Microsoft | Microsoft Fabric


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FABCON
Microsoft Fabric
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ATLANTA MARCH 16 - 20, 2026

Sound off.
The mic is all yours.
Influence the product roadmap.

Join the Fabric User Panel

Share your feedback directly with our Fabric product group and researchers.

https://aka.ms/JoinFabricUserPanel

Join the SQL User Panel

Influence our SQL roadmap and ensure it meets your real-life needs

https://aka.ms/JoinSQLUserPanel

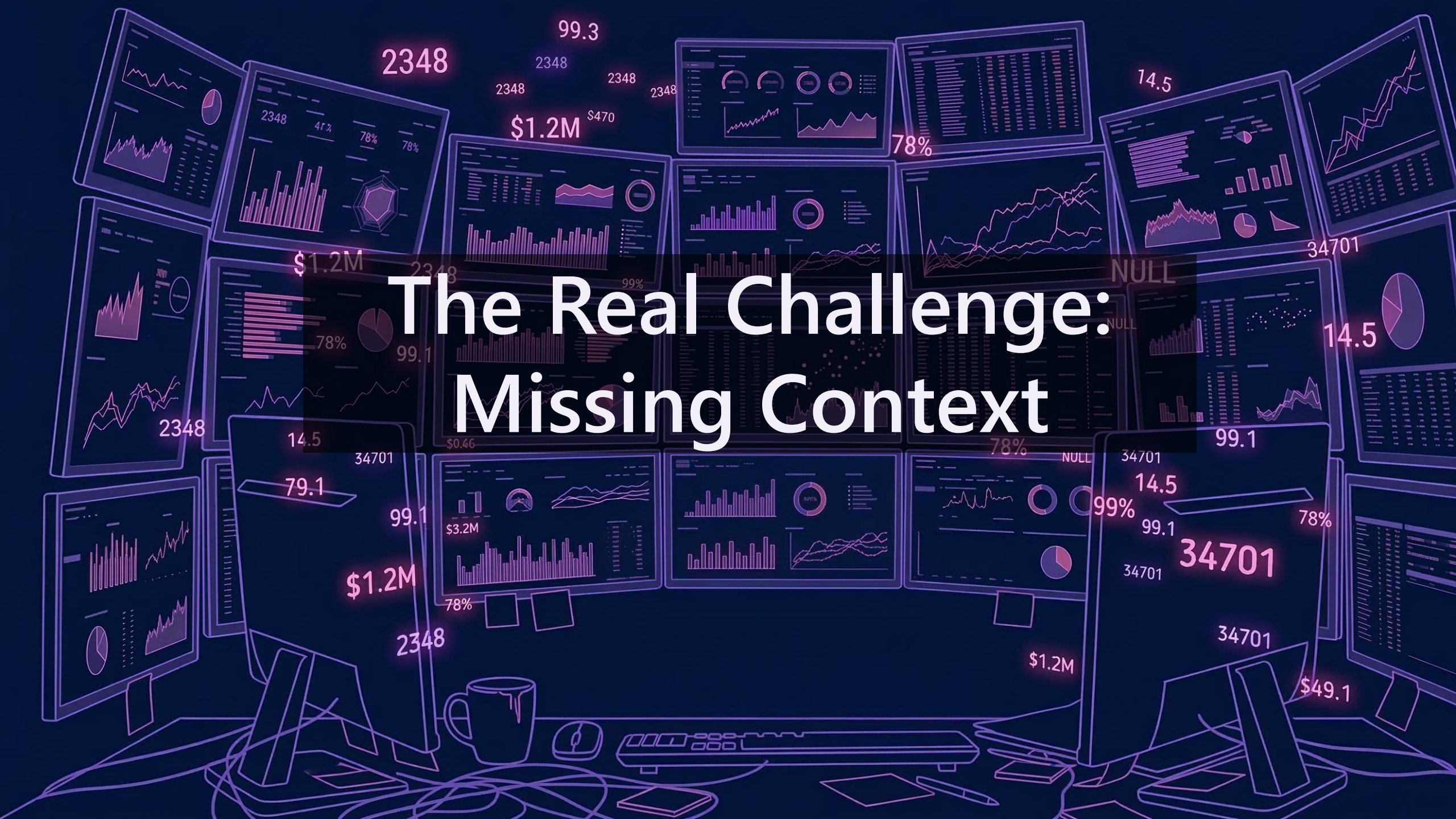
Microsoft

Connect Your Data with Fabric Graph: Why Relationships Matter for AI

Justin Fine – Product Manager, Fabric Graph
Igal Amster – Group Product Manager, Fabric Graph

Data powers AI, Context makes it intelligent

Context and business meaning unlock true decision-ready intelligence


The Real Challenge:
Missing Context

The Real Challenge:
Missing Context

Traditional enterprise data solutions are **missing context** they scattered across data silos

Dashboards show some of the data but do not have the required context for actionable insights

This means that we have access to a lot of data, but it cannot be translated to real understanding

Example:

A spike in returns appears in e-commerce dashboards, but the cause is hidden across suppliers, fulfillment centers, product variants, and customer cohorts.


Strategic Focus: Predicted +15% Growth in Q4 for Product Line B.
Suggested Action: Redirect $3.2M resources.
Strategic Focus: Predicted +15% Growth in Q4 for Product Line B.
Suggested Action: Redirect $3.2M resources.
Operations Bottleneck identified in Region C. Optimization required.
What if your analytics platform automatically surfaced the right context?
TOTAL SALES:
$1.2M
PRODUCTIVITY:
NEW CUSTOMERS:
PRODUCTIVITY INDEX:
RESOURCES:
$150M
INTEGRATED CONTEXT OVERVIEW
34701
Insight Core
INTEGRATED CONTEXT PLATFORM ENGINE

Microsoft Fabric

The unified data platform for AI transformation

Data Factory

Analytics

Databases

Real-Time Intelligence

IQ

Power BI

Fabric Platform

Copilot

OneLake

Governance

Fabric IQ

Semantic foundation to power your business and AI

Unify business semantics across data, models, rules and actions

Understand and act on live, context-rich insights

Power AI agents in Foundry and Fabric

The Fabric IQ difference

TODAY

Interpreting tables without business context and connection to actions

AI Agents

THE FUTURE

Grounded in live, unified business context connected to operational actions

AI Agents

Microsoft Fabric

The unified data platform for AI transformation

IQ

Semantic Models

Ontology

Digital Twin Builder

Graph

Data Agents

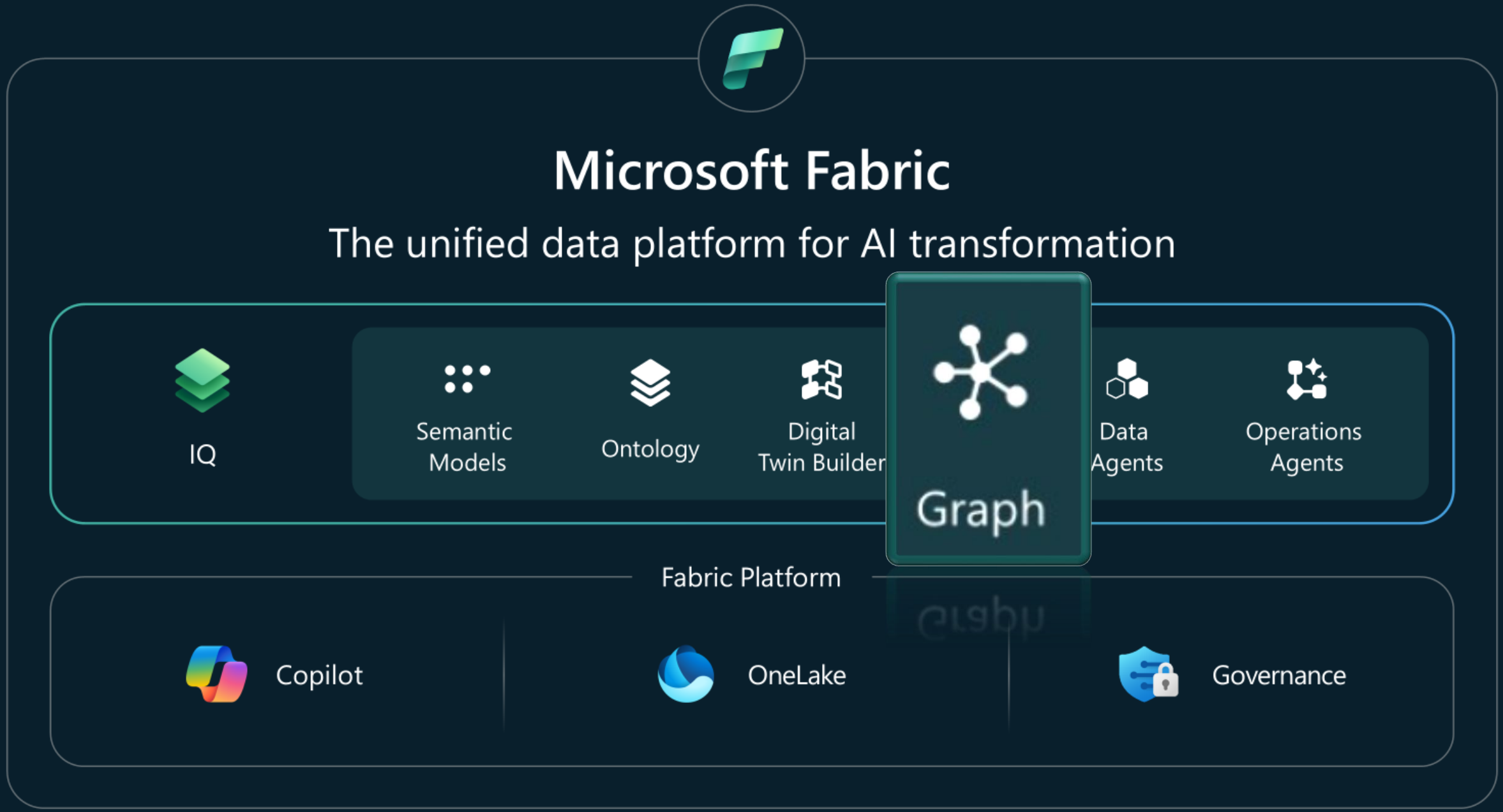
Operations Agents

Fabric Platform

Copilot

OneLake

Governance


Microsoft Fabric
The unified data platform for AI transformation
IQ
Semantic Models
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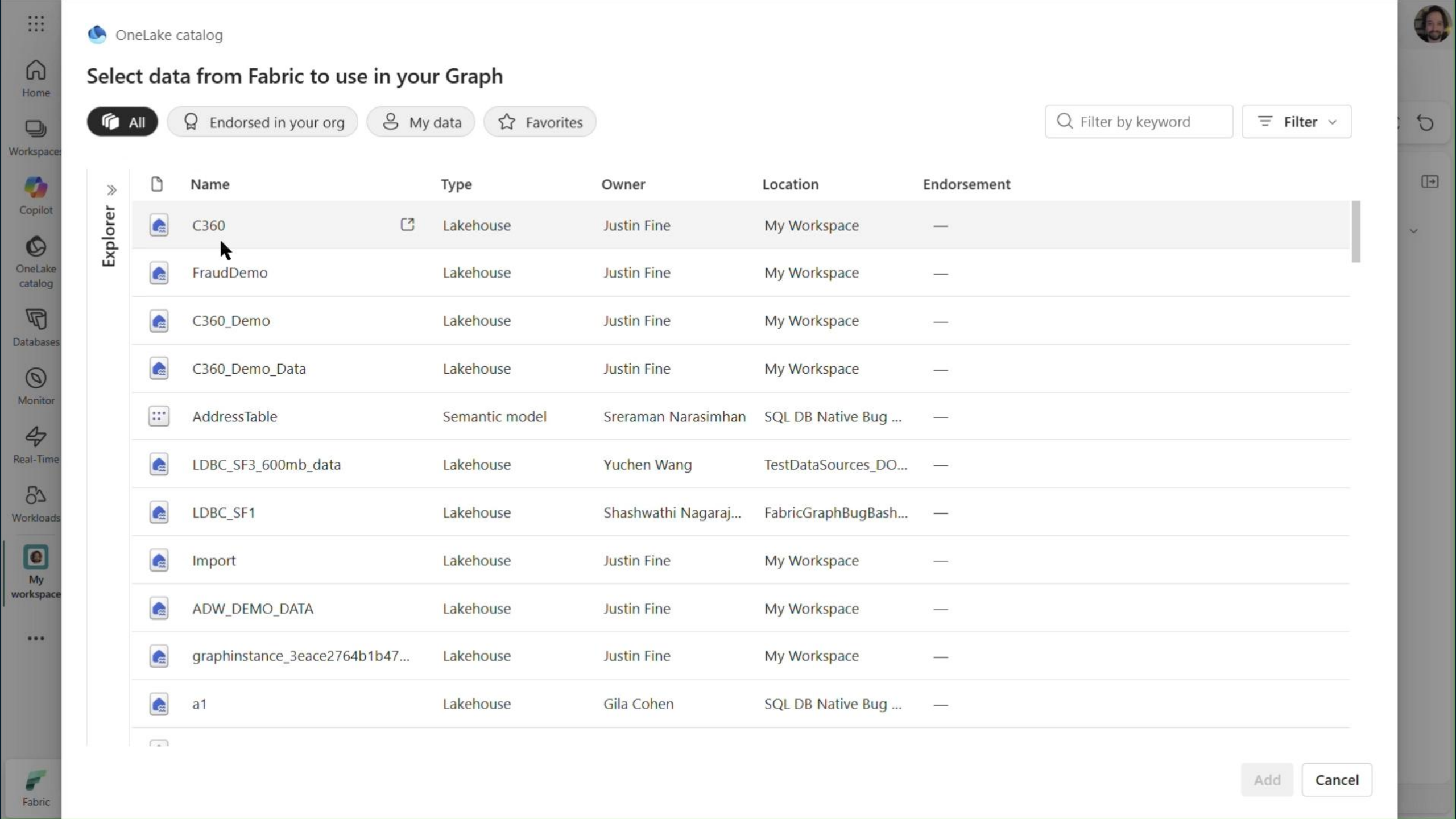
Digital Twin Builder
Graph
Data Agents
Operations Agents
Fabric Platform
Copilot
OneLake
Governance

What is a Fabric Graph?


OneLake catalog
Select data from Fabric to use in your Graph
All
Endorsed in your org
My data
Favorites
Filter by keyword
Filter
Explorer
Name
Type
Owner
Location
Endorsement
C360
Lakehouse
Justin Fine
My Workspace
—
FraudDemo
Lakehouse
Justin Fine
My Workspace
—
C360_Demo
Lakehouse
Justin Fine
My Workspace
—
C360_Demo_Data
Lakehouse
Justin Fine
My Workspace
—
AddressTable
Semantic model
Sreraman Narasimhan
SQL DB Native Bug ...
—
LDBC_SF3_600mb_data
Lakehouse
Yuchen Wang
TestDataSources_DO...
—
LDBC_SF1
Lakehouse
Shashwathi Nagaraj...
FabricGraphBugBash...
—
Import
Lakehouse
Justin Fine
My Workspace
—
ADW_DEMO_DATA
Lakehouse
Justin Fine
My Workspace
—
graphinstance_3eace2764b1b47...
Lakehouse
Justin Fine
My Workspace
—
a1
Lakehouse
Gila Cohen
SQL DB Native Bug ...
—
Add
Cancel
Home
Workspaces
Copilot
OneLake catalog
Databases
Monitor
Real-Time
Workloads
My workspace
Fabric

Fabric Graph Solution:

Empowering Businesses with AI-First, Enterprise-Grade Graph for Connected Data Insights

For All User Roles

Business user

Data analyst

Data engineer

Data scientist

Agent developer

AI Ready

Integration with Data Agent

Graph RAG

Agent Orchestration

Built on Fabric

Eliminate ETL

One Security

One Governance

Scale-Out Architecture

Based on Liquid (260B edges, 2M QPS)

Scale storage and compute independently

Distributed query engine

Evolution of Graph

From research concept to core infrastructure for connected, real-time and AI-driven data platforms

Foundations
90s-2010s

- Academic and research-driven
- Focus on relationship modeling
- Limited production deployment
- Early social and network analysis

Operational Adoption
(2015–2020)

- Dedicated graph databases emerge
- Real-time traversal and analytics
- Fraud detection, recommendations, Customer 360
- Enterprise production workloads

Modern Graph Platforms
(2021–Present)

- Integrated with lakehouse architectures
- Unified SQL + Spark + Graph analytics
- Supports AI and real-time insights
- Eliminates data duplication

Not All Graphs Are Built for the Same Job

And Why Fabric chose LGP + Ontology to implement Knowledge Graph

Ontology — Defines Meaning

- Shared business vocabulary
- Entities, relationships, rules
- Aligns people and AI on the same concepts

+

Labeled Property Graph (LPG)

- Nodes and relationships with properties
- Fast traversal and multi-hop queries
- Optimized for analytics and scale

=

RDF / Triple Stores

- Subject–Predicate–Object triples
- Formal semantics and inference
- High complexity, performance trade-offs

Graph over Relational Tables

- Nodes and relationships with properties
- Fast traversal and multi-hop queries
- Optimized for analytics and scale

Knowledge Graph

- Ontology defines business meaning
- LPG executes relationships at scale
- Practical, performant knowledge graph for enterprise and AI

Public Preview

Active Tenants only from the last month

"Fabric Graph turns connected data into something teams can actually reason about. It's not just analysis - it's decision-making."

Queries per week

"Being able to reason about cascading impact and shortest paths across our network has changed how we think about operations and planning."

Active Graphs

"For the first time, we can see our customer data as a connected system instead of isolated tables. That shift alone unlocked insights we simply couldn't get before."

"Graph in Microsoft Fabric is a game changer. The highly scalable graph engine coupled with Fabric's ease of use is a uniquely powerful combination."

Luke Hiester
Senior Data Scientist,
Eastman Chemical Company

Microsoft
Sentinel

"Attackers think in graphs. Defenders think in lists. Sentinel graph changes that. With Fabric's scale-out graph, security agents and defenders can see, understand, and respond through a living graph of their digital estate that adapts with them."

Krishna Kumar Parthasarathy
CVP,
Microsoft Sentinel

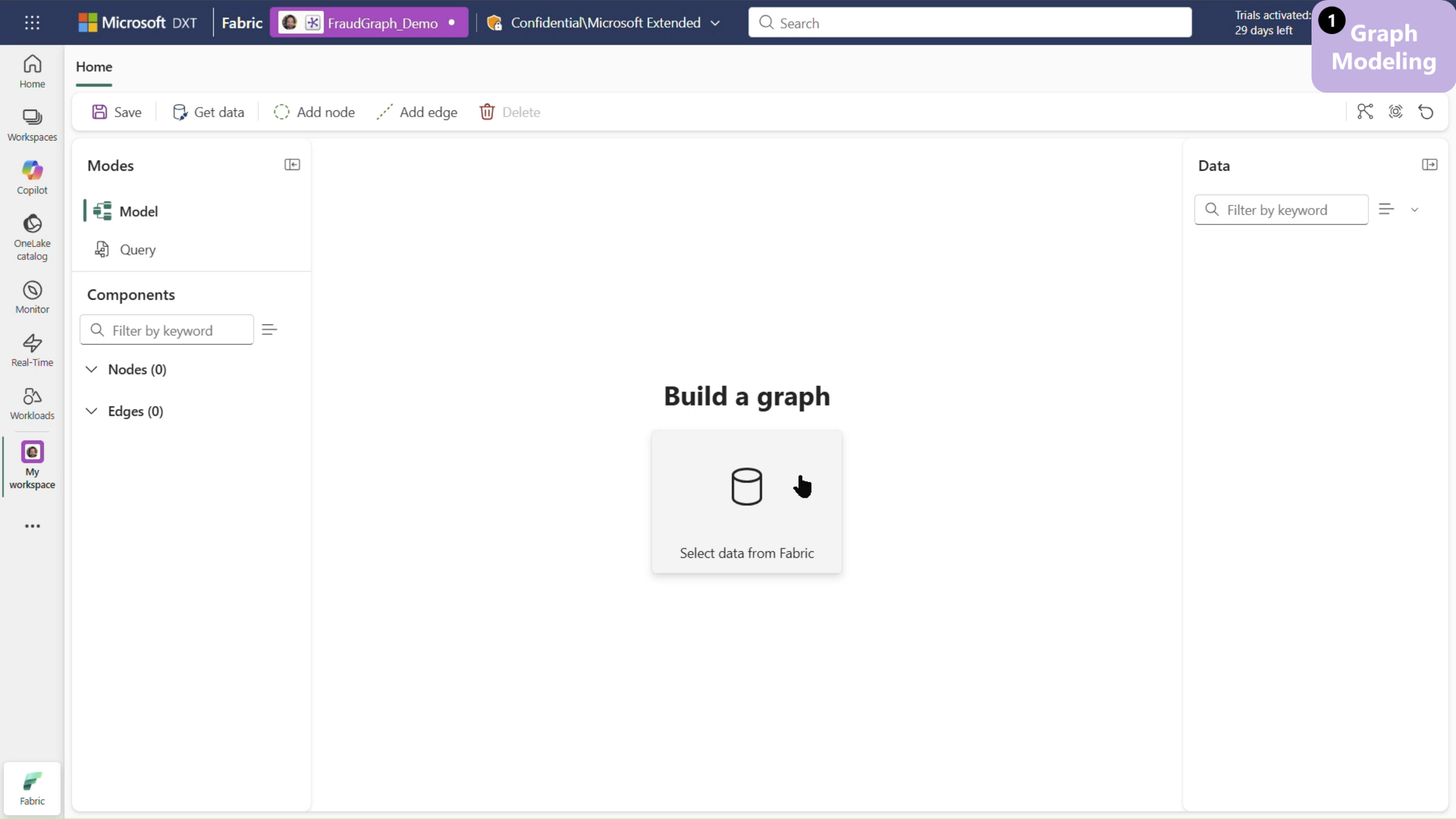
Deep Dive Time!

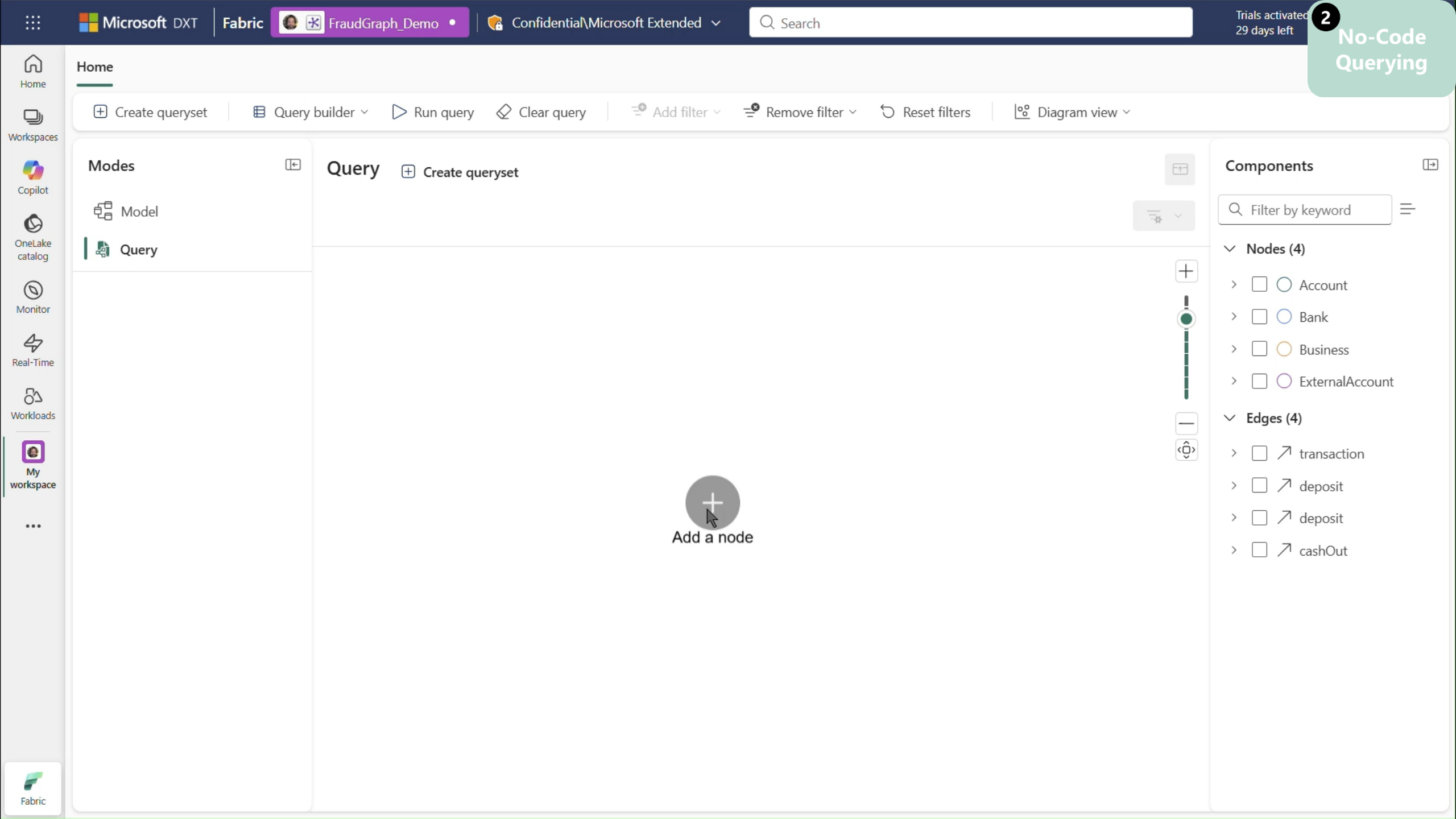
1 **Graph Modeling**

2 **No-Code Querying**

3 **GQL Querying**

4 **Data Agent Querying**


Microsoft DXT
Fabric
FraudGraph_Demo
Confidential\Microsoft Extended
Search
Trials activated:
29 days left
1
Graph Modeling
Home
Workspaces
Copilot
OneLake catalog
Monitor
Real-Time
Workloads
My workspace
Fabric
Home
Save
Get data
Add node
Add edge
Delete
Modes
Model
Query
Components
Filter by keyword
Nodes (0)
Edges (0)
Build a graph
Select data from Fabric
Data
Filter by keyword


Microsoft DXT
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Confidential\Microsoft Extended
Search
Trials activated
29 days left
2
No-Code Querying
Home
Workspaces
Copilot
OneLake catalog
Monitor
Real-Time
Workloads
My workspace
Fabric
Home
Create queryset
Query builder
Run query
Clear query
Add filter
Remove filter
Reset filters
Diagram view
Modes
Model
Query
Query
Create queryset
Add a node
Components
Filter by keyword
Nodes (4)
Account
Bank
Business
ExternalAccount
Edges (4)
transaction
deposit
deposit
cashOut

3 GQL Querying

Home

Create queryset | Query builder | Run query | Clear query | Add filter | Remove filter | Reset filters | Diagram view

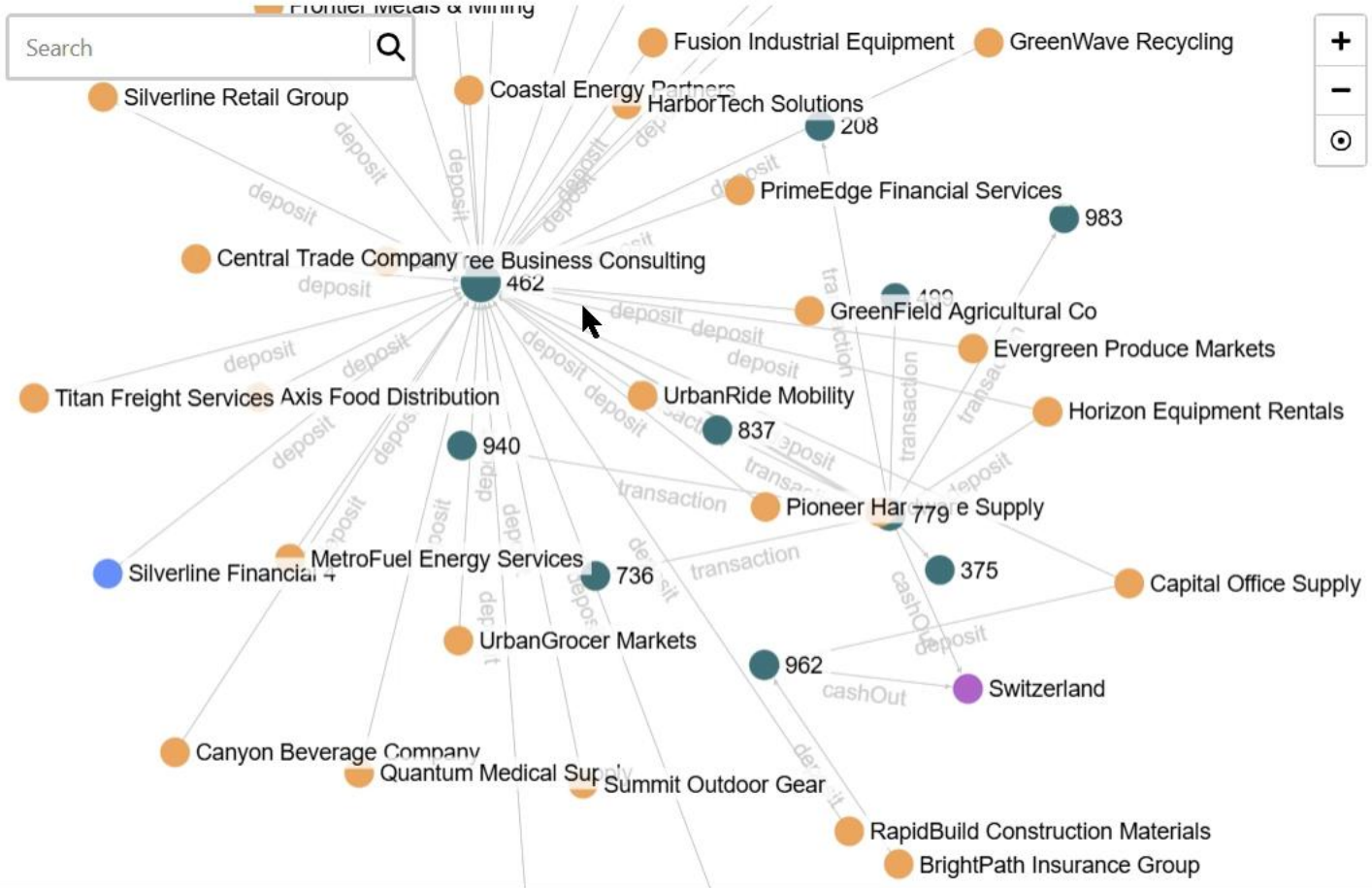
Modes

- Model
- Query

Query

Create queryset

Account | Business | ExternalAccount | deposit | cashOut



Components

Filter by keyword

Nodes (4)

- [x] Account
- [ ] Bank
- [x] Business
- [x] ExternalAccount

Edges (4)

- [ ] transaction
- [ ] deposit
- [x] deposit
- [x] cashOut

4 Data Agent Querying

Power BI

https://msit.powerbi.com/groups/me/list?experience=power-bi

Microsoft | Power BI My workspace

Search

17

Home
Copilot
Create
Browse
Monitor
Learn
Real-Time
Workloads
Workspaces
My workspace
Power BI

My workspace

Recycle bin | Workspace settings

New item | New folder | Import | Migrate

Filter by keyword | Filter

Choose from predesigned task flows or add a task to build one

Select from one of Microsoft's predesigned task flows or add a task to start building one yourself.

Select a predesigned task flow | Add a task

Import a task flow

Name	Status	Type	Task	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
AdventureWorksSalesAgent		Data agent	—	Will Wang[wawng]	—	—	—	General
AdventureWorksSalesData		Graph model	—	Will Wang[wawng]	—	—	—	General
DocSampleAdventureWorks		Lakehouse	—	Will Wang[wawng]	—	—	—	Confidential\Micros...
DocSampleAdventureWorks		SQL analytics endp...	—	Will Wang[wawng]	—	—	—	Confidential\Micros...

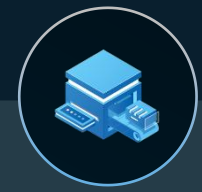
Airlines

Manufacturing

Energy

Retail

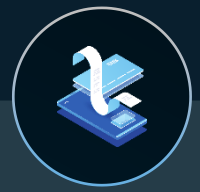
Health Care



Distribution

Phar

Airports



Financial

Hospitality

Telecoms

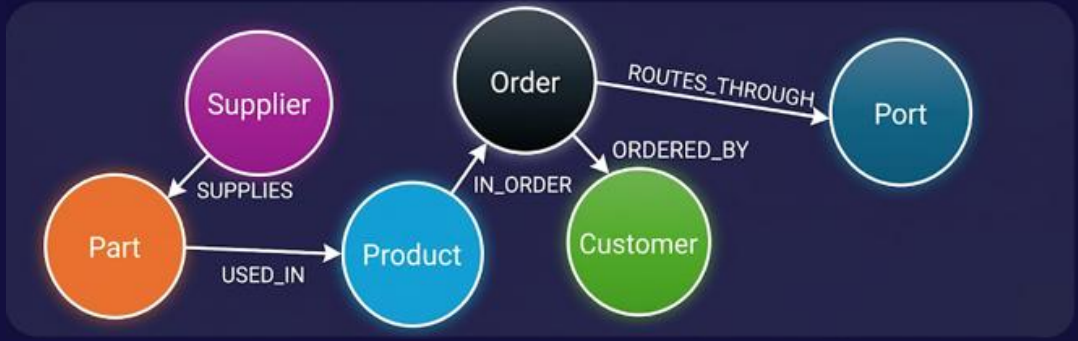
Video Calling

Automotive

Spo

Graph in supply chains

Business question:
If a supplier or port is delayed, which orders and customers are impacted?



GQL statement:

```
MATCH
(s:Supplier {id: 'S-123'})-[:SUPPLIES]->(:Part)  -[:USED_IN]-
>(:Product)-[:IN_ORDER]->(o:Order)  -[:ORDERED_BY]-
>(c:Customer)
RETURN o.id, c.name
```

SQL equivalent:

```
SELECT DISTINCT o.order_id, c.name
FROM Suppliers s
JOIN Parts p ON s.supplier_id = p.supplier_id
JOIN Products pr ON p.part_id = pr.part_id
JOIN OrderItems oi ON pr.product_id = oi.product_id
JOIN Orders o ON oi.order_id = o.order_id
JOIN Customers c ON o.customer_id = c.customer_id
WHERE s.supplier_id = 'S-123';
```

Problems:

- Join explosion
- OrderItems bridge tables everywhere
- Poor performance at scale
- Impossible to generalize to N hops

Graph in supply healthcare

Business question:
Which patients are impacted if a medical device supplier issues a recall?

GQL:

```
MATCH (s:Supplier {name: 'Acme Medical'})  <-
[:SUPPLIED_BY]-(d:Device)  <-[:USES]-(p:Procedure)  <-
[:INCLUDES]-(e:Encounter) <-[:HAS_ENCOUNTER]-
(pt:Patient)
RETURN DISTINCT pt.id, pt.name
```

SQL equivalent:

```
SELECT DISTINCT pt.patient_id, pt.name
FROM Patients pt
JOIN Encounters e ON pt.patient_id = e.patient_id
JOIN Procedures p ON e.encounter_id = p.encounter_id
JOIN Devices d ON p.device_id = d.device_id
JOIN Suppliers s ON d.supplier_id = s.supplier_id
WHERE s.name = 'Acme Medical';
```

Problems:

- Deep join chains
- Rigid schema assumptions
- Any extra hop = query rewrite
- Hard to reason about impact paths

Get hands-on with Fabric Graph

Try out our tutorial

Tutorial: Introduction to graph in Microsoft Fabric - Microsoft Fabric | Microsoft Learn

Get hands-on today!

Get hands-on	Complete the tutorial	aka.ms/realtimetutorial	aka.ms/ontology-tutorial
	Play Kusto Detective Agency	aka.ms/realtimedetective	
Engage	Ask questions on the forum	aka.ms/realtimeforum	aka.ms/fabric-iq-forum
	Submit ideas and vote	aka.ms/realtimeideas	aka.ms/fabric-iq-ideas
	Use the docs	aka.ms/realtimedocs	aka.ms/fabric-iq-overview
Learn more	Complete the learning path	aka.ms/realtimelearningpath	
	Get certified	aka.ms/realtimeskill	
	Read the blog	aka.ms/realtimeblogs	aka.ms/fabric-iq-blogs
Stay updated	Check the release plan	aka.ms/realtimereleaseplan	aka.ms/fabric-iq-release
	Follow on LinkedIn	aka.ms/realtimelinkedin	
Learn about Fabric	Watch on YouTube	aka.ms/fabricyoutube	
	Find customer success stories	aka.ms/fabric-customer-success	

Get hands-on with Fabric RTI and Fabric IQ

100+ workshops delivered across 20+ countries. Now it's your turn!

Gain hands-on skills: real-time routing, monitoring, alerting, and AI-powered analytics

aka.ms/nextRTIAD

Learn more about ontologies and IQ in the playground:

aka.ms/ontology-playground

Get hands-on today!

Related sessions at FabCon

Session ID	Title	Date/Time
10727186	CORENOTE: Create a Single Source of Truth for Your Data, AI, and Actions	Wed, Mar 18, 3:05 PM–4:05 PM
1072716	Transform Your Business with Fabric Real-Time Intelligence	Wed, Mar 18, 4:25 PM–5:25 PM
1094675	Fabric IQ: Unlock Enterprise AI with a Unified Semantic Layer	Thu, Mar 19, 10:10 AM–11:10 AM
1094315	Connect Your Data with Fabric Graph: Why Relationships Matter for AI	Thu, Mar 19, 2:00 PM–3:00 PM
1081361	Master Eventhouse Patterns for Real-Time Intelligence at Scale	Thu, Mar 19, 4:15 PM–5:15 PM
1094445	Simplify Geospatial Analytics with Real-Time Maps in Fabric	Thu, Mar 19, 4:15 PM–5:15 PM
1025145	Build Trustworthy Real-Time AI Applications with Eventstream in Real-Time Intelligence	Fri, Mar 20, 10:10 AM–11:10 AM
1080563	Build Your First Digital Employee: A Guide to Operations Agents in Fabric	Thu, Mar 19, 11:30 AM–12:30 PM
1065937	Automate at Scale with Event-Driven Architectures and Business Events	Fri, Mar 20, 3:15 PM–4:15 PM

How was the session?

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