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# What is MS Fabric and how to put your BC data in it

4PS Group B.V.  
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# Speaker's intro

- Bert Verbeek
- Working with NAV/BC for 16 years in several roles
- Technical Solution Architect @ 4PS Group
- Microsoft MVP – Business Applications
- Twitter and LinkedIn: bertverbeek
- Blog: bertverbeek.nl

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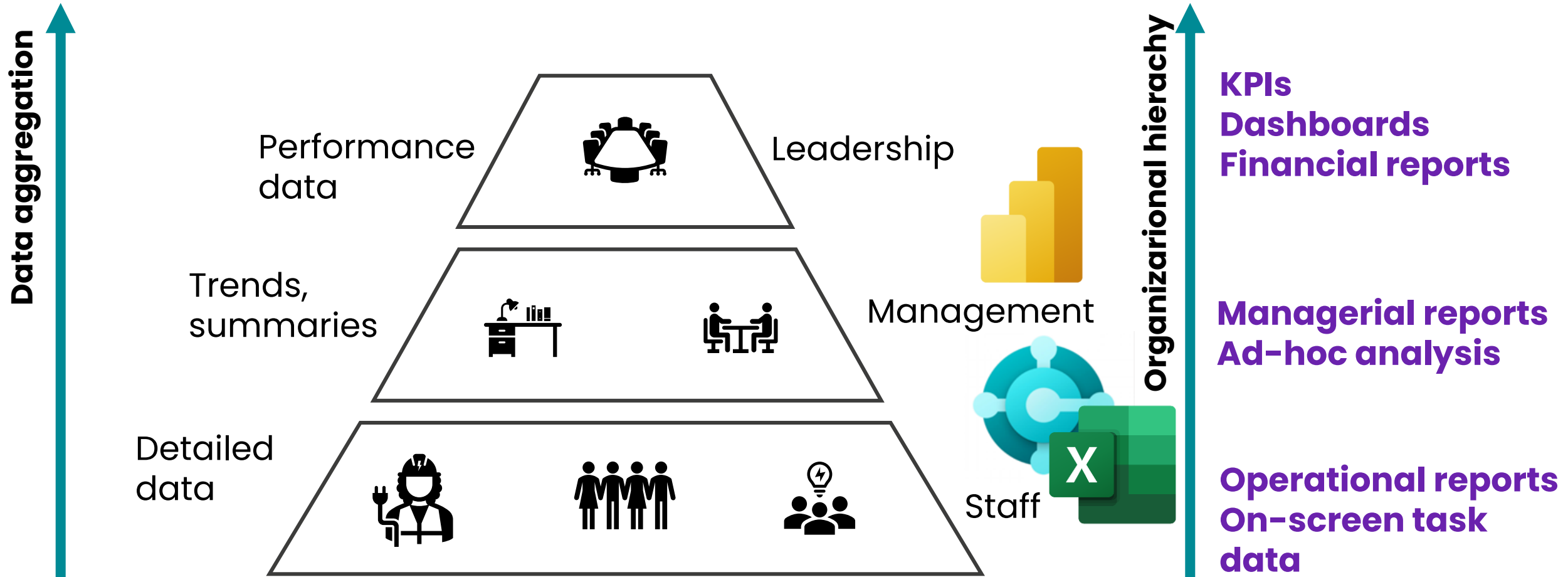


# Agenda

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- Why Analytics?
- What is Microsoft Fabric?
- How to get your BC data in?
- Data movement inside and alerts MS Fabric
- Real Life Case

# Why analytics



# The world is changing

- If customer asks, “Can you build me a report?”
- **STOP** asking “Sure. How should it be formatted?”
- **INSTEAD** ask “What do you need to analyze and for what?”

- **THEN** choose the tool of choice



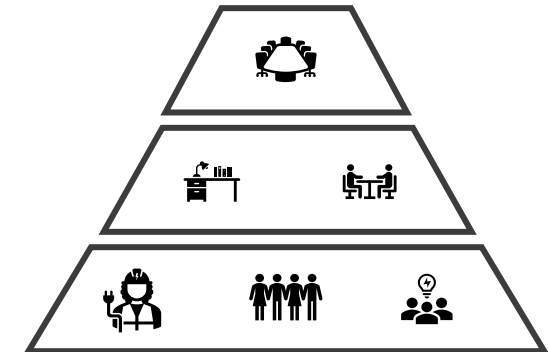
Power BI (and embed), or



Query/List page with Data Analysis, or



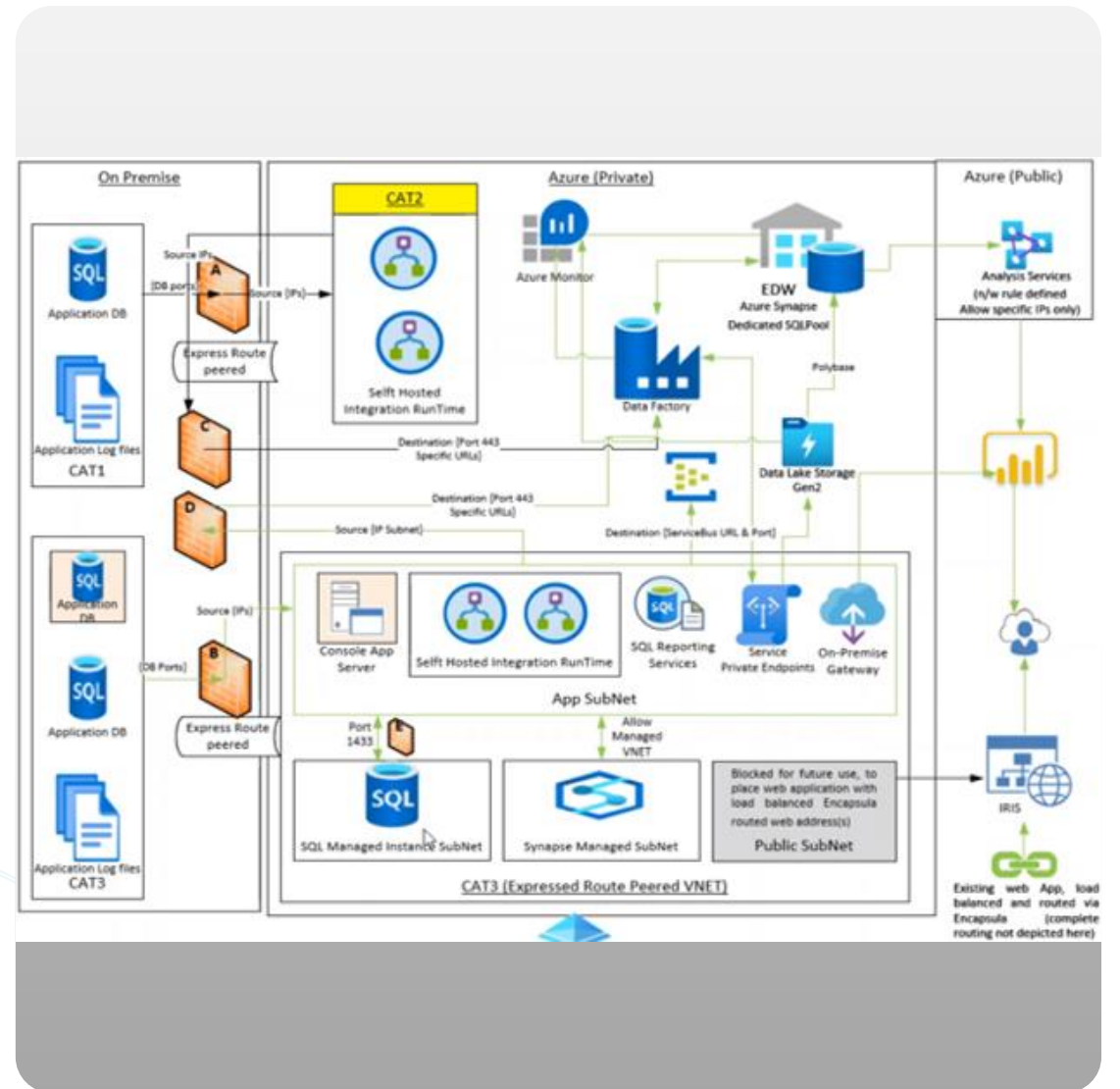
AL report with Excel layout



# What is MS Fabric?

# What is MS Fabric?

- Many different apps
- Many vendors
- Integrations mostly complex and fragile



# What is MS Fabric

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//

**Simplify,**

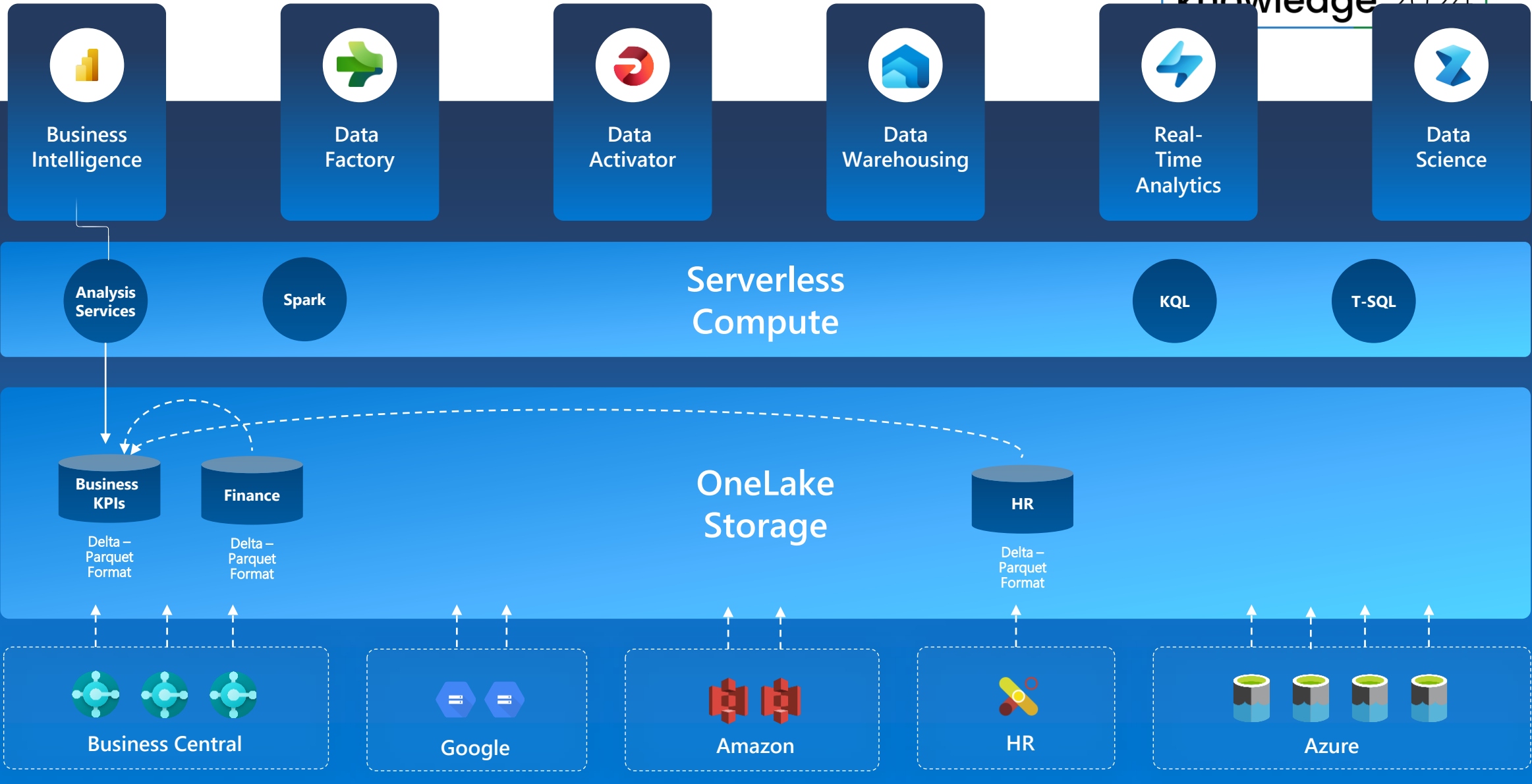
I am the Chief Data Officer and don't want to be the Chief Integration Officer."

Every CDO, Every Enterprise



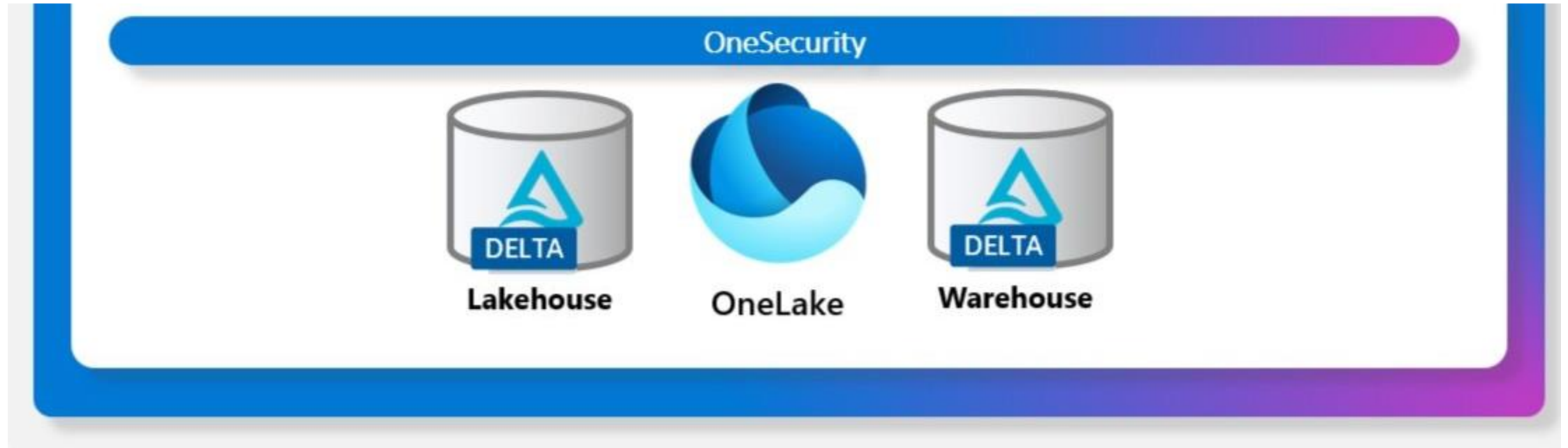
# What is MS Fabric

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# What is MS Fabric

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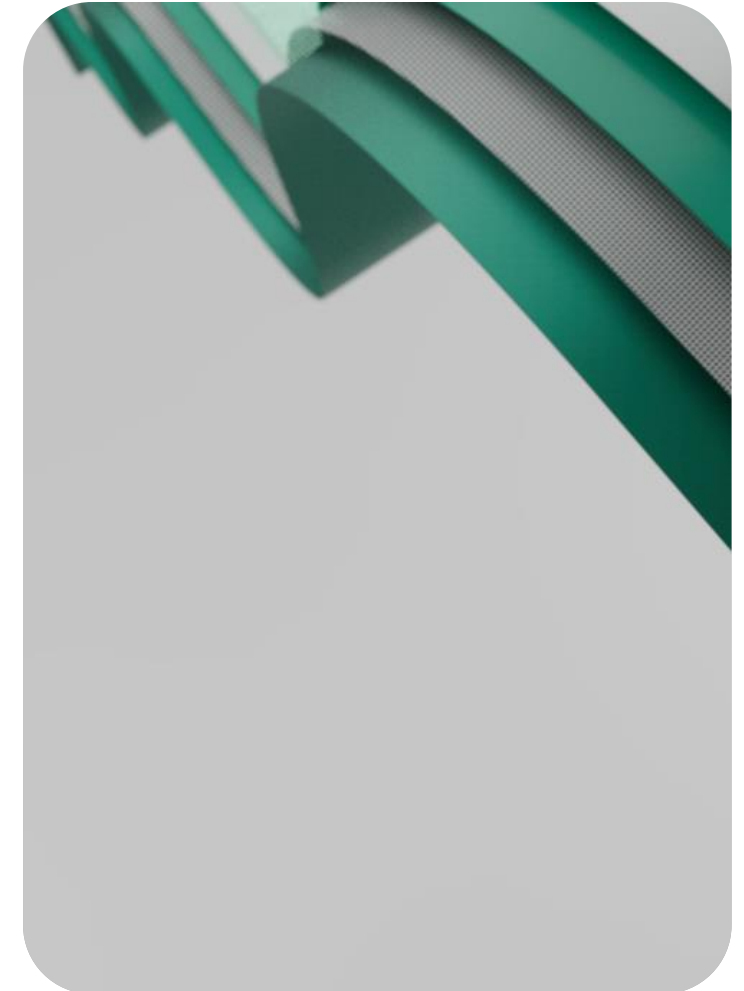


# Some considerations

- New product
- Fast integration because of Direct Lake
- License guide:

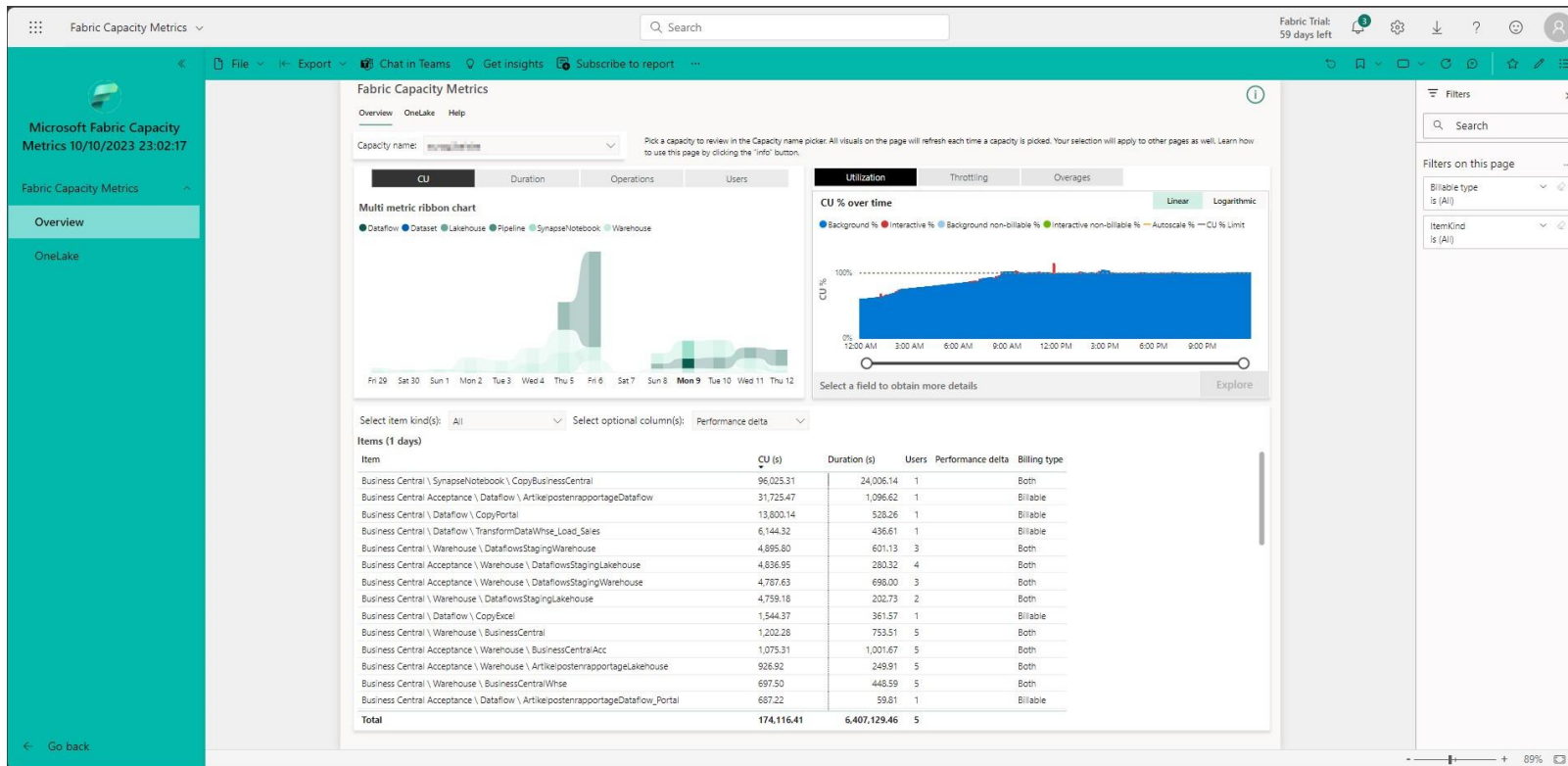
SKU	CAPACITY UNITS (CU)	POWER BI SKU	POWER BI V-CORES	HOURLY \$	MONTHLY \$
F2	2	-	0.25	\$0.36	\$262.80
F4	4	-	0.5	\$0.72	\$525.60
F8	8	EM/A1	1	\$1.44	\$1,051.20
F16	16	EM2/A2	2	\$2.88	\$2,102.40
F32	32	EM3/A3	4	\$5.76	\$4,204.80
F64	64	P1/A4	8	\$11.52	\$8,409.60
F128	128	P2/A5	16	\$23.04	\$16,819.20
F256	256	P3/A6	32	\$46.08	\$33,638.40
F512	512	P4/A7	64	\$92.16	\$67,276.80
F1024	1024	P5/A8	128	\$184.32	\$134,553.60
F2048	2048	-	256	\$368.64	\$269,107.20

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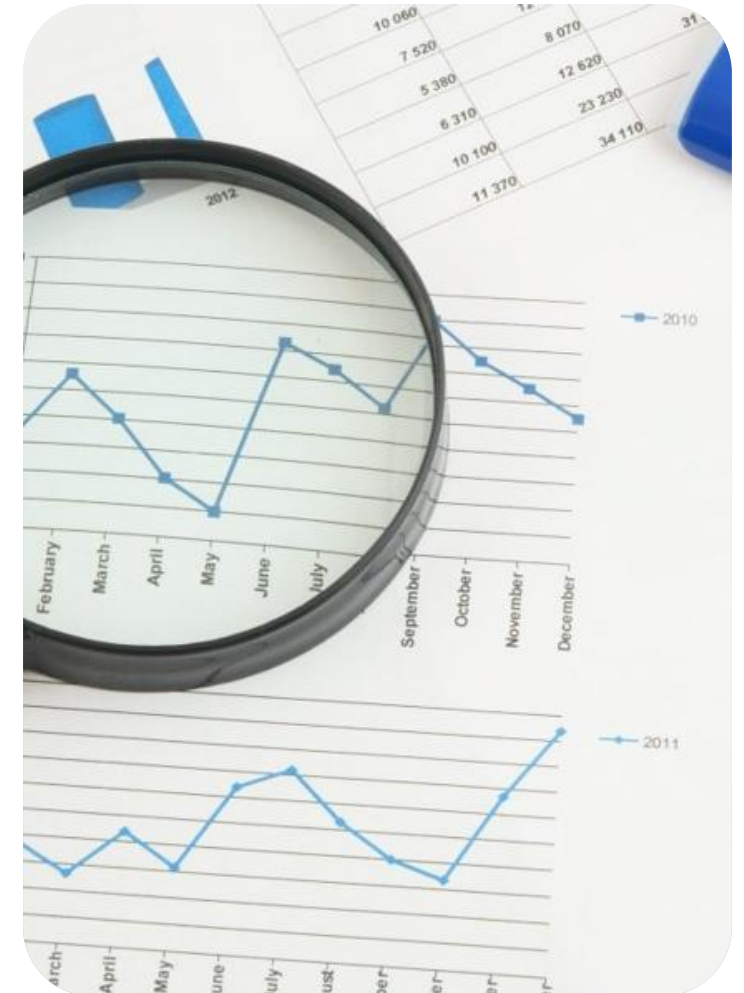


# What is a CU?

- Fabric F2 =  $2 * 24 * 3600 = 172.800$  CU (s)
- [Install the Microsoft Fabric capacity metrics app – Microsoft Fabric | Microsoft Learn](#)



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# How to get your BC data in?

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# Through API's

- With Dataflow
- From ReadOnly Replica
- Affects your NST's
- Incrementals not yet possible (In MS Fabric)
- Takes some time

The screenshot displays the Microsoft Fabric Dataflow 2 interface. The 'Get data' pane is open, showing a 'New source' section with a search bar and various data source categories. The 'Dynamics 365 Business Central' source is highlighted with a red box. Below this, the 'Connect to data source' pane is visible, showing the 'Dynamics 365 Business Central' connection settings. The settings include fields for Environment (Example: Production), Company (Example: Microsoft), and API category (or API route) (Example: v2.0). There are also sections for 'Advanced options', 'Connection credentials', and a 'Sign in' button.

# Through Dataverse

- BC -> Dataverse with Direct Sync
- Dataverse -> Fabric with Shortcut
  - Creates a delta parquet replica in Dataverse

## New shortcut

Use shortcuts to quickly pull data from internal and external locations into your lakehouses, warehouses, or datasets. Shortcuts can be updated or removed from your item, but these changes will not affect the original data and its source.

### Internal sources

Microsoft OneLake  
Fabric

### External sources

Amazon S3  
AWS

Amazon S3 Compatible (Preview)  
Generic connector

Azure Data Lake Storage Gen2  
Azure

Dataverse  
Power Platform

Google Cloud Storage (Preview)  
GCP

# Mirroring database

- In public preview
- Only BC Onprem
- For now only 500 tables replicated
- Doesn't work with BC databases yet
  - space, \_ (underscore), - (hyphen), ( (Bracket), ) (Bracket)

## Mirrored Azure SQL Database



Database connection to powerful services with modern tools to insert, query and extract data.

## Mirrored Snowflake (preview)



Mirror an existing Snowflake database (preview)

## Mirrored Azure Cosmos DB Database



Mirror an existing Azure Cosmos DB database

### Name

[dbo].[CRONUS Int

[dbo].[CRONUS Int

ErrorCode: InvalidCharInColumnName, Message: Failed to write 'CRONUS International Ltd\_<img alt="Cortana Intelligence logo" data-bbox="437 315 455 333"/>437dbf0e-84ff-417a-965d-ed2bb9650972' table with schema 'dbo' due to invalid character detected in 'Period Start' column. Currently " ;{}0\n\t=" are not allowed in column name.. ArtifactId: 91638fd8-79bc-4aec-952b-e06362b56969

[dbo].[CRONUS International L...



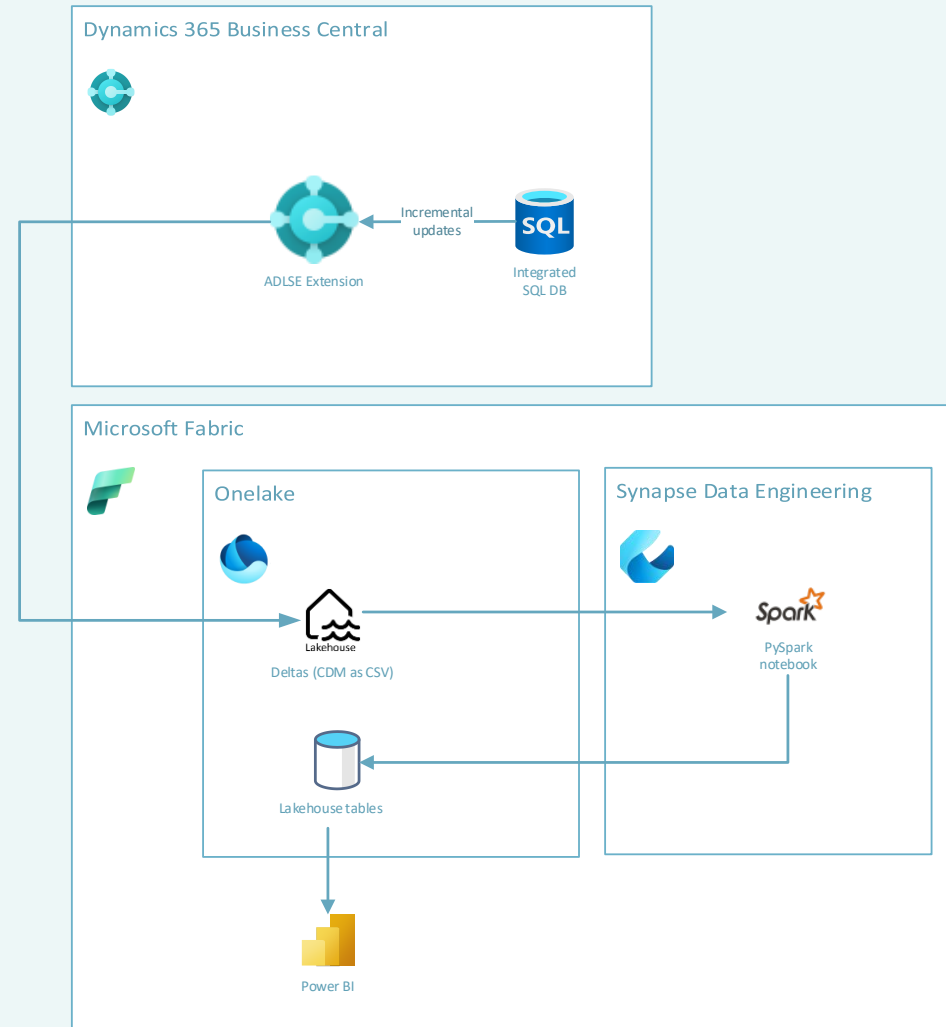
Failed





# With bc2adls

- Open source app
- Export to Azure Data Lake / MS Fabric
- Choose your tables / fields



**DEMO**

# Performance

- Export to MS Fabric

Total tables	Total records	Duration
42	72.201	2 min
55	303.481	9 min
107	419.824	8 min

- Notebook Fabric

Tables	New records	Modified records	Duration Notebook
29	1.800.00		4 min 54 sec
29	58.000	6.000	9 min 25 sec
29	58.000	6.000	11 min 11 sec

# Trigger notebook

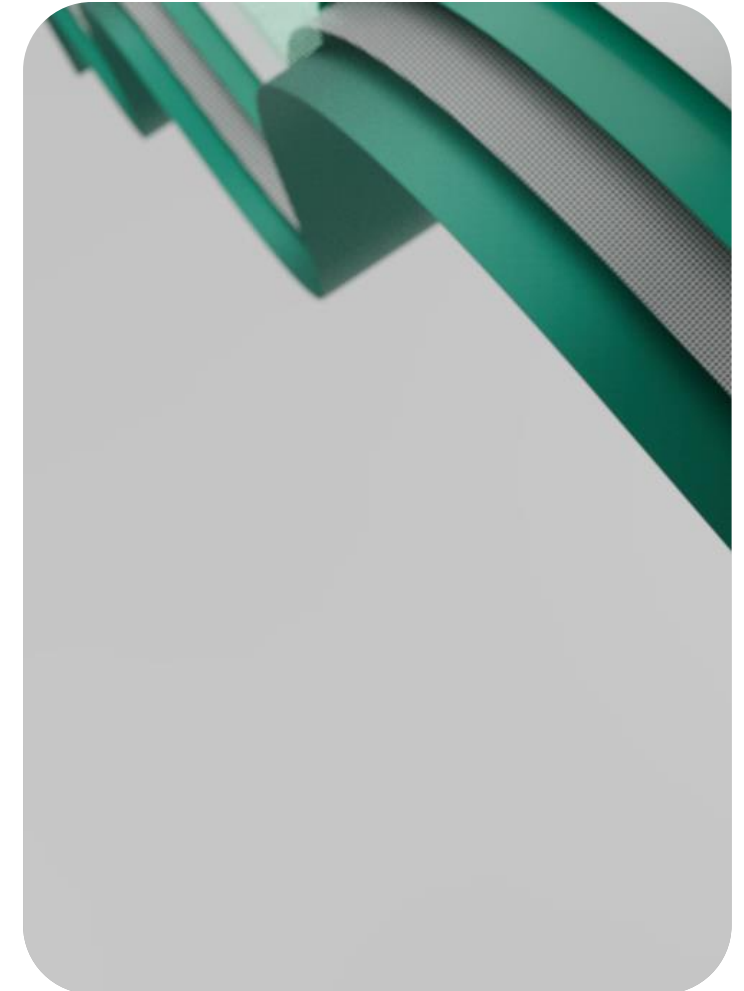
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- Api call
  - [Manage and execute Fabric notebooks with public APIs – Microsoft Fabric | Microsoft Learn](#)

The screenshot displays the Microsoft Power Automate interface for configuring a trigger. The top navigation bar shows 'Contoso Electronics' and 'Power Automate' with a search field. The main area is titled 'Untitled' and shows a configuration panel for the trigger 'When a business event occurs (V3)'. The configuration panel includes the following fields:

- Environment \***: NL
- Event \***: Export is finished (The bc2adls team)
- Advanced parameters**: Showing 1 of 1 (with 'Show all' and 'Clear all' links)
- Company (Optional)**: The Dynamics 365 Business Central company. Leave this empty to subscribe t... (with a close 'X' icon)

At the bottom of the configuration panel, it states 'Connected to admin@M365x27595860.onmicrosoft.com. [Change connection](#)'. The main canvas shows a preview of the trigger card with a plus sign below it, indicating it can be added to the flow.



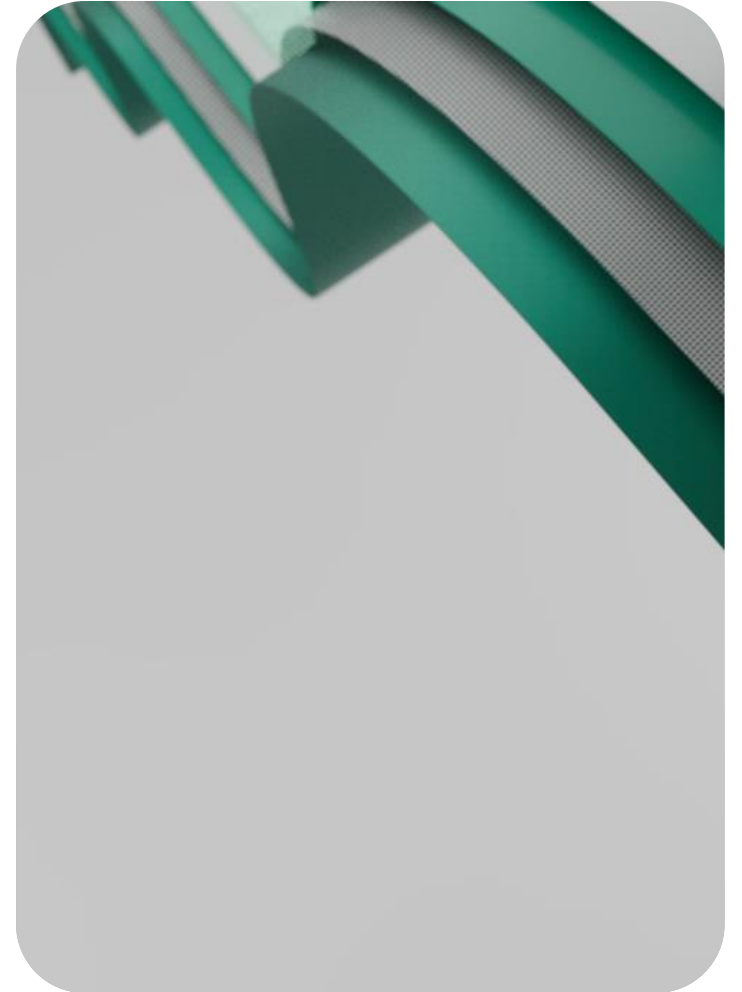
# Data movement and alerts inside MS Fabric

# Data movement inside MS Fabric

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- Power Query
- Data Wrangler

**DEMO**



Work Data Wrangler - Power BI

https://app.powerbi.com/groups/4f8a8c2e-86b0-405d-a7e5-a4c84214f1dd/synapsenotebooks/794f6071-2981-40fe-b387-d881712d2b8f?experience=power-bi

Data Wrangler | Saved

Home Edit Run View

Standard session PySpark (Python) Workspace default Data Wrangler Copilot

Explorer

- Data sources
- Resources
  - Uploaded data and files
- Lakehouses
  - 2 item(s) added

```
1 import pandas as pd
2
3 #load data into dataframes from BusinessCentral Lakehouse
4 df_customer = spark.read.table("businessCentral.Customer18")
5 df_detCustLedgEntries = spark.read.table("businessCentral.DetailedCustLedgEntry379")
6
7 # read into panda dataframe
8 pd_customer = df_customer.toPandas()
9 pd_detCustLedgEntries = df_detCustLedgEntries.toPandas()
10
11 #do a merge on fields
12 merge_df = pd.merge(pd_customer, pd_detCustLedgEntries, how='inner' \
13                   , left_on=['No-1', 'GlobalDimension1Code-16', 'GlobalDimension2Code-17'] \
14                   , right_on=['CustomerNo-9', 'InitialEntryGlobalDim1-21', 'InitialEntryGlobalDim2-22'])
```

[3] ✓ 2 sec - Command executed in 1 sec 733 ms by MOD Administrator on 1:57:59 PM, 4/30/24 PySpark (Python)

> Spark jobs (4 of 4 succeeded) Resources

```
1 # after
2 df_merge = spark.createDataFrame(merge_df_clean)
3 df_merge.write.mode("overwrite").format("delta").save("Tables/" + "Customer")
```

[7] ✓ - Command executed in 8 sec 196 ms by MOD Administrator on 11:29:44 AM, 4/13/24 PySpark (Python)

Power BI Session ready AutoSave: On Selected Cell 1 of 2 cells

# Alerts inside MS Fabric

- Data Activator
- Get Notifications on data

**DEMO**

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# Real Life Case

# The case

- Moving from onprem to SaaS (3/4 year life in SaaS)
- Using JetReports, Excel, Direct access SQL
- Customer has also a Webshop
- 200 orders a day with 50 – 200 lines
- Big amount of G/L Entries and Item Ledger Entries
- Refresh every 15 minutes

Table ID	Table	# Fields selected	No. of Database Records	# Avg Records a Day
17	G/L Entry	17	9.748.931	35.195
21	Cust. Ledger Entry	12	70.653	255
25	Vendor Ledger Entry	9	21.943	79
32	Item Ledger Entry	15	2.781.124	10.040
112	Sales Invoice Header	25	19.718	71
113	Sales Invoice Line	24	2.195.072	7.924
114	Sales Cr.Memo Header	23	18.324	66
115	Sales Cr.Memo Line	23	152.382	550
120	Purch. Rcpt. Header	26	14.293	52
121	Purch. Rcpt. Line	14	124.176	448
5107	Sales Header Archive	31	81.326	294
5108	Sales Line Archive	25	2.374.826	8.573
5109	Purchase Header Archive	27	15.241	55
5110	Purchase Line Archive	25	123.058	444
5802	Value Entry	4	7.210.292	26.030
5823	G/L - Item Ledger Relation	2	19.137.868	69.090
6650	Return Shipment Header	24	927	3
6651	Return Shipment Line	11	2.076	7
54323	Packaging Ledger Entry	15	258.723	934

# The issue

- Deleted data in Sales Orders
- API limits (bc23 – less problems)
- Refresh rate was only 2 hours
- Synapse pipelines were expensive
- Starting of the spark pool
- Allot of data in transaction tables

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## Issues and Resolutions



# The solution

- MS Fabric F2 (cu)
- Export every 15 min
- Finished in 5 minutes
- Notebook every 15 minutes
- End users doesn't complain
- Attach other sources in lakehouse and combine in warehouse
- Acceptance / development on trial

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## sues and Resolutio



## Call to Action

- Microsoft repro on archive
- Going as an open source project
  - <https://github.com/Bertverbeek4PS/bc2adls>
- Please contribute:
  - Issues
  - Features
- This is a temporary solution:
  - [Introduction to Microsoft Fabric and Business Central - Business Central | Microsoft Learn](#)
- <aka.ms/bcReporting>
- <aka.ms/bcDeveloper>





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# Give us Feedback!

and help us improve!

Please rate my session in the Conference App!

and leave a constructive comment.

**bverbeek@4ps.nl**

**Thank you !**

