QUADRANT

MIGRATING FROM **AZURE SYNAPSE TO MICROSOFT FABRIC**

Overview :

Migrating from Azure Synapse Analytics to Microsoft Fabric involves transferring datasets,pipelines, and workspaces to a comprehensive platform that centralizes data management, real-time analytics, and business intelligence. Microsoft Fabric enhances scalability andflexibility while providing advanced tools for better insights and unified data handling.

Fabric Adoption Methodology

Quadrant follows a structured methodology to onboard customers onto Microsoft Fabric. Itinvolves the following steps:

- Assessment
- Adoption – Follows the 4 C's Framework
  - Competence
  - Consultation
  - Certainty
  - Customer Satisfaction
- Acceleration
- Adherence to Enterprise Scale
- Aligning with industry-standard solutions with Microsoft Fabric's integrated capabilities.

Synapse to Microsoft Fabric Migration Solution

This solution facilitates the migration from Azure Synapse Analytics to Microsoft Fabric,leveraging comprehensive services to enhance data management capabilities. It emphasizessecure and efficient migration practices.

01. Key Sections

Introduction :

- Purpose: Streamline the migration process from Azure Synapse to Microsoft Fabric,ensuring enhanced performance, governance, and scalability.
- Focus: Responsible migration practices, leveraging Microsoft's tools and services.

Lifecycle of Offerings

1

Assessment and Planning

Output: Assessment Report, Design, and Project Plan.

Approach: Use a checklist and the Well-Architected Framework.

2

Pilot/Proof of Concept (POC)

Output: Deployment and POC.

Approach: Utilize customer-provided data, use cases, or modules.

3

Data Migration

Output: High-Level Design (HLD), Low-Level Design (LLD), Environment Setup, and Code.

Approach: Develop data pipelines.

4

ETL/ELT

Output: HLD, LLD, Environment Setup, Pipelines, and Code.

Approach: Develop ETL/ELT pipelines.

5

Service Validation and Testing

Output: Test Cases and Test Validation Reports.

Approach: Execute test cases.

6

Post-Production

Output: Post-Production Documentation (PPD), Standard Operating Procedures (SOP), andArchitecture Design.

7

Non-Functional Requirements (NFR) Processes

Focus: Data Governance, Data Security, Performance Benchmarking, and Data Quality.

Migration Considerations

Factors :

- Migration of existing transactional systems and data warehouses.
- Criticality of transactions and downtime requirements.
- Data volume, complexity, and entities.
- Data feeds/external sources for data warehousing and analytics.
- Data archival & regulatory/compliance requirements.

Migration Details

1 Spark Pools

Migrate Spark pools, configurations, libraries, notebooks, and job definitions from Synapseto Fabric.

Options include manual migration or using APIs/scripts.

2 Data and Pipelines

Data migration options include using ADLS Gen2 or OneLake.

Pipeline migration involves mounting Azure Data Factory (ADF) in Fabric and upgradingpipelines.

3 Dedicated SQL Pools

Options include lift-and-shift or remodeling the data model.

Use OneLake shortcuts or data copy methods.

4 Feature Mapping

Synapse vs. Fabric

- SQL Endpoint
- Notebooks
- Definitions
- Managed Spark Pools
- Spark Job
- KQL Query Set

Differences: Storage, metadata, connections, security, DevOps, logging, and monitoring.

Schema/Data Migration Options

1. Data Factory: Simplified schema and data migration; recommended for dimension tables.
2. Data Factory with Partition: Increased read/write parallelism; recommended for facttables.
3. Data Factory with Accelerated Code: Optimal overall ingestion performance.
4. Stored Procedures Accelerated Code: Granular control over tasks.
5. SQL Database Project Extension: Integration with SQL Database Project for deployment.
6. CREATE EXTERNAL TABLE AS SELECT (CETAS): Cost-effective and high-performancedata extract.
7. Migrate using dbt: Use dbt Fabric adapter for schema and database code conversion.

Real-World Use Cases

Quadrant Technologies is actively transforming data management to help drive valuerealization for enterprise businesses and their IT groups using deep industry use casespowered by Microsoft Fabric. Here are some observed results with clients:

- Regulatory Compliance in Financial Services: Ensuring data integrity and compliance with regulatory standards.
- Manufacturing Efficiency: Streamlining data processes to enhance production efficiency and reduce downtime.
- Healthcare Data Integration: Integrating patient data for comprehensive health analytics, improving patient outcomes and operational efficiency.
- Retail Customer Insights: Enhancing customer insights through real-time sales data analysis, improving inventory management and personalized marketing strategies.

Delivering Migration at Scale

Quadrant Technologies' Synapse to Fabric Migration employs a pioneering factory model.Multidisciplinary agile pods develop specific business and industry-led use cases built on afoundation of responsible data management to drive efficiency while enabling goodgovernance. This model is applied within Quadrant Technologies and replicated withclients. Solutions are live in production, designed for regulated industries.

Centralized Benefits with Microsoft Fabric

Transform your data strategy with Fabric's unified, powerful analytics experience.

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