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Microsoft

FastTrack Recognized
Solution Architect
Power BI
2022 >>



Microsoft

Certified Trainer
Data Platform

2018 >>

Synapse Serverless vs Fabric



Serverless

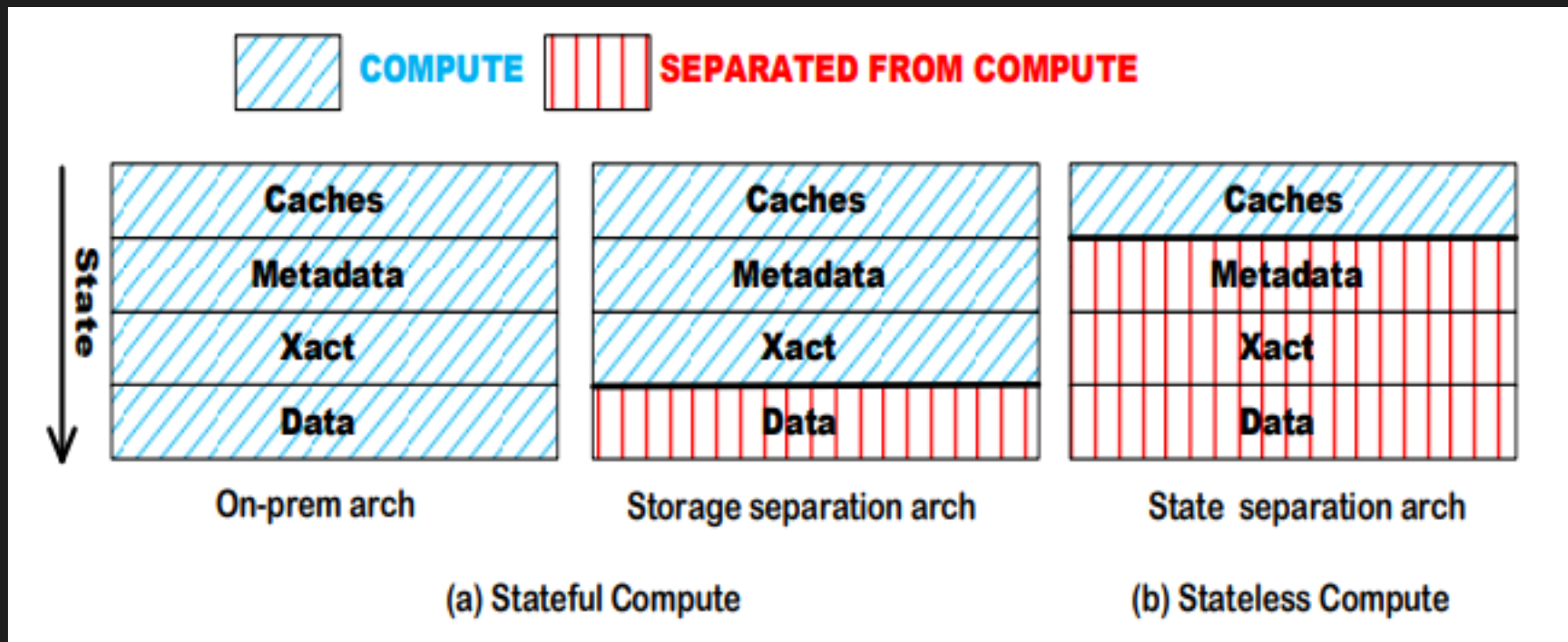


Warehouse



Polaris

Stateless compute



Synapse and Fabric

Polaris

Data abstraction



Data

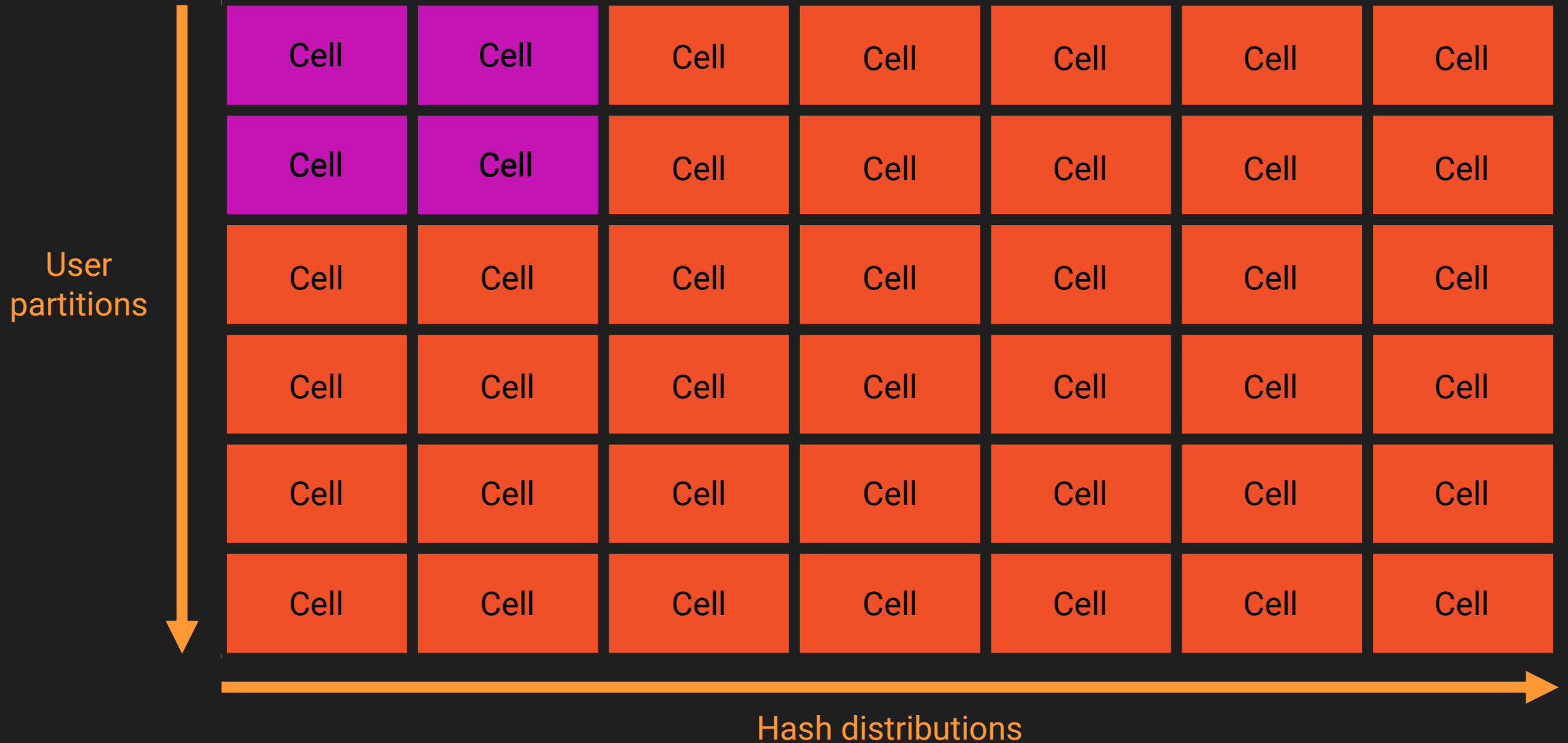
Polaris

Data abstraction

User
partitions



Data abstraction



Polaris

Data abstraction

Cell

Cell

Cell

Cell

Polaris

Data abstraction

Distributed query processing



Data set
(collection of data cells)

Cell

Cell

Cell

Cell



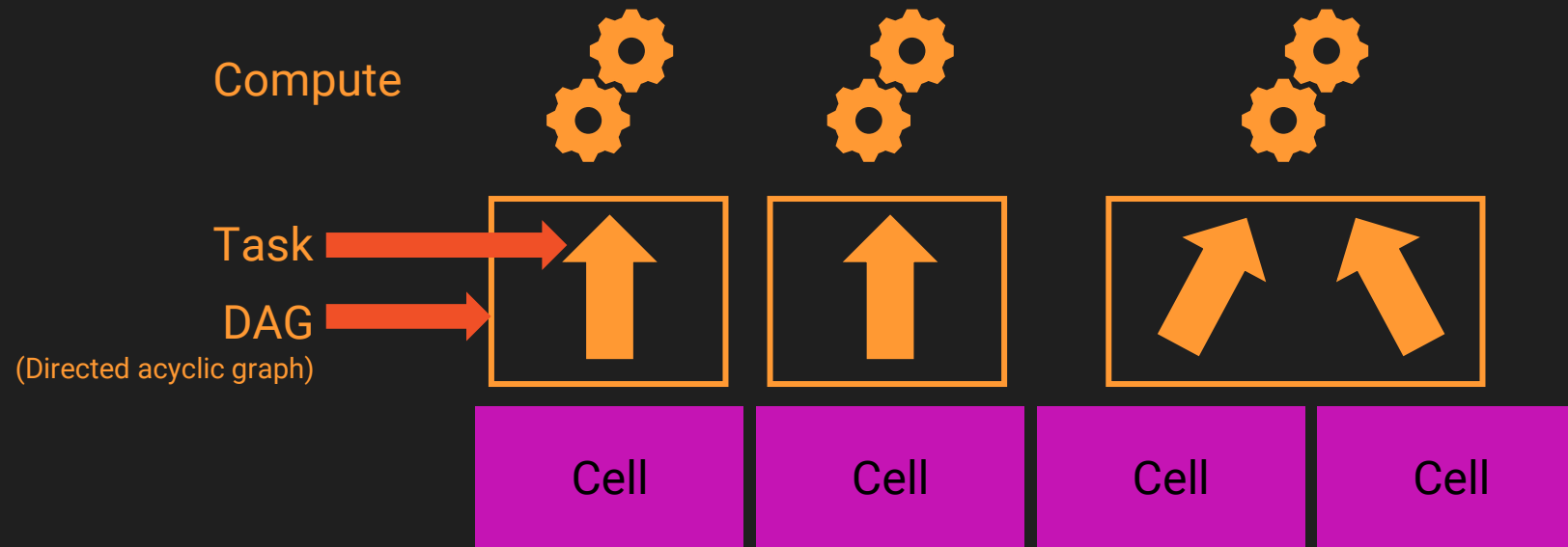
Storage

ADLS

Cosmos DB

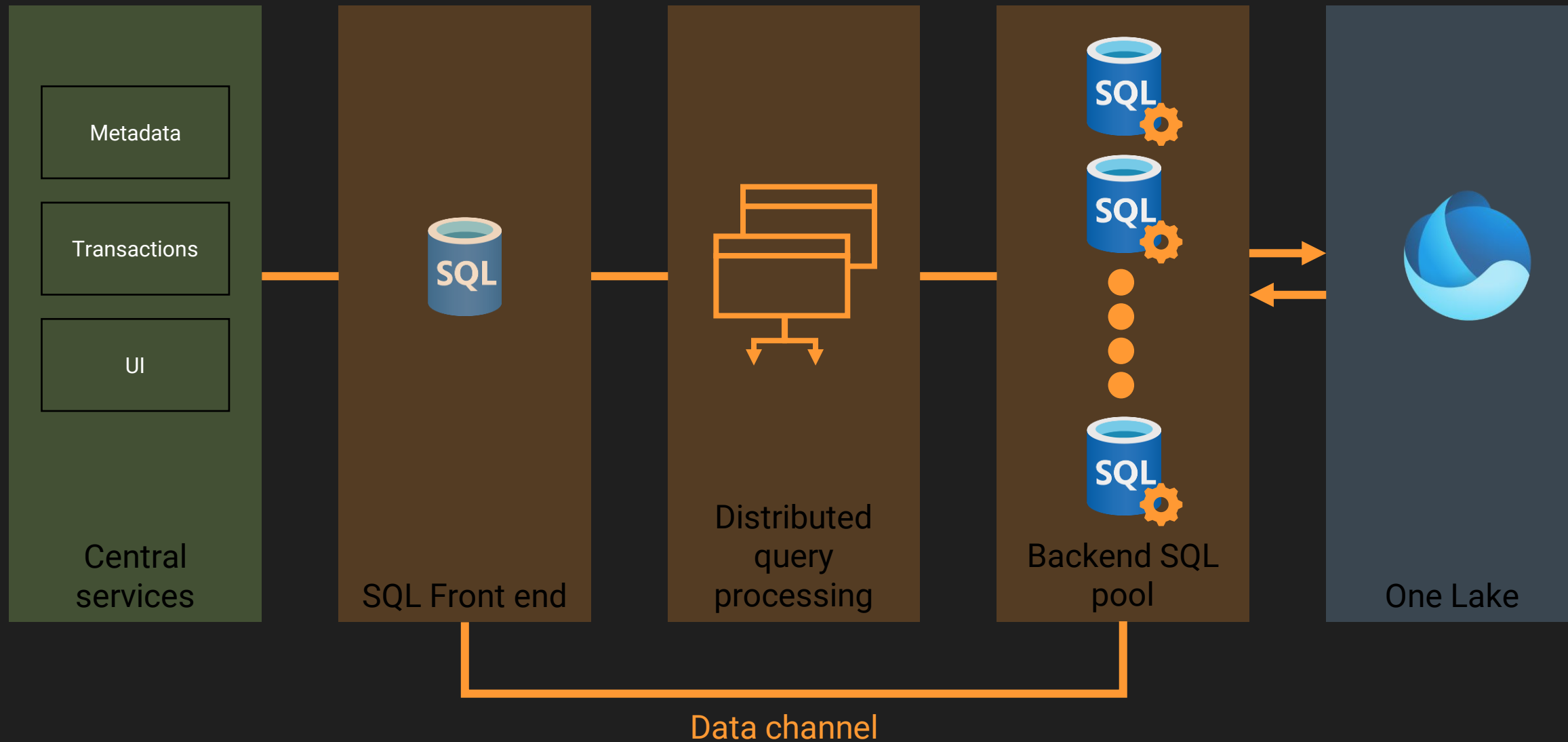
Polaris

Query processing and compute



Polaris

Service architecture



Polaris

Read more here

Whitepaper on Polairs:

<https://www.vldb.org/pvldb/vol13/p3204-saborit.pdf>

Broken down to a blogpost:

<https://www.linkedin.com/pulse/microsoft-fabric-data-warehouse-polaris-engine-tiago-balabuch/>

Serverless



Warehouse



Compute engine

Polaris distributed SQL Query engine

Performance load

Source data from opendatastorage

<https://opendatastorage.blob.core.windows.net>

Copy data

Copy NYC Taxi data warehouse

Copy NYC Taxi data

Performance tuning tips:
Staged Copy: To achieve best performance and reduce cost for this specific copy pair, you are suggested to remove interim staging blob storage to directly copy from source to sink. [Learn more](#)

Source: Azure Blob Storage → Staging: Azure Data Lake Storage Gen2 → Destination: Data Warehouse

Data read: 50.783 GB
Files read: 2,713
Rows read: 1,571,671,152

Data written: 49.698 GB
Rows written: 1,571,671,152

Status: ✓ Succeeded

Start time: 8/22/2023, 10:18:45 AM

Pipeline run activity ID: 324c52d7-f1b4-48dc-81b5-06623274c430

Throughput: 86.513 MB/s

Total duration: 00:10:02

86.513 MB/s

00:10:02

DEMO

The choice and migration options

From current setup to Fabric

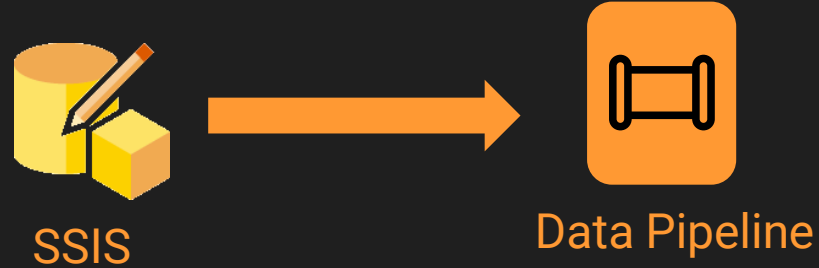
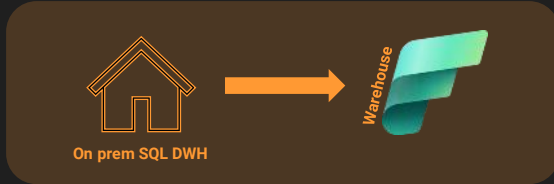


On prem SQL DWH



The choice and migration options

From current setup to Fabric



The choice and migration options

From current setup to Fabric

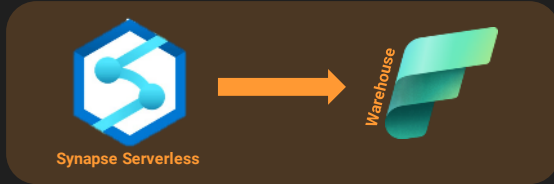


Synapse Serverless



The choice and migration options

From current setup to Fabric



Data Pipeline



Data Pipeline



SQL View



SQL View



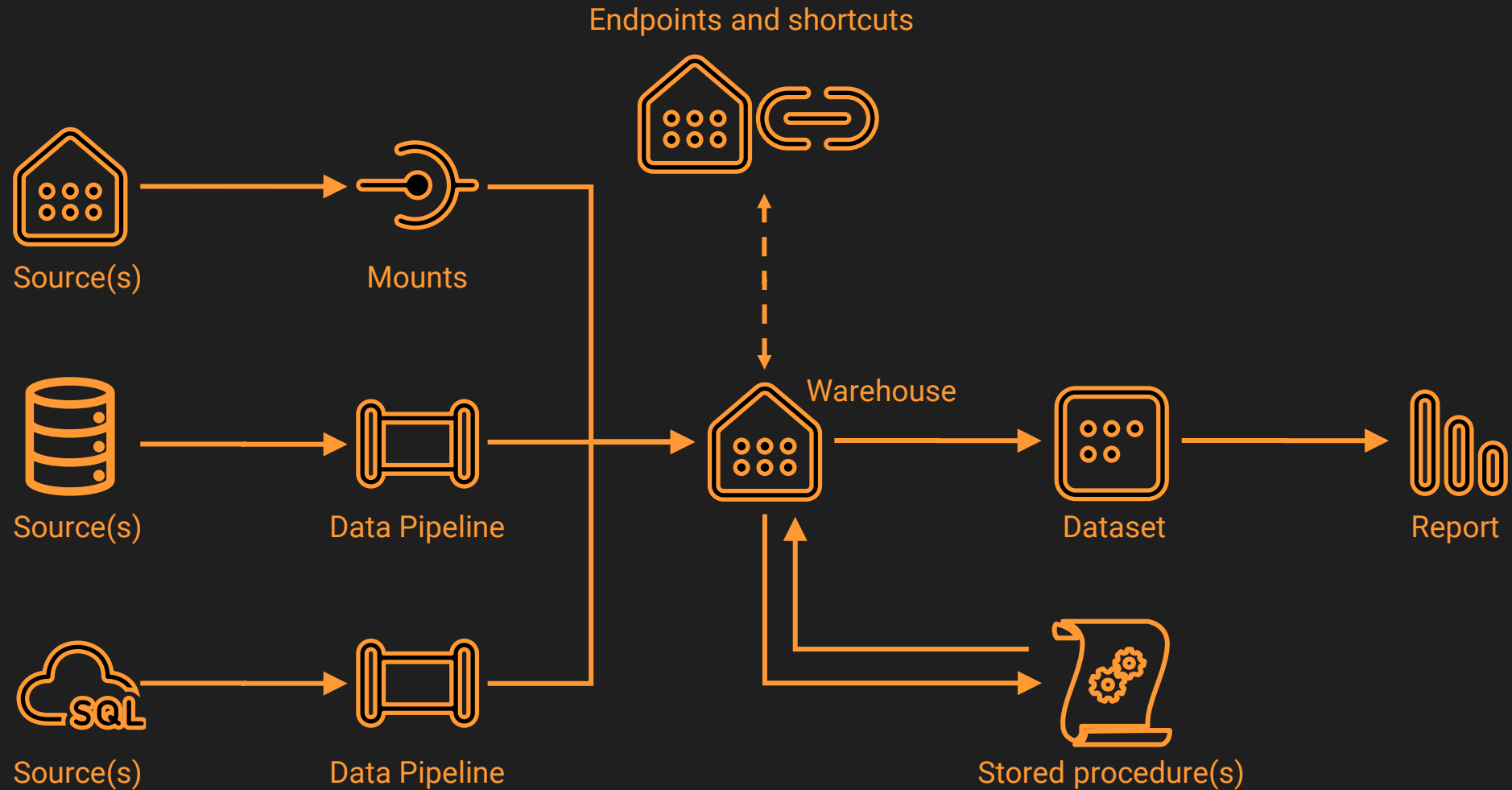
Notebook



Notebook

Fabric Warehouse

Architecture example



Scaling of Fabric



Trial

SKU	Capacity unit (CU)	Pay-as-you-go (hourly)	Pay-as-you-go (monthly)
F 2	2	\$0.36	\$262.80
F 4	4	\$0.72	\$525.60
F 8	8	\$1.44	\$1,051.20
F 16	16	\$2.88	\$2,102.40
F 32	32	\$5.76	\$4,204.80
F 64	64	\$11.52	\$8,409.60
F 128	128	\$23.04	\$16,819.20
F 256	256	\$46.08	\$33,638.40
F 512	512	\$92.16	\$67,276.80
F 1024	1024	\$184.32	\$134,553.60
F 2048	2048	\$368.64	\$269,107.20

Table 1: Pricing of Fabric capacity SKUs at US west 2



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