

Architecting Modern Data warehouse on Microsoft Azure

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Agenda



WHY

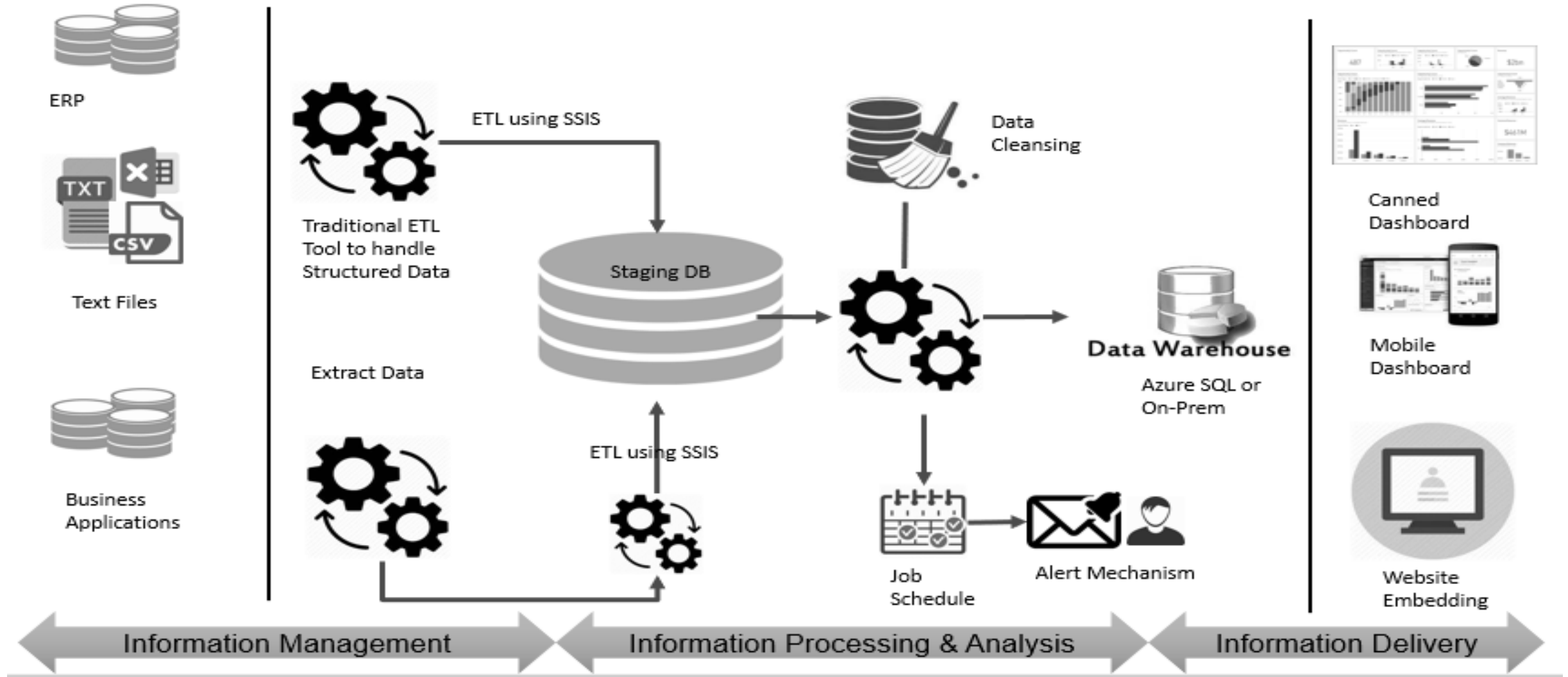


WHAT

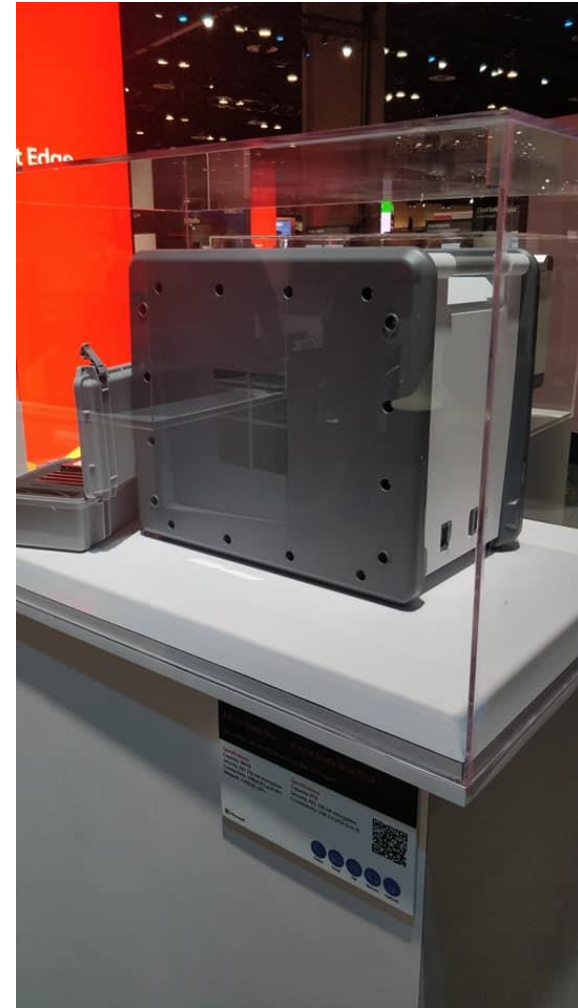


EXECUTE

Flashback – The Good old Days



How do they look like?

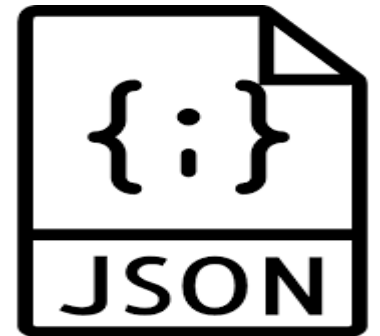


Azure Stack and Data Box

The Problem Statement



INTERNET OF THING



Million Dollar Advice



Davide Mauri

@mauridb

Following



It seems to me that #% is the new hammer today. Guys, please, use the right tool for the job, even if it is "old" and not "cool" in your eyes. Be architect and engineer not fanboys/fangirls!

 Traduci il Tweet

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17 Retweet 39 Mi piace



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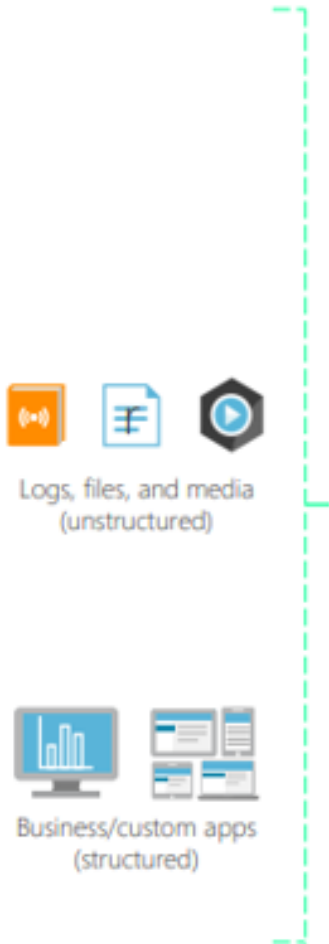
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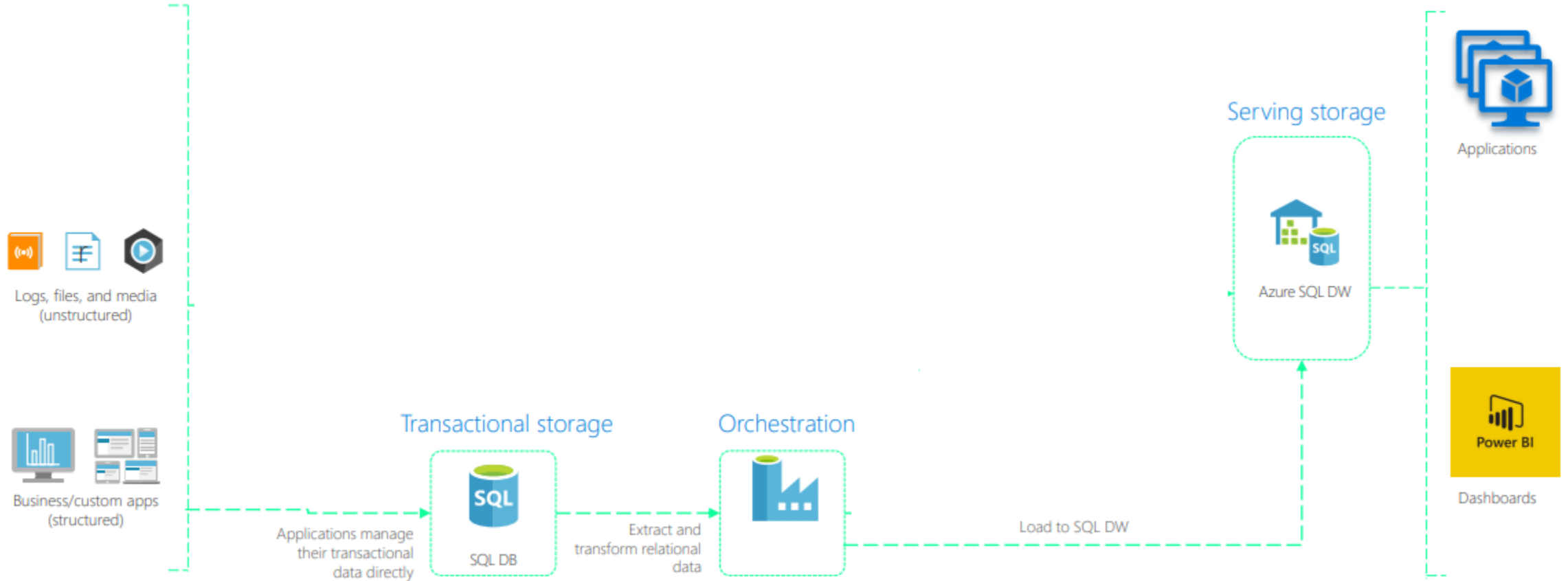
Weapons in Azure Armory

On Premise	Lift, Transform & Shift	Globally Distributed	AnalyticsAzure Synapse	Visualization
<ul style="list-style-type: none">• SQL Server	<ul style="list-style-type: none">• Azure SQL DB• Azure SQL Managed Instance• Azure MySQL• Azure PostgreSQL• Azure MariaDB• Azure Data Factory• SSIS –Run on ADF	<ul style="list-style-type: none">• Azure Cosmos DB	<ul style="list-style-type: none">• Azure Synapse• Azure HD Insight• Azure Databricks• Azure Data Lake• Azure Data Factory• Azure Data Catalog• Azure Stream Analytics	<ul style="list-style-type: none">• Power BI

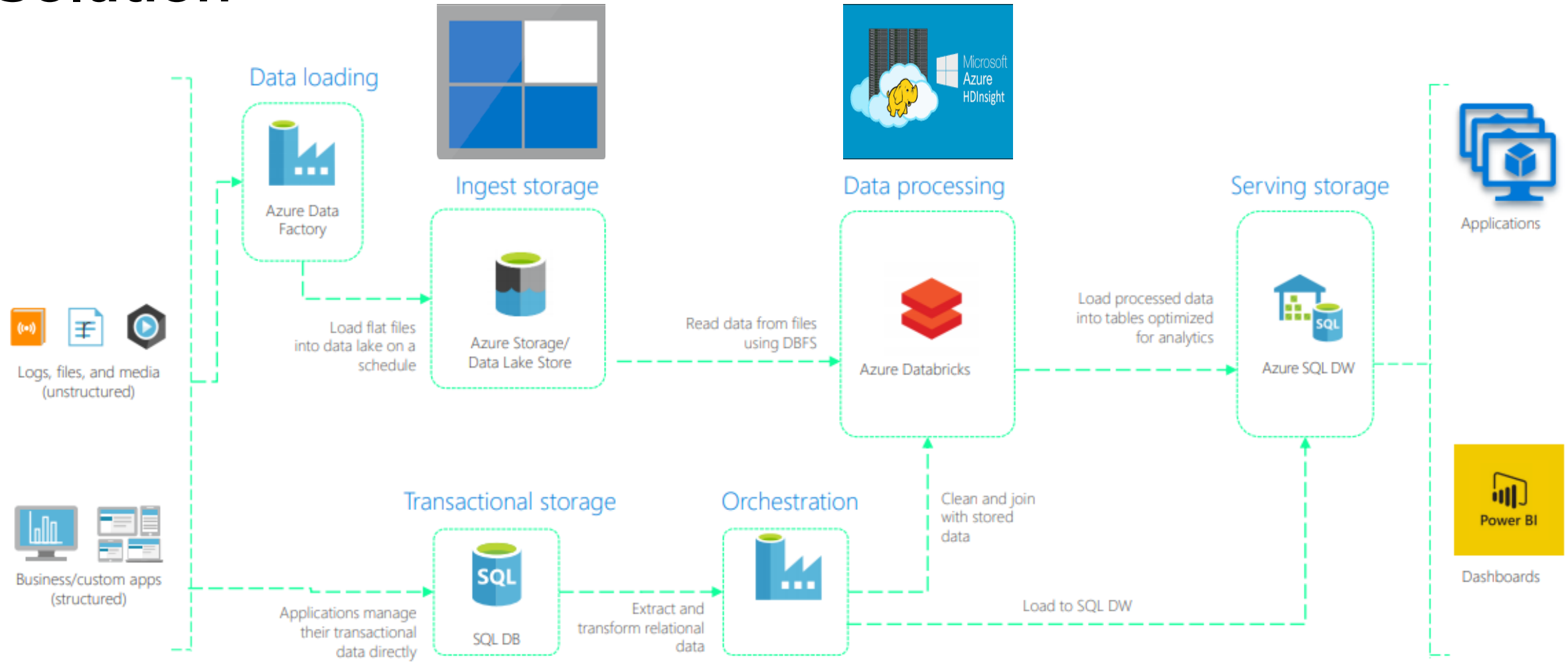
Architecting Modern Data warehouse – The Source Systems



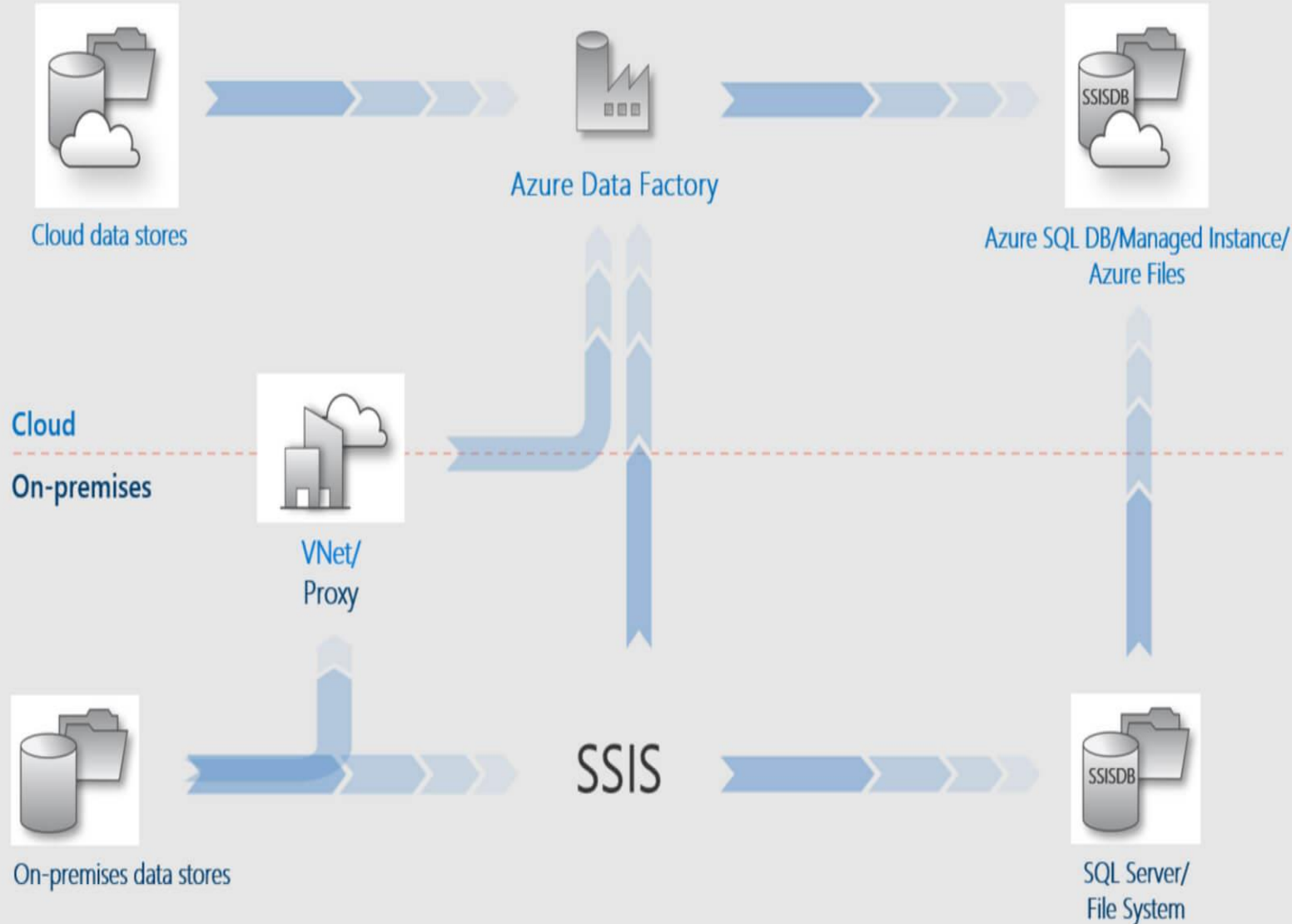
Architecting Modern Data warehouse – Structured Data Ingestion



Architecting Modern Data warehouse – Complete Solution



Azure Data Factory V2



ADF Offers :

- To build ETL and ELT pipelines
- Variety of Data Sources and Destinations
- hybrid data integration service for all skill levels.
- Cost-efficient and fully managed serverless cloud data integration tool that scales on demand
- Pay As You Go Model
- Quick Launch to Author

To build Pipeline

- Connectors or Linked Services
- Datasets
- Activities
- Pipelines
- Triggers
- Integration runtime

Azure Storage Offerings



Blob Storage

- Hot & Cold Storage Layers
- Redundant Storage



Azure Data Lake Gen1

- AD Security
- HDFS Compatible



Azure Data Lake Gen2

- Hot & Cold Storage
- Redundant Storage
- AD Security
- HDFS Compatible

Azure SQL DB vs Azure DW

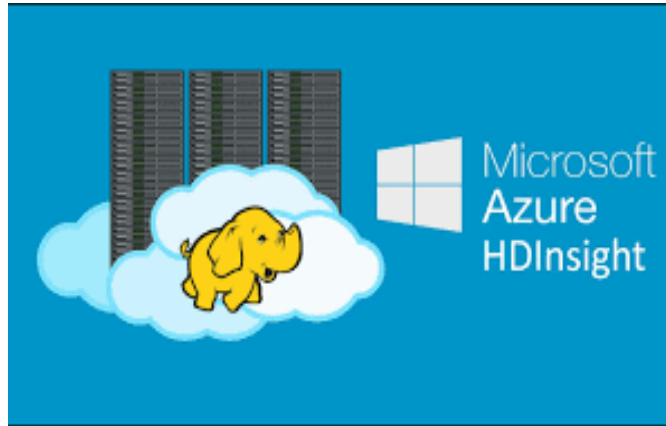


Features	Azure SQL DB	Azure DW
Use Case	OLTP	OLAP
Storage	For Medium Storage	Peta byte Scale
Architecture	Storage & Processing is Integrated	Storage & Processing Is not Integrated, Compute and Blob Storage
Processing Units	DTU	DWU
Concurrent Connection	6400	1024
Concurrent Connection	6400	32
PolyBase	NA	Allows data querying from outside the DW
Query Language	Supports all Imp features required for OLTP	Foreign Key, Indexed Views, Synonyms ,Triggers

Crunch that Numbers



**Azure Data Lake
Analytics**

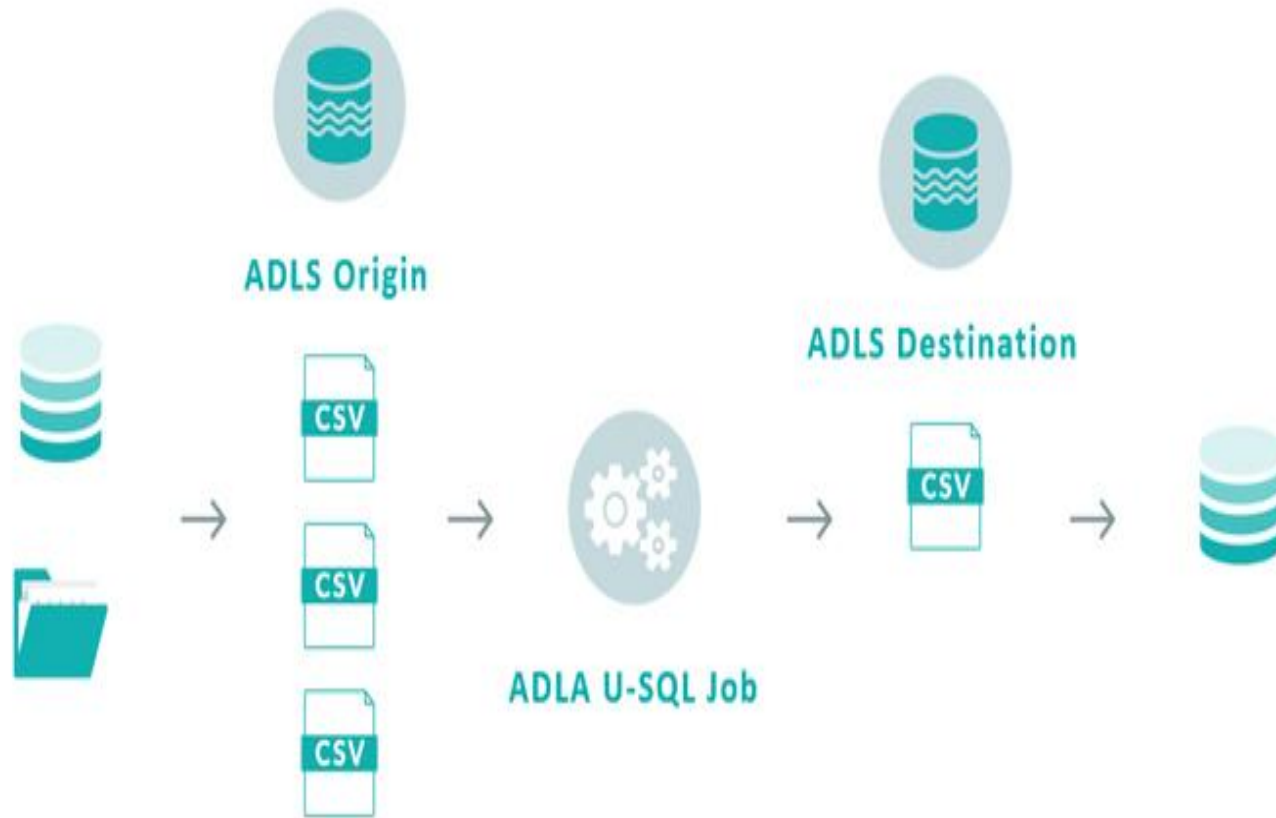


Azure HD Insight



Azure Data Bricks

Azure Data Lake Analytics

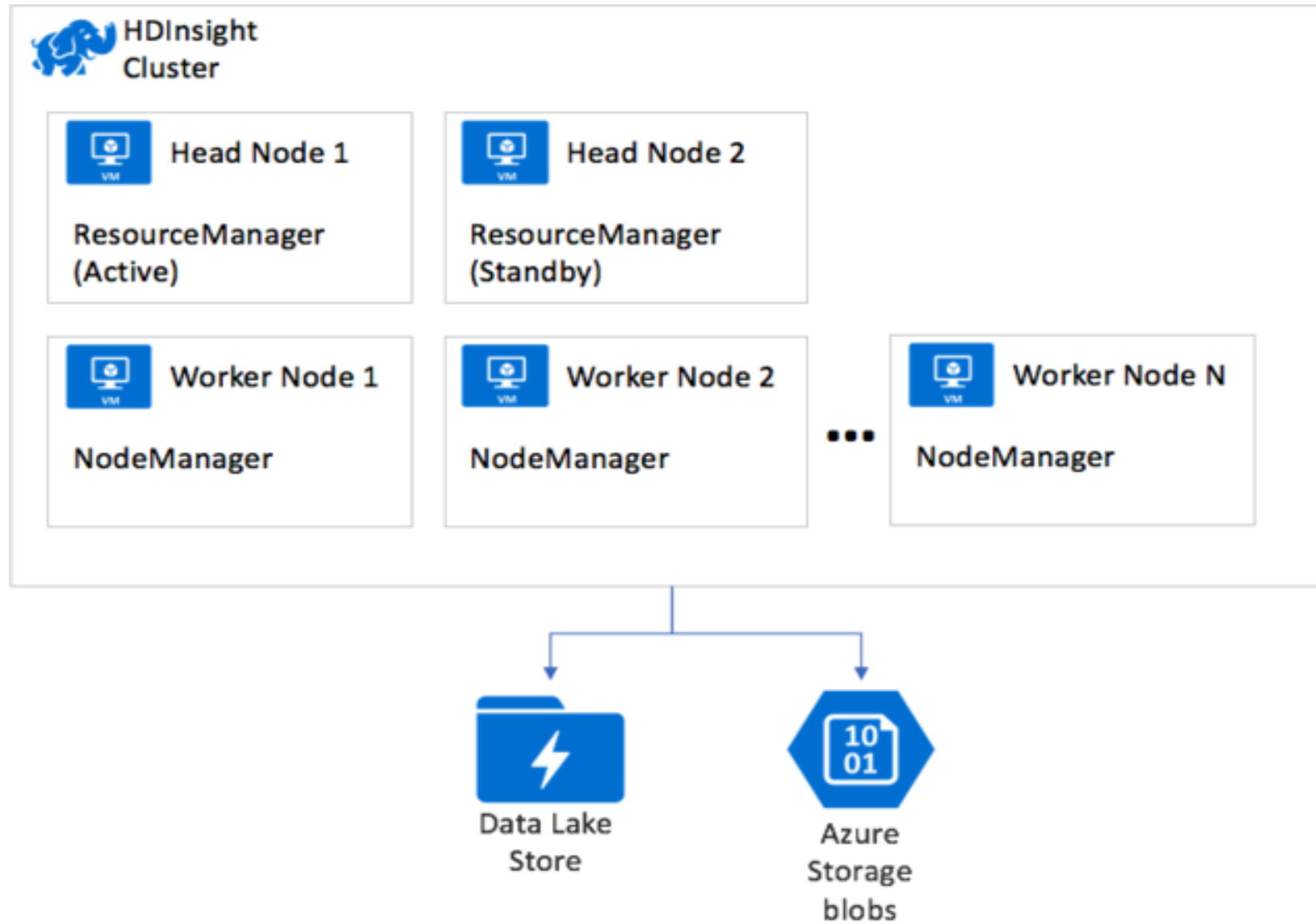


```
@searchlog =  
EXTRACT UserId int,  
          Start DateTime,  
          Region string,  
          Query string,  
          Urls string,  
FROM "/Samples/Data/SearchLog.tsv"  
USING Extractors.Tsv();
```

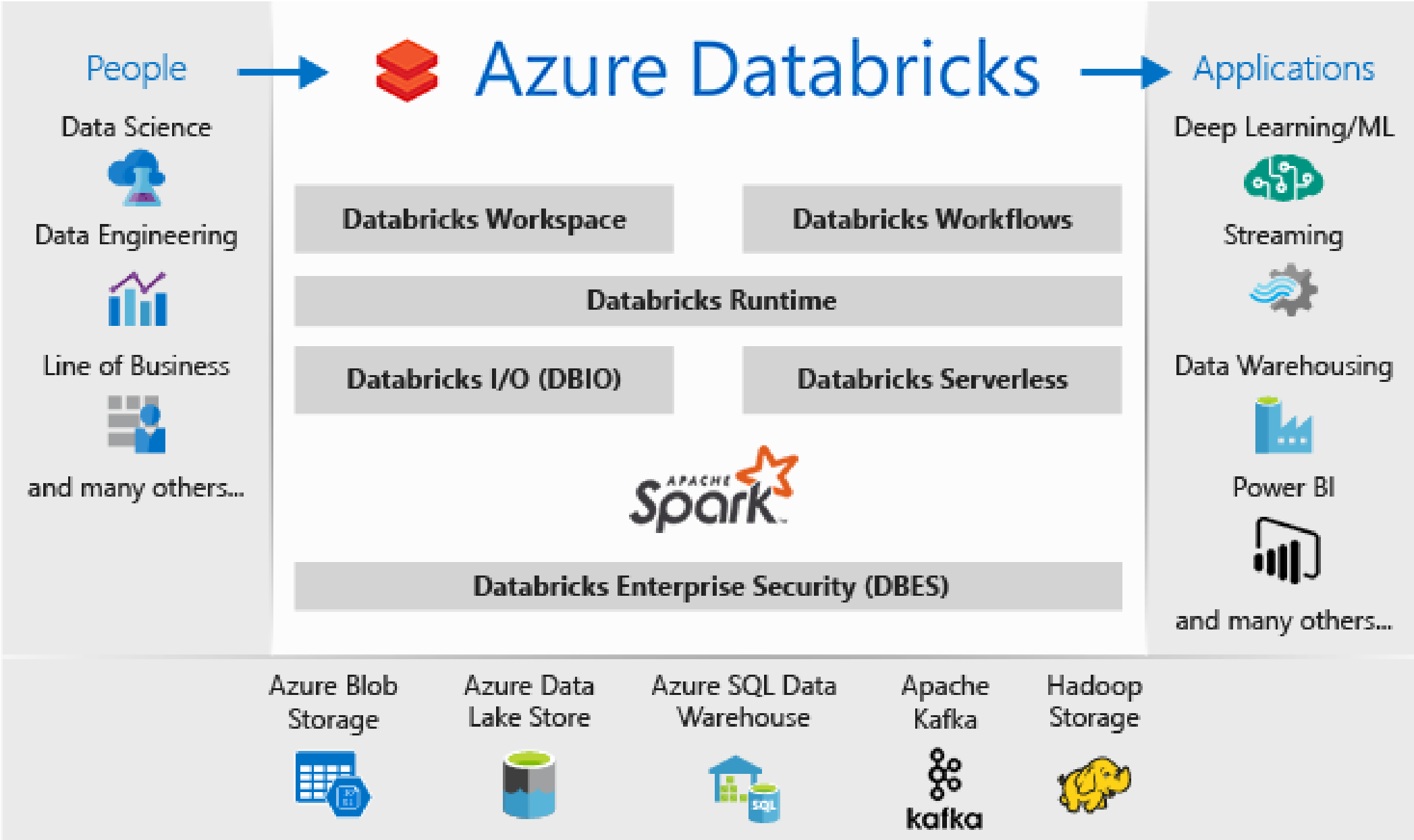
```
@rs1 =  
SELECT Start, Region, Duration  
FROM @searchlog WHERE Region ==  
"en-gb";
```

```
OUTPUT @rs1  
TO "/output/SearchLog-transform-datetime.csv"  
USING Outputters.Csv();
```

Azure HD Insights



Azure Data Bricks

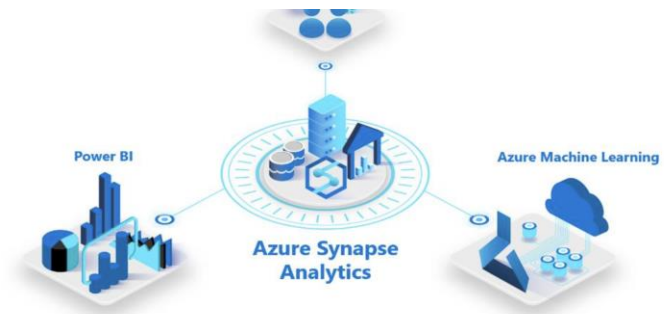




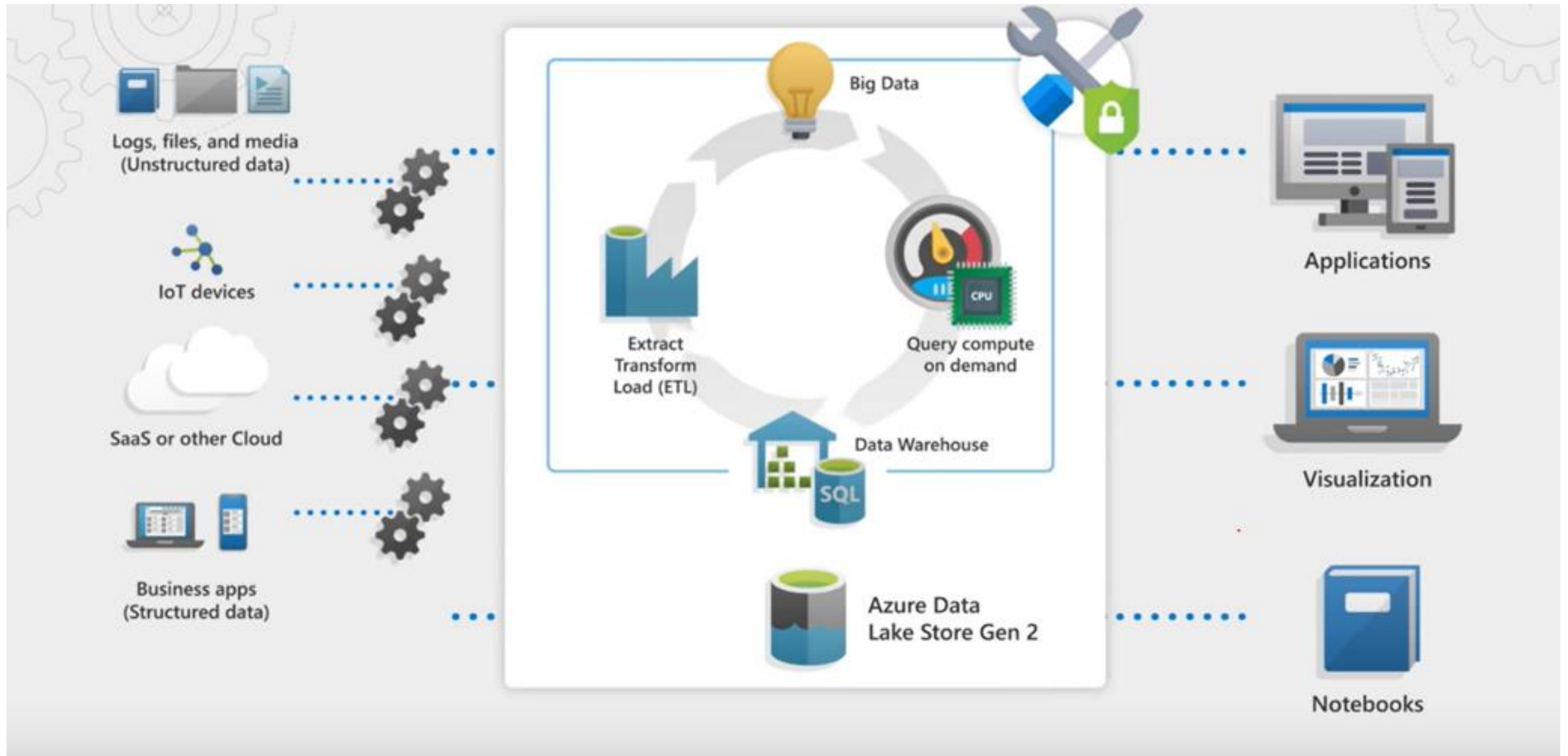
Azure **Synapse** Analytics

SYNAPSE : In Words of Microsoft

Azure Synapse Analytics is a limitless analytics service, that brings together enterprise data warehousing and Big Data analytics. It gives you the freedom to query data on your terms, using either serverless on-demand or provisioned resources, at scale. Azure Synapse brings these two worlds together with a unified experience to ingest, prepare, manage, and serve data for immediate business intelligence and machine learning needs.



Azure Synapse – The Integrated Platform



Power BI : The One Stop Solution for All your Data Needs.

A powerful new way to work with data , With the command of Power BI In your Hand, you can completely transform the way you have been looking at your data.

This modern information management system from Microsoft along with the power of Cloud helps you to gain sense out of Data in no time and get you equipped to take much informed decision and calculated risks.

Power BI brings end to end solutioning for completing your Data to Dashboard journey.



Power BI Offers



Authoring Dashboards

- Power BI gives high end reports with visuals that can change the way you see data.
- The Insights given can be used to obtain actionable items for operational and management team.
- Know your clients better. Salesforce, customer feedback management & many more possible solutions.
- Tracking items in Supply Chain management systems made simpler.



On-Premise & Cloud

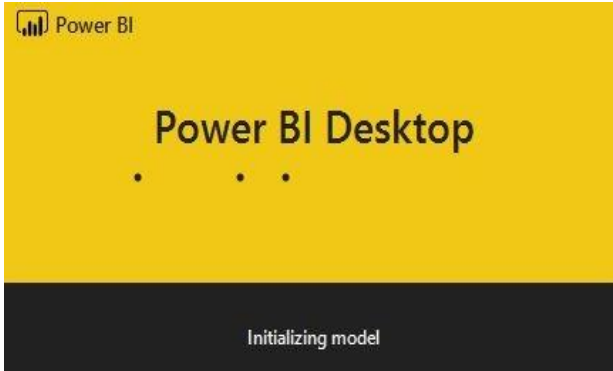
- Share your reports and data throughout your organization by setting up on premise data gateway.
- Bring Data setting up in your local server into a custom report making it live decision giving factor.
- Connect to Azure cloud, be it a database, virtual machine, data lake, etc.
- API's available for multiple social media and cloud platforms. Connect to get data in Power BI.



Apps Integration

- Integration of reports & dashboards with live feed, across various platforms is possible.
- Embed the visuals or reports in the application. Supported on android, IOS & Windows apps.
- Web application integration in HTML 5 to get flashy key data insights with custom visuals.
- Editing reports anywhere anytime with Power BI premium license

Power BI Development & Deployment Platforms



Power BI Desktop

- A Windows desktop application called Power BI Desktop can be downloaded from Microsoft store.



Power BI Embedded



Power BI online (SaaS)

- An online SaaS (Software as a Service) service called the Power BI service. Visit
- <https://app.powerbi.com>



Power BI mobile (apps)

- Power BI mobile apps for Windows, iOS, and Android devices.



Power BI Premium

Choose the best fit, based on the business Requirement



Power BI Desktop

- Connect to your data, wherever it is
- Prep and model your data with ease
- Provide advanced analytics with the familiarity of Excel
- Create interactive reports customized for your business



Power BI Pro

- Publish and consume content anywhere
- Access Power BI from any device with the native app
- Govern securely
- Share with people and businesses-both inside and outside



Power BI Premium

- Enable anyone to access the content created, inside or outside your organization
- Cloud deployment of your regional choice.
- View Power BI Premium content with the Power BI mobile app



Power BI Embedded

- Control the user experience
- Easy to deploy and manage
- Scale up or down to meet demand and provide a seamless user experience
- Pay on demand and use

Demo

Modern Data warehouse on Microsoft Azure

Where to go from here?

More Case Studies - <https://blog.e-zest.com/moving-database-applications-to-the-cloud>

Azure Synapse – <https://azure.microsoft.com/en-in/services/synapse-analytics/>

Slides and Demos - <https://github.com/VikramPendse>



Please evaluate this session

Your feedback is important to us!

Please evaluate this session and give us your feedback and suggestions

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