

Recapping Microsoft Ignite Focused on Data & AI

Nicky van Vroenhoven | Powerdobs Daan Humblé | Microsoft

23 November 2023



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What happened at Ignite?



aka.ms/BookofNews

The 2023 ML, AI, and Data Landscape

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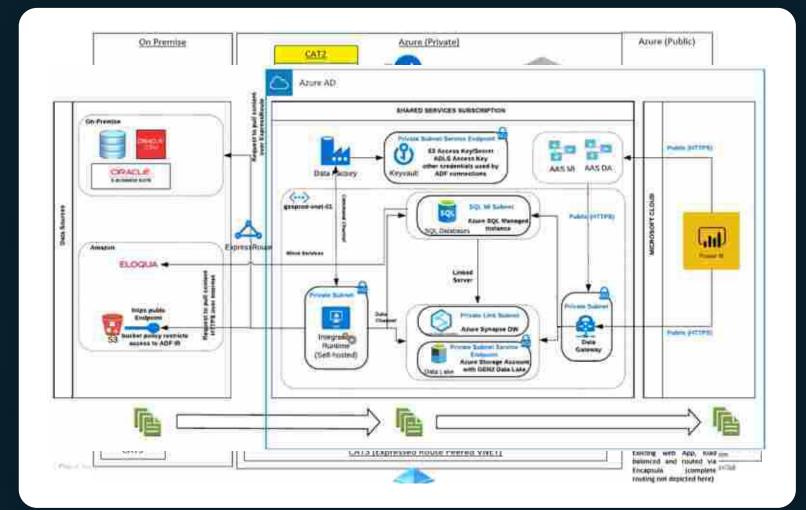
Analytics is complex and fragmented

Every project has many subsystems

Every subsystem need a different class of product

Products often comes from multiple vendors

Integration is complex, fragile and expensive



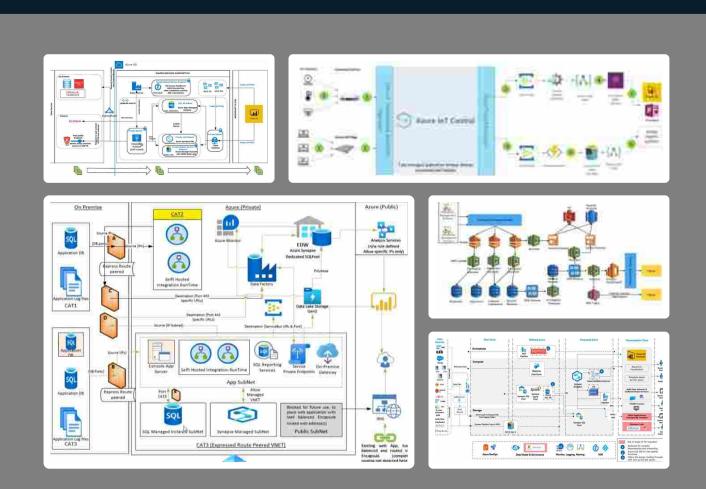
With siloes created everywhere

Applications are built by different teams

With diverse technology stacks and architectures, each designed as a standalone system

Making cross-app integration, and leveraging analytics in operations very hard

This chaotic complexity imperils the transition to the age of Al



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

Every CDO, Every Enterprise

Public Preview May 2023



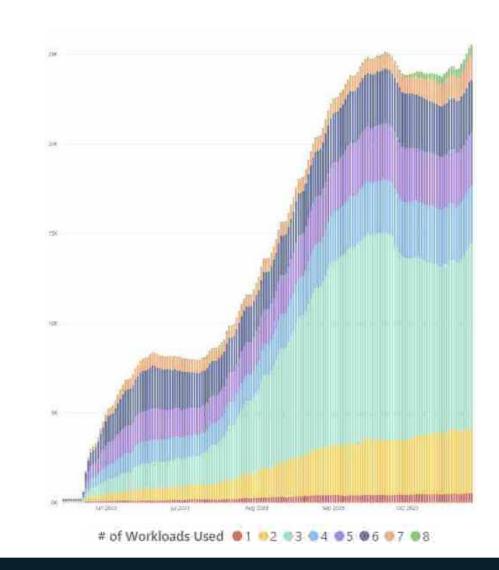
Microsoft Fabric Data analytics for the era of AI



Microsoft Fabric The data platform for the era of AI



25k+ active organizations (TPIDs)



Customers are using Fabric end to end

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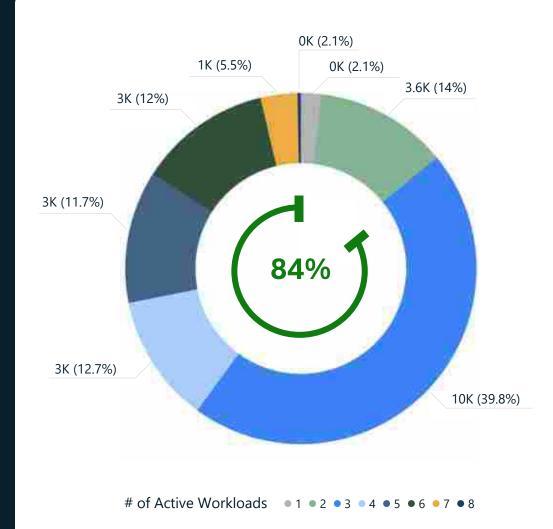
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3+ Workloads 84% of Customers

4+

Workloads





Weekly Fabric Releases

Rapid pace of innovation

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Weekly Fabric Releases

Rapid pace of innovation

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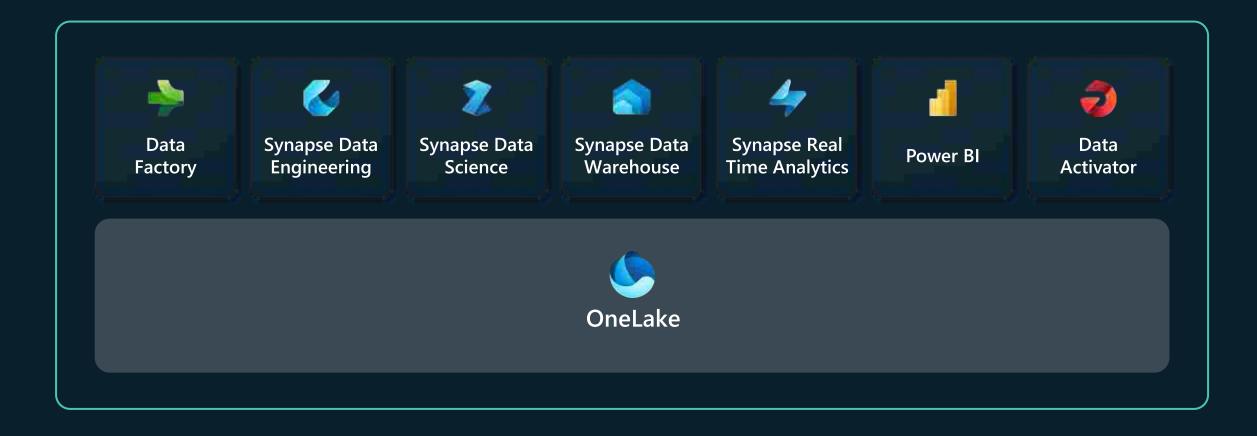
Microsoft Fabric

Generally Available, Nov 15, 2023

aka.ms/IgniteFabric2023



Microsoft Fabric The data platform for the era of AI





Microsoft Fabric Data analytics for the era of AI

Complete Analytics Platform

Everything, unified

SaaS-ified

Secured and governed

Lake Centric and Open

OneLake

One copy

Open at every tier

Empower Every Business User

Familiar and intuitive

Built into Microsoft 365

Insight to action

AI Powered

Copilot accelerated

Gen Al on your data

Al-driven insights



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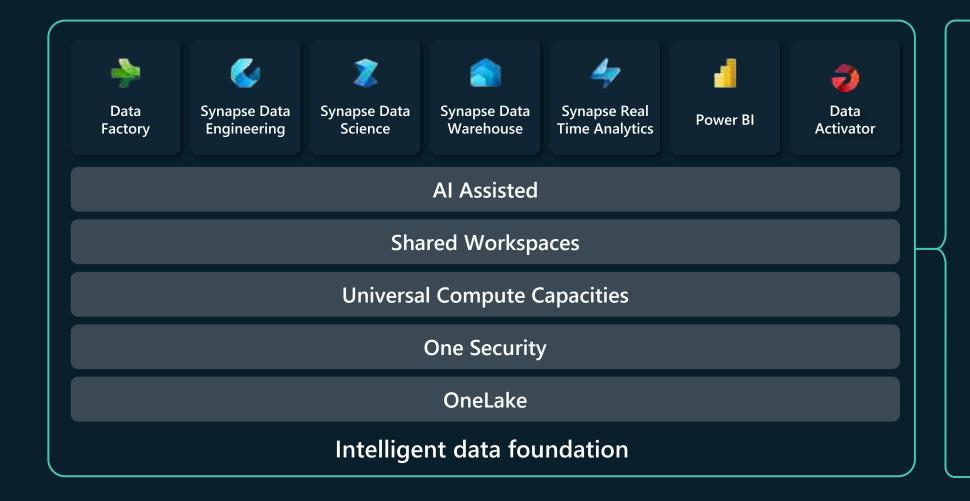
Al-driven insights



SaaS "It just works"

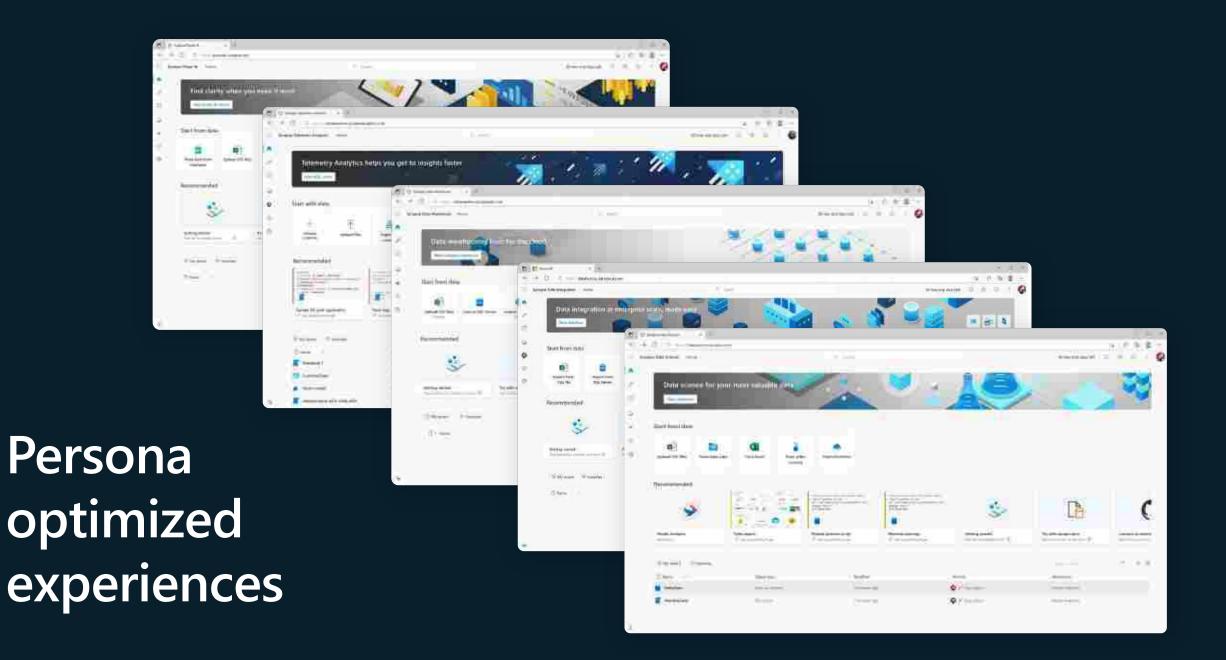
5x5	Success by default	Centralized administration
Frictionless onboarding	Minimal knobs	Tenant-wide governance
Instant provisioning	Auto optimized	Centralized security management
Quick results w/ Intuitive UX	Auto integrated	Compliance built-in





Single...

- Onboarding and trials
- Sign-on
- Navigation model
- UX model
- Workspace organization
- Collaboration experience
- Data Lake
- Storage format
- Data copy for all engines
- Security model
- CI/CD
- Monitoring hub
- Data Hub
- Governance & compliance



Demo: Every data workload in one SaaS experience



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OneLake for all Data

"The OneDrive for Data"



A single SaaS lake for the whole organization

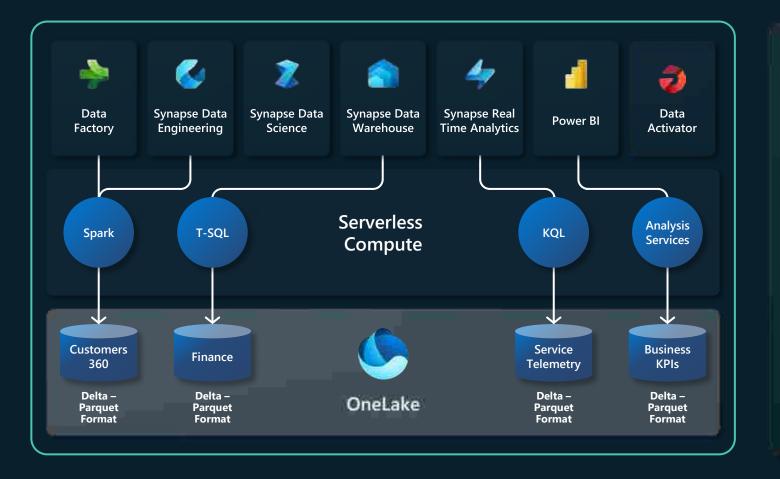
Provisioned automatically with the tenant

All workloads automatically store their data in the OneLake workspace folders

All the data is organized in an intuitive hierarchical namespace

The data in OneLake is automatically indexed for discovery, MIP labels, lineage, PII scans, sharing, governance and compliance

One Copy for all computes Real separation of compute and storage



All the compute engines store their data automatically in OneLake

The data is stored in a single common format

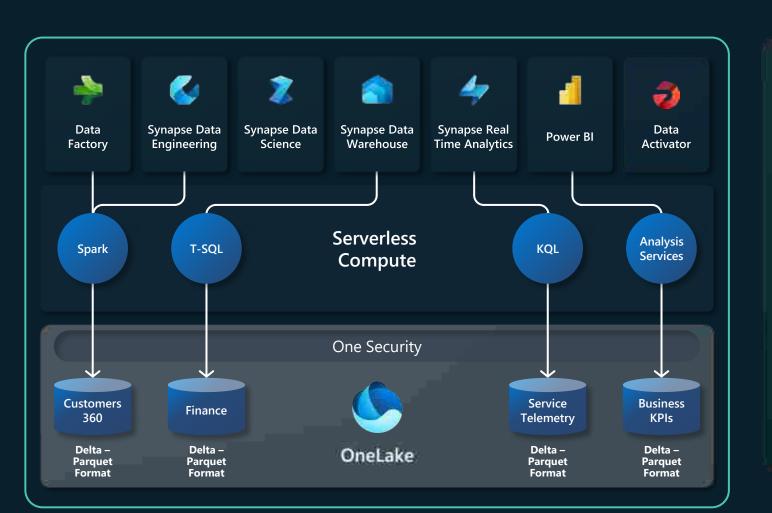
Delta – Parquet, an open standards format, is the storage format for all tabular data in Analytics vNext

Once data is stored in the lake, it is directly accessible by all the engines without needing any import/export

All the compute engines have been fully optimized to work with Delta Parquet as their native format

Shared universal security model is enforced across all the engines

One Copy for all computes Universal security makes it real



All the compute engines store their data automatically in OneLake

The data is stored in a single common format

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Unifying data in OneLake Shortcuts



Sharing data in OneLake is as easy as sharing files in OneDrive, removing the needs for data duplication

With shortcuts, data throughout OneLake can be composed together without any data movement

Shortcuts also allow instant linking of data already existing in Azure and in other clouds, without any data duplication and movement, making OneLake the first multi-cloud data lake

With support for industry standard APIs, OneLake data can be directly accessed by any application or service



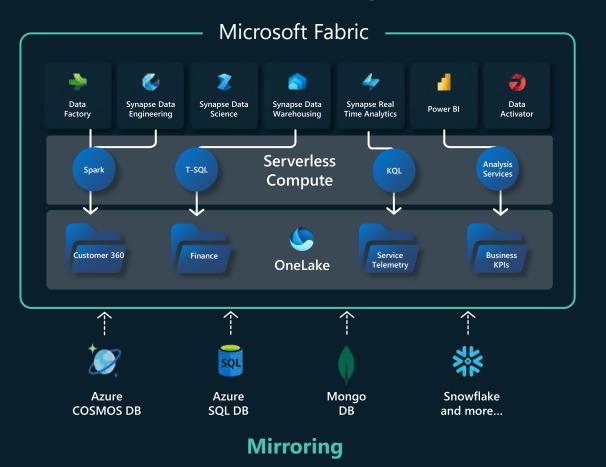




aka.ms/IgniteFabric2023

Mirroring in Microsoft Fabric

Simplify near real-time analytics



Fabric compute engines

Fabric Mirroring enables adding existing databases and data warehouses to Fabric without any ETL.

A full editing experience of the source database is available for the Mirrored database.

Data is replicated into OneLake in Delta format and kept up-to-date in near-real-time.

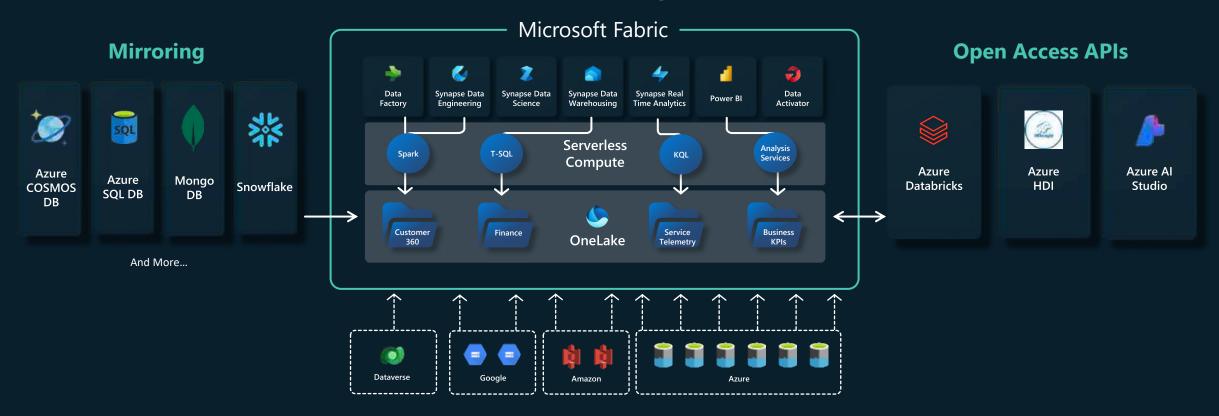
All the Fabric experiences instantly work with the OneLake replica.

Analysts and Data Scientists can work with real-time data.

The replica protects operational databases from analytical queries.

Microsoft Fabric

Connect your entire data estate



Fabric compute engines

Multi-cloud shortcuts

Microsoft Fabric

Introducing Direct Lake Mode

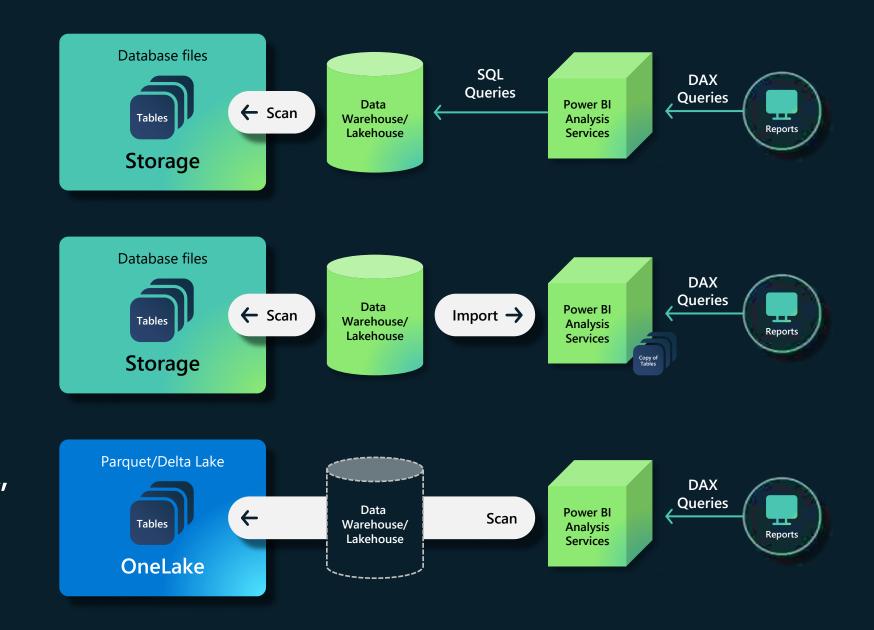
"Direct Query Mode" Slow, but real time



"Direct Query Mode" Slow, but real time

"Import Mode" Latent & duplicative but fast

"Direct Lake Mode" Perfect!



Direct Lake mode

On start, no data is loaded in-memory

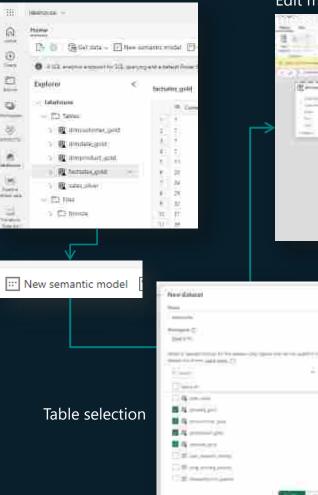
Column data is transcoded from Parquet files when queried

Tables can have mix of transcoded (resident) and non-resident

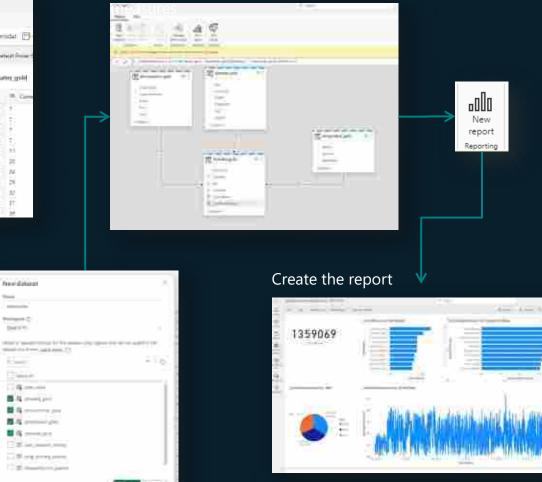
Column data can get evicted over time

Direct Lake fallback to Direct Query for suitable sub-queries

"Framing" of dataset determines what gets loaded from DeltaLake



Edit model : create relationships and



Why Delta (Parquet)?

Open Standard for file format

Column oriented, efficient data storage and retrieval

Efficient Data Compression and Encoding

Becoming the Industry Standard

Thrives on bulk operations

Well suited for pruning (Column, rowgroup)

Introducing V-Ordering

Write time optimization to parquet files

Sorting, row group distribution, dictionary encoding, and compression (Shuffling)

Complies to the open standard

Z-Order, compaction, vacuum, time travel, etc. are compatible with V-Order

V-ordering in action

Microsoft Internal DB (162 tables)

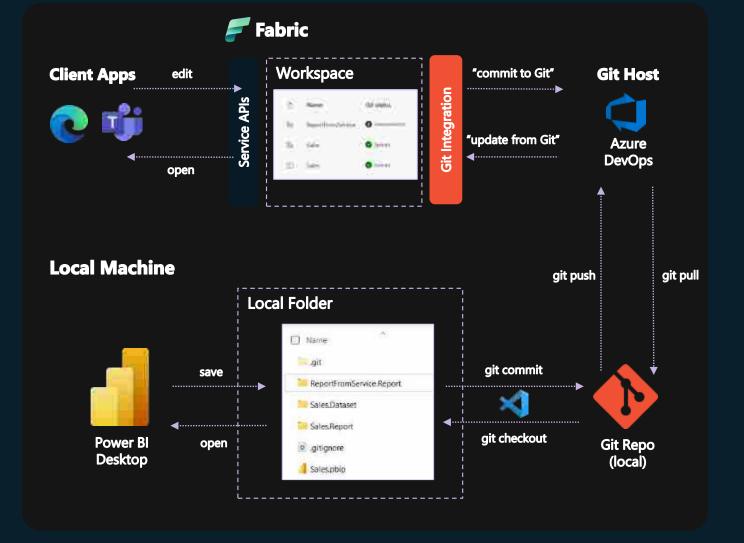


x3.2 Reduced IO for workloads

Demo: Direct Lake



Microsoft Fabric Developer Experience



Demo: Developer experiences



Microsoft Fabric Data analytics for the era of AI

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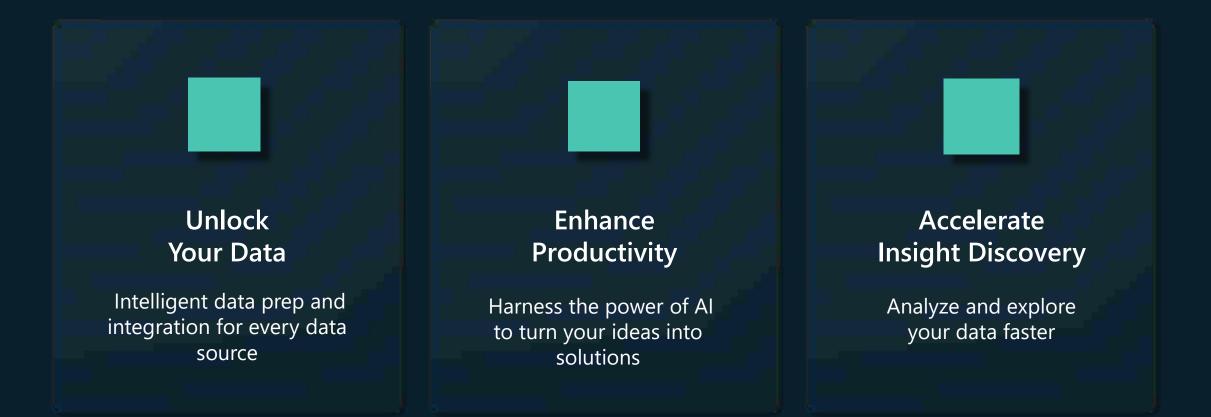


Copilot in Microsoft Fabric

aka.ms/IgniteFabric2023

Copilot in Microsoft Fabric

Generative AI for every step of your data journey





Generally Available

OneLake

Data Factory

Synapse Data Engineering

Synapse Data Science

Synapse Data Warehousing

Synapse Real Time analytics

OneLake Shortcut: ADLS2; AWS-S3; DV

Fabric SKU 1Y RI (F-SKU)

Power BI

Public Preview

Copilot in Microsoft Fabric**

Data Activator

Private Preview

Snowflake Mirroring Azure SQL Mirroring Azure Cosmos DB Mirroring

Next steps



Attend Fabric sessions aka.ms/lgniteData2023



Read all the announcements <u>aka.ms/bookofnews</u>



Try Microsoft Fabric aka.ms/try-Fabric



Explore the Fabric Roadmap aka.ms/FabricRoadmap

Bonus!

Unified business model

 \cdot "Pay for the average, not the peak"



How it works

Capacity units (CUs) = Compute power

Capacity units (CUs) are units of measure that represent a pool of compute power needed. Compute power is required to run queries, jobs, or tasks.

CU Consumption

The CU consumption is highly correlated to the underlying compute effort needed for the tasks performed by the capability during the processing time.

Each capability, such as Power BI, Spark, Data Warehouse, with the associated queries, jobs, or tasks has a unique consumption rate.

Note: For additional documentation on purchasing experience and capacity models, please see here: aka.ms/fabriclicensing

Translation for existing Power BI Premium per capacity Customers

SKUPBI vCoreSKUCUP18F 6464P216F 128128P332F 512512	Today		Microsoft Fabric Generally Available
P2 16 Image: Particular of the second secon	SKU PBI vCor	SK	KU CU
P3 32 F 256 256	P1 8	F 6	64 64
	P2 16	》 F1	128 128
P4 64 E 512 512	P3 32	F 2	256 256
	P4 64	F 5	512 512
P5 128 F 1024 1024	P5 128	F 1	1024 1024

- Power BI Premium P SKUs get access to the full Fabric capabilities
- 8 CUs are providing the same compute power of 1 Power BI Premium v-core for Power BI workloads. That is, F64 provides the equivalent compute power of Power BI Premium P1



COMPUTE

For additional documentation on Fabric licensing types, please see here: Microsoft Fabric concepts – Microsoft Fabric | Microsoft Learn

65 Microsoft Fabric

Translation for existing Power BI Premium per capacity Customers

	Today		Microsoft Fabric Generally Available			Microsoft Fabric Pricing*	
SKU	PBI vCore		SKU	CU		SKU	CU
,	not available		F 2	2		€ 303	€ 180
A1	1	>	F 8	8	\gg	€ 1.214	€ 722
P1	8		F 64	64		€ 9.715	€ 5.777
P2	16		F 128	128		€ 19.431	€ 11.554
Р3	32		F 512	512		€ 77.726	€ 46.219

Visit Fabric pricing page for more details.

For additional documentation on Fabric licensing types, please see here: Microsoft Fabric concepts - Microsoft Fabric | Microsoft Learn

Microsoft Fabric 66



~€ 0.21/hour

COMPUTE

Demo: Capacity Metrics

OneLake pricing

OneLake is a data lake built into Microsoft Fabric and provides a single place to store all organizational data. Data storage is charged at a rate of \$ per GB per month and priced uniquely across regions.

	Туре	Pay-as-you-go price at West US 2
	OneLake storage	\$0.023 per GB / month
Data Storage	OneLake BCDR storage	\$0.0414 per GB / month
	OneLake cache	\$0.2 per GB / month



Cross-region data transfer network charges may apply based on source/destination of each storage access. Learn more at the <u>Bandwidth Pricing</u>.

Data Transfer & Internet Egress

Note: OneLake cache is billed for KQL cache storage and Data Activator data retained.

New Microsoft Credentials



Get ready! Try the Fabric Cloud Skills Challenge

aka.ms/IgniteCSC

Microsoft Certifications

Microsoft Certified: Fabric Analytics Engineer Associate

Exam DP-600: Implementing Analytics Solutions Using Microsoft Fabric

BETA in mid-Jan



Microsoft Applied Skills

Fabric credentials

Covering scenarios like real-time analytics, data lakehouses, and data warehouses using Microsoft Fabric

NEW in early 2024