data to a Highly Available Microsoft SQL Server**

The University of Nebraska Medical Center (UNMC) is a public academic health science center with a distinguished history dating back to 1869. UNMC is the only public institution of its kind in Nebraska, playing a vital role in educating the state's healthcare workforce and conducting groundbreaking research. Their research efforts have a significant impact on areas like successful aging and infectious diseases, contributing to improved health outcomes not just in Nebraska but across the globe. UNMC is also known for its commitment to rural medicine, ensuring access to quality healthcare for underserved communities.

UNMC, facing limitations with its aging Sybase ASE platform, recognized the need for modernization. While keeping Sybase was an option, it would not support their future growth aspirations. Armely was brought in to assess the viability of a migration to Microsoft SQL Server and address UNMC's specific concerns.

We do not take the one-shoe-fits-all approach, conducting a thorough analysis of the existing infrastructure allowed us to successfully map the migration plan and provide the customer with a complete roadmap of the migration.

## CHALLENGES

Some of the challenges that the customer experienced included

**Scalability:** Limited scalability in terms of data volume and user concurrency.

**Features Limitation:** Limited features that restricted the customer's ability to ensure high availability and advanced analytics.

**Cost:** Licensing and On-going maintenance was expensive especially for the aging platform.

**Security:** Limited security and data protection features.

**Support:** Finding skilled Sybase ASE professionals can be more challenging compared to the readily available pool of other data platform experts.

## SOLUTION

Armely proposed an implementation of SQL Server environment with the following features.

1. **AlwaysOn** for high availability
2. **Always Encrypted** for end-to-end data encryption (Secure Enclave).
3. **Transparent Data Encryption (TDE)** for data encryption at rest.
4. **Dynamic Data Masking** to protect sensitive data from unauthorized access.
5. **Strong Active** directory driven authentication.
6. **gMSA** a centralized and secure way to manage service accounts for SQL Server instances running on multiple servers.
7. Granular permission control using **authorization** with **roles**.
8. **Auditing** to track login attempts, data access and schema changes.
9. **Query Store** to provide control over query execution plans and historical data.
10. **Vulnerability assessment** to identify security weaknesses with SQL Server Configuration.
11. **Idera Diagnostic** for monitoring and diagnosing performance issues within SQL Server databases.

## IMPLEMENTATION

Armely's expertise in collaboration with customer resources led to a smooth migration of UNMC's data and applications from Sybase ASE to Microsoft SQL Server. This successful implementation allowed UNMC to:

- **Retire Sybase Servers:** With their data and applications operational on the new SQL Server platform, UNMC could confidently decommission their aging Sybase servers. This reduces hardware maintenance costs and simplifies their IT infrastructure.
- **Improved Performance and Scalability:** SQL Server's superior performance and scalability better accommodate UNMC's growing data volumes and user base. This ensures efficient data handling and supports future expansion.
- **Enhanced Security:** The robust security features of SQL Server provide better protection for UNMC's sensitive healthcare data compared to Sybase ASE.

### Training for Customer Success:

We understood that a successful migration goes beyond just technical implementation. To ensure UNMC could fully leverage the new SQL Server environment, we provided comprehensive training for their staff:

- **Technical Training:** This training equipped UNMC's IT personnel with the necessary skills to manage and maintain the SQL Server environment, including database administration, security best practices, and performance optimization techniques.

- **Ongoing Support:** Armely also offers ongoing support options to address any questions or challenges UNMC faces after the migration.

## BENEFITS

Key benefits of the migration included.

### Modernization and Future Proofing:

- **Retirement of Aging Infrastructure:** UNMC finally retired their outdated Sybase servers, reducing hardware maintenance costs and simplifying their IT infrastructure.
- **Improved Performance and Scalability:** SQL Server's superior performance and scalability handles UNMC's growing data volumes and user base more efficiently. This supports future expansion and innovation in healthcare data management.

### Enhanced Security and Compliance:

- **Stronger Data Protection:** The robust security features of SQL Server provide better protection for UNMC's sensitive healthcare data compared to Sybase ASE. This helps ensure patient data privacy and compliance with regulations like HIPAA.

### Operational Efficiency and Cost Savings:

- **Reduced Maintenance Costs:** By eliminating the need for Sybase support and potentially simplifying hardware needs, UNMC can see significant cost savings in the long run.
- **Improved Resource Management:** SQL Server's wider talent pool and readily available resources can lead to lower ongoing support costs compared to Sybase.

### Other Advantages:

- **Wider Functionality:** SQL Server offers a richer ecosystem of tools and functionalities for data analysis, reporting, and integration with other healthcare applications. This empowers UNMC to gain deeper insights from their data and streamline data-driven processes.
- **Simplified Management:** Managing a widely used platform like SQL Server can be easier due to the availability of more skilled professionals and a larger knowledge base.

## ABOUT ARMELY

We are a technology company focusing on Business Intelligence, Data Analytics, and Visualization, notably on Microsoft, AWS, Salesforce (Tableau), and GCP. We make Big Data Simple for our customers by taking a vendor-agnostic approach to ensure you get the best of

the technology. Our vision to Empower Organizations to achieve more through Data allows us to corral data and turn it into actionable insights. We strive to be your strategic partner and adviser in your Business Intelligence, Data Analytics, and Visualization and Automation journey.

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