

Synapse Serverless vs Fabric



Sponsors



Tabular Editor



Pagesplit



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Serverless

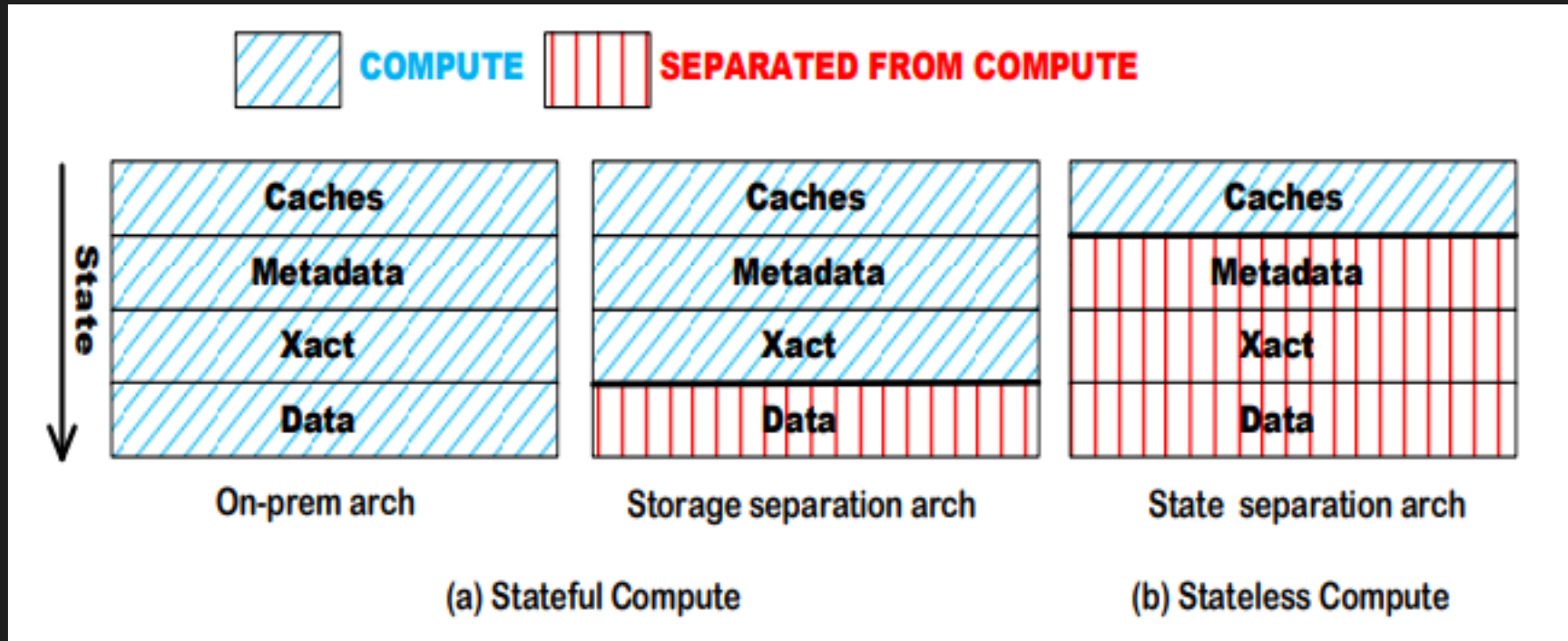


Warehouse



Polaris

Stateless compute



Synapse and Fabric

Polaris

Data abstraction



Data

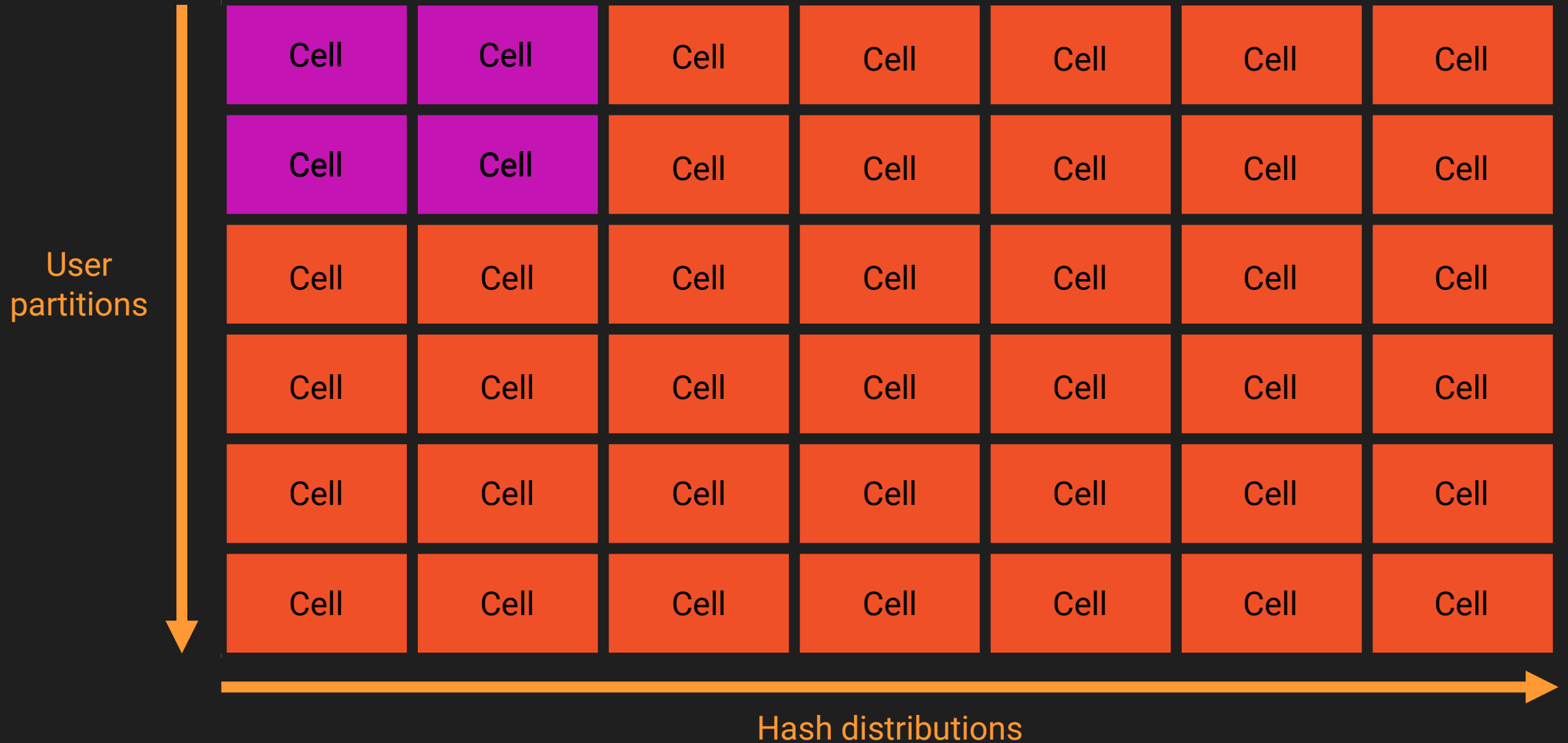
Polaris

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)

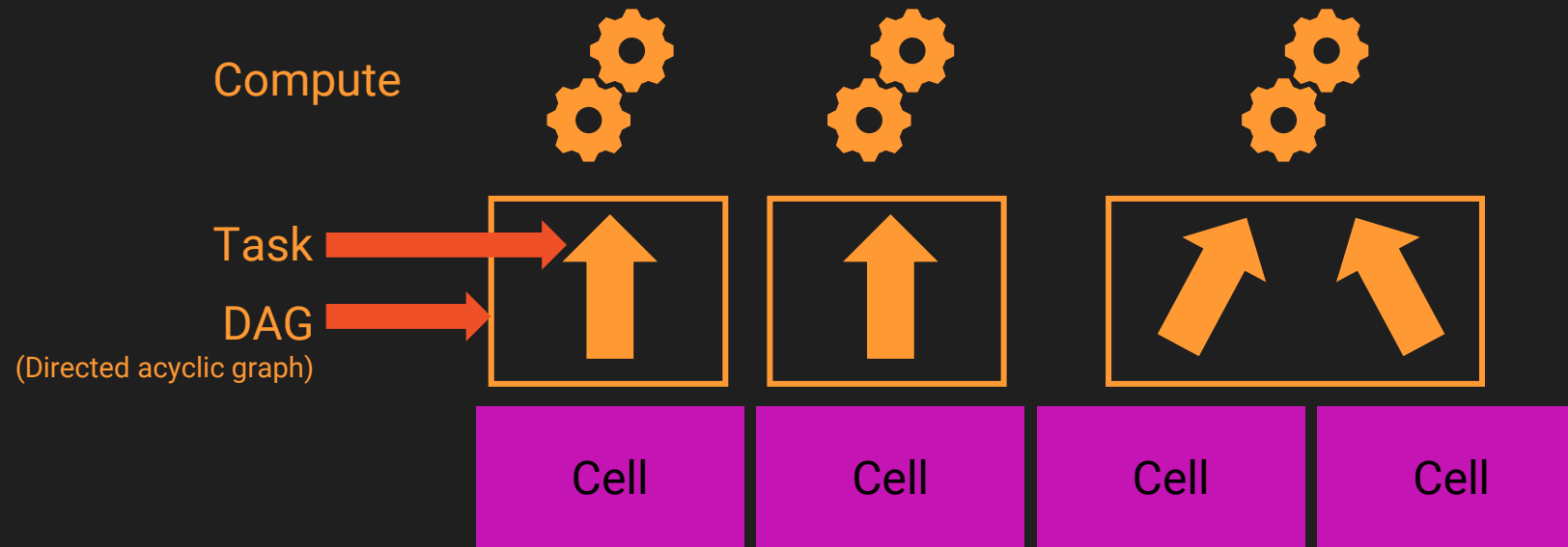


Storage



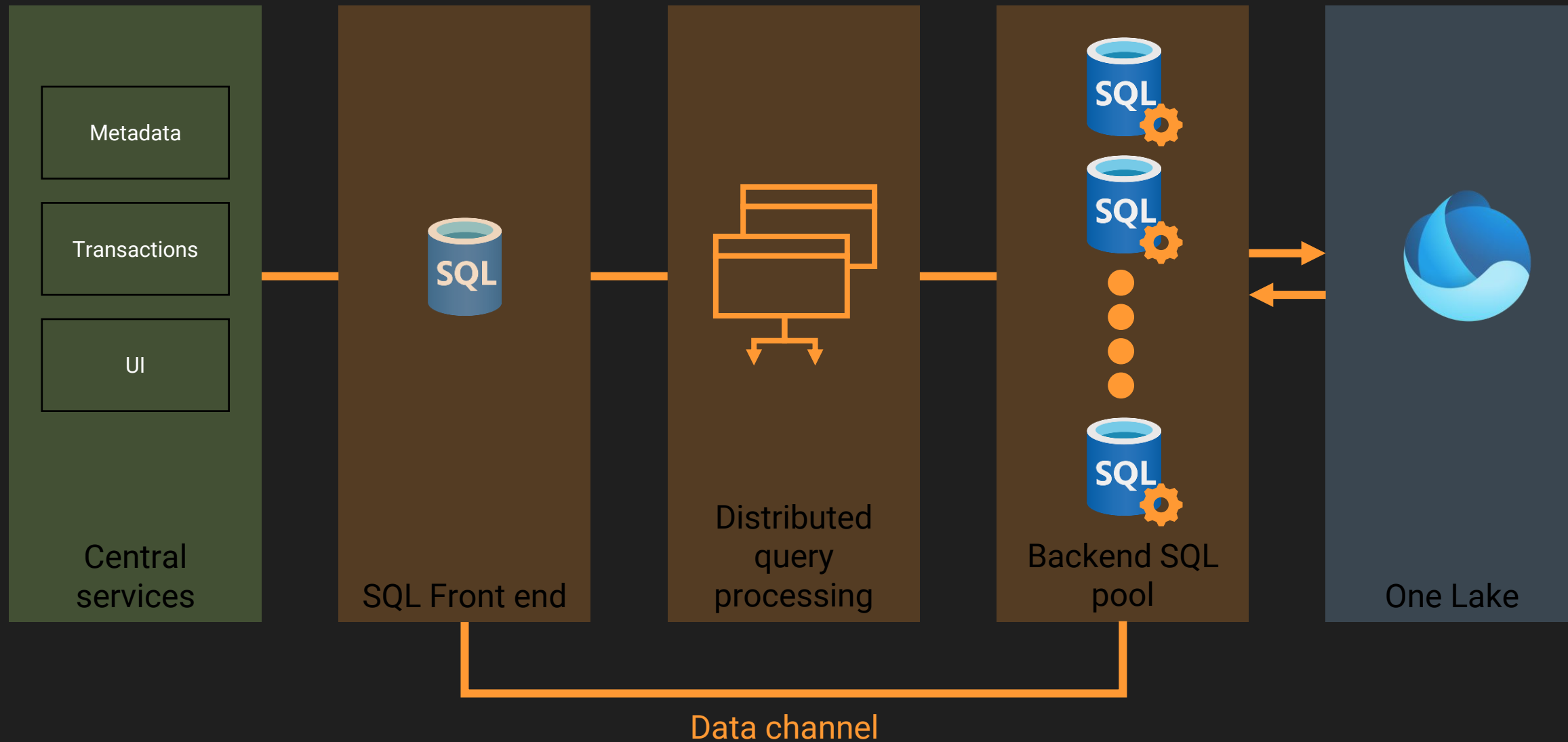
Polaris

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

Demo setup

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 use Staged Copy. Learn more

Source
Azure Blob Storage

→

Staging
Azure Data Lake Storage

Data read: 50.783 GB

Files read: 2,713

Rows read: 1,571,671,152

Rows written: 1,571,671,152

Status ✓ Succeeded

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

Pipeline run activity ID 324c52d7-f1b4-480c-a4b5-06623274c430

Throughput 86.513 MB/s

Total duration 00:10:02

Demo setup

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 to sink. Learn more [?]

Source: Azure Blob Storage → Staging: Azure Data Lake Storage

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

Rows written: 1,571,671,152

86.513 MB/s
00:10:02

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

Pipeline run activity ID: 324c52d7-f1b4-48d4-a4b5-06623274c430

Throughput: 86.513 MB/s
Total duration: 00:10:02

Copy data

Copy NYC Taxi lakehouse

Copy NYC Taxi data lakehouse

Source: Azure Blob Storage → Destination: Lakehouse

Data read: 39.468 GB
Files read: 320
Rows read: 1,571,671,152

Rows written: 1,571,671,152

115.155 MB/s
00:07:27

Status: Succeeded
Start time: 8/22/2023, 11:43:54 AM

Pipeline run activity ID: 36c84793-8074-48d4-a7df-209c1840b58d

Throughput: 115.155 MB/s
Total duration: 00:07:27

DEMO

The choice and migration options

From current setup to Fabric

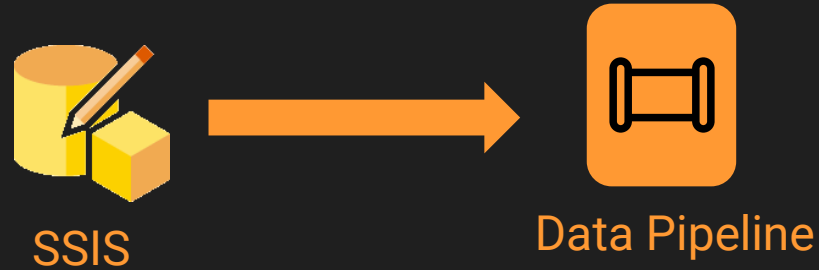
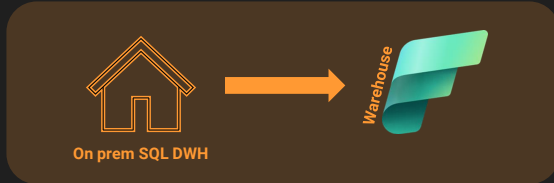


On prem SQL DWH



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



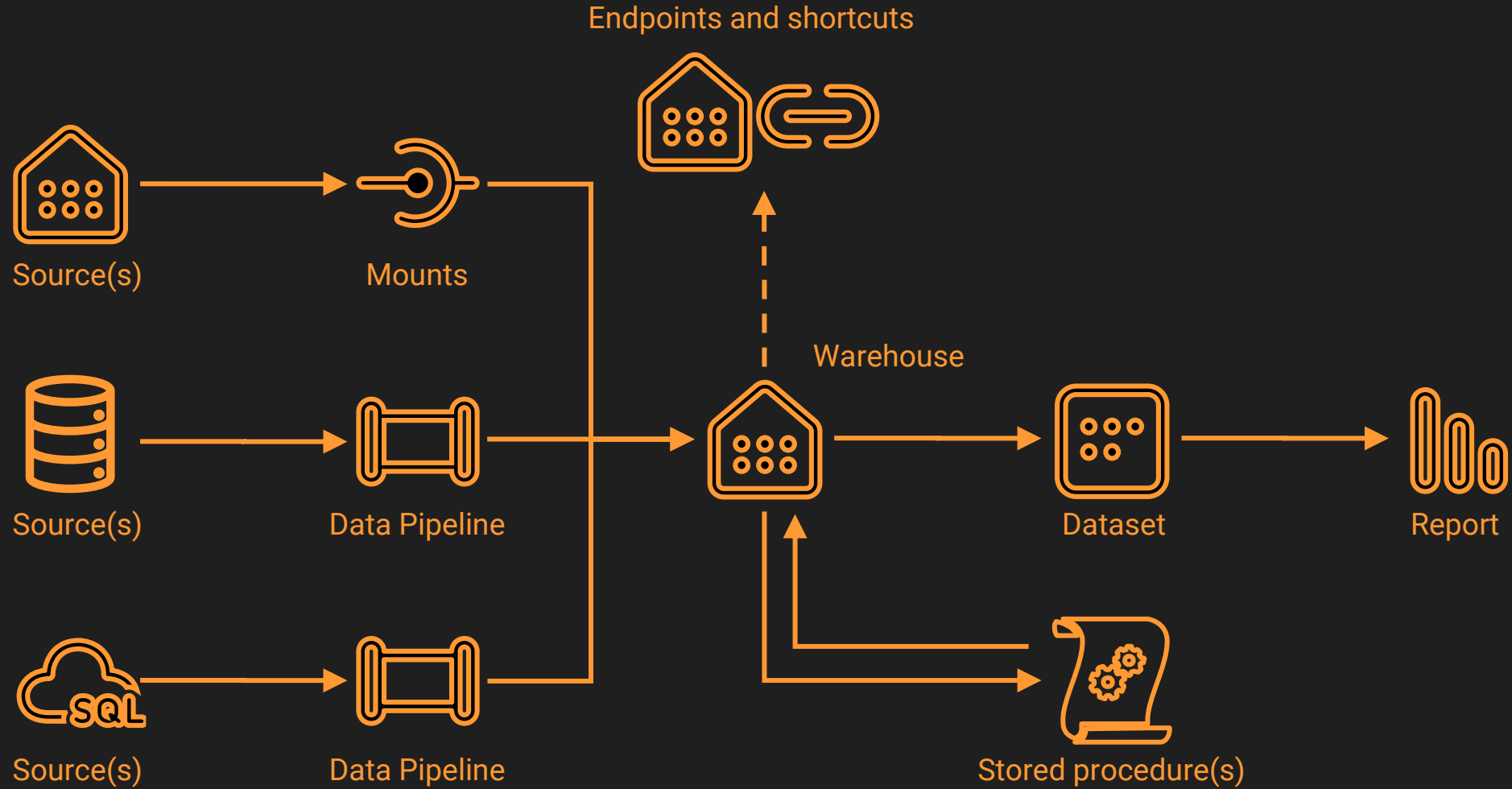
Notebook



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



Session
feedback



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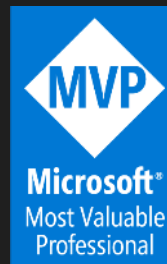
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