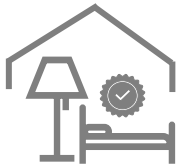


Data Integration and Reporting

Hospitality Company

Built an Azure based pipeline to handle data from POS systems using webhook API and REST API, and built Power BI based reports

Data Integration and Reporting for a Hospitality Company

Situation

- Client's POS systems were not integrated and generating daily operational reports was time consuming. Reports were developed on Excel and distributed on email leading to overhead.
- Merilytics partnered with the client to build a cloud-based pipeline to facilitate data integration and reporting

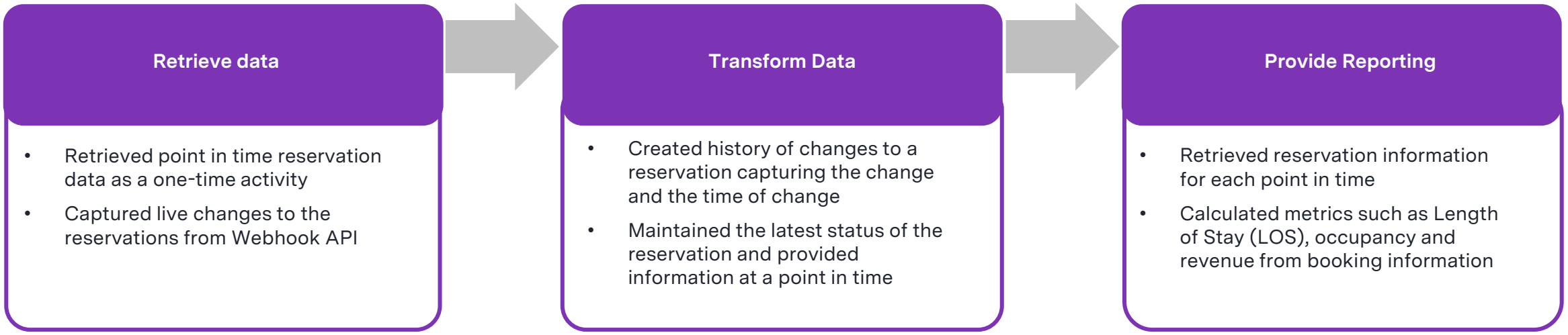
Accordion Value Add

- Designed and built an Azure-based solution to act as a single platform that holds all the booking related financial information
- Data available as messages through Webhook, was intercepted by Azure Functions, the message (JSON file) was flattened and ingested into database. Historical data was made available through SFTP/FTP folder, using off-the-shelf connector, files were saved and then read to load the data into database
- Developed a methodology to combine data from SkyTouch and AppFolio (POS Systems) and consolidate into a single structure to be shared for benchmarking. Benchmarking data was reloaded into the database for further processing and sharing with third-party aggregator
- Developed key metrics covered i.e., revenue, length of stay, occupancy for current and future bookings and competitor occupancy, and deployed through Power BI reports, for easier tracking and monitoring

Impact

- Removed the manual step of sharing and receiving benchmarking data by automating the process end-to-end
- Auto refresh Power BI dashboards eliminated the need to export reports from POS portals and manually copy data daily across Excel files for building reports
- Provided insightful reports by combining data from the POS systems with competition data and providing trends across time

Approach & Methodology



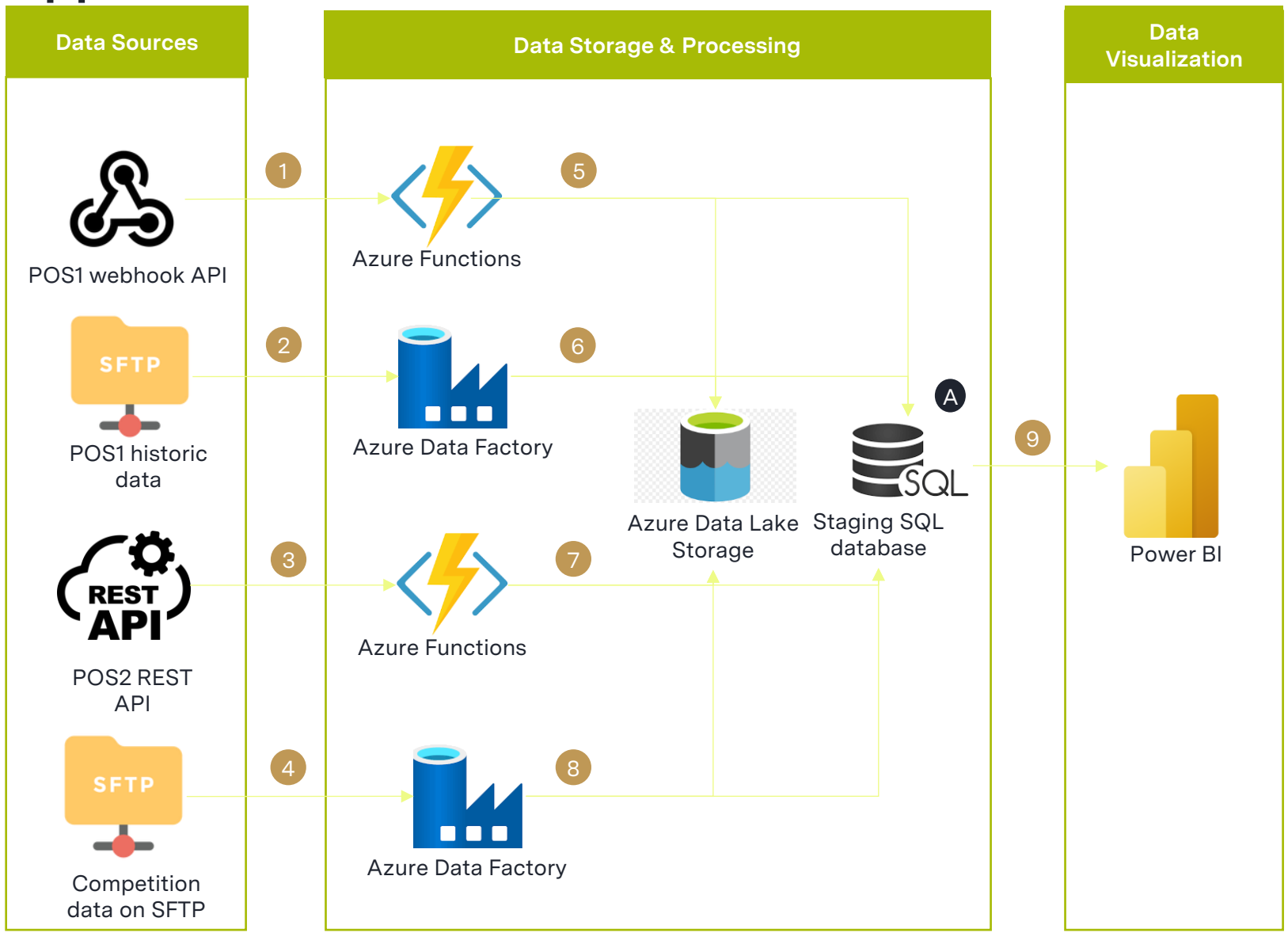
POS 1
SkyTouch

- Captures live data from bookings
- Central repository used for revenue estimation
- Exported via a Webhook which pushes data to the pipeline based on booking activity
- Ingested using Azure functions

POS 2
AppFolio

- Stores leasing related documentation
- Acts as data source for long-term bookings stored on POS 1
- Data exported via a REST API
- Ingested using Azure Data Factory into SQL Server

Application Architecture



1. Use Azure Function to capture data from webhook API
2. Ingest historic POS1 data in SFTP to SQL Server and data lake using ADF
3. Use Azure function to refresh POS2 data every hour using REST API
4. Ingest competition data in SFTP to SQL Server and data lake every week
5. Store JSONs from POS1 in data lake, parse the JSONs and store the tabular data in SQL Server
6. Store historic data in SQL Server and the CSV file in data lake
7. Store the data from POS2 API in data lake as CSV and in SQL Server tables
8. Store weekly extracts of competition data on data lake as CSV and in tables in SQL Server
9. Transform data on SQL Server and use on Power BI for reporting

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A. Data from both POS systems is cleansed, transformed, mapped and standardized for further processing.