Accionlabs

Energy and Utilities domain

Case Studies

2010
FOUNDED

20
GLOBAL ACCIONLABS OFFICES

350+
CLOUD ENGAGEMENTS

6000+
GLOBAL TEAM

500+
SPECIALIZED CLOUD TEAM

WINNER
2023
Microsoft Partner of the Year
ANALYTICS

Microsoft Partner
Microsoft
Advanced Specialization

Analytics on Azure
Data Warehouse Migration to Azure
Kubernetes on Azure
Migrate Enterprise Applications to Azure
Infra and Database Migration to Azure

Amongst Top Microsoft Partners in USA

Microsoft Partner
Power BI

Fabric Featured Partner
Microsoft

CONSULTING PARTNER
Select

Microsoft
Solutions Partner
Digital & App Innovation
Data & AI
Infrastructure

Specialist
Kubernetes on Azure
Modernization of Web Applications
Infra and Database Migration

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FUEL AUTOMATION™ STATION

SOLUTION
IoT, Digital Platform

FOCUS AREAS
Process Automation, IT-OT, Operational Efficiency, Accounting

INDUSTRY
Oil & Gas, Logistics

Unique **Demand planning and optimization** along with **Process Automation** for **flexible fuel fulfilment** and management that uses advanced IoT sensors to collect over 500K+ data points per day, providing **real-time visibility of operations**, guaranteed fuel supply and new levels of efficiency

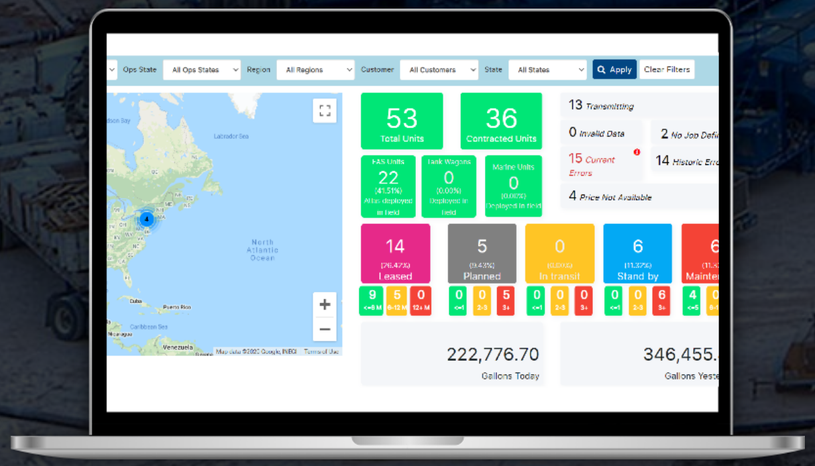
$1.4M
Net Operating Savings
in first 6 months

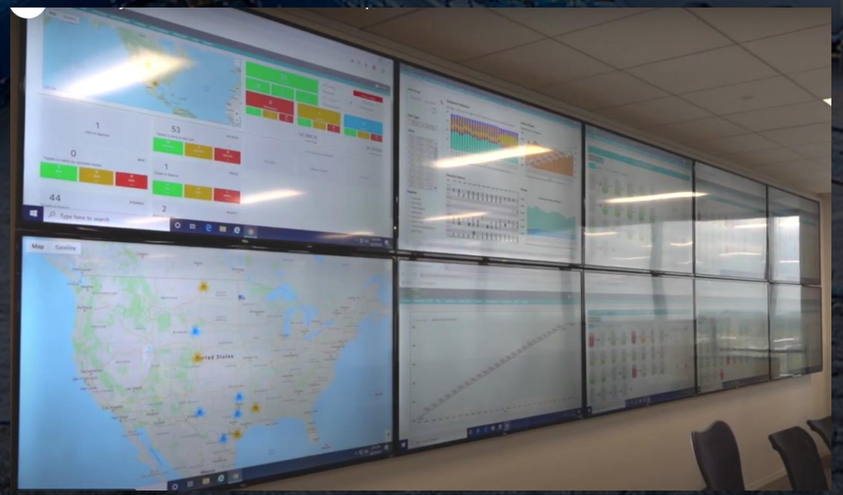
85%
Reduction in invoice times
Down to 2 days from 30 days

$7.5M
Working Capital Improvements
in first 6 months

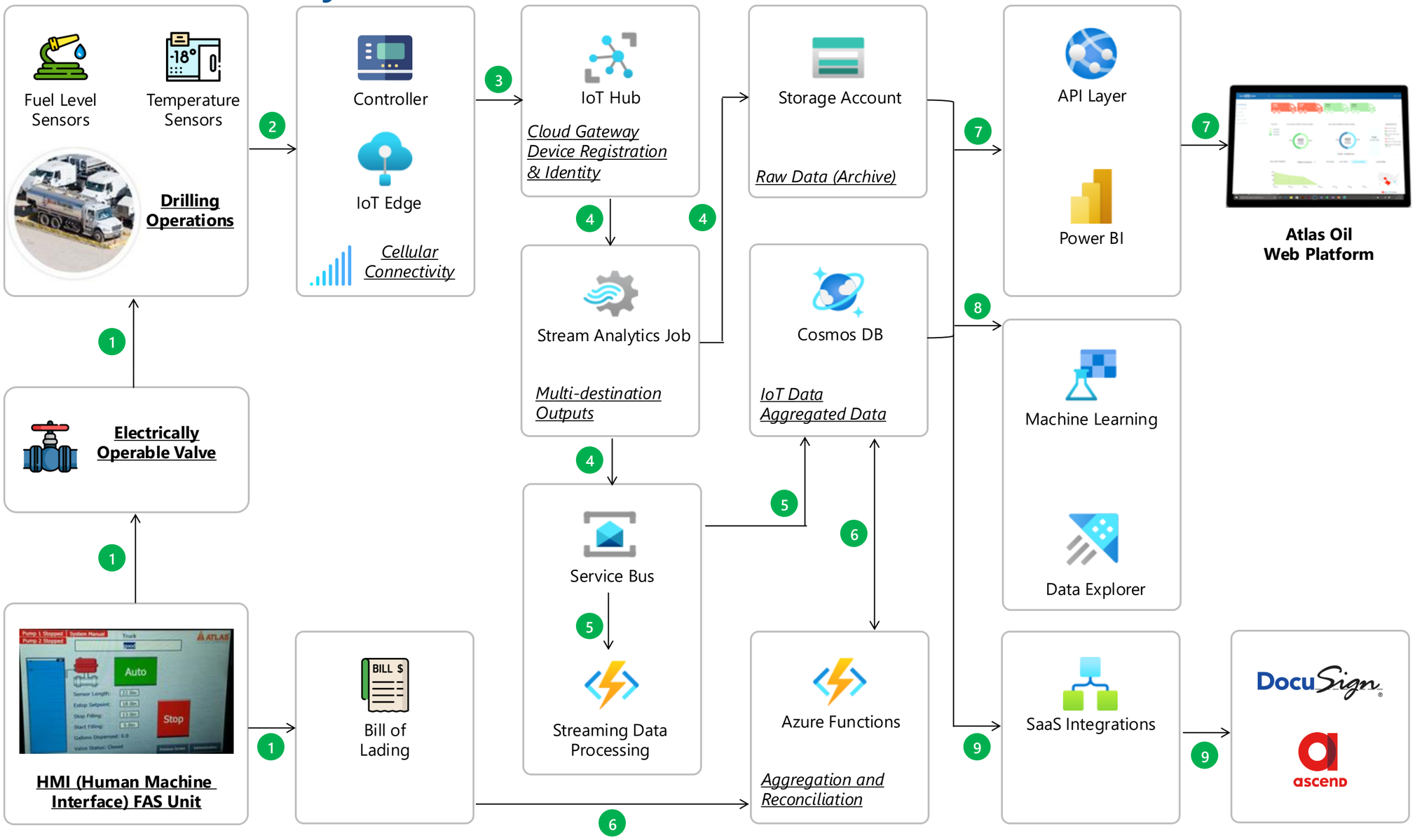
- Digital Platform Development
- Product Development
- UI/UX Design
- IoT Platform
- Cloud-based SaaS Solution
- Data Analytics
- Machine Learning
- Power BI Development
- Azure Managed Services

1. FAS Units with **IoT sensors**
2. Automated fueling with 28 hoses
3. Remote Monitoring
4. Real-time tracking
5. Automated invoice generation
6. Electronic approval





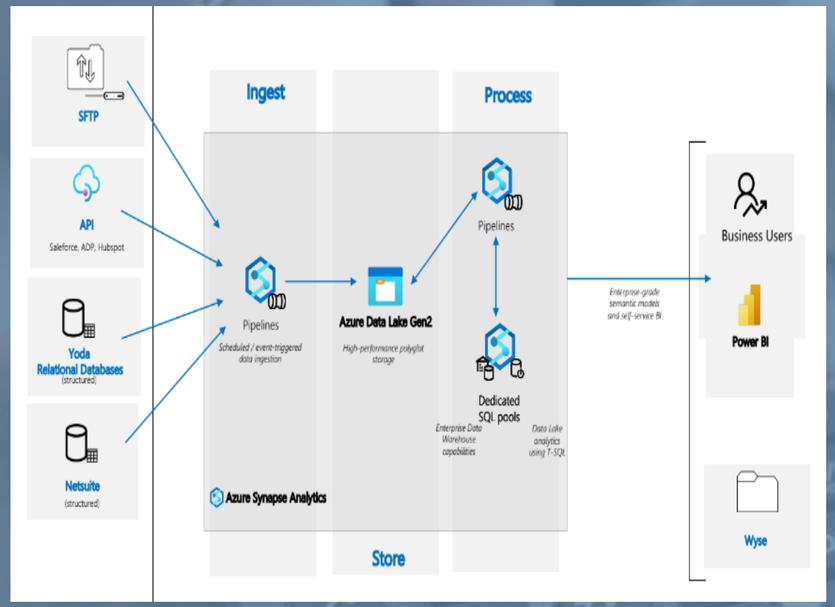
Case Study – Atlas Oil – IoT Architecture



1. HMI sends message to Drilling Units (Fracking locations) through Electrical Valves. HMI also generates BoL (Bill of Lading).
2. Telemetry (Temperature, Fuel Level, Hose Output) data is collected by Field Gateway connected to IoT Edge
3. IoT Edge sends Telemetry to IoT Hub through MQTT / AMQP / HTTPS fallback mechanism over Cellular connection.
4. Stream Analytics (connected to IoT Edge Stream) processes Telemetry and sends to two different destinations – Azure Storage (for Archival and Compliance), Service Bus (for Streaming data processing).
5. Streaming data is written to Cosmos DB through Azure Functions.
6. Another Azure Function aggregates data periodically from Cosmos DB and performs reconciliation with BoL. This aggregated and reconciled data is stored back into Cosmos DB in different container.
7. Data from Cosmos DB and Storage Account is used for API Layer and Power BI Reporting – in turn consumed by Web App. Aggregated data is read from Cosmos DB and raw point level information is read from Storage Account (optimum cost balancing).
8. Data from Cosmos DB and Storage Account is also used for ML and EDA (Exploratory Data Analysis) through Azure Data Explorer.
9. Logic Apps at periodic intervals perform validations and send data to DocuSign for BPM (Business Process Management) and Ascend.

CLOUD-FIRST DATA PLATFORM FOR UTILITY AND BILLING EXPERTS

A modern cloud data warehouse to provide enterprise scale data analytics capabilities using self service reporting and AI/ML.



- ✓ Reduce Financial Reporting cycle
- ✓ Dynamic data ingestion from ERP, NetSuite, Salesforce
- ✓ Data ingestion and processing in data lake store
- ✓ Synapse dedicated SQL pool for MPP EDW
- ✓ Self service end user BI using Power BI Solutions
- ✓ Machine Learning algorithms for financial forecasting
- ✓ Data sharing with external parties

CONSERVICE®

SOLUTION

Modern Data Platform,

Power BI Analysis, ML

FOCUS AREAS

Accounting & Forecasting,

Data Monetization, Operations

INDUSTRY

Finance

- Azure Synapse Analytics
- Azure Data Lake
- Purview
- Synapse Pipelines
- Azure Machine Learning
- Power BI

Oil-Dri – Digital Data Layer Platform

The client is a leading manufacturer and supplier of specialty sorbent products catering to both consumer and B2B markets. They aim to build a data-driven platform that enhances their ability to make informed, swift decisions, allowing them to proactively forecast and respond to future challenges and opportunities with greater efficiency. This initiative will enable the company to leverage data for better insights, driving operational agility and strategic growth.

Data Inconsistencies and Challenges

- Difficulty in extracting data from various systems, leading to inefficiencies.
- High reliance on manual intervention across departments, hindering process automation and consistency.

Tool and System Limitations

- Reports lack user-friendliness, making them difficult to interpret.
- Data exists in silos, leading to fragmented insights and limiting comprehensive analysis.

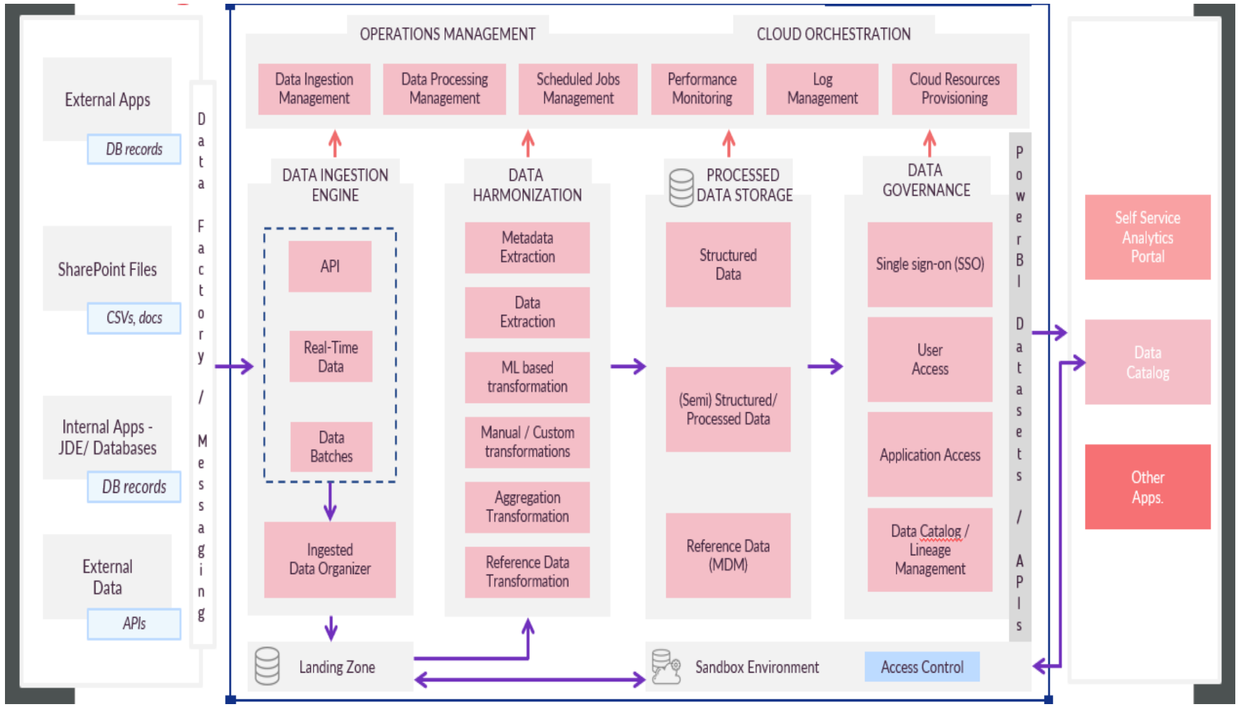
Process Gaps and Workarounds

- Heavy reliance on Excel for managing tasks.
- Inability to meet ongoing requests in a timely manner, leading to operational delays.

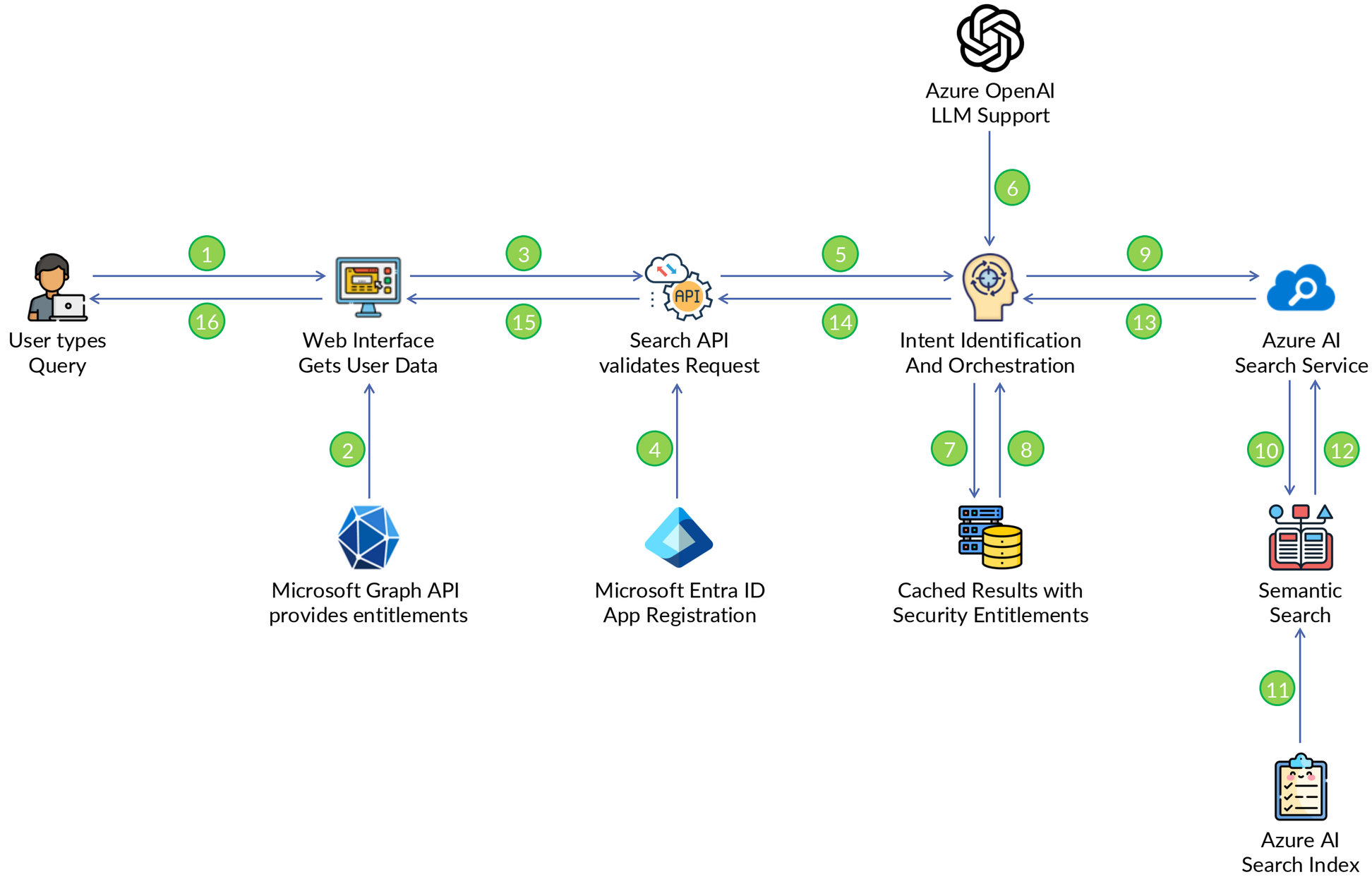
Operational Insights

- Retention risk is high
- Growing demand for predictive tools to better anticipate emerging needs and challenges.

1. Reduce fragmentation by consolidating multiple data repositories, internal and external applications, and data sets by building a SSOT (Single Source of Truth)
2. Increase reliance on data through timely availability, accurate and actionable data to closely monitor progress and KPIs.
3. Streamline processes and tools to reduce burden on users for validation of Data Quality and establishing more trust through BI Reports.
4. The comprehensive solution will reaffirm client position in faster processing of Loss / Run files at optimum operational cost.
5. One-stop-shop for all internal users.
6. Greater insights on data through smart and dynamic visualizations and comprehensive analysis across relevant data products.



Teine Energy – Chat over unstructured data



Compiled information from 10-15+ years of unstructured data stored in several network drives.

Applied metadata identifier strings approach on filename and metadata contents for files stored in Azure Data Lake.

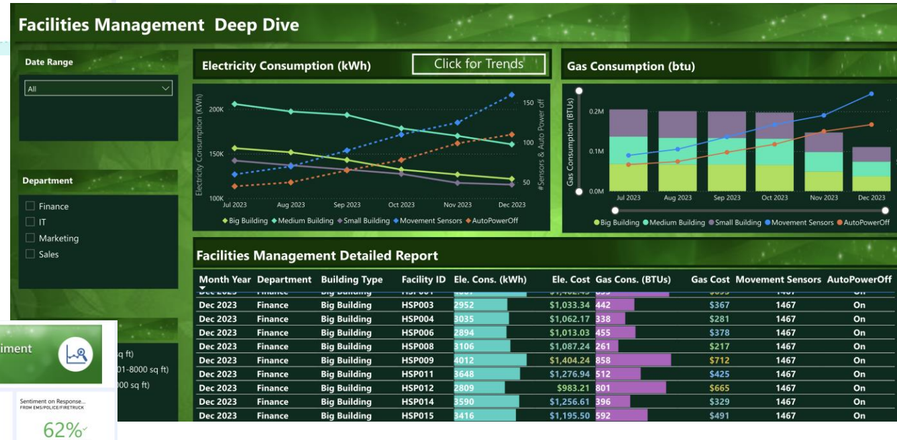
Processed ~750GB of data across ~315k blobs, and 183 file types. 2/3 of this is information about well files, and 1/3 is specific to geological data.

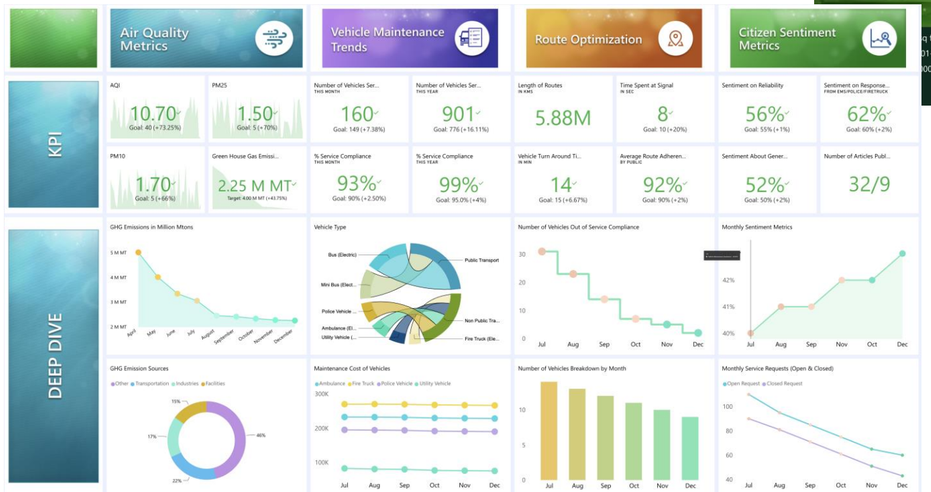
The files are a mix of text, multi-modal models including images, and non-OCR appropriate formats in some cases.

Grouped information into relevant clusters and retrieve it readily with a RAG.

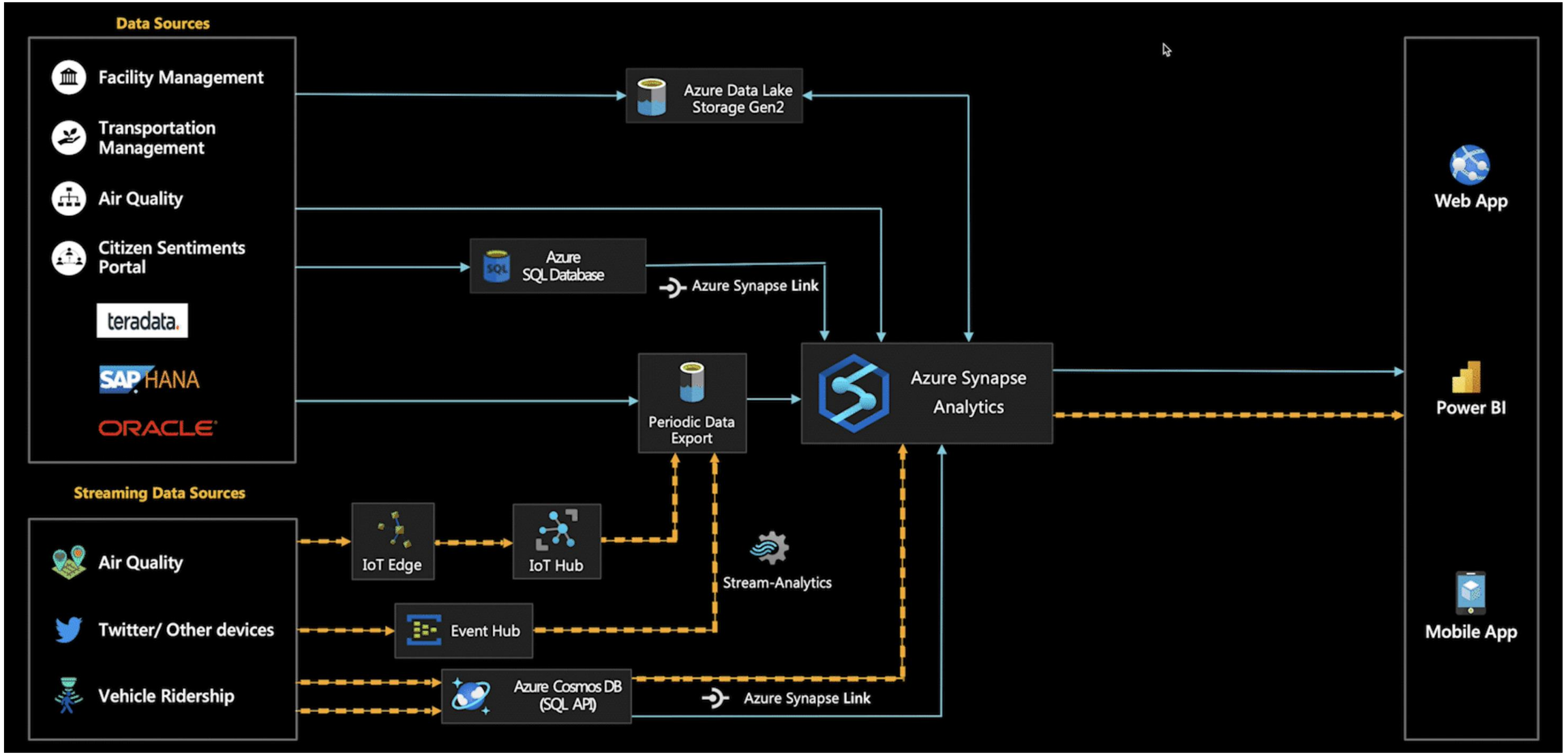
Microsoft DREAM Demo – Sustainability

- Analytics on AQI, PM 1, PM 2.5, PM 10
- Analytics on Air Quality Metrics, Vehicle / Fleet Management (City Transportation), Power Consumption Metrics, Citizen Sentiment Metrics
- Analytics for Transportation Department covering Public Transport Vehicles, Vehicle Maintenance Trends, Route Optimization, Citizen Sentiment Metrics
- Demand and Bus Frequency Optimization
- Analytics for Public Transportation Fleet Management covering EMS / Police / Fire / Other Vehicles, Vehicle Maintenance Trends, Route Optimization, Citizen Sentiment Metrics
- Analytics for City Facility Management covering Power Consumption, Gas Consumption, Facility Management Metrics along with Trends
- Analytics for City covering Transportation, Fleet and Facilities





Microsoft DREAM Demo – Sustainability – Architecture



Mobile App – Mobile Office Inspection App

A large modular space and portable storage solutions company that operates the largest fleet in the United States, Canada and Mexico. The client was looking to improve process efficiency by reducing the turnaround time as well as cost of repairs in the field

INDUSTRY
Logistics
Construction

REVENUE
$1B

EMPLOYEE SIZE
4000

HEADQUARTER
Pennsylvania

BUSINESS SITUATION

The Client wanted to enhance the internal process of inspection of their assets for outbound and inbound inspections by their staff. The current process is not very efficient and time consuming. Client was looking to create a mobile app to help inspectors register the inspection details right from the field on a tablet device like iPad.

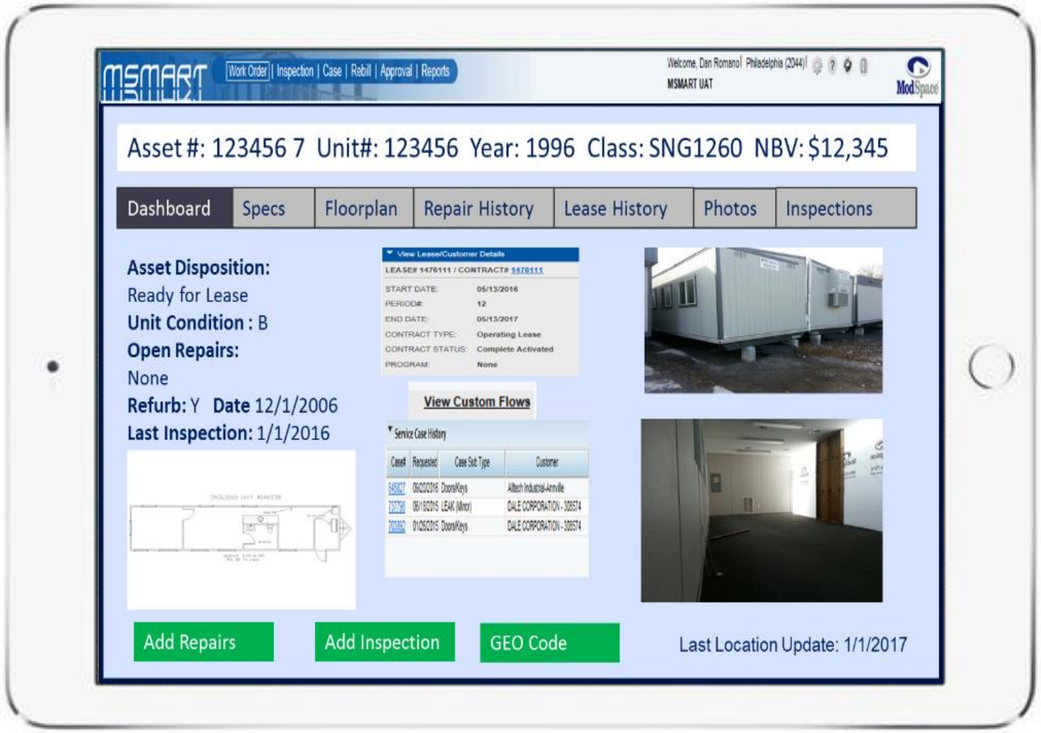
The overall vision was to keep their assets green tags and ready for shipping, thereby significantly reducing the turnaround time as well as cost of repairs in the field.

ACCION APPROACH

Accion Labs help design the tablet app that interacted with the backend MSmart application through RESTful APIs for fetching as well as sending various , Azure data elements related to the inspections. The overall project was split in 2 phases with discovery Phase aimed at documenting the inspection process and the requirements from the app and finalize the overall design, including visual design of the app. The second phase involved creating the hybrid mobile app.

TECHNOLOGY STACK

C#.NET, .NET Core, Web API
Ionic, HTML5, CSS3, JavaScript
Azure SQL Database
Azure App Service, API Management, Service Bus



- User Login
- Home/Dashboard
- Asset List and Search
- Open Inspection List and Search
- Asset Overview
- Dashboard
- Specs
- Floorplan
- Repair History
- Lease History
- Photos
- Inspections
- Add / Edit New Inspection
  - HVAC, Electrical, Plumbing, Chassis and others
- Save Checklist
- Confirm Specs
- Update Specs
- Add Repairs

Conservice – Digital Transformation – Utility Industry

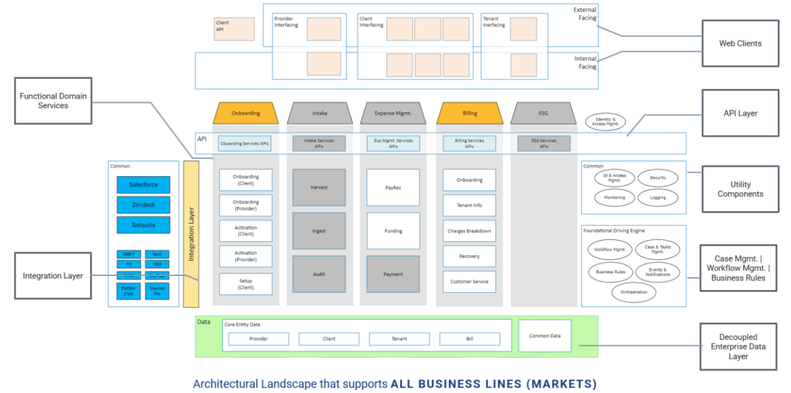
The client is a leading utility management and billing company in the United States. It provides services for multifamily & single-family properties, commercial businesses, student housing, and other real estate sectors, focusing on utility management solutions.

Legacy Systems	Manual Processes	Client Communication	Limited Automation	Data & Knowledge Issues	Inadequate performance tracking
Multi-family platform retrofitted for single family business leads **to inefficacy of IT systems**	Heavy reliance on basic office tools for critical business functions cause substantial **process overheads**	Scattered client communication across multiple (manual) channels leads to **low client satisfaction**	Monolithic platforms limit automation capabilities, resulting in **labor-intensive processes**	Data not served specific to context, knowledge spread thin **degrades user experience and productivity**	Lack of robust audit trails and process metrics leads to **process bottlenecks**

$3 Million annual savings

Business scalability by up to 45%

- Significant opportunities for improvement through **process optimization** and **technology modernization**.
- By embracing modern, cloud-based technologies and implementing a flexible, service-oriented architecture, Client can dramatically improve **operational efficiency**, enhance user experience, and create a **scalable platform** capable of supporting multiple business lines.
- Proposed future state architecture and implementation roadmap provide a **clear path forward** to address current challenges and position the business for **future growth.**
- By adopting a phased, **risk-aware approach** to implementation, client can manage the transition effectively while continuing to meet the needs of its clients and stakeholders.
- Qualitative improvements in areas such as data management, user experience, and business agility will **position client as a leader** in the utility management industry.



Architectural Landscape that supports **ALL BUSINESS LINES (MARKETS)**