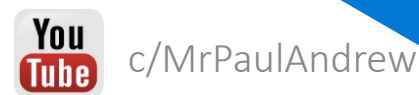
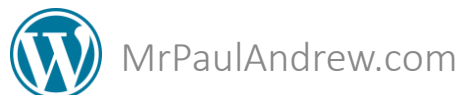
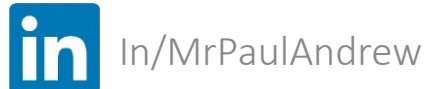


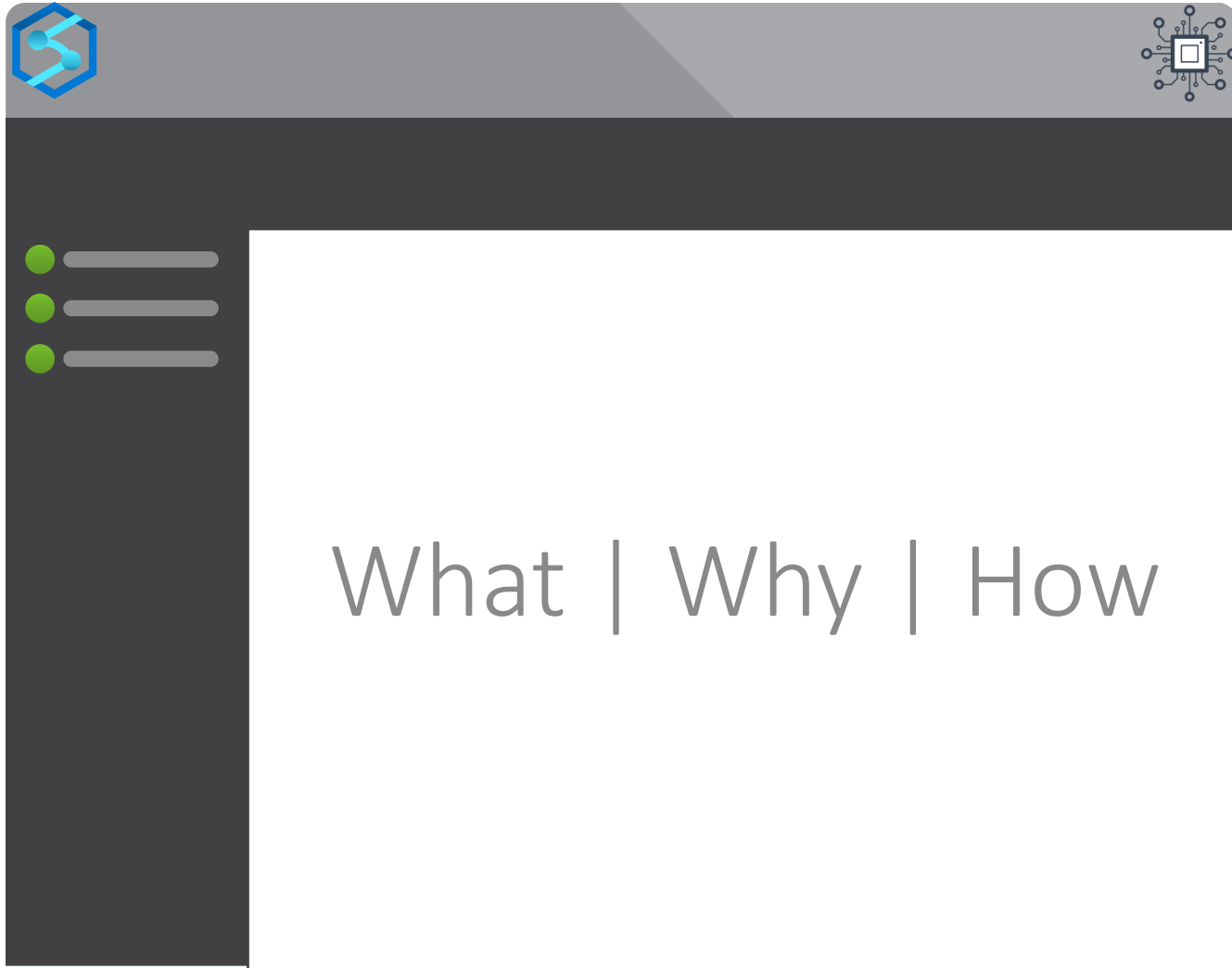
An Introduction to Azure Synapse Analytics

What | Why | How

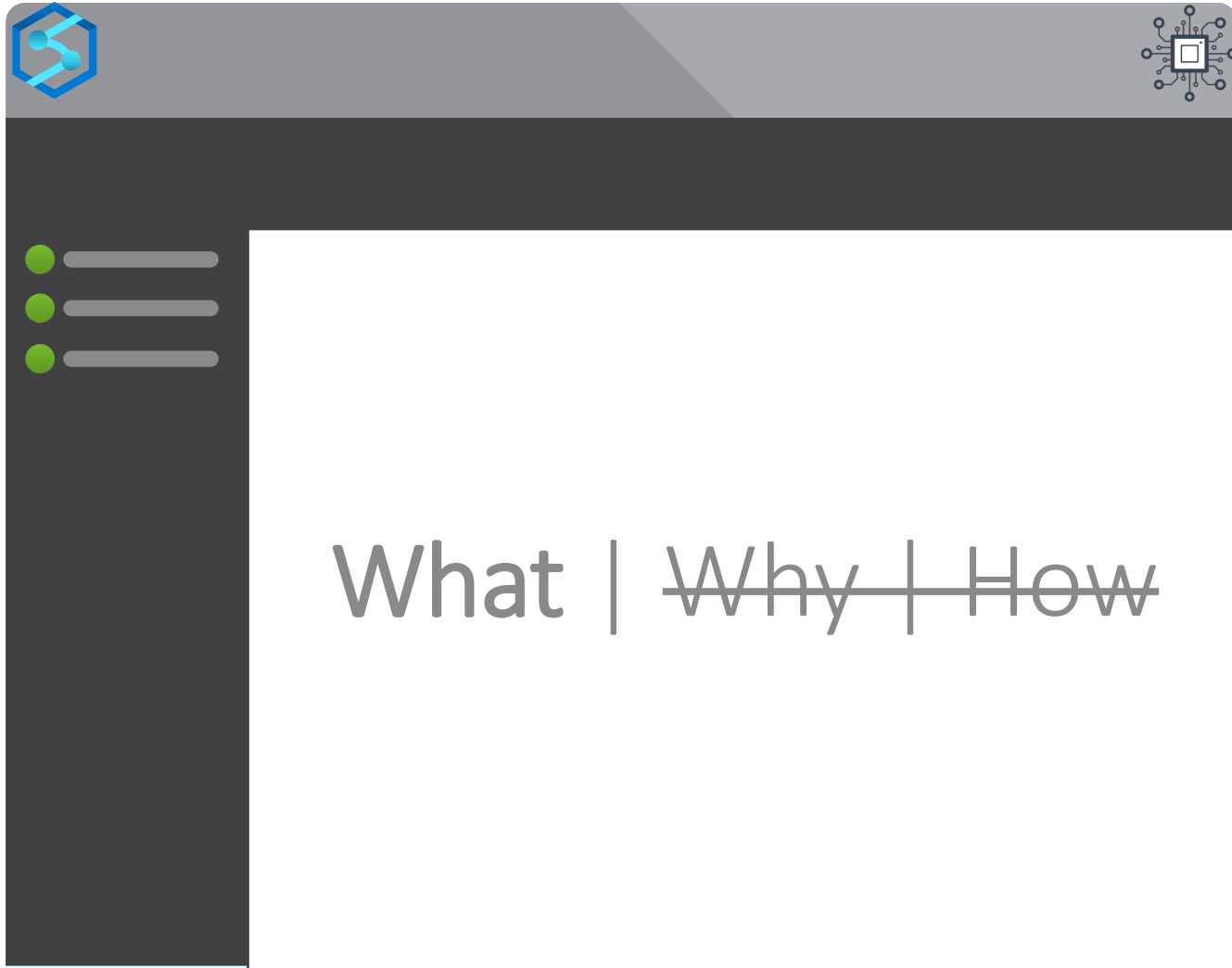
Paul Andrew | Technical Architect
in Azure CoE



Agenda

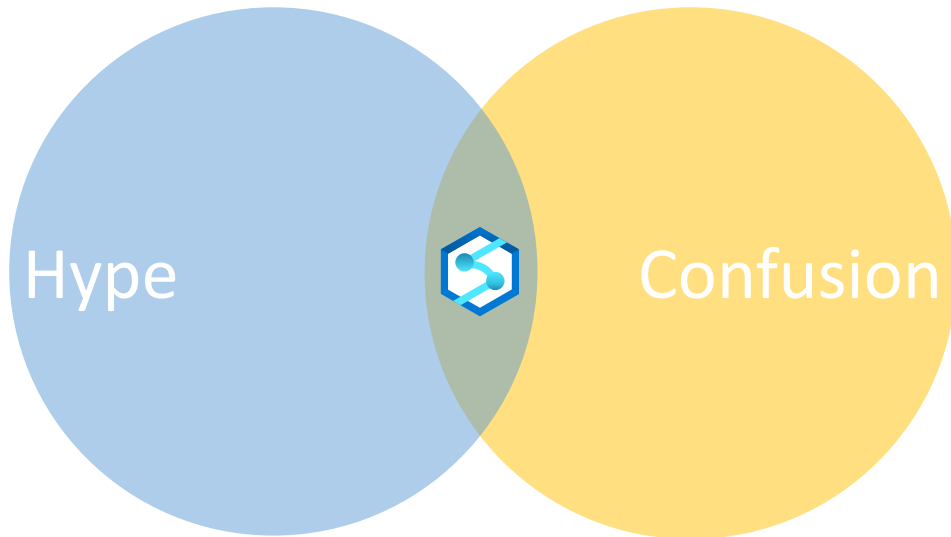


Agenda



Q: What is Azure Synapse Analytics?

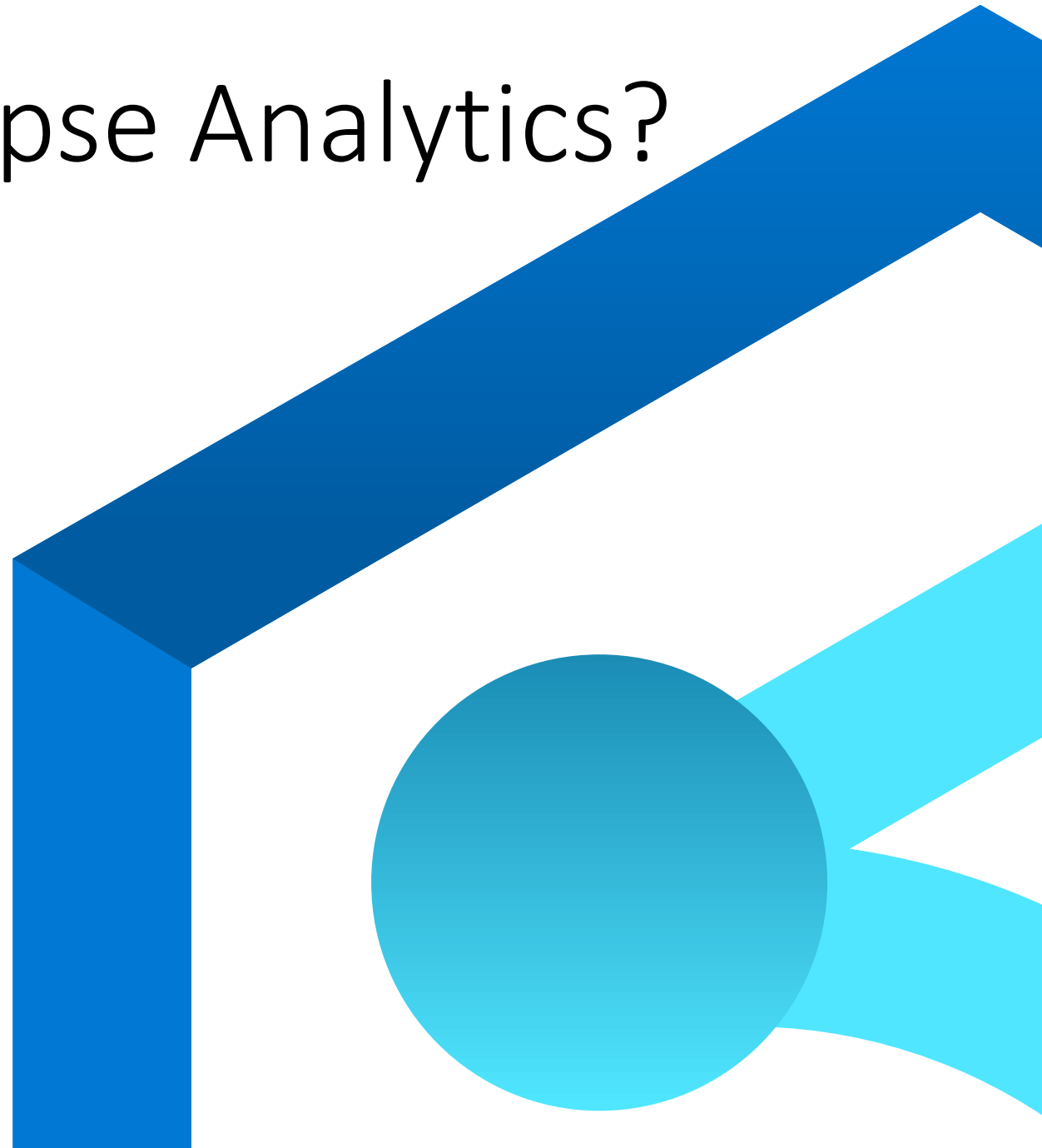
A: *NULL*



Q: What is Azure Synapse Analytics?

A:^{v1} *Lots of things!*

A:^{v2} *A complete suite of
Cloud native data
processing services.*



A^{v2}: *A complete suite of
~~Cloud native~~ data
processing services.*





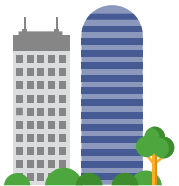
*A complete suite of
~~Cloud native~~ data
processing services.*



TM



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





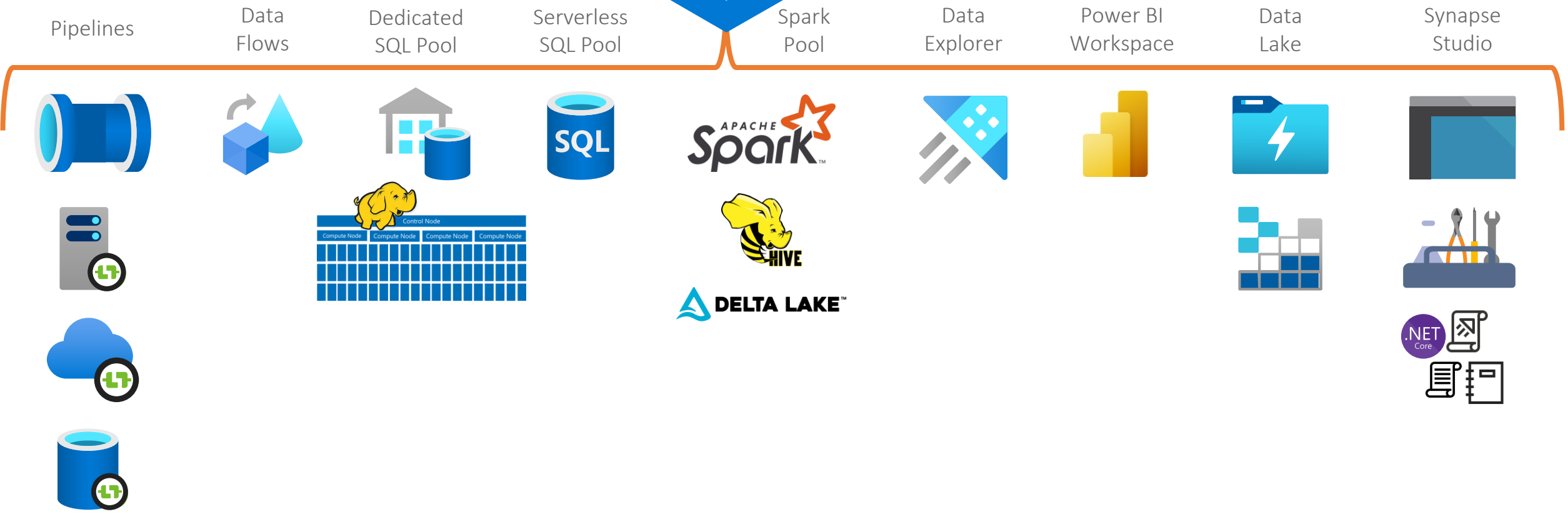
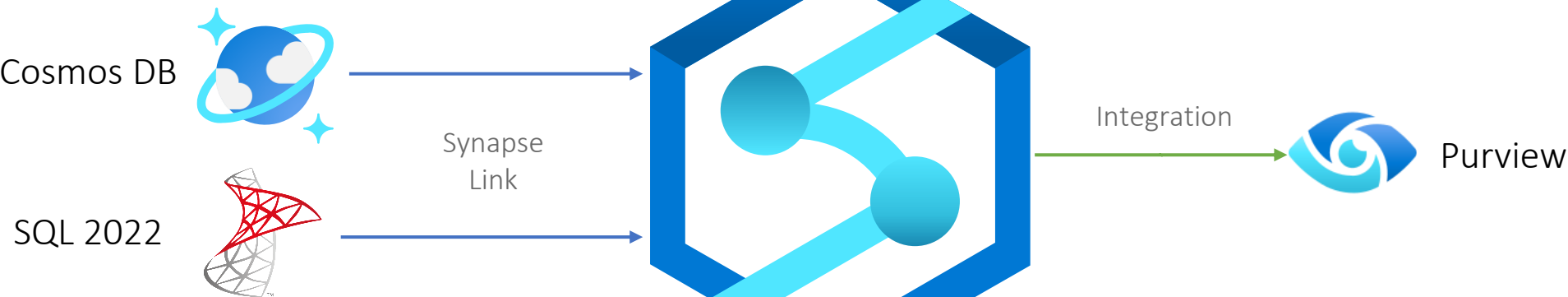
Synapse is to data processing in Azure
what
SQL Server is to data processing on premises.

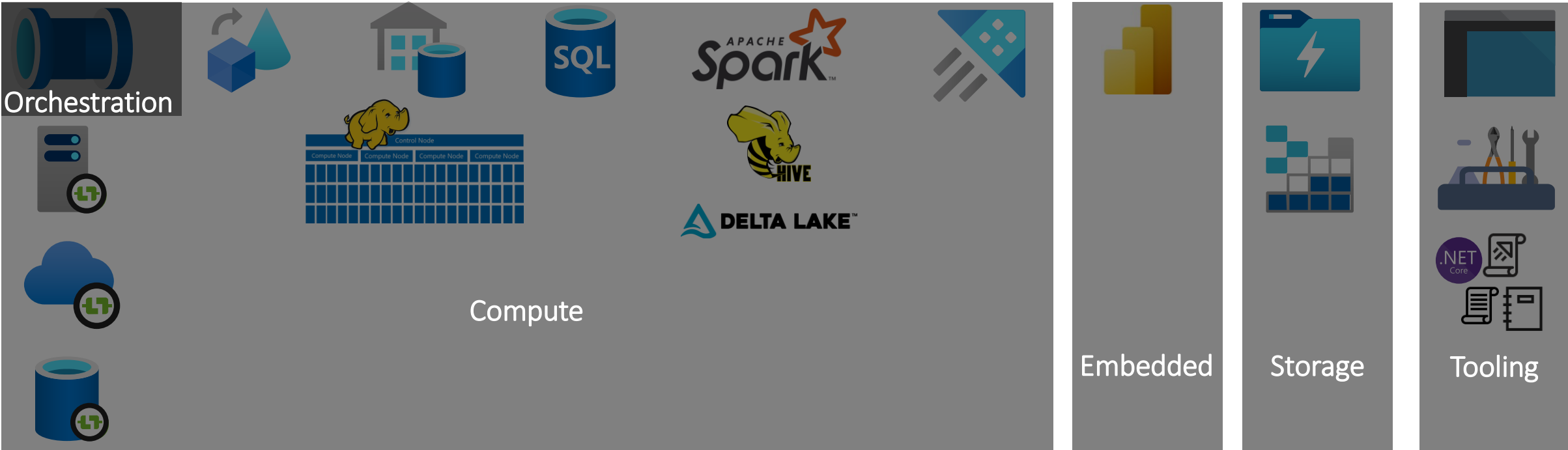
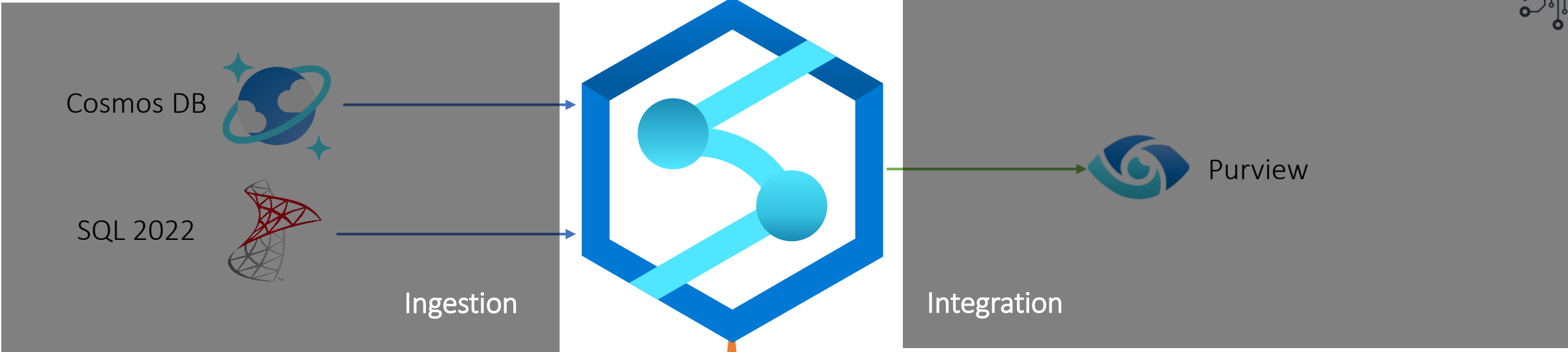
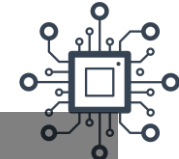


SQLDB SSIS SSAS SSRS
Agent MDM DQS SSMS



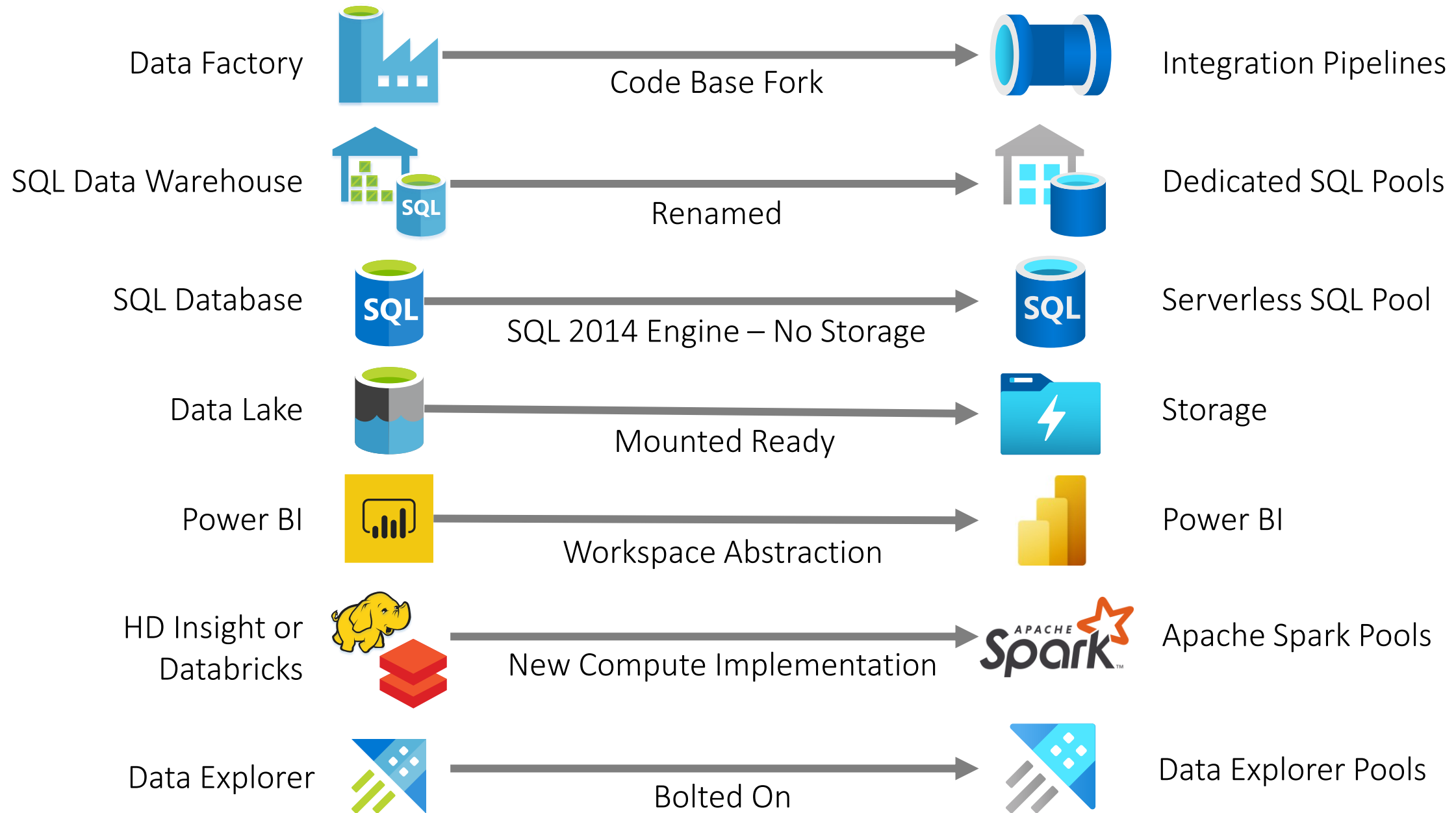






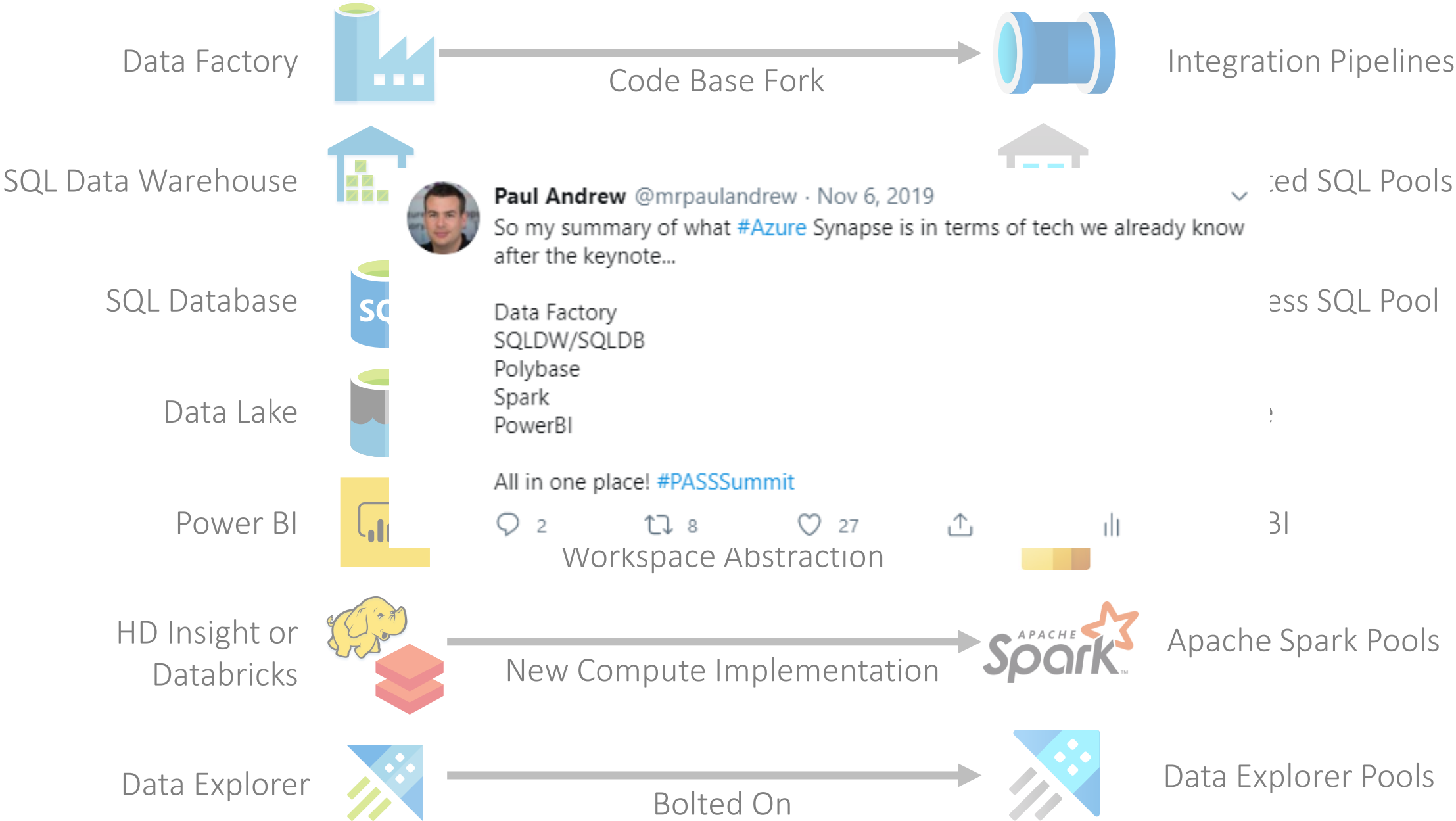


In Terms of Established Data Platform Resources

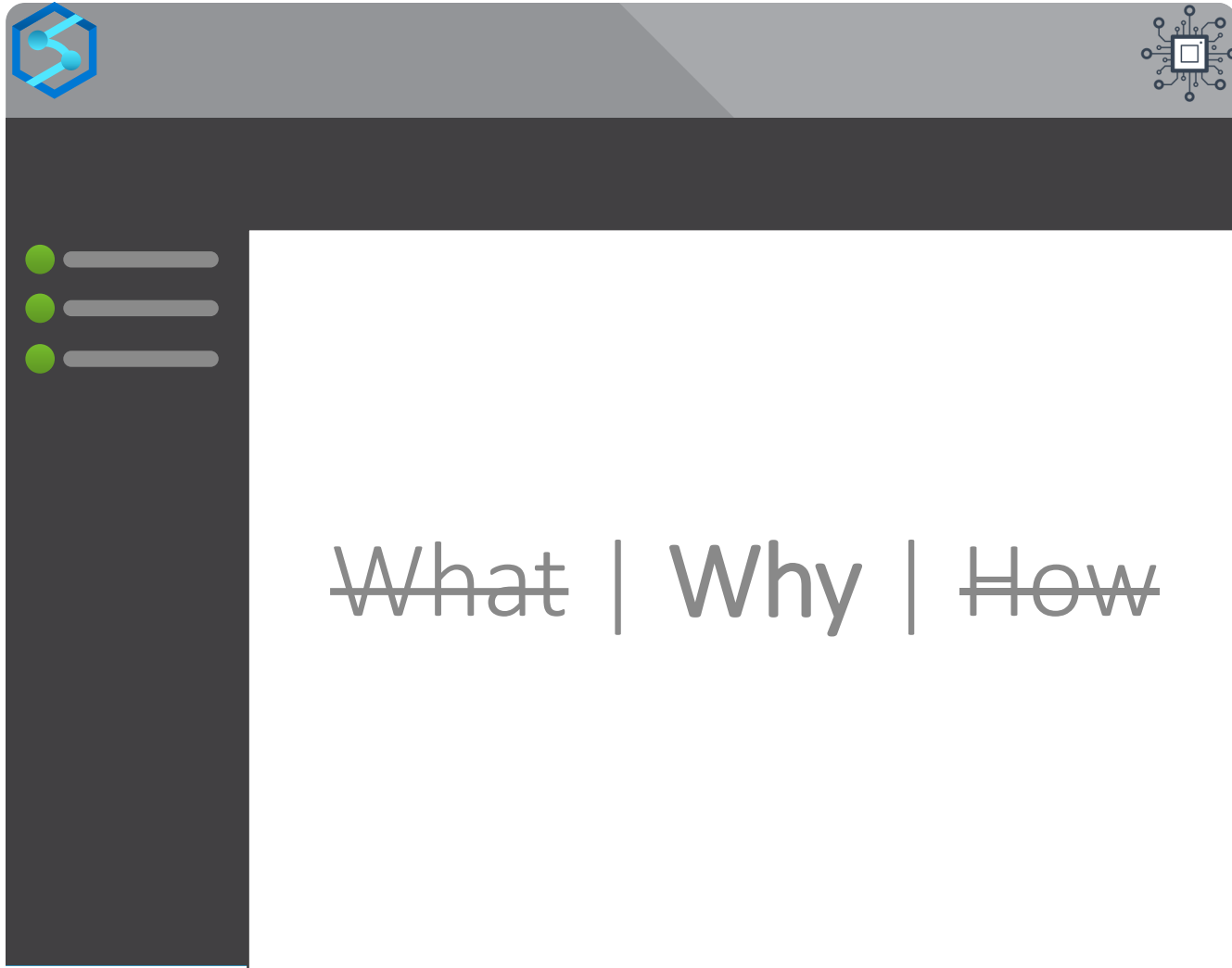




In Terms of Established Data Platform Resources



Agenda



Based on Microsoft Marketing



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

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Azure Synapse Analytics

Limitless analytics service with unmatched time to insight

Start free

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

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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.

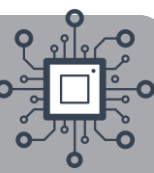
[See the new features](#)



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

... resulting in brittle high maintenance architectures.”

Based on Microsoft Marketing



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

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Azure Synapse Analytics

Limitless analytics service with unmatched time to insight

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Experience a new class of analytics

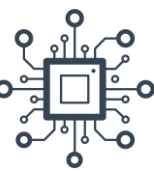
Azure Synapse Analytics is a limitless analytics service that brings together data integration, enterprise data warehousing, and big data analytics. It gives you the freedom to query data on your terms, using either serverless or dedicated resources—at scale. Azure Synapse brings these worlds together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

[See the new features](#)





Considering a Logical Architecture



Data Sources

Data Ingestion

Data Processing

Data Serving

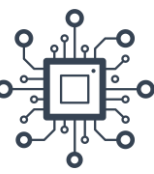
Data Consumption

Azure

Platform Security and Operations



Considering a Logical Architecture



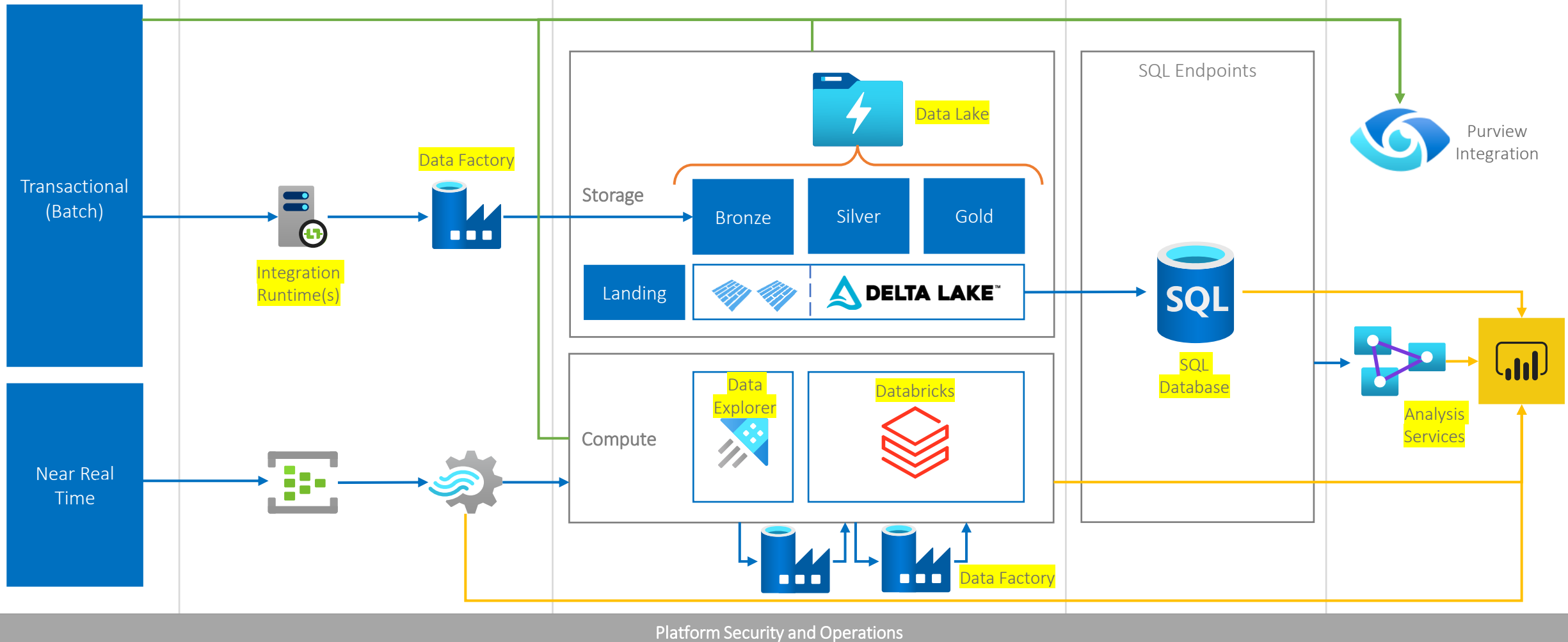
Data Sources

Data Ingestion

Data Processing

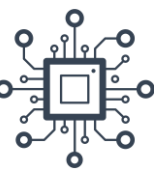
Data Serving

Data Consumption





Considering a Logical Architecture



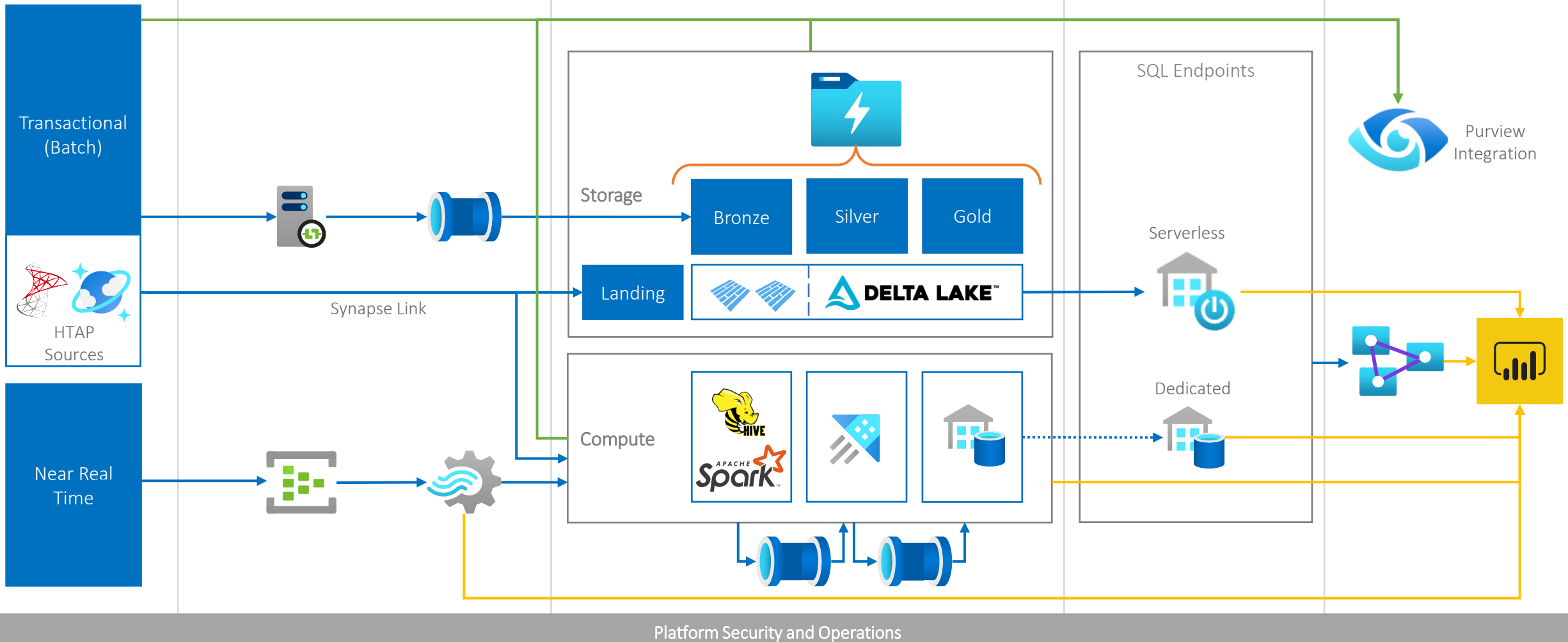
Data Sources

Data Ingestion

Data Processing

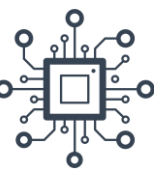
Data Serving

Data Consumption





Considering a Logical Architecture



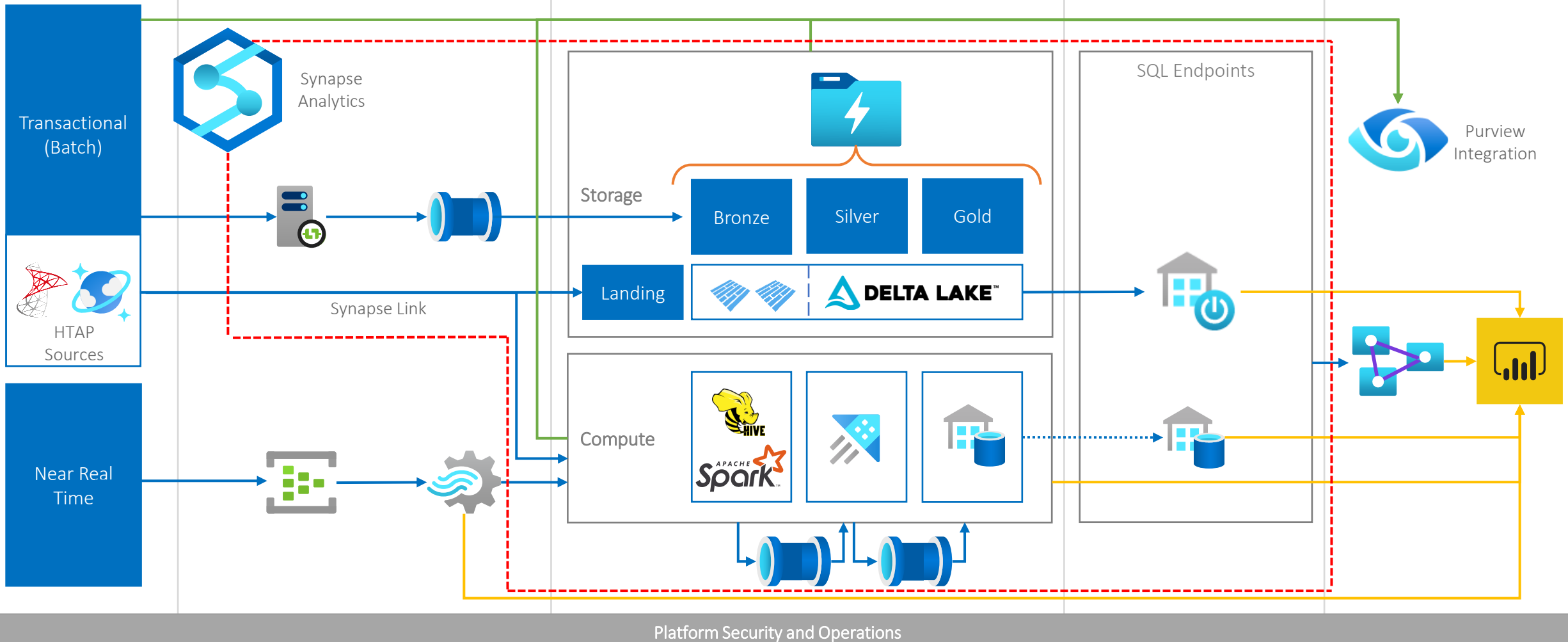
Data Sources

Data Ingestion

Data Processing

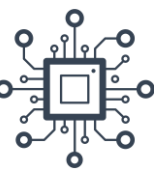
Data Serving

Data Consumption





Considering a Logical Architecture



Data Sources

Data Ingestion

Data Processing

Data Serving

Data Consumption

Azure

Transactional

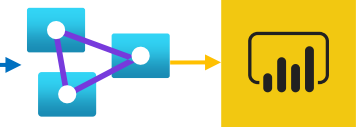


HTAP
Sources

Near Real
Time

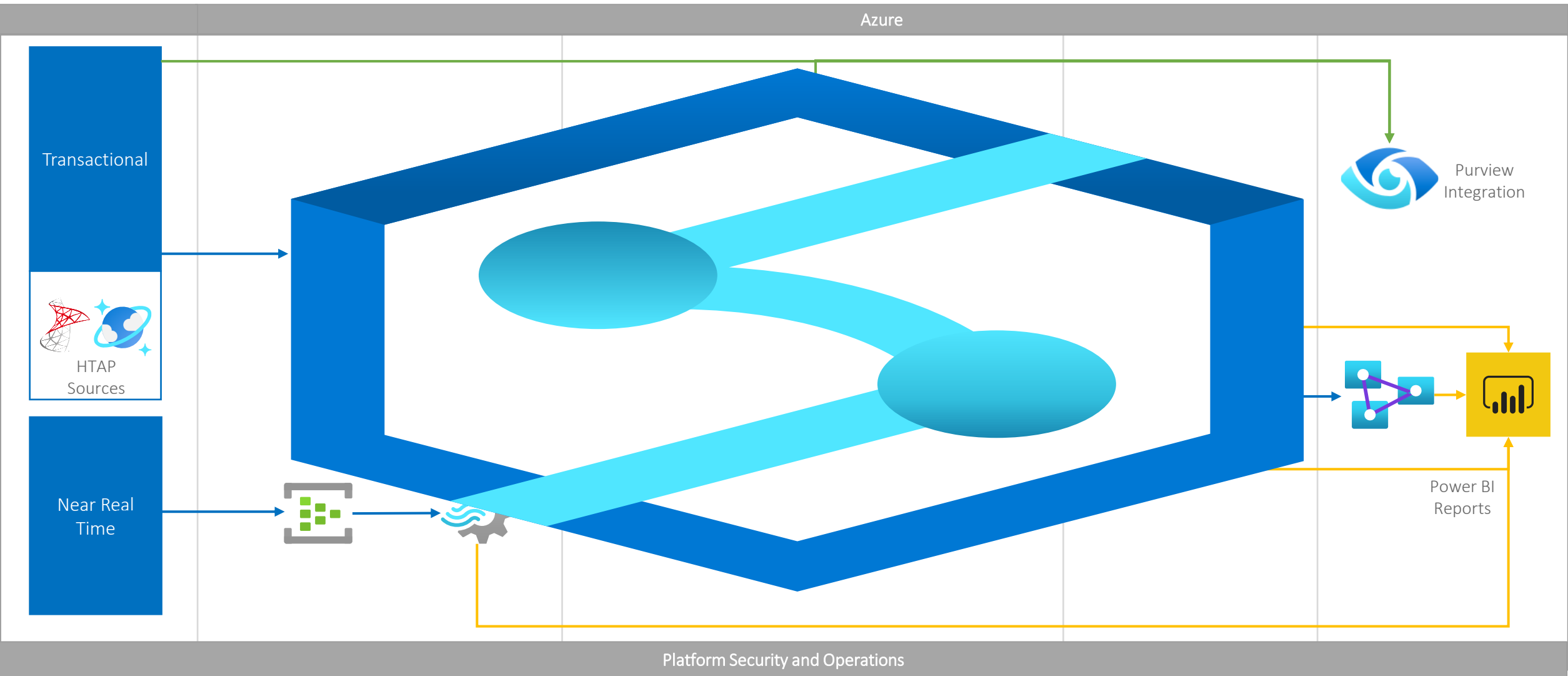


Purview
Integration

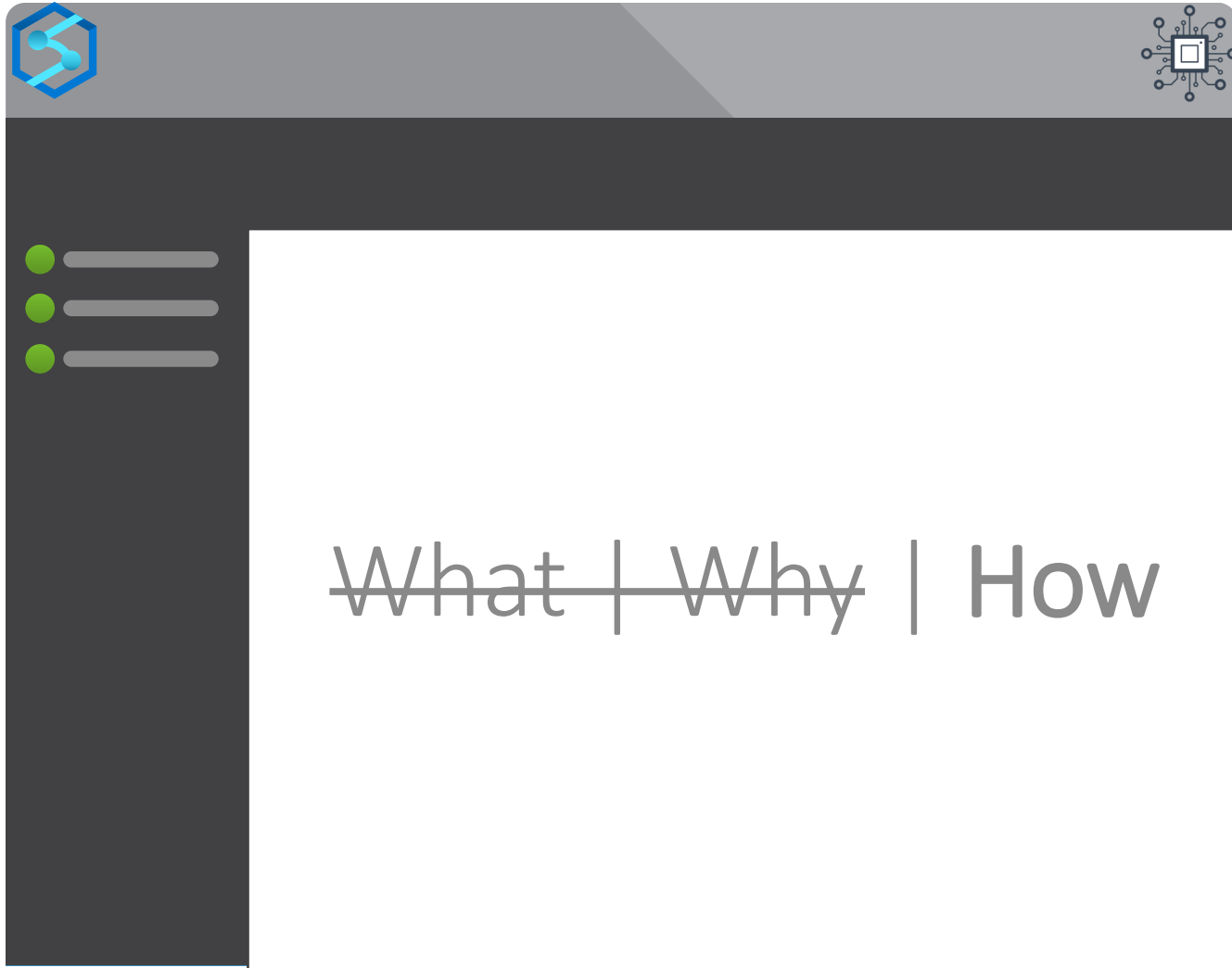


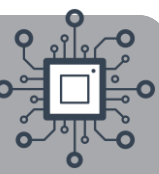
Power BI
Reports

Platform Security and Operations



Agenda



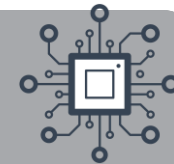


Breadth

Depth



Technology Perspective



Breadth

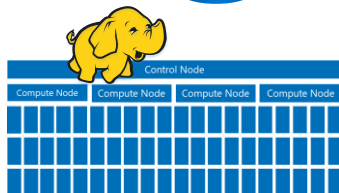
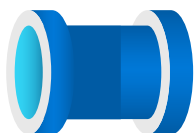


APACHE
Spark



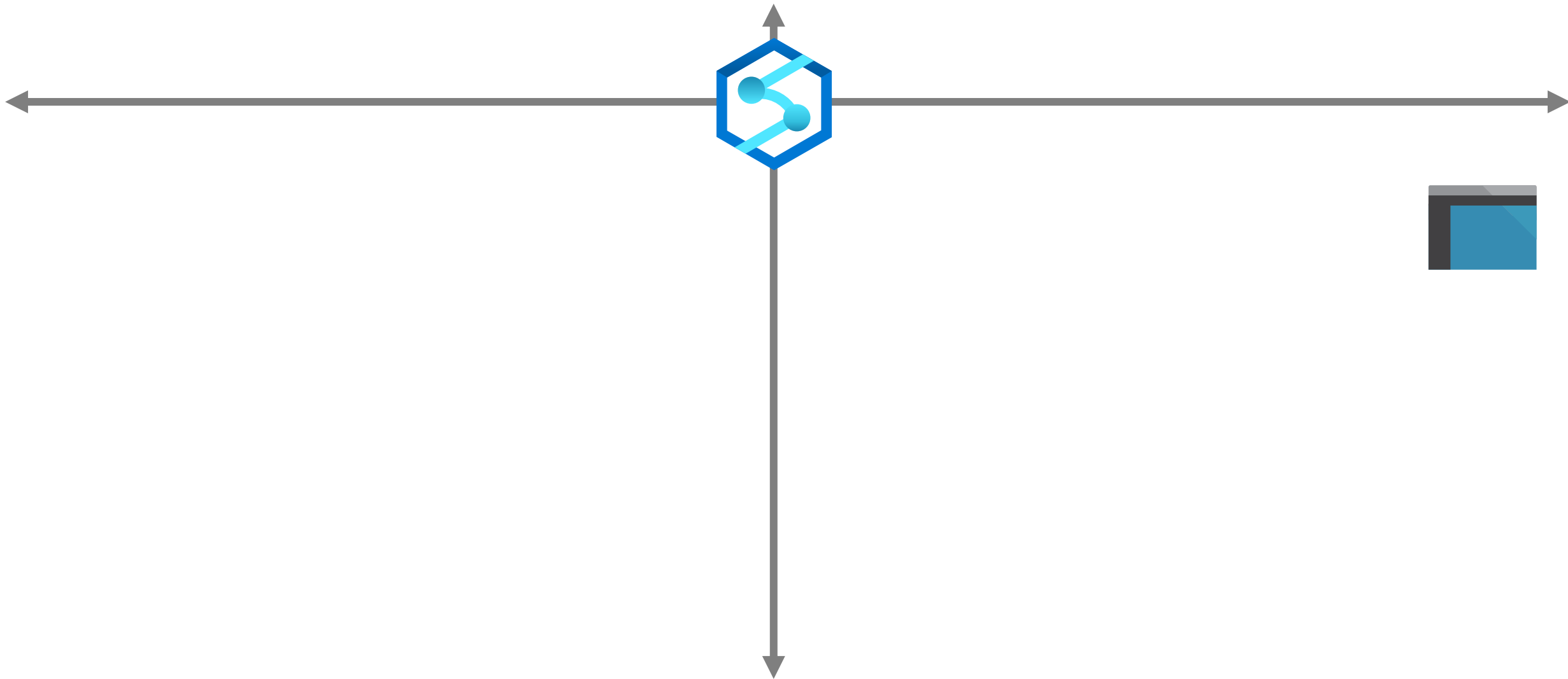
DELTA LAKE™

Depth



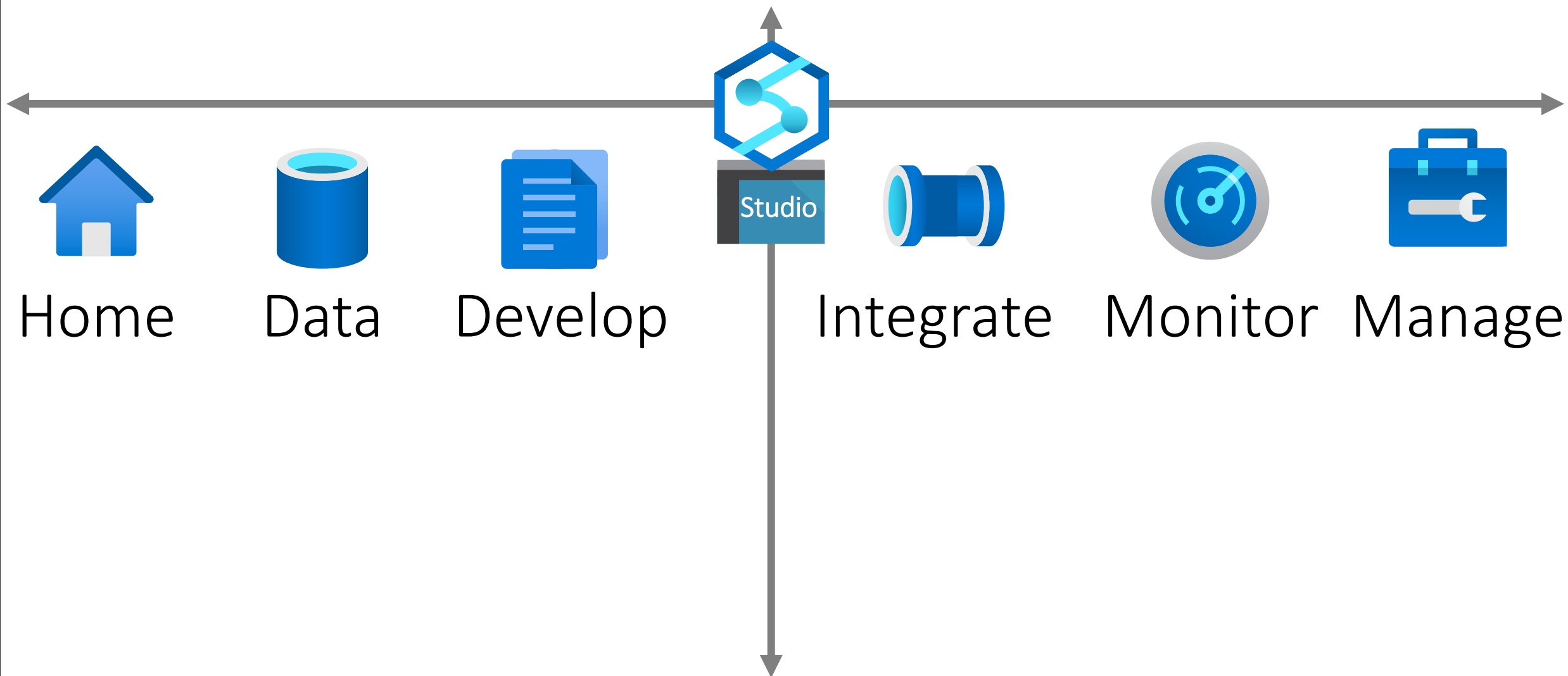
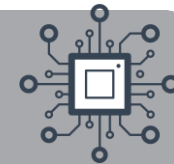


Technology Perspective



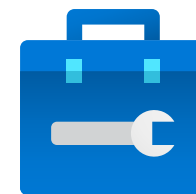
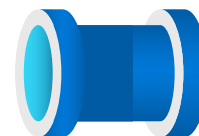
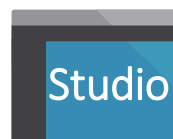
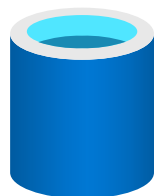
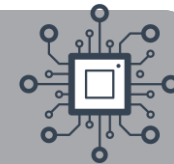


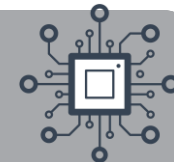
Use Case Perspective





Use Case Perspective





Home



Ingest

Perform a one-time or scheduled data load.

Discover more



Explore and analyze

Learn how to get insights from your data.



Visualize

Build interactive reports with Power BI capabilities.

Workspace



SQL database



Lake database



Data Explorer database (preview)

Linked



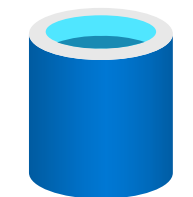
Connect to external data



Integration dataset



Browse gallery



Data



Develop



SQL script



KQL script



Notebook



Data flow



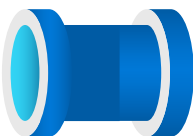
Apache Spark job definition



Browse gallery



Import



Integrate



Pipeline



Link connection (Preview)



Copy Data tool



Browse gallery



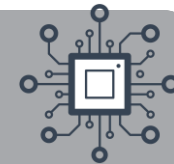
Import from pipeline template



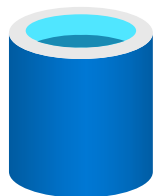
Monitor



Manage



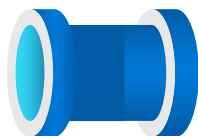
Home



Data



Develop



Integrate



Monitor



Manage



Analytics pools

- SQL pools
- Apache Spark pools
- Data Explorer pools (preview)

Activities

- SQL requests
- KQL requests
- Apache Spark applications
- Data flow debug

Integration

- Pipeline runs
- Trigger runs
- Integration runtimes
- Link connections

Analytics pools

- SQL pools
- Apache Spark pools
- Data Explorer pools (preview)

External connections

- Linked services
- Microsoft Purview

Integration

- Triggers
- Integration runtimes

Security

- Access control
- Credentials
- Managed private endpoints

Configurations + libraries

- Workspace packages
- Data flow libraries
- Apache Spark configurations

Source control

- Git configuration

Git Connected
Workspace



TEST



PRE-PROD



PROD



Data Sources

Data Ingestion

Data Processing

Data Serving

Data Consumption

Azure



DEV

Synapse Link

Storage

Bronze

Silver

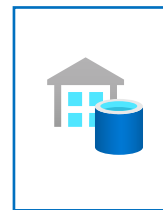
Gold

Landing



DELTA LAKE™

Compute



SQL Endpoints



Purview
Integration

Platform Security and Operations


Git Connected
Workspace






TEST


PRE-PROD




PROD




[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)











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[Code](#) [Issues](#) [5](#) [Pull requests](#) [Actions](#) [Projects](#) [1](#) [Security](#) [Insights](#) [Settings](#)

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e942bb6 8 days ago [History](#)

..		
 database	Adding database: Database1	20 days ago
 dataflow	Updating dataflow: OrderHeaderRawtoClean	18 days ago
 dataset	Adding dataset: OrderHeaderCsv	3 months ago
 integrationRuntime	Deleting integrationRuntime: AzureIR-8core	2 months ago
 kqlscript	Updating kqlscript: Tweets Table	14 days ago
 linkedService	Updating linkedService: GitHub	3 months ago
 notebook	Adding notebook: Chapter05-fctSales_Copy1	8 days ago
 pipeline	Updating pipeline: Clean to Modelled via SQL	9 days ago
 sqlscript	Updating sqlscript: _Select Delta Tables	16 days ago
 publish_config.json	Create publish_config.json	6 months ago



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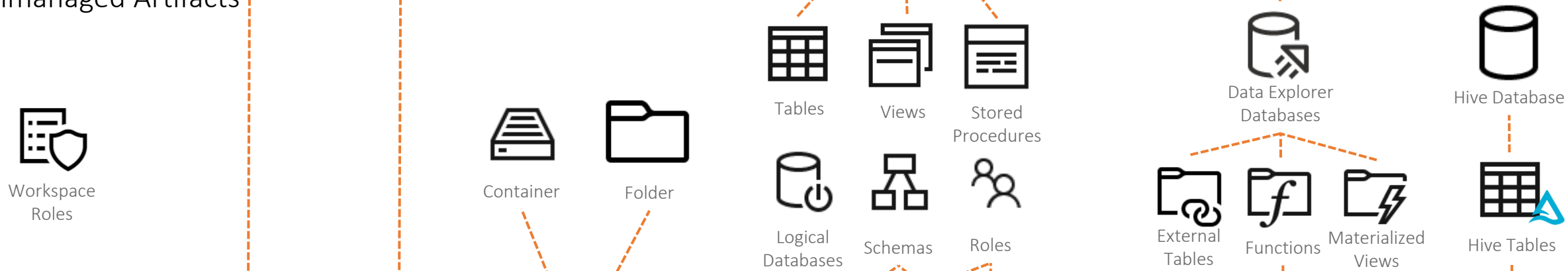




Managed Artifacts



Unmanaged Artifacts



Infrastructure

