



# Data Management and BI Reporting

Oral & Maxillofacial Service Provider

Built integrated Azure-based Data Lake and Data Warehouse infrastructure to develop the BI reporting suite using Power BI

# Data management and BI reporting for oral & maxillofacial service provider

## Situation

- The client had no centralized data infrastructure and no standard data architecture and data management practices in place. The weekly/monthly reports were prepared manually with silo-based approach and practices.
- Partnered with the client to build a centralized and automated Data Lake and Data Warehouse, and develop corporate data models to build automated BI reports

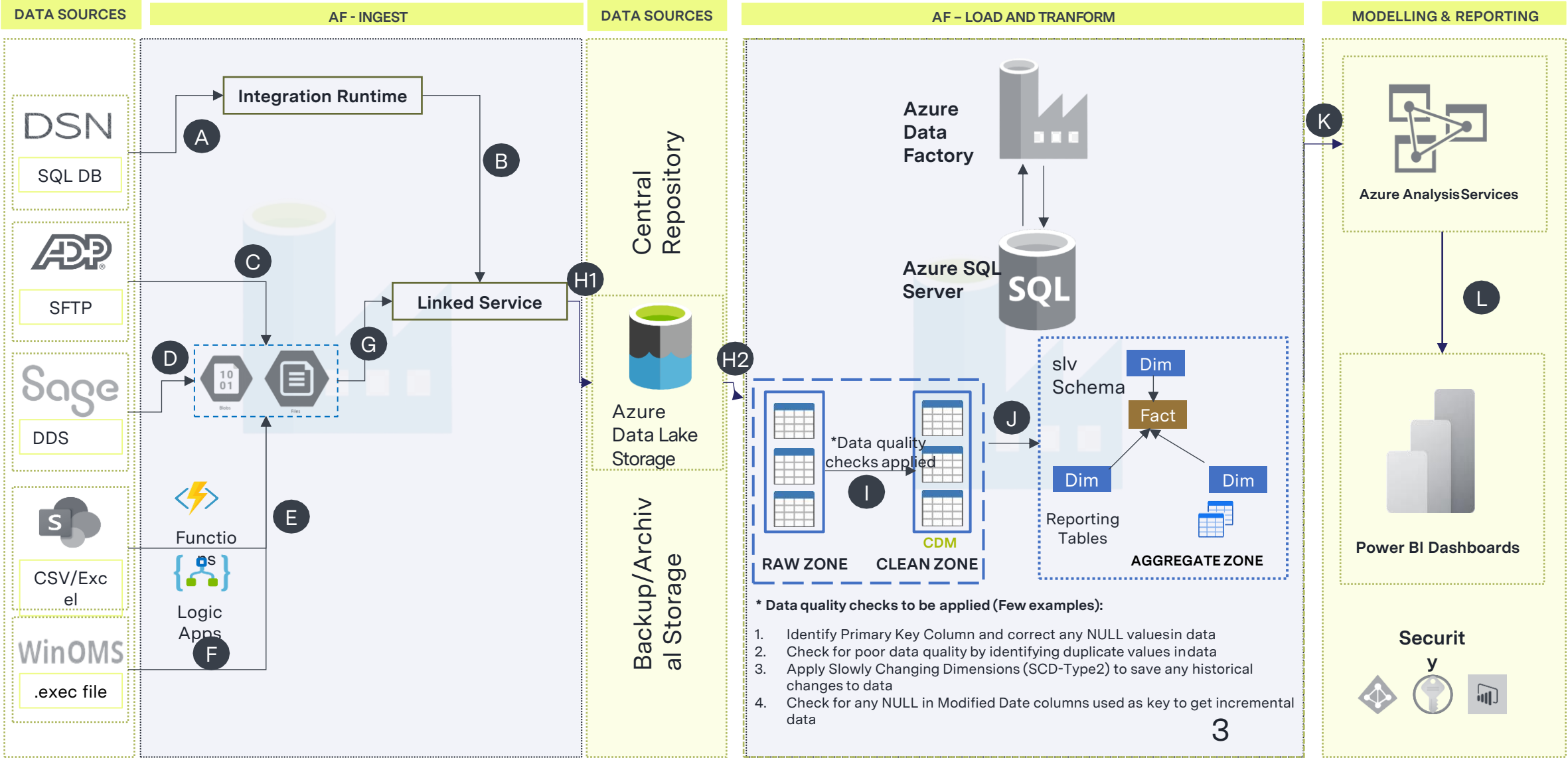
## Accordion Value Add

- Set up the Azure resources to develop and deploy data flow process in Data Lake and Data Warehouse.
- Set up automated data ingestion from the Practice Management Systems (WinOMS, DSN), Financial System (SAGE) and HR system (ADP) using Azure Data Factory and Pipelines as integration technology
- Integrated, transformed and consolidated the data from data sources in Azure SQL data warehouse, to be able to develop and deploy the Corporate Data Models and create a single repository for all data to enable scalability.
- Developed analytics model for the identified KPIs to enable the development of automated dashboards for BI reporting
- Performed in-depth data and dashboard validation

## Impact

- The automated BI reports enabled a decrease of monthly 30+ manual hours which were previously used to build the same BI reports
- The centralized data warehouse provided greater visibility into the data, enabling business users to develop more use cases for data-driven business strategy . Marketing leadership actively tracked the performance of the referral ecosystem and identified opportunities to expand the ecosystem

# Data architecture design (1/2)



# Data architecture design (2/2)

- A Establishing the Integration Runtimes for DSN data source i.e., DSN\_IR
- B Establishing the connection between DSN data sources and the Azure Data Factory via the linked services
- C Collecting the data pushed by ADP via SFTP into a blob container on the Storage Account
- D Collecting the data pushed by Sage DDS into the Storage Account File Share
- E Extracting and collecting data from SharePoint by leveraging the Azure Functions or Logic Apps to load data into the Storage Account
- F Collecting the data pushed from the client's system into folders inside the Blobs of the Storage Account
- G Integrating the Storage Account with the Azure Data Factory via the linked services by creating datasets
- H1 Linking the datasets with the Azure Data Factory via linked services
- H2 Loading the data from the data lake storage into the respective staging tables on the database as raw data on the Azure SQL Server/DB
- I Pushing the tables (required to build KPIs) from the raw zone to the clean zone on the SQL server by deploying the stored procedures after applying data quality rules using a Corporate Data Model (CDM)
- J Using the cleaned tables to create reporting, and Fact and Dimension tables in the aggregate zone of the Azure SQL database by deploying stored procedures
- K Building Data Models in Azure Analysis Service required for building Power BI reports
- L Leveraging Data Models in Azure Analysis Service and reporting tables to build the Power BI dashboards

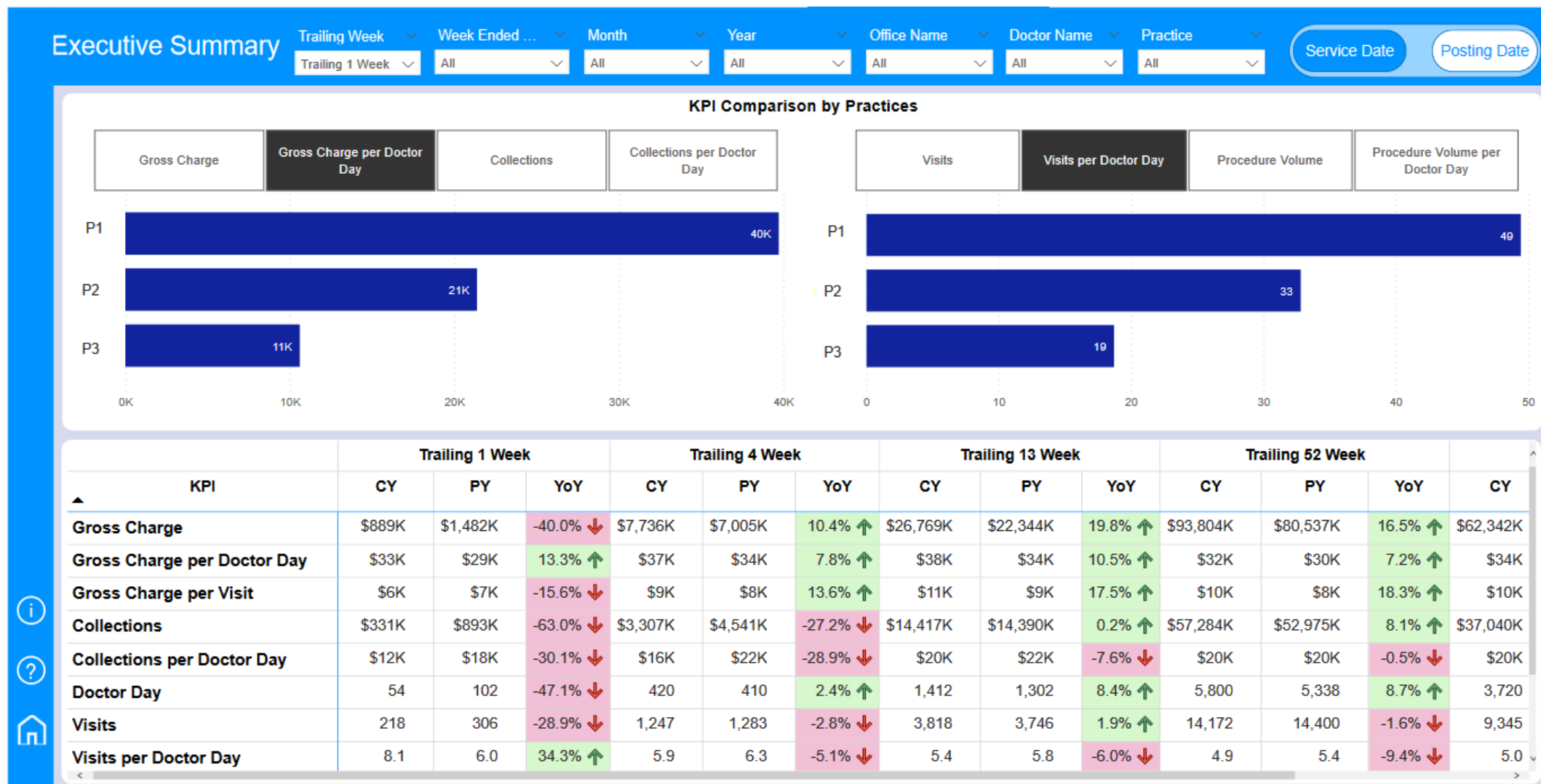
# Executive practice management dashboard (1/2)



Topline summary and YoY comparison of Executive KPIs

Weekly Trends and YoY comparison for Collections, Collections/Doctor Days, Visits

# Executive practice management dashboard (2/2)



Practice level comparison of any of the selected KPIs

YoY comparison of Trailing 1-week, 4-week, 13-week, 52-week and YTD performance of the KPIs