Data & Reporting Infrastructure Design and Build

Background screening software & services company

- Diagnosed current-state data and reporting infrastructure to assess quality, reliability and completeness, and identified opportunities to optimize data flow and define/track key metrics

- Recommended and deployed future-state data infrastructure and developed an automated management reporting suite

Background screening company needs a thorough review of its data infrastructure

Picture this…

You're looking for diagnosing the existing data infrastructure and reporting suite and devise a plan to meet current and future reporting requirements. Currently, the internal reporting systems are based on data flowing through a single platform, data from third-party applications and offline sources not integrated which does not allow reporting across multiple data source systems.

You turn to Accordion.

We partner with your team to conduct a diagnostic study, develop and deploy data and reporting infrastructure, including:

1) Analyzing data flow from internal systems and platforms, third-party applications (Salesforce, QuickBooks and RingCentral) and other sources to identify gaps and opportunities in the current-infrastructure

2) Identifying high priority KPIs and metrics across finance, operations, sales & marketing, engineering, customer support and other functions, through stakeholder interviews and enabling data-driven decision making through future-state data warehouse

3) Recommending a data architecture framework to build an Enterprise Data Warehouse (EDW)

4) Creating a single source of truth by integrating data from disparate systems into a data warehouse to consolidate data elements and develop data marts and metrics

5) Building analytics models and developing automated dashboards in Power BI for multiple reports/analyses identified in the diagnostic phase

Your value is enhanced.

- You have visibility into key data, process and technology gaps through the diagnostic phase, and defined a roadmap to achieve management goals of centralized and automated reporting.

- The revised architecture enables reliable and automated reporting on a real-time basis, to make informed decisions efficiently.

KEY RESULT

VALUE LEVERS PULLED

- Diagnostic study
- Data Integration into a data warehouse
- Power BI dashboard

Data and Reporting Infrastructure – Diagnostic & Deployment

Situation

- Client's internal reporting systems was based on data flowing through a single platform and did not allow reporting across multiple data source systems. In addition, the data from third-party applications and offline sources was not integrated, resulting in a limited reporting suite.

- Diagnostic Phase: Partnered with the client to diagnose their existing data infrastructure and reporting suite and devised a plan to meet their current and future reporting requirements.

- Deployment Phase: Based on the diagnostics, developed and deployed data and reporting infrastructure.

Accordion Value Add

- Analyzed data flow from internal systems and platforms, third-party applications (Salesforce, QuickBooks and RingCentral) and other sources to identify gaps and opportunities in the current-infrastructure.

- Identified high priority KPIs and metrics across finance, operations, sales & marketing, engineering, customer support and other functions, through stakeholder interviews and enabled data-driven decision making through future-state data warehouse.

- Recommended a data architecture framework to build an Enterprise Data Warehouse (EDW)

- Created a single source of truth by integrating data from disparate systems into a data warehouse to consolidate data elements and develop data marts and metrics.

- Built analytics models and developed automated dashboards in Power BI for multiple reports/analyses identified in the diagnostic phase.

Impact

- Provided visibility into key data, process and technology gaps through the diagnostic phase, and defined a roadmap to achieve management goals of centralized and automated reporting.

- Our revised architecture enabled reliable and automated reporting on a real-time basis, helping the client make informed decisions efficiently.

Approach - Diagnostic phase

EXPLORATION

- Identified **data sources, servers** and other **third-party systems**
- Accessed client's data systems to **deep-dive and explore** the data directly
- Developed an understanding of **existing infrastructure and data flows**
- **Conducted technology stakeholder interviews** to understand current-state data sources
- Connected with functional heads to **understand the desired future state of reporting**

ASSESSMENT

- Defined **existing process flows and workflows** for every data system
- **Identified current process and data gaps** by assessing existing metrics and data quality across functional areas including finance, sales & marketing, operations, etc.
- **Assessed data governance processes** to document data capture methodology
- Reviewed existing reports to identify **automation and enhancement opportunities**

DESIGN

- **Designed data warehouse infrastructure suitable for the client's technology stack** to serve as **a single source of truth** and automate reporting
- **Defined a detailed management reporting suite** including key performance drivers across finance, operations, sales & marketing, engineering, customer support and other key functions

DOCUMENTATION & RECOMMENDATION

- Created high-level and low-level **architecture diagrams** for processes across all systems
- Created **data flow and sample workflows** for all source systems for ease of reference
- **Provided recommendations on data framework** to establish a single source of truth and enable actionable reporting
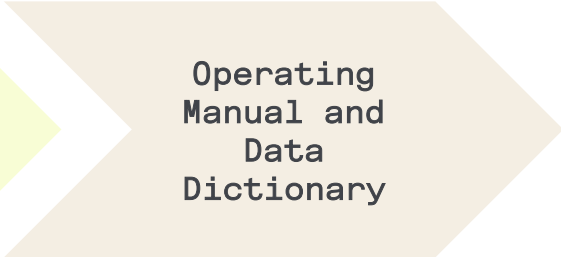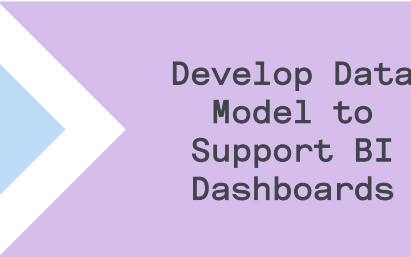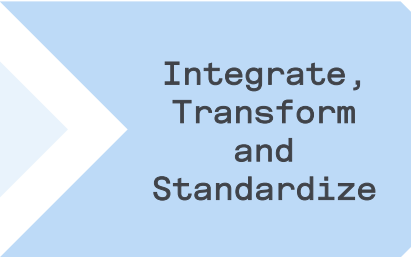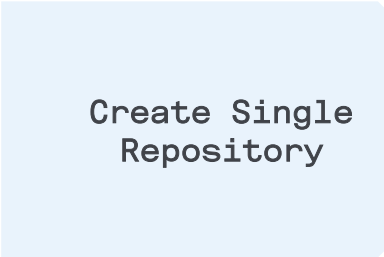
Approach - Build phase

Data warehousing		Data Modelling	Dashboarding	Support

Create Single Repository	Integrate, Transform and Standardize	Develop Data Model to Support BI Dashboards	Transition and Develop Reports	Operating Manual and Data Dictionary

Built data pipelines in Azure data factory to ingest data from

- Internal Platforms and applications on MS SQL Server
- QuickBooks
- Salesforce
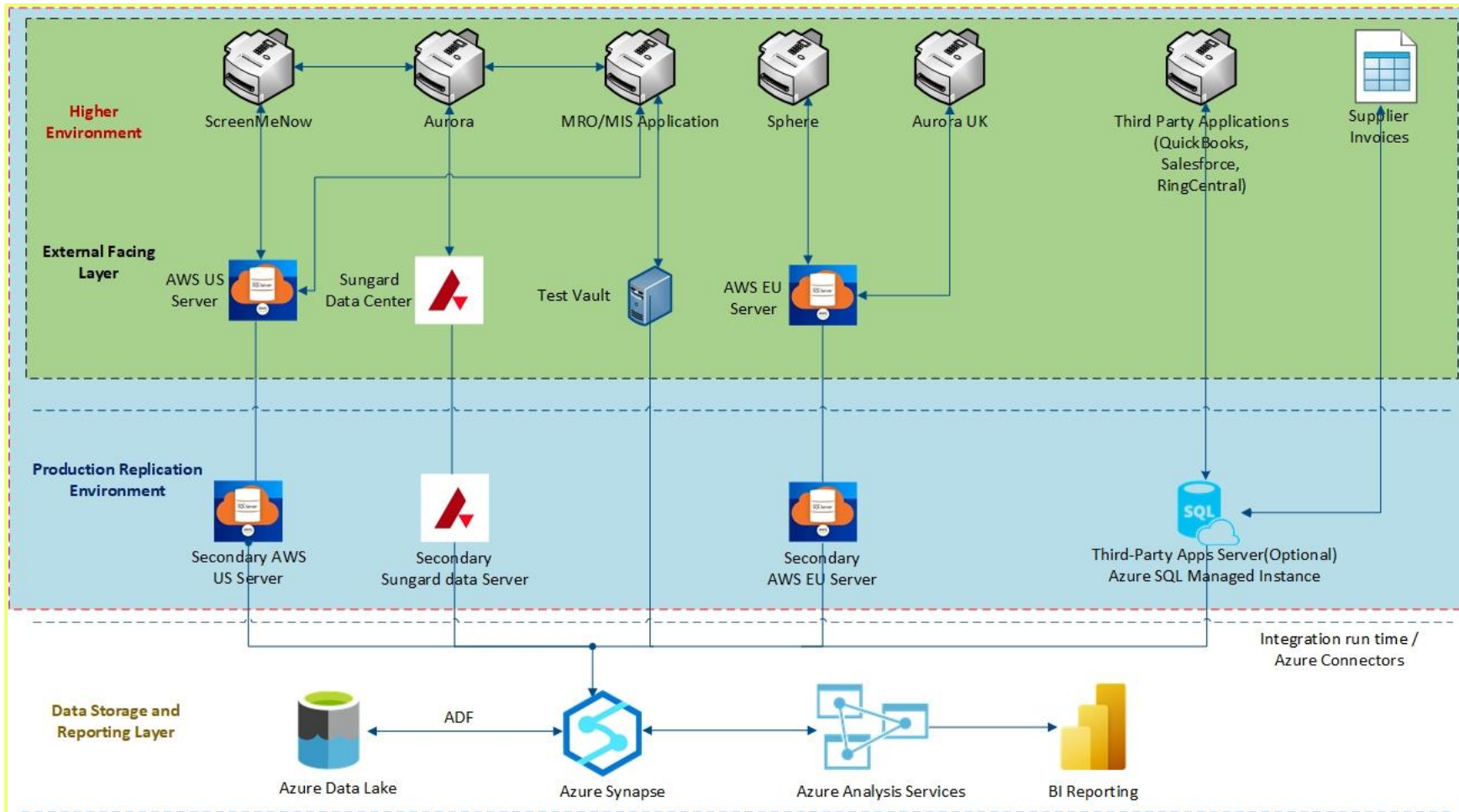- TestVault
- Supplier invoices (OneDrive)

- Created standard identifiers for all customers, services, orders, packages, etc. across various applications to analyze data across the business
- Set-up standard nomenclature for future customer additions and new services

- Developed data models for each function to support automated Power BI dashboards
- Provided flexibility to share reports with select employees

- Transitioned legacy reports including revenue recognition and profitability reports from Excel to Power BI
- Created company level reporting suite across key functions for management consumption

- Created post-production documentation and user manual
- Created data dictionary to enable business users to create new reports in data warehouse

Cloud-based architecture (Azure Stack)

New Architecture Data Flow:

- Pull data from secondary servers into online data storage in Azure cloud network

- Data storage layer in Cloud:
  - Use Azure Synapse for historical and incremental data load
  - Use Azure Synapse with in-built Analysis Services Integration for reporting in Power BI or Excel
  - Capture data from third-party applications (Salesforce, Quickbooks, Ring Central) via Azure Synapse
  - Transfer supplier invoices from Excel to Azure Synapse via secured share folders

- Archive data periodically from Azure Synapse to ADLS (Azure Data Lake Storage) to optimize time and cost

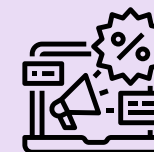- Utilize Azure Data Redundancy (Local, Zonal, Geo, Geo-zone) for data backup

List of reports deployed

Leveraged the integrated data warehouse to enable comprehensive reporting across key functions. Developed and automated the following reports to provide the real-time and enhanced visibility into business performance

Sales & Marketing

Sales Pipeline Reporting

– Sales Pipeline evolution by utilizing snapshots of Salesforce in Data warehouse

– Booked vs. Actual Revenue Report

– Sales and Revenue Forecast (based on Salesforce data)

Finance

Profitability/Revenue Recognition Reporting

– Gross Margin, Exceptional Cost Analysis, Surge Monitor Tracker

– Cost of Services Analysis by invoice consolidation

– Revenue Analysis Report, Organic Growth Segmentation

Operations

Operational Reporting

– Verification Report, Service Case Report, Daily Statistics Report (only BGV)

– Business Review Report, Services Analysis Report

– Medical Screening Report