Case Study

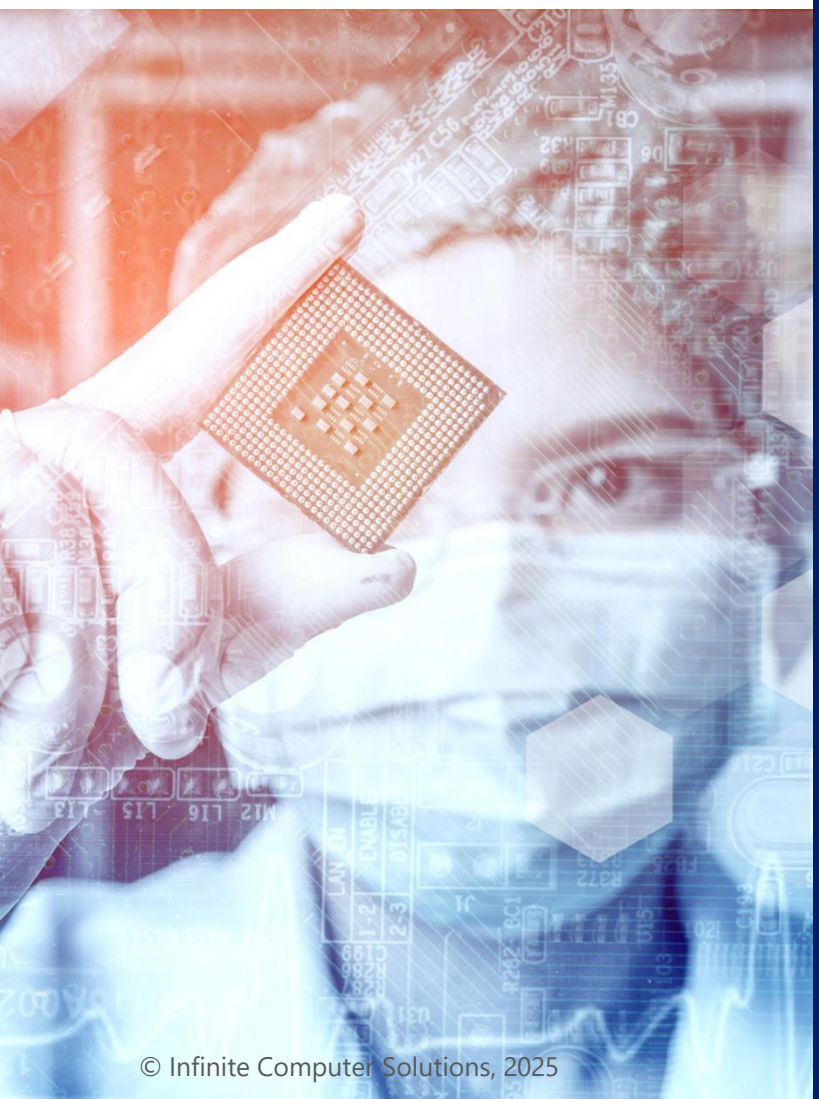
Heterogeneous Database Migration for a leading Healthcare & Life Science Organization

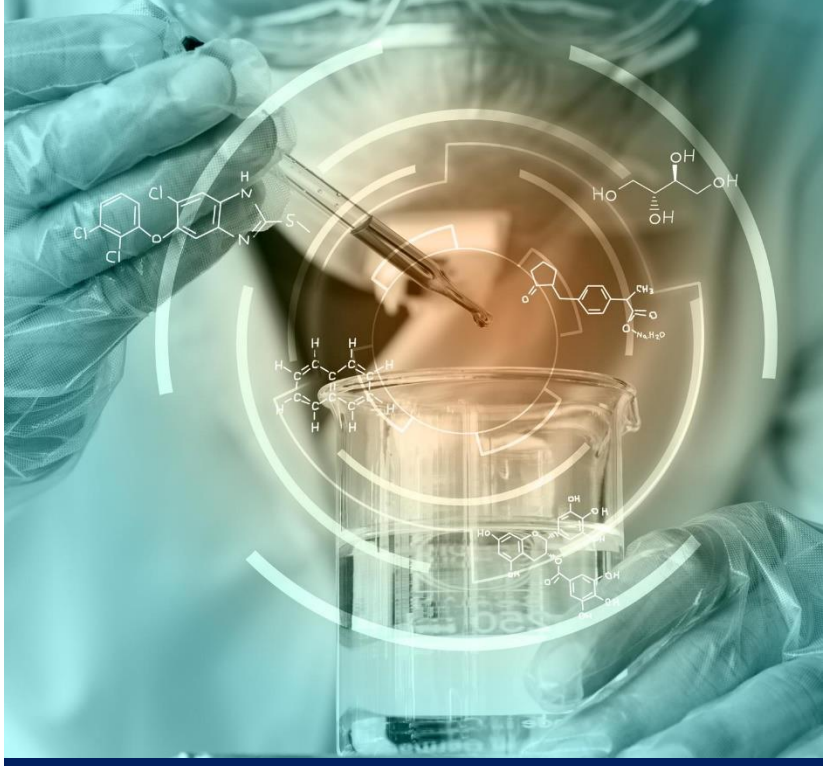
Summary

The client needed secure, seamless, and scalable data management to empower advanced research and sustained regulatory compliance. This case study outlines a large-scale database migration project that updated legacy systems for AI-based data analytics and real-time processing of clinical data. The organization realized cost efficiency, collaboration and research capabilities by leveraging on the cloud native solutions.

Objectives

- Consolidate multiple DICOM applications residing on on-premises MS-SQL Server databases to AWS Cloud for real-time computing and AI inferencing of medical modalities.
- Meet FDA's 92-second mission-critical high-availability SLA requirements.





Solution

- Migrated 190 monolithic on-prem applications (using SQL Server databases) to AWS Cloud Databases, including Postgres, AWS Document DB, AWS DynamoDB, and Redshift.
- Converted all applications to microservices (Spring Boot-based) to enable scalability, multi-access edge computing, and improved correlation through AI/ML using AWS Graviton GPUs with a 15-minute response model.
- Utilized AWS Data Migration Service (DMS) for seamless database transition.
- Conducted API latency tests and fine-tuned AWS DMS settings for optimized database migration performance.

Benefits

- Achieved over 50% reduction in annual database operating costs.
- Enabled a faster, nimbler, and more cost-effective database solution as part of ongoing transformation efforts.
- Improved patient outcomes with rapid remote diagnostics and system recovery for real-time, mission-critical care.
- Enhanced clinical insights through advanced AI algorithms leveraging data from multiple sources on the edge.

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