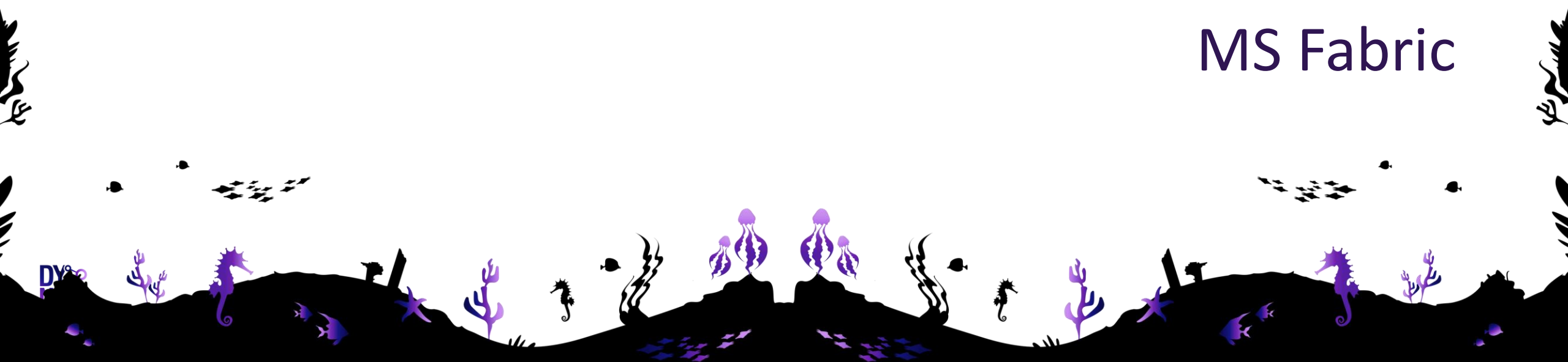




Bert Verbeek
MVP | Technical Solution Architect
4PS Group

How to flow your data from Business Central to MS Fabric



Speaker's Intro

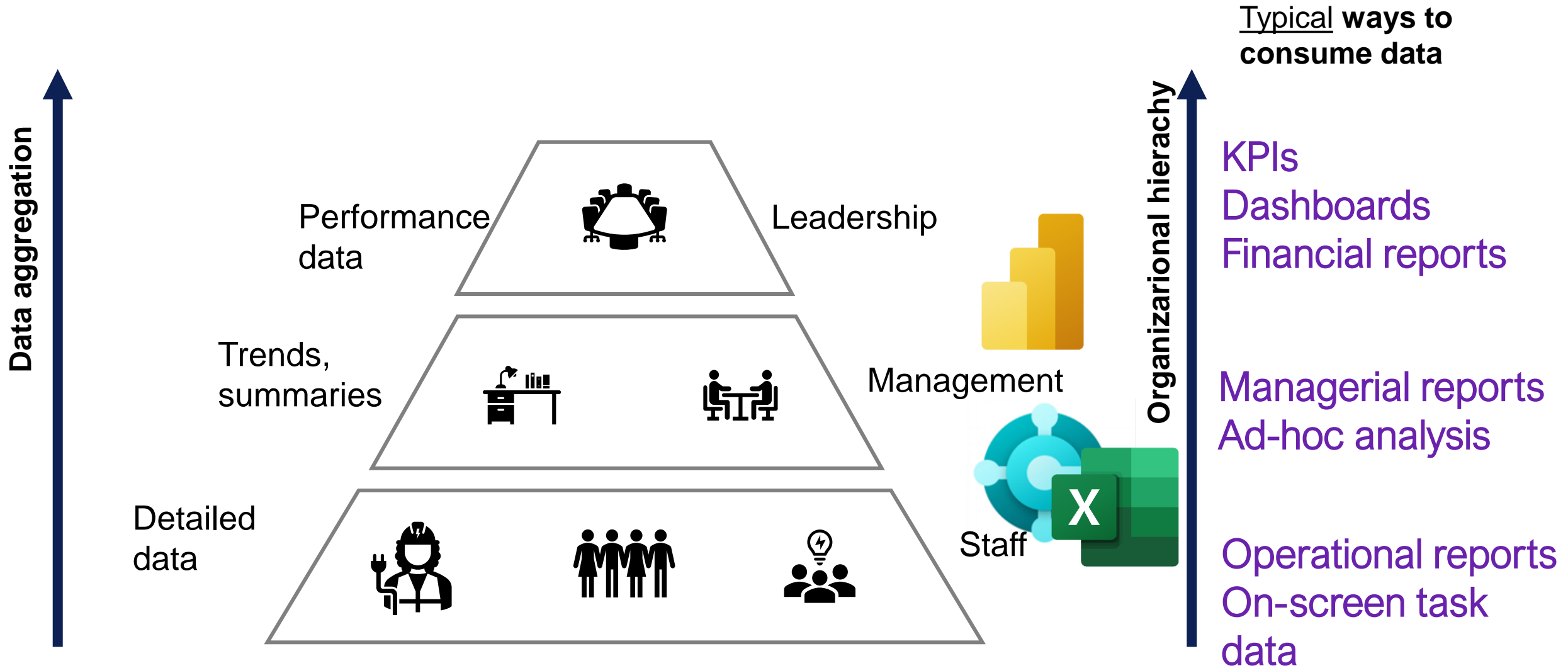
- Bert Verbeek
- Working with NAV/BC for 16 years in several roles
- Technical Solution Architect @ 4PS Group
- Microsoft MVP – Business Applications
- Twitter and LinkedIn: bertverbeek
- Blog: bertverbeek.nl



What to expect

- 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

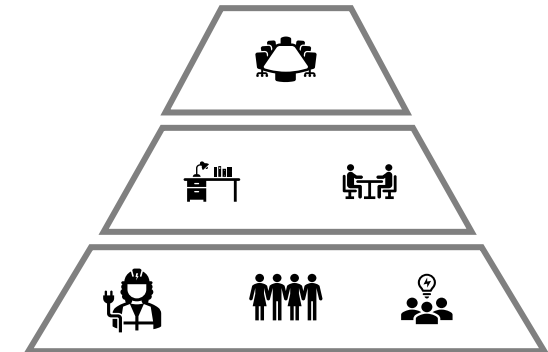
- If customer asks, “Can you build me a report?”
- **STOP** asking “Sure. How should it be formatted?”
- **INSTEAD** ask “What do you need to analyze and for what?”

- **THEN** choose the tool of choice

 Power BI (and embed), or

 Query/List page with Data Analysis, or

 AL report with Excel layout

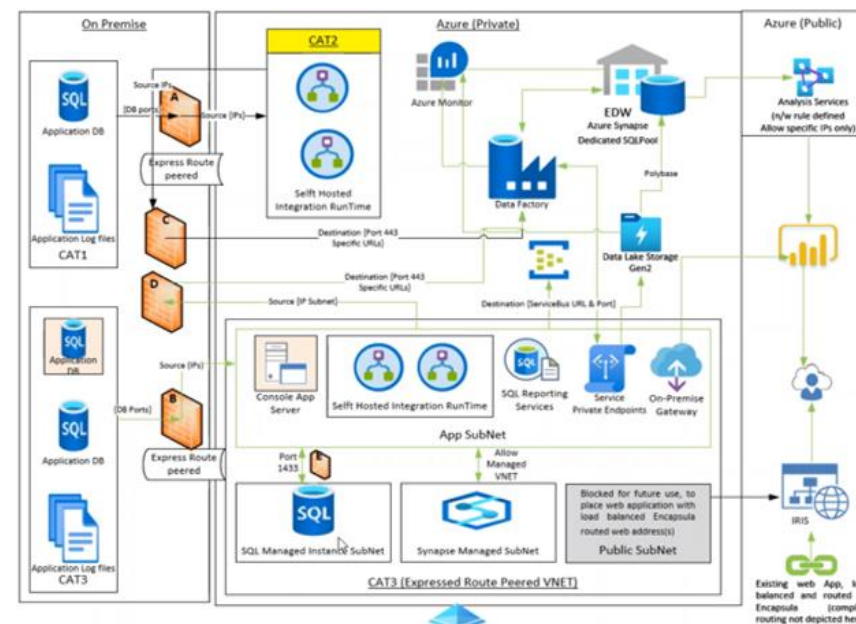


What is MS Fabric?



What is MS Fabric

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



What is MS Fabric

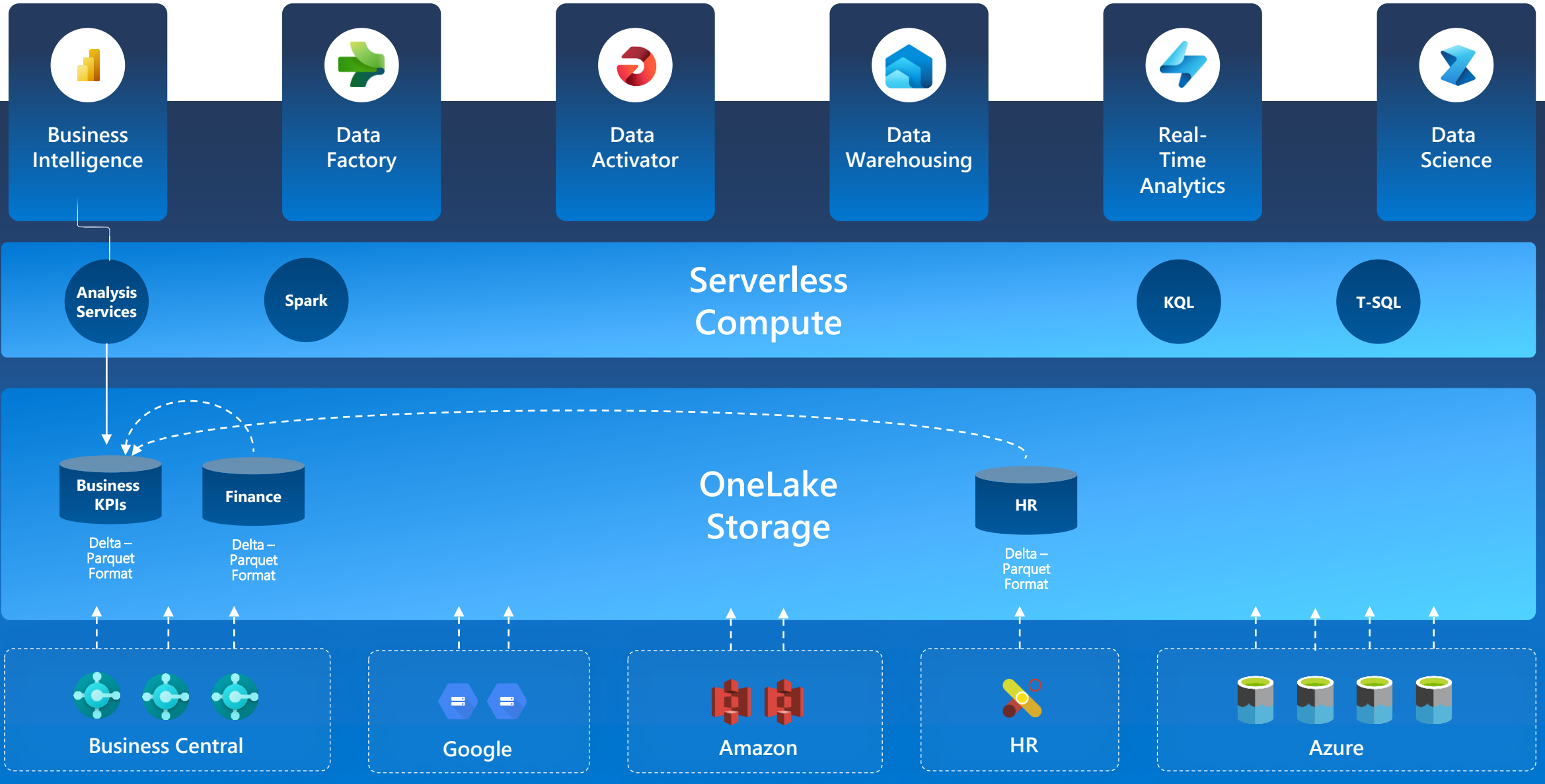
//

Simplify,

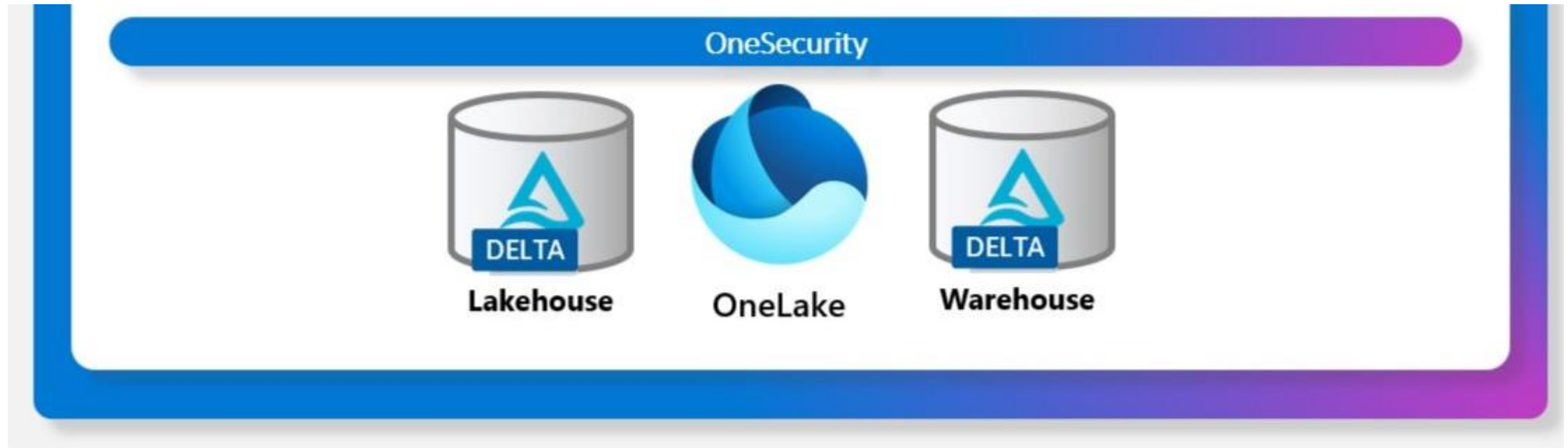
I am the Chief Data Officer
and don't want to be the
Chief Integration Officer.”

Every CDO, Every Enterprise

What is MS Fabric



What is MS Fabric

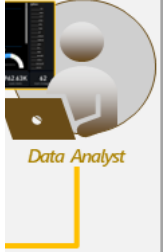


Some considerations

- 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

OneLake Power BI

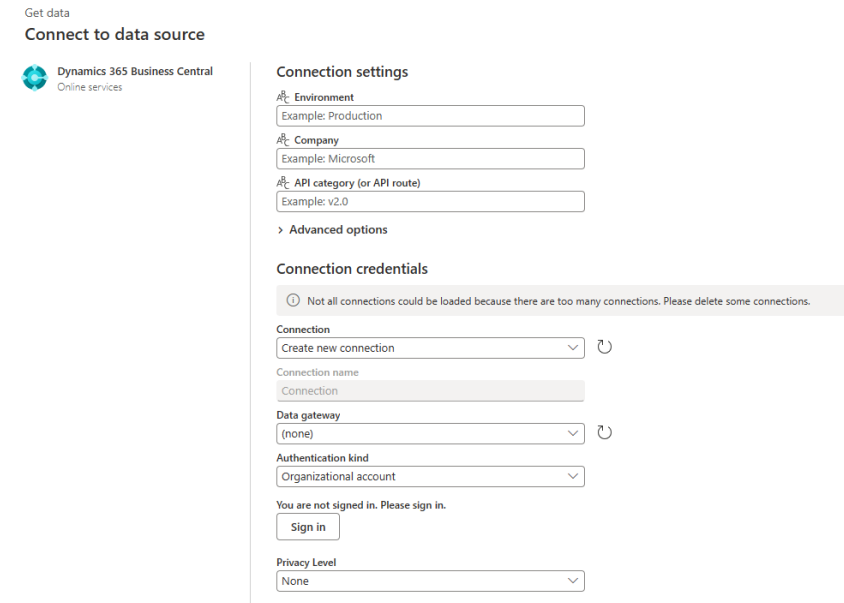
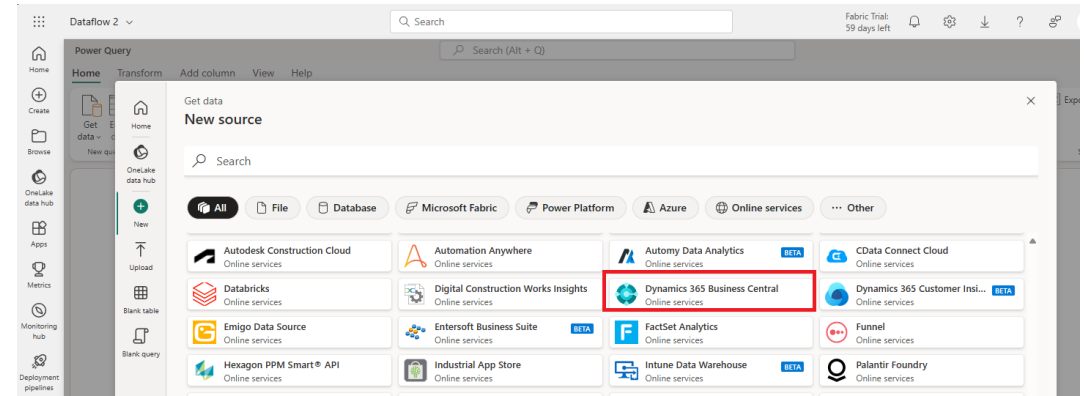


How to get your BC
data in?



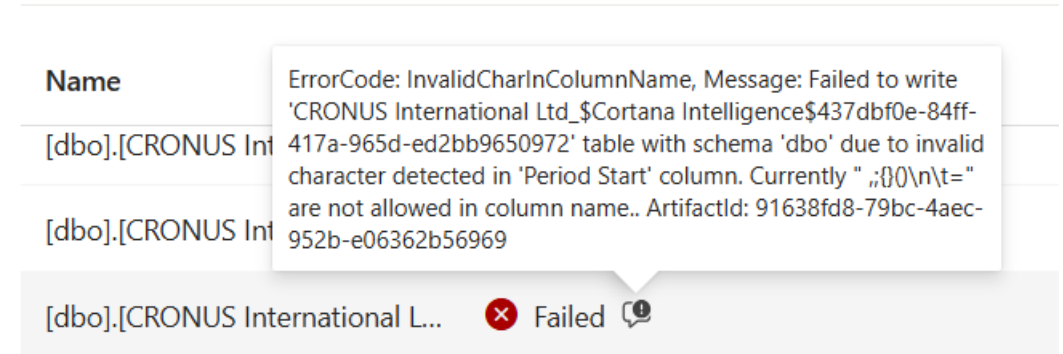
Through API's


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




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) 

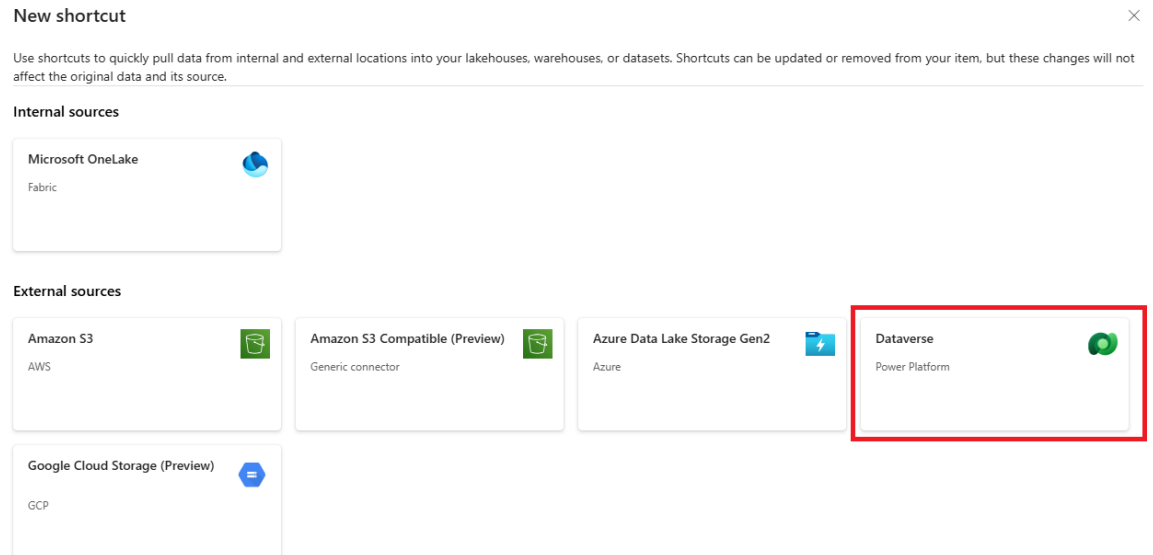
Mirror an existing Snowflake database (preview)

Mirrored Azure Cosmos DB Database 

Mirror an existing Azure Cosmos DB database

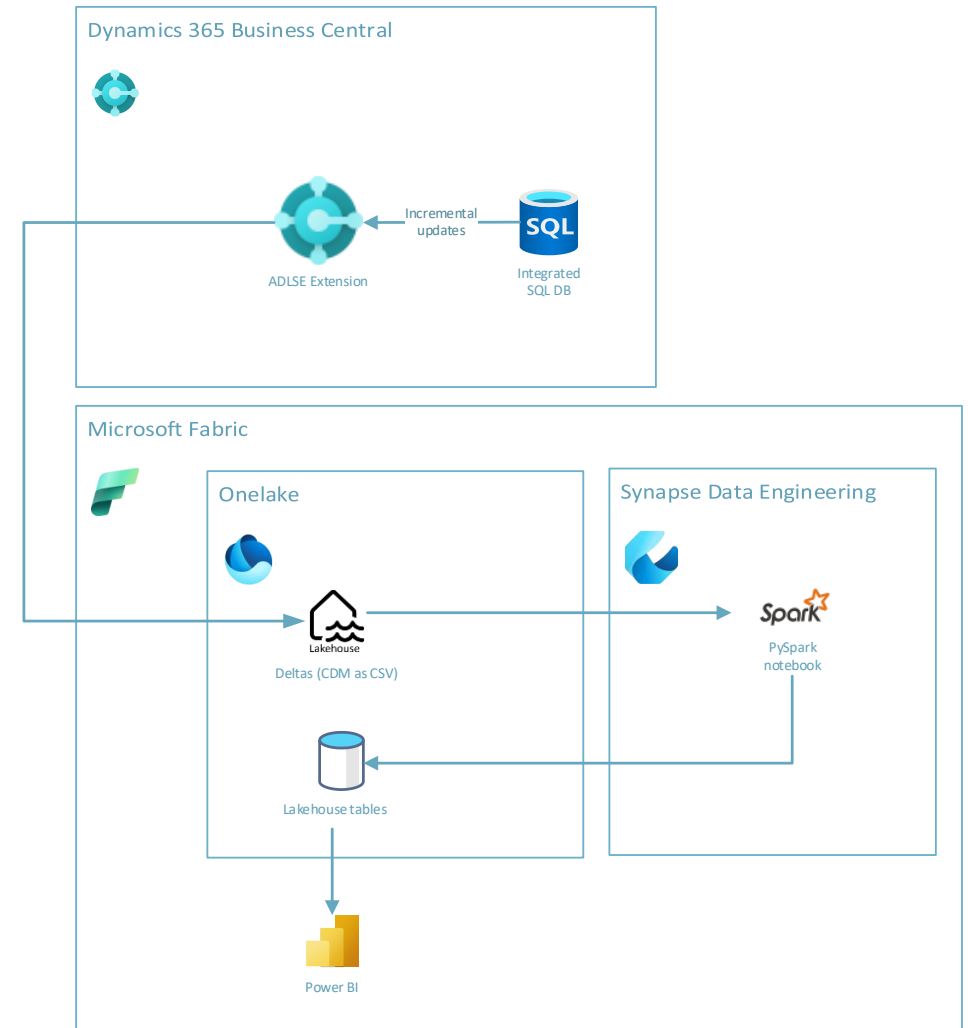
BC -> Dataverse -> Fabric

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

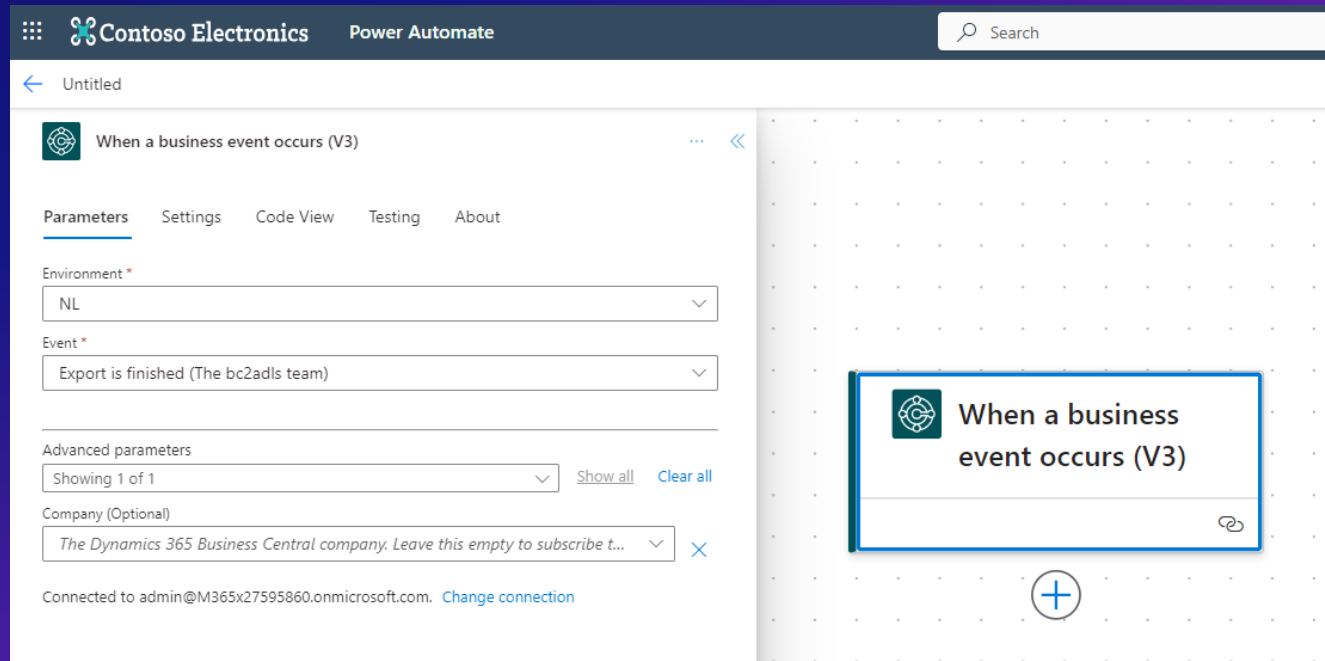


With bc2adls

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



DEMO



Trigger notebook

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

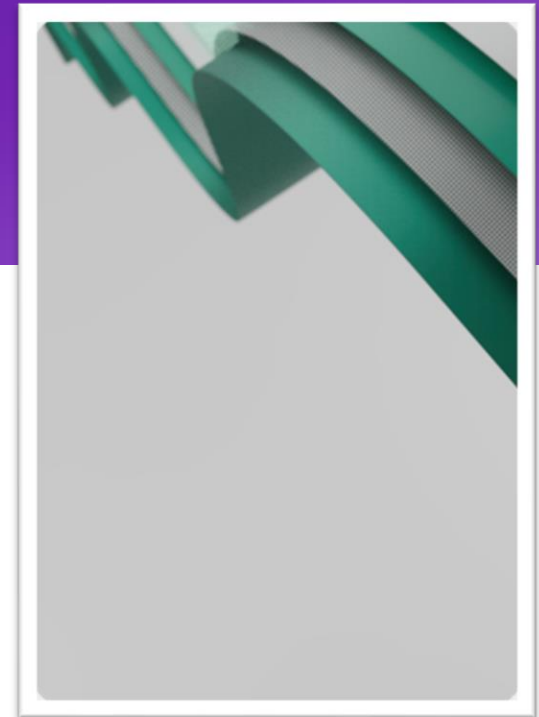
Data movement and alerts inside MS Fabric



Data movement inside MS Fabric

Power Query

Data Wrangler
DEMO



Data Wrangler

The screenshot displays the Microsoft Data Wrangler interface within a Power BI browser window. The browser address bar shows the URL: <https://app.powerbi.com/groups/4f8a8c2e-86b0-405d-a7e5-a4c84214f1dd/synapsenotebooks/794f6071-2981-40fe-b387-d881712d2b8f?experience=power-bi>. The interface includes a search bar, a navigation menu on the left, and a main workspace area. The workspace area contains a code editor with the following Python code:

```
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'])
```

Below the code editor, there is a command execution log showing the following command and its execution details:

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

Below the log, there is a section for Spark jobs and resources:

```
> Spark jobs (4 of 4 succeeded) Resources
```

Below the Spark jobs section, there is another code editor with the following Python code:

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

Below the code editor, there is another command execution log showing the following command and its execution details:

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

The interface also shows a status bar at the bottom with the following information: Power BI, Session ready, AutoSave: On, and Selected Cell 1 of 2 cells.

Alerts inside MS Fabric

- Data Activator
- Get Notifications on data

DEMO



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



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

Call to action



- [Github - bc2adls](https://github.com/bc2adls)
- [Microsoft Fabric documentation | Microsoft Learn](https://learn.microsoft.com/en-us/dynamics365/business-central/reports-bi-reporting)
- aka.ms/bcReporting
- aka.ms/bcDeveloper

Explore Microsoft Fabric

Learn about Microsoft Fabric, evaluate its features, analyze your data and run reports.

learn.microsoft.com/en-us/dynamics365/business-central/reports-bi-reporting?wt.mc_id=d365bc_inproduct_page

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Learn / Dynamics 365 / Business Central /

Analytics, business intelligence, and reporting overview

Article • 05/01/2024 • 6 contributors

Feedback

In this article

- Analytics needs in organizations
- Using Financial Reports to produce financial statements and KPIs
- Using key performance indicators to meet your business goals
- Ad-hoc data analysis

Show 4 more

Small and mid-sized companies rely on built-in analytics and reporting capabilities they can use out-of-the-box to help keep track of their business. Business Central provides reports and analytics tools that cover basic and complex business processes for such organizations. You can also do ad-hoc

Additional resources

Training

Module
Configure Business Central for Excel and Power BI - Training

Make Business Central data available for easy reporting with Excel and intelligent analysis with Power BI.

Certification

Microsoft Certified: Dynamics 365 Business Central Functional Consultant Associate - Certifications

As a functional consultant, you implement core application setup processes for small and medium businesses. You configure the application in...

Documentation

Built-in analytics - Business Central

The logo for DYNAMICS MINDS, featuring the word "DYNAMICS" in a stylized font with a circular graphic element, and "MINDS" below it.

Thank you!

