Microsoft

Fabric + Snowflake

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Fabric Roadshow
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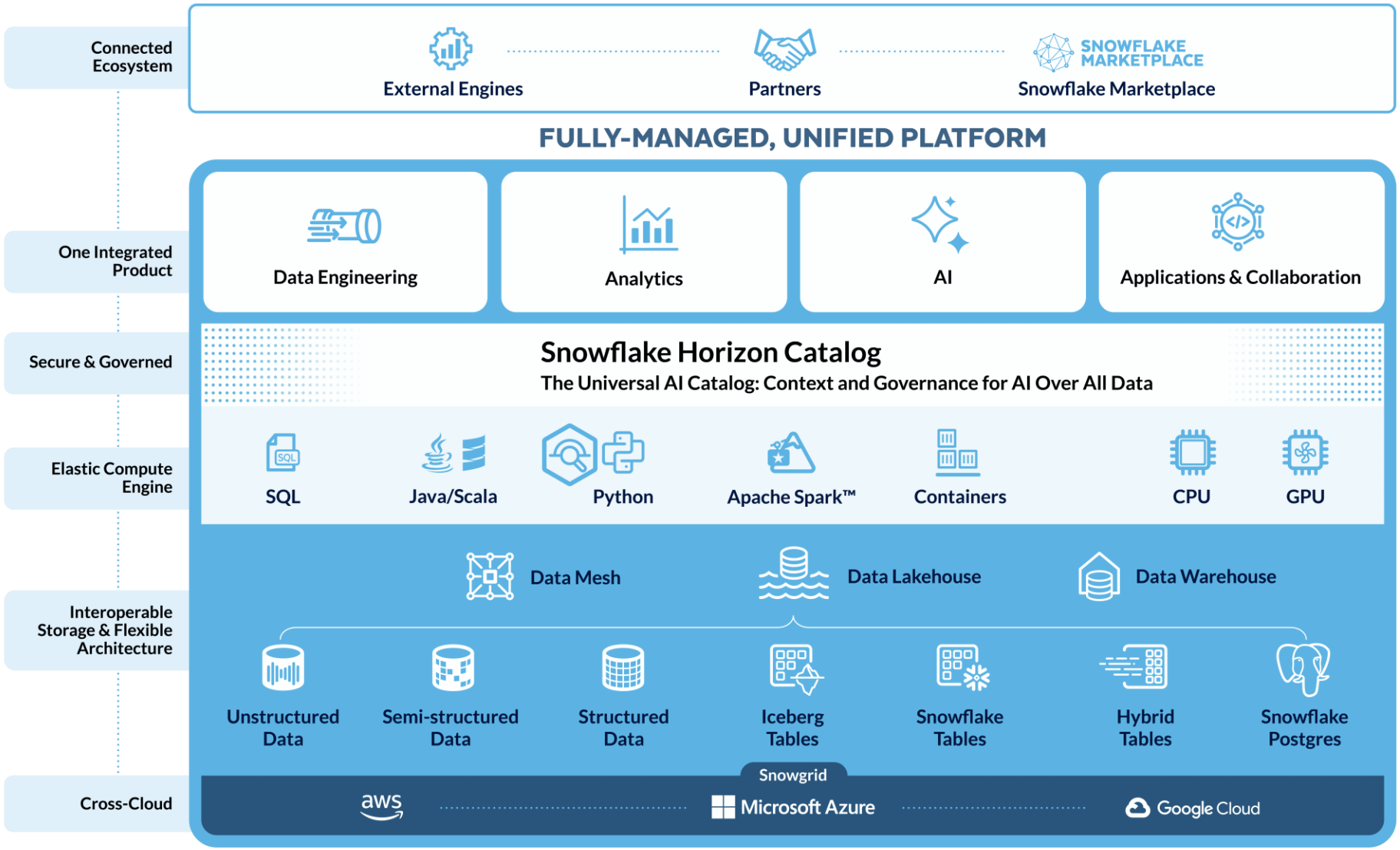
Agenda

1. Overview
2. Introducing The Snowflake Platform
3. Open Storage Formats
4. Snowflake + Fabric integration options
5. Snowflake + Fabric Reference Architecture
6. Demo

The Snowflake Platform



Open Storage Formats

Delta Lake

Apache Iceberg

Open-source **Table** Formats

ACID Transactions | Schema Enforcement & Evolution | Time Travel | Audit | Partitioning

Use

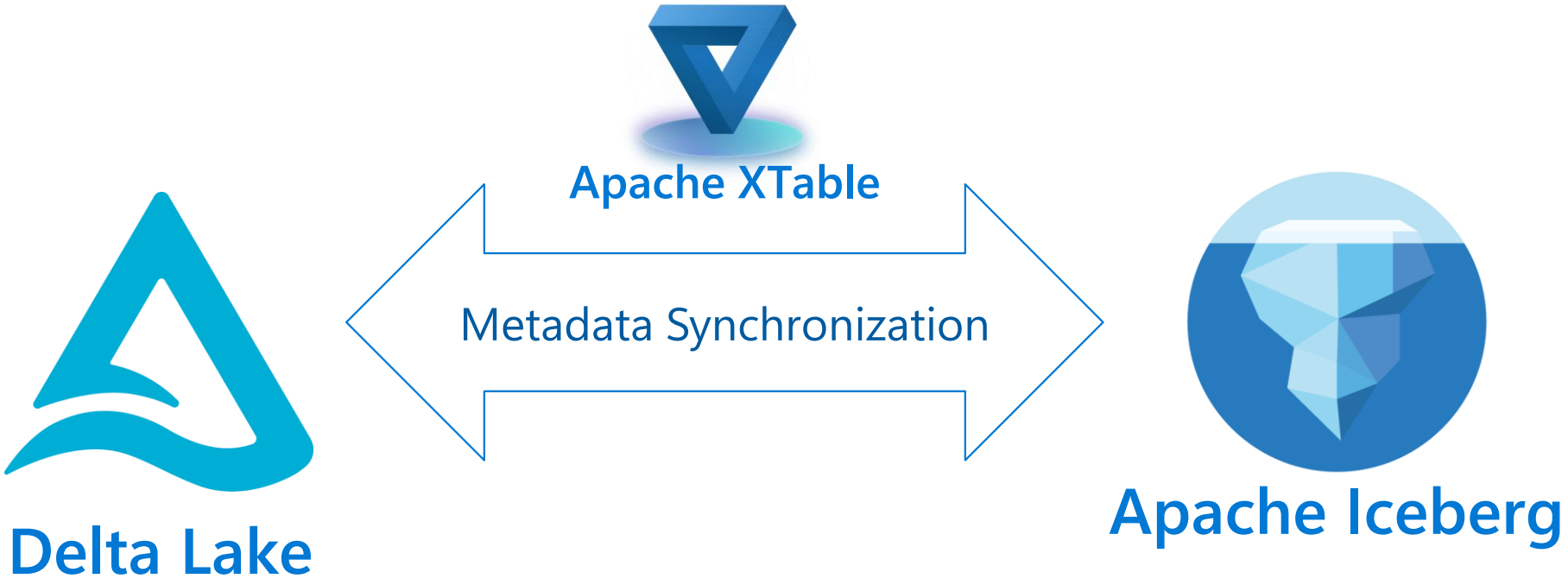
Parquet

Open-source **File** Format

Columnar | Compression | Schema | Binary

OneLake

A single data lake for the entire organization



3 Options for data storage in Snowflake

External Table

Easy access to query, govern, and share **data that cannot be moved**

Iceberg Table

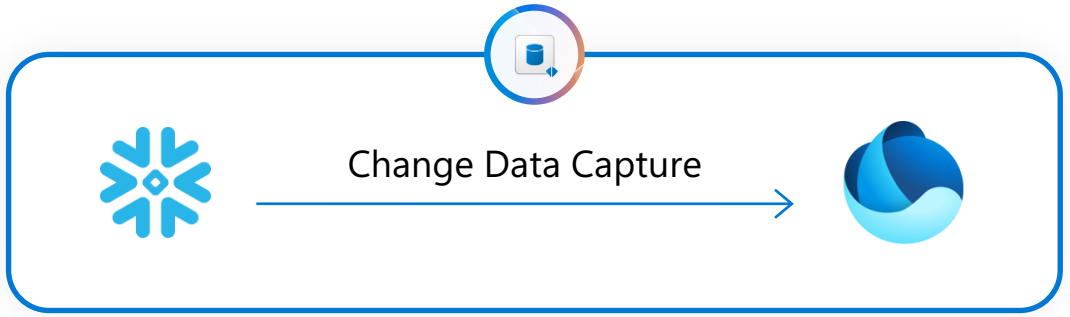
Full DML, fast performance, many Snowflake features in external storage for **high interoperability**

Internal Table

Fully managed Table Format with full DML, best performance, security, optimization, and other Snowflake features

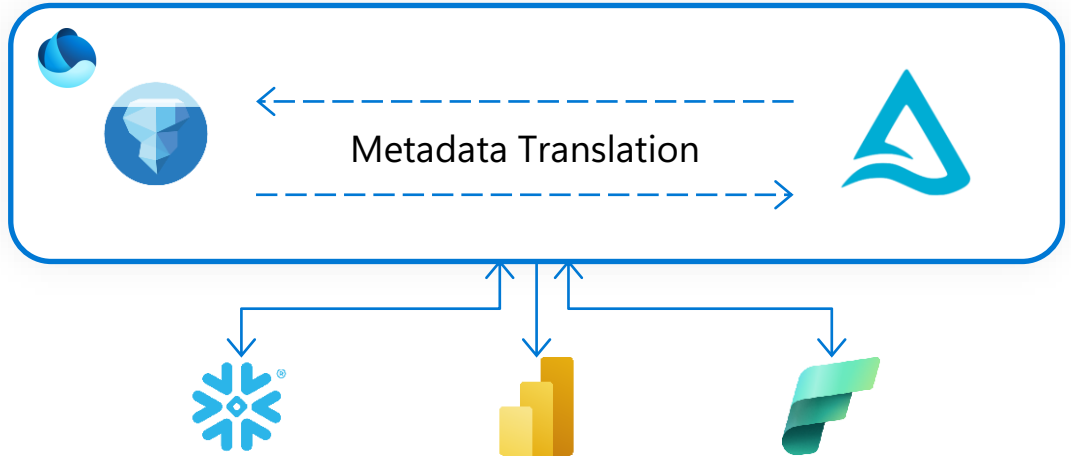
Use Iceberg Tables for Bidirectional Data Access Between Fabric & Snowflake

Fabric Mirroring



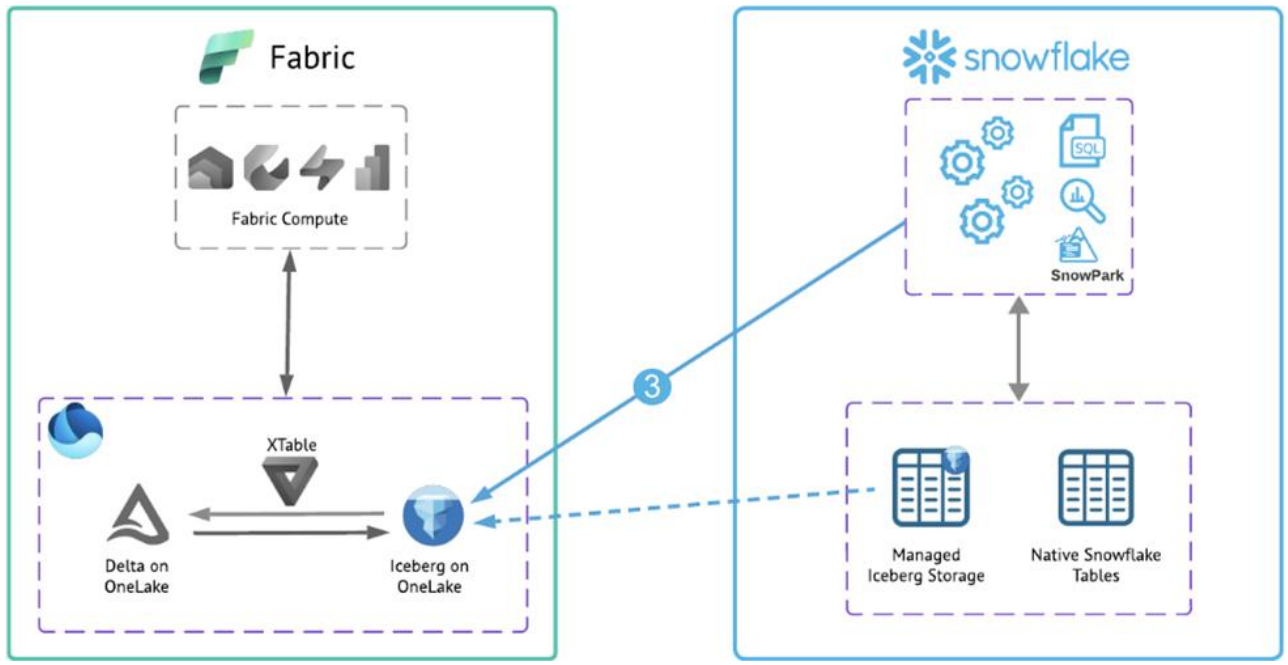
- One-Way Street
- Unnecessary replication & Duplication
- No Single Source of Truth
- Delayed Sync
- Uncontrolled Costs

OneLake Iceberg



- One Copy of Data Used by Everyone
- Zero Data Movement
- Consistent and Accurate
- Open, Flexible, Future-Proof
- Jointly Developed and Optimized

Iceberg tables on OneLake



Interoperability

Snowflake can create Iceberg tables on OneLake and will be able to read Fabric data artifacts in OneLake, stored physically or virtually through shortcuts.

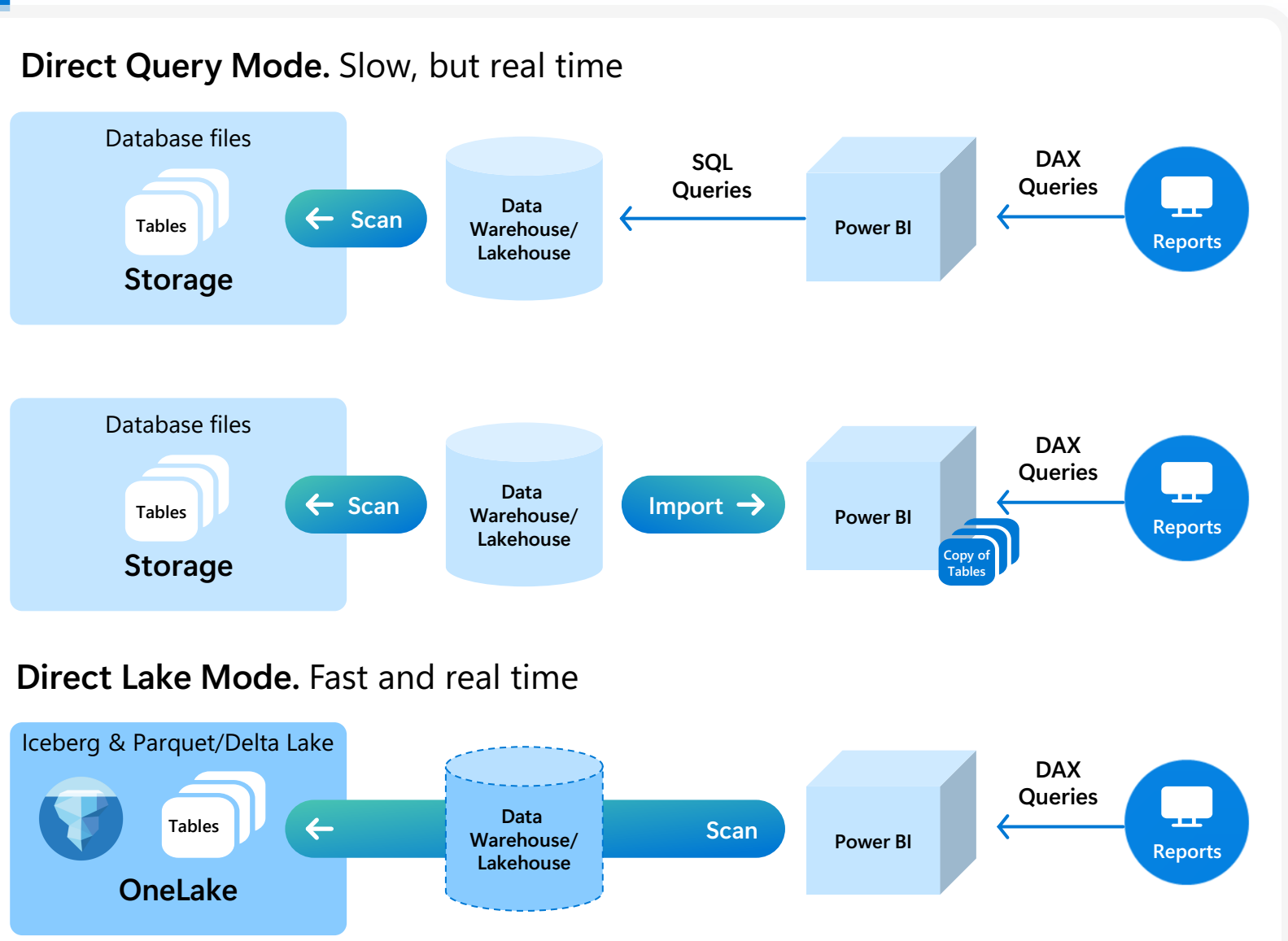
What does this mean?

- The Snowflake platform is able to write Iceberg tables on OneLake
- All data stored in OneLake is accessible by Snowflake compute and services
- Snowflake data can be seamlessly integrated with Microsoft tools
- All data from OneLake can be extended to Snowflake for cross-cloud AI, applications, sharing and collaboration, and advanced analytics, among many other workloads

Power BI | Direct Lake Mode

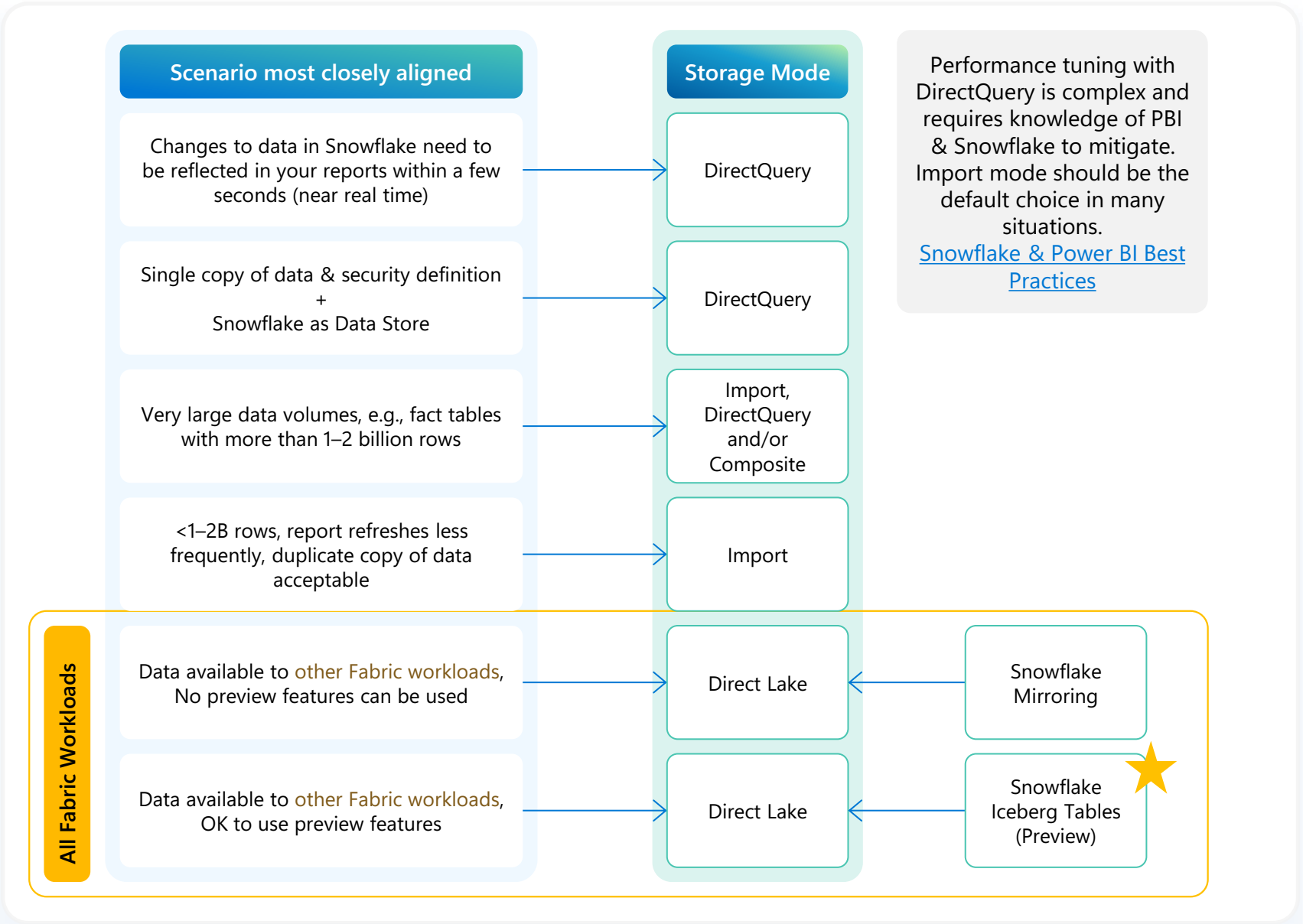
Direct Lake is a fast-path to load the data from the lake straight into the Power BI engine, ready for analysis.

Direct Lake is based on loading files directly from a data lake without having to query a Lakehouse endpoint, and without having to import or duplicate data into a semantic model.



Fabric Technical Slides Library

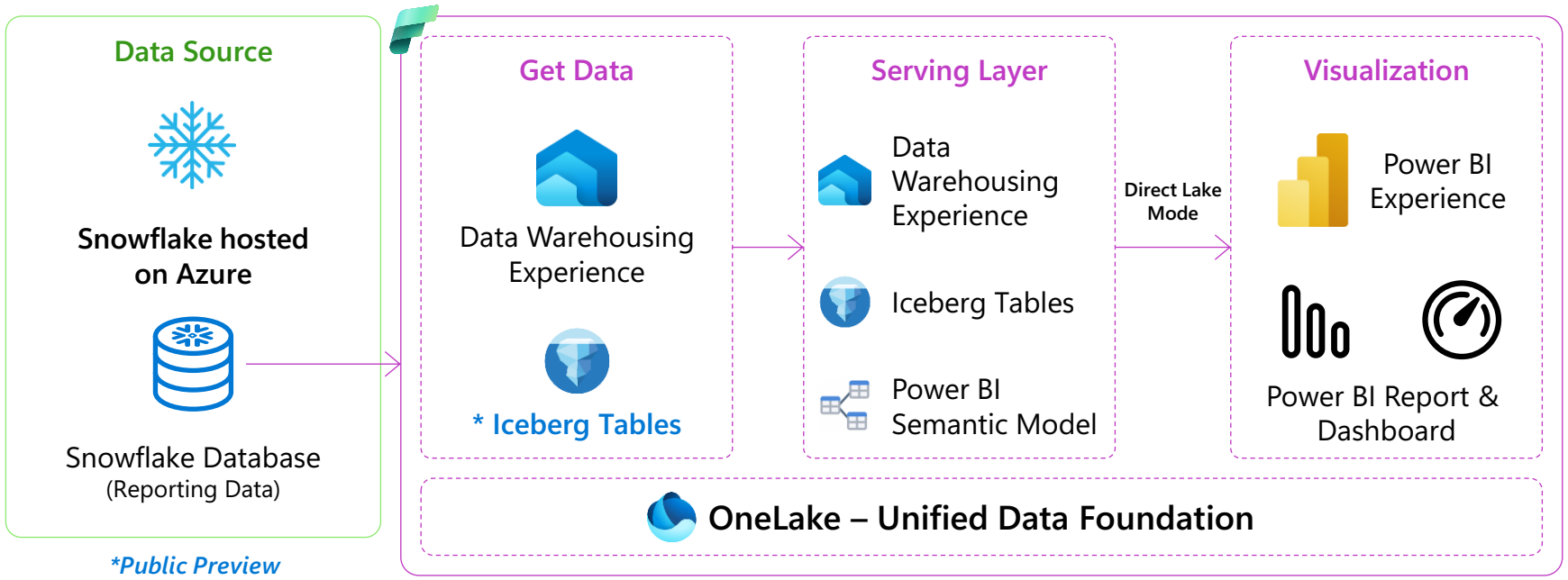
Decision Tree for Snowflake Data in PBI and / or OneLake



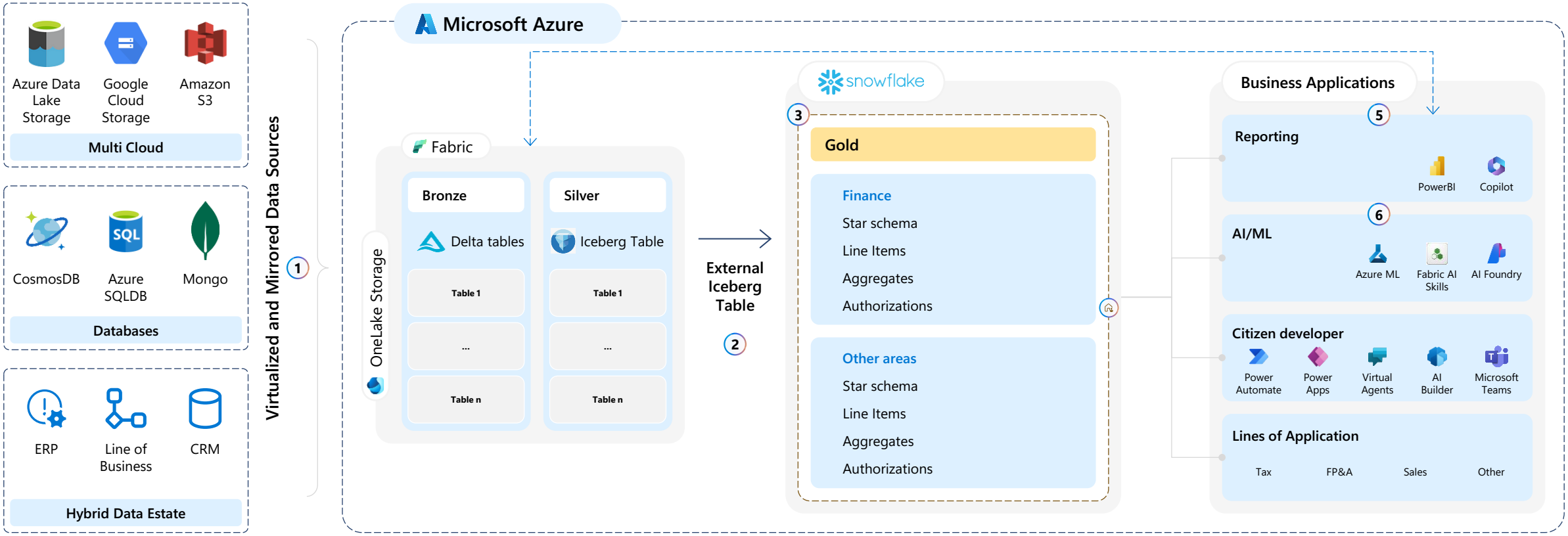
Serving Snowflake Data in Fabric + Direct Lake

Snowflake Compute Cost Reduction with Microsoft Fabric

- Use Snowflake External Iceberg Tables feature for bidirectional data usage between Snowflake & Fabric. This feature eliminates the need for any ongoing ETL jobs and enables the use of Snowflake data across Fabric workloads.
- Create Semantic Models using the 'Direct Lake' mode by using Iceberg tables stored in OneLake.
- 'Direct Lake' mode works by directly loading files in delta Parquet format from a data lake. This process eliminates the need to import or duplicate data into a Power BI model.



Fabric and Snowflake Reference Architecture



1. Utilize mirroring, shortcuts, and integration services (e.g. Data Factory) to land data in Fabric OneLake.
2. Interoperability between Snowflake iceberg storage and Fabric OneLake iceberg.
3. Snowflake can process compute against native Snowflake tables or managed iceberg tables.
4. Govern your Snowflake Data with Purview allowing you to scan, catalog, and classify your data.
5. Connect Power BI directly to Snowflake data for import, direct query, and direct lake modes.
6. Extend your AI and ML strategy with integration to Azure ML and AI Foundry.

Thank you!