Data and AI Discovery Workshop for Azure Technologies

Microsoft & Kyndryl
Purpose

This workshop helps develop and improve clients’ data architecture leveraging Azure technologies. Over the course of 4 or 8 weeks, Kyndryl provides in-depth analyses and concrete deliverables to advise on the implementation of data & AI use cases, addressing data modernization and cloud migration strategies.

Furthermore, Kyndryl reviews clients’ data architecture to identify pain points and propose advanced solutions such as enterprise-grade Data Fabric architecture for Azure.

This Data and AI workshop is for any size company that wants to improve their data strategy to gain productivity, better understand their customers and their business, and scale data & AI use cases throughout the enterprise.
Data and AI Discovery Workshop for Azure

Introduction

Why Kyndryl?

Kyndryl Data and AI Discovery Workshop for Azure Technologies is the open and collaborative experience that’s needed to solve today’s complex real-world business problems. We love transforming ambiguous, complex problems into elegant and modern solutions.

Kyndryl takes customers on a journey from problem definition to deliverable product. Working side by side, we prototype promising ideas and examine them through multiple lenses to arrive at actionable plans.

When we converge on a solution, Kyndryl has the capabilities and scale to move smoothly into testing, execution, and measurement. And when we succeed? We don’t stop—we start a new conversation and find our next big idea together.
Why Azure?

Azure provides the most comprehensive set of analytics services from data ingestion to storage to data warehousing to machine learning and BI. Each of these services have been finely tuned to provide industry leading performance, security and ease of use, at unmatched value. In short, Azure has you covered. Implementing an end-to-end analytics solution in Azure costs up to 59% less compared to other providers.

PRICE PERFORMANCE COMPARISON FOR AN END-TO-END ANALYTICS SOLUTION

Study conducted by GigaOm in March 2021
# Data Assessment Agenda

**Standard Version – 8 Weeks**

<table>
<thead>
<tr>
<th>Strategy Vision</th>
<th>Current State</th>
<th>Use Cases</th>
<th>Improve Blueprints</th>
<th>Proposed Architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1W</td>
<td>2W</td>
<td>3W</td>
<td>1W</td>
<td>1W</td>
</tr>
<tr>
<td>with client ~4H</td>
<td>with client ~5H</td>
<td>with client ~4H/UC</td>
<td>with client ~2H</td>
<td>with client ~3H</td>
</tr>
</tbody>
</table>

**Deliverables**

- Project Charter – Slide 7
- SMART – Slide 7
- Data Strategy per use case – Slide 7
- SWOT – Slide 7
- Data Architecture State – Slide 8
- WBS – Slide 8
- Gap Analysis – Slide 9
- Solution Assessment Table – Slide 10
- Design Thinking (new use cases discovery)
- UC prioritization – Slide 12
- Design Thinking (user experience)
- State of the Art
- High-level blueprints – Slide 12
- FinOps/AiOps
- Final Architecture – Slide 15
- List of KPI to validate the project – Slide 16
- Implementation Roadmap – Slide 16
- Allocation of Kyndryl human resources by use case – Slide 17
Data Assessment Agenda
Lite Version – 4 Weeks

Strategy Vision → Current State → Blueprints → Proposed Architecture

Duration

2D with client ~4H

1W with client ~5H

2W with client ~2H/UC

3D with client ~3H

Deliverables

- Project Charter – Slide 7
- SWOT – Slide 7
- Data Strategy by use case – Slide 7
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Lite Version – 4 Weeks

- 2D with client ~4H
- 1W with client ~5H
- 2W with client ~2H/UC
- 3D with client ~3H
Strategy & Vision

What caused the issues - Define these issues - What are the expected results?
Who? Client: C-Levels & Data Managers - Kyndryl: Project Manager & Data Architect

01 Project Charter
- It explains a project clearly and concisely
  - Reasons for the project
  - Objectives and constraints of the project
  - Risks & Benefits of the project
  - General overview of the budget
  - Resources Pre-assigned

02 SMART & SWOT
- Define a set of goals to provide a clear focus. They should be specific, measurable, relevant & time-bound.
- SWOT is a technique used to help an organization identify their strengths, weaknesses, opportunities and threats related to competition or projects. And to design an effective strategy for the future.

03 Data Strategy by use cases
- Define the use cases that the client wishes to develop and ensure that the scope is clearly defined. Identify areas for improvement.

<table>
<thead>
<tr>
<th>Use Case</th>
<th>How</th>
<th>Why</th>
<th>Expectation</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a health score for each customer</td>
<td>Collect logs, messages, metadata ... related to each customer. To train an ML model that can predict churn.</td>
<td>It costs 10x more to find a new customer than to keep one.</td>
<td>Increase revenue, Increase customer happiness...</td>
<td>Connect to new data sources, On premise, Multilingual solution, Data stored in EU</td>
</tr>
</tbody>
</table>
Understand Current State
What’s the current data architecture in production?
Who? Client: Data Managers (BI-ML-DWH ...) & End Users - Kyndryl: Project Manager, Data Architect & Senior Data Scientist

**Workshop Agenda**

<table>
<thead>
<tr>
<th>Early Data Adoption</th>
<th>Advanced Data Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation of relevant use cases</td>
<td>Core Data Services</td>
</tr>
<tr>
<td>Core Data Services &amp; Ancillary Data Services</td>
<td>Ancillary Data Services</td>
</tr>
<tr>
<td>Bi &amp; Machine Learning</td>
<td>BI</td>
</tr>
<tr>
<td>Summary &amp; next steps</td>
<td>Machine Learning</td>
</tr>
<tr>
<td></td>
<td>Summary &amp; next steps</td>
</tr>
</tbody>
</table>

**Data Architecture State**
We illustrate in an accurate and simple way how the architecture is working. Pain points are detected.

**Solution Architecture - Recommended Target State**

**Work Breakdown Structure**

- Project Name
  - Data Management
    - Data Lineage/Gov
    - Data Security
  - Data Store
    - Data Warehouse
    - Time Series
  - Machine Learning
  - Data Visualization
    - Kepler.gl
  - Data Lake

- Kyndryl
Understand Current State

What’s the current data architecture in production?
Who? Client: Data Managers (BI-ML-DWH ...) & End Users - Kyndryl: Project Manager, Data Architect & Senior Data Scientist

01 Architecture Maturity Assessment

Depending on the type of business, we need to find a balance between security and flexibility that suits the business needs. The maturity model shows where we need to improve to successfully implement the solution.

<table>
<thead>
<tr>
<th>KEY OBJECTIVES</th>
<th>DEFENSE</th>
<th>OFFENSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensure data security, privacy, integrity, quality, regulatory compliance, and governance</td>
<td>Improve competitive position and profitability</td>
</tr>
<tr>
<td>CORE ACTIVITIES</td>
<td>Optimize data extraction, standardization, storage, and access</td>
<td>Optimize data analytics, modeling, visualization, transformation, and enrichment</td>
</tr>
<tr>
<td>DATA-MANAGEMENT ORIENTATION</td>
<td>Control</td>
<td>Flexibility</td>
</tr>
<tr>
<td>ENABLING ARCHITECTURE</td>
<td>SSOT (Single source of truth)</td>
<td>MVOTs (Multiple versions of the truth)</td>
</tr>
</tbody>
</table>
Understand Current State
What’s the current data architecture in production?
Who? Client: Data Managers (BI-ML-DWH ...) & End Users - Kyndryl: Project Manager, Data Architect & Senior Data Scientist

Solution Assessment Table
For each use cases, we’ll develop a solution assessment table. This deliverable will identify the key constraints / deliverables / resources for a specific use case.
This step is a continuation of the "Data strategy by use case" deliverable.
Furthermore, we will ensure that the project will create relevant business value for our client and modernize his architecture.

<table>
<thead>
<tr>
<th>Solution</th>
<th>Enhance Data Storage Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>Data Warehouse Manager</td>
</tr>
<tr>
<td>Use case</td>
<td>The amount of data is increasing and slowing down the entire architecture</td>
</tr>
<tr>
<td>How</td>
<td>Implement Elastic with Azure to distribute data and increase the speed of data harvesting</td>
</tr>
</tbody>
</table>
| Key deliverables | • Identify and assess the data storage architecture  
|          | • Build a PoC if necessary  
|          | • Create architecture blueprints and identify the number of cluster/node/shard/replica needed |
| Constraints | • The owner has multiple data repositories |
| Key resources | • Data Engineers  
|          | • Azure Cloud |
| Business Value | • Customers will navigate faster on the application: Less churn |
Develop Use Cases
Create first blueprints
Who? Client: Data Team & End Users - Kyndryl: Project managers, Data Architect, Data Engineer & Senior Data Scientist

Data Mesh
Unlike a centralized data architecture where all the data of the departments are stored on a handful of systems. The Data Mesh principle decentralizes data management by creating an architecture specific to each Data Domain. A Data Domain represents a department of a company (delivery, marketing, sales, finance ...).

This create more flexibility in the processes / Reduces processing, request time, time-to-market / Each practice can use the products that correspond to it the most / Reconciles data ingestion with its sources, formats, and volumes / Harvest data where it resides, instead of making multiple copies / Data is managed by the people who know the product best.
Develop Use Cases
Create first blueprints
Who? Client: Data Team & End Users - Kyndryl: Project managers, Data Architect, Data Engineer & Senior Data Scientist

01 Use Cases Prioritization & Design Thinking
We prioritize the use cases according to their importance, feasibility and business value. During joint sessions, we imagine the use cases that will transform your business of tomorrow.

02 First Blueprints
With the information previously collected, we draw the first blueprints (for each use case) through several design sessions.

The goal is to establish the foundations of the future data architecture.

Business Use Cases
Targeted ads
Detecting churn upstream
Anticipate equipment failure
Fraud/Suspicious Behavior Detection
Anticipate a product's out-of-stock condition
Create an End-to-End Solution

Let’s assume that a C-level needs a detailed report on sales performances. Typically, this would require the data engineer to invest considerable time to locate this piece of information. They might also need the assistance of a partner to extract it. Sounds like a time-consuming, expensive & exhaustive proposition!

But Synapse & Purview can make this easy! The platform offers the flexibility to query data on-demand, using dedicated options and serverless – at scale. Therefore, you can quickly ingest the data, transform and query it using SQL. Azure Analytics is up to 380% faster than other cloud providers.

Purview’s data lineage, discovery, and metadata management will help us discover the right data to build the sales report.
Microsoft 365

Microsoft 365 and Azure offer an excellent way to increase efficiency in the workplace when used together. Microsoft 365 provides the applications to support your day-to-day office tasks. You can gather data stored in places such as OneDrive, SharePoint, Exchange mailbox, and more directly into the cloud to gain insights on your company.

You can classify and protect documents and emails by applying labels. These labels also make your document easy to find.

You can monitor your Microsoft 365 environment activities for suspicious sign-ins, unusual activities performed by existing users, and unexpected changes made using machine learning to analyze the behavior of users and applications in your organization’s network. That, in turn, helps you detect potential attacks by malicious users.
Improve Blueprints

Link each blueprint to show how each data layer will work together.

Who? Client: Data Managers - Kyndryl: Project managers, Data Architect, Data Engineer & Senior Data Scientist

Final Blueprint

Detail each high-level blueprint. Merge all the blueprints created as one to connect each layer:

- Source
- Ingest
- Store
- Process
- Analyze
- Consume

Put each use case in their mesh.
Implementation Roadmap

Implementation roadmap for the creation of the solutions with detailed costs, migration plans, and milestones.

Each step of your data modernization will be explained to provide a clear picture of what to expect.

KPI List

<table>
<thead>
<tr>
<th>KPI</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentiment Analysis - F1</td>
<td>80%</td>
</tr>
<tr>
<td>Nbr of transactions/min</td>
<td>1K</td>
</tr>
<tr>
<td>Nbr of Backups</td>
<td>2</td>
</tr>
</tbody>
</table>

Develop a list KPIs, to create a common agreement on the performance our solutions should achieve.
## Global Overview – Schedule & Pricing

<table>
<thead>
<tr>
<th>Standard Version - 8 Weeks - 43K €</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>juliet</strong></td>
</tr>
<tr>
<td>Strategy and Vision - 1W ● jul. 4 - 11 ● 8 jours</td>
</tr>
<tr>
<td>Current State - 2W ● jul. 11 - 25 ● 15 jours</td>
</tr>
<tr>
<td>Uses Cases - 3W ● jul. 25 - août 15 ● 22 jours</td>
</tr>
<tr>
<td><strong>août</strong></td>
</tr>
<tr>
<td>Use Cases - 3W ● août 22 - 29 ● 15 jours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lite Version - 4 Weeks - 25K €</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>juliet 2022</strong></td>
</tr>
<tr>
<td>Strategy and Vision - 2D ● jul. 4 - 10 ● 2 jours</td>
</tr>
<tr>
<td>Current State - 1W ● jul. 6 - 13 ● 8 jours</td>
</tr>
<tr>
<td>Blueprints - 2W ● jul. 14 - 21 ● 10 jours</td>
</tr>
<tr>
<td><strong>août</strong></td>
</tr>
<tr>
<td>Proposed Architecture - 3D ● août 22 - 29 ● 10 jours</td>
</tr>
</tbody>
</table>
Global Overview – Human Resources

For each use case, those trades will be fully or partially assigned as needed.

01 Project Manager Senior
For each phase of the data assessment workshop

02 Data Architect Senior
For each phase of the data assessment workshop

03 Data Scientist Senior
For the technical phases of the data assessment workshop

04 Data Engineer
For the technical phases of the data assessment workshop

05 Data Viz & Business Analyst
To support the work of the Data Scientist and Engineer with visualizations