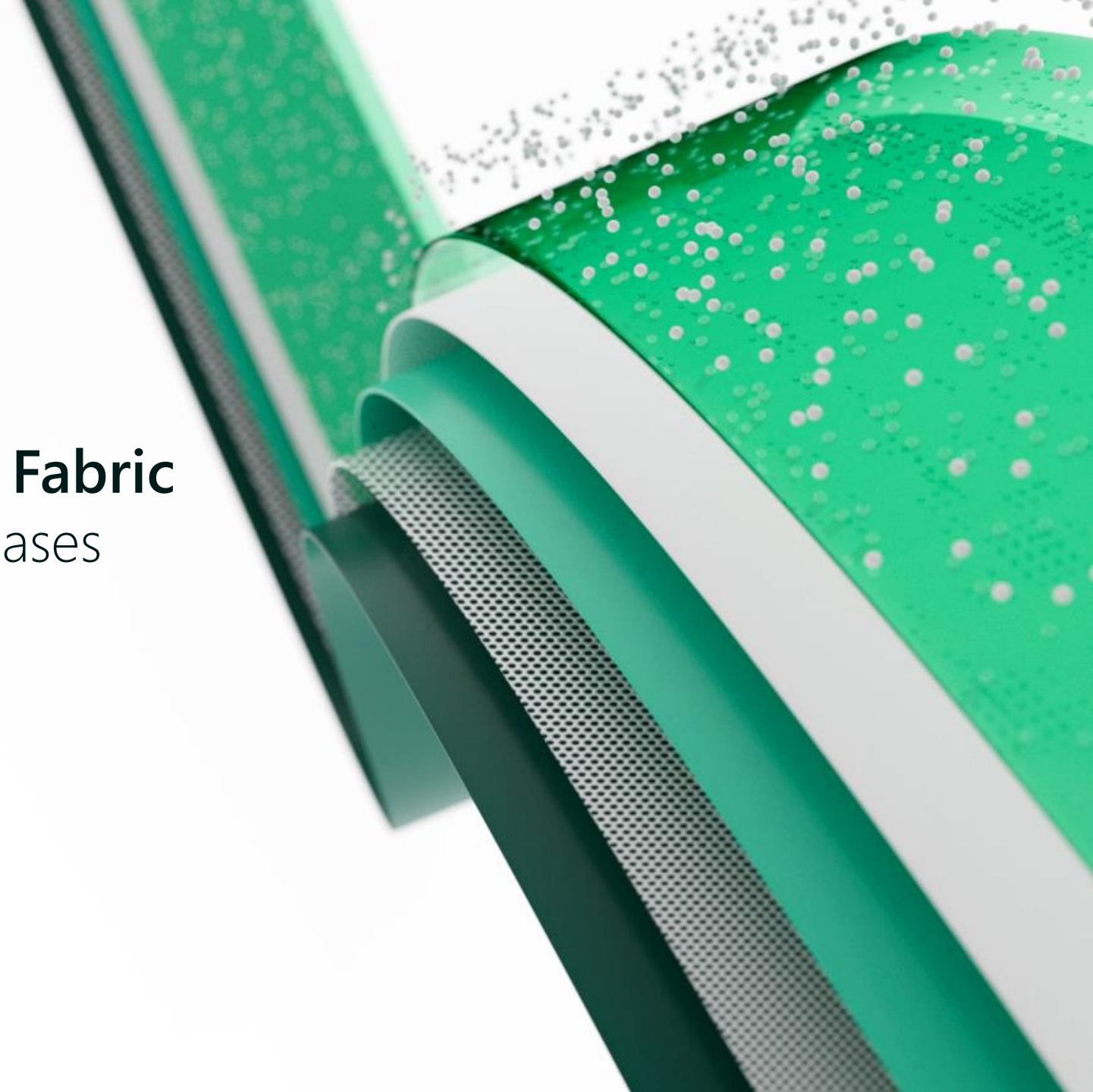
Microsoft



Semantic Link in Microsoft Fabric

Introduction and selected use cases

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Senior Program Manager

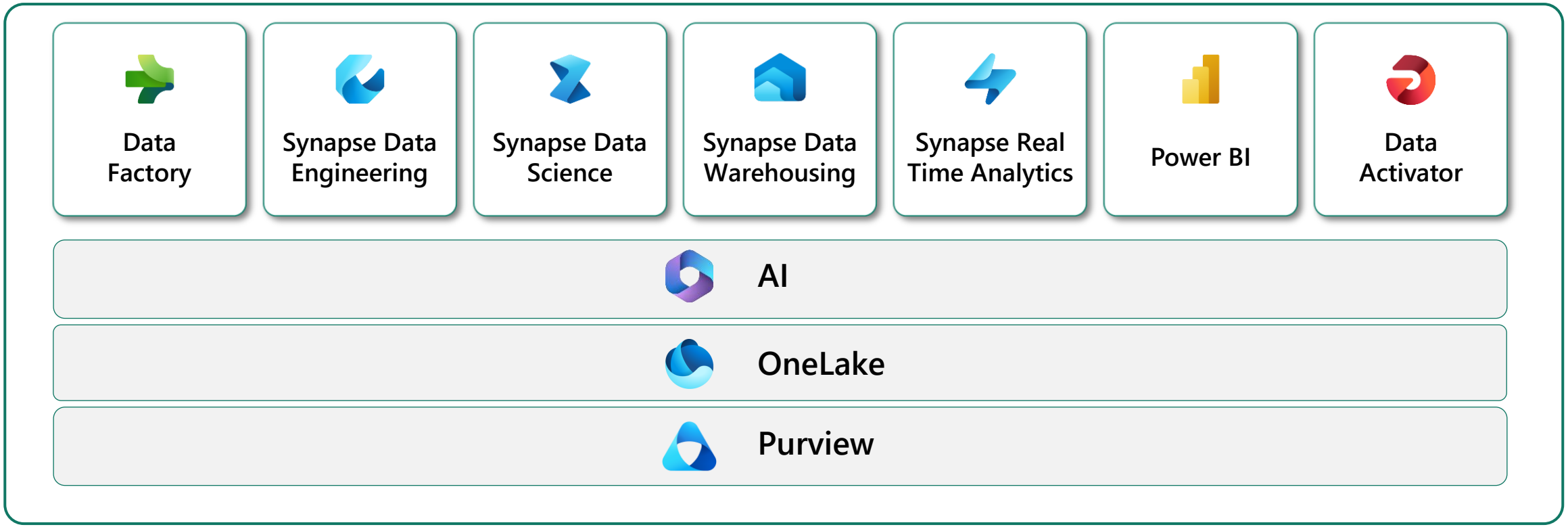
@pawelpotasinski

/in/pawelpotasinski

With great power comes great responsibility.

Microsoft Fabric

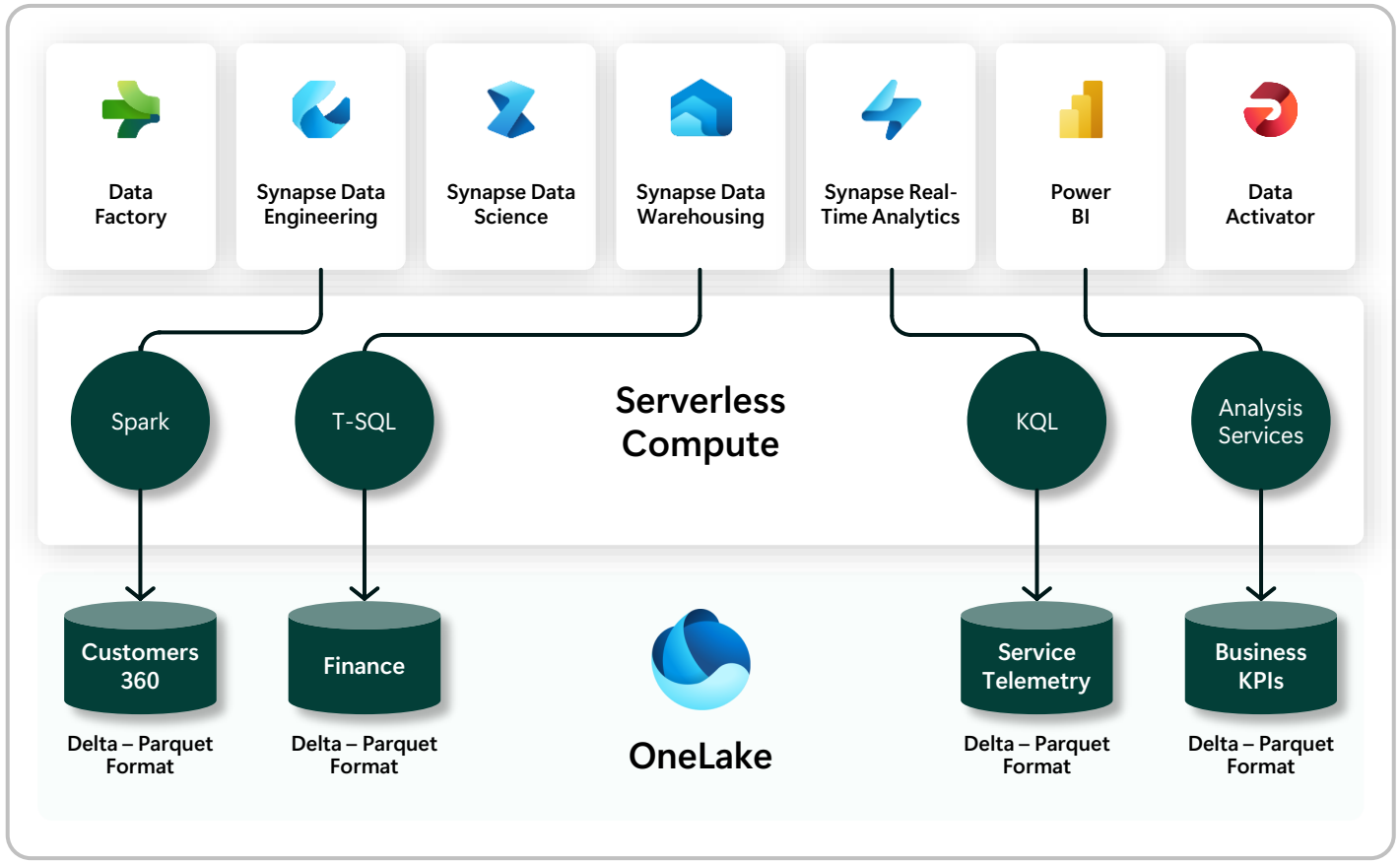
The data platform for the era of AI



Unified architecture | Unified experience | Unified governance | Unified business model

OneLake - 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 Microsoft Fabric

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

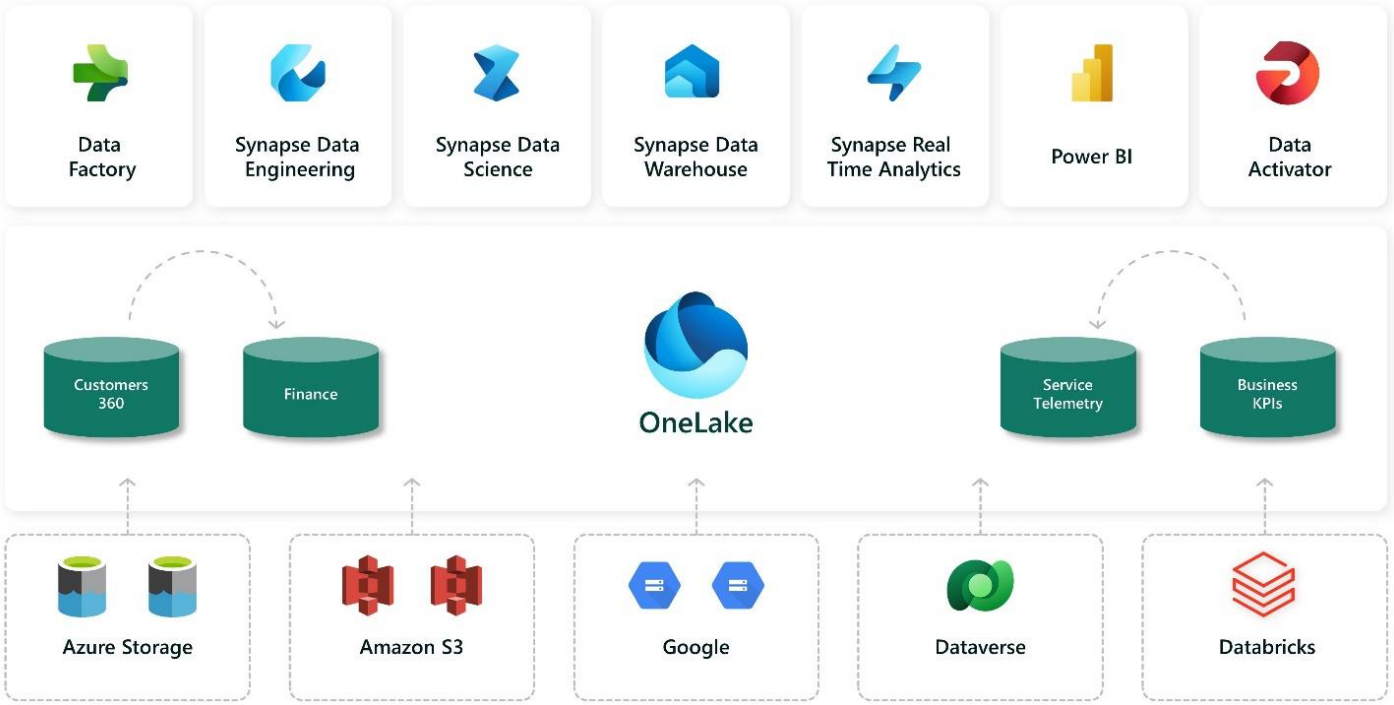
Shared universal security model is enforced across all the engines

Shortcuts

Unify data without copying or moving existing data

Key Capabilities:

- Create shortcuts within Microsoft Fabric to consolidate data across artifacts or workspaces, without changing ownership of the data
- 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



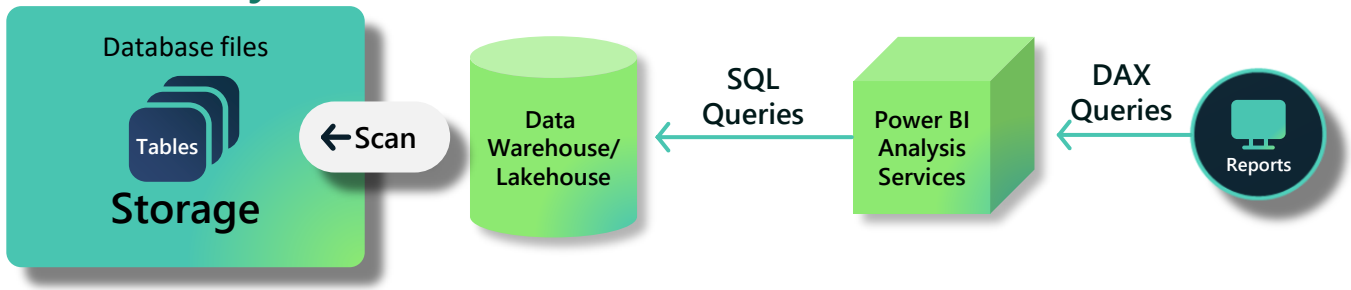
Direct Lake Mode

A new mode for semantic models

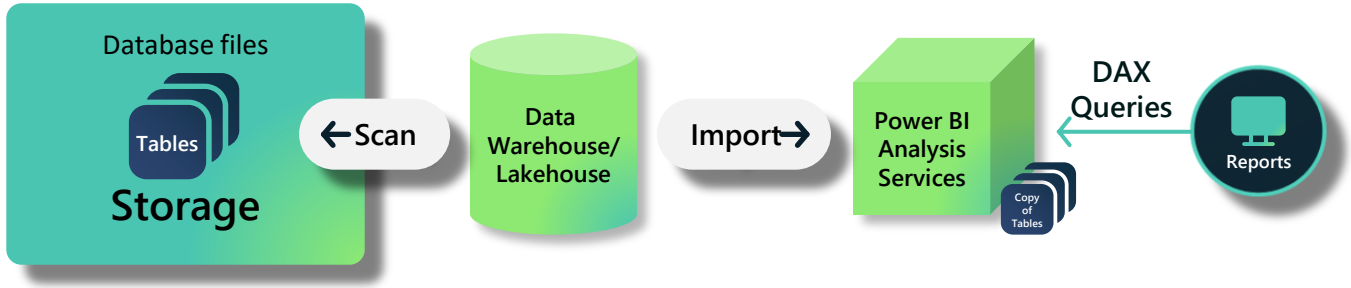
Direct Lake is a fast-path to load the data from the lake straight into the Power BI engine, ready for analysis.

Direct Lake is based on loading parquet-formatted files directly from a data lake without having to query a Lakehouse endpoint, and without having to import or duplicate data into a Power BI dataset.

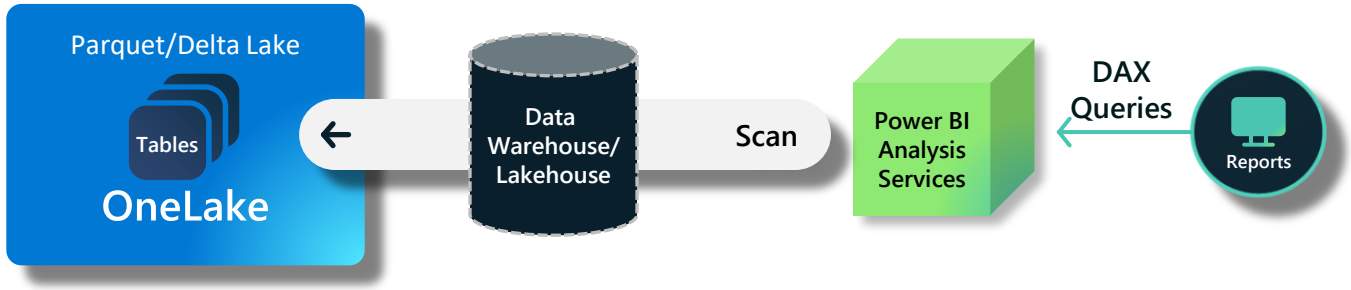
Direct Query Mode. Slow, but real time



Import Mode. Latent and duplicative, but fast



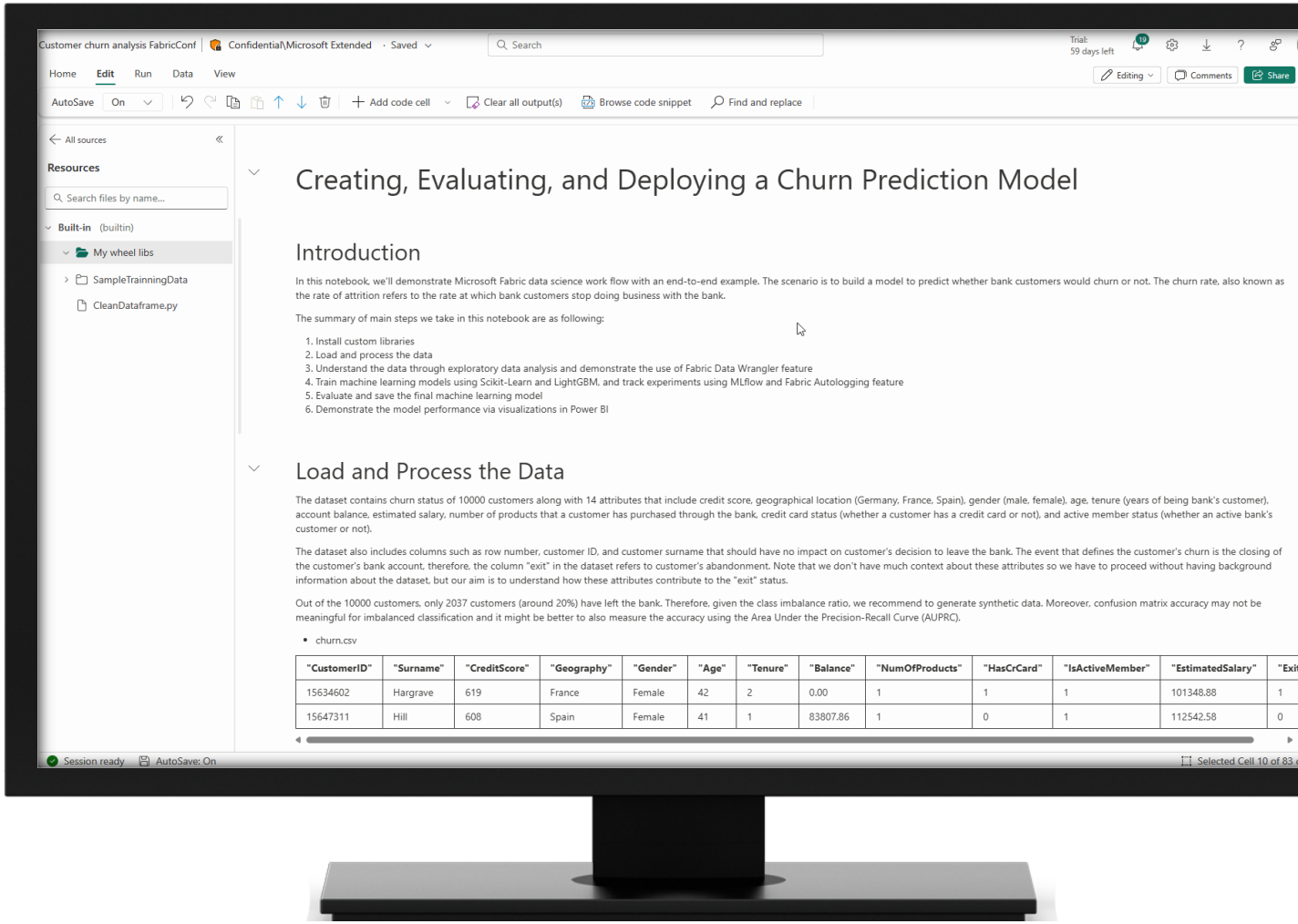
Direct Lake Mode. **Fast and real time**



Notebooks

Immersive authoring experience for data developers

- Rich collaboration feature like real time co-authoring, commenting, tagging & sharing
- Revamped data frame display with built-in statistics to get a good overview of your data
- Built in resource folder for easy storage & use of scripts, helper files etc.
- Well-defined code snippets for common tasks like lakehouse interactions & MSSparkUtils



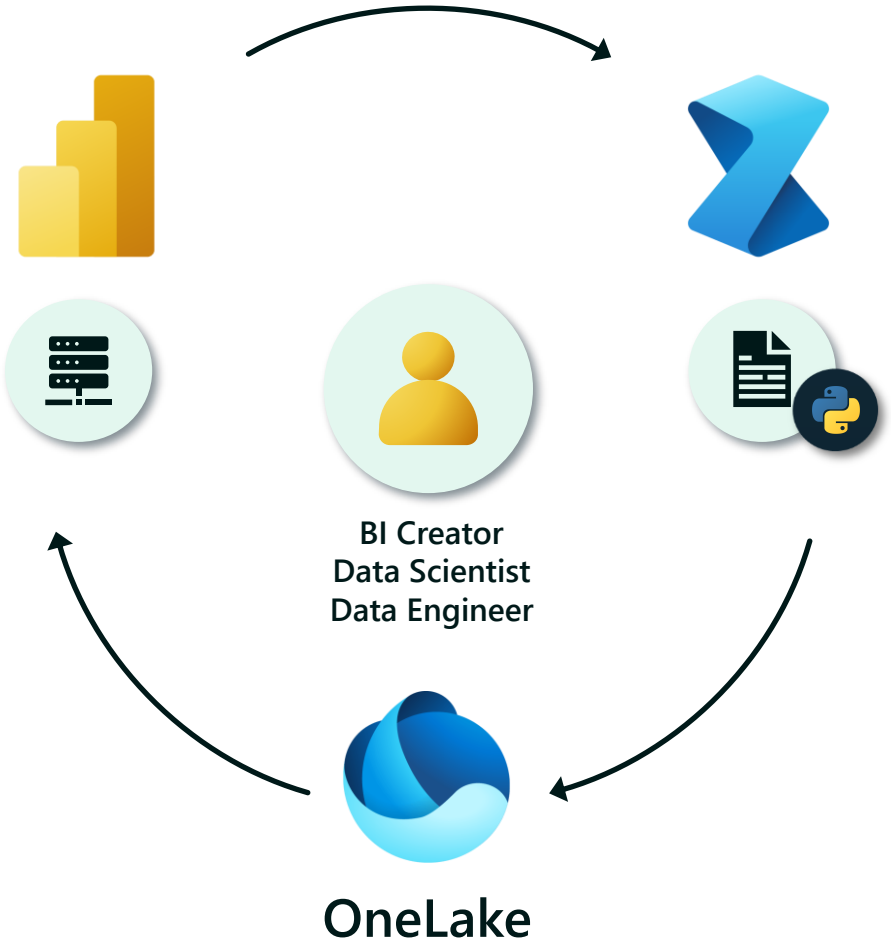
Semantic Link

Bridging Data Science and BI

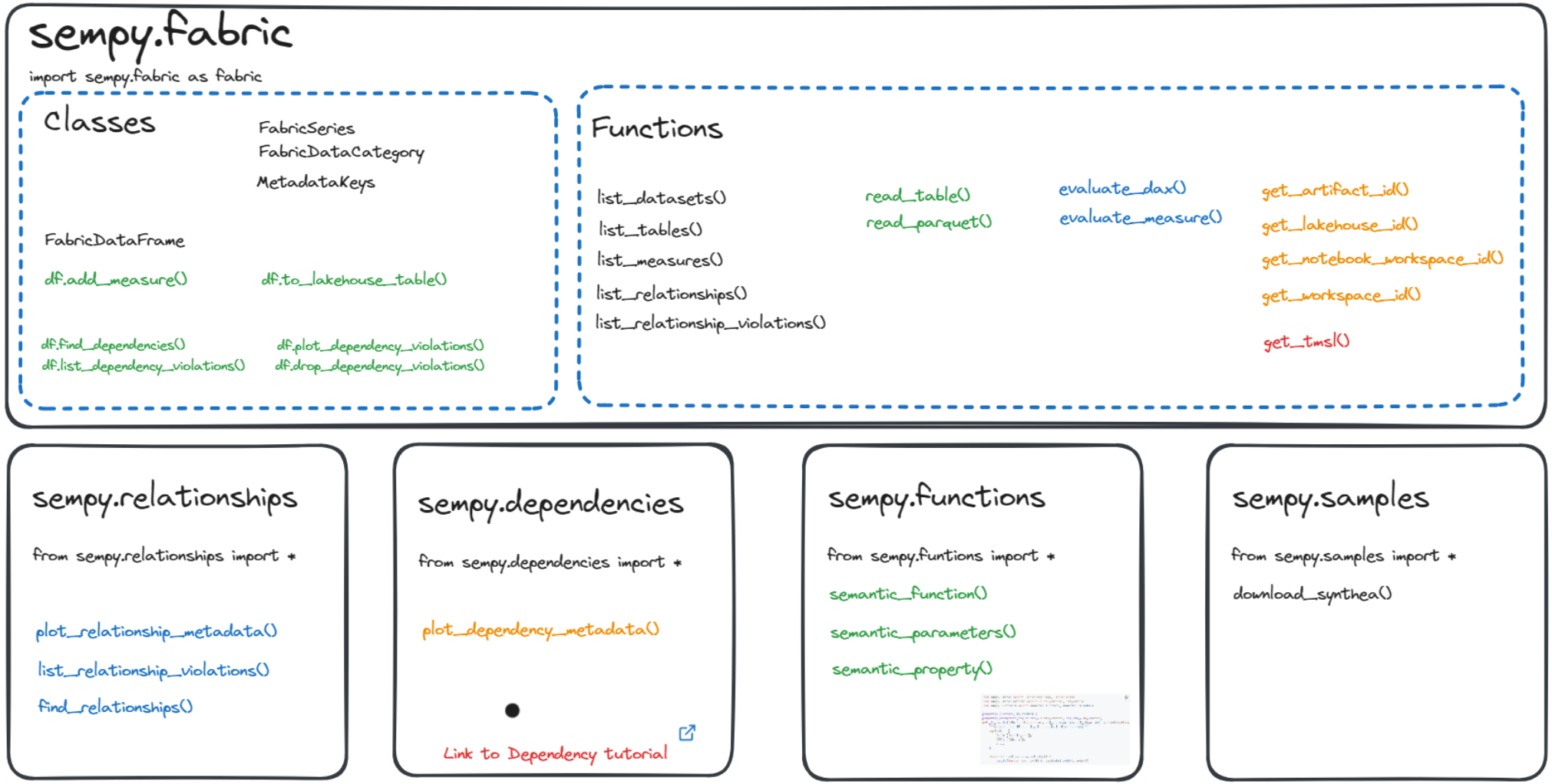
Python data access for Power BI

- Support for Pandas and Spark
- Evaluate Power BI measures
- Read Power BI tables
- Validate and test your data
- Automate Power BI (e.g. refresh)

...and propagate metadata to unlock more options!



Semantic link packages



Download excalidraw: https://github.com/LearnMicrosoftFabric/YouTube/tree/main/semantic-link

DEMO

Semantic link sample use cases

Semantic Link

Useful resources

- Documentation: https://learn.microsoft.com/en-us/fabric/data-science/semantic-link-overview
- Blog: https://blog.fabric.microsoft.com/en-us/blog/semantic-link-use-fabric-notebooks-and-power-bi-datasets-for-machine-learning-data-validation-and-more/
- Samples: https://github.com/microsoft/fabric-samples/tree/main/docs-samples/data-science/semantic-link-samples

- Sandeep Pawar's blog: https://fabric.guru/tag/semantic-link
- 1h tutorial by Will Needham: https://www.youtube.com/watch?v=Xj0AnZ8qT58

Microsoft Fabric Community Resources

Community Call to Action

- ✓ Try Microsoft Fabric for free: https://aka.ms/try-fabric
- ✓ Join the Fabric community: https://aka.ms/fabriccommunity
- ✓ Share and vote for ideas to improve Fabric: https://aka.ms/fabricideas
- ✓ Read and comment Fabric Updates blog: https://aka.ms/fabricblog

Learn More about Microsoft Fabric

- Product website: https://aka.ms/microsoft-fabric
- Documentation: https://aka.ms/fabric-docs
- Product Roadmap: https://aka.ms/FabricRoadmap
- Microsoft Learn: https://aka.ms/learn-fabric
- End-to-end scenario tutorials: https://aka.ms/fabric-tutorials