Data Warehouse Migration

Food Manufacturing Company

Partnered with the client to migrate the existing legacy Data Warehouse system to Azure-based Data Warehouse, through NetSuite ODBC connection, providing the client complete control over the back-end infrastructure. Additionally, transitioned the existing reporting suite to run-off the new Azure-based Data Warehouse to help augment analytics/reporting.

Data Warehouse Migration through NetSuite ODBC for a CPG Brand

Data Warehouse Migration

Situation

- Client's existing Data Warehouse was built on proprietary technology and is owned by a third-party vendor. This system does not provide the client any control to change or improve the system and is cost-prohibitive & time-consuming. There was an opportunity to transition to Azure-based Data Warehouse
- Partnered with the client to migrate the existing legacy Data Warehouse system to Azure-based Data Warehouse, through NetSuite ODBC connection, providing the client complete control over the back-end infrastructure. Additionally, transitioned the existing reporting suite to run-off the new Azure-based Data Warehouse to help augment analytics/reporting.

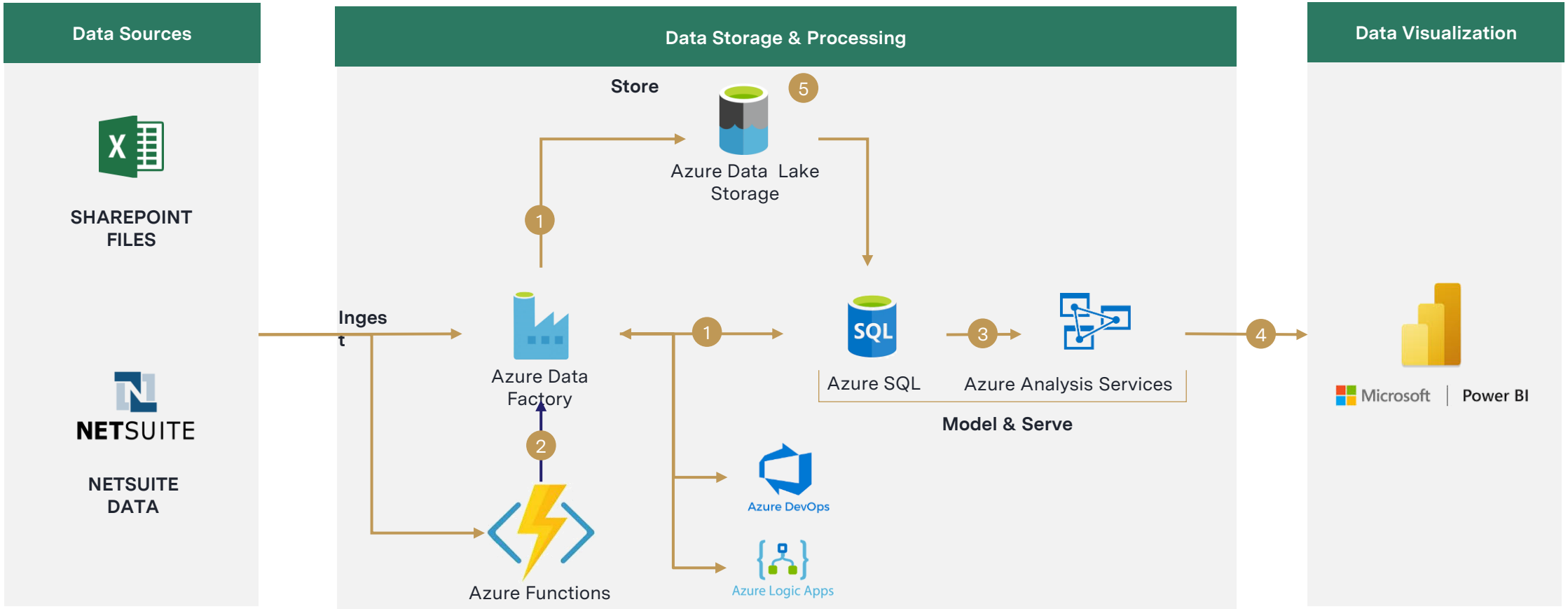
Accordion Value Add

- Setup the NetSuite ODBC connection to migrate the historical data (Sales, Transaction, Invoices, P&L data) into the Azure-based Data Warehouse (DW). Explored and mapped the key metrics to raw data tables, from the NetSuite backend data, to identify the relevant tables that are required to run the existing dashboarding suite.
- Leveraged the NetSuite 'Saved Search' (custom) reports and existing reports (based out of legacy DW) to reconcile the data across NetSuite, Legacy DW, and the new Azure-based DW with high accuracy (~98%). Further documented the mappings for any future reporting requirements for BI team.
- Identified opportunity to automate the process of getting manual inputs from the Business team, required to run the dashboarding suite, by building custom python scripts from SharePoint. Transitioned the existing Power BI-based reporting suite to run-off on the new Azure-based DW.

Impact

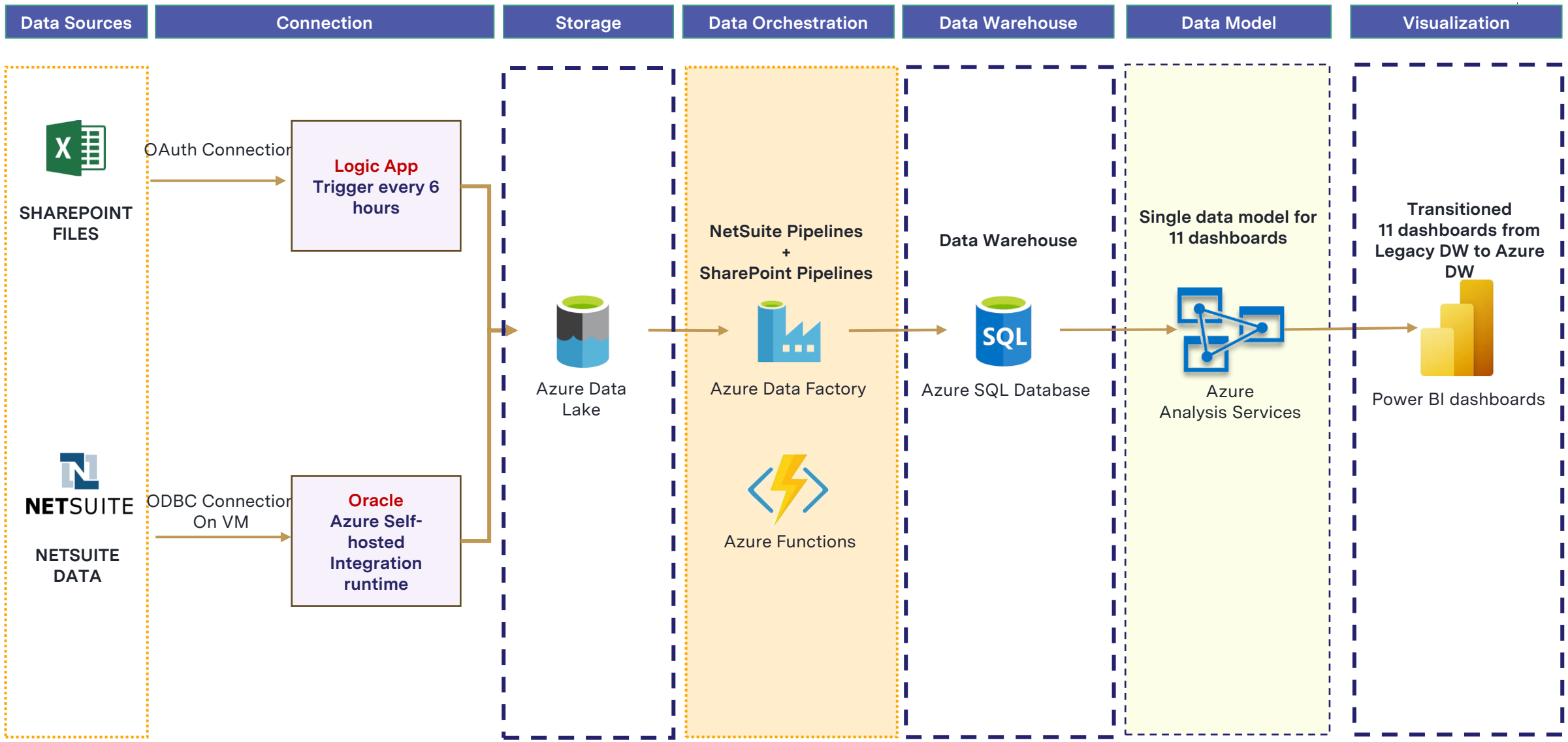
- Transitioned to the Azure-based Data Warehouse enabling the client to have complete control over the back-end infrastructure. Performed a seamless transition of the dashboarding suite without impacting the front-end business users
- Migration process ensured consistent data across all the systems with extremely high-accuracy (~98%) ensuring that the dashboarding suite act as a reliable source of truth for the Business/Sales team
- Created a central data repository enabling the team to further expand/add more data sources in the future and eliminated any need for manual interventions, from the Business team, i.e., automated the end-to-end reporting process

Methodology – High Level Diagram of Datawarehouse Architecture



1. Collate and ingest data from data sources using Azure Data Factory and/or Azure Function either to Azure Data Lake or Azure SQL Database
2. Azure functions are used to append the metadata of Helium 10 files (Amazon data) and Sales & Orders data into the tables on SQL database
3. Consolidate and harmonize the data and push the data into Analysis Services for data modelling purposes
4. Build operational reports and analytical dashboards on top of Azure Analysis Services or SQL Database to derive insights from the data
5. Azure Data Lake to serve as “single data repository” for the SharePoint data and NetSuite data.

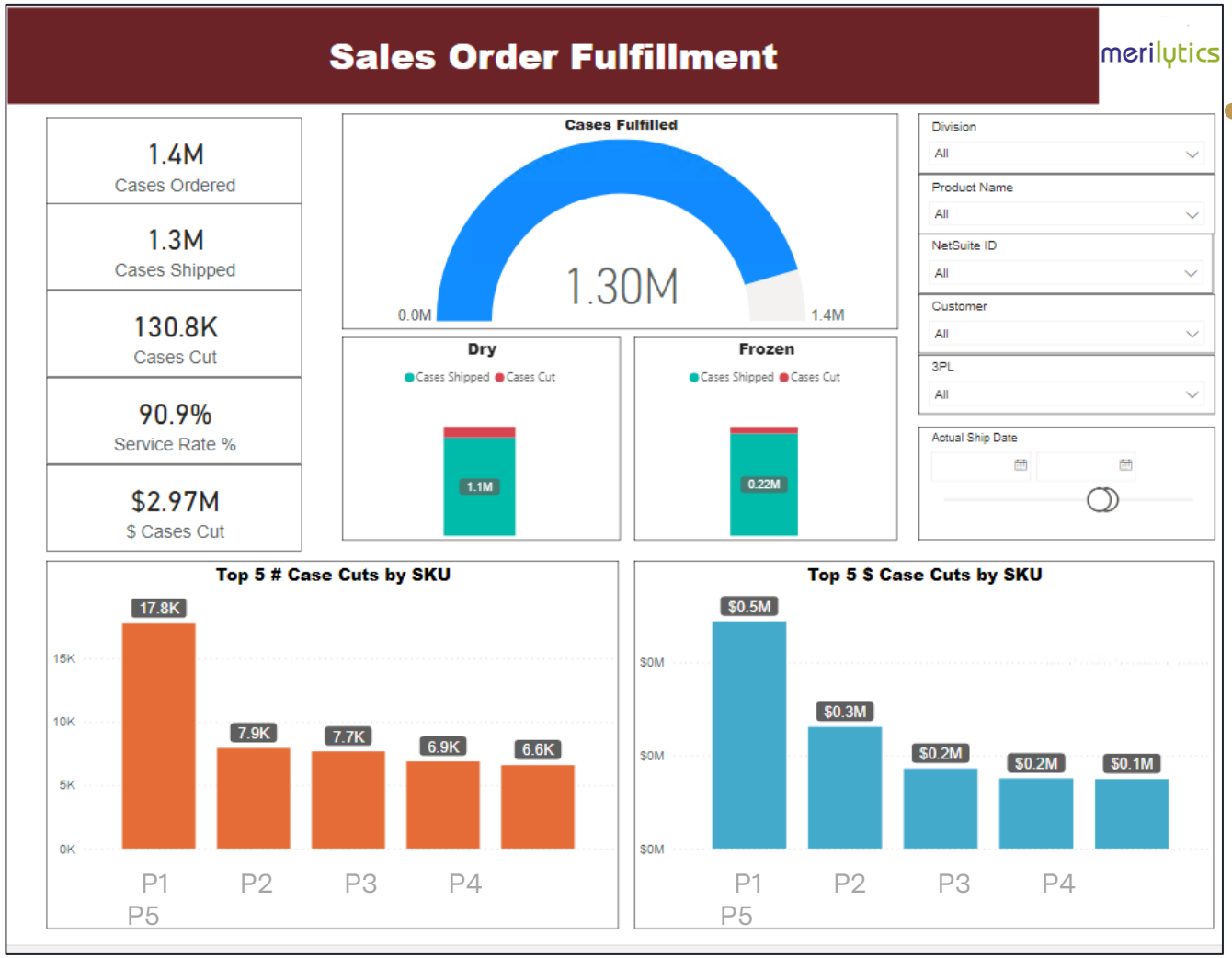
Data Flow Diagram



Data Tables Leveraged from NetSuite ODBC Backend

Sr. No.	Table Name	Description
1	NS_Account	Contains Account details such as account number, account name and account types like Income, COGS, expense etc.
2	NS_Classification	Contains list of divisions/ classes
3	NS_Customer	Customer details with fields such as customer email, alternate email, sales representative etc.
4	NS_Department	Department details like Sales, Marketing, HR etc.
5	NS_EntityAddress	Address fields like Country, state, zip code, phone
6	NS_Item	Item details including item name, units, cost
7	NS_Location	Location details
8	NS_Transaction	Transaction level data like transaction id, date, amount, posting etc which is the main dataset
9	NS_TransactionLine	Transaction detail table which links to transaction table
10	NS_Vendor	Vendor details such as name, vendor type etc.

Sales Order Fulfilment Dashboard



Transition existing dashboards. Slicers and charts were replaced with corresponding data fields available in NetSuite data

Dashboards were reconciled to less than 2% of variance between legacy and new DW data

Dashboard >>	Sales & Ops - Sales Order Fulfillment

Overall Summary				
KPIs	Legagcy dashboard	New dashboard	Var	Var %
Quantity	1,55,01,557	1,54,93,199	-8,358	-0.1%
Cases Fulfilled	1,40,92,661	1,40,83,211	-9,450	-0.1%
# Cases Cut	14,08,916	14,09,988	1,072	0.1%
$ Cases Cut	$ 2,36,92,150	$ 2,37,25,010	$ 32,860	0.1%

**** after removing unmapped customers***