



DATA TOBOGGAN

Azure Synapse Analytics

An Introduction

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In/MrPaulAndrew



MrPaulAndrew.com



<https://github.com/mrpaulandrew>

CommunityEvents

Demo code, content and slides from various community events.

● C++

[{Event/Location}-{Month}-{Year}](#)

Agenda

● What is it?

● Development

- Compute
- Common Metadata
- Notebooks
- SDK/Endpoint

● Security

● Source Control

● Deployments

Agenda

● What is it?

Everything Else

● Development

- Compute
- Common Metadata
- Notebooks
- SDK/Endpoint

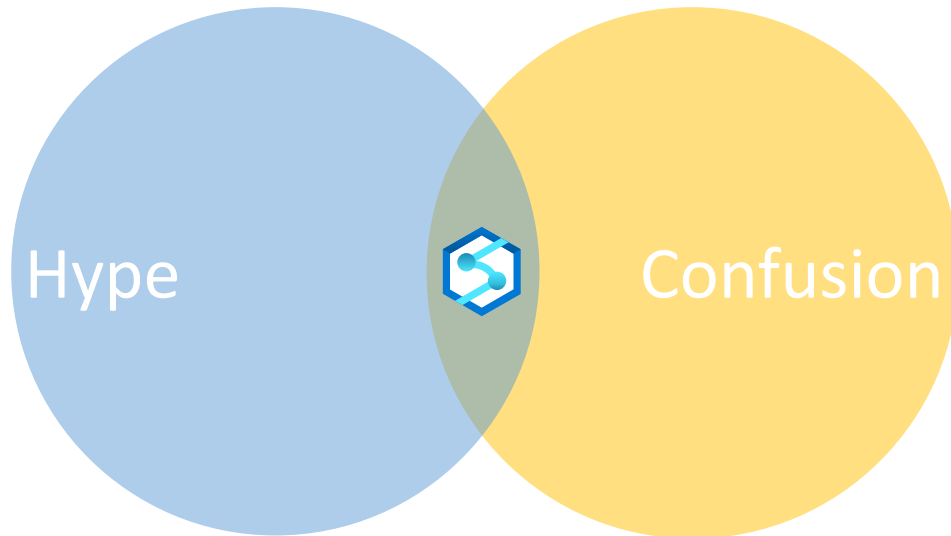
● Security

● Source Control

● Deployments

Q: What is Azure Synapse Analytics?

A: *NULL*



Q: What is Azure Synapse Analytics?

A: *Lots of things!*

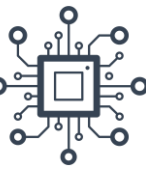
*A complete suite of
Cloud native data
processing services.*



A: *Lots of things!*

*A complete suite of
~~Cloud native~~ data
processing services.*





A: *Lots of things!*

*A complete suite of
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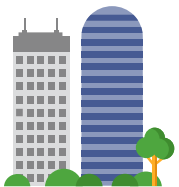


TM

Synapse is to data processing in **Azure** what **SQL Server** is to data processing **on premises**.



* Especially SQL 2019 Big Data Clusters



What is it? – A Timeline View

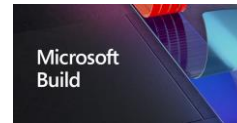
November
2019



<https://docs.microsoft.com>

Ctrl + H
Find: SQLDW
Replace: Synapse

May 2020



November 2020
Source Control
Support

December
2020



Synapse
Announced

???????



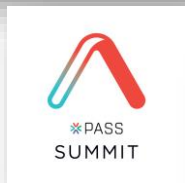
March 2020
Workspace
Private Preview



June 2020
Spark AI Summit
Hyperspace



Synapse GA
Announced



Paul Andrew @mrpaulandrew · Nov 6, 2019

So my summary of what #Azure Synapse is in terms of tech we already know after the keynote...

Data Factory
SQLDW/SQLDB
Polybase
Spark
PowerBI

All in one place! #PASSummit

2 8 27



June 2020
Namespace Appeared
Azure.Analytics.Synapse.Artifacts

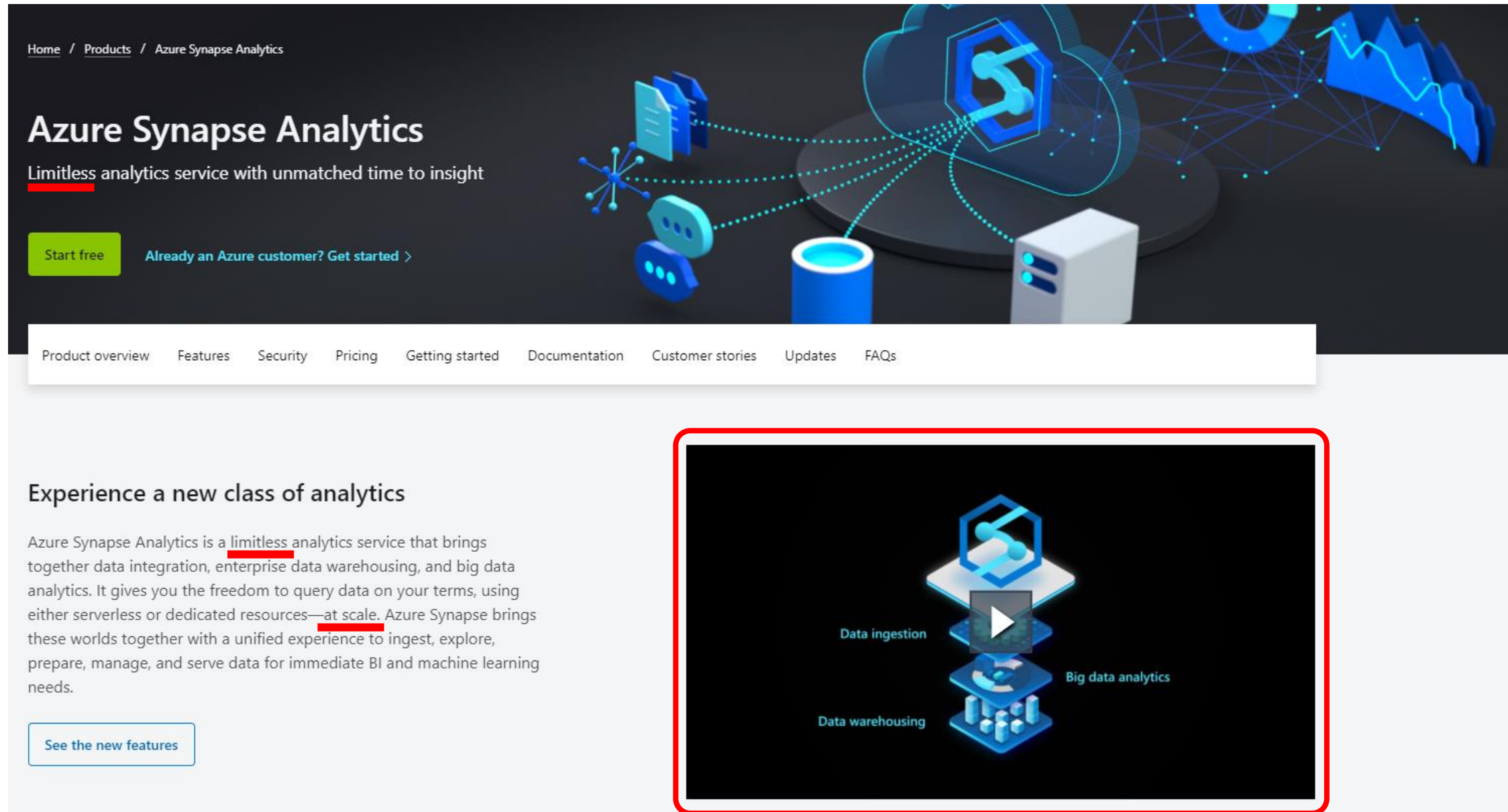


July 2020
Workspace
Public Preview

Oops!

www.synapse-analytics.io

What is it? – According to Microsoft



The screenshot shows the Azure Synapse Analytics homepage. At the top, there is a navigation bar with links for Home, Products, and Azure Synapse Analytics. The main heading is "Azure Synapse Analytics" with the tagline "Limitless analytics service with unmatched time to insight". Below this, there are two buttons: "Start free" and "Already an Azure customer? Get started >". A horizontal menu contains links for Product overview, Features, Security, Pricing, Getting started, Documentation, Customer stories, Updates, and FAQs. The main content area features the heading "Experience a new class of analytics" followed by a paragraph describing the service. A video player is embedded in the lower right, showing a diagram of the data pipeline. The diagram includes a central play button icon, with "Data ingestion" on the left, "Data warehousing" at the bottom, and "Big data analytics" on the right. The background of the page is dark with blue and white geometric shapes and icons representing data and analytics.

Home / Products / Azure Synapse Analytics

Azure Synapse Analytics

Limitless analytics service with unmatched time to insight

[Start free](#) [Already an Azure customer? Get started >](#)

[Product overview](#) [Features](#) [Security](#) [Pricing](#) [Getting started](#) [Documentation](#) [Customer stories](#) [Updates](#) [FAQs](#)

Experience a new class of analytics

Azure Synapse Analytics is a limitless analytics service that brings together data integration, enterprise data warehousing, and big data analytics. It gives you the freedom to query data on your terms, using either serverless or dedicated resources—at scale. Azure Synapse brings these worlds together with a unified experience to ingest, explore, prepare, manage, and serve data for immediate BI and machine learning needs.

[See the new features](#)

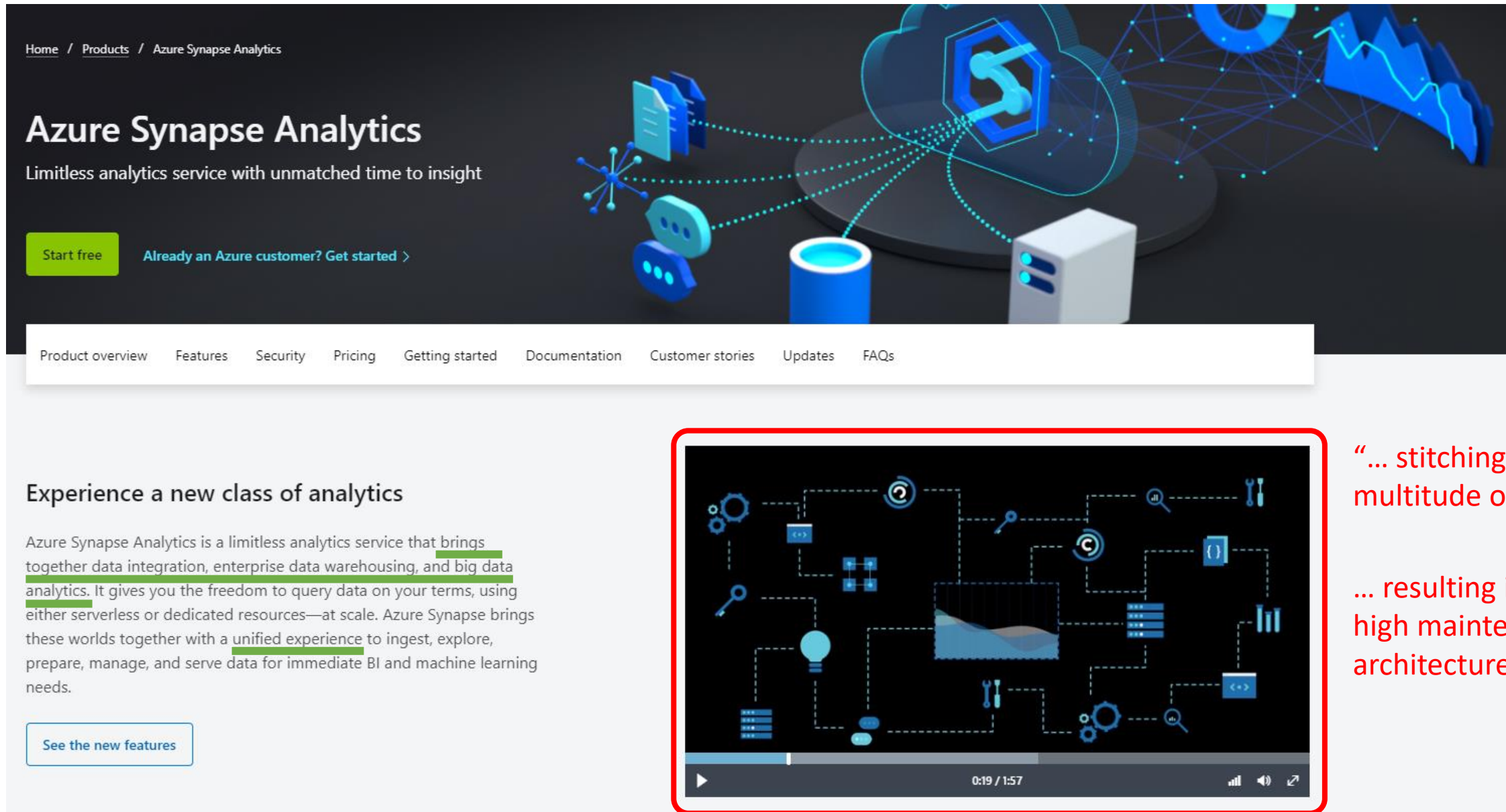
Data ingestion

Data warehousing

Big data analytics

<https://azure.microsoft.com/en-gb/services/synapse-analytics/>

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Home / Products / Azure Synapse Analytics

Azure Synapse Analytics

Limitless analytics service with unmatched time to insight

[Start free](#) [Already an Azure customer? Get started >](#)

[Product overview](#) [Features](#) [Security](#) [Pricing](#) [Getting started](#) [Documentation](#) [Customer stories](#) [Updates](#) [FAQs](#)

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[See the new features](#)

0:19 / 1:57

“... stitching together a multitude of services...

... resulting in brittle high maintenance architectures.”

What is it? – In Terms of Established Services



Data Factory



SQL Data Warehouse



SQL Database



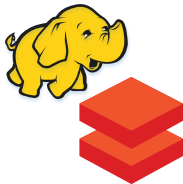
Data Lake



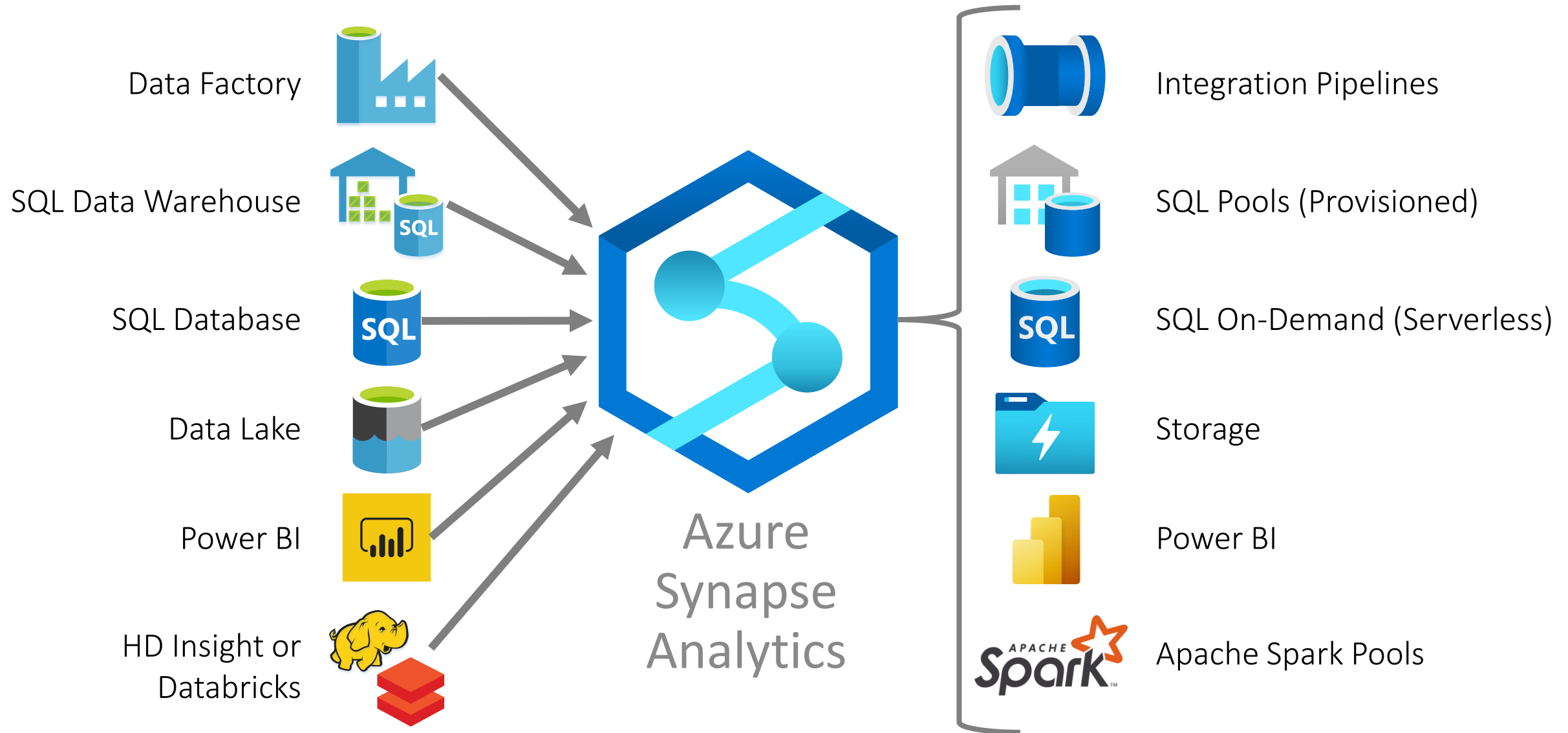
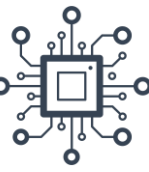
Power BI



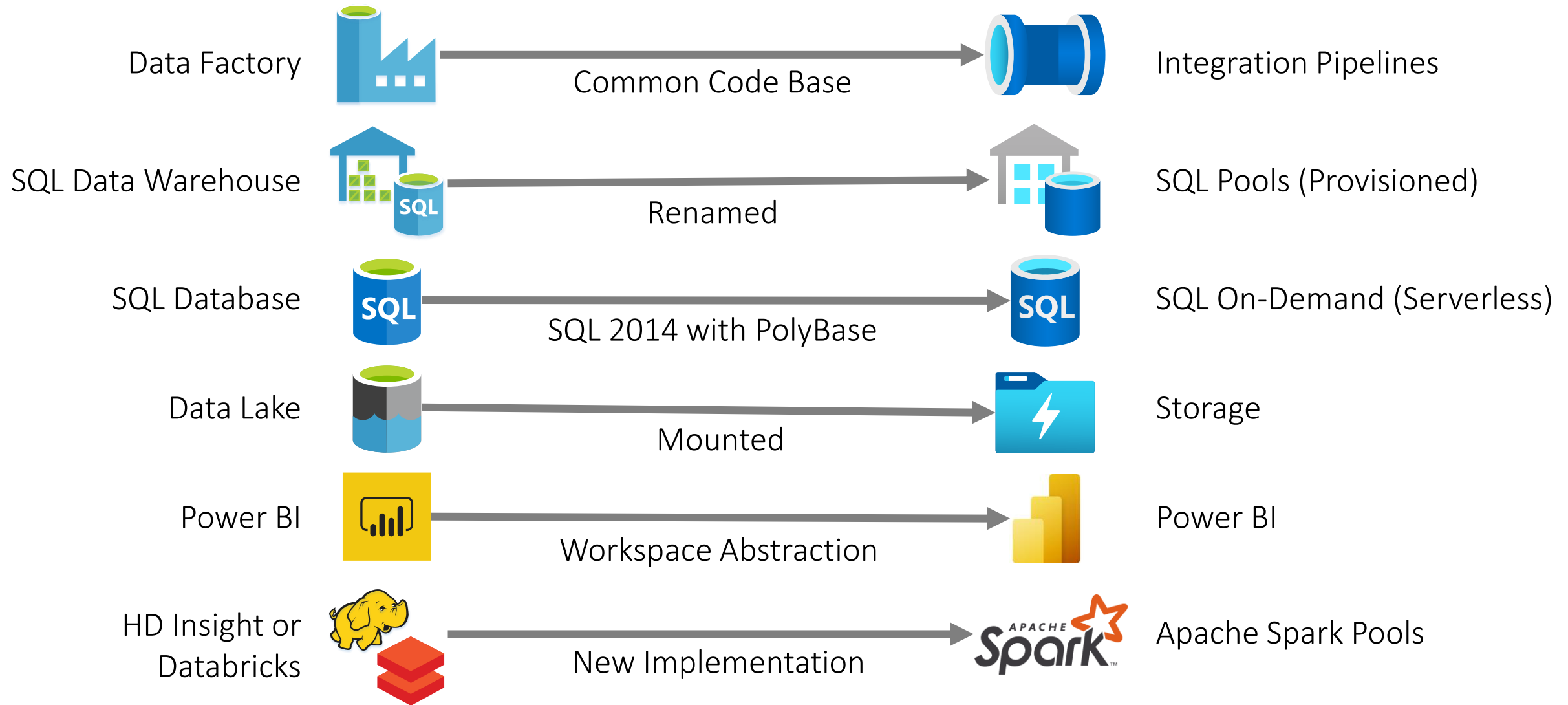
HD Insight or
Databricks



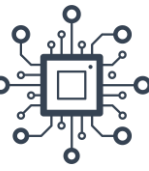
What is it? – In Terms of Established Services



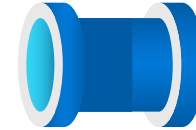
What is it? – In Terms of Established Services



What is it?



Azure
Synapse
Analytics



Integration Pipelines



SQL Pools (Provisioned)



SQL On-Demand (Serverless)



Storage

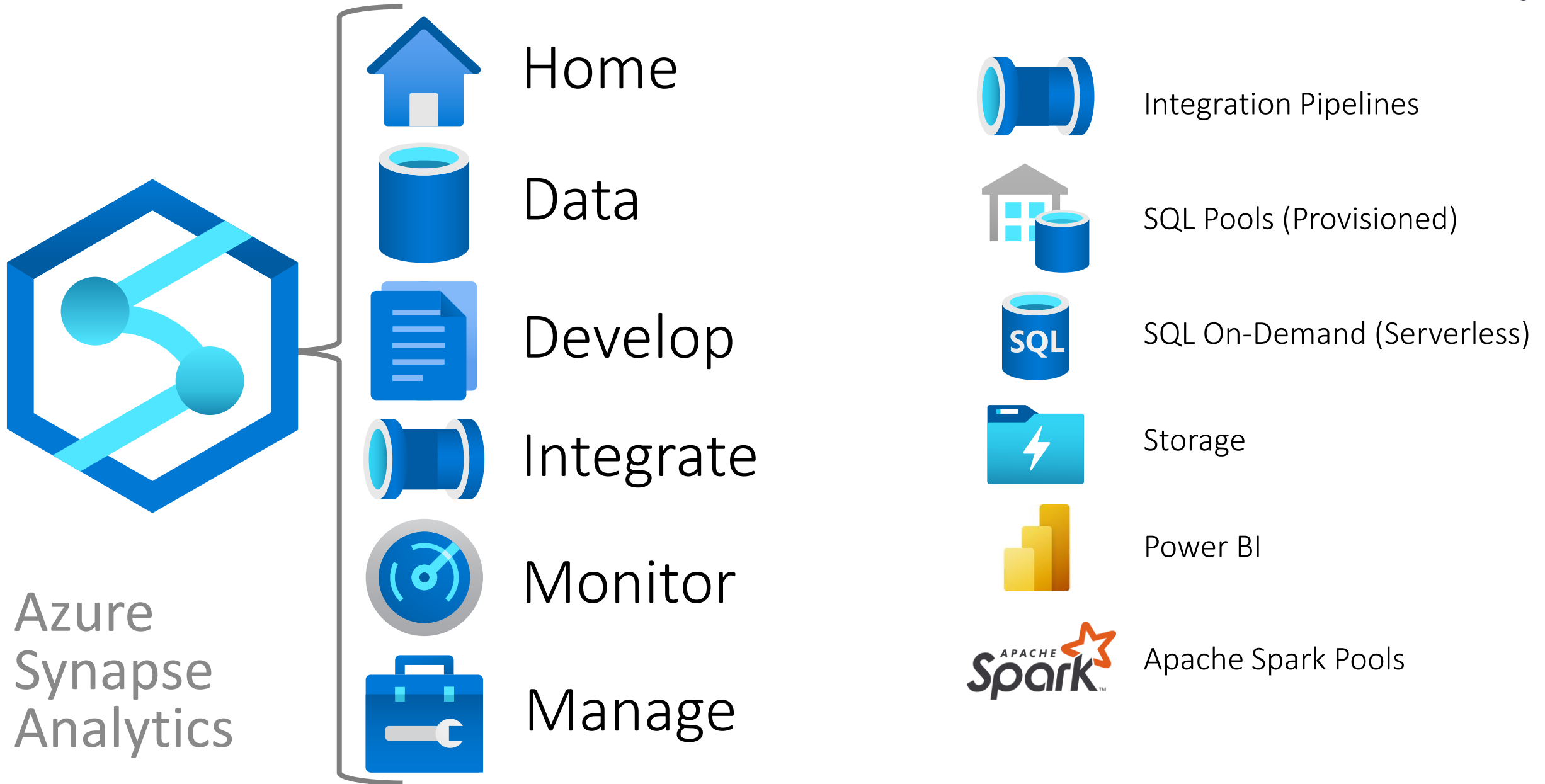


Power BI

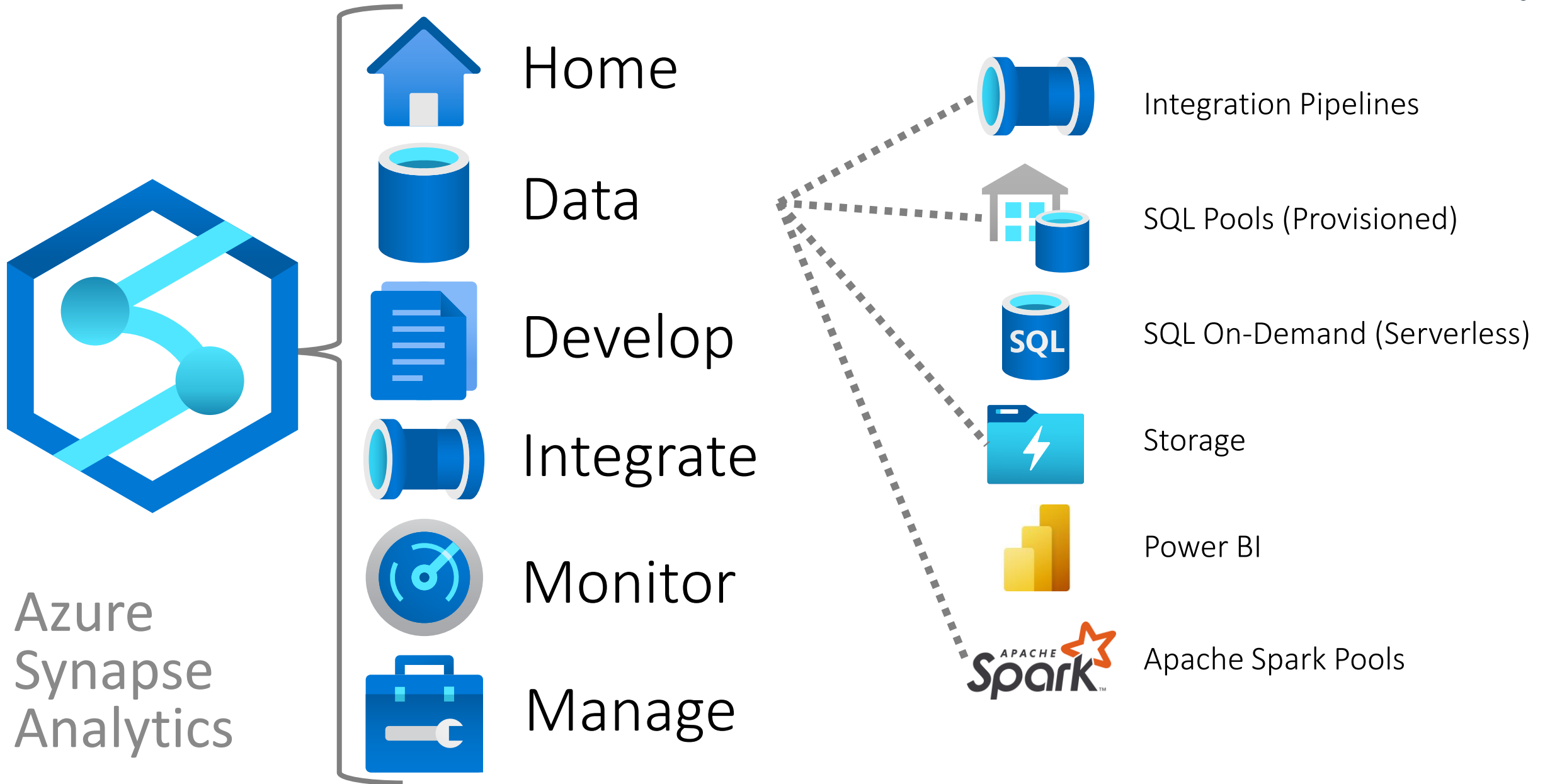


Apache Spark Pools

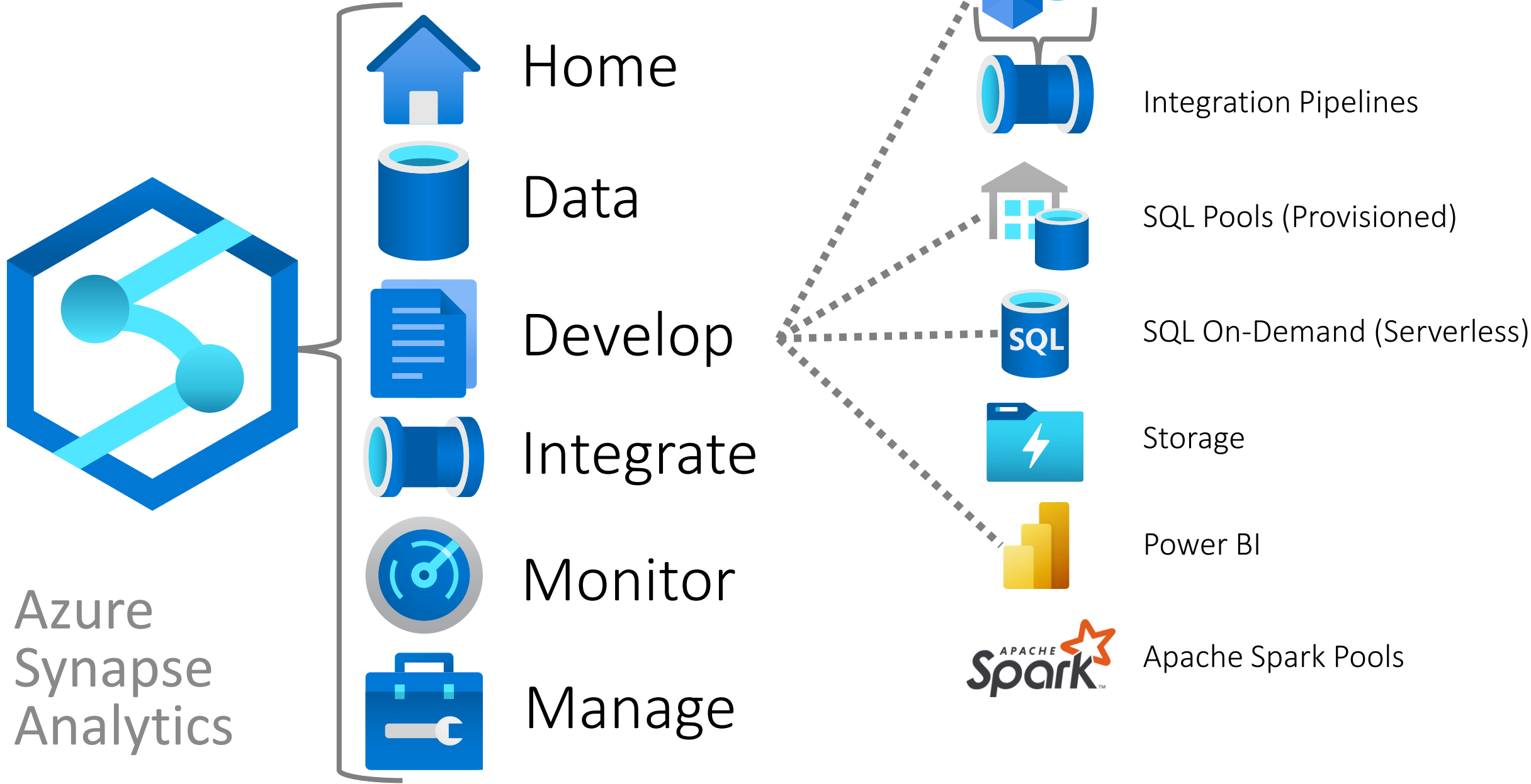
What is it? – When We Look Inside



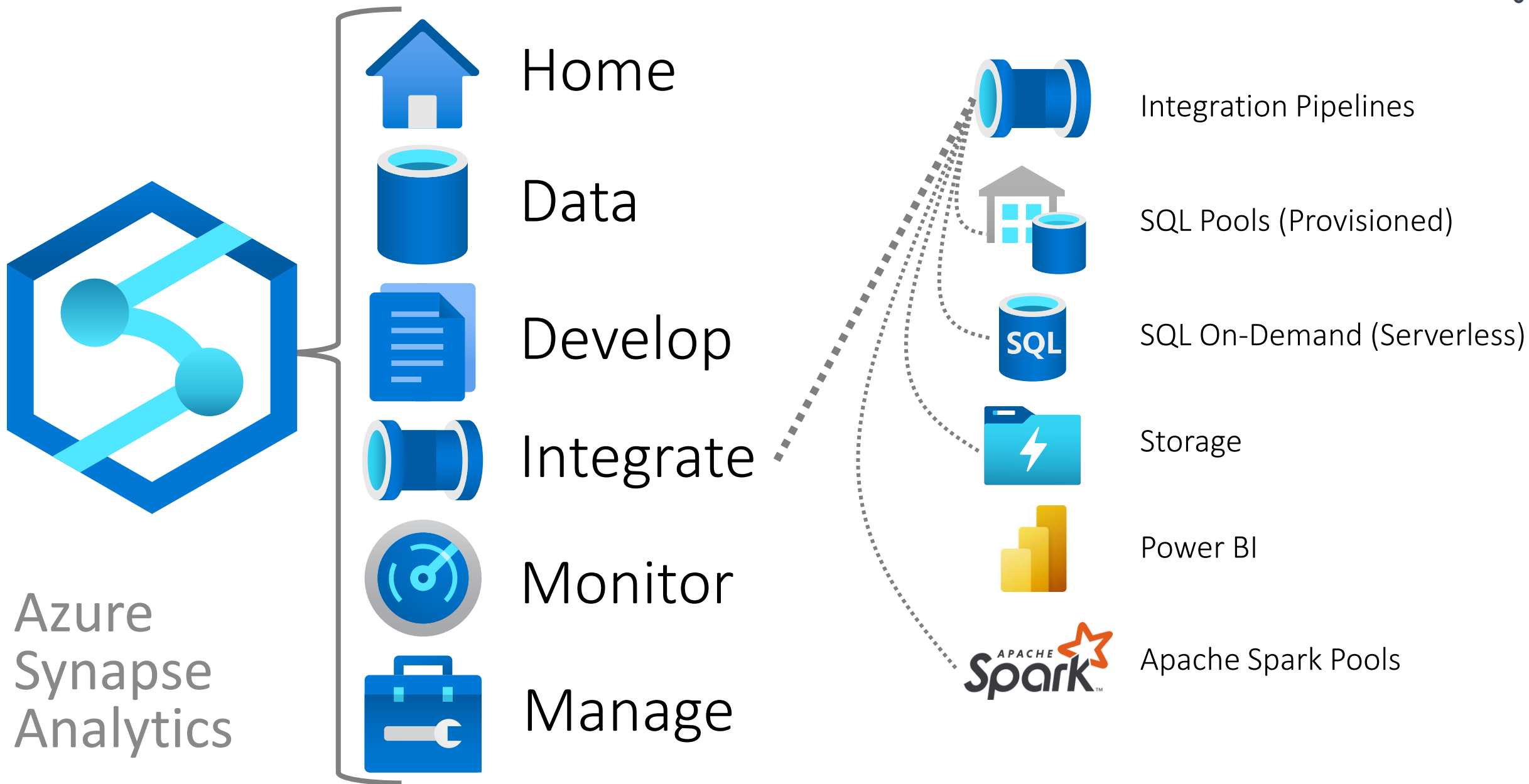
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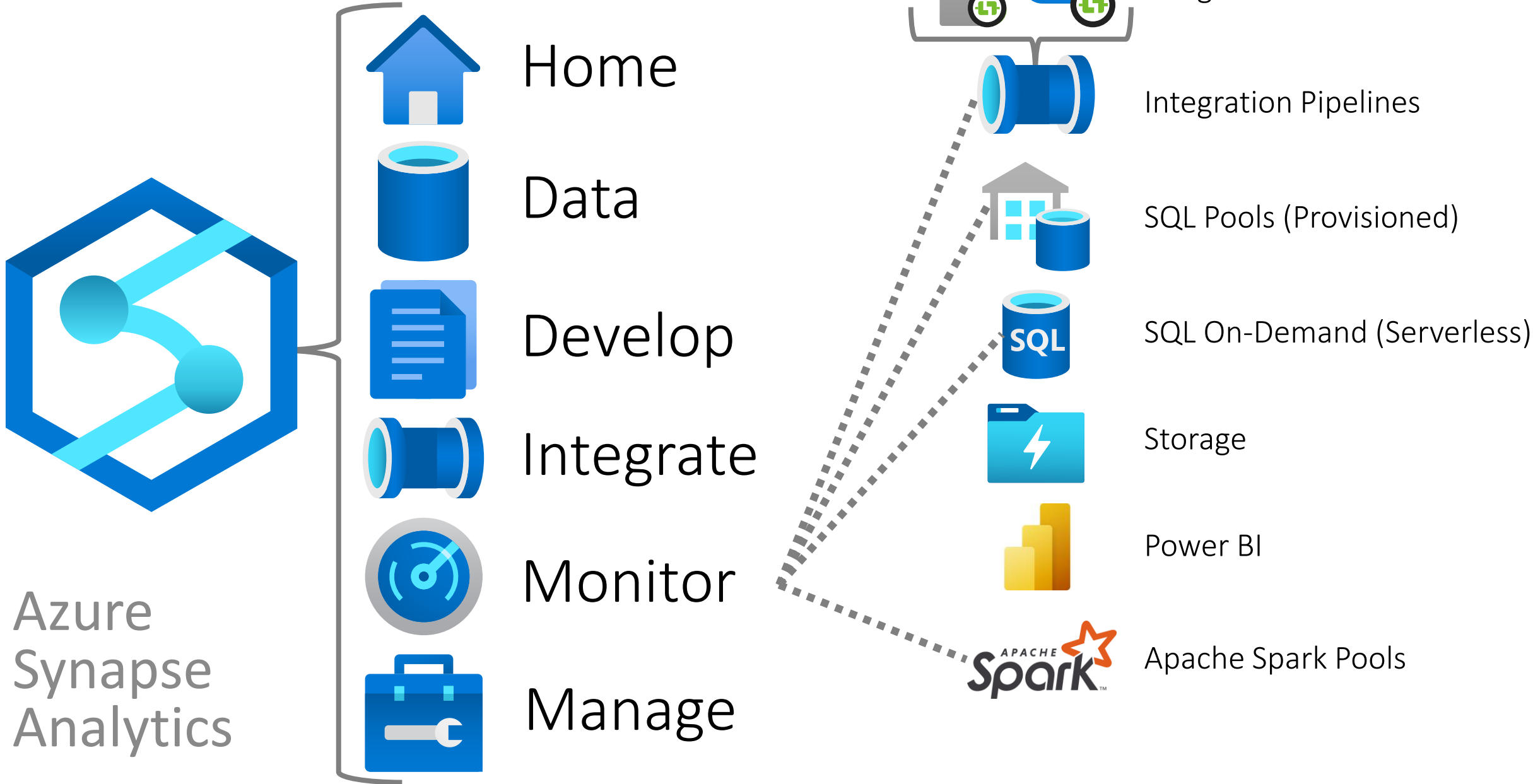
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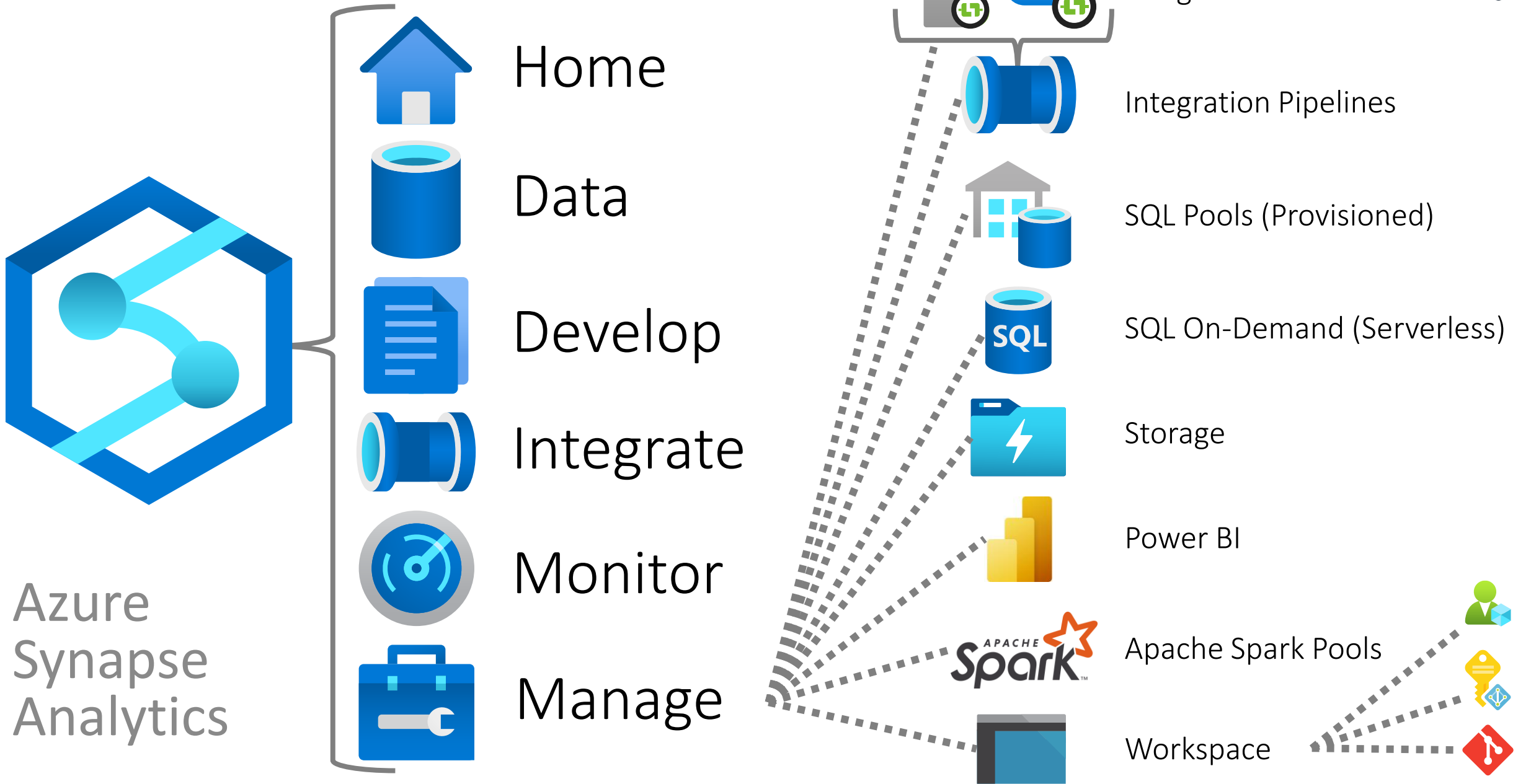
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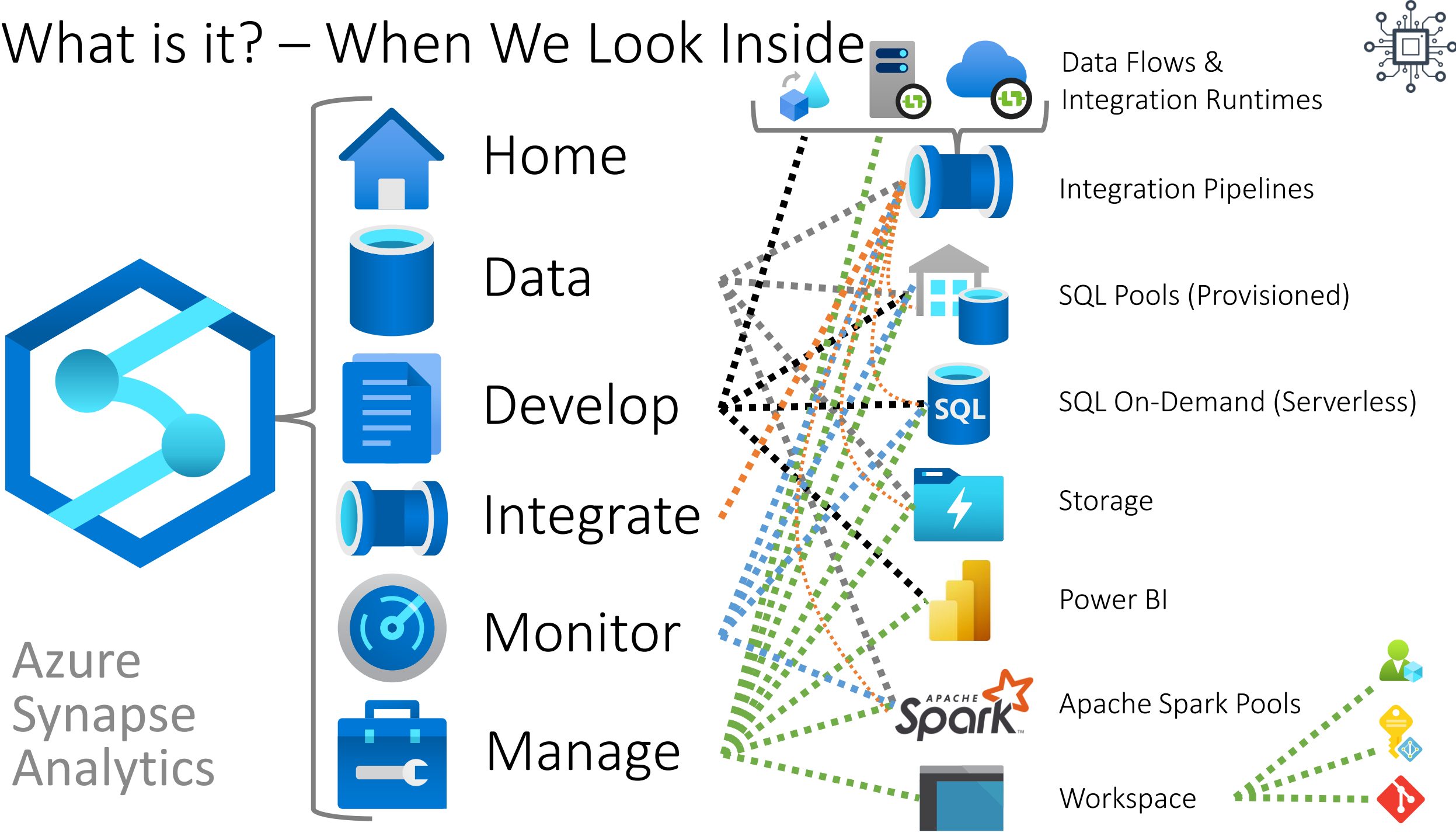
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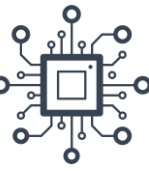
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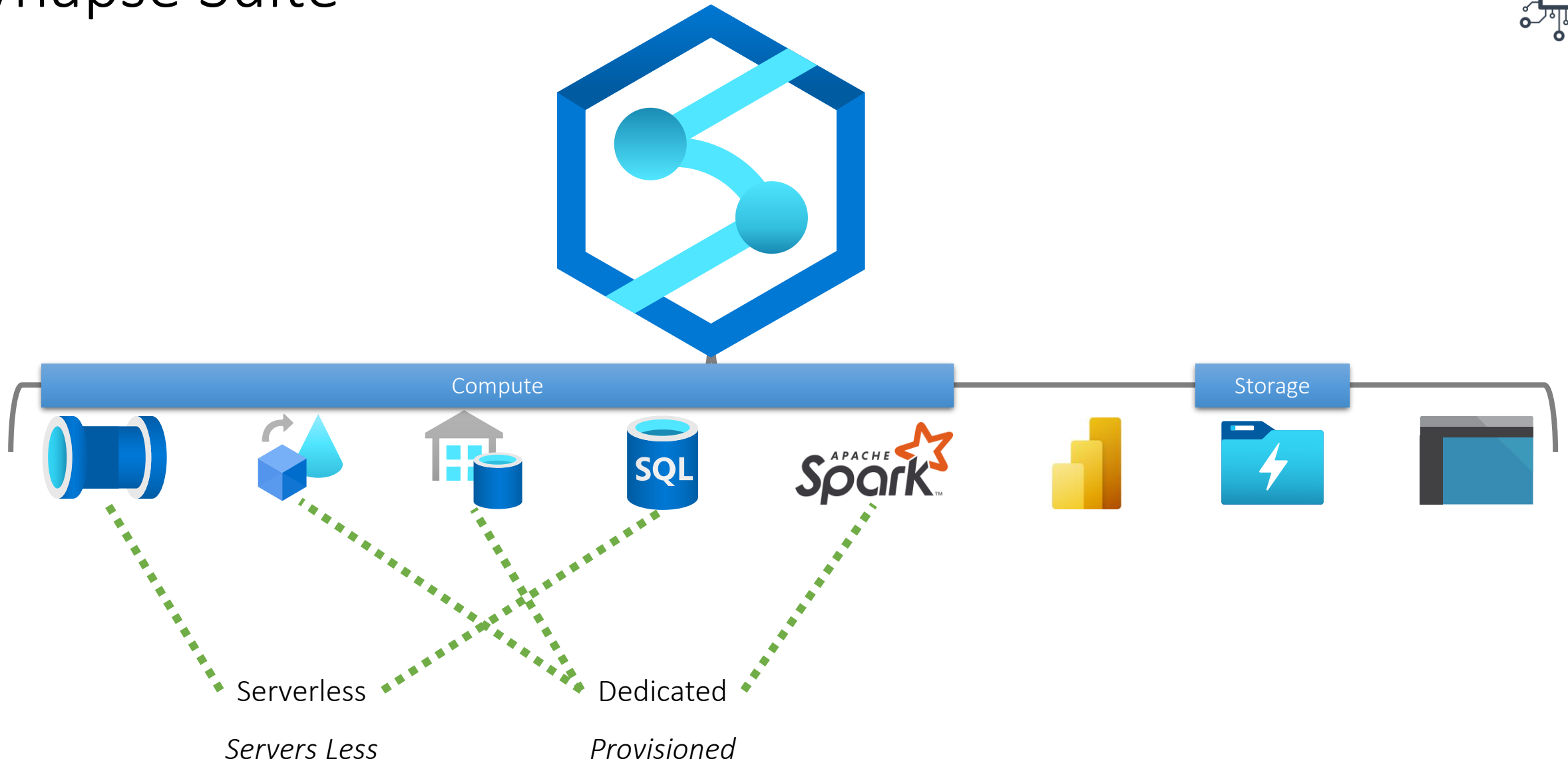
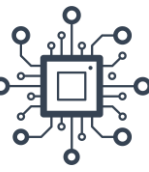
Everything Else



Synapse Suite



Synapse Suite



Synapse Suite



<https://{workspace}.dev.azure.com/synapse>

 [Azure.Analytics.Synapse.Artifacts](https://github.com/Azure-Synapse/artifacts)

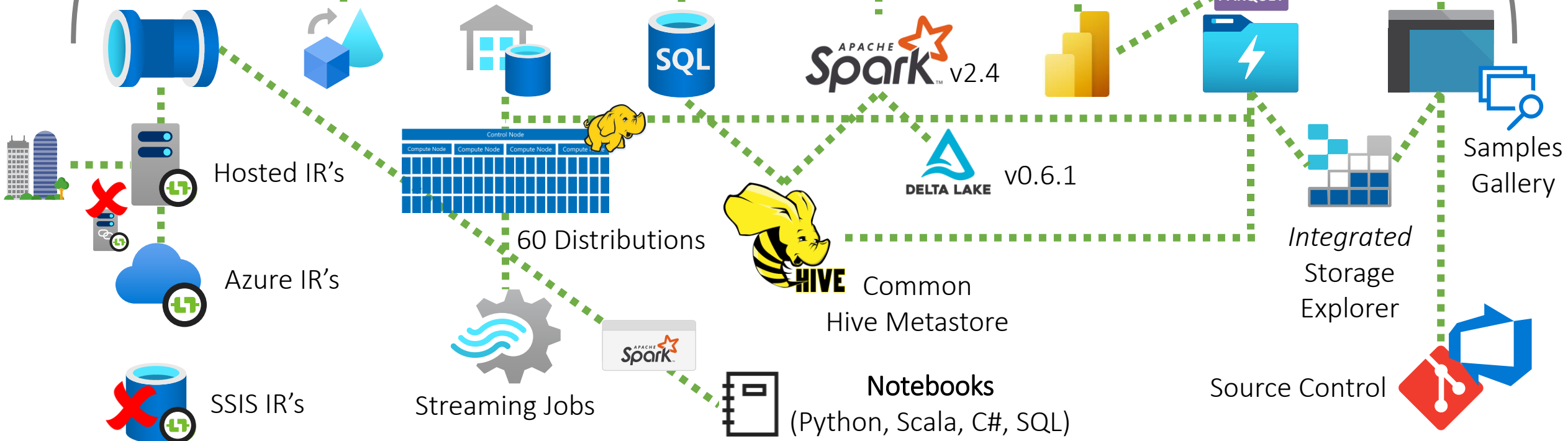


Power BI
Workspace
Interaction

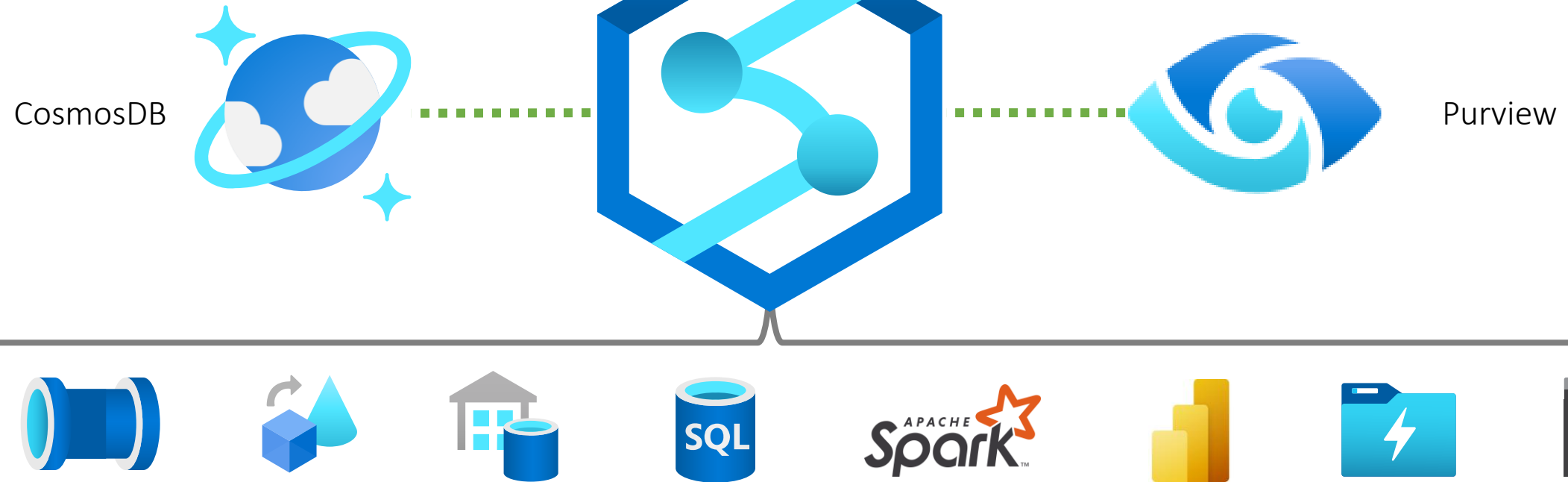
Query Parquet
in Power BI

Granular Security
Roles

Compiled Data Flow Script Runs on Spark



Synapse Suite – Links



Thank you for listening...

Paul Andrew



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LinkedIn: [In/mrpaulandrew](https://www.linkedin.com/in/mrpaulandrew)

GitHub: github.com/mrpaulandrew