



CSU Migration Factory for Analytics

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CSU Migration Factory Explained

What is the CSU Migration Factory?

A Microsoft CSU delivery model to provide rehost* migration of Apps, Infra, and Data workloads at Zero cost to customers.

Modernize your applications and data to accelerate time to market and deliver new experiences.

Achieve greater agility and scale with builtin security and high availability.

* 7 Options To Modernize Legacy Systems (gartner.com)

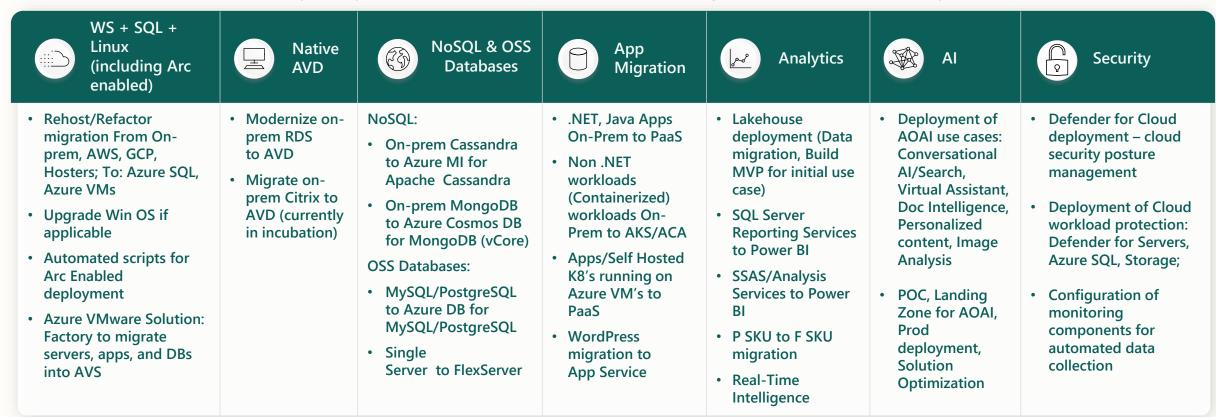
Migrate or modernize first? - Cloud Adoption Framework | Microsoft Learn

Get your first workloads running in Azure in weeks



CMF | Workloads & Execution Focus

-Jumpstart Azure journey for Apps, Infra, and Data workloads through Microsoft-owned delivery at Zero Cost $^{\cdot}$



Current localized coverage:

All Time Zones: English

ASIA: Chinese, Japanese

EMEA: Germany, French

LATAM: Spanish, Portuguese

Nomination Acceptance Criteria:

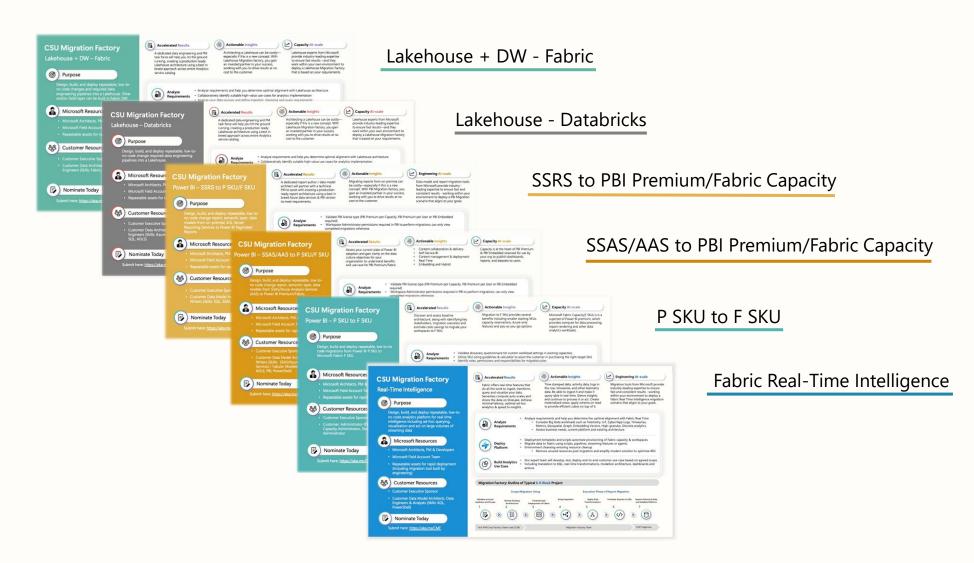
- Customer Sponsorship secured
- Scope is confirmed and aligned with CMF scope
- Active MSX Opportunity –
 Workload aligned Milestones •
 (for Managed accounts)
- All customers, any size
 Migration (**no minimum** size)
 Execution Method (Handson-Keyboard or Screen-Share
 quidance)

Nomination form: https://aka.ms/CMF

More information:

https://aka.ms/csumigrationfactory

CSU Migration Factory for Analytics Offerings



Accelerating Adoption through CSU Migration Factory for Analytics

Lakehouse

Fabric



Offerings:

- Fabric Lakehouse
- Fabric Lakehouse + DW

Scope:

- Lakehouse medallion architecture with bronze, silver, and gold layer.
- Transformations with Spark notebooks.
- Orchestration of notebooks with Azure Data Factory or Fabric Data Factory.
- Silver and/or Gold layer can be built in Fabric DW
- One basic Power BI report to demonstrate how to connect Power BI reports to Gold layer
- How: Leverage repeatable IP to accelerate establishing Lakehouse environment, migrate data and rewrite scripts leveraging repeatable components

Databricks



Offerings:

- Lakehouse
- Unity Catalog(metastore)

Scope:

- Lakehouse medallion architecture with bronze, silver, and gold layer.
 - Transformations with Spark notebooks.
 - Orchestration of notebooks with Azure Data Factory or Delta Live Tables.
- How: Leverage repeatable IP to accelerate establishing Lakehouse environment, migrate data and rewrite scripts leveraging repeatable components



Accelerating Adoption through CSU Migration Factory for Analytics

Additional Fabric Offerings

Power BI

- Offerings:
 - SSRS to PBI Premium/Fabric Capacity
 - SSAS/AAS to PBI Premium/Fabric Capacity
 - P SKU to F SKU
- Scope: SQL Server Reporting Services(SSRS) & Analysis Services (SSAS/AAS) can be migrated easily to Power Bl. Migration of P SKU to F SKU workspaces (within same tenant) in the same region or another region with considerations.
- How: Leverage 1st party tooling to migrate customers out of legacy solutions like SSRS & SSAS/AAS into Power BI & Fabric

Real-Time Intelligence

- Offerings:
 - ADX
 - Fabric
- **Scope:** Migrate data to Fabric using scripts, pipelines, streaming features or agents. Big Data workloads such as Telemetry, IoT, Cyber/App Logs, Timeseries, Metrics, Geospatial, Graph, Embedding Vectors, High-granular, Discrete analytics.
- **How:** Analyze requirements and help you determine the optimal alignment. Assess business needs, current platform and existing architecture.







Lakehouse Migrations

Lakehouse Medallion Architecture

The **Medallion Architecture** describes a series of data layers that denotes the quality of data stored in the Lakehouse. This architecture guarantees atomicity, consistency, isolation and durability as data passes through multiple layers of validation and transformations being stored in a layout optimized for efficient analytics.

Key Capabilities:

- Ingest raw data to the Bronze layer
- Validate and deduplicate data in the Silver layer
- Power analytics with the Gold layer



Lakehouses are a single location for data engineers, data scientists, and data analysts to access and use data.

Lakehouse – In Scope

Data Sources

Azure SQL DB and SQL MI

PostgreSQL

MySQL

Oracle

SQL Server (on-premises)

Flat Files

Hadoop

AWS Redshift

Dedicated SQL Pool FO*

Google Big Query FO

Fabric Shortcuts FO

Orchestration and Transformation

Azure Data Factory

Fabric Pipelines FO

Notebooks

PySpark

SparkSQL

Stored Procedures

Delta Live Tables DO

Unity Catalog DO

FO Fabric only

DO Databricks only



Lakehouse + DW Scope

In Scope

- Migration to Lakehouse medallion architecture with bronze, silver and gold layer.
- Silver and/or Gold layer can be built in Fabric DW.
- Orchestration of notebooks with Azure Data Factory, Fabric Data factory or Delta Live Tables.
- One Basic Power BI Report to demonstrate how to connect PBI to Gold layer tables
- Unity Catalog for metastore in Databricks

Out of Scope

- Lift & Shift Synapse Dedicated Pools to Fabric DW
- Migration of Azure Data Factory to Fabric Pipelines
- Migration of SSIS Packages

Lakehouse + DW – Fabric



Purpose

Design, build, and deploy repeatable, low-tono code changes and required data engineering pipelines into a Lakehouse. Silver and/or Gold layer can be built in Fabric DW



Microsoft Resources

- Microsoft Architects, PM & Developers
- Microsoft Field Account Team
- Repeatable assets for rapid deployment



Customer Resources

- Customer Executive Sponsor
- Customer Data Architects & Engineers (Skills: Fabric, Spark, SQL, ADLS)



Nominate Today

Submit here: https://aka.ms/CMF



Accelerated Results

A dedicated data engineering and PM task force will help you hit the ground running, creating a production ready Lakehouse architecture using a best in breed approach across entire Analytics service catalog.



Actionable Insights



Capacity At-scale

Architecting a Lakehouse can be costly—especially if this is a new concept. With Lakehouse Migration factory, you gain an invested partner in your success, working with you to drive results at no cost to the customer.

Lakehouse experts from Microsoft provide industry-leading expertise to ensure fast results—and they work within your own environment to deploy a Lakehouse Migration Factory that is based on your requirements.



Analyze Requirements

- Analyze requirements and help you determine optimal alignment with Lakehouse architecture
- Collaboratively identify suitable high-value use-cases for analytics implementation
- Analyze your data sources and define ingestion, cleansing and guery requirements



Deploy Lakehouse/DW Platform

- Connect Microsoft Fabric to on-prem and cloud-based data sources
- Use Notebooks and Pipelines to create, load, and transform Delta tables in a Fabric Lakehouse
- Build preliminary Power BI report to demonstrate how visualizations and analytics can be built on top of the Lakehouse data
- Optionally build Silver and/or Gold layer in Fabric DW



Build Analytics Use Case

- Our expert team will develop, test, deploy customer use case based on approved requirements
- Predefined application templates and accelerators aid in bootstrapping the development process.

Migration Factory: Outline of Typical 6-8 Week Project

Fabric Envisioning

Lakehouse/DW Pattern Deployed for Customer use Case

Validate account readiness

Scoping

Access to resources

Existing data sources Limited set of tables Spark ETL Pipelines (Batch & streaming)

Data into Lakehouse/DW



























Lakehouse – Databricks



Purpose

Design, build, and deploy repeatable, low-tono code changes and required data engineering pipelines into a Lakehouse.



Microsoft Resources

- Microsoft Architects, PM & Developers
- Microsoft Field Account Team
- Repeatable assets for rapid deployment



Customer Resources

- Customer Executive Sponsor
- Customer Data Architects & Engineers (Skills: Azure Databricks, Spark, SQL, ADLS)



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Analyze Requirements

- Analyze requirements and help you determine optimal alignment with Lakehouse architecture
- Collaboratively identify suitable high-value use-cases for analytics implementation
- Analyze your data sources and define ingestion, cleansing and guery requirements



Deploy Lakehouse **Platform**

- Leverage repeatable IP to accelerate establishing the Databricks workspace, Unity Catalog(metastore), Delta Live Tables, Data Lake and other components required to setup the Lakehouse platform
- Use of parameterized deployment to speed up platform provisioning according to your requirements



Build Analytics Use Case

- Our expert team will develop, test, deploy customer use case based on approved requirements
- Predefined application templates and accelerators aid in bootstrapping the development process.

Migration Factory: Outline of Typical 6-8 Week Project

Databricks Envisioning

Lakehouse Pattern Deployed for Customer use Case

Validate account readiness

Scoping

Access to resources

Existina data sources Limited set of tables

Spark ETL Pipelines (Batch & streaming) Data into Lakehouse





















SQL to Fabric Migration Scenarios

	Migration Scenario	Data Orchestration	Code Source	Medallion Target Architecture	Code Target
1	On-premises SQL Server	Azure Data Factory or Fabric Data Factory	Stored Procedures	Bronze = Lakehouse Silver = Lakehouse or Warehouse Gold = Lakehouse or Warehouse	Notebooks or Stored Procedure(if in Warehouse)
2	Azure SQL DB Data Warehouse Azure SQL MI Data Warehouse	Azure Data Factory or Fabric Data Factory	Stored Procedures	Bronze = Lakehouse Silver = Lakehouse or Warehouse Gold = Lakehouse or Warehouse	Notebooks or Stored Procedure(if in Warehouse)
3	Synapse Dedicated Pool (lift & shift is not in scope)	Azure Data Factory or Fabric Data Factory	Stored Procedures	Bronze = Lakehouse Silver = Lakehouse or Warehouse Gold = Lakehouse or Warehouse	Notebooks or Stored Procedure(if in Warehouse)



Lakehouse Project Timeline

Key Phases / Milestones	Start Date	End Date	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Requirements	Week 1	Week 2	Require	ments						
Design	Week 2	Week 3		Desi	gn					
Implementation	Week 3	Week 8					Implemer	ntation .		
Testing	Week 5	Week 8						Testi	ng	
Handover	Week 7	Week 8							Hando	over

- Requirements: Local CSA, Corp
 Factory Team Lead and Customer will
 meet to discuss requirements of the
 program
- Design: Local CSA, Corp Factory
 Team Lead and Customer will work
 together to design a high value use
 case
- 3 Implementation: Development team will be doing the work
- Testing: Development team and Customer should be doing iterative testing
- Handover: Development team will do knowledge transfer sessions





Power BI Migrations

Power BI Scope



In Scope

- Migrate .rdl reports and SSRS PBI interactive reports from SSRS servers to PBI Premium
- Publish reports that pass checks as PBI Paginated Reports
- Migrate SSAS/AAS models to Power BI Semantic Models
- Migrate P SKU (PBI Premium) to F SKU (Fabric)

Out of Scope

- Automation and Business Operations, such as .Net Code, SSIS Packages and Azure Data Factory
- Governance and Security such as PBI capacity governance, workspace config and role membership
- Setup and training on Optimization methodology, tenant management, release management, monitoring, alerting, post deployment oversight

Power BI – SSRS to P SKU/F SKU



Purpose

models from on-premise SQL Server



Microsoft Resources



Customer Resources

- Writers (Skills: SQL, SSRS, ADLS, PBI)



Nominate Today

Submit here: https://aka.ms/CMF



Accelerated Results

A dedicated report author / data model architect will partner with a technical PM to assist with creating a production ready report architecture using a best in breed Azure data services & PBI version to meet requirements.



Actionable Insights

Engineering At-scale

Migrating reports from on-premise can be costly—especially if this is a new concept. With PBI Migration factory, you gain an invested partner in your success, working with you to drive results at no cost to the customer.

Data model and report migration tools from Microsoft provide industryleading expertise to ensure fast and consistent results - working within your environment to deploy a PBI Migration scenario that aligns to your goals.



Analyze Requirements

- Validate license type (Fabric Capacity, PBI Premium per Capacity, PBI Premium per User or PBI Embedded required)
- Workspace Administrator permissions required in PBI to perform migrations; can only view completed migrations otherwise.



Deploy SSRS Migration Strategy

- Once SQL Migration Factory has completed Core migration to Azure, seamlessly hand-off to PBI Migration Factory team to complete Reporting Services migration into Power Bl.
- SSRS paginated reports can be migrated ad hoc into Power BI as well



Execute **Analytics** (Reporting Tier) **Use Case**

- Our expert team will develop, test, deploy customer use case based on approved requirements
- Predefined application templates and accelerators aid in bootstrapping the development process.

Migration Factory: Outline of Typical 3-6 Week Project

Scope Migration Using Automated Tool

Execution Phase of Report Migration

Validate Effort

Determine SSRS Version for MFG tool viability

Repoint from SSRS Report Manager to PBI Workspace

Connect into Existing **Data Source Pipelines**

Migrate Reports using tool

Repoint Migrated PBI Reports to Data Sources Validation of Migrated Measures/Reports

























Tech PM/Corp Factory Team Lead (CSA)

Migration Factory Team

CUST Approve

Power BI – SSAS/AAS to P SKU/F SKU



Purpose

Design, build, and deploy repeatable, low-tono code change report, semantic layer, data models from SSAS/Azure Analysis Services (AAS) to Power BI Premium/Fabric.



Microsoft Resources

- Microsoft Architects, PM & Developers
- Microsoft Field Account Team
- Repeatable assets for rapid deployment



Customer Resources

- Customer Executive Sponsor
- Customer Data Model Architects & Report Writers (Skills: SSAS/Azure Analysis Services / Tabular Modelers & Admins, ADLS, PBI, PowerShell)



Nominate Today

Submit here: https://aka.ms/CMF



Accelerated Results

Assess your current state of Power Bl adoption and gain clarity on the data culture objectives for your organization to understand benefits and use case for PBI Premium/Fabric.



Actionable Insights



Capacity At-scale

Content collaboration & delivery

Self-Service BI

- Content management & deployment
- Real-Time
- Embedding and Hybrid

Capacity is at the heart of PBI Premium & PBI Embedded reserved for use by your org to publish dashboards, reports, and datasets to users.



Analyze Requirements

- Validate license type (Fabric Capacity, PBI Premium per Capacity, PBI Premium per User or PBI Embedded required)
- Workspace Administrator permissions required in PBI to perform migrations; can only view completed migrations otherwise.



Deploy AAS Migration Strategy

- Utilize PBI Adoption Framework to plan and execute reporting strategy in line with corporate strategy
- Determine impact of Import vs Direct Query / Composite models and Hybrid tables used in underlying data model



Build Analytics Use Case

- Our expert team will develop, test, deploy customer use case based on approved requirements
- Predefined application templates and accelerators aid in bootstrapping the development process of PBI Premium migration assets.

Migration Factory: Outline of Typical 3-6 Week Project

Validation of Migration Tool Feasibility

Execution Phase of Report Migration

Workspace Admin Rights Granted

Determine Capacity Needs Regional Requirements Validation

nents SSAS

Existing SSAS/AAS Data models Migrate into Composite Models Migration of Reports into PBI Premium Capacity

Validation of Migrated Reports

1

























Power BI – P SKU to F SKU



Purpose

Design, build and deploy repeatable, low-to-no code migrations from Power BI Premium (P SKU) to Microsoft Fabric Capacity (F SKU).



Microsoft Resources

- Microsoft Architects, PM & Developers
- Microsoft Field Account Team
- Repeatable assets for rapid deployment



Customer Resources

- Customer Executive Sponsor
- Customer: Administrator (PBI or Fabric) Capacity Administrator, Domain



Nominate Today

Submit here: https://aka.ms/CMF



Accelerated Results

Discover and assess baseline architecture, along with identifying key stakeholders, migration scenarios and estimate costs savings to migrate your workspaces to F SKU.



Actionable Insights



Capacity At-scale

Migration to F SKU provides several benefits including smaller starting SKUs, capacity reservations, Azure-only features and pay-as-you-go options.

Microsoft Fabric Capacity(F SKU) is a superset of Power BI premium, which provides compute for data processing, report rendering and other data analytics workloads.



Analyze Requirements

- Validate discovery questionnaire for custom workload settings in existing capacities.
- Identify roles, permissions and responsibilities for migration plan
- Test the migration scenarios in lower environment(s) or non-critical workspaces & validate test results.



Deploy SKU Migration Strategy

- Utilize P SKU to F SKU migration plan and execute strategy in migrating workspaces individually or by bulk based on corporate strategy
- Perform validation and cutover.



Validate Account

Readiness

Build Analytics Use Case

- Our expert team will develop, test, deploy customer use case based on approved requirements
- Predefined application steps aid in bootstrapping the development process of migration assets.

Migration Factory: Outline of Typical 3-4 Week Project

Validation of Migration Feasibility

Identify roles, permissions

and responsibilities

Access to Resources

Discover, assess and baseline existing architecture

Prepare detailed migration plan

Execution Phase of SKU Migration

Migration of workspaces into Fabric Capacity

Validation of Migrated workspaces















Tech PM/Corp Factory Team Lead (CSA)

Migration Factory Team

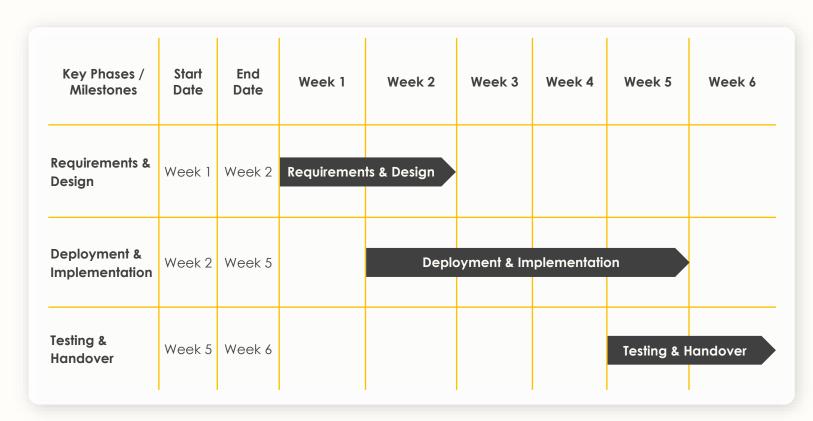
CUST Approve

P SKU to F SKU Migration Scenarios

Migration Scenario	Supported		
Migrating workspaces having only Power BI items - within the same region	Yes		
Migrating workspaces having only Power BI items - To a different region	Yes		
Migrating workspaces having Fabric items - within the same region	Yes		
Migrating workspaces having Fabric items - To a different region	No - you must delete all the Fabric item from the workspace first.		
Cross Tenant Migration	No		

^{*}Prerequisite before nomination: Customer should work with Specialist or Field CSA to determine and purchase F SKU capacity before nomination is submitted.

Power BI Project Timeline



- Requirements and Design: Local CSA,
 Corp Factory Team Lead and Customer
 will meet to discuss requirements and
 design of the program
- 2 Deployment and Implementation: Development team will be doing the work
- Testing and Handover: Development team and Customer should be doing iterative testing and completing the handover



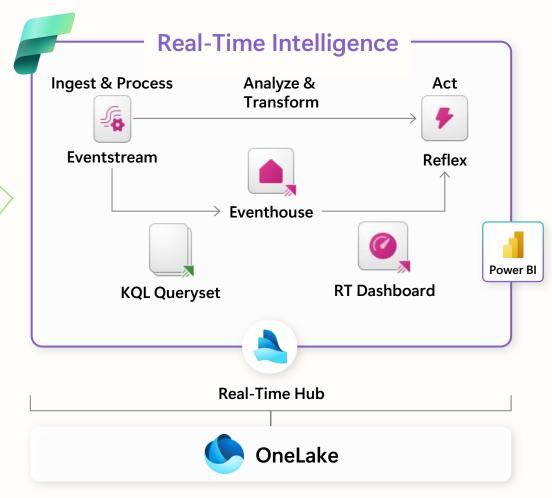
Real-Time Intelligence

Real-Time Intelligence



Digital Operations, Observational, (I)IoT+ high-granular, discrete analytics

Streaming, minimal-latency, data in-motion, predictive analytics



Real-Time Intelligence – In Scope

Data Sources

Splunk can forward to Fabric for analytics

Elasticsearch

Sentinel using continuous export or setup parallel-ingestion

Azure Database Watcher

InfluxDB by leveraging telegraf output <u>plugin</u> to fabric eventhouse

Aveva OSI-PI

AWS Kinesis, AWS Timestream, Confluent, Google Pubsub, Spark streaming

Azure Time Series Insights (retires July 7, 2024)

Azure Al Metrics Advisor - Anomaly Detection (retires October 1, 2026)

Snowflake, Google BigQuery, IBM DB2 when data is timeseries, logs or telemetry

KSQL, Singlestore, Clickhouse, Datadog, Newrelic, Dynatrace & Pinot

GraphDBs such as Neo4j & Tigergraph

VectorstoreDBs such as Weaviate, Qdrant, Chroma, Milvus

Interface Patterns

IoT

SignalR websockets

REST-APIs

Kafka, Flink, Redpanda, Druid

CDC scenarios

Azure PostgreSQL

Cosmos DB

Azure MySQL

Azure SQL Database

Oracle Goldengate via EH connector

Real-Time Intelligence Scope



In Scope

- Analyze requirements and help you determine the optimal alignment with Fabric Real-Time Intelligence
- Remove unused resources post migration and amplify modern solution to optimize ROI.
- Migrate data to Fabric using scripts, pipelines, streaming features or agents.
- Translate queries to KQL, real-time transformations, medallion architecture, dashboards and actions
- Knowledge Transfer, however in-depth ADX/Fabric training is not in scope, but is available through a VBD
- Creation of one Dashboard that meets the core needs of the workload

Out of Scope

- Custom App code conversions
- Migrations to alternate solutions outside of Fabric or ADX
- Upstream or Advanced Transformations

Real-Time Intelligence



Purpose

Design, build, and deploy repeatable, low-tono code analytics platform for real-time intelligence including ad-hoc querying, visualization and act on large volumes of streaming data.



Microsoft Resources

- Microsoft Architects, PM & Developers
- Microsoft Field Account Team
- Repeatable assets for rapid deployment (including migration tool built by engineering)



Customer Resources

- Customer Executive Sponsor
- Customer Data Model Architects. Data Engineers & Analysts (Skills: KQL, PowerShell)



Nominate Today

Submit here: https://aka.ms/CMF



Accelerated Results

Fabric offers real-time features that do all the work to ingest, transform, query and visualize your data. Serverless compute auto-scales and stores the data on OneLake. Achieve minimal latency, optimal ad-hoc analytics & speed to insights.



Actionable Insights

Time stamped data, activity data, logs in the row, timeseries, and other telemetry data. Be able to ingest it and make it guery-able in real-time. Derive insights and continue to process it or act. Create materialized views, apply schema on read to provide efficient cubes on top of it.



Engineering At-scale

Migration tools from Microsoft provide industry-leading expertise to ensure fast and consistent results - working within your environment to deploy a Fabric Real Time Intelligence migration scenario that aligns to your goals.



Analyze Requirements

- · Analyze requirements and help you determine the optimal alignment with Fabric Real Time
 - Consider Big Data workloads such as Telemetry, IoT, Cyber/App Logs, Timeseries, Metrics, Geospatial, Graph, Embedding Vectors, High-granular, Discrete analytics.
 - Assess business needs, current platform and existing architecture



Deploy Platform

- Deployment templates and scripts automate provisioning of Fabric capacity & workspaces.
- Migrate data to Fabric using scripts, pipelines, streaming features or agents.
- Environment cleansing ensuring resource cleanup
 - · Remove unused resources post migration and amplify modern solution to optimize ROI.



Build Analytics Use Case

- Our expert team will develop, test, deploy end-to-end customer use-case based on agreed scope.
- Including translation to KQL, real-time transformations, medallion architecture, dashboards and actions

Migration Factory: Outline of Typical 6-8 Week Project

Scope Migration Using

Validate account readiness and Scope

Review Existing Architecture

Parametrized Deployment of Fabric Setup Ingestion

Apply Data Transformations Translate Queries to KQL

Import Historical Data and Validate Platform

























Execution Phase of Report Migration







Thank you