

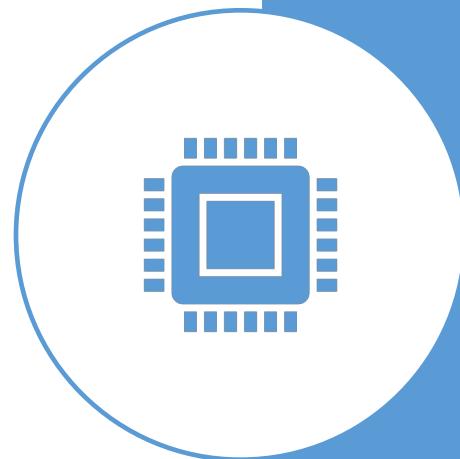
The Secret Sauce of Azure Storage

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Microsoft MVP – Azure



Objectives

- Azure Storage
- Data Lake Store
- Data Box
- Data Factory
- Cosmos DB





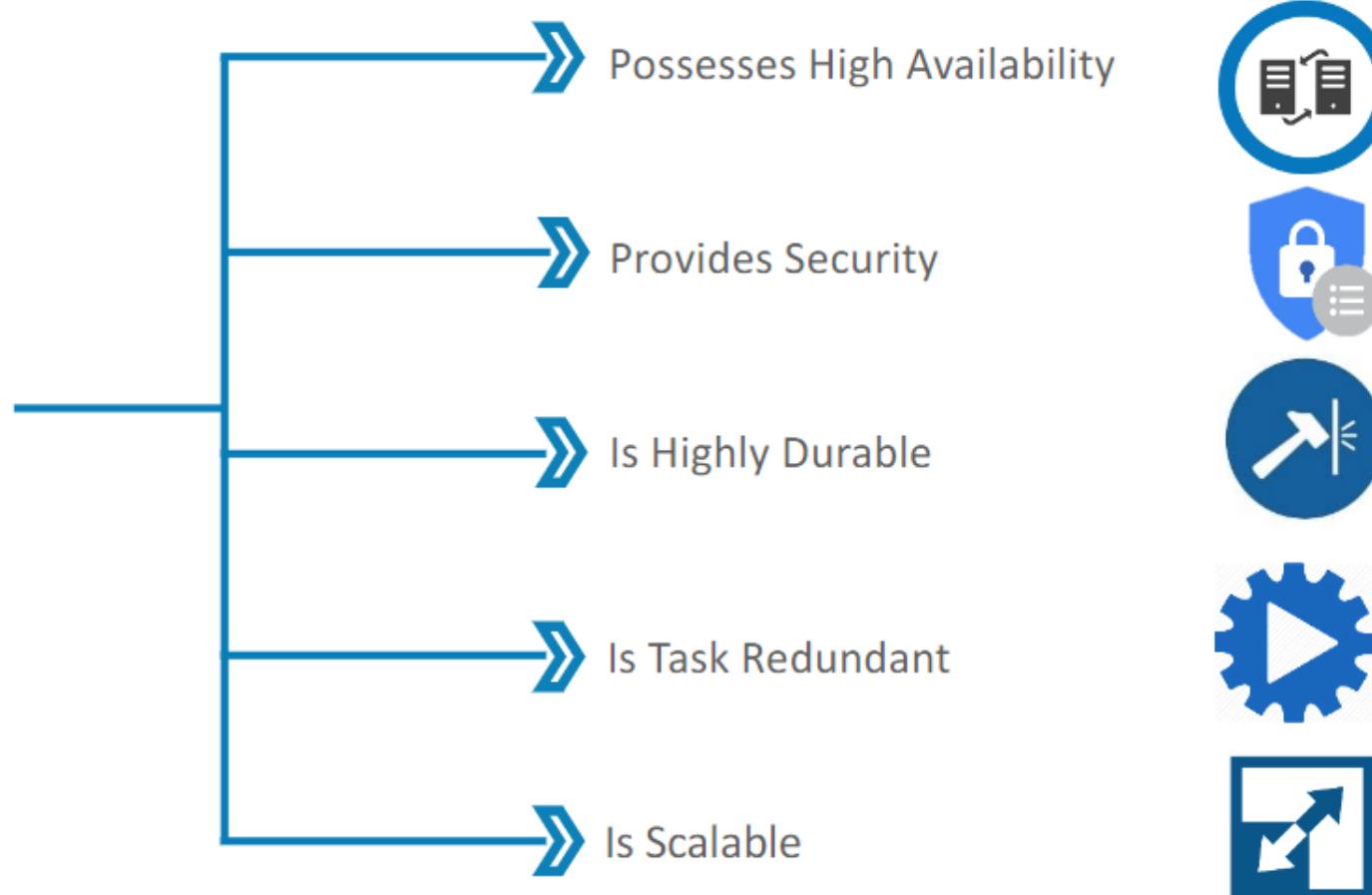
Azure Storage Account

Azure Storage

- Azure provides a Microsoft-managed storage service. Azure Storage consists of Blob storage, File Storage, and Queue storage.

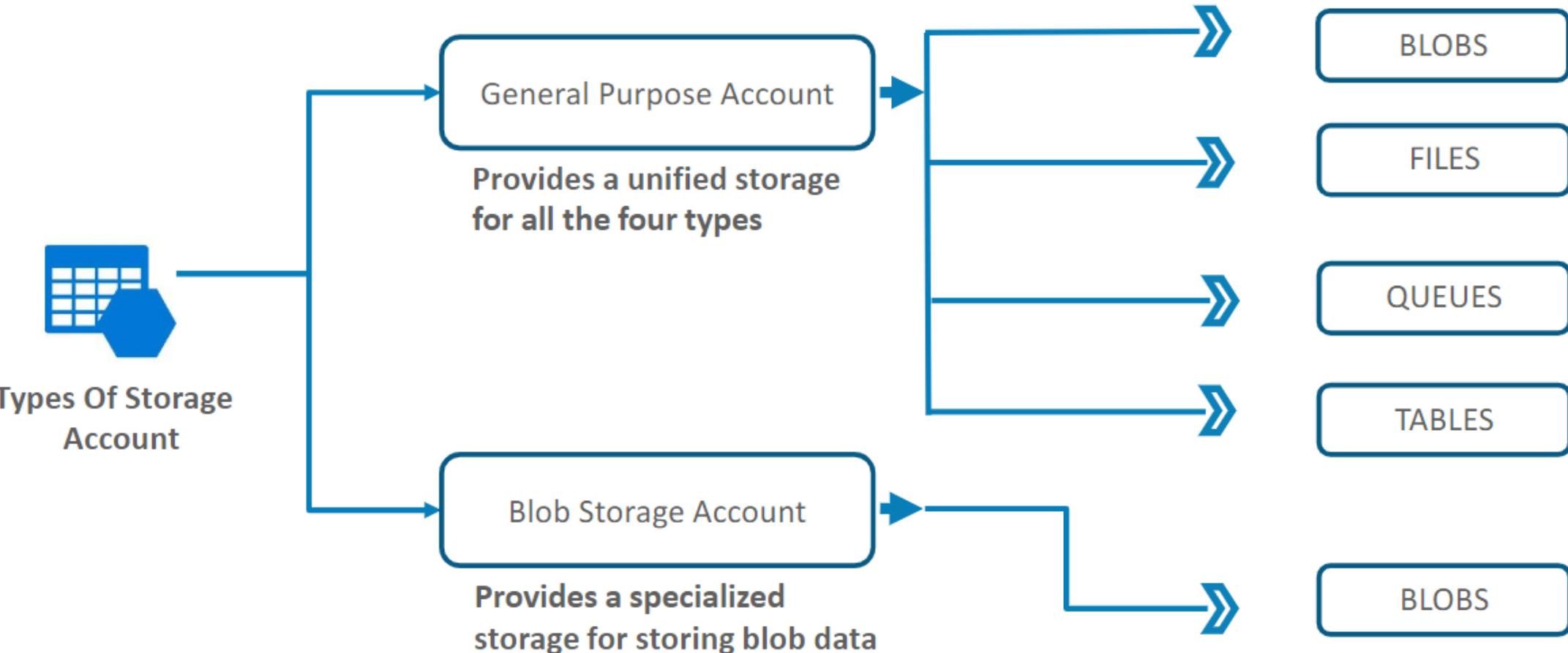


An Azure Storage Account



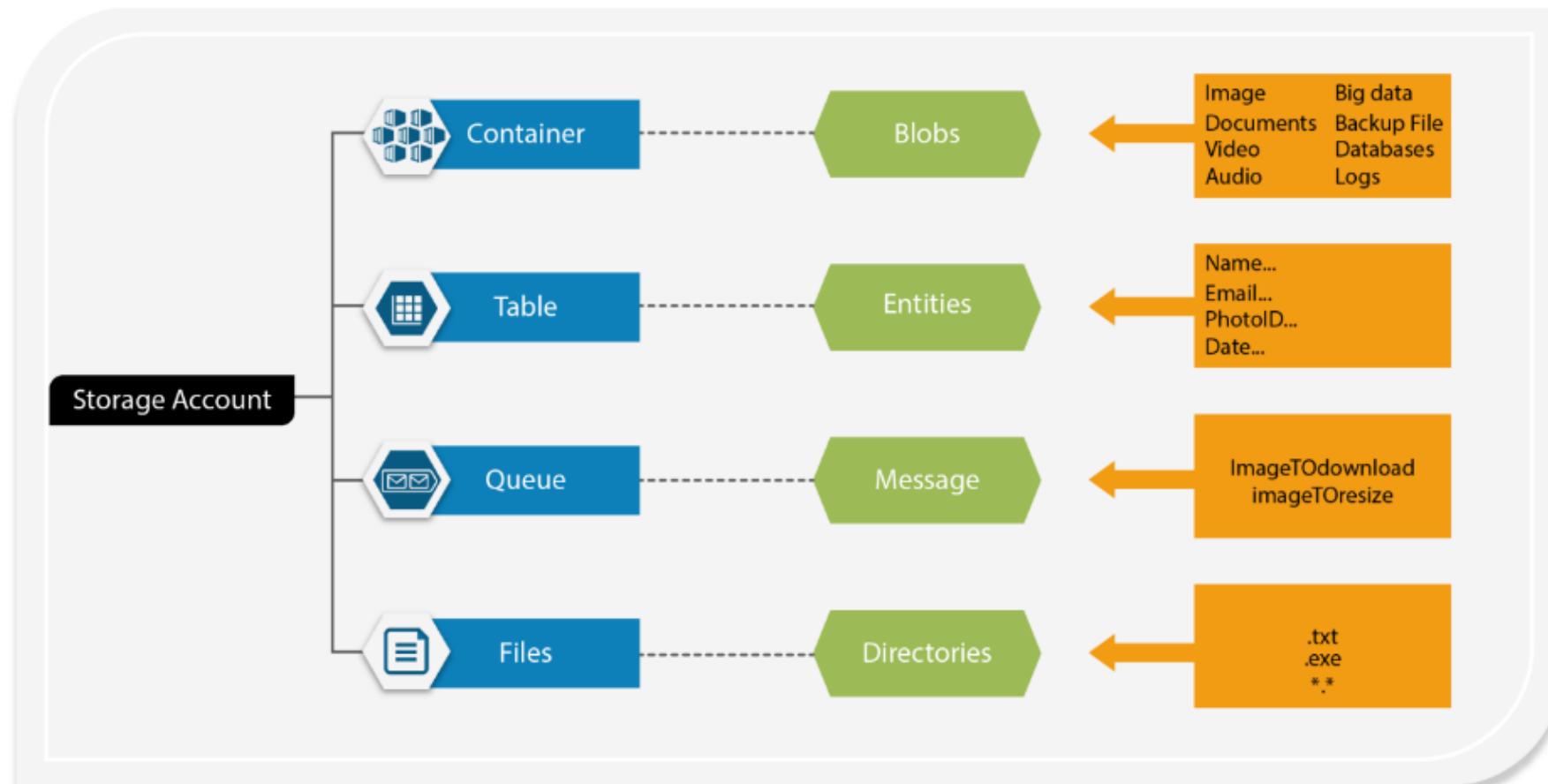
Choosing Between Storage Account Types

- An Azure storage account provides a unique namespace to store and access your data under one account



Azure Storage Account

Conclusively the purpose of a storage account is to provide a one-stop solution to all your storage needs.



BLOB Storage



BLOB



Blobs are basically files like those that you store on your computer, tablet, mobile device, and so on.



FILE

It stores pictures, Microsoft Excel files, HTML files, virtual hard disks (VHDs), big data such as logs, database backups -- pretty much anything.



TABLE



Blobs are stored in containers, which are similar to folders, and containers are the root of all blobs.



QUEUE



Blob storage can be accessed from anywhere in the world using URLs, the REST interface, or one of the Azure SDK storage client libraries. Storage client libraries are available for multiple languages..

FILE Storage

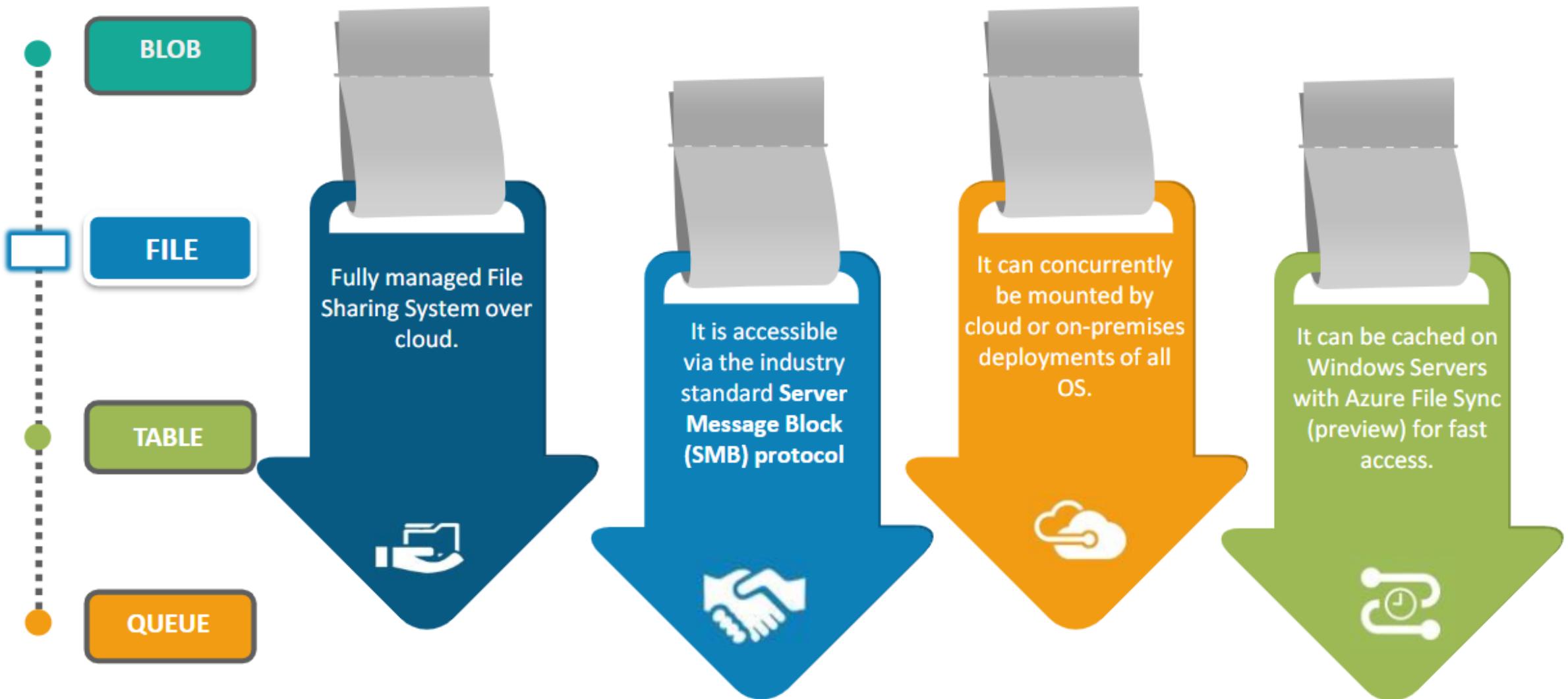
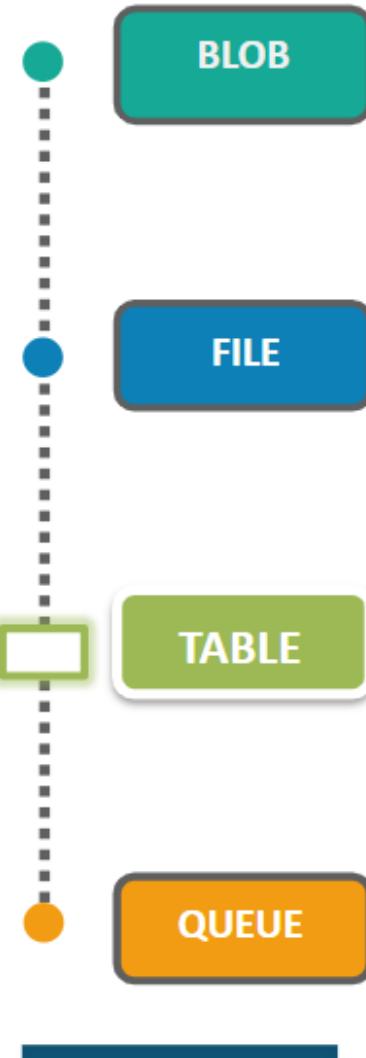


TABLE Storage



Stores NoSQL data on cloud

01

Stores flexible datasets like
webpages etc.

02

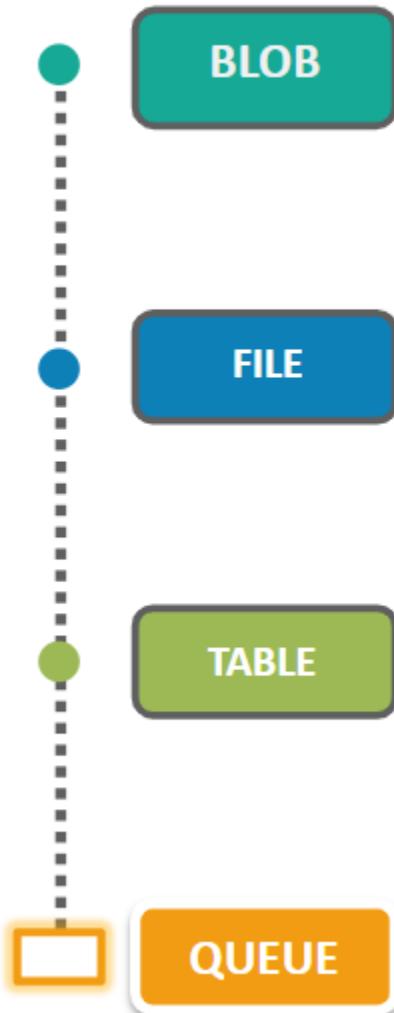
Table storage is schema
less

03

Any no. of entities can be
stored and is only limited by
the storage-account type

04

QUEUE Storage



The Azure Queue service is used to store and retrieve messages



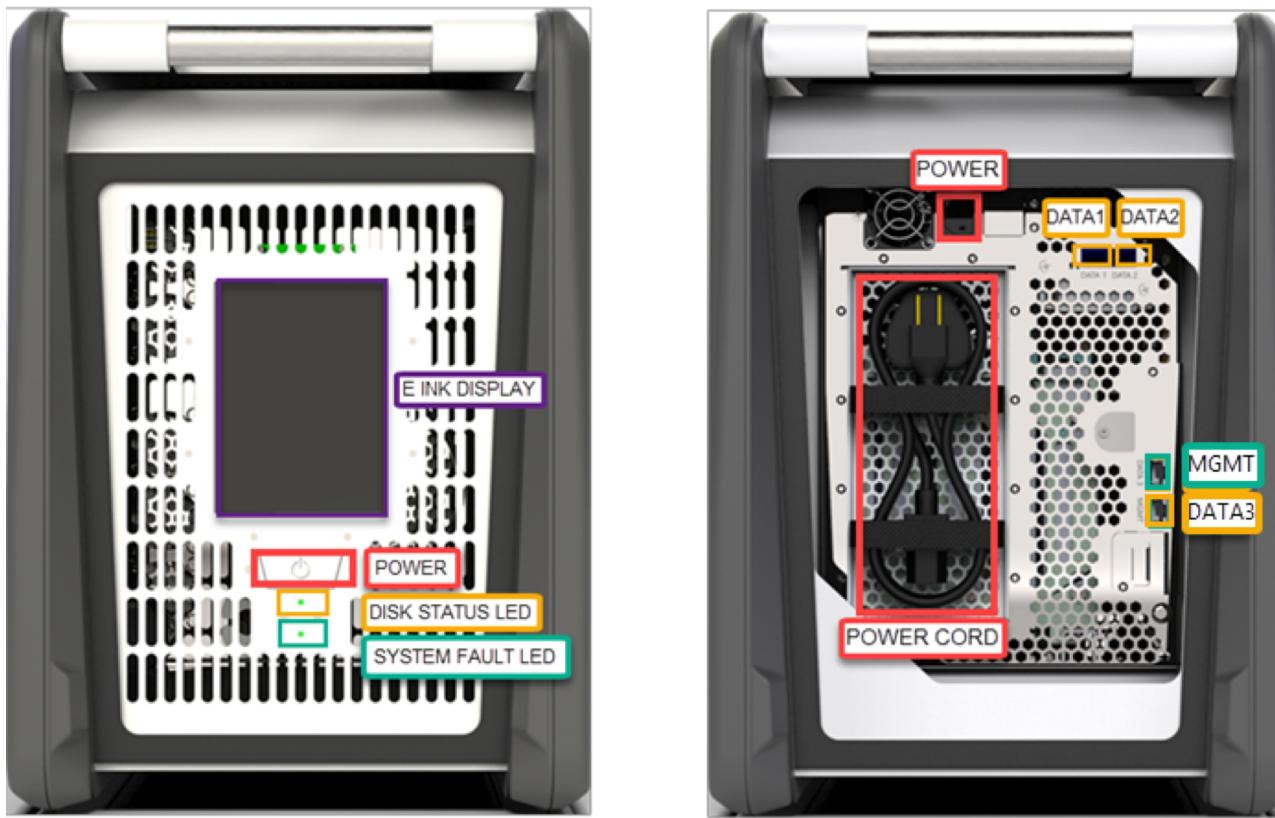
Queues are generally used to store lists of messages to be processed asynchronously

A queue can contain millions of messages, up to the total capacity limit of a storage account.

Queue messages can be up to 64 KB in size since Azure Queue storage provides cloud messaging between application components.

Demo – Azure Storage Account

Azure Data Box



Data Box front view (left) and back view (right)

What is Azure Data Box?

- Azure Data Box cloud solution lets you send terabytes of data into Azure
- Secure data transfer is accelerated by shipping you a proprietary Data Box storage device



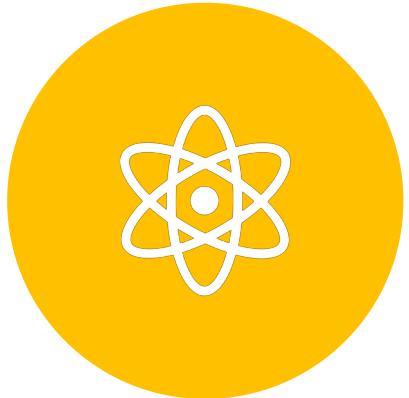
Scenarios



ONE TIME MIGRATION

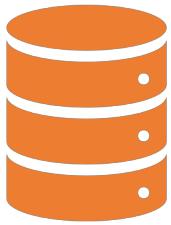


**INITIAL BULK
TRANSFER**



PERIODIC UPLOADS

Data Box Components



Data Box device

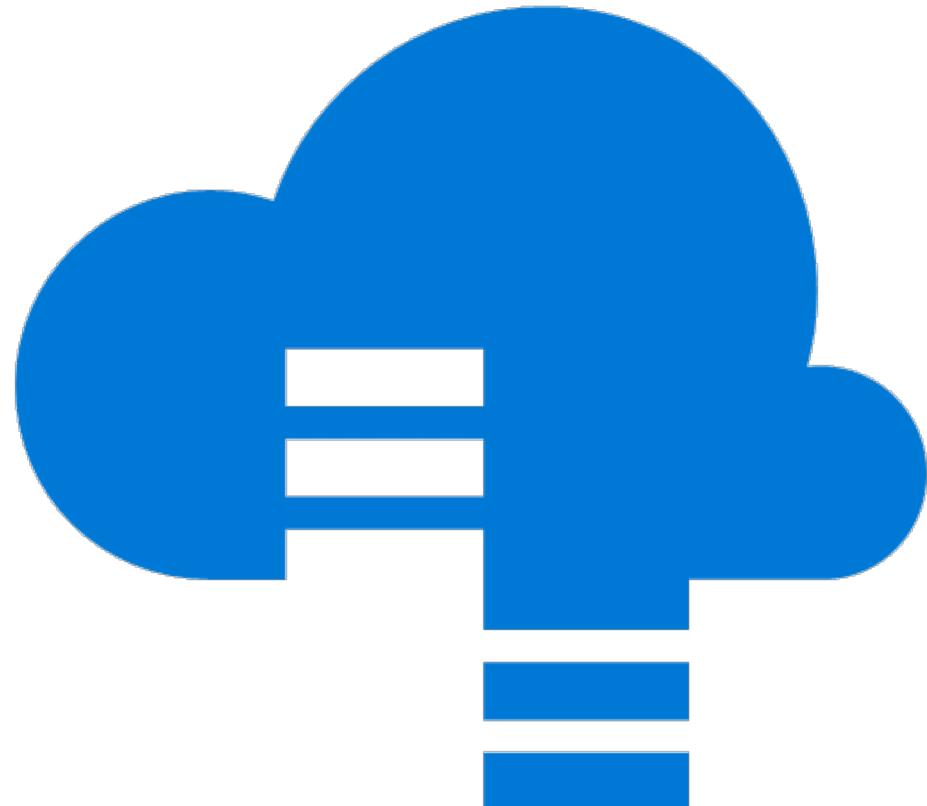


Data Box service



**Local web user
interface**

Azure Store Simple



Azure StorSimple



Integrated Storage Infrastructure

- Hybrid Cloud storage solution
- On demand
- Physical arrays - datacenter
- Virtual arrays - smaller enterprise environment



Disaster Recovery

- Rapid and reliable
- Immediate data availability
- Minimizes recovered productivity costs
- Ensures compliance



Data Management Automation

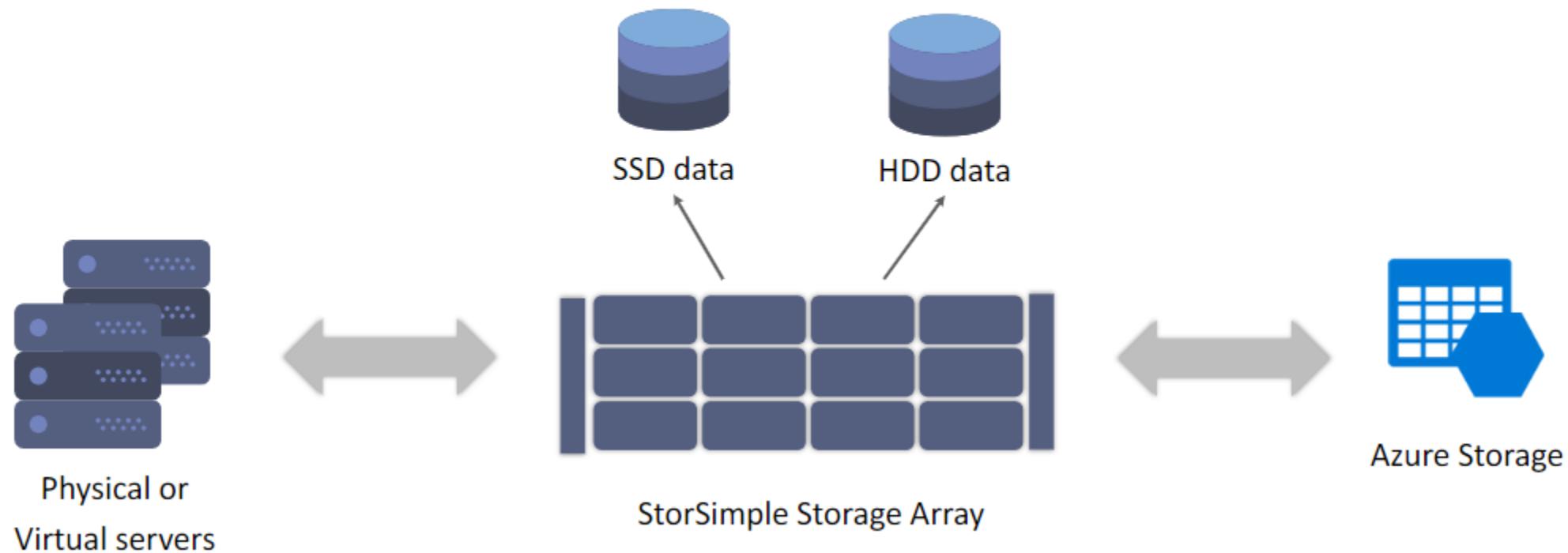
- Manages data growth
- Effortless capacity expansion
- No separate backup infrastructure
- Cloud snapshots with outside data protection



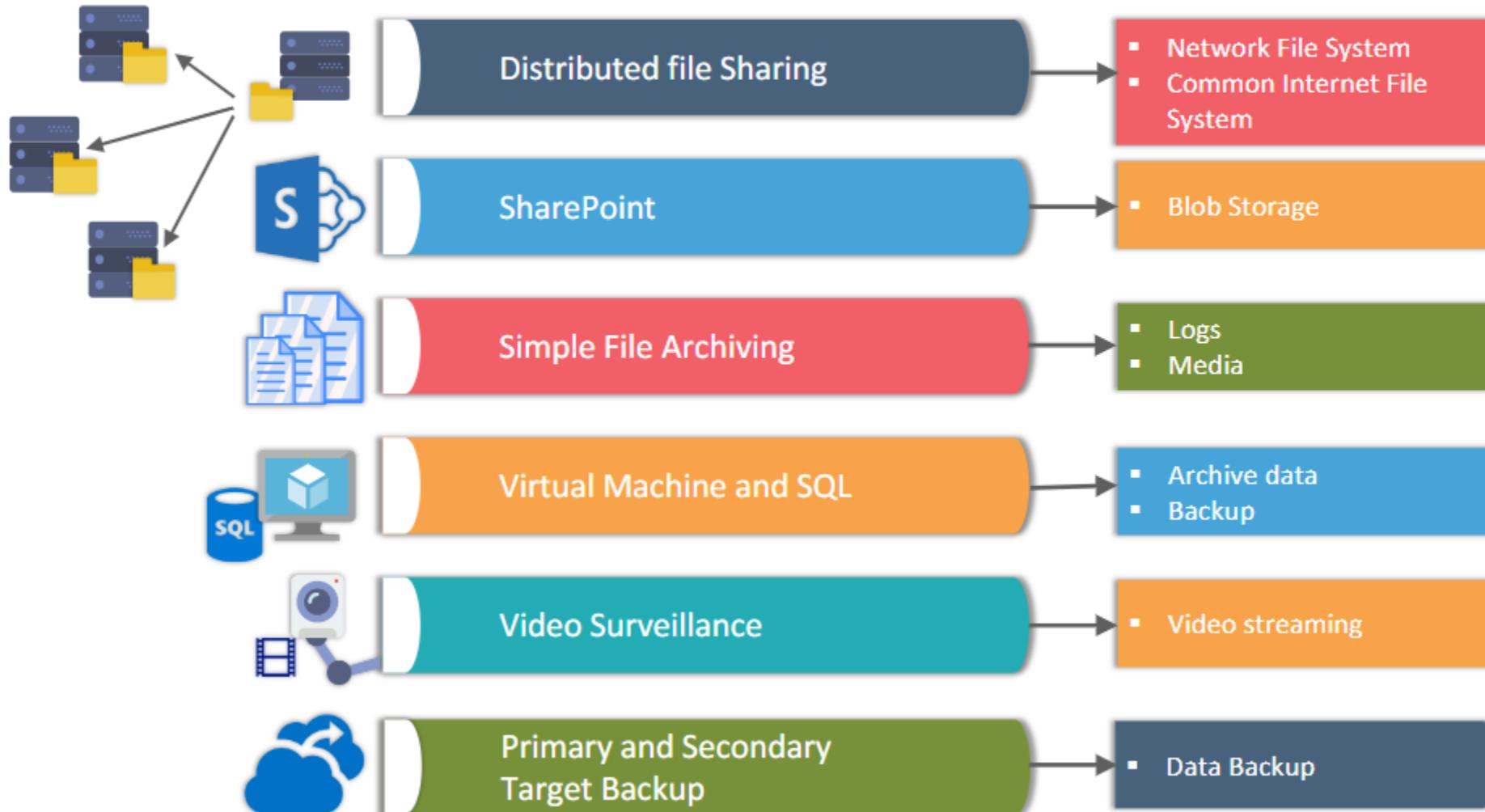
IT agility

- Reduces IT overhead
- Increases operational efficiency
- Helps to reduce storage cost

Azure StorSimple Overview



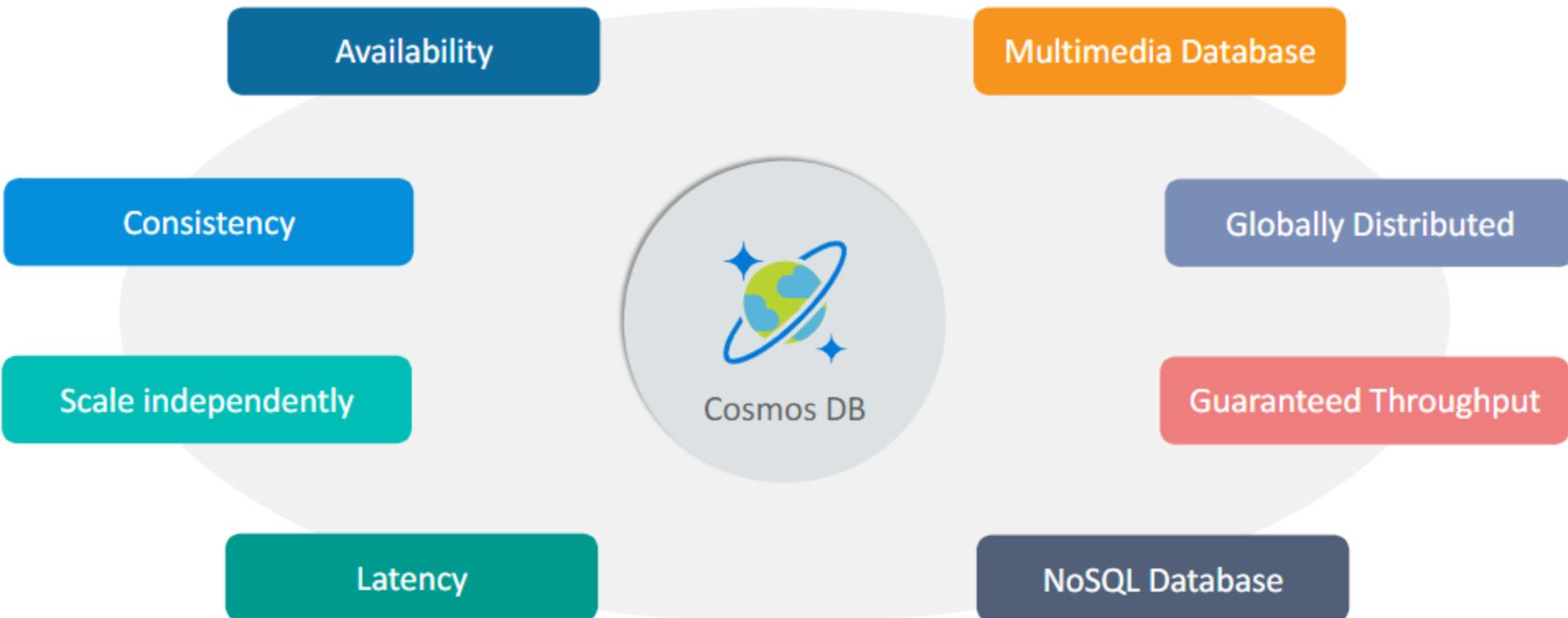
8000 Series Devices Uses



Azure Cosmos DB



Azure Cosmos DB



No need to make change to your application while updating region information regarding replication

Azure Cosmos DB

You can **configure** each region for read, write or read/ write operations



You can configure an **unlimited** number of replicas



Highly Available Services deals with unexpected stability issue

Azure Cosmos DB



Service can go down due to



App fault



Memory issue



Deadlocks



Host failure

Automatic failure for region

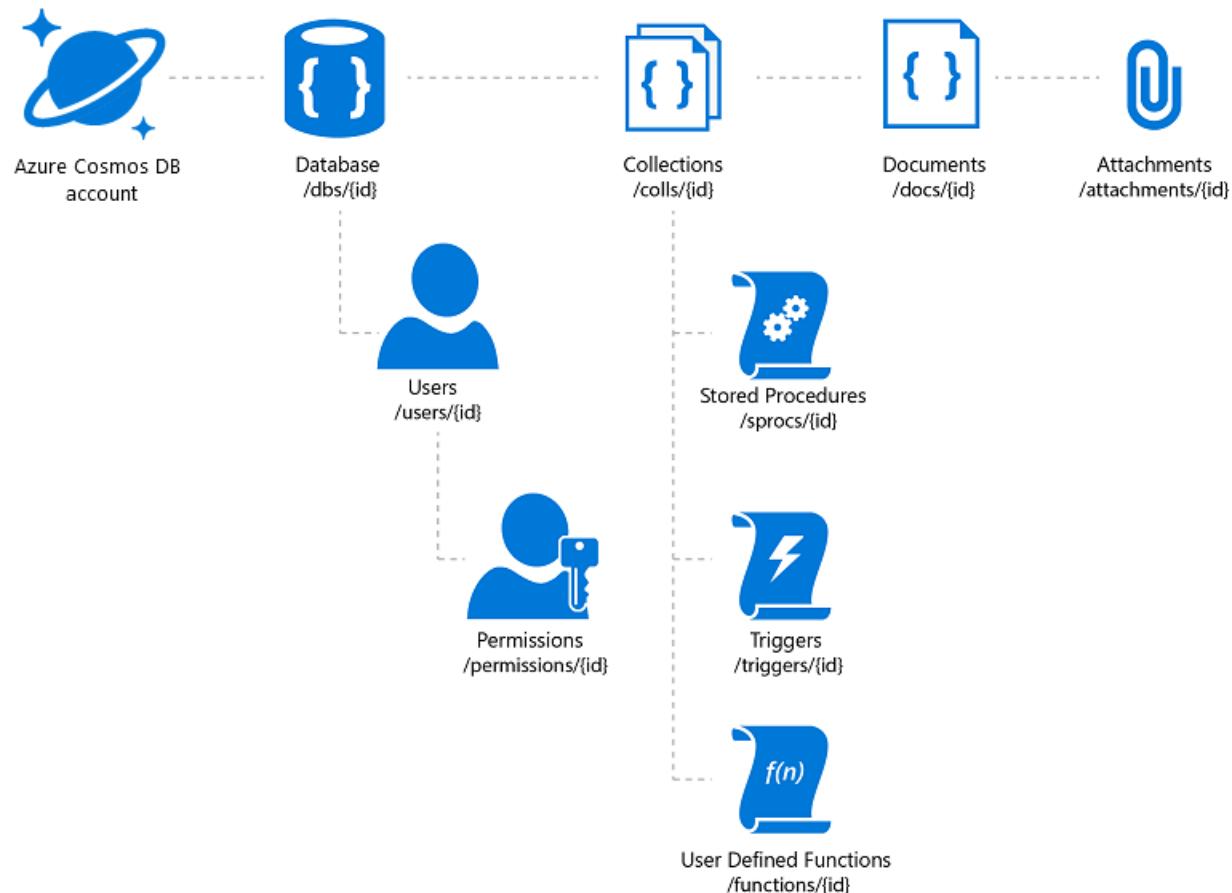
Regional

Cosmos DB moves the
request to another region

Internal

Internal Failover
Mechanism

Azure Cosmos DB Resources



Azure Cosmos DB APIs

MongoDB

Data migration from MongoDB to
Azure Cosmos DB



Cassandra

Data migration from Cassandra to
Azure Cosmos DB

SQL

Require non-relational database
with relational query syntax

Gremlin

Require Graph database to
traverse entity relationships

Table

Data migration from Azure Table
Storage to Azure Cosmos DB
Premium table service



Azure Data Lake

Azure Data Lake



Store and
Analyse
large amount
of objects and
files



Easily
Scalable



Debug and
optimize
big data
programs
easily



Pay per job
Cost effective



Secure

Azure Data Lake Analytics

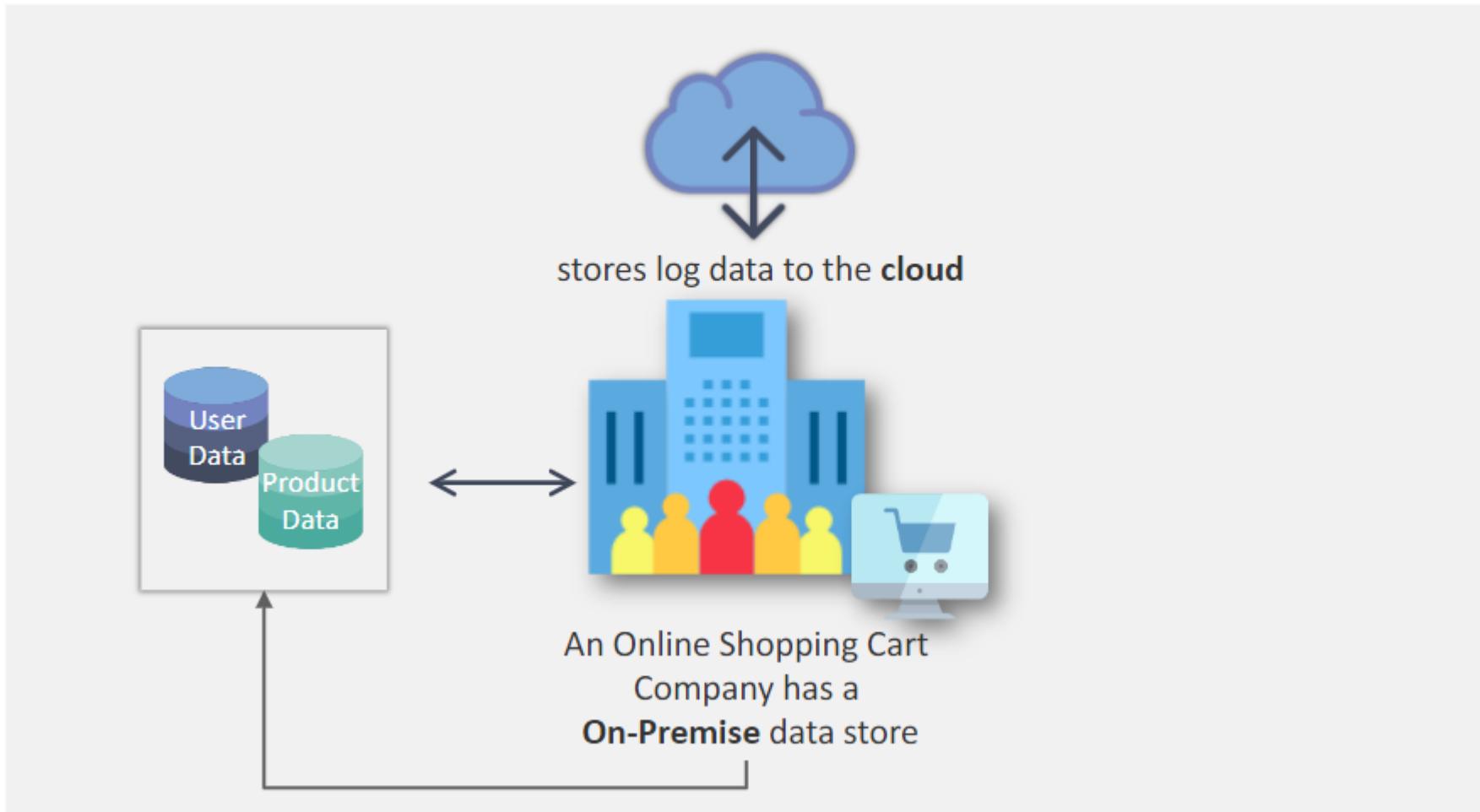
- On demand analytics
- Ideal for big data workflow
- Provides U-SQL – declarative nature of SQL with c#
- Adds advantage of higher performance
- Integrates with existing IT infrastructure



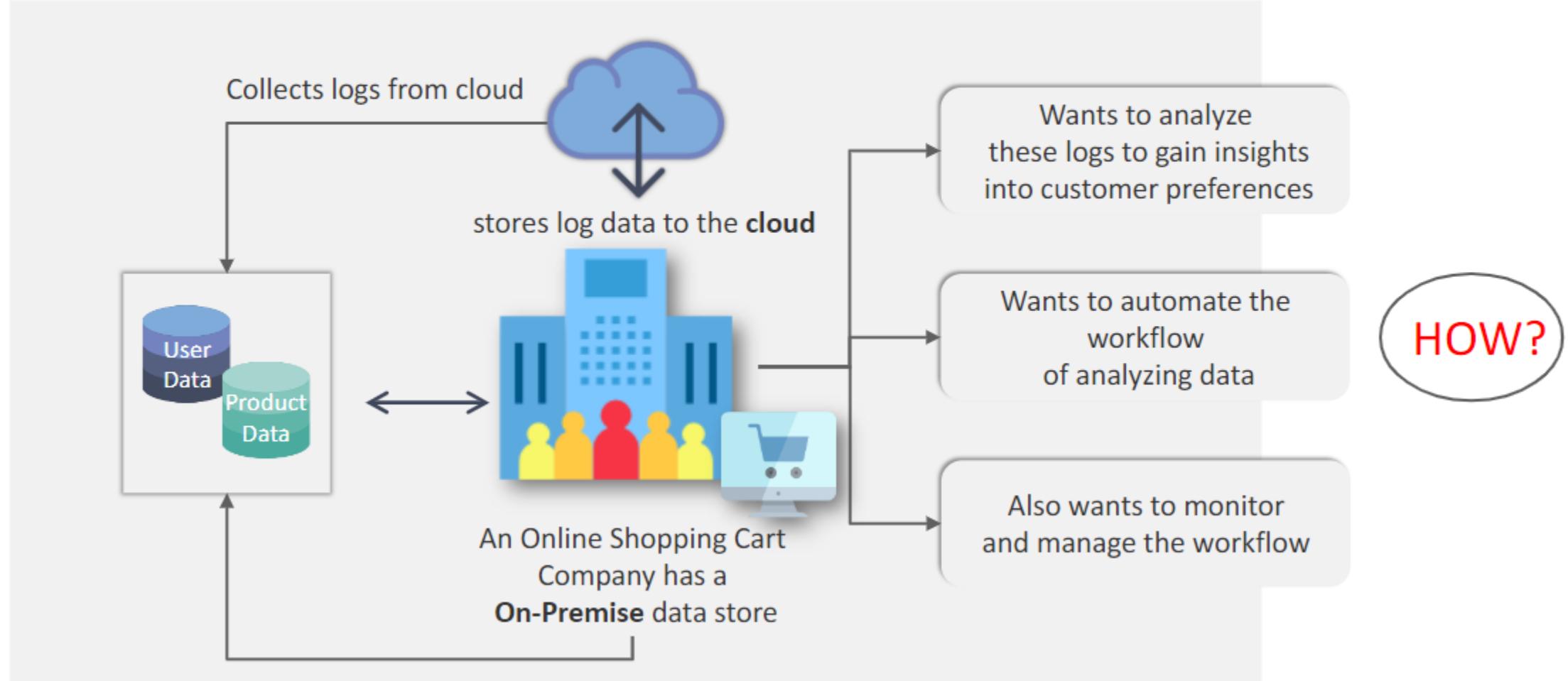
Azure Data Factory



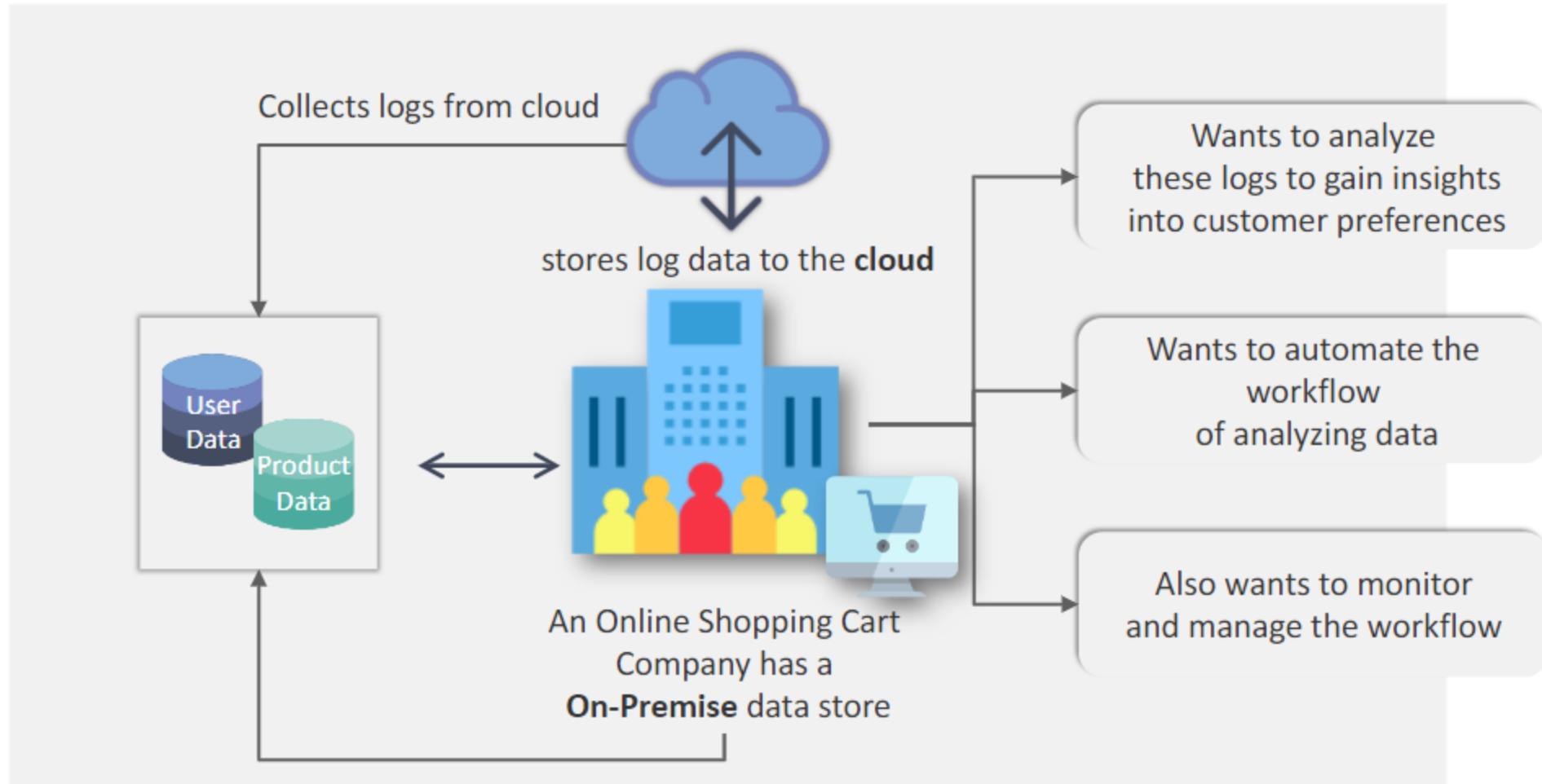
Scenario



Scenario

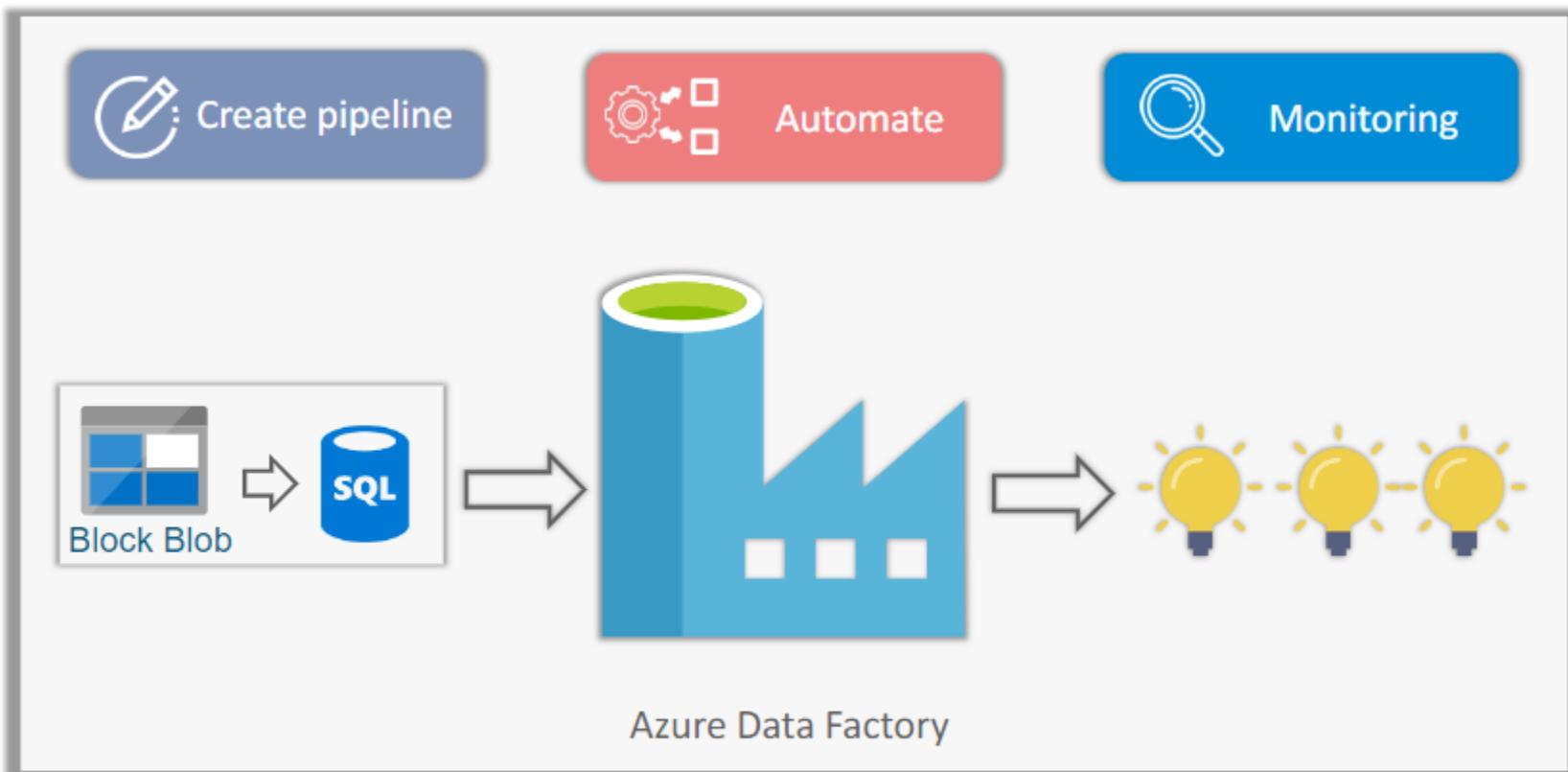


Scenario



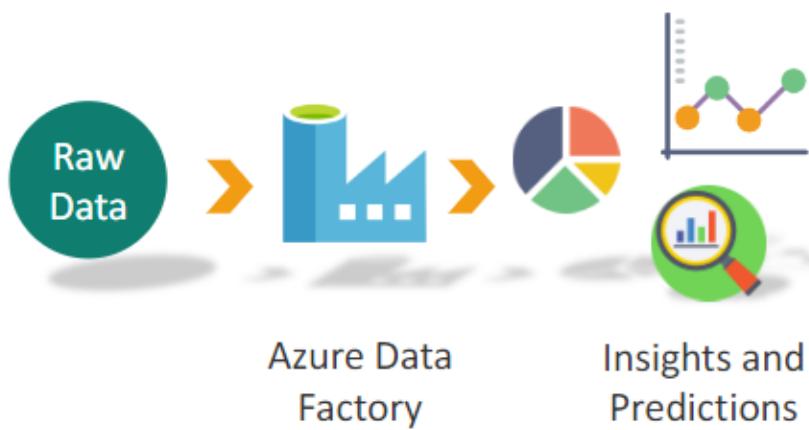
Azure Data
Factory

Azure Data Factory



Azure Data Factory is a **fully managed** service that allows enterprises to produce trusted data by easily composing, orchestrating & monitoring diverse data

Azure Data Factory Activities



Azure Data Factory supports :



Data Movement
Activity



Control Activity



Transformation
Activity



Microsoft

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