



# DATA MANAGEMENT PLATFORM USES MICROSOFT AZURE TO INTEGRATE DATA

## BUSINESS VALUES

- 435% Average 5 Years ROI
- 82% lower the cost of IT infrastructure & operation

The client is one of the biggest non-profit healthcare organizations based in the US offering integrated healthcare solutions with patient-focussed & knowledge- driven approaches. Catering to urban, suburban, and rural communities, the customer has a chain of 15 hospitals and a large number of community health centers. Their healthcare services include workplace health, primary care, long - term care, hospice, rehabilitation, community mental health, home health, inpatient & outpatient care, and wellness.



St. Louis, Missouri, US

HEADQUARTERS



## BUSINESS INDUSTRY

HEALTHCARE

MORE THAN

31,510 EMPLOYEES

## INTEGRATED BUSINESS BENEFITS

- Centralized all data in a single repository to have an integrated view.
- Anonymized data by encrypting them to assure privacy & security.
- Decreased operation expenditure by reducing license costs with the Azure data model.
- Established data provenance to trace the lifecycle of data.
- Ensured data availability, security & privacy.
- Established detailed, predictive, and real-time agile analytics.
- Reengineered the readmission process to improve patient care.
- Introduced evidence-based care & predictive healthcare costs.

## IMPLEMENTED TECHNOLOGIES

- Azure Data Lake
- Azure CosmosDB
- SparkAL & ML Tool
- Azure BlobStorage
- Azure HDInsight
- Azure VirtualMachine
- Azure ML
- Azure Databricks
- Azure SQLDW



## PROBLEM OUTLINE

The client stored data in decentralized locations across its 15 hospitals which was making it hard to trace the same. Moreover, it was complicated to classify the messy & unorganized data and affecting the overall governance. The key problem areas were:



### DECENTRALIZED DATA REPOSITORIES

The client was storing data in segregated repositories. Due to such disintegrated storages, data or information was suffering from duplicity and employees needed to do repetitive entries. Whenever an employee updated his/her database, it used to leave the other employee in confusion.



### POOR DATA CLASSIFICATION & GOVERNANCE

Due to decentralized data storage, an uniform data classification was an impossible process. It was equally complicated and confusing to identify and classify the unorganized data. Such chaos was hampering the whole governance of the organization.



### BIG "G" GOVERNANCE

The client required a bigger G-governance to take advantage of geospatial technology for making informed decisions. Without smart G governance, it was hard to identify health trends and track the transmission of infectious diseases.



### LOW DATA LINEAGE & DOWNSTREAM USAGE

The legacy data lineage was giving low visibility of business insights. Moreover, it was difficult to track data usage along with complex insight derivation.



### LOW PERFORMANCE AND SCALABILITY

The diverse data repositories were triggering redundant processes affecting the teams' performance. Average performance was the root cause of low scalability and the client was baffled about it.

## DATA MANAGEMENT PLATFORM

To overcome all these problems we proposed the Data Management Platform to the client. This is an advanced cloud-enabled platform empowered with the Lambda & Microsoft Azure components. The key plan was to store data in a centralized repository further speeding up application development time with easy maintenance with optimum security.

Parkar designed a cutting-edge cloud migration strategy to build a modular data management platform for a rapid transformation of business models and technology ecosystems.

## PARKAR SOLUTIONS TO INTEGRATE DATA

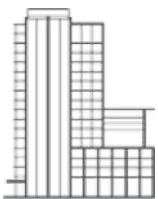
- **Centralized Data Repositories:** As a solution to fragmented data repositories, we planned to execute the layered Lambda architecture with Azure components. We created an architecture to gather all raw data, classify them, and store them in integrated storage. As a part of our strategy, we pulled the data with API and native integration tools and processed the data via a cold path. Then we transformed the data into classified versions and stored them in the Azure Data Lake. After the second data transformation process, we created a data warehouse to keep them in one centralized storage.
- **Intelligent Health Analytics:** After streamlining the data, we executed Spark AI & ML tools to develop AI & ML algorithms to predict intelligently health analytics and personalized services. Our smart solution made it easy to scan the history of each patient with optimum data security.
- **Advance Big G Governance Model:** As a solution to the traditional Governance model, we implemented an advanced model to leverage geospatial technology completely. It empowered the client with location-based intelligence to track and identify health trends and the spread of infectious diseases.
- **Standardized Data Management:** We standardized the data management process to access, manage, and protect sensitive data. Also, we created a system to manage data logs and accesses on a centralized platform.
- **A Customer-Centric Approach:** We created a customer-centric approach to deliver seamless and high-quality health care. As a result, we simplified clinical disruption and physician-patient communication and enhanced patient care.
- **Optimized Security:** We helped the client to achieve the HITRUST certification to create scope for getting the HIPAA compliance. Also, we secured the database to avoid possible breaches and created a single access point.
- **Business Agility:** We enabled faster accessibility to granular and integrated data. As a result, it enhanced the speed of getting intelligent insight and further helped to make better business decisions.



- **Cost Reduction:** We have reduced the operation cost by automating major processes and creating a centralized data repository. Moreover, enabling a cloud infrastructure decreased the operation cost with smart data recovery and a backup plan.
- **Enhanced Quality:** We helped the client to get rid of data duplicity. Hence, a single data chunk brought trust & truthfulness by mitigating confusion.
- **Boosted Scalability:** With everything on the cloud, briefly a cloud-based infrastructure made the business more scalable with great ROI. It also enhanced performance and growth unbelievably.
- **Future-Ready Solutions:** We also created an infrastructure with future-ready solutions including:
  - Predictive Forecasting for Quality Metrics
  - Real-time Clinical Decision Support
  - Smart Patient Connections
  - Data-Enabled Partnerships

## ABOUT : PARKAR DIGITAL

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Parkar Digital, a Gold Certified Microsoft Azure partner, provides technology solutions for Digital Healthcare, Digital Retail & CPG. Our solutions are powered by the Parkar platforms built using Cloud, Opensource and Customer experience technologies. Our goal is to empower a customer-first approach with digital technologies to deliver human-centric solutions for the clients.