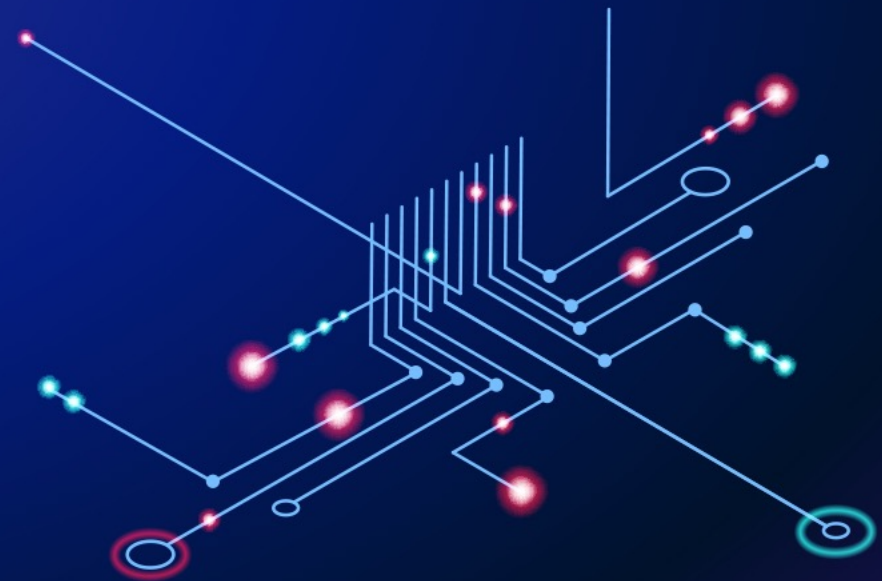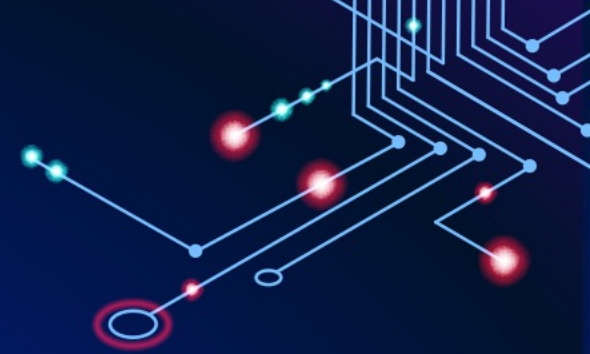# Snowflake: house your data

SIMAS BARANAUSKAS
System Architect, Infotrust

QLIK BALTICS ONLINE #2
QLIK AND SNOWFLAKE: SHAPE YOUR DATA

Every Organization Struggles with Silos

Silos equate to complexity, higher costs, and security risks

## SNOWFLAKE ELIMINATES SILOS TO DELIVER A SINGLE DATA FOUNDATION

Number of users around data are growing

New scenarios were report is not enough and data is needed:

- ML/AI
- Business users for data discovery
- Automated reports for control and distributing
- Additional tools like Budgeting
- Building self-service reports
- Connecting Excel to data
- Feeding some statistics back to ERP (item cost split by manufacturing process by material and work in Item card)
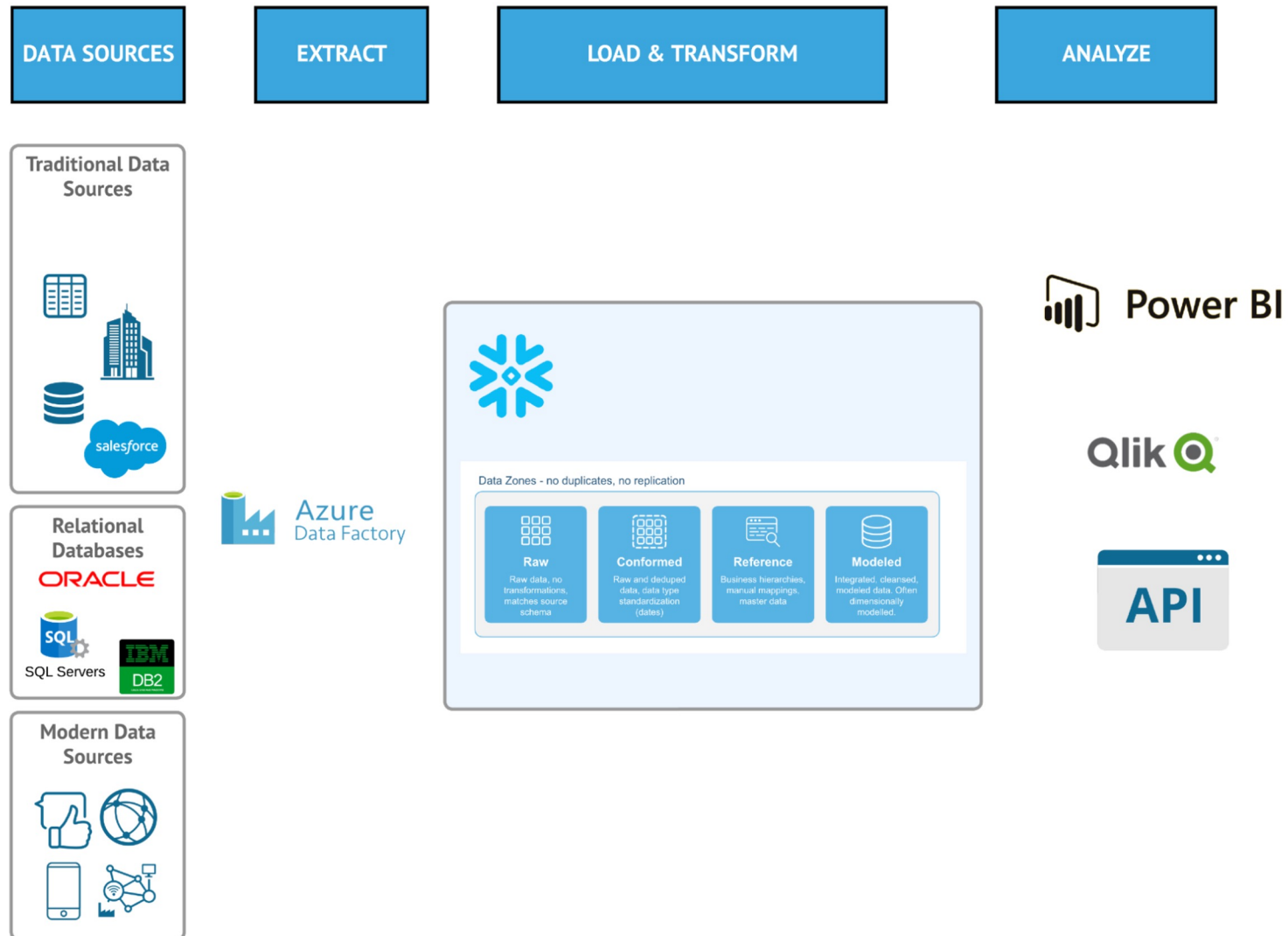- CRM applications
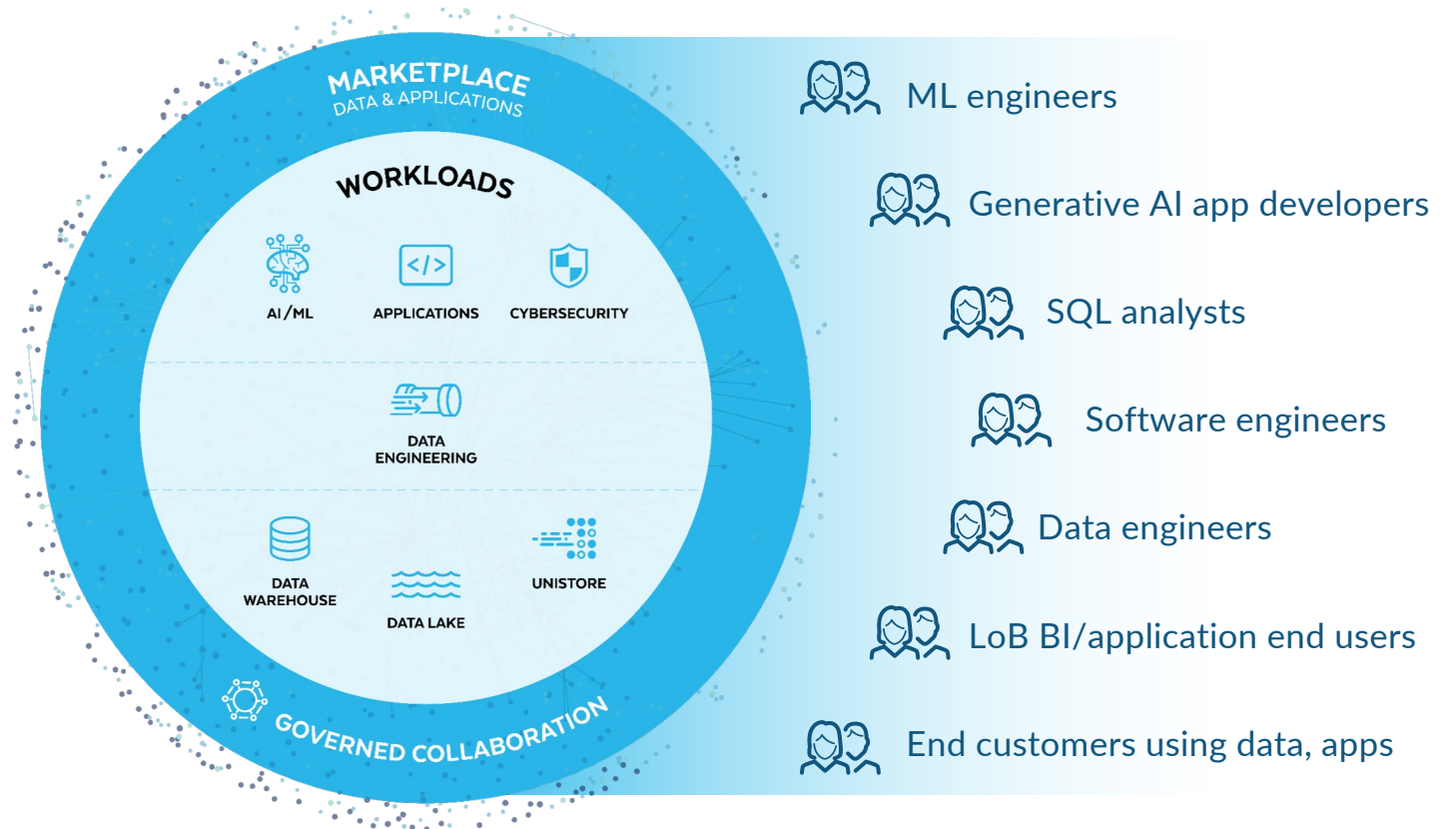
Architecture in Azure: example without Snowflake
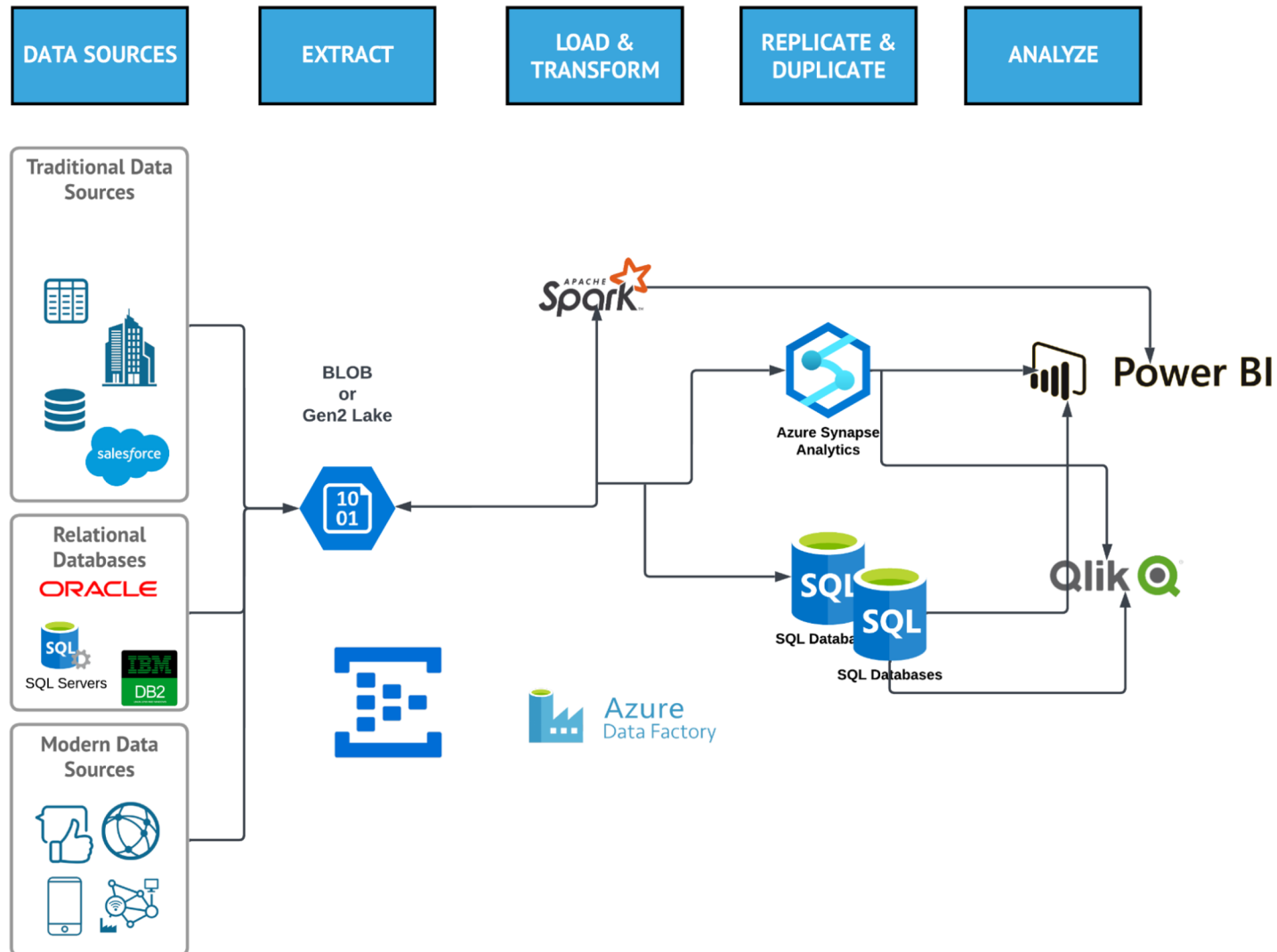
- Multiple copies of data

- Multiple storage technologies

- Complex setup

- Costly maintenance

- Slower development

- Huge risks with security & governance

Architecture in Azure: with Snowflake

- You can keep using Azure services like Azure Data Factory, PowerBI, AzureML & PurView

- Single copy of data; no need to duplicate/replicate

- 1 data platform

- Easy setup

- near-zero maintenance

- fast development

- No security risks; create rules only once

SNOWFLAKE PLATFORM ARCHITECTURE

All integrated together within Snowflake's one platform to simplify your data foundation.
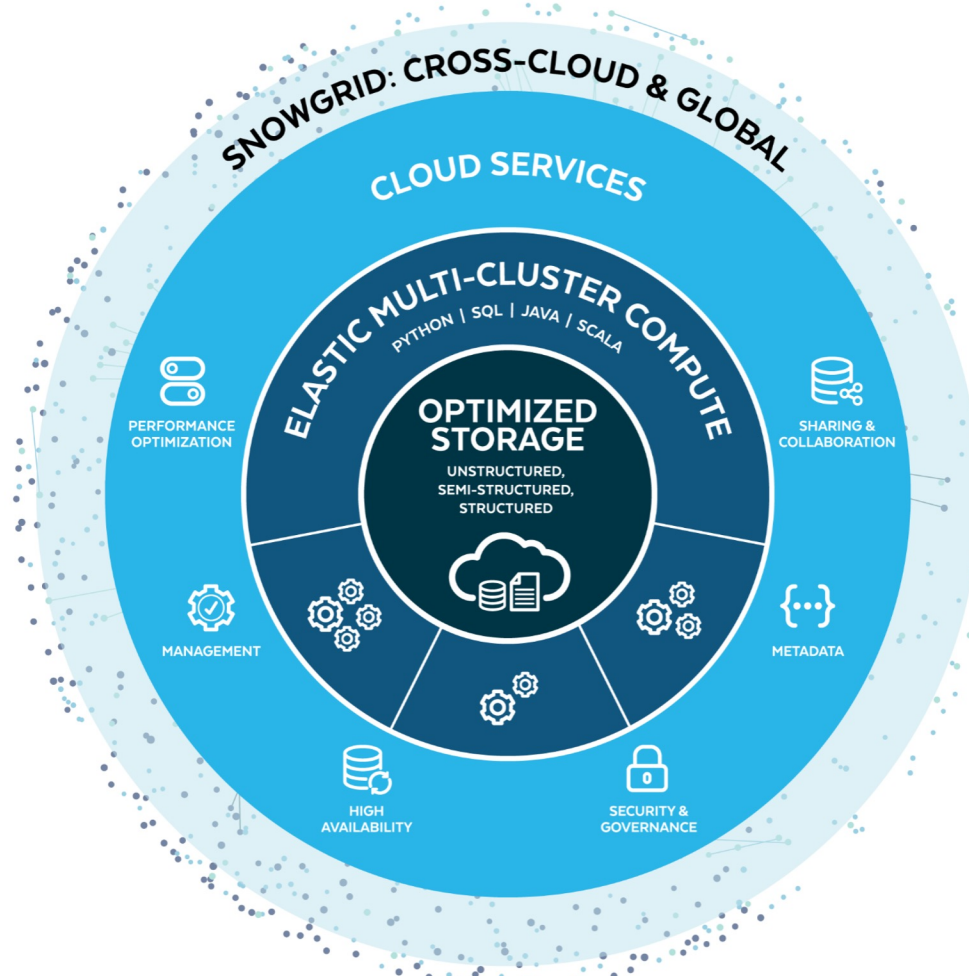
… **with consistent governance, performance, and ease-of-use.**

ELASTIC MULTI-CLUSTER COMPUTE

Data Science

Data Load

Marketing
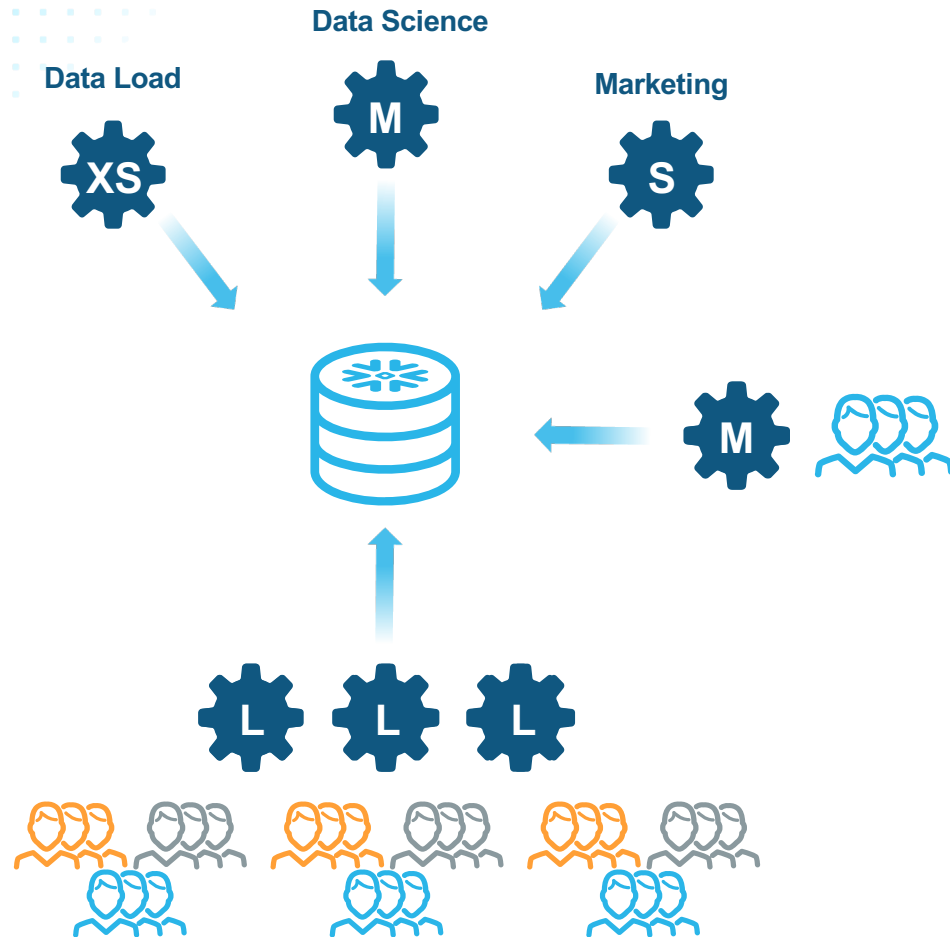
Allocate Isolated Resources

Meet individual customer and team's needs by designating dedicated compute clusters

Scale Out

Respond to user demand without contention or performance degradation

Scale Up

Ensure performance of larger, more complex queries

MAXIMIZING COST EFFICIENCY AT SCALE
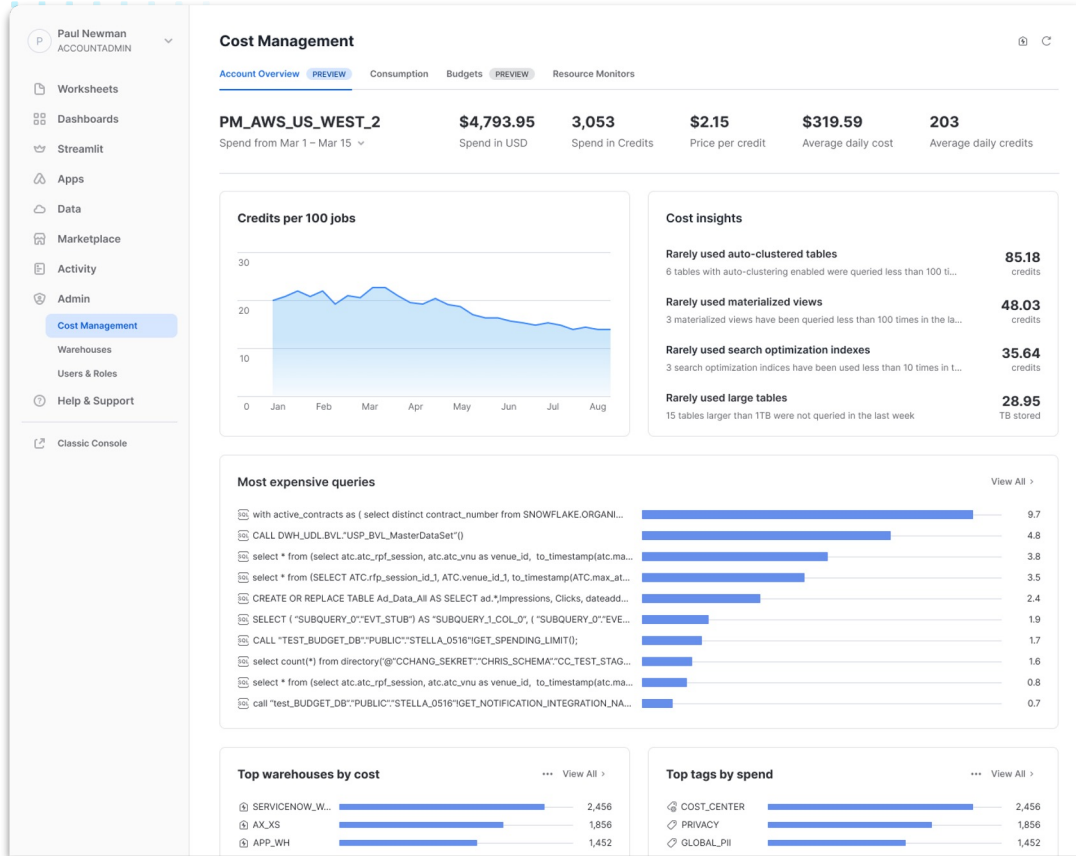
- **Avoid over-provisioning with right-sized resources**

- **Benefit from ongoing, transparent performance enhancements**

- **Control & manage spend via the built-in cost management interface**

Micro-partitions

Micro-partitions and ZERO-COPY cloning
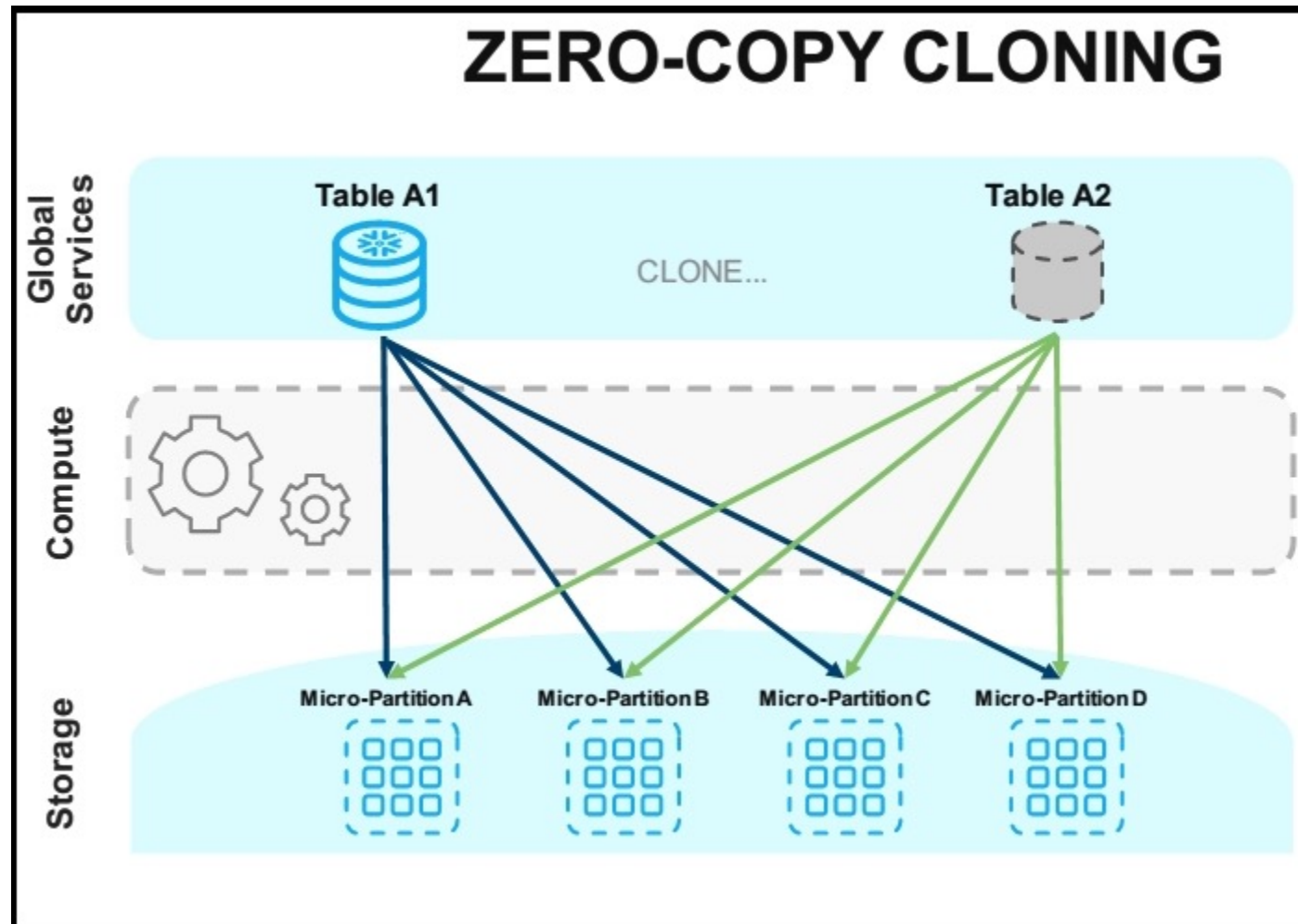
DEMO2.PUBLIC ⌄   Settings ⌄   Code Versions   🔍

```
1   create or replace database DEMO2 clone PC_DBT_DB
```

↳ **Results**   ∼ Chart   🔍 ▥ ↓ ▢ 🕐

	status	⋯
1	Database DEMO2 successfully created.	

Query Details   ⋯

Query duration   3.3s

Rows   1

Query ID   01b544a0-0303-f860-0...

Show more ⌄

status	A
100% filled	

Timetravel

```
1  select top 100 * from PC_DBT_DB.TEST.VIVC
2
3
4
5
6
7
```

↳ **Results**   ∿ Chart

	COMPNO	SERNR	INVDATE	REGDATE	INVOICENR
1	1	1002	2011-09-05 00:00:00.000	null	PZULT1326343
2	1	1052	2011-08-05 00:00:00.000	null	JMZK0029
3	1	1426	2011-12-31 00:00:00.000	null	
4	1	1200001	2012-08-31 00:00:00.000	null	VAK_10069360
5	1	1200362	2012-09-14 00:00:00.000	null	LIT_018242
	1	1200400	2012-09-10 00:00:00.000	null	LIT_0186239
	1	1200572	2012-09-20 00:00:00.000	null	PS_12053771
	1	1200573	2012-09-20 00:00:00.000	null	PS_12053770
	1	1200645	2012-09-26 00:00:00.000	null	LIT_0184093
	1	1200728	2012-09-28 00:00:00.000	null	VAK_10070003
	1	1201053	2012-08-31 00:00:00.000	null	DAN_1200724
	1	1201472	2012-10-20 00:00:00.000	null	PS_12060200
	1	1201473	2012-10-20 00:00:00.000	null	PS_12060201
	1	1201570	2012-10-31 00:00:00.000	null	VAK_10070639
	1	1201607	2012-11-20 00:00:00.000	null	PS_12066390
	1	1201608	2012-11-20 00:00:00.000	null	PS_12066389

▭ VIVC   ⌴

Details   Definition

Type   Table
Number of rows   167.9K
Size   3.6MB
Cluster Key   —
Owner   ⋏ PC_DBT_ROLE
Created   5 months ago
Comment   —

Timetravel

```
1    truncate table PC_DBT_DB.TEST.VIVC
2
3    select top 100 * from PC_DBT_DB.TEST.VIVC
4
5
6
7
```

↳ **Results**   ∿ Chart

COMPNO	SERNR	INVDATE	REGDATE	INVOICENR	VECODE

Query produced no results

```
 7
 8
 9
10
11
12   select top 100 * from PC_DBT_DB.TEST.VIVC BEFORE(TIMESTAMP => '2024-06-26 04:00:00 -0800'::timestamp_tz);
13
```

↳ **Results**   ~ Chart

	COMPNO	SERNR	INVDATE	REGDATE	INVOICENR	VECODE
1	1	1002	2011-09-05 00:00:00.000	null	PZULT1326343	K000173
2	1	1052	2011-08-05 00:00:00.000	null	JMZK0029	15012
3	1	1426	2011-12-31 00:00:00.000	null		15101
4	1	1200001	2012-08-31 00:00:00.000	null	VAK_10069360	15031
5	1	1200362	2012-09-14 00:00:00.000	null	LIT_018242	15045
6	1	1200400	2012-09-10 00:00:00.000	null	LIT_0186239	15045
7	1	1200572	2012-09-20 00:00:00.000	null	PS_12053771	15166
8	1	1200573	2012-09-20 00:00:00.000	null	PS_12053770	15166
9	1	1200645	2012-09-26 00:00:00.000	null	LIT_0184093	15045
10	1	1200728	2012-09-28 00:00:00.000	null	VAK_10070003	15031
11	1	1201053	2012-08-31 00:00:00.000	null	DAN_1200724	15014
12	1	1201472	2012-10-20 00:00:00.000	null	PS_12060200	15166
13	1	1201473	2012-10-20 00:00:00.000	null	PS_12060201	15166
14	1	1201570	2012-10-31 00:00:00.000	null	VAK_10070639	15031
15	1	1201607	2012-11-20 00:00:00.000	null	PS_12066390	15166
16	1	1201608	2012-11-20 00:00:00.000	null	PS_12066389	15166
17	1	1202191	2012-12-20 00:00:00.000	null	PS_12072761	15166
18	1	1202192	2012-12-20 00:00:00.000	null	PS_12072760	15166
19	1	1202519	2012-11-30 00:00:00.000	null	VAK_10071280	15031
20	1	1202520	2012-12-31 00:00:00.000	null	VAK_10071921	15031

Timetravel

Timetravel

No Database selected ▾   Settings ▾

```
1
2
3  select top 100 * from PC_DBT_DB.TEST.VIVC
4  |
5
6
7
```

↳ Results   ∿ Chart

	COMPNO	SERNR	INVDATE	REGDATE	INVOICENR	VECODE
1	1	1002	2011-09-05 00:00:00.000	null	PZULT1326343	K000173
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SNOWFLAKE FOR AI

ease of use - security - governance

USE AI IN SECONDS	APPS IN MINUTES	FULLY CUSTOM IN HOURS

Document AI | **Universal Search** | **Snowflake Copilot**

Streamlit

Custom UI | **Custom Orchestration**

Use Complete, Embed, Vector Search, and more…

fx

Serverless AI & LLM Functions

Bring Your Own | **Make It Your Own** | **Use Marketplace**

OSS LLMs | **Fine Tuning** | **Partner LLMs**

Snowflake Cortex: Models & Search

Snowpark Container Services

CSP LLMs

Azure OpenAI

AWS Bedrock

Snowflake-Governed Data & Models

Snowflake is pioneering in enterprise AI

Ensuring customers have models to build intelligent, efficient enterprise AI apps. And we build on them too.
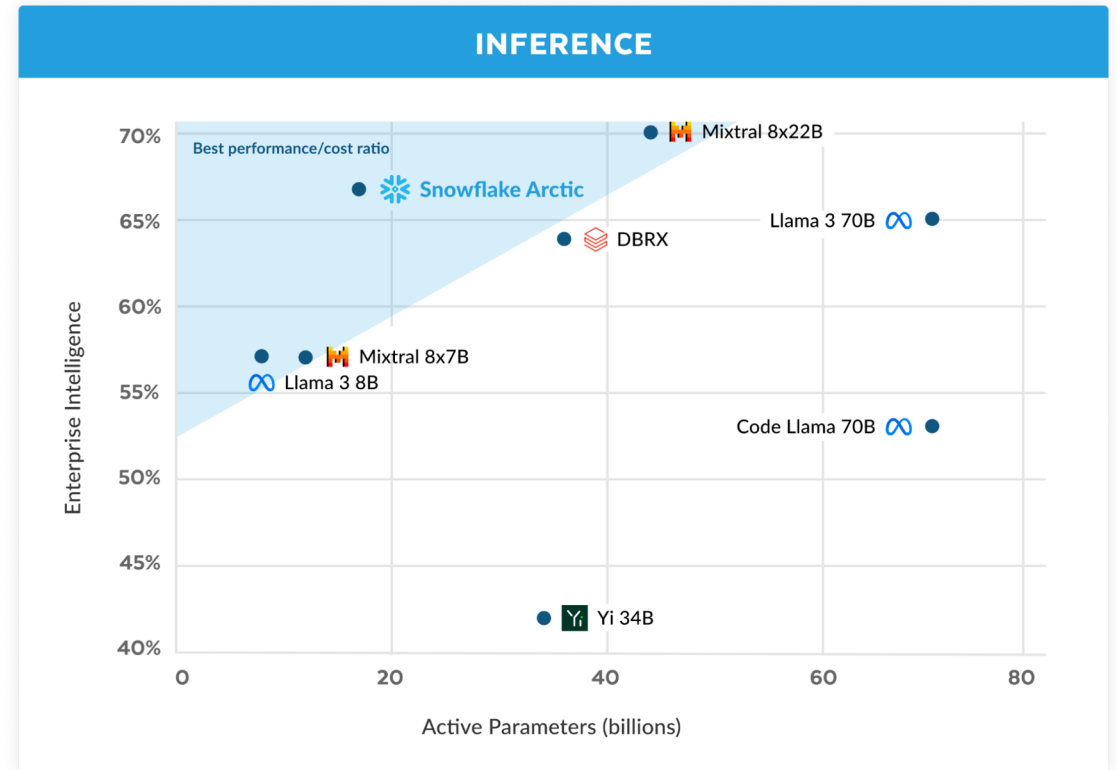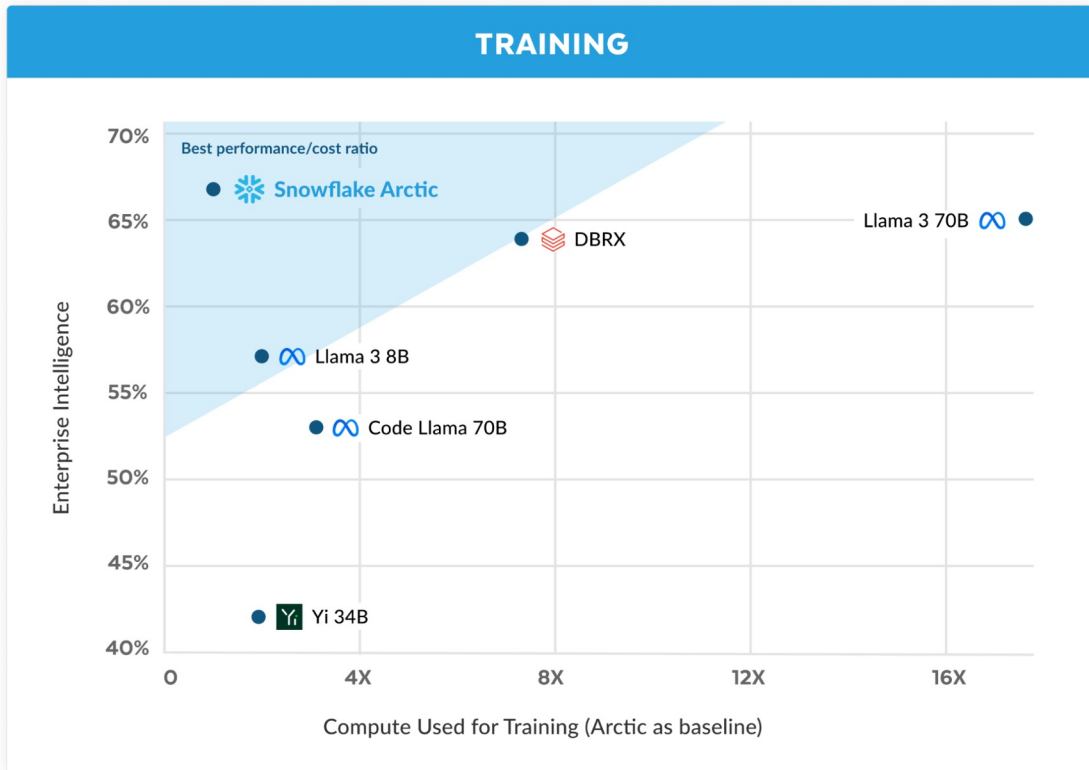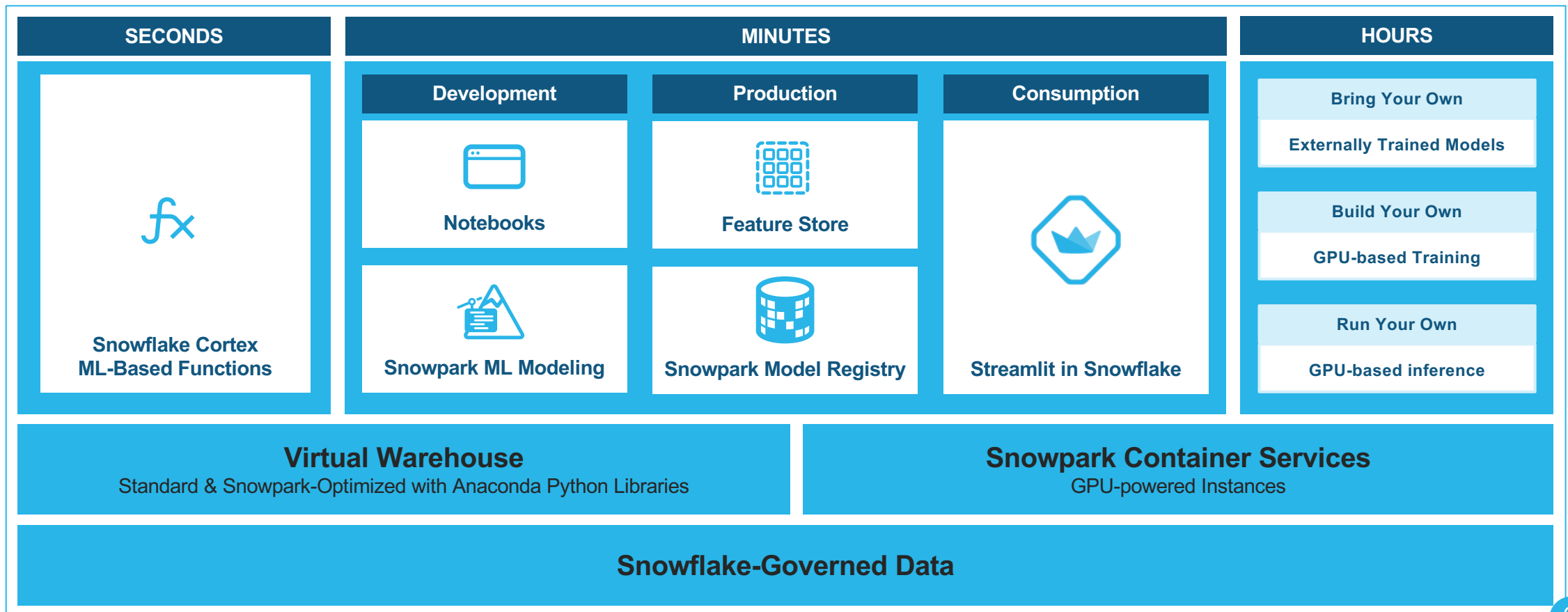

Top-tier results at a fraction of development cost

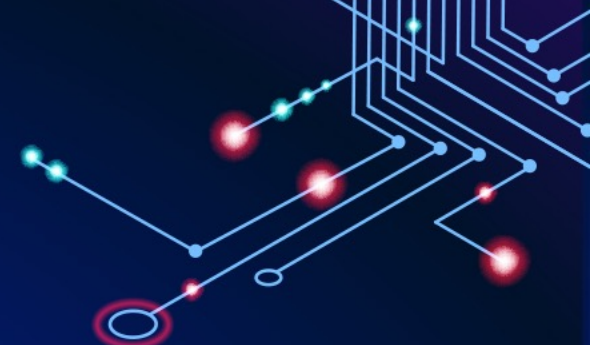**Optimal use of experts for performant inference**

Still massive opportunity from ML at scale

Why Snowflake for ML? Simplicity, scalability, governance for machine learning teams

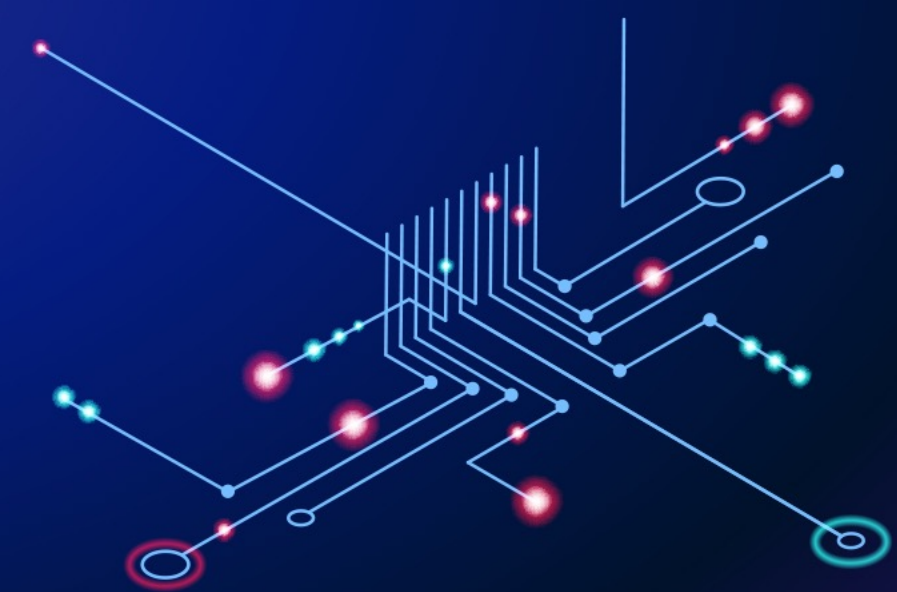**Example use cases: product recommendations, demand forecasting, lead scoring**

SECONDS	MINUTES			HOURS

Development

Notebooks

Snowpark ML Modeling

Production

Feature Store

Snowpark Model Registry

Consumption

Streamlit in Snowflake

Snowflake Cortex ML-Based Functions

Bring Your Own

Externally Trained Models

Build Your Own

GPU-based Training

Run Your Own

GPU-based inference

Virtual Warehouse
Standard & Snowpark-Optimized with Anaconda Python Libraries

Snowpark Container Services
GPU-powered Instances

Snowflake-Governed Data

Thank You!

Simas Baranauskas, System Architect, Infotrust
s.baranauskas@theinfotrust.com

Book a meeting:

QLIK BALTICS ONLINE #2

QLIK AND SNOWFLAKE: SHAPE YOUR DATA