

Traditional Modern Data Warehouse



ORANGEMAN

Just Thorning Blindbæk

- ▶ Self-employed BI consultant in justB
- ▶ Trainer at Orange Man
- ▶ Founder
 - Danish Microsoft BI Community ([MsBIP.dk](https://msbip.dk))
 - Power BI UG Denmark ([PowerBI.dk](https://powerbi.dk))
- ▶ Strong focus on
 - Azure BI architecture
 - Analysis Services
 - Reporting Services
 - Power BI
- ▶ just@blindbaek.dk / blog.justB.dk / [@justblindbaek](https://twitter.com/justblindbaek) / youtube.com/c/justblindbaek



Microsoft
CERTIFIED
Trainer

Microsoft
CERTIFIED
IT Professional

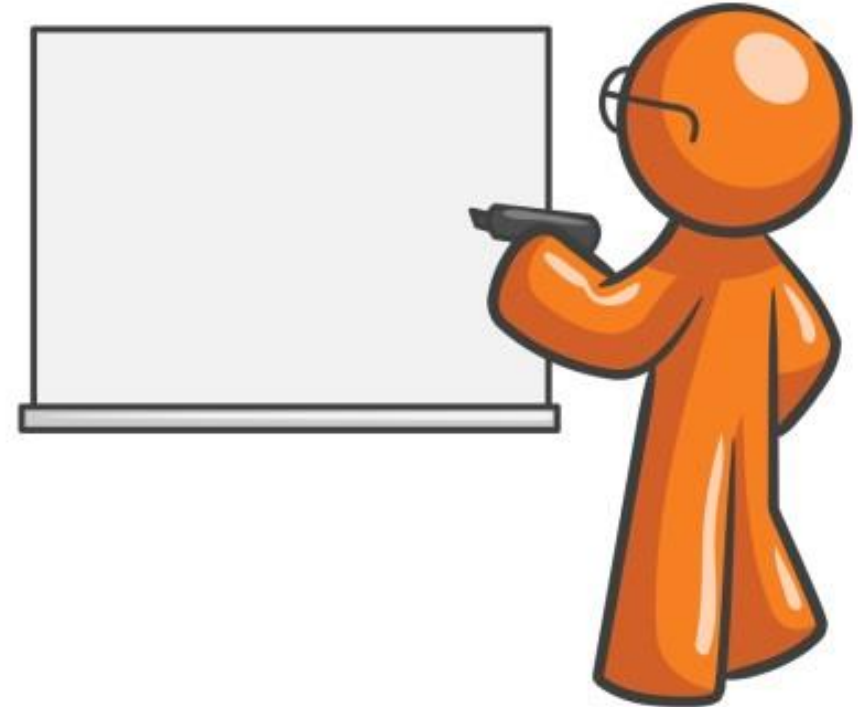
SSAS
MAESTRO
by Microsoft

MVP **Microsoft**
Most Valuable
Professional

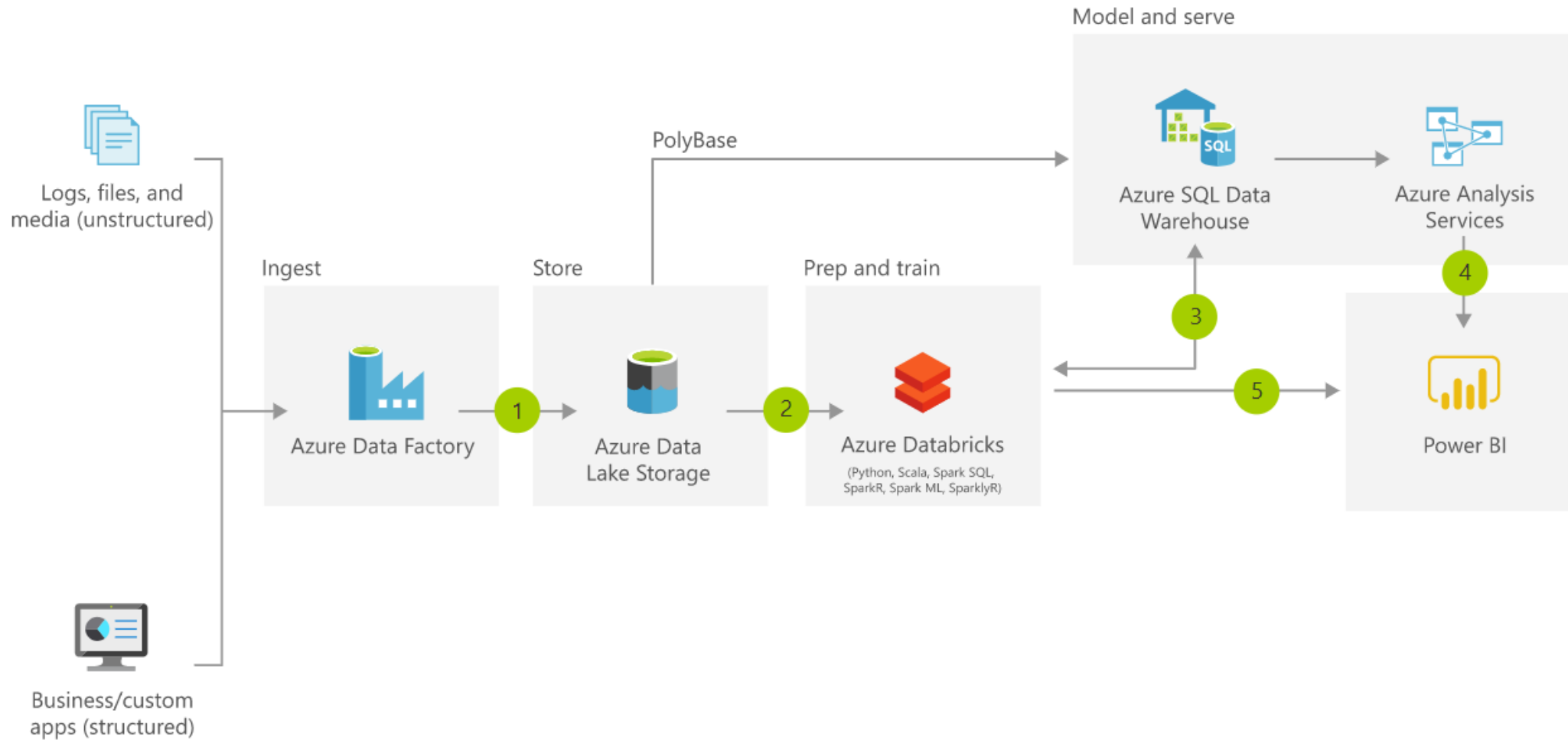
ORANGEMAN

Agenda

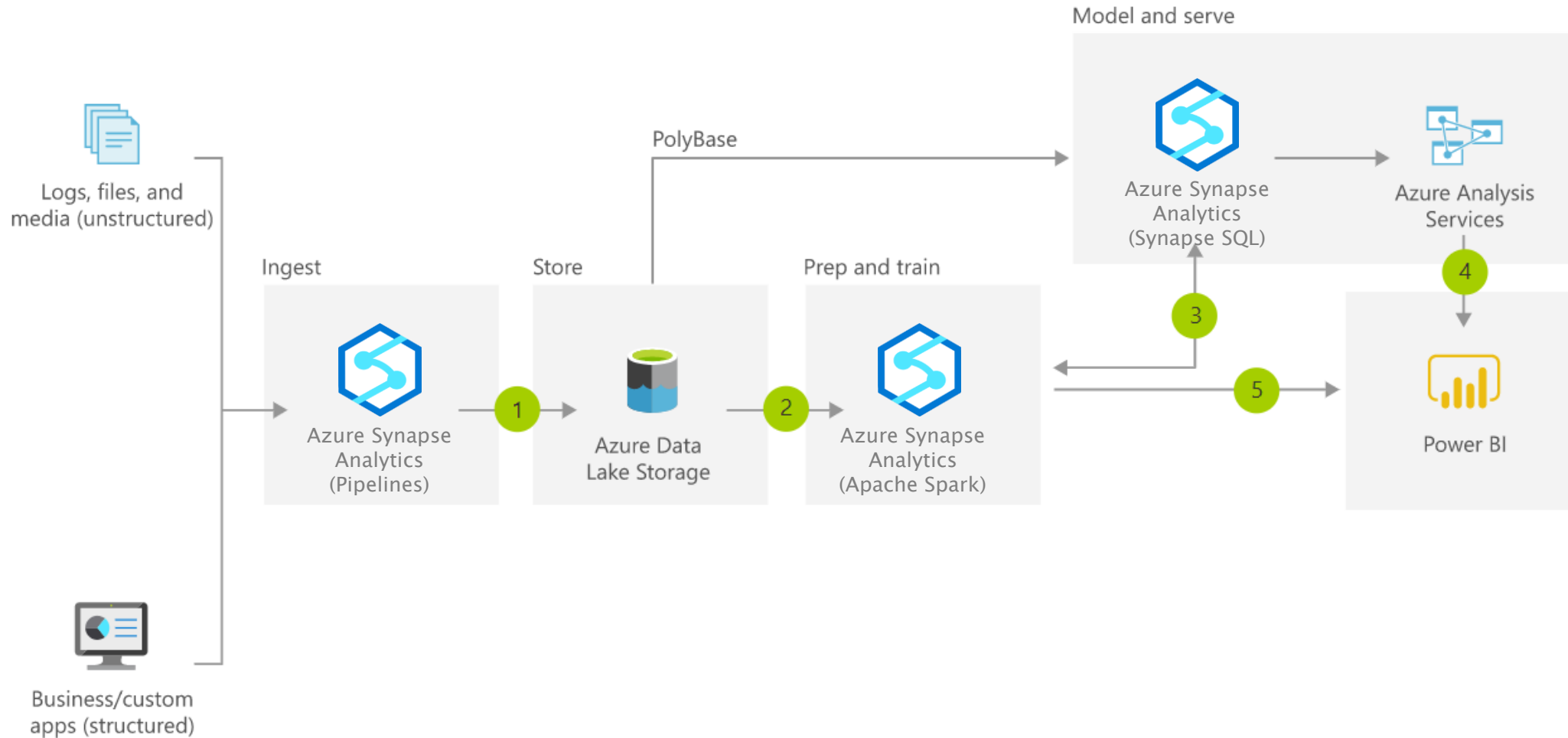
- ▶ Big data, big data, big data
 - Modern Data Warehouse
 - Synapse Analytics
- ▶ Small data – SMB market
 - ?
- ▶ Components
- ▶ Pricing estimate



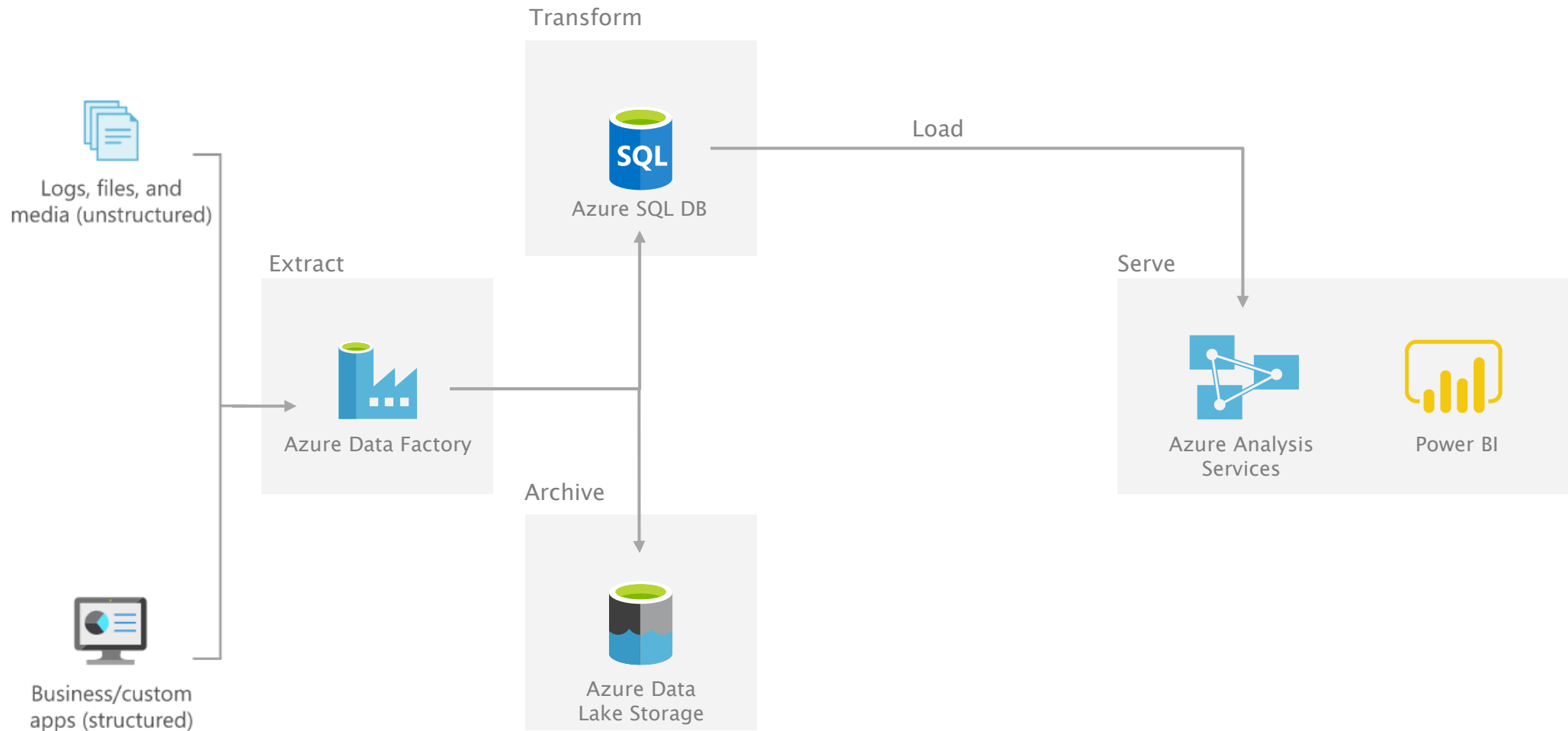
Modern Data Warehouse in Azure



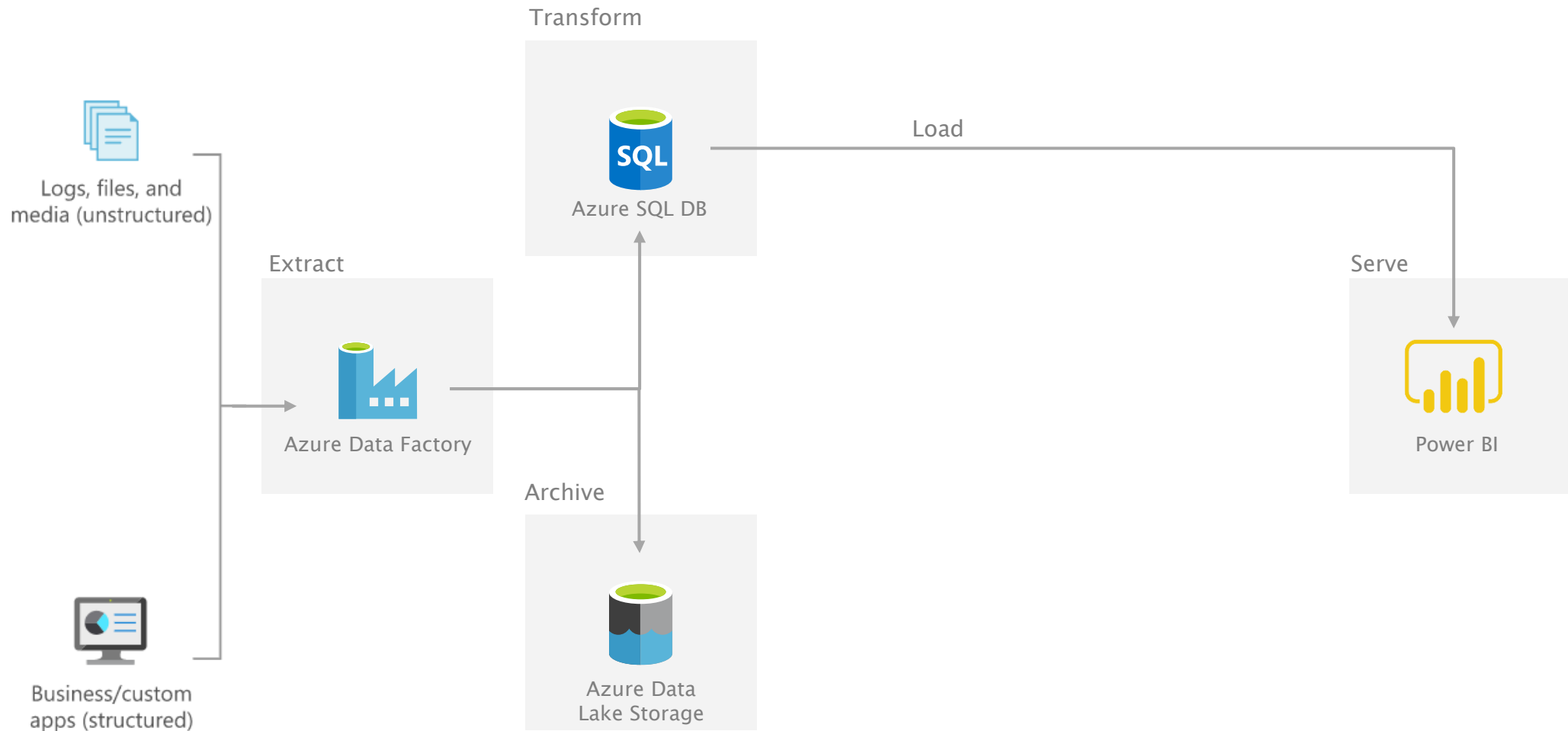
Enterprise Data Warehouse in Azure



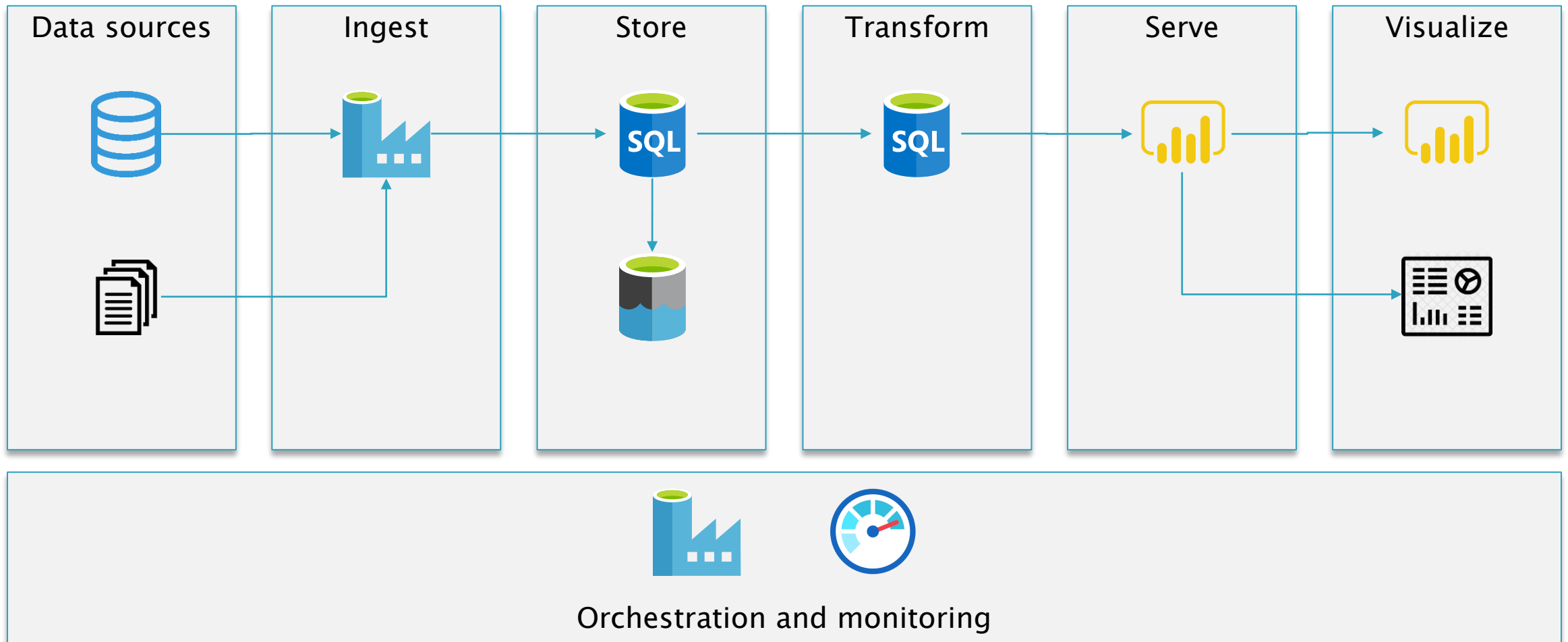
Traditional Data Warehouse in Azure



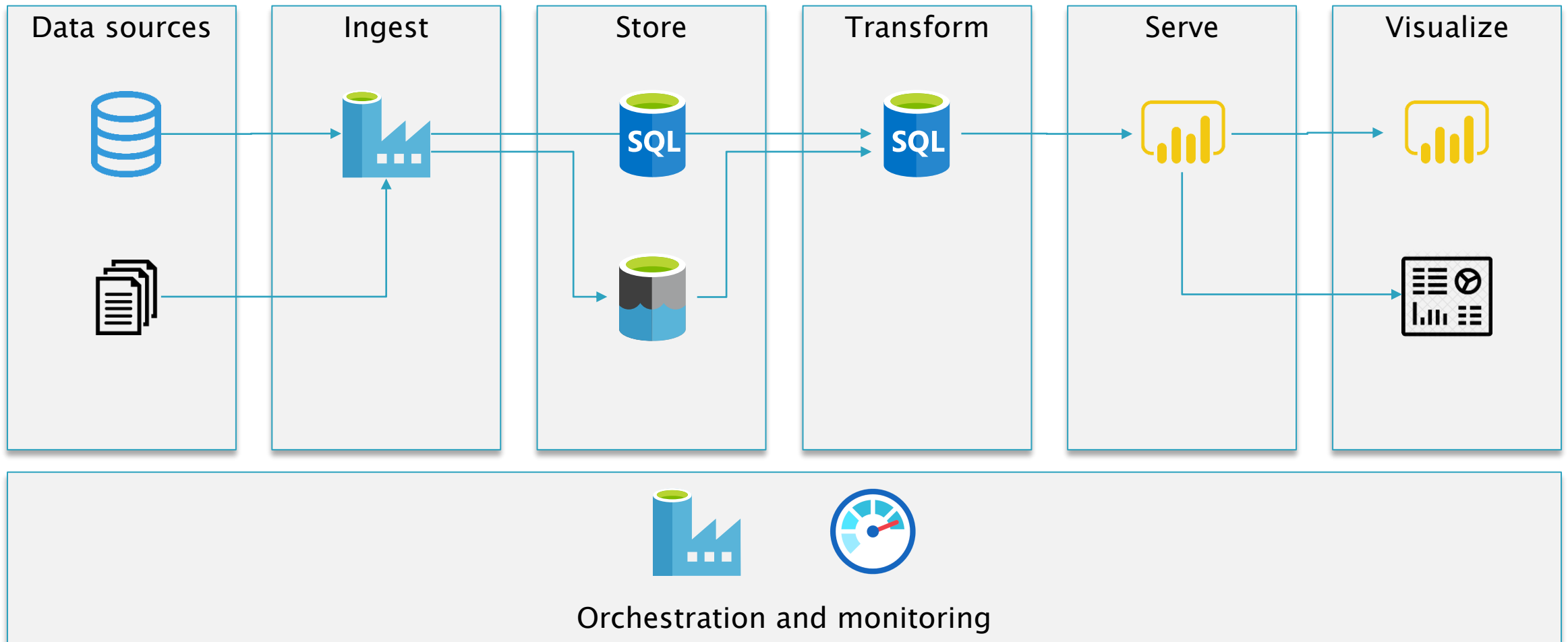
Traditional Data Warehouse in Azure



Traditional Data Warehouse in Azure

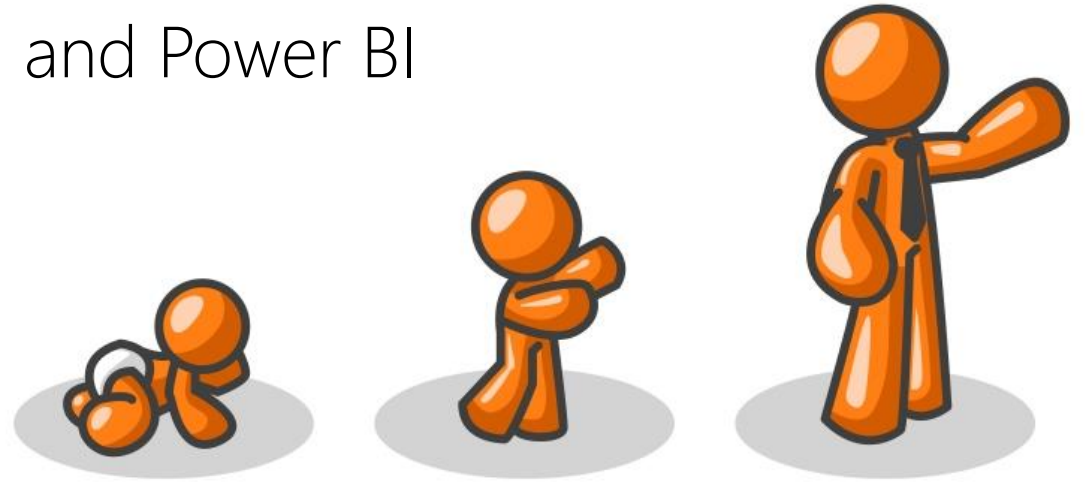


Traditional Data Warehouse in Azure

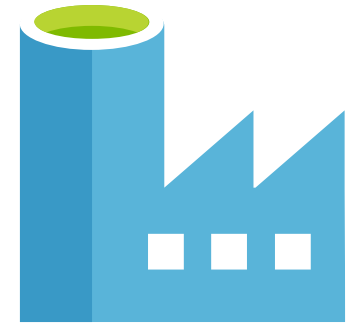


Components

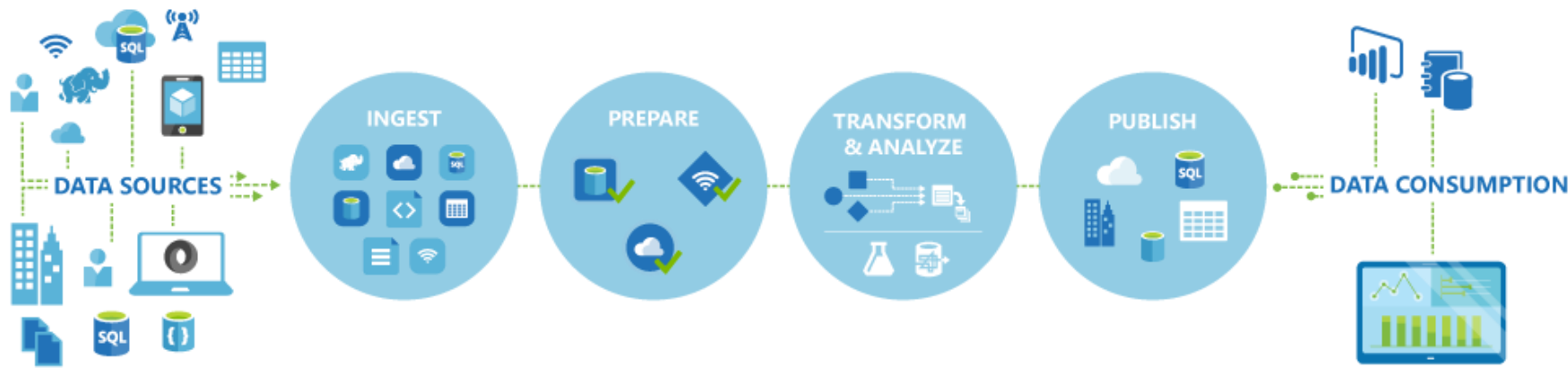
- ▶ Data Factory, Data Lake Store, SQL DB and Power BI



Azure Data Factory



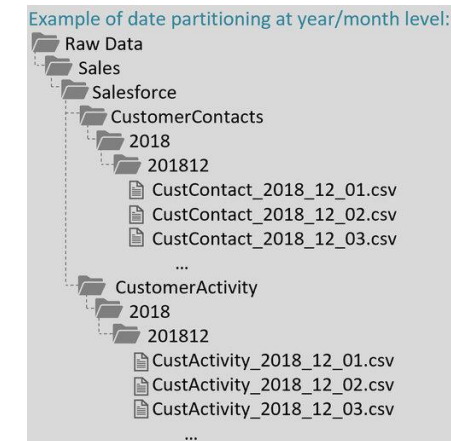
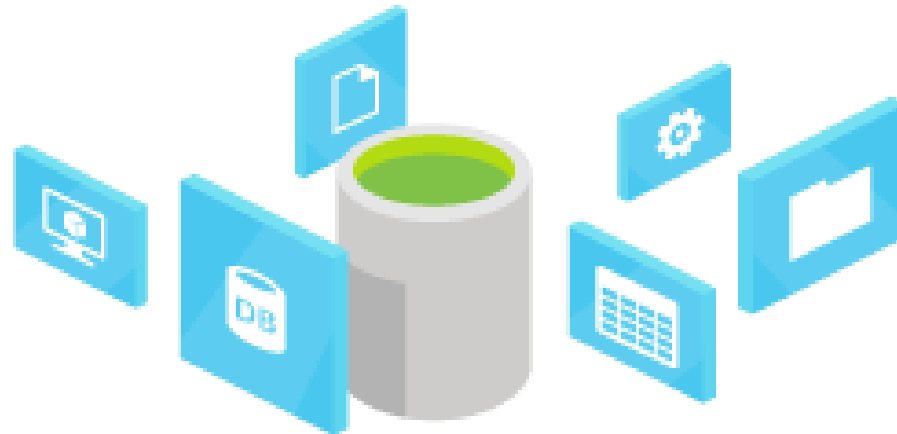
- ▶ Hybrid data integration at scale
- ▶ 80+ connectors provided to Cloud & Hybrid
- ▶ Create, plan, administer and monitor data pipelines
- ▶ Execute activities (copy, transform or orchestration)
- ▶ Parameters, control flow and triggers



Azure Data Lake Store



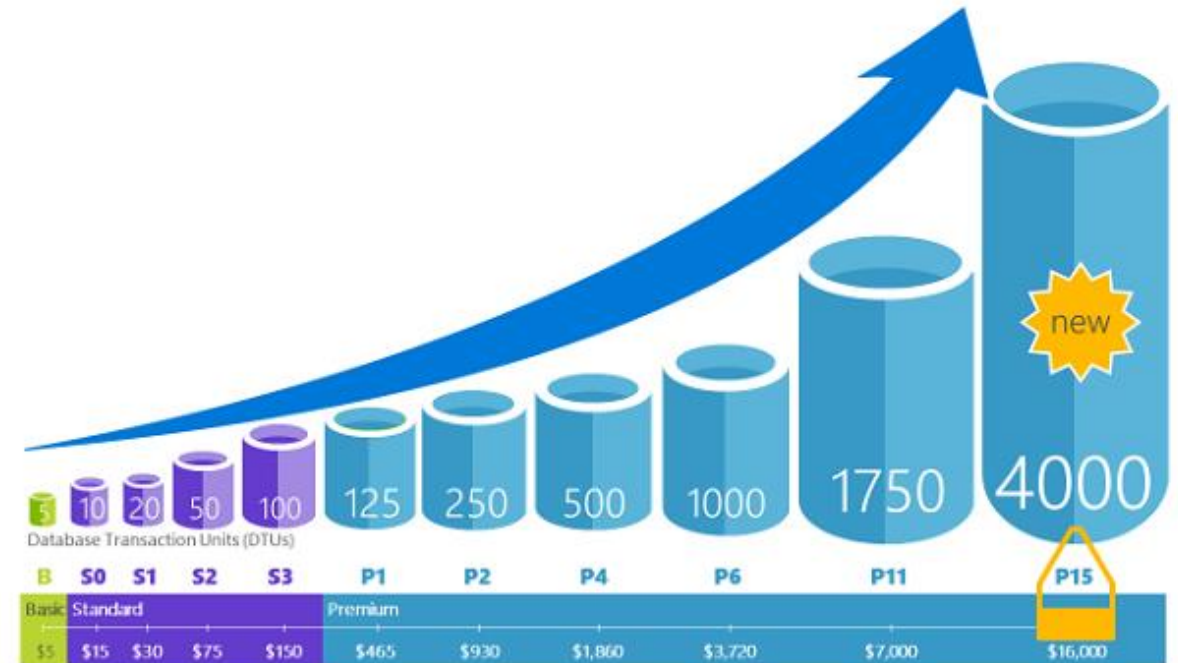
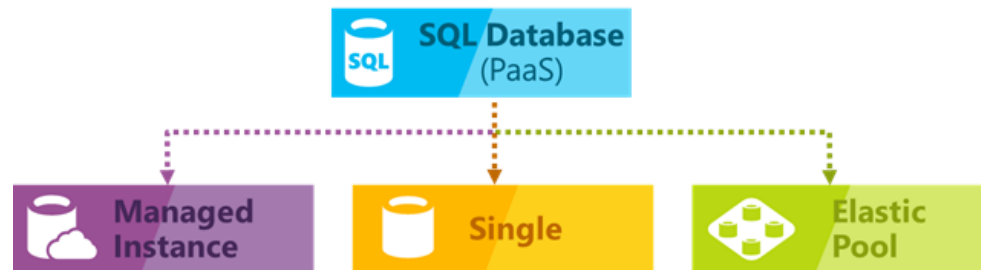
- ▶ Unlimited cheap, cheap, cheap storage
- ▶ Can handle structured, semi-structured, and unstructured data
- ▶ Apache Hadoop file system compatible (HDFS)



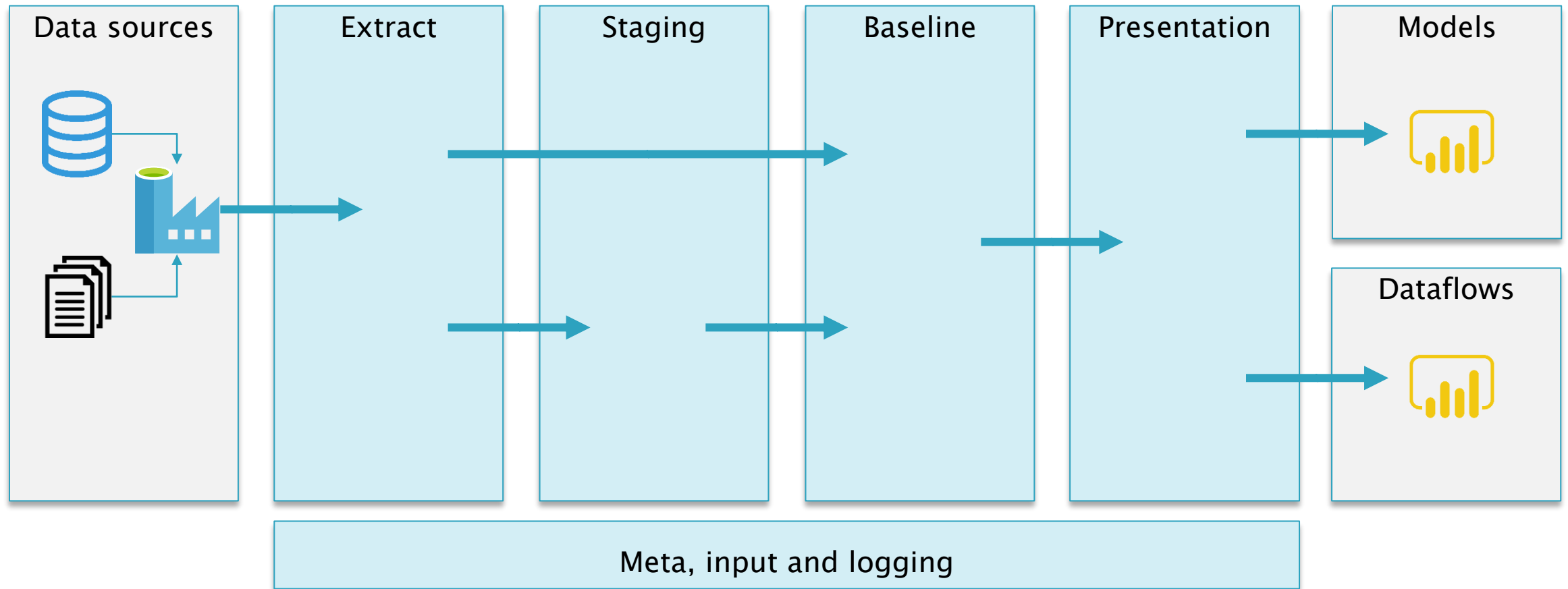
- ▶ Now we have Gen2 – combining Azure Blob Storage

Azure SQL Database

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



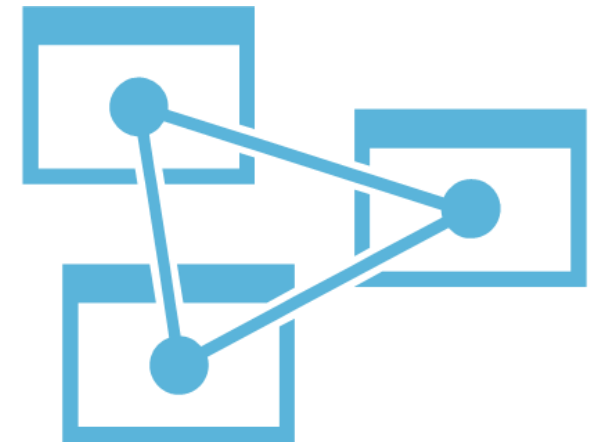
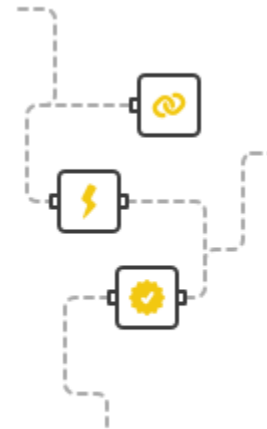
Transform "framework" in SQL DB



Power BI

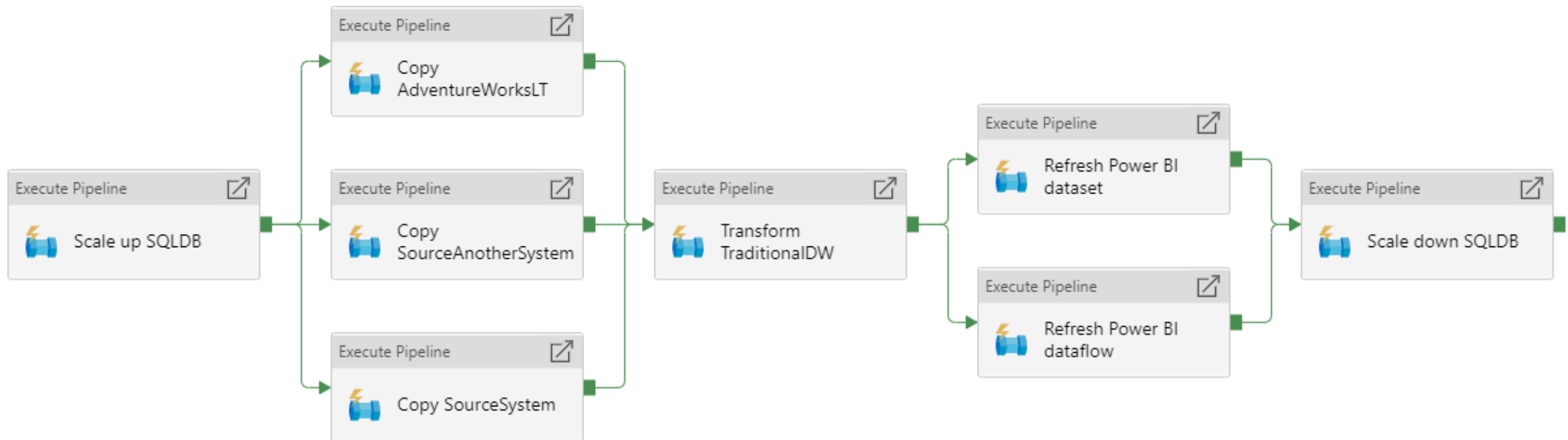
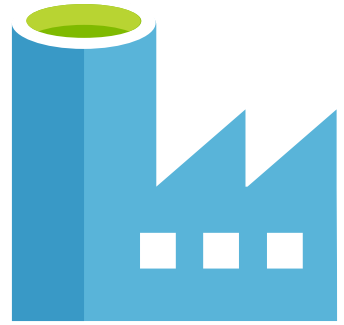


- ▶ Stunning visuals, reports and dashboards
- ▶ Analysis Services engine inside
 - Security handled with RLS
 - XMLA endpoint to manage the Semantic models
- ▶ Dataflows
 - Expose data to business analysts



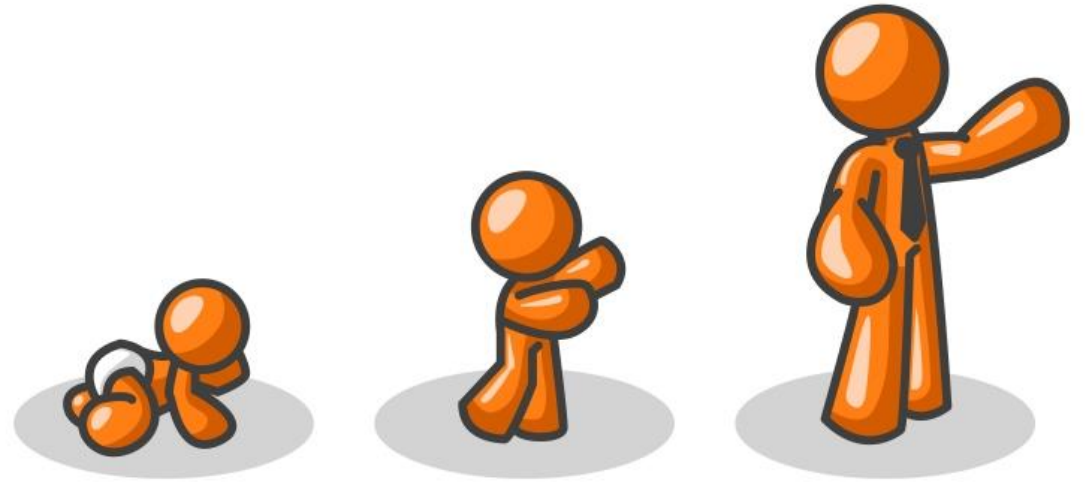
Orchestration

- ▶ Master Pipeline in Azure Data Factory



Pricing

- ▶ Estimate



ORANGEMAN

Pricing estimate

Service type	Description	Estimated Cost
Storage Account	Data Lake Storage Gen2, Standard, LRS Redundancy, Hot Access Tier, Hierarchical Namespace File Structure, 100 GB Capacity	kr. 23,33
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, 5 GB Retention	kr. 81,21
Azure SQL Database	Single Database, DTU Purchase Model, Standard Tier, S4: 200 DTUs, 250 GB included storage per DB, 1 Database(s) x 90 Hours, 5 GB Retention	kr. 228,40
Azure Data Factory	Azure Data Factory V2 Type, Data Pipeline Service Type, Azure Integration Runtime: 1 Activity Run(s), 120 Data movement unit(s), 120 Pipeline activities	kr. 203,78
Power BI Capacity	Power BI Embedded, Node type: A1, 3GB RAM, 10 Hours	kr. 63,44
Azure Monitor	Log analytics:	kr. 3,78
	Monthly Total	kr. 603,95
	Annual Total	kr. 7.247,40

Questions

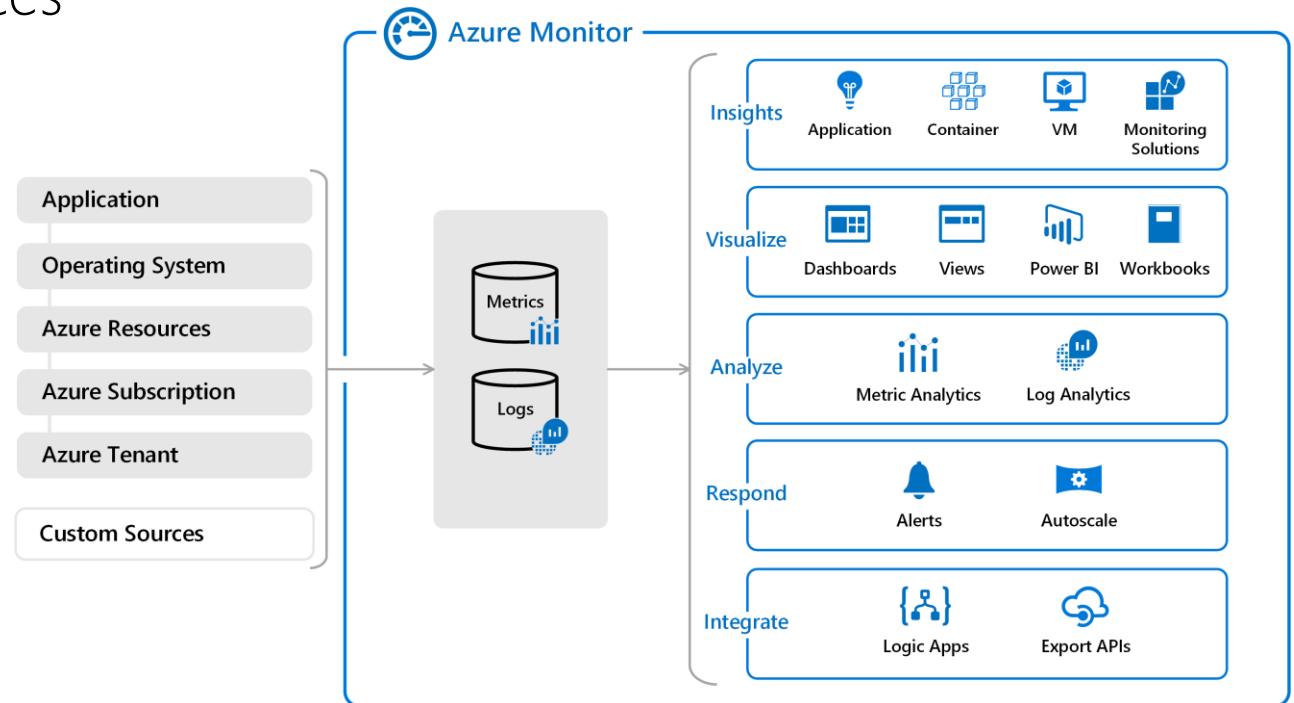


ORANGEMAN

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



Usefull ressources

- ▶ Enterprise Data Warehouse: [https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/enterprise-data-](https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/enterprise-data-warehouse)
- ▶ Pricing estimate:
<https://azure.com/e/9d56929b959546b384594e1074a1f506>
- ▶ Code on GitHub :
<https://github.com/justBlindbaek/TraditionalModernDW>

