Azure Data Platform

Azure Data Platform

A cloud-based data platform

accelerating past traditional structured data analytics

enabling the capabilities of semi-structured, streaming and advanced analytics

CLOUD-BASED

- Infrastructure and applications are hosted on the cloud, eliminating the need to purchase and support hardware and software
- Cloud services are "rented" with storage and compute scalable up or down as needed

ACCELERATE PAST TRADITIONAL ANALTYICS

- Structured data streamed to the cloud providing near real-time data updates.
- Structured data can be used for advanced analytics by leveraging a wide and expanding range of tools on the Azure platform

SEMI-STRUCTURED DATA

- IOT devices, social media, industry and competitive data come in a variety of formats. An Azure data platform supports all data formats.
- An Azure data platform integrates these modern sources with traditional structured data.

ADVANCED ANALYTICS

- The sky is the limit with advanced analytics with all your data in the cloud.
- Predictive analytics, Machine learning, Simulations, and sentiment analysis are just the start of the potential capabilities.

SDK

2

Benefits of Microsoft Azure Versability

SCALABLE INFRASTRUCTURE

- The Azure cloud separates the management of storage and compute services

SCALABLE STORAGE

- For storage, you only pay for what you use, allowing nearly limitless growth as your data and business expand
- Leveraging hot, cold and archive storage layers with progressively decreasing costs for finer control of costs

SCALABLE COMPUTE.

- For compute, you pay for the power you need at the time you need it.
- Compute can be scaled up during high utilization periods such as daily processing and peak reporting times then scaled down again when not needed such as weekends and evenings.
- Compute versatility has a dual benefit of improving performance in peak times while reducing overall costs by reducing processing times and scaling down during low periods.

SDK

Benefits of Microsoft Azure Versability

SCALABLE SOLUTION

- The Azure platform has dozens of applications and solutions in its overall suite. However, unlike packaged software, you only pay for the specific components you are using.
- As your data analytics goals grow and evolve, the full Azure suite is ready and waiting to be activated to meet your needs
- Similarly, retired applications can be removed, and the related costs terminate immediately (perfect for POCs)

ALWAYS CURRENT

- Azure data applications are auto-updated and patched with guaranteed backward compatibility
- Azure updates/patches are available on the cloud before they are available for on-premise
- Azure is frequently adding new features and solutions. As your data analytics needs evolve, Azure will be ready to meet those needs.

SECURITY & COMPLIANCE

- The Azure cloud is very secure and aggressively monitored and patched by Microsoft.
- The Azure cloud also provides solution specific tools to allow each client to customize their security and monitoring needs
- The Azure cloud meets all key industry standards for compliance

SDK

4

Common Pitfalls of Cloud Data Solutions

The Azure platform is ultimately a development platform that can be configured and implemented a thousand different ways.   SDKs experience has identified several common pitfalls of cloud data solutions when not correctly configured and implemented

Data Preparation

- Inconsistent storage schemas
- Duplication of source data
- Lack of or insufficient data profiling
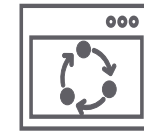- Inconsistent incremental processing

This leads to a Data Swamp which increases storage and development costs

Implementation Standards

- Lack of development standards
- No branching strategy or integration standards
- Limited code reusability
- Lack of Automation

This leads to poor code quality which greatly increases deployment and support costs

Process & Tools

- Undefined deployment processes
- Poor or lacking data governance
- Lack of centralized orchestration
- Inconsistent use of data tools

This leads to poor data and overall solution quality which reduces user acceptance and trust

SDK

SDK Approach to Azure Data Platform

*A successful implementation of an Azure Data Platform is a balancing act between **client specific requirements**, high data quality and high solutions quality against overall development and support costs.*

SDK approach avoids the common pitfalls of a cloud data platform.

Client Specific Requirements

Data Analysis

- Current and future data analysis requirements
- Analysis needs by different user groups

Consumption Patterns

- Ad-Hoc / dashboards / reports / data extracts / data sharing
- Internal and external consumers by user groups
- Real-time or batch

Security

- Single Sign-On and MFA requirements
- Data masking and PII requirements
- Controlled data access and auditing

Resource Skillsets

- Low code or high code preference
- Technical and functional teams
- Training across multiple departments

Advanced Analytics

- Support for data scientists
- Envisioning the future use of advanced analytics

SDK

SDK Approach to Azure Data Platform

*A successful implementation of an Azure Data Platform is a balancing act between client specific requirements, **high data quality and high solutions quality** against overall development and support costs.*

High Data Quality

Ensuring high data quality is a balance between development processes and standards and strong client involvement

- SDK has developed **Data Accelerators** to ensure consistent and repeatable ELT processes.
- SDK's **Data Accelerators** are configuration driven and have bult-in and customizable data quality
- SDK's **Power BI Accelerator** top-down reporting framework drives story telling with data
- SDK's **Job Manager** tool monitors all ELT processes and pro-actively identifies anomalies

- Client data experts are involved from day 1 through final user acceptance testing and **drive data acceptance**
- Client validation of data assets is an integral part of all projects

High Solution Quality

Ensuring solution quality requires managing code and environments from Day 1

- SDK has developed **coding and naming standards** to ensure consistent and supportable code
- SDK's **Power BI Accelerator** ensures consistent report design
- SDK's **Data DevOps Accelerator** uses automation to improve code stability and supportability
- Branching strategies, version control and automated deployment pipelines are integral parts of the accelerator
- SDK's **MLOps Accelerator** manages the full lifecycle of Machine Learning models

SDK

SDK Approach to Azure Data Platform

*A successful implementation of an Azure Data Platform is a balancing act between client specific requirements, high data quality and high solutions quality against **overall development and support costs.***

.

Minimize Development Costs

SDK's Accelerators provide an immediate foundation to develop upon and efficiently build out your solution
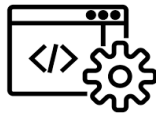
- SDK's coding and naming standards accelerate developer ramp-up and increase development efficiency
- SDK's Data Accelerator eliminates coding altogether for the majority of ELT processes
- SDK's Power BI Accelerator templates expediate report development
- SDK's Data DevOps Accelerator automates deployment activities significantly reducing developer effort

Minimize Support Costs

Support costs are directly correlated to the quality and complexity of the solutions supported. SDK Accelerators deliver a quality, consistent and repeatable solution.


- Coding and naming standards minimize the complexity and variation of solutions resulting in more efficient support
- High data and solution quality minimizes the number of support tickets and issues
- High solution quality minimizes the effort to resolve issues
- Automated deployments reduce deployment issues
- Proactive monitoring resolves issues before user involvement and related support costs
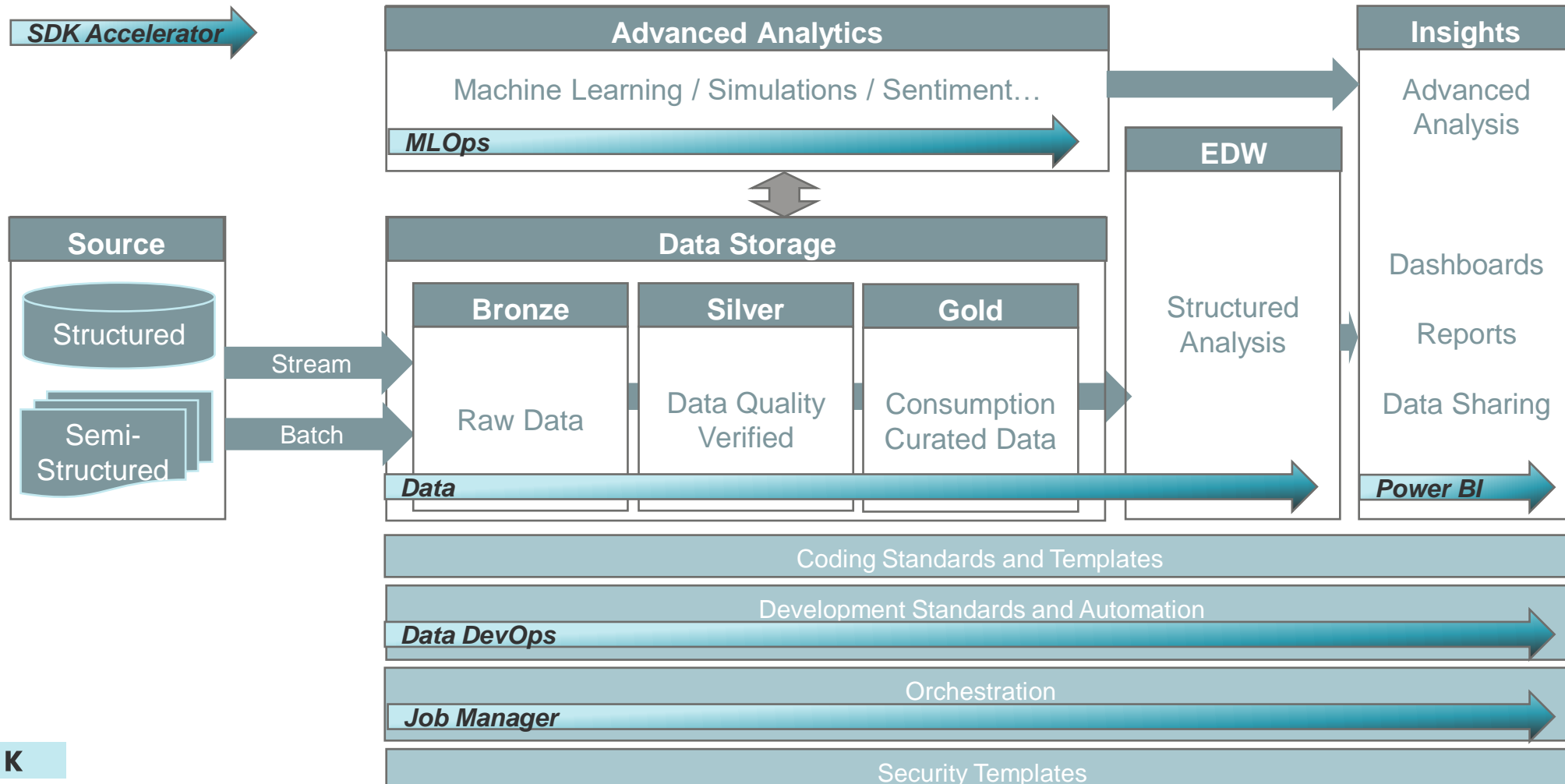
S D K

SDK High-Level Architectural

A representative Azure Data Platform architecture
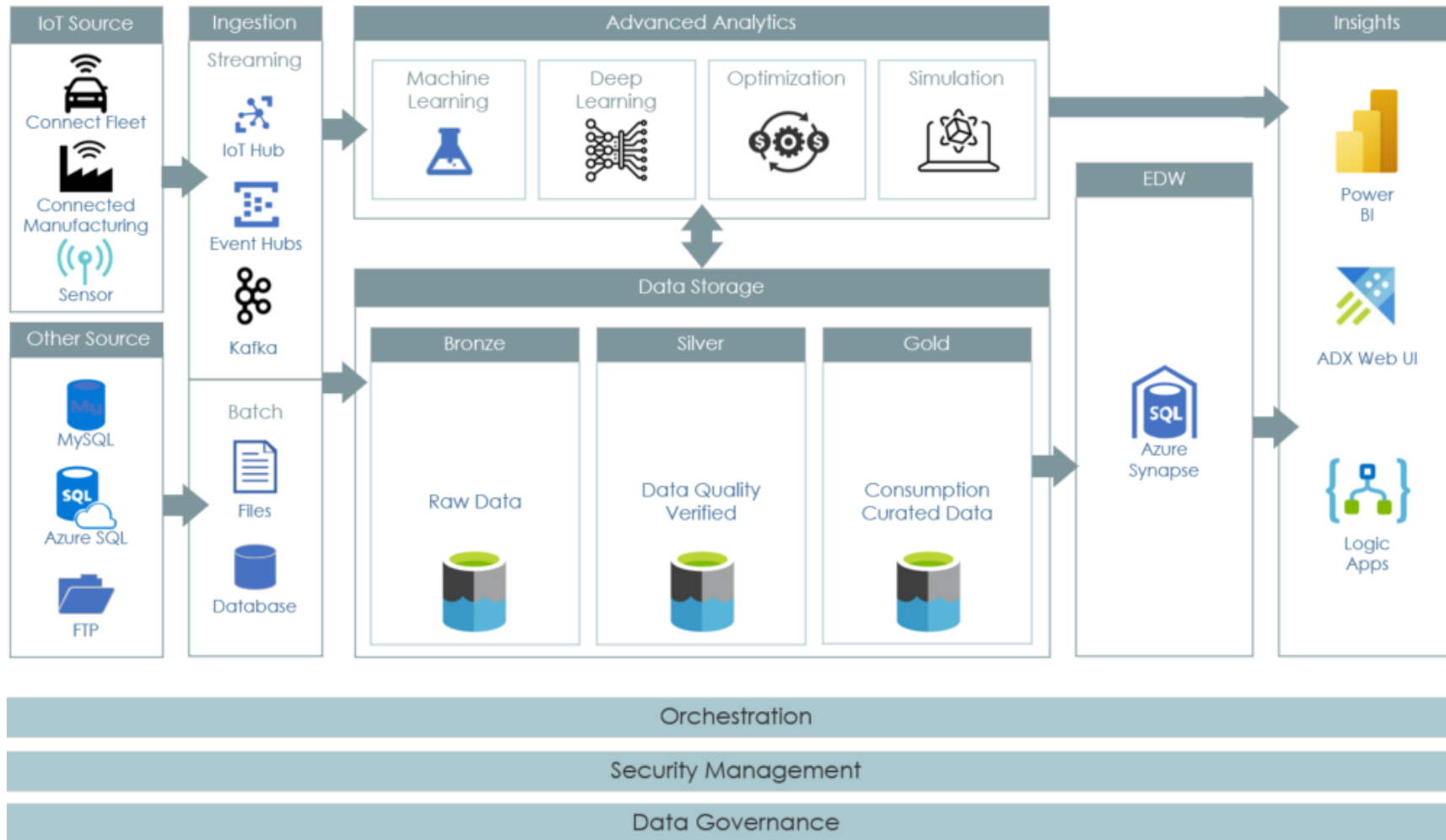
SDK Architectural Approach

The SDK standards, templates and Accelerators integrate into all aspects of an Azure Data Platform

SDK Accelerator

Advanced Analytics

Machine Learning / Simulations / Sentiment…

MLOps

Source

Structured

Semi-Structured

Stream

Batch

Data Storage

Bronze	Silver	Gold
Raw Data	Data Quality Verified	Consumption Curated Data

Data

EDW

Structured Analysis

Insights

Advanced Analysis

Dashboards

Reports

Data Sharing

Power BI

Coding Standards and Templates

Development Standards and Automation

Data DevOps

Orchestration

Job Manager

Security Templates

SDK

Thank You.

Please visit SDK Tek for more Information: