

Traditional Modern Data Warehouse

#DataWeekender Conference, Oct 17th 2020



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- ▶ Self-employed BI consultant in justB
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- ▶ Founder
 - Danish Microsoft BI Community (MsBIP.dk)
 - Power BI UG Denmark (PowerBI.dk)
 - Power BI Quiz show
- ▶ Strong focus on
 - Architecture
 - Analysis Services
 - Reporting Services
 - Power BI
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Microsoft
CERTIFIED
Trainer

Microsoft
CERTIFIED
IT Professional

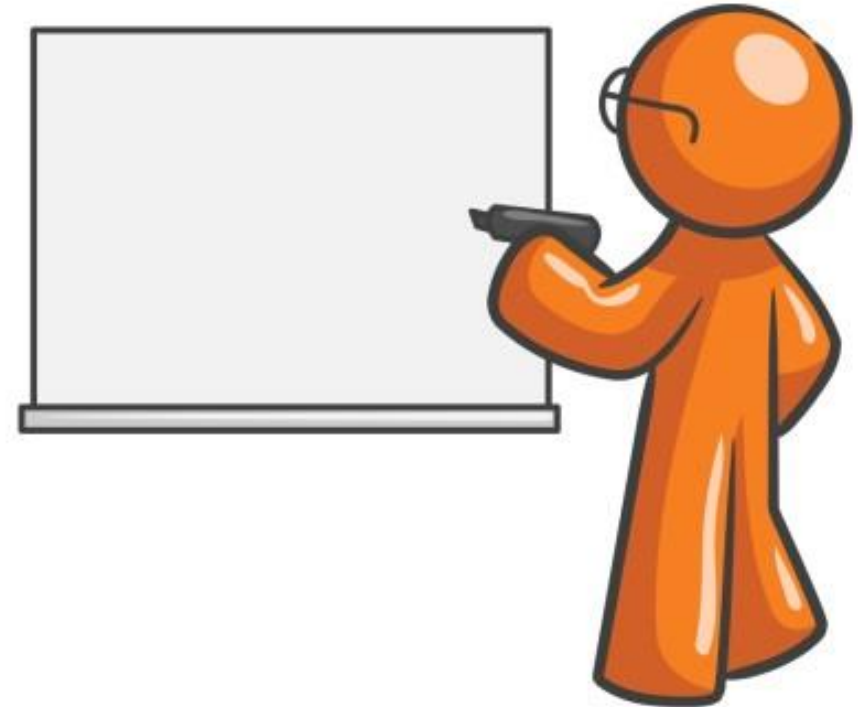
SSAS
MAESTRO
by Microsoft

MVP **Microsoft**
Most Valuable
Professional

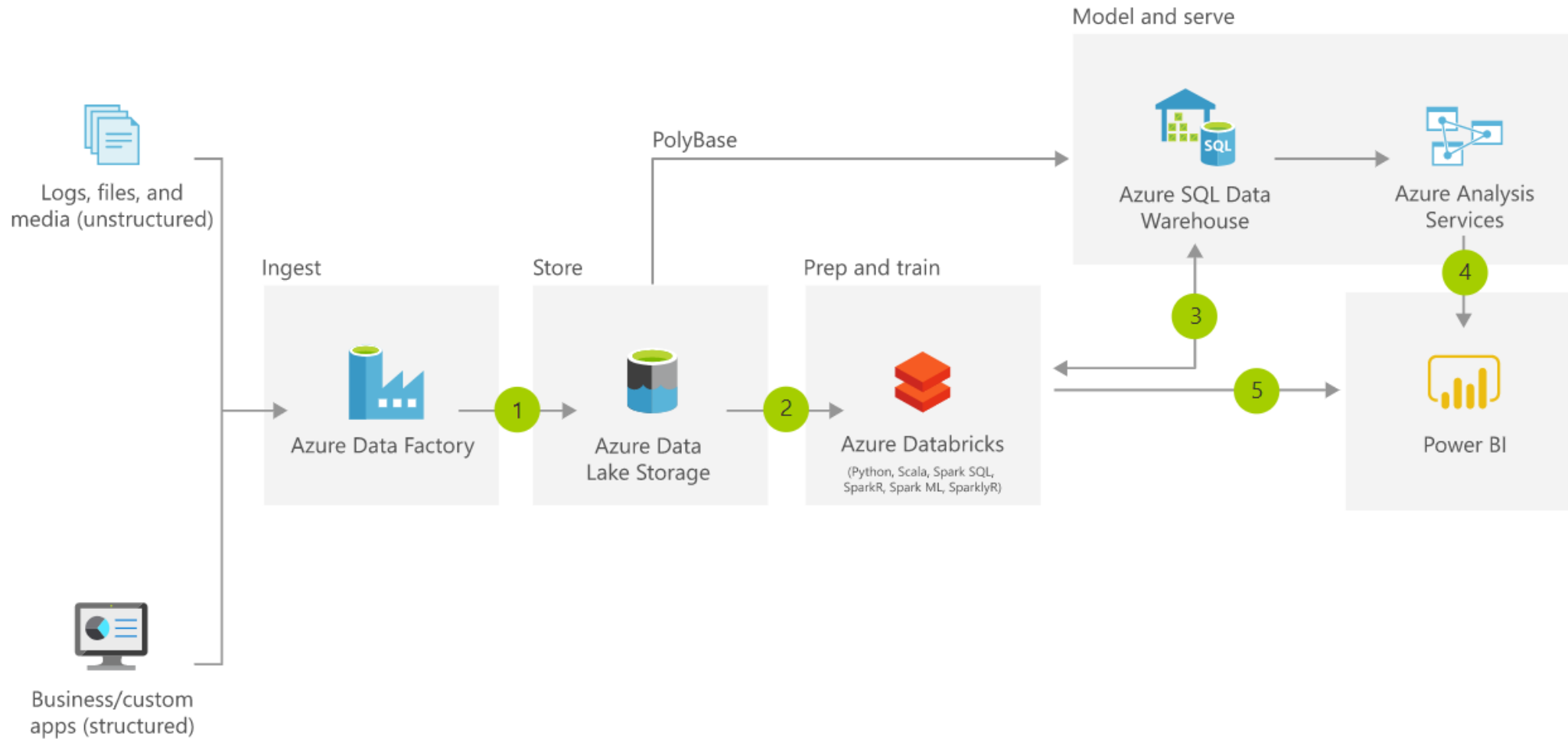
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Agenda

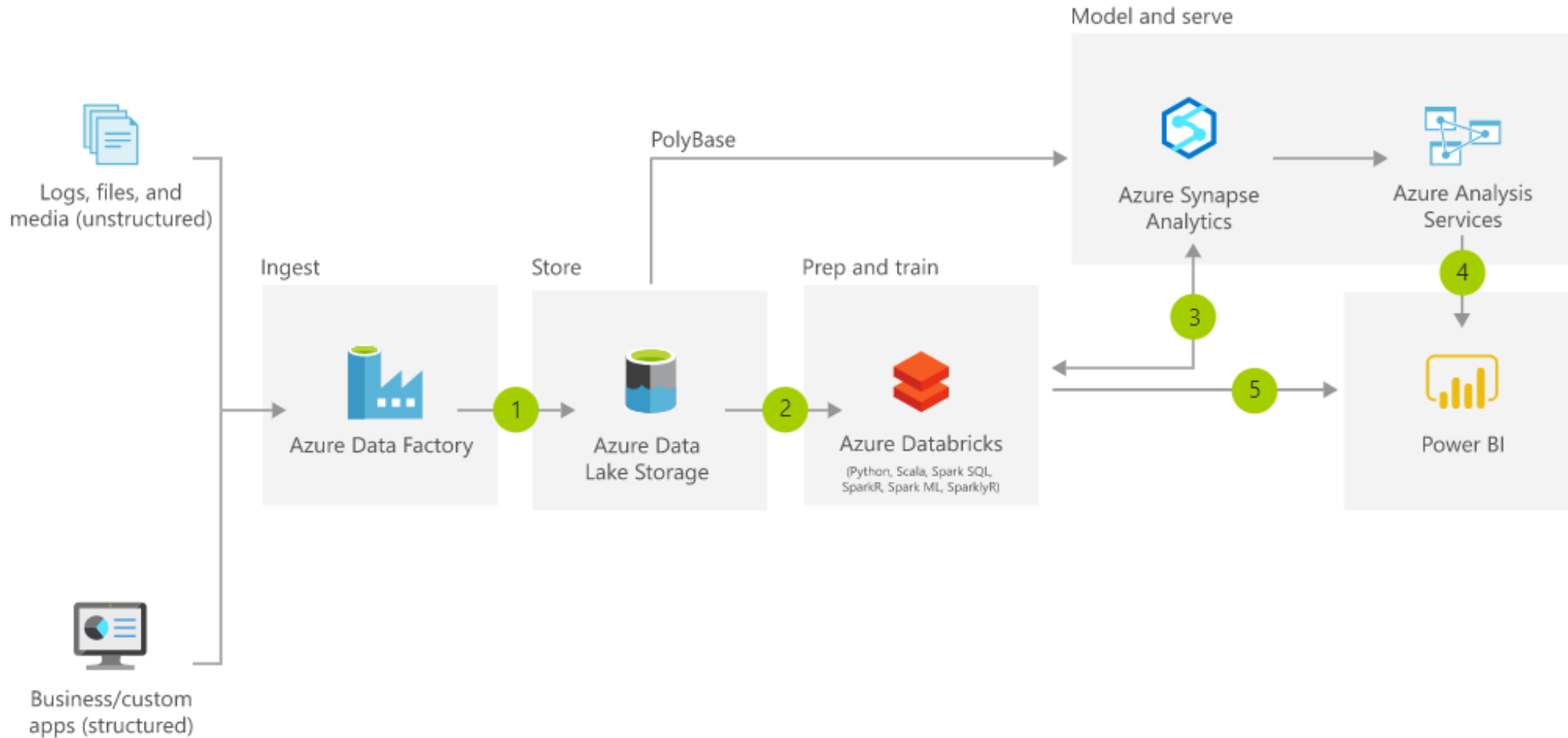
- ▶ Big data, big data, big data
 - Modern Data Warehouse
 - Synapse Analytics
- ▶ Small data – SMB market
 - ?
- ▶ Components
- ▶ Pricing estimate



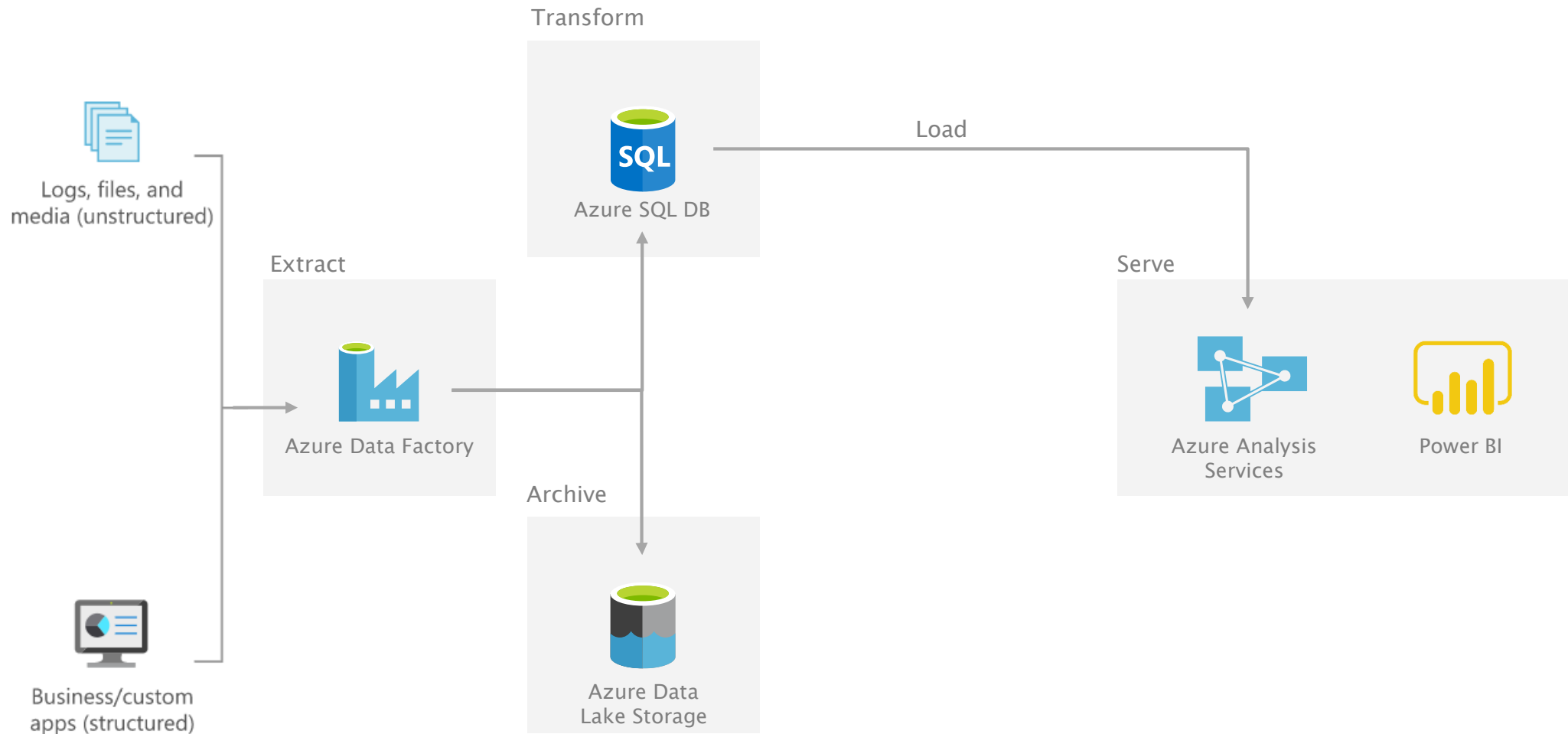
Modern Data Warehouse in Azure



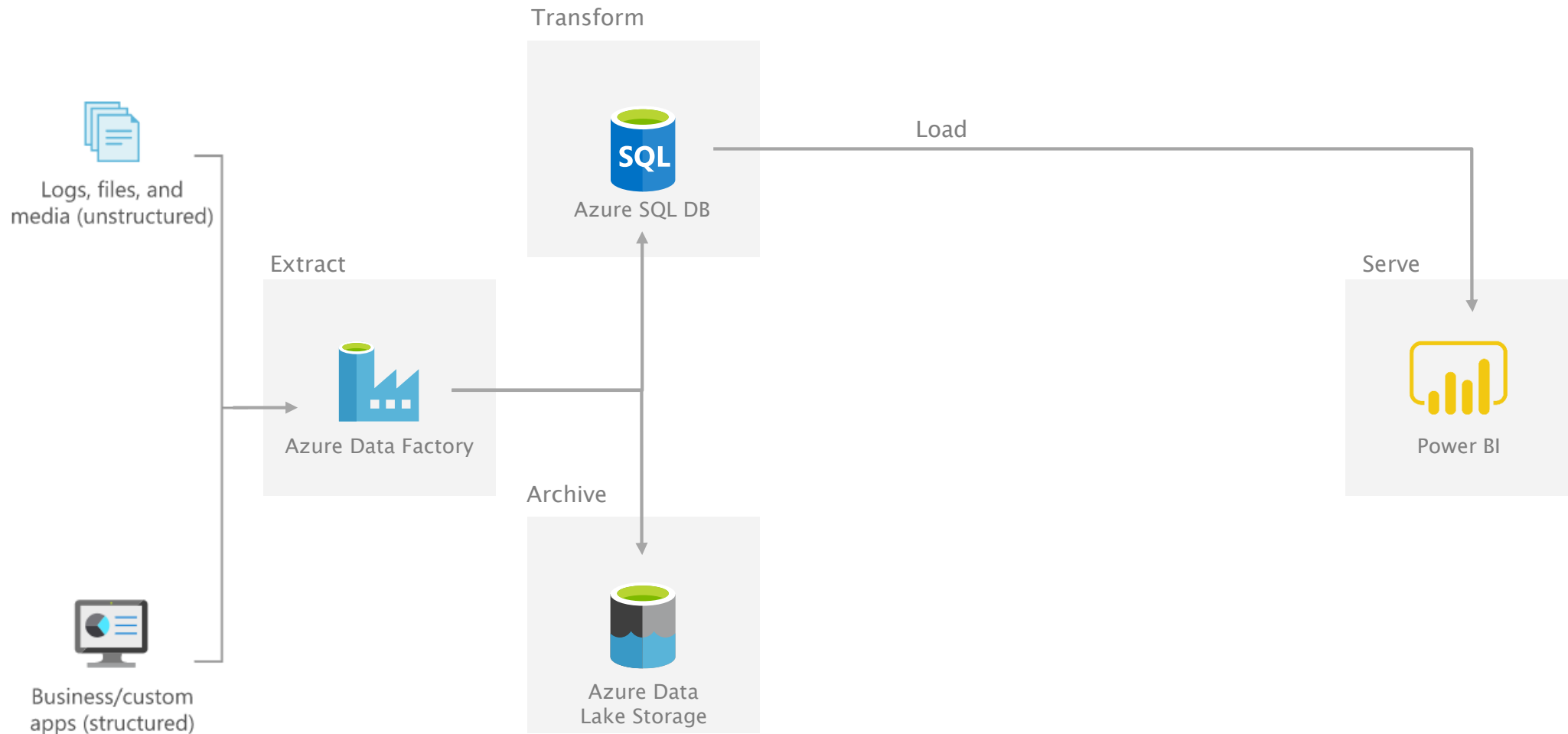
Modern Data Warehouse in Azure



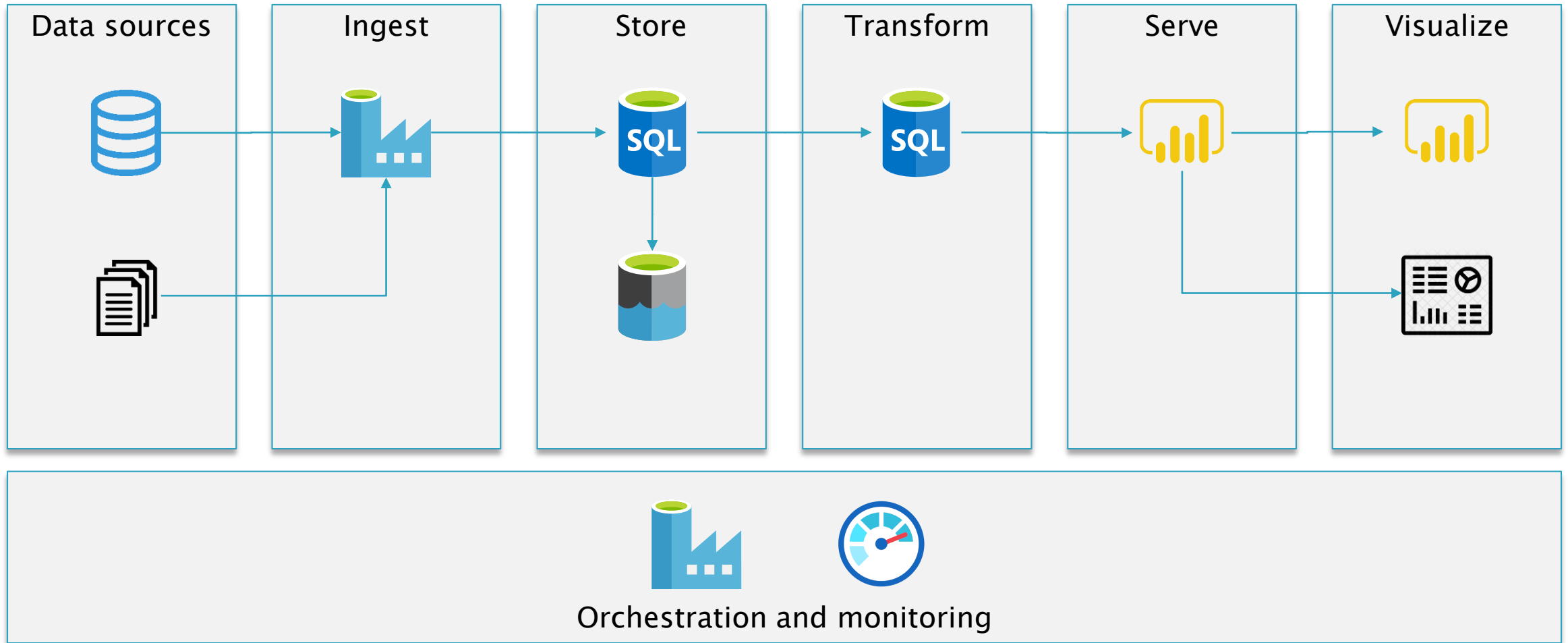
Traditional Data Warehouse in Azure



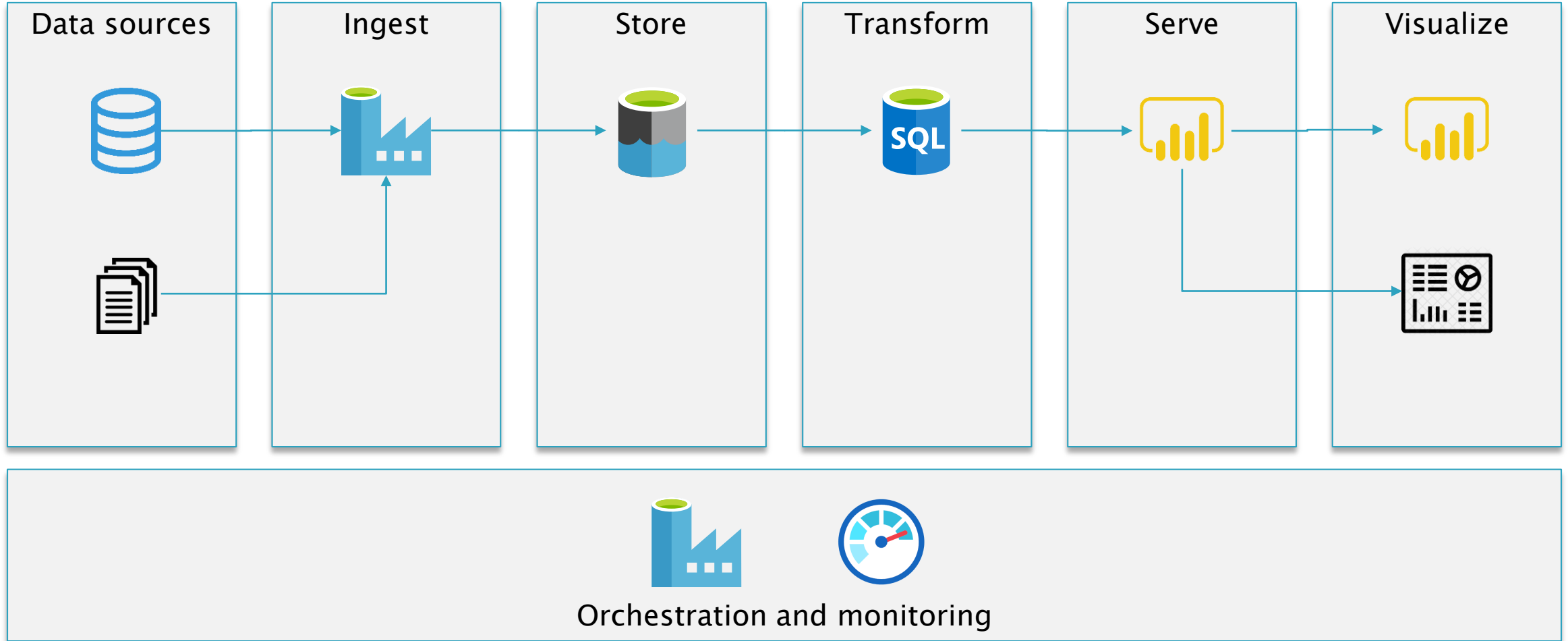
Traditional Data Warehouse in Azure



Traditional Data Warehouse in Azure

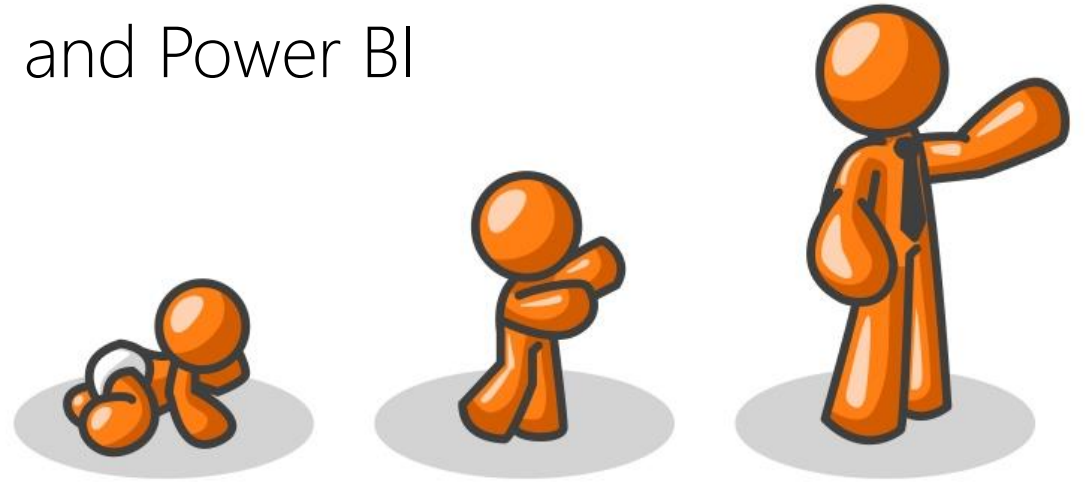


Traditional Data Warehouse in Azure

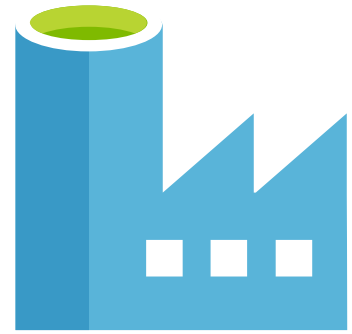


Components

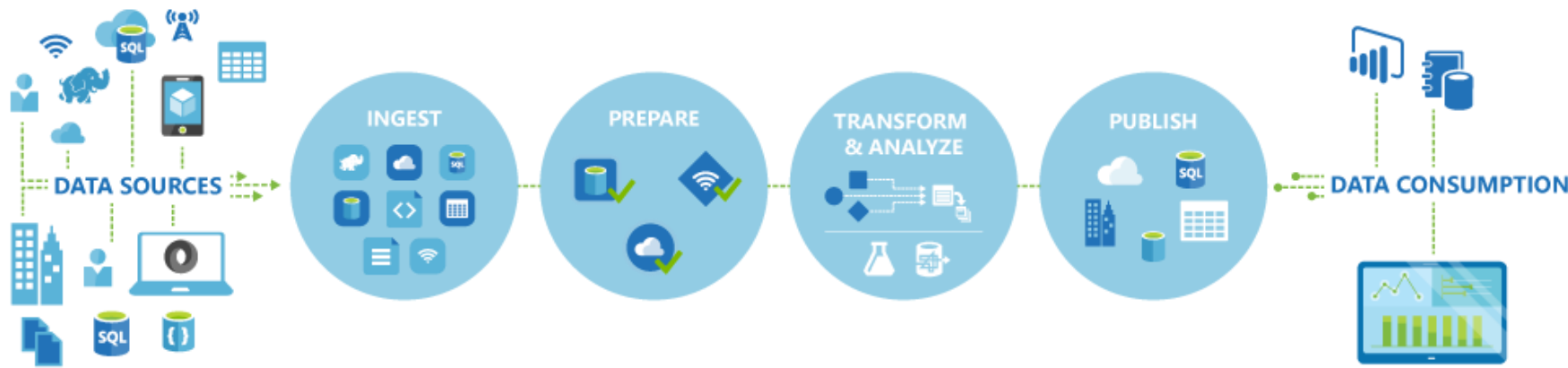
- ▶ Data Factory, Data Lake Store, SQL DB and Power BI



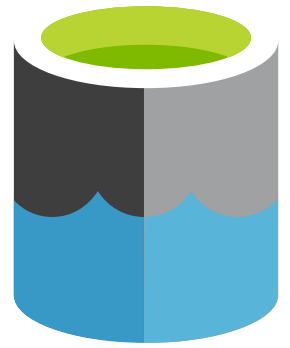
Azure Data Factory



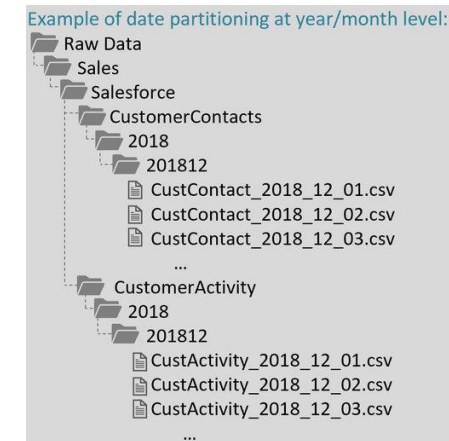
- ▶ Hybrid data integration at scale
- ▶ 80+ connectors provided to Cloud & Hybrid
- ▶ Create, plan, administer and monitor data pipelines
- ▶ Execute activities (copy, transform or orchestration)
- ▶ Parameters, control flow and triggers



Azure Data Lake Storage



- ▶ Unlimited cheap, cheap, cheap storage
- ▶ Can handle structured, semi-structured, and unstructured data
- ▶ Apache Hadoop file system compatible (HDFS)

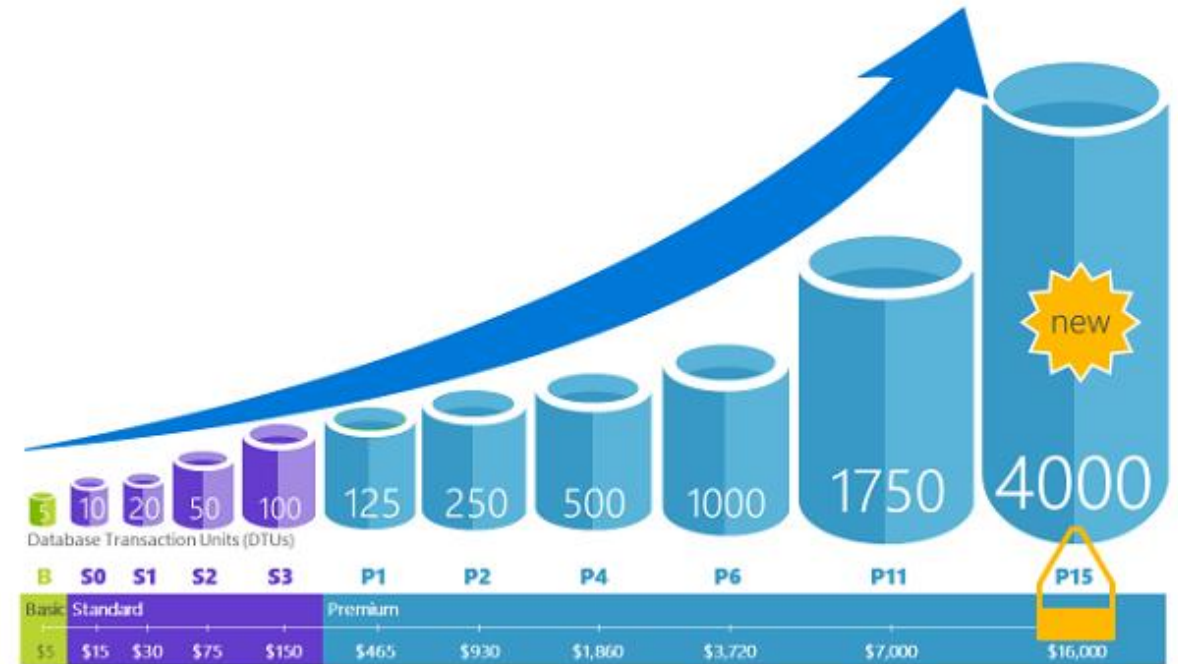
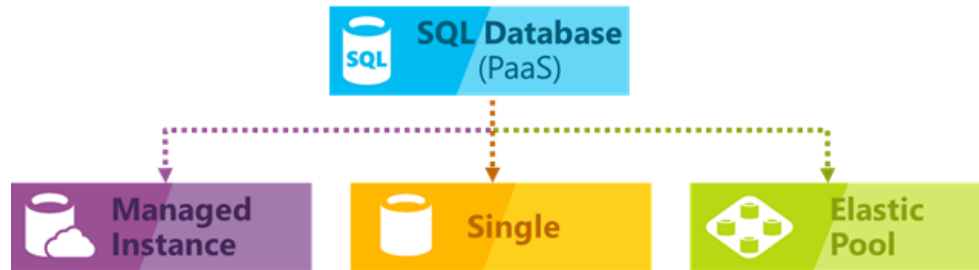


- ▶ Now we have Gen2 – combining Azure Blob Storage

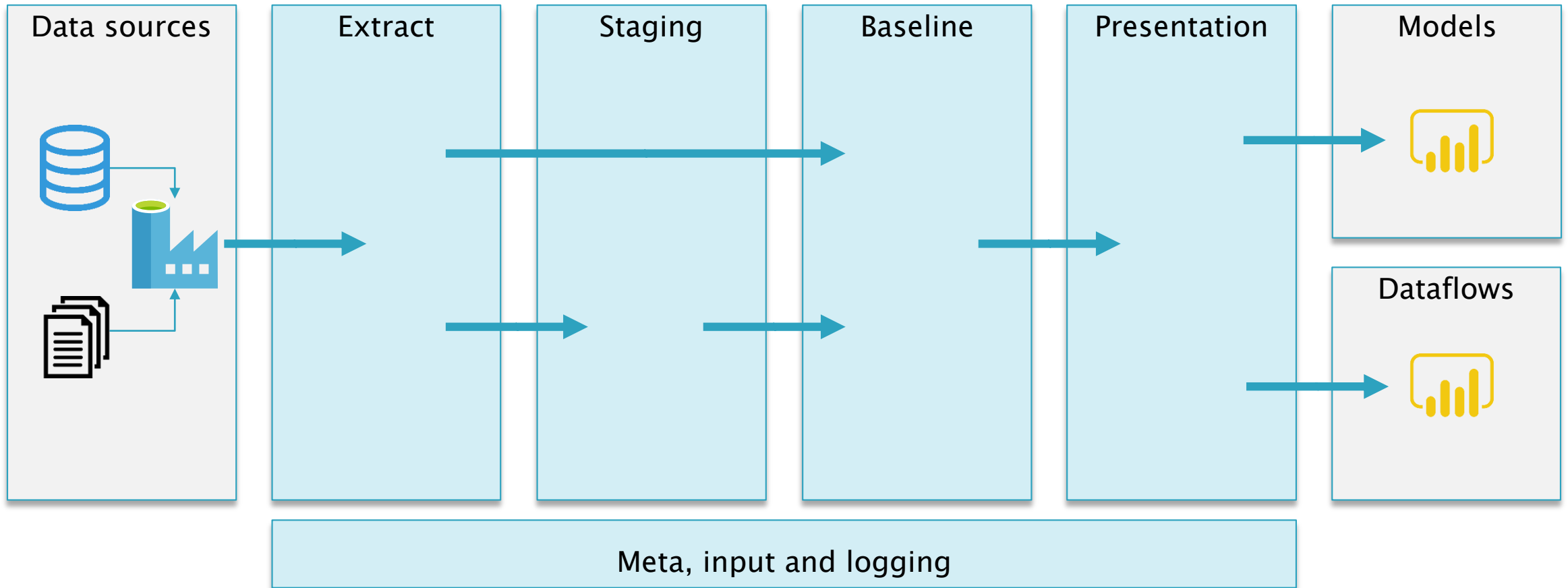
Azure SQL Database



- ▶ Relational SQL database-as-a service
- ▶ Scale to your needs
- ▶ DTU- and vCore-based models

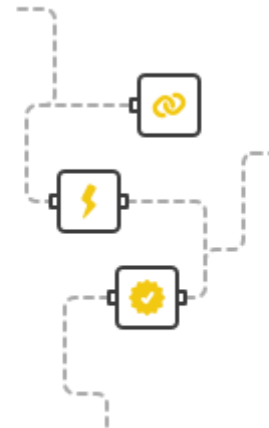
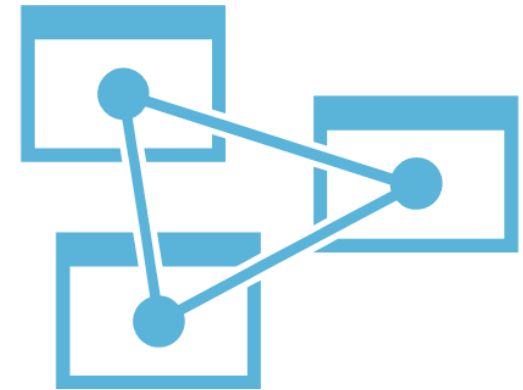


Transform "framework" in SQL DB

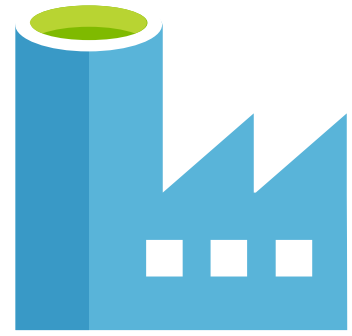


Serve with Power BI

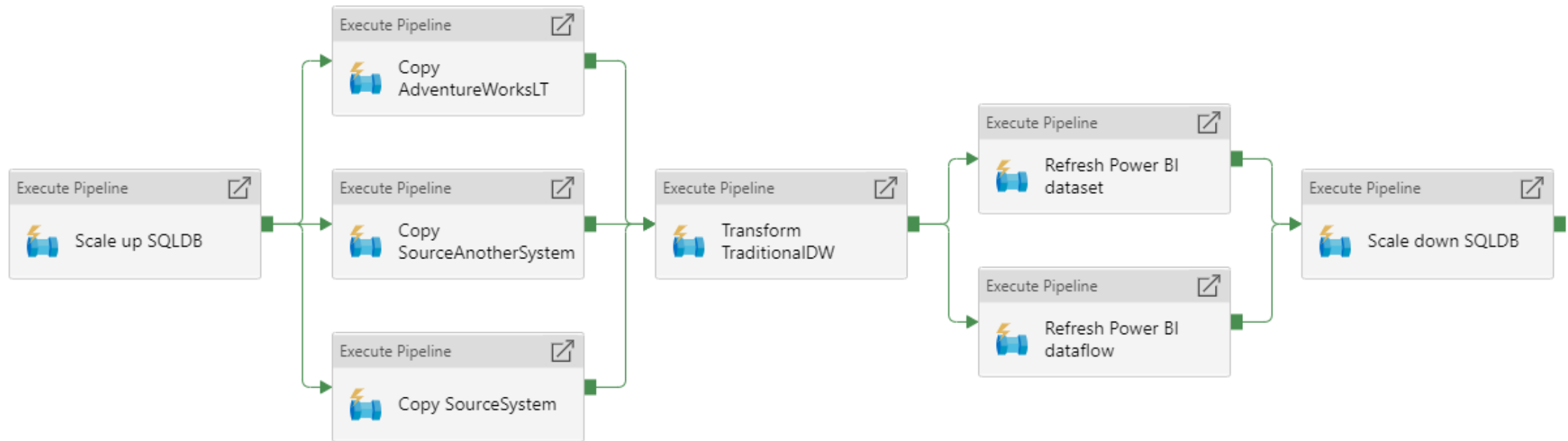
- ▶ Stunning visuals, reports and dashboards
- ▶ Analysis Services engine inside
 - XMLA endpoint to manage the Semantic models
 - Security handled with RLS
- ▶ Dataflows
 - Expose data to business analysts



Orchestration with Azure Data Factory

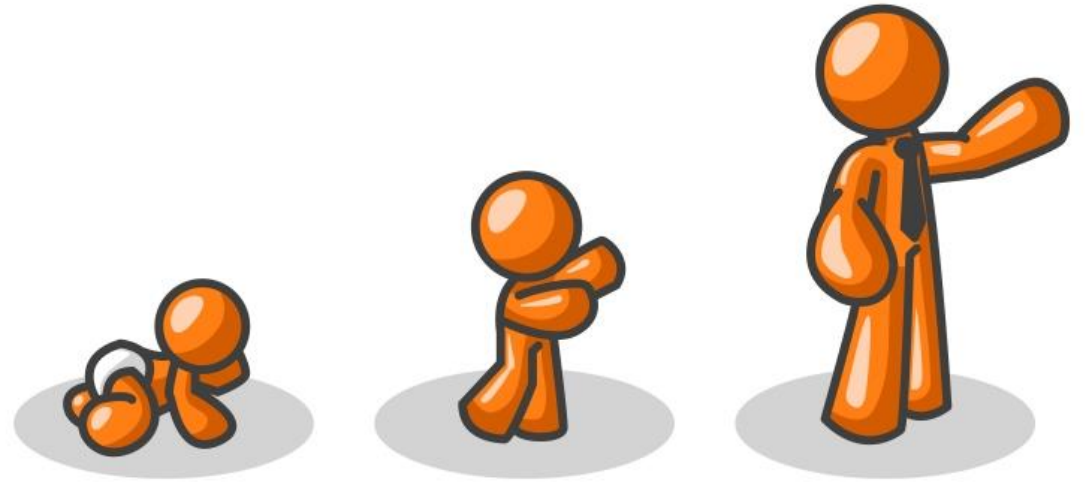


► Master Pipeline



Pricing

- ▶ Estimate

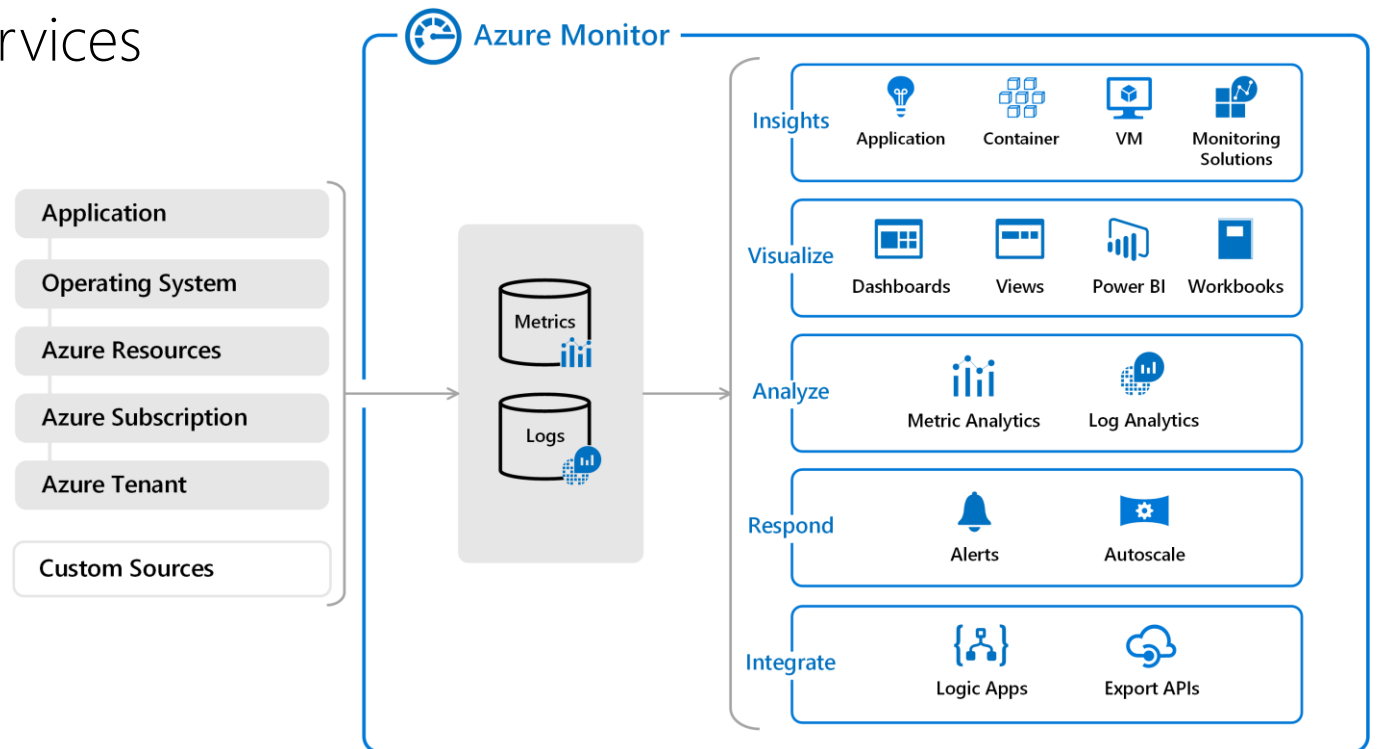


Pricing estimate - Azure pricing calculator

Service type	Description	Estimated Cost
Storage Accounts	Data Lake Storage Gen2, Standard, LRS Redundancy, Hot Access Tier, Hierarchical Namespace File Structure, 100 GB Capacity	\$ 3.71
Azure SQL Database	Single Database, DTU Purchase Model, Standard Tier, S0: 10 DTUs, 250 GB included storage per DB, 1 Database(s) x 640 Hours	\$ 12.90
Azure SQL Database	Single Database, DTU Purchase Model, Standard Tier, S6: 400 DTUs, 250 GB included storage per DB, 1 Database(s) x 90 Hours	\$ 72.59
Data Factory	Azure Data Factory V2 Type, Data Pipeline Service Type, Azure Integration Runtime: 1 Activity Run(s), 30 Data movement unit(s), 90 Pipeline activities	\$ 9.72
Power BI Embedded	Power BI Embedded, Node type: A1, 10 Hours	\$ 10.08
Azure Monitor		\$ 1.60
	Monthly Total	\$ 110.60

Monitoring

- ▶ Custom logging in SQL Database
 - Pipeline and Task level
- ▶ Azure Monitor
 - Gather diagnostic from Azure Services
 - Analyze with Log Analytics
 - Setup alerts
 - Export with Power Query



Questions



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Usefull ressources

- ▶ Modern Data Warehouse reference: <https://azure.microsoft.com/solutions/architecture/modern-data-warehouse/>
- ▶ Pricing estimate: <https://azure.com/e/7787ad5038584b12b62292abf51352ec>
- ▶ Code on GitHub : <https://github.com/justBlindbaek/TraditionalModernDW>

