Introduzione a Microsoft Fabric, la nuova piattaforma di analisi basata sull’AI

Ci presentiamo!

Accompagniamo le aziende clienti nell'adozione di servizi di **tecnologia innovativa**, progetti di **formazione IT** e servizi di **conservazione** e **gestione documentale**.

Ci contraddistingue la nostra competenza nella **consulenza** e nella **personalizzazione** delle soluzioni.

Come **Gold Partner Microsoft**, decliniamo la nostra specializzazione in M365 attraverso molti dei nostri servizi.

40

DGROOVERS

Un team in continua crescita in numero e competenze

34

ANNI

Di esperienza attentamente costruita in ambito ICT

9

PARTNER STRATEGICI

Con i quali condividiamo obiettivi, risultati e soprattutto valori

Linee di Offerta

System Integration	Sviluppo applicazioni custom	Industria 4.0	Gestione documentale	Education & Training
• Consulenza sistemistica • Servizi di consulenza e migrazione M365 • Sicurezza • Gestione attacchi informatici	• Sviluppo applicazioni custom ed integrazione con software esistenti; • Refactoring di software legacy • Microsoft Azure • SharePoint • Power Platform • Angular, .NET	• Soluzione *Place 4 You* • Soluzioni custom di raccolta dati • Soluzioni e consulenza Augmented Reality e Mixed reality • Supporto finanza agevolata per l'Industria 4.0	• Software di gestione documentale *DocSuite Next* • Consulenza normativa • Consulenza archivistica • Sviluppo custom • Soluzioni di conservazione e certificazione documenti	• Formazione, certificazione, Training on the job • IT e Soft skills • Gestione piani finanziati • Sede territoriale PCSNET • Testing center Pearson Vue e EC-Council

Tecnologie Innovative | Consulenza | Progettazione| Formazione | Training on the job | Service & Customer Care

Buon ascolto!

Chi è Regolo Farm

Règolo Farm S.r.l. è un’azienda specializzata nell’adozione di soluzioni Microsoft orientate ai temi di organizzazione aziendale, business work flow e business Intelligence (Power BI). Rileviamo le informazioni dettagliate necessarie per prendere decisioni strategiche. Automatizziamo il lavoro d’ufficio consolidando i dati storici e correnti, presentando i risultati in formati visivi intuitivi

Chi Sono

Consulente e formatore in ambito business intelligence

Nel 2023 Fondatore e CTO start-up Regolo Farm per Business Intelligence e Power Platform

Nel 2020 Fondatore e CTO start-up Cargo BI per insurance data analytics per le compagnie assicurative

Dal 2017 mi occupo di architetture big Data e in generale di tutta la proposizione data platform di Microsoft.

Docente all'Università di Pordenone per i corsi IFTS di analisi Big Data

Community Lead di 1nn0va (www.innovazionefvg.net)

MCP,MCSA,MCSE dal 2017 MCT e dal 2014 MVP, Azure Data Engineer e relatore in diverse conferenze sul tema.

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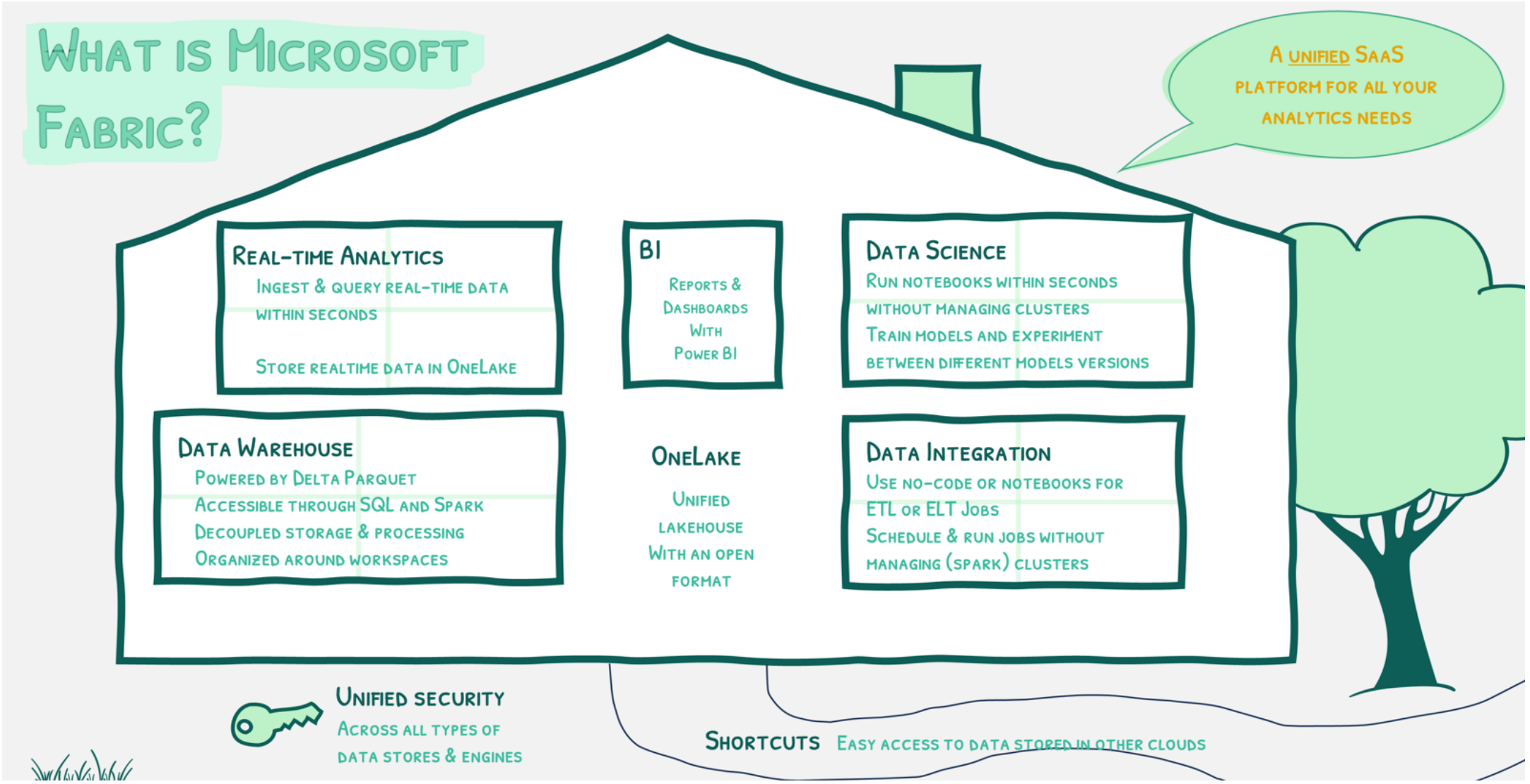
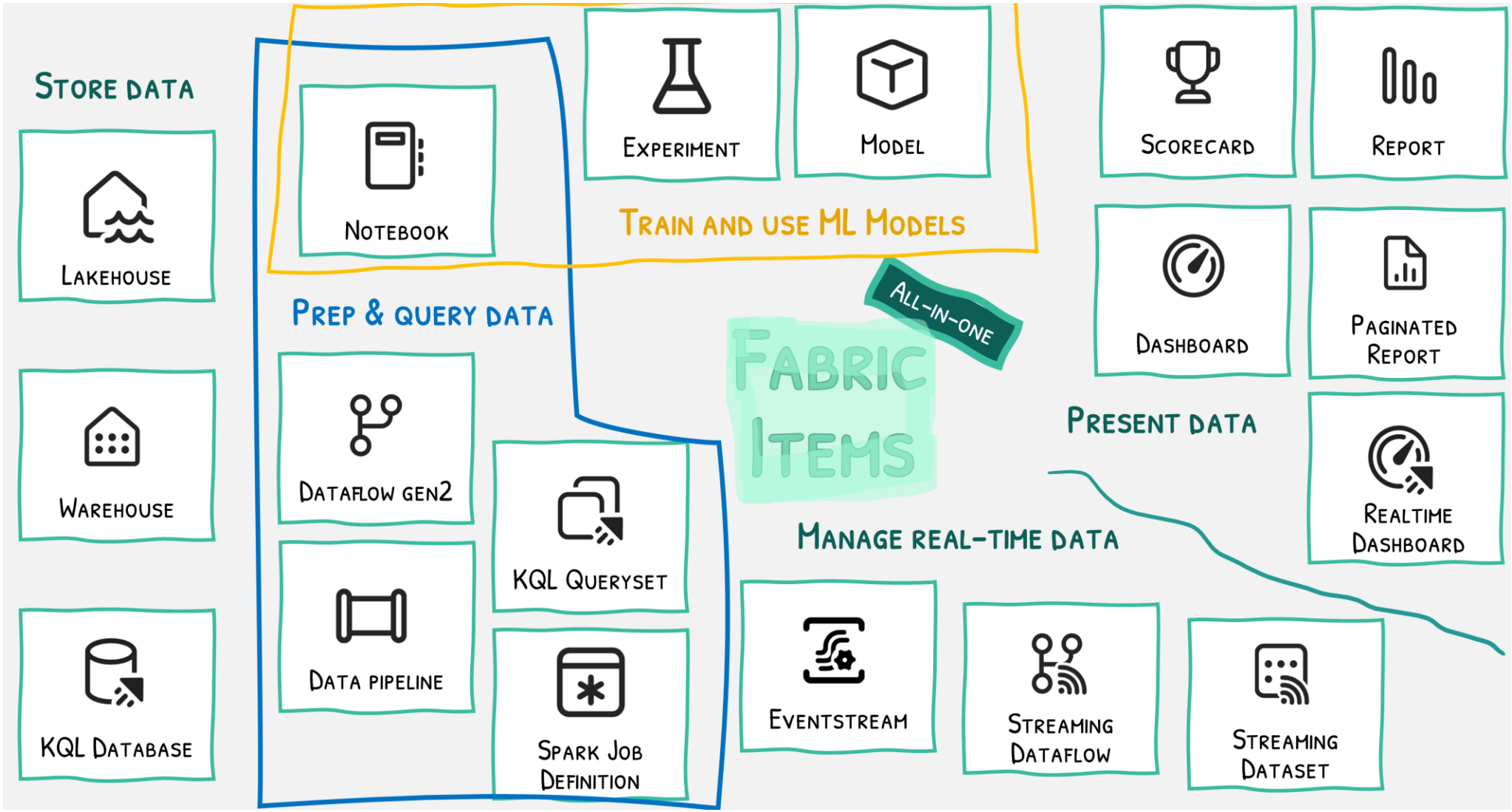
- @marcopozzan.it
- www.marcopozzan.it

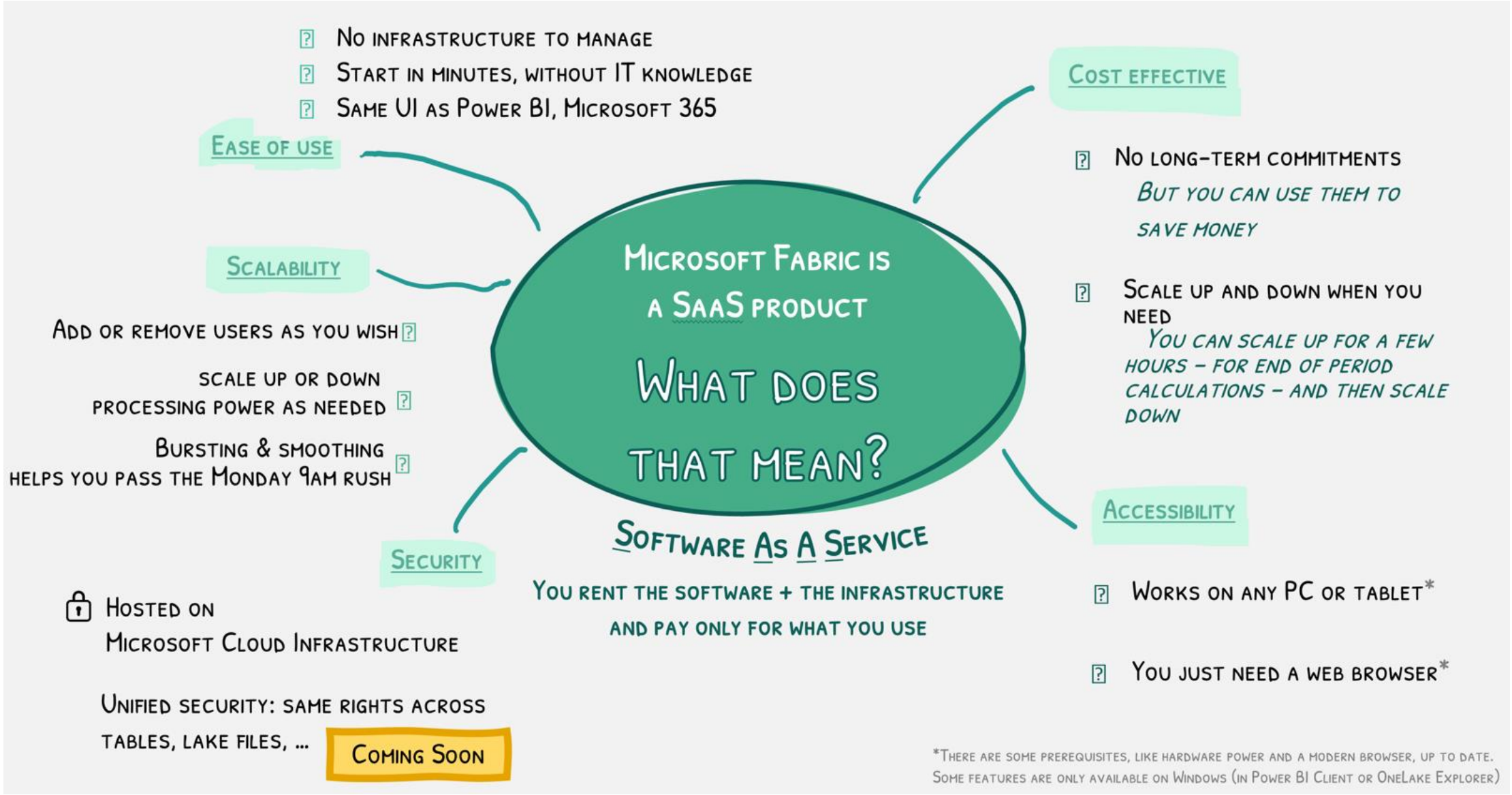
Microsoft Fabric



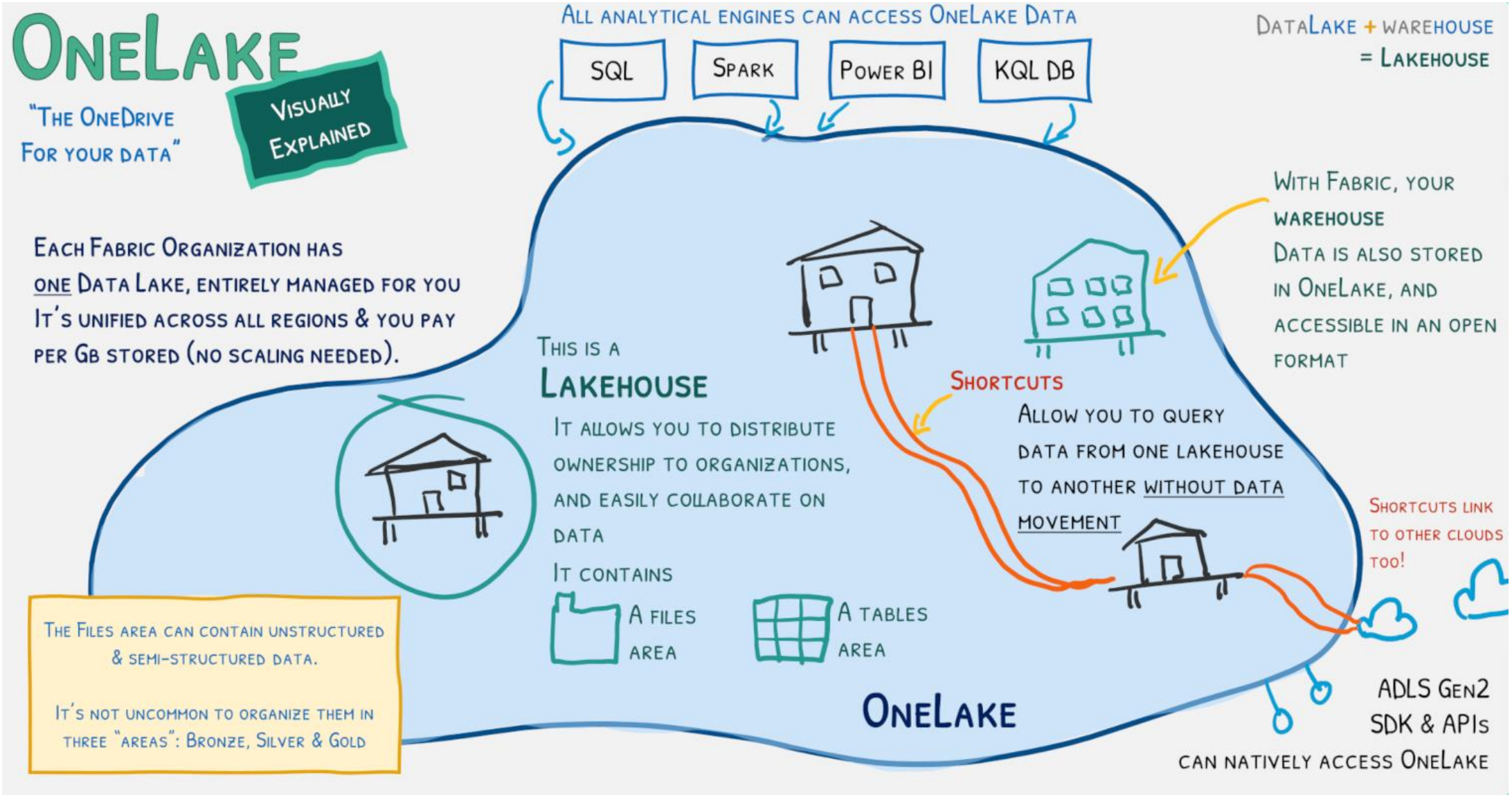
Microsoft Fabric



Microsoft Fabric



Microsoft Fabric



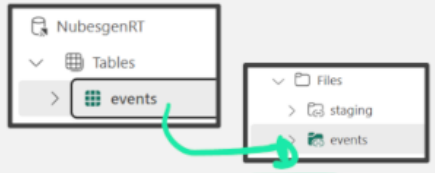
Microsoft Fabric

OneLake Shortcuts

Shortcuts allow you to create a virtualized data lake, eliminating copies of data between organization domains, analytical engines, or clouds

Internal

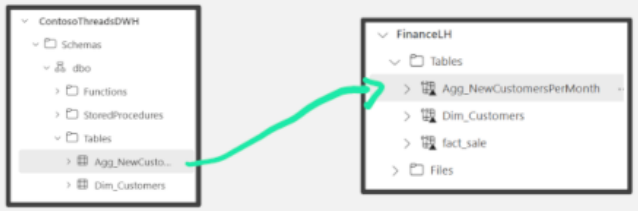
From a lakehouse folder to a lakehouse folder



From a KQL Database Table to a lakehouse Folder

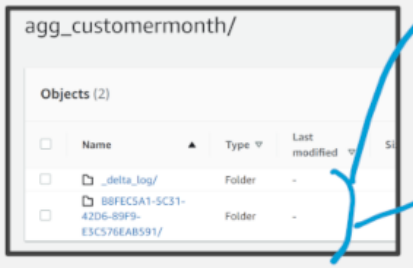
Two Types Of Shortcuts

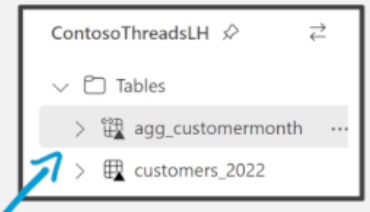
From a lakehouse Table to a lakehouse Table



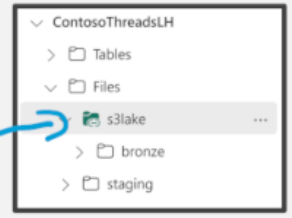
From a Warehouse Table to a lakehouse Table

External





From an ADLS Gen2/S3 folder to a lakehouse Folder



From an ADLS Gen2/S3 folder to a Table

S3 Shortcuts are read-only

Microsoft Fabric

Inside the Apache Parquet format It's Open Source!

In traditional databases (Postgres, SQL Server*) and file types (CSV, JSON), data is stored as rows...

first_name	last_name	street	isPremiumCustomer	Next Month Buying Probability
Abigail	Hayes	4009 9th Street	1	1
Amanda	Clark	87 5th Street	0	2
Melissa	C…			
Sara	Ben…			
Isaac	Hend…			
Emma	Ste…			
Sean	M…			
Jason	San…			
Alexander	W…			
Megan	M…			

Customers.csv

```
first_name,last_name,street,isPremiumCustomer,nextmbuyprob
Abigail,Hayes,4009 9th Street,1,0.26340968441351104
Amanda,Clark,87 5th Street,0,0.17177893540625921
Melissa,Clark,12650 5th Street North,1,0.5438465585898219
Sara,Bennett,203 State Street,0,0.15856312140709694
Isaac,Henderson,732 Magnolia Drive,1,0.19389081059172666
Emma,Stewart,47 Route 32,1,0.8833057932776623
Sean,Morris,254 Lincoln Avenue,0,0.4156333382834478
Jason,Sanchez,26050 Madison Avenue,0,0.5862717219123177
Alexander,Walker,54051 Valley Road,1,0.5941814808482648
Megan,Morris,31 Delaware Avenue,1,0.6289626353900487
```

...which is not optimal for analytical needs:

- 👎 For some file types (like CSV), there is no embedded schema
- 👎 Compression is not good (you're kinda limited to text compression)
- 👎 You need to scan(read) all the rows

*Unless you're using columnstore tables :)

In Parquet, data is stored as columns

Customers.parquet

first_name Abigail Amanda Melissa Sara Isaac Emma Sean Jason

last_name Hayes Clark Clark Bennett Henderson Stewart Morris Sanchez

isPremiumCustomer 1 0 1 0 1 x2 0 x2

Category 0.263409684 0.171778935 0.543846559 0.158563121 0.193890811 0.883305793 0.415633338 0.586271722

Col 1 STRING Col 2 STRING Col 3 BOOLEAN Col 4 UINT_32

File structure is simplified, omitting details like row groups.

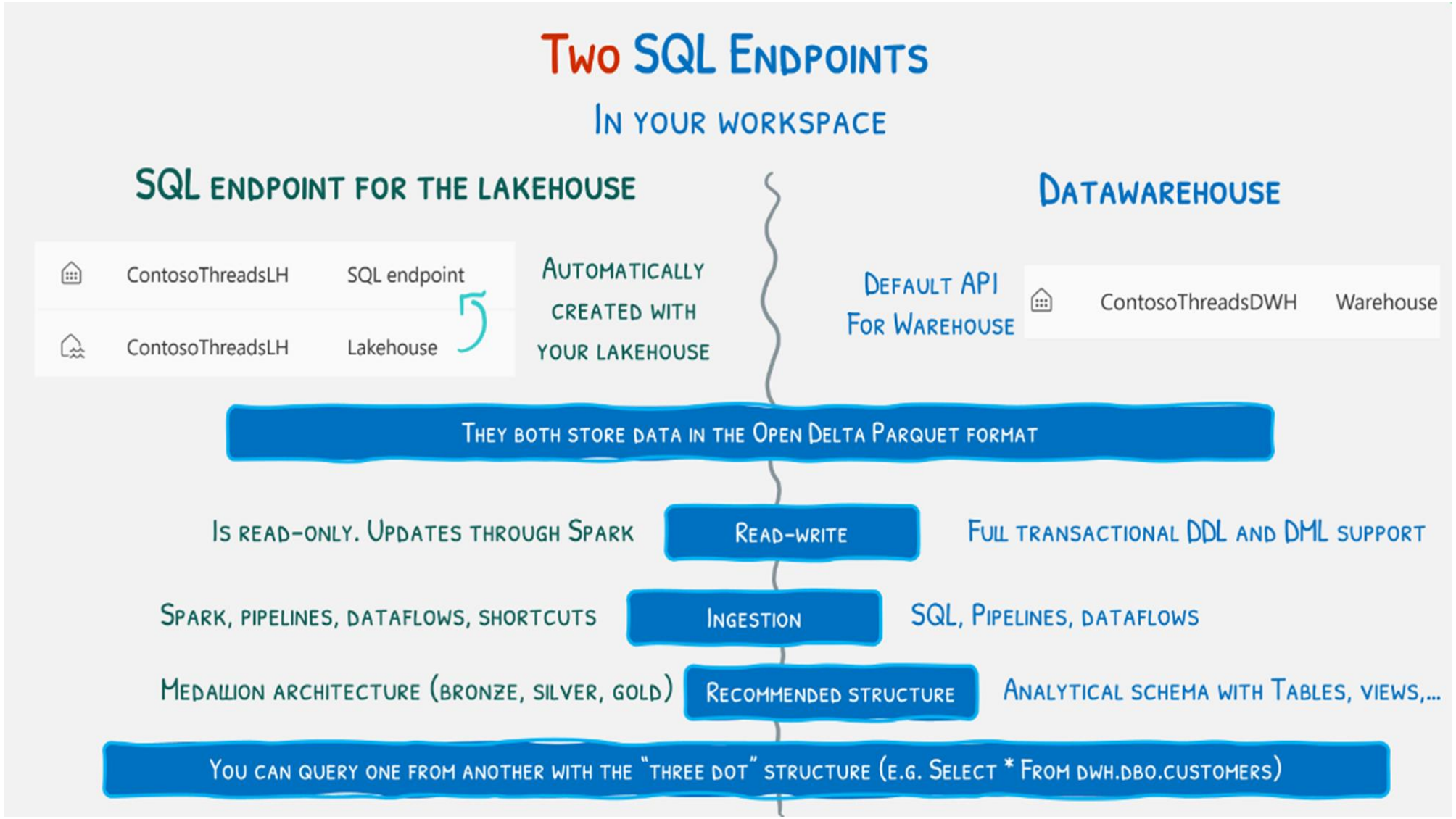
- 🔍 Parquet embeds the data Schema
- Want the number of premium customers? You can compute that aggregate without reading any other unnecessary data!
- 🗜 We can efficiently compress repetitive data like this one

With Fabric, you can easily read parquet files stored in OneLake or in other clouds

Microsoft Fabric

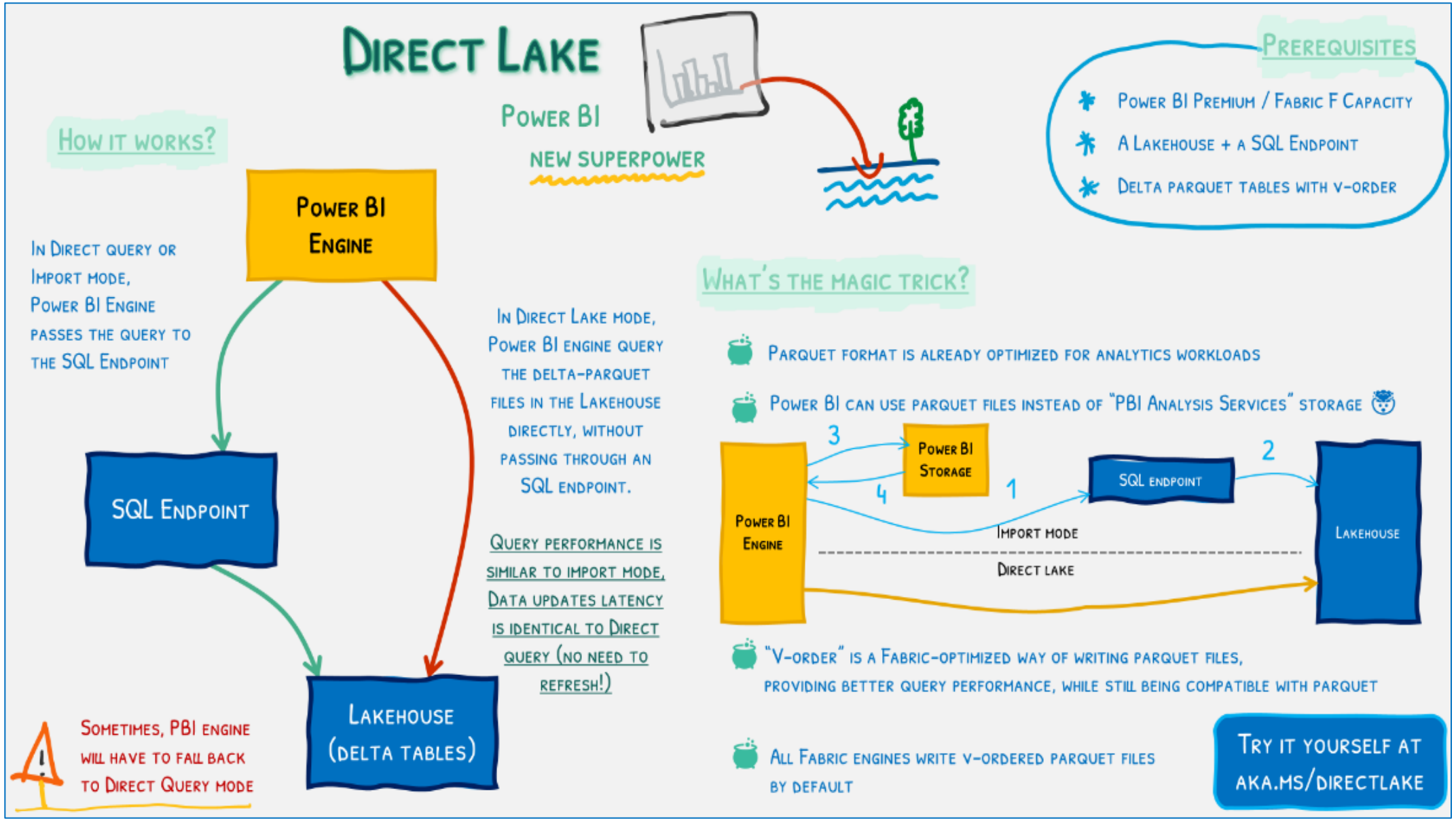
[Diversi Endpoint di Fabric e i loro scenari di utilizzo]

Microsoft Fabric

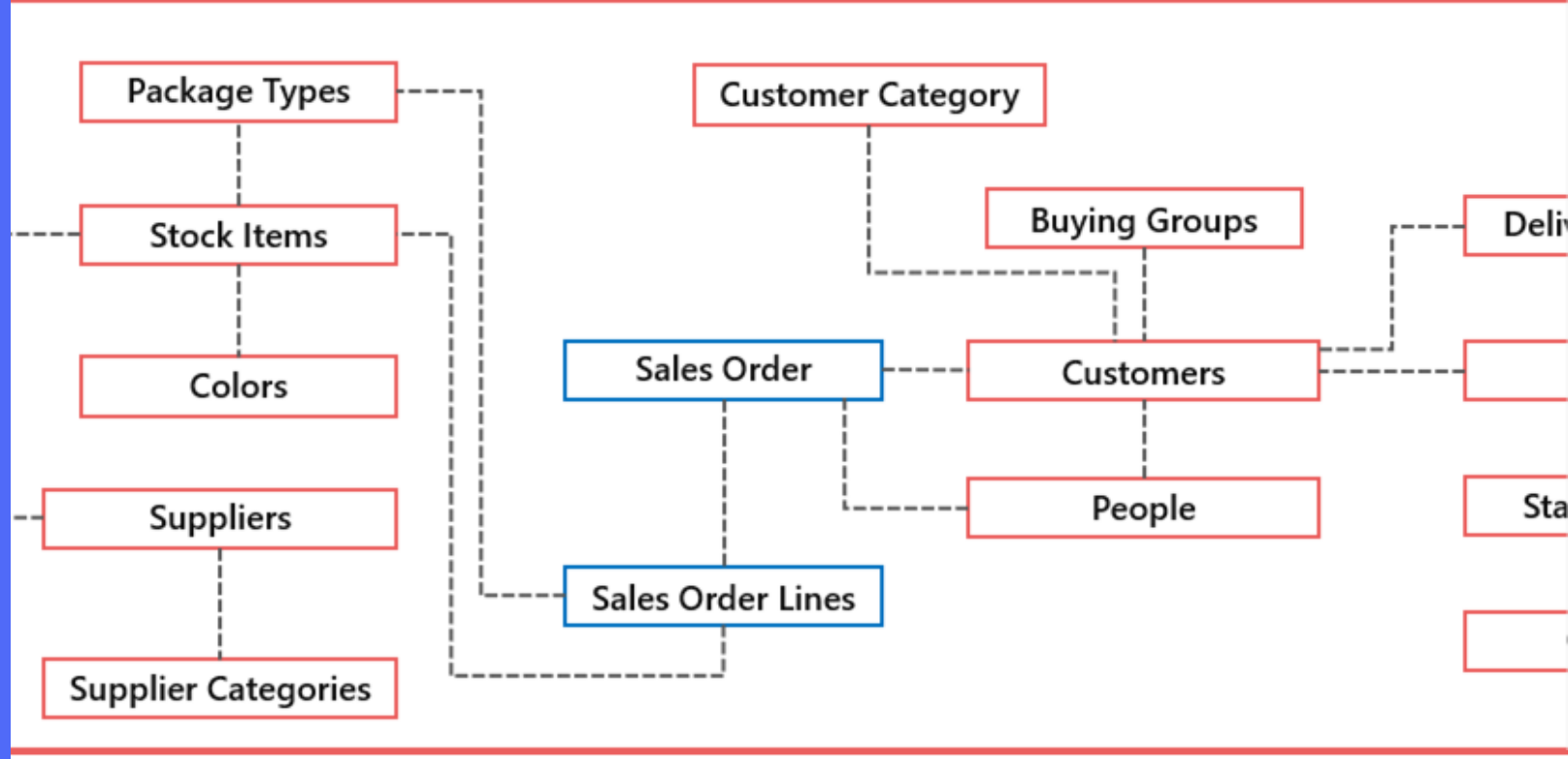


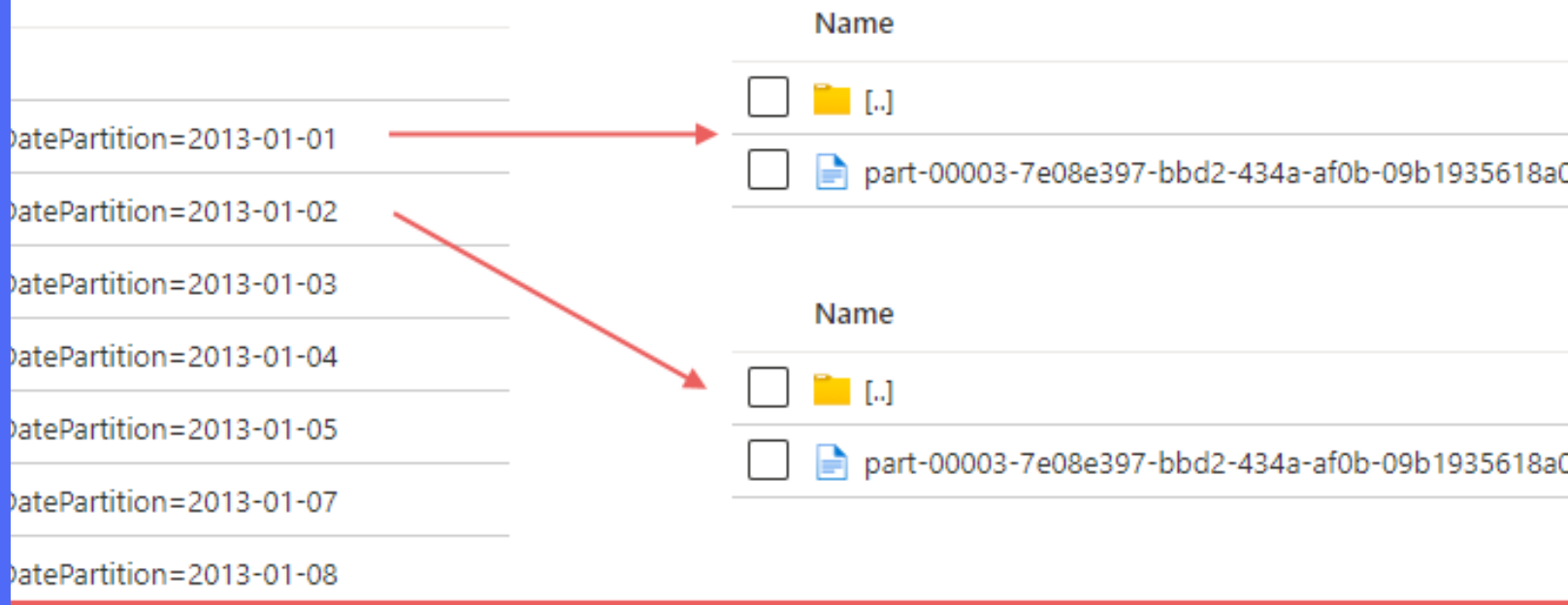
[Diversi Endpoint di Fabric e i loro scenari di utilizzo]

Microsoft Fabric

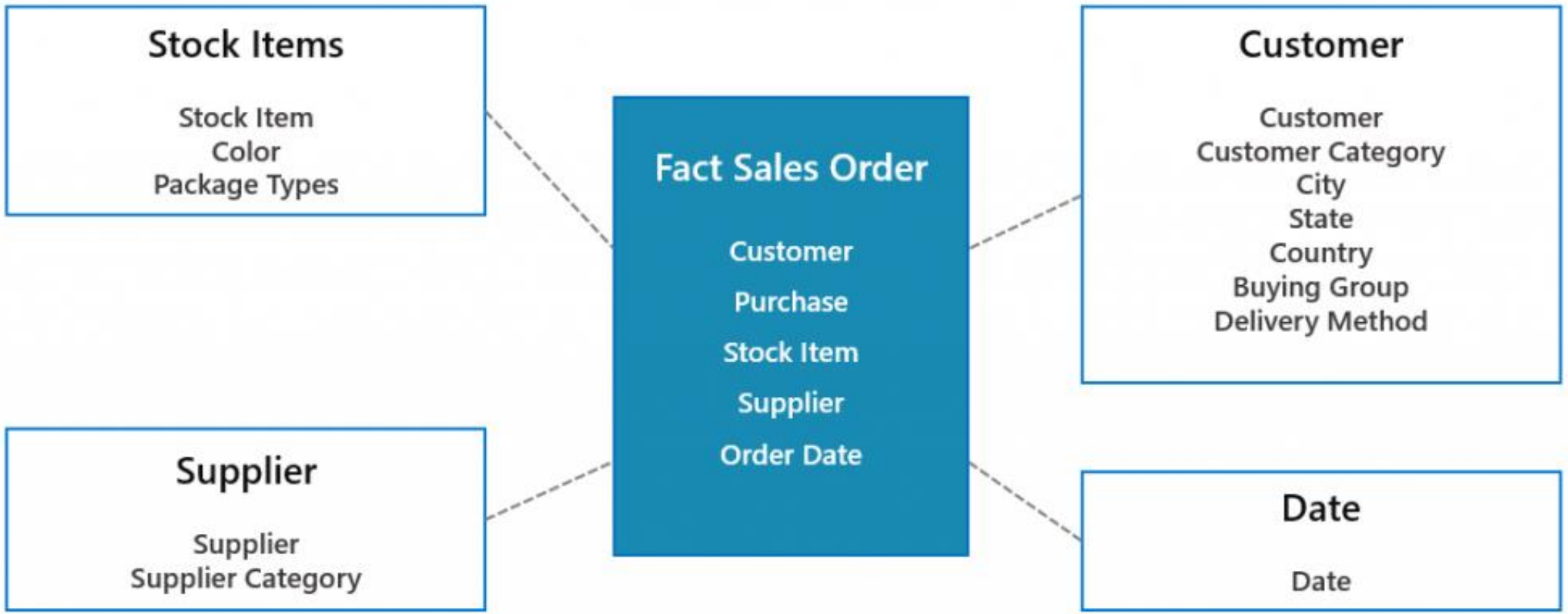


DEMO


Package Types
Customer Category
Stock Items
Buying Groups
Colors
Sales Order
Customers
Suppliers
People
Sales Order Lines
Supplier Categories

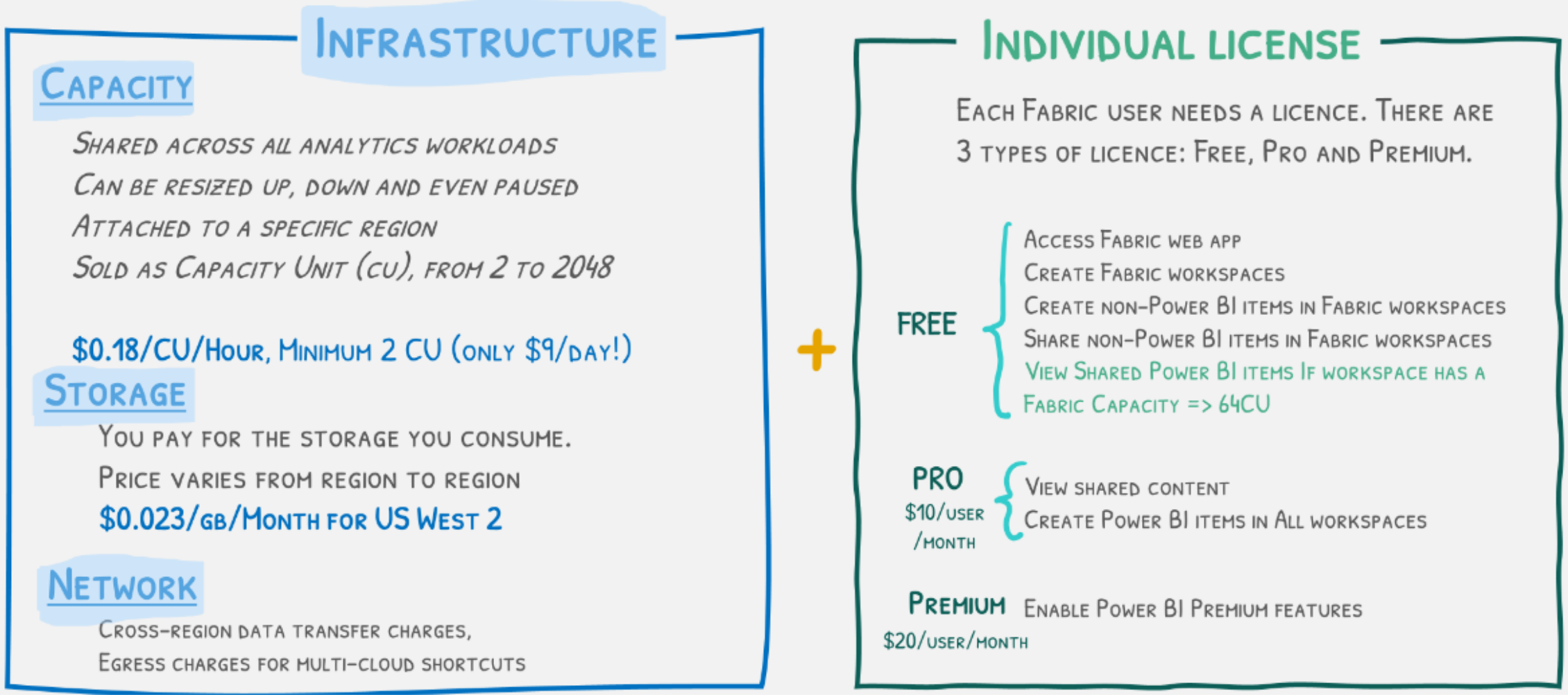

DatePartition=2013-01-01
DatePartition=2013-01-02
DatePartition=2013-01-03
DatePartition=2013-01-04
DatePartition=2013-01-05
DatePartition=2013-01-07
DatePartition=2013-01-08
Name
[..]
part-00003-7e08e397-bbd2-434a-af0b-09b1935618a0
Name
[..]
part-00003-7e08e397-bbd2-434a-af0b-09b1935618a0

Demo – Load gold layer with sql queries



License

Licensing



You only pay what goes beyond the limit that is provided by default for OneLake (1TB)

Licensing

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

Licensing

Pay as you Go:

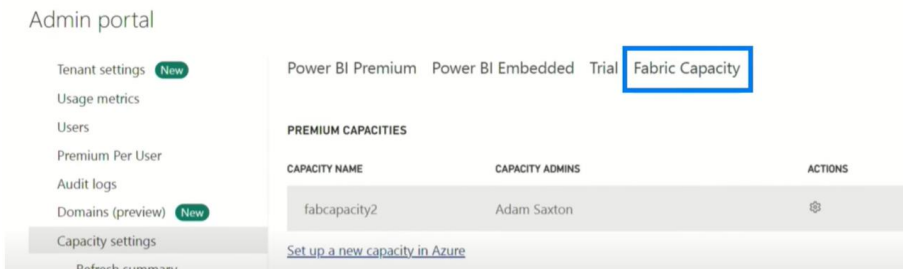
Microsoft Fabric has two declinations, one as a pay-as-you-go service within Azure.

With the Power BI P1 SKU you have the equivalent of the Fabric F64 SKU as seen in the table below

The CU (Capacity Units) are used to measure the computing power available for each SKU while for Power BI SKU we still think about V-Cores

Reserved Instance

Corresponds to Power BI Premium Capacity



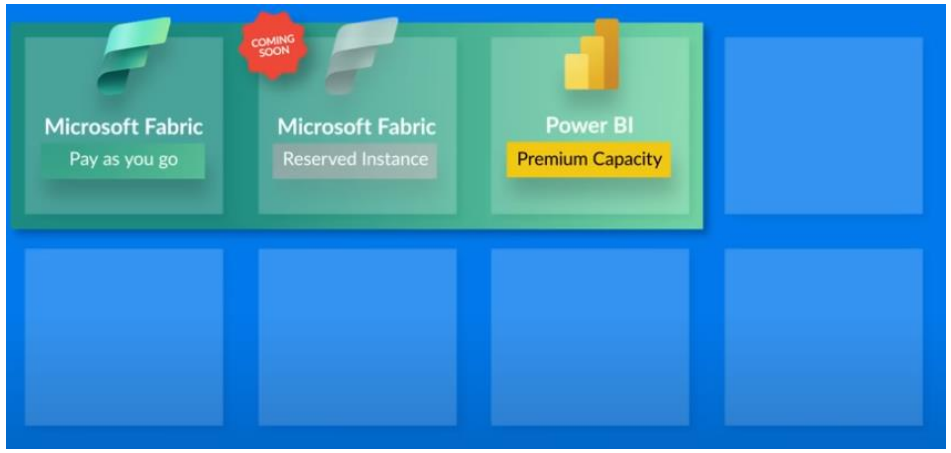
Fabric SKU	Capacity Units (CU)	Power BI SKU	Power BI V-Cores
F2	2	-	0.25
F4	4	-	0.5
F8	8	EM/A1	1
F16	16	EM2/A2	2
F32	32	EM3/A3	4
F64	64	P1/A4	8
F128	128	P2/A5	16
F256	256	P3/A6	32
F512	512	P4/A7	64
F1024	1024	P5/A8	128
F2048	2048	-	256

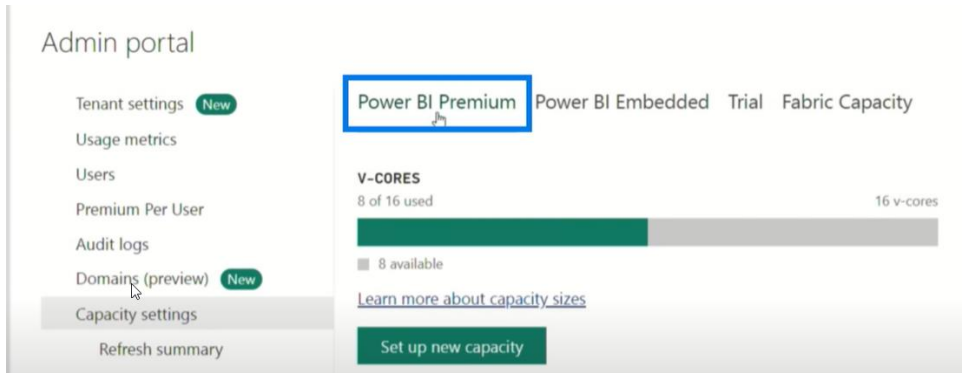
Licensing

Power BI Premium Capacity

Power BI Premium Capacity provide all the features of Fabric

Recall that Microsoft Fabric (reserverd Instance) is the same thing as Premium capacity but it is different ☺ as they are different only where you buy one through Microsoft 365 and the other from the Azure portal





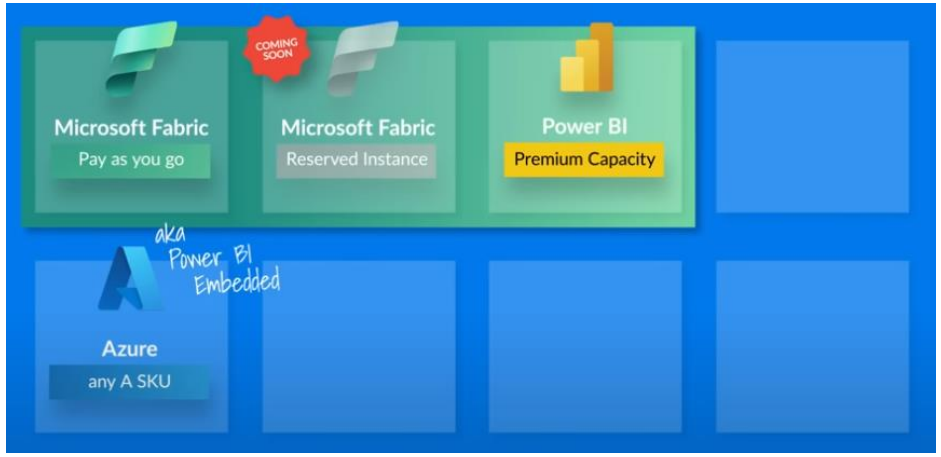
Licensing

Power BI Embedded

Power BI Embedded can always be purchased through the Azure portal

It includes only one A SKU and therefore **only Power BI features and not Fabric features**

For each A SKU there are equivalent licenses in Fabric as shown in the table below to purchase



Fabric SKU	Capacity Units (CU)	Power BI SKU	Power BI V-Cores
F2	2	-	0.25
F4	4	-	0.5
F8	8	EM/A1	1
F16	16	EM2/A2	2
F32	32	EM3/A3	4
F64	64	P1/A4	8
F128	128	P2/A5	16
F256	256	P3/A6	32
F512	512	P4/A7	64
F1024	1024	P5/A8	128
F2048	2048	-	256

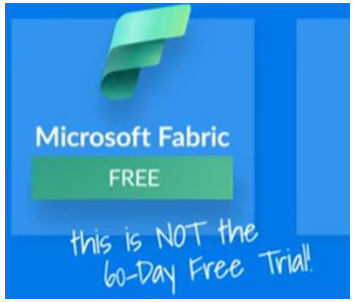
Licensing

Power BI Fabric

Power BI Fabric replaces the old Power BI Free license

It has no trial period

A user with a free license can consume contents if the respective workspaces are created in a Fabric F64 or in Power BI P1 SKU (all the colored part in the table)



Fabric SKU	Capacity Units (CU)	Power BI SKU	Power BI V-Cores
F2	2	-	0.25
F4	4	-	0.5
F8	8	EM/A1	1
F16	16	EM2/A2	2
F32	32	EM3/A3	4
F64	64	P1/A4	8
F128	128	P2/A5	16
F256	256	P3/A6	32
F512	512	P4/A7	64
F1024	1024	P5/A8	128
F2048	2048	-	256

Licensing

Power BI Pro

Power BI Pro is the same as before and does **not include Fabric features**

Power BI functionality within a Fabric workspace requires a Power BI Pro license

A user needs a Power BI Pro license if their workspaces are created in a Fabric lower than F64 or anything lower than Power BI P1 SKU (all colored part in the table)

Fabric SKU	Capacity Units (CU)	Power BI SKU	Power BI V-Cores
F2	2	-	0.25
F4	4	-	0.5
F8	8	EM/A1	1
F16	16	EM2/A2	2
F32	32	EM3/A3	4
F64	64	P1/A4	8
F128	128	P2/A5	16
F256	256	P3/A6	32
F512	512	P4/A7	64
F1024	1024	P5/A8	128
F2048	2048	-	256

PRO

Licensing

Power BI Premium per User

Power BI Premium per user offers features similar to Premium Capacity with partial access to Fabric obviously at a lower cost of $20 per user

Ideal for small companies or small work teams

Licensing

Power BI Premium Governament

This remains the same for US Government customers and will be released after Fabric general availability

Grazie

dgroove