#FABCONSQLCON2026

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ATLANTA MARCH 16 - 20, 2026

Fabric Sprawl

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https://mrdata.pro

All code shown today is available on GitHub!

Session Topics

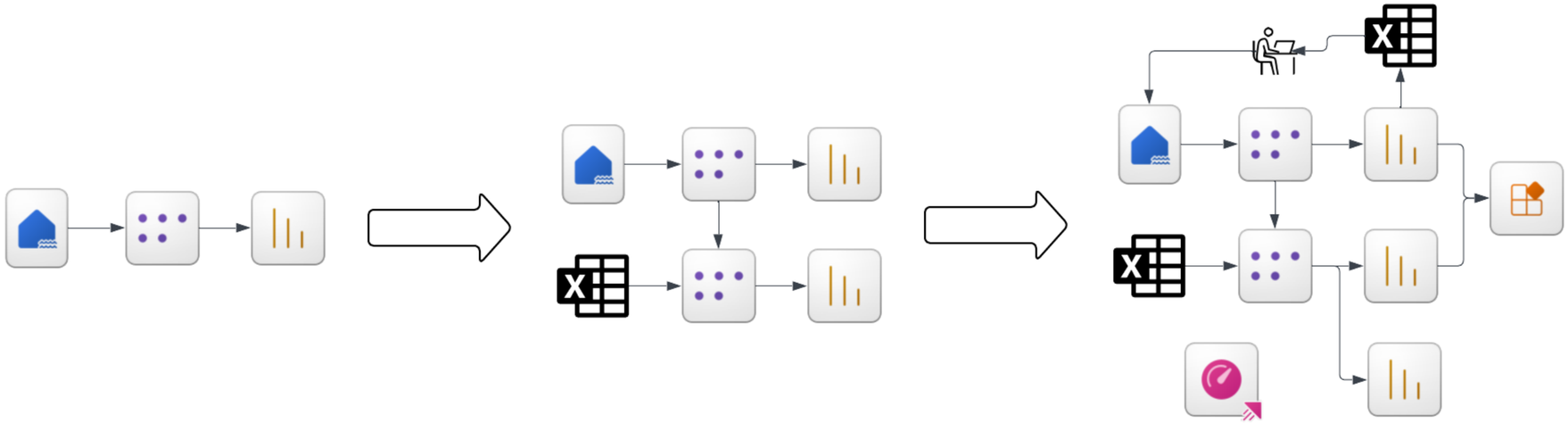
- What is Fabric Sprawl?
- What are the symptoms?
- What are the benefits of controlling Fabric Sprawl?
- How do you solve for Fabric Sprawl?

Know Remove Improve

- Know
  - FUAM & its extensions
- Remove
  - Approach and strategies
- Improve
  - Artifact consolidation
  - Security cleanup
  - CICD standardization
  - Monitor

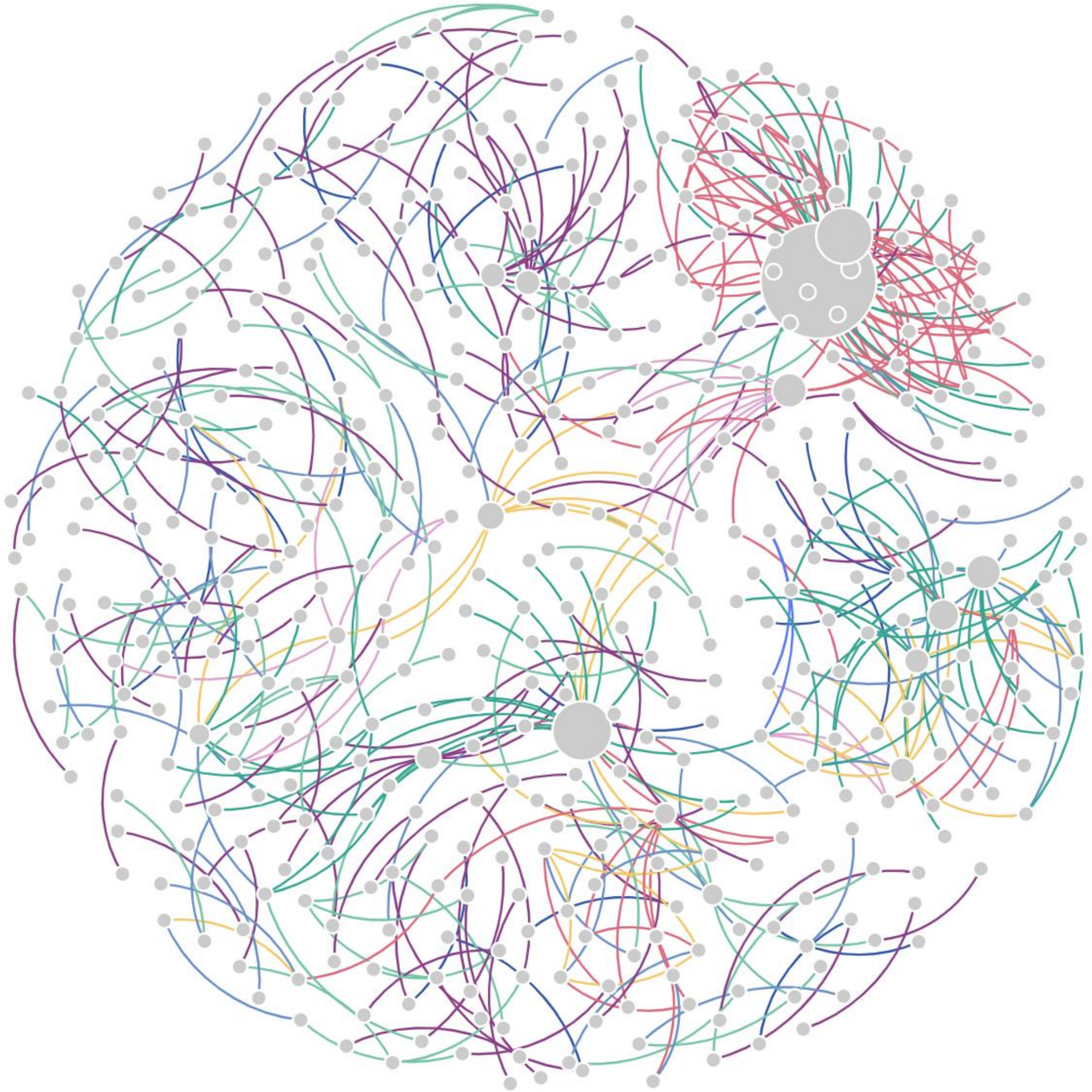
What is Fabric Sprawl?

The uncontrolled growth of Fabric artifacts.

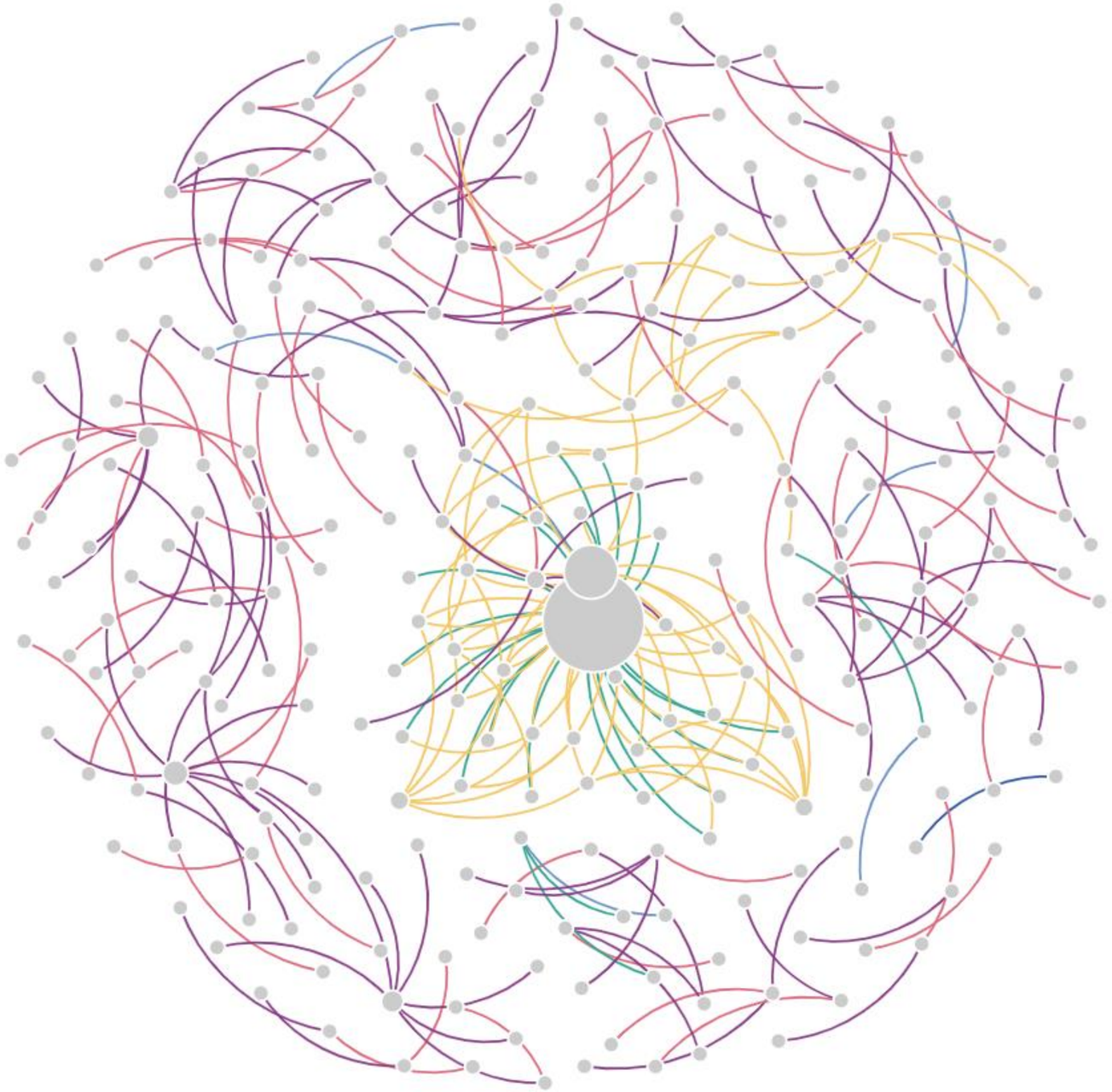


What does Fabric Sprawl look like in your Org?

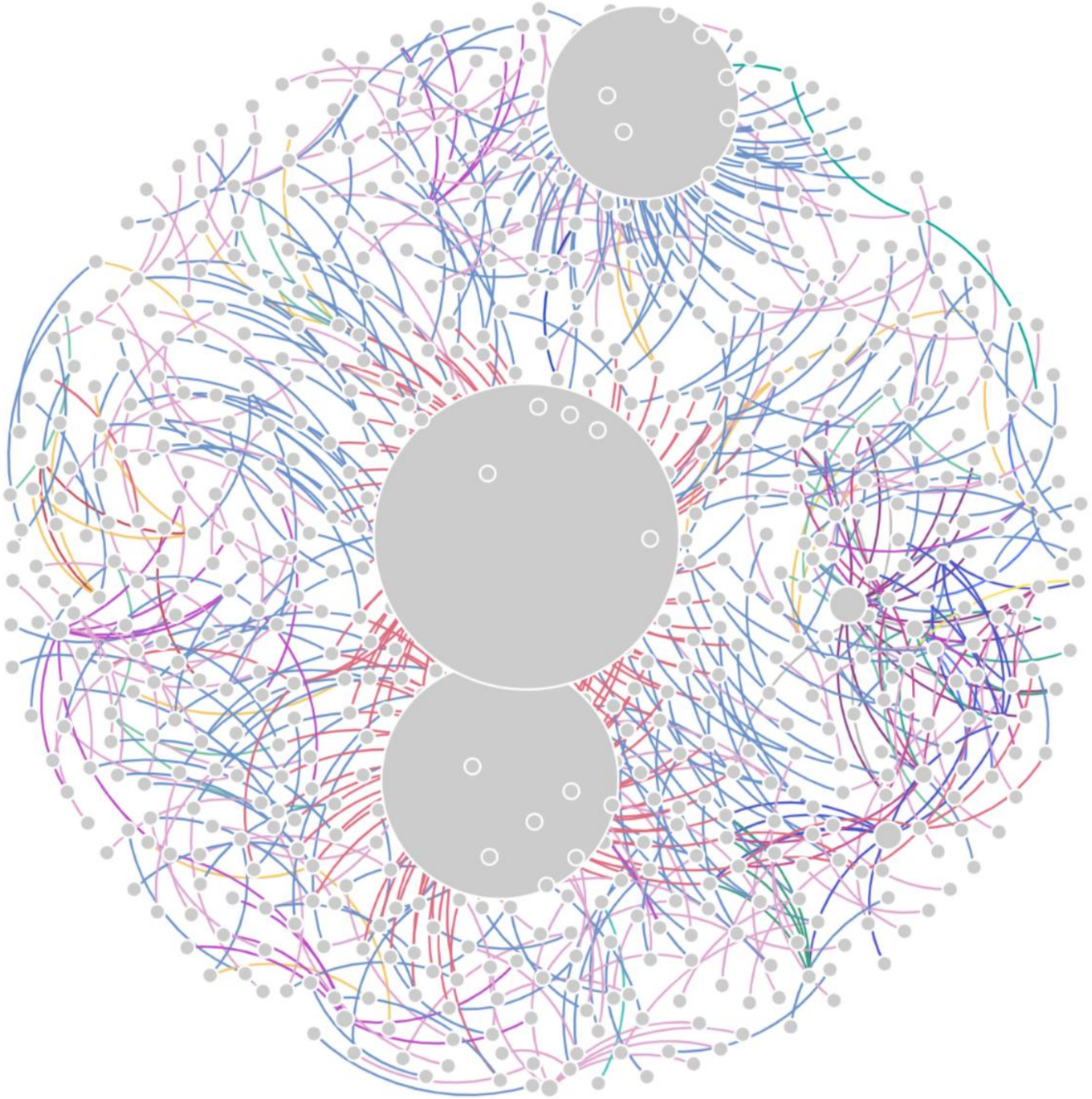
Some look like this...



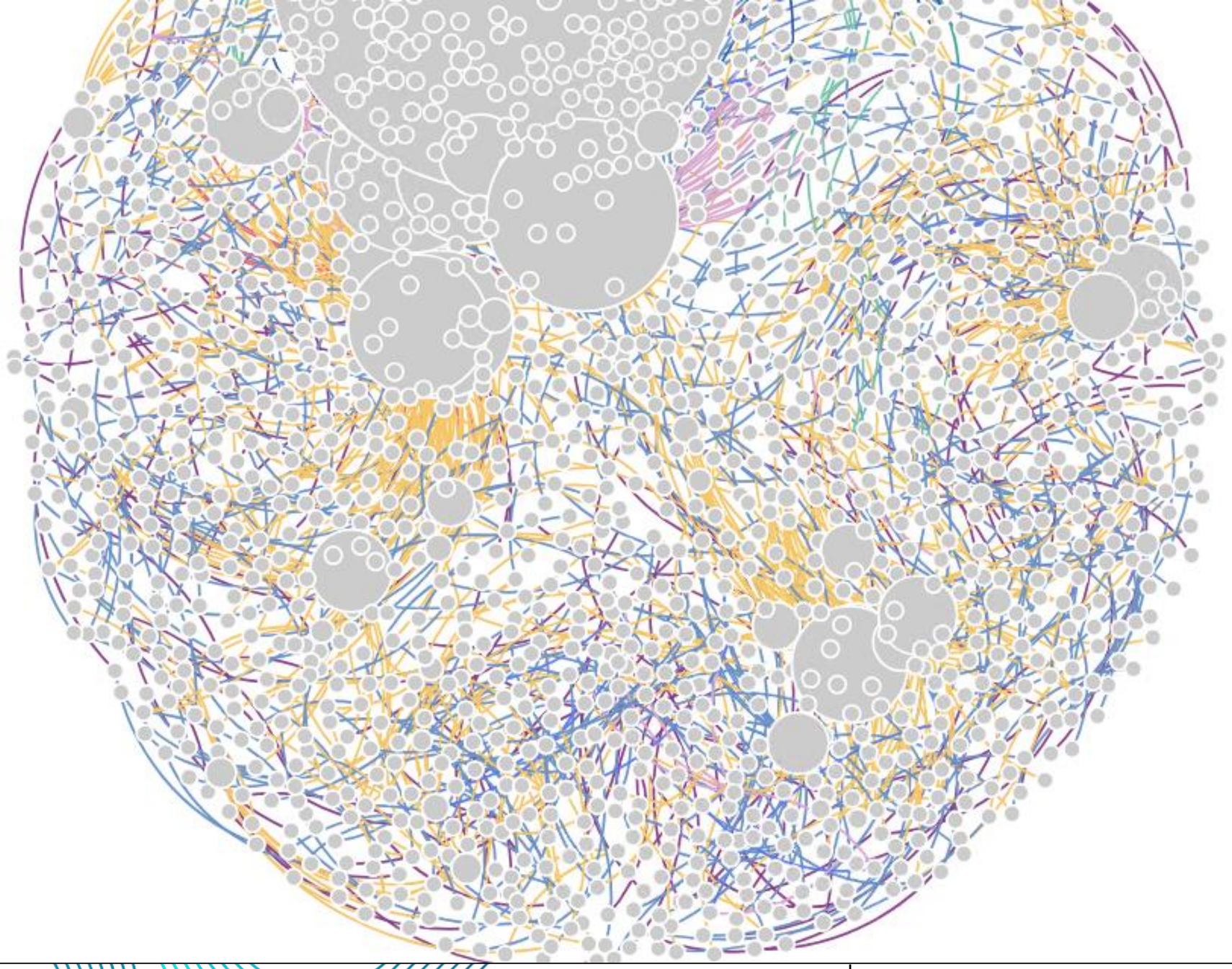
Or this...



Or this...



Or this.

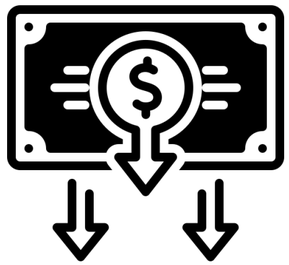


Sprawl Symptoms

- Duplication of data assets
- Accuracy issues
- Capacity peaking
- Security violations
- Redundant build efforts

It could be worse! Better to have sprawl inside of Fabric vs. outside…

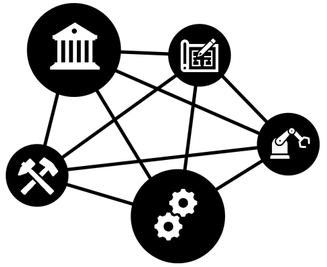
Benefits of Sprawl Removal



Reduce Fabric Spend

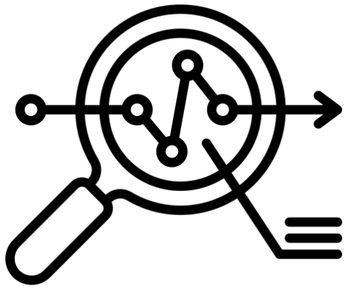
Repurpose Fabric Compute

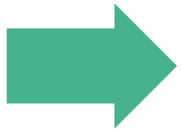
Resource Optimization



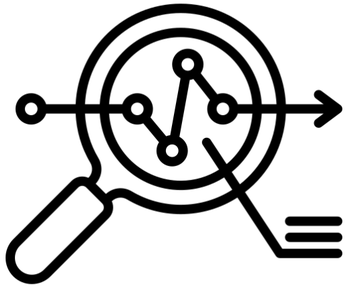
Streamline Data Governance

Fabric Sprawl Resolution





Know **Remove** **Improve**



Know

FUAM - Fabric Unified Admin Monitoring

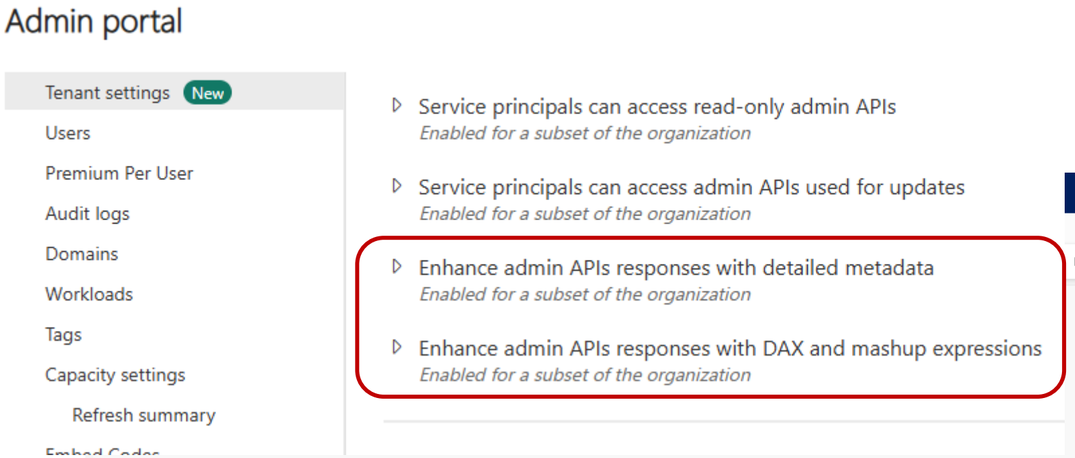
- An open-source accelerator in Microsoft's GitHub repository.
- Completely Fabric.
- Data collection of various Fabric APIs.
- Stores in Fabric Lakehouse.
- **Easily installed and extendable.**

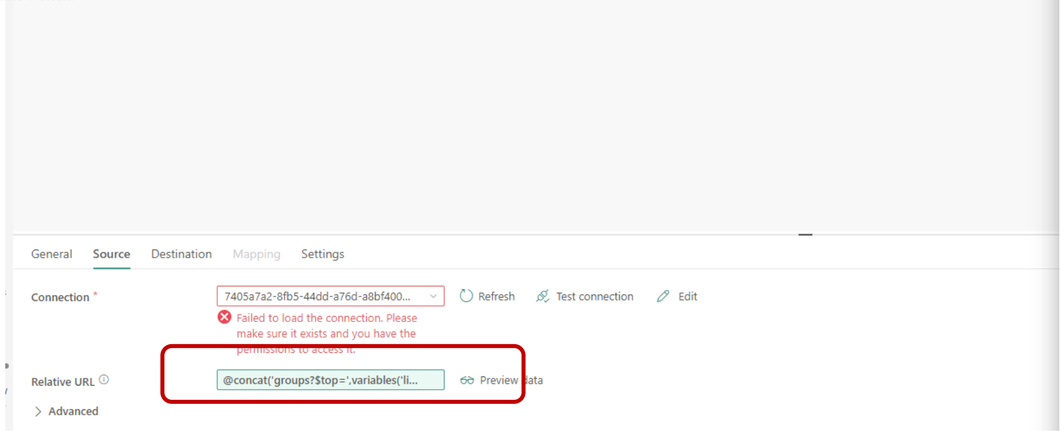
Different Ways to Extend FUAM

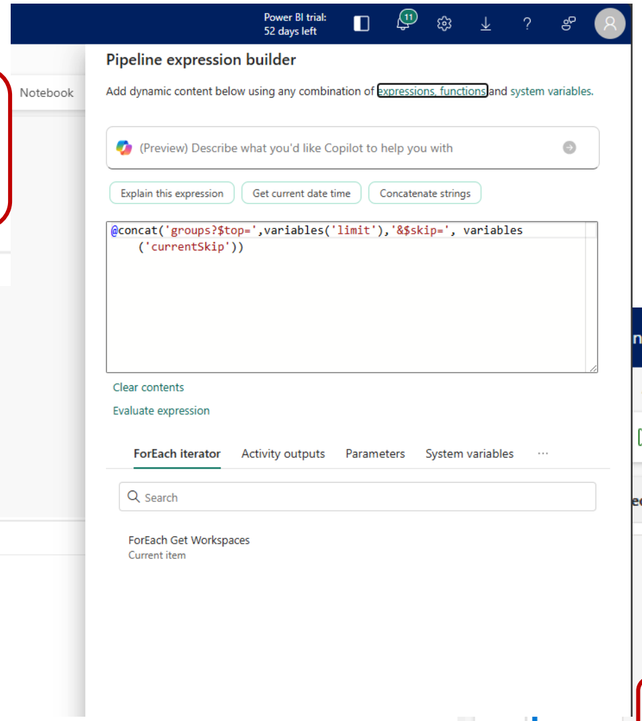
- Add Personal Workspace Data
- Include Semantic Model Metadata
- Perform Lineage Analysis on Fabric Items

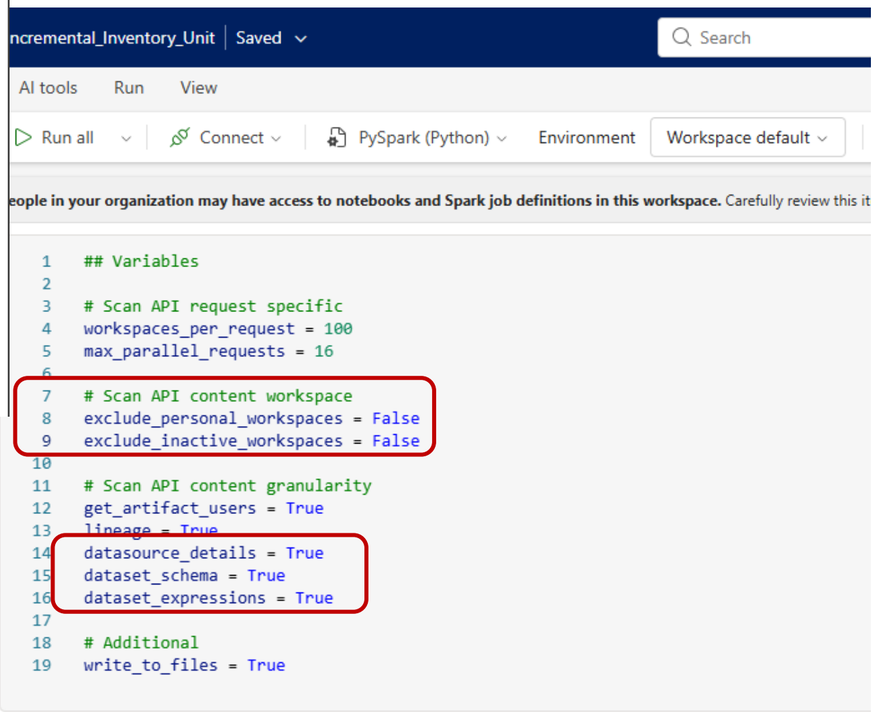
See FUAM documentation on updating.

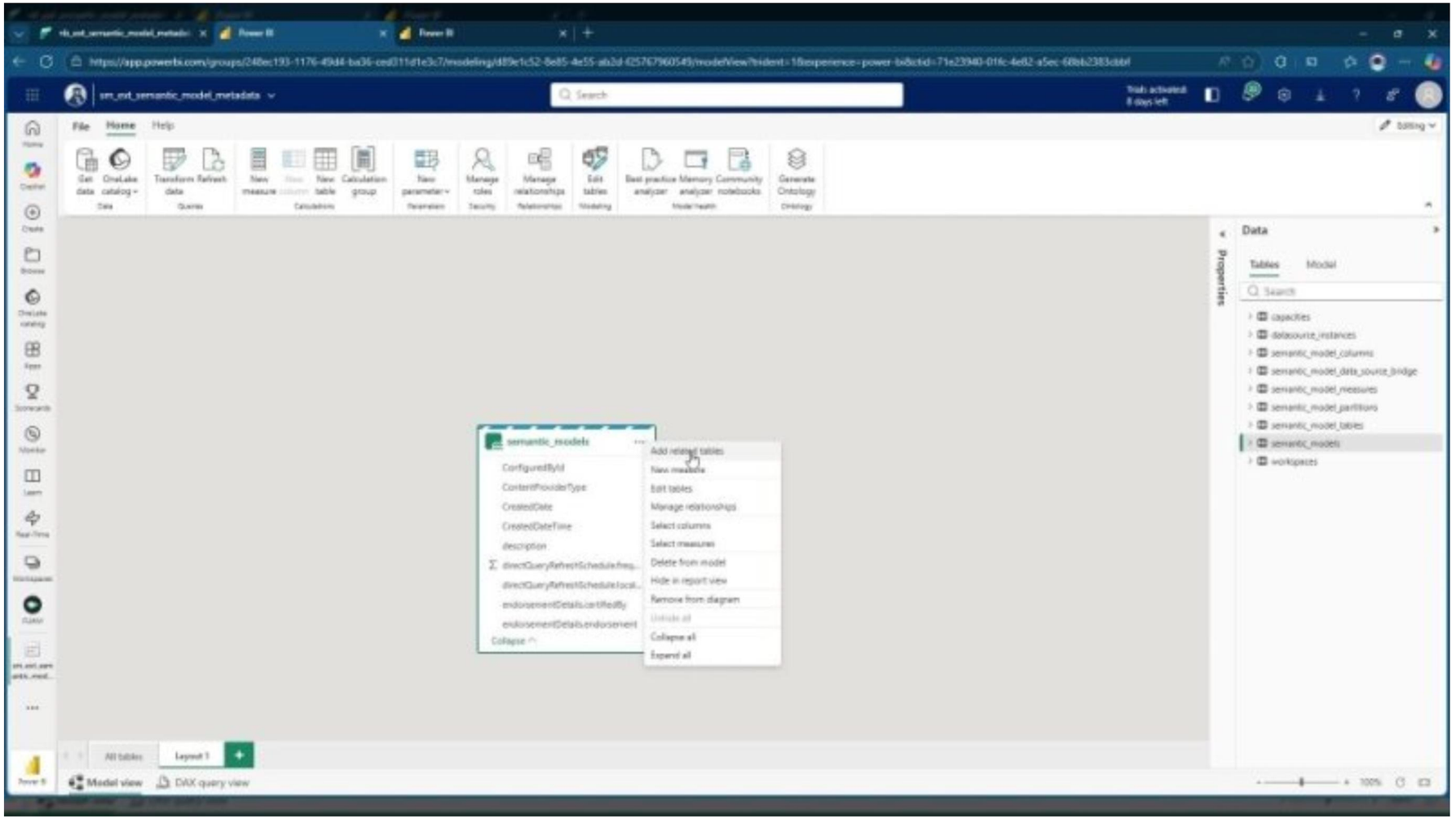
Modifications to Existing FUAM Pipelines & Tenant Setting Changes





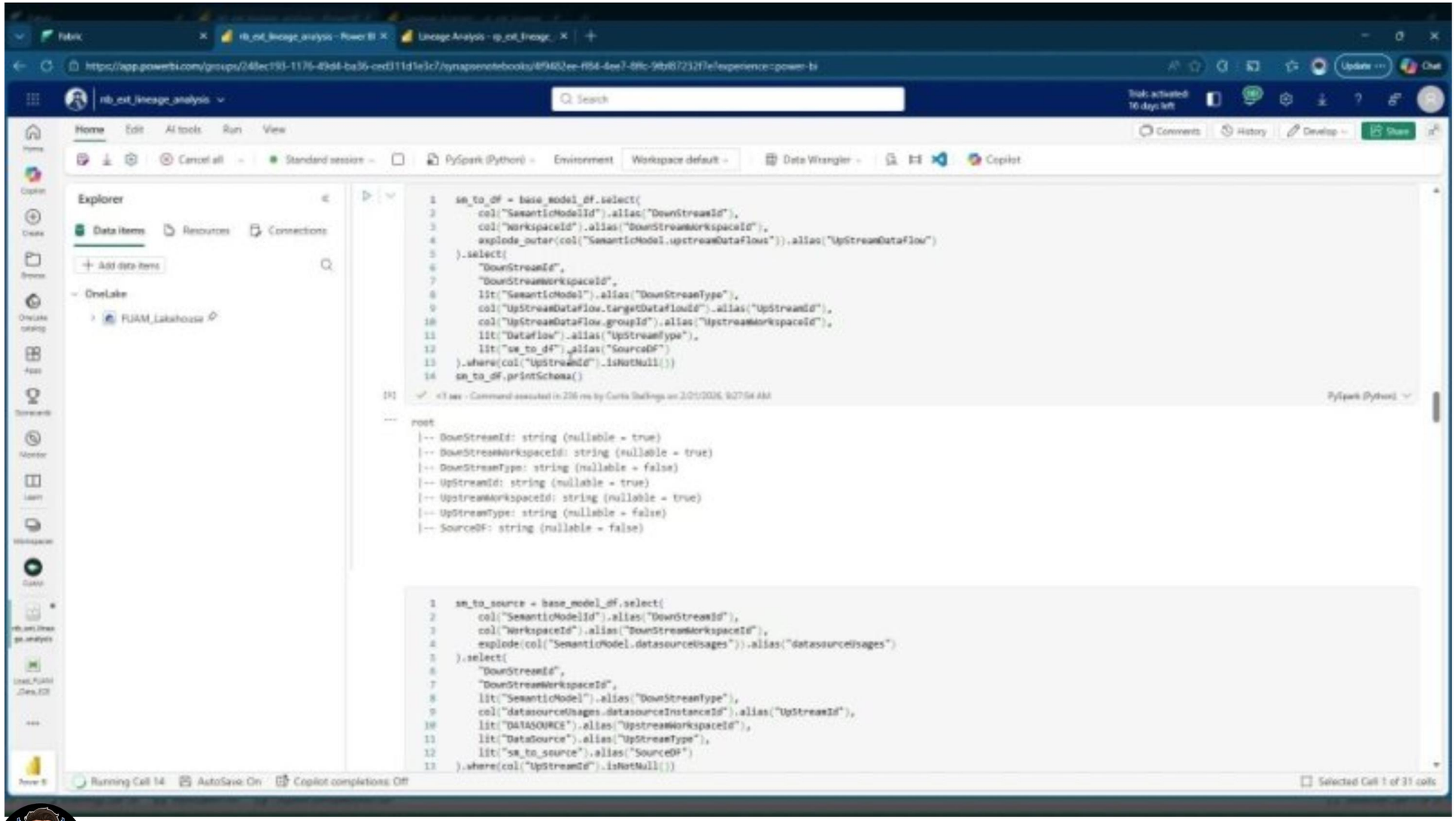






Semantic Model Metadata Example:

- Read FUAM files from API collection into Dataframes
- Write as delta tables
- Build direct lake semantic model
- View details of all semantic models across your entire tenant.

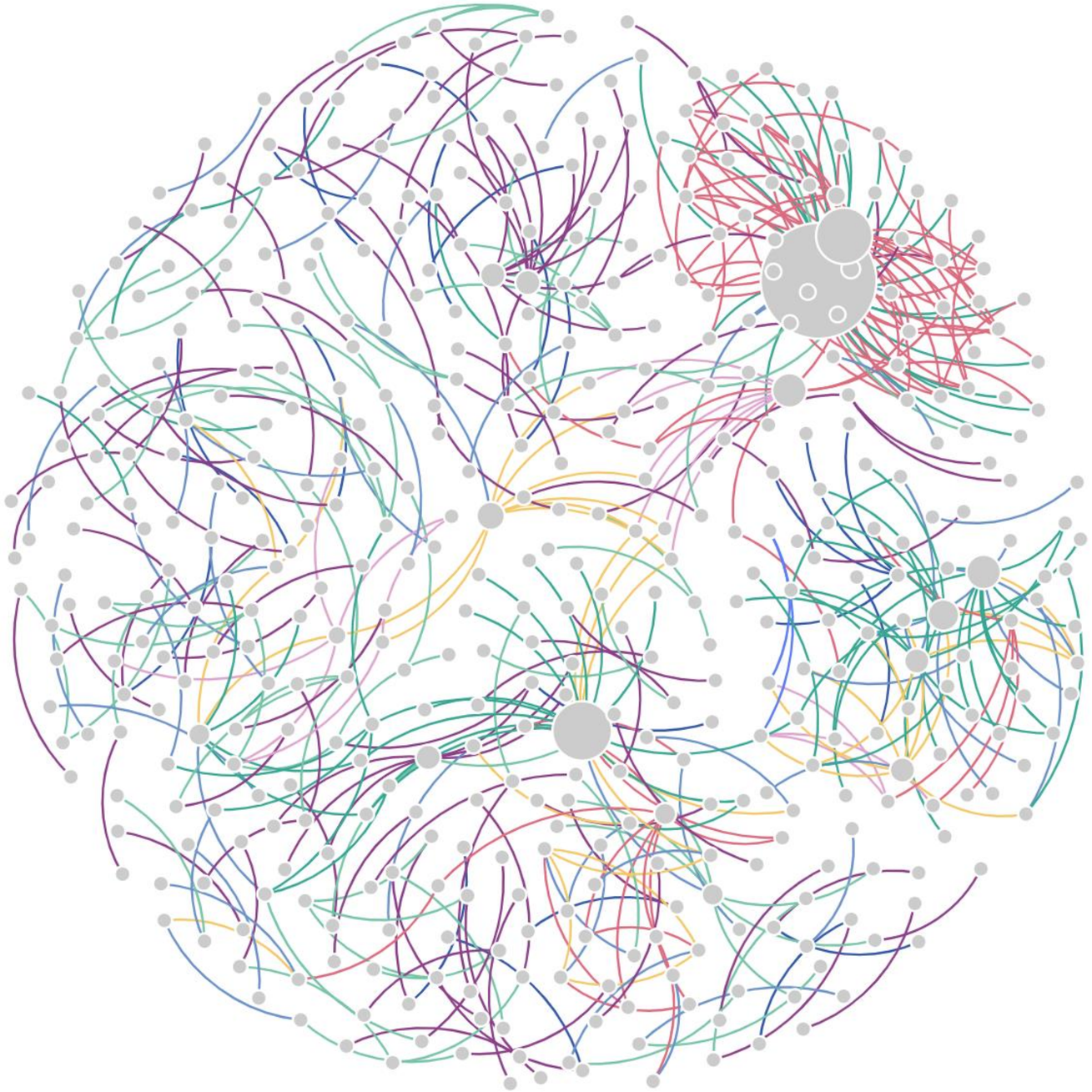


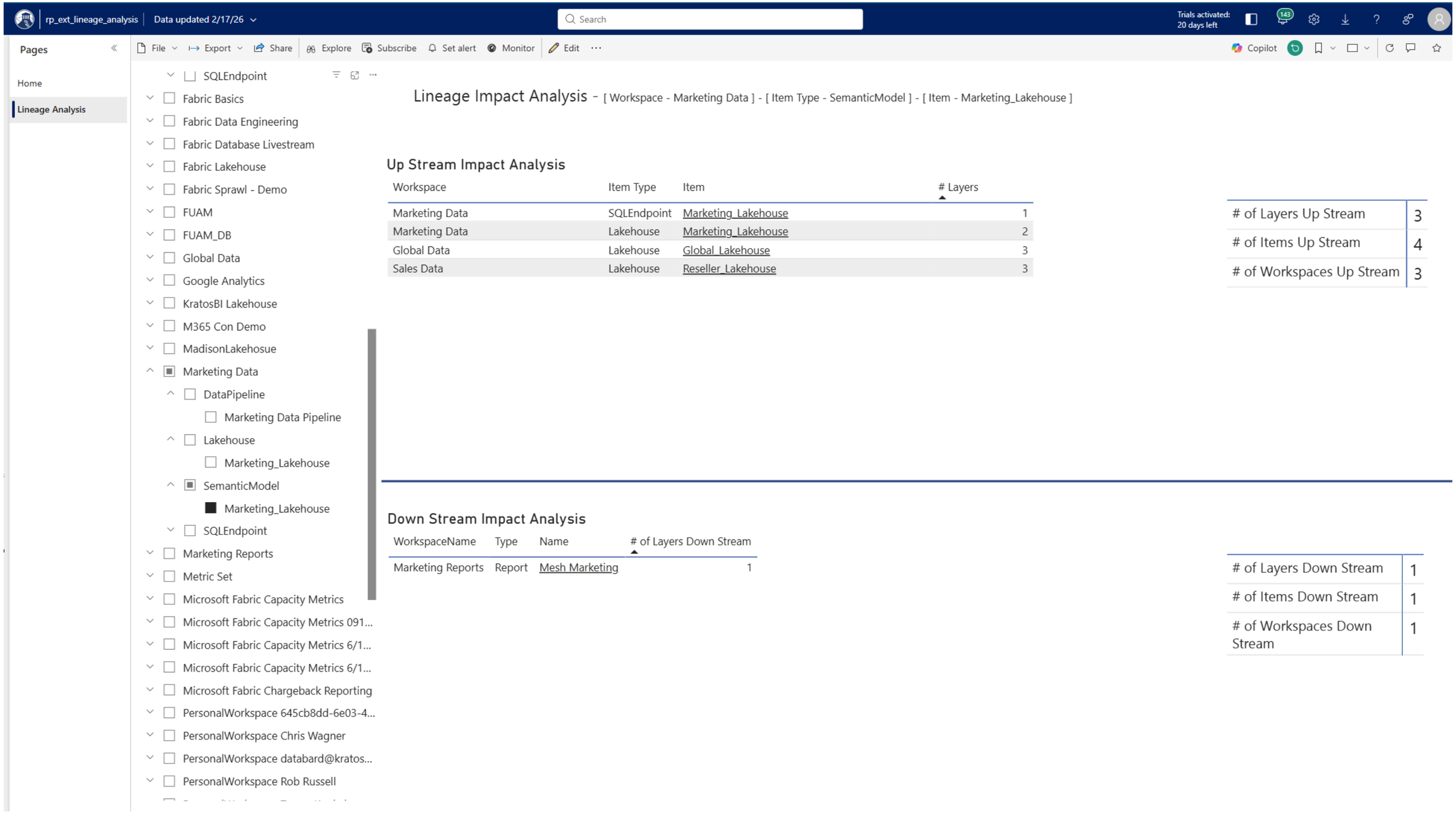
Lineage Analysis

- For each fabric item type locate the parent and child connections in FUAM data.
- Conform data into matching Dataframe schema.

```
root
 |-- DownStreamId: string (nullable = true)
 |-- DownStreamWorkspaceId: string (nullable = true)
 |-- DownStreamType: string (nullable = false)
 |-- UpStreamId: string (nullable = true)
 |-- UpStreamWorkspaceId: string (nullable = true)
 |-- UpStreamType: string (nullable = false)
 |-- SourceDF: string (nullable = false)
```

- Let Networkx Python package do the hard work and find all the possible paths and connections.
- Build semantic model to look at data.
- Perform analysis.



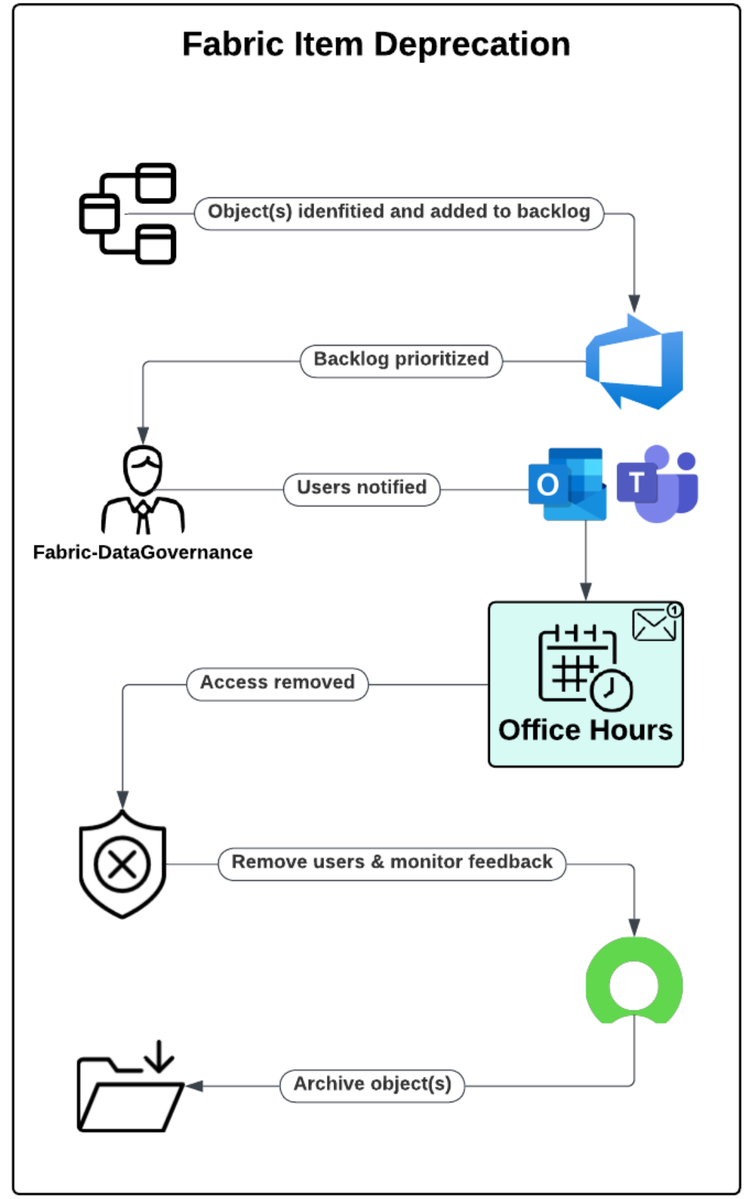

rp_ext_lineage_analysis
Data updated 2/17/26
Search
Trials activated: 20 days left
Pages
Home
Lineage Analysis
File
Export
Share
Explore
Subscribe
Set alert
Monitor
Edit
Copilot
SQLEndpoint
Fabric Basics
Fabric Data Engineering
Fabric Database Livestream
Fabric Lakehouse
Fabric Sprawl - Demo
FUAM
FUAM_DB
Global Data
Google Analytics
KratosBI Lakehouse
M365 Con Demo
MadisonLakehosue
Marketing Data
DataPipeline
Marketing Data Pipeline
Lakehouse
Marketing_Lakehouse
SemanticModel
Marketing_Lakehouse
SQLEndpoint
Marketing Reports
Metric Set
Microsoft Fabric Capacity Metrics
Microsoft Fabric Capacity Metrics 091...
Microsoft Fabric Capacity Metrics 6/1...
Microsoft Fabric Capacity Metrics 6/1...
Microsoft Fabric Chargeback Reporting
PersonalWorkspace 645cb8dd-6e03-4...
PersonalWorkspace Chris Wagner
PersonalWorkspace databard@kratos...
PersonalWorkspace Rob Russell
Lineage Impact Analysis - [Workspace - Marketing Data] - [Item Type - SemanticModel] - [Item - Marketing_Lakehouse]
Up Stream Impact Analysis
Workspace | Item Type | Item | # Layers
Marketing Data | SQLEndpoint | Marketing_Lakehouse | 1
Marketing Data | Lakehouse | Marketing_Lakehouse | 2
Global Data | Lakehouse | Global_Lakehouse | 3
Sales Data | Lakehouse | Reseller_Lakehouse | 3
# of Layers Up Stream | 3
# of Items Up Stream | 4
# of Workspaces Up Stream | 3
Down Stream Impact Analysis
WorkspaceName | Type | Name | # of Layers Down Stream
Marketing Reports | Report | Mesh Marketing | 1
# of Layers Down Stream | 1
# of Items Down Stream | 1
# of Workspaces Down Stream | 1

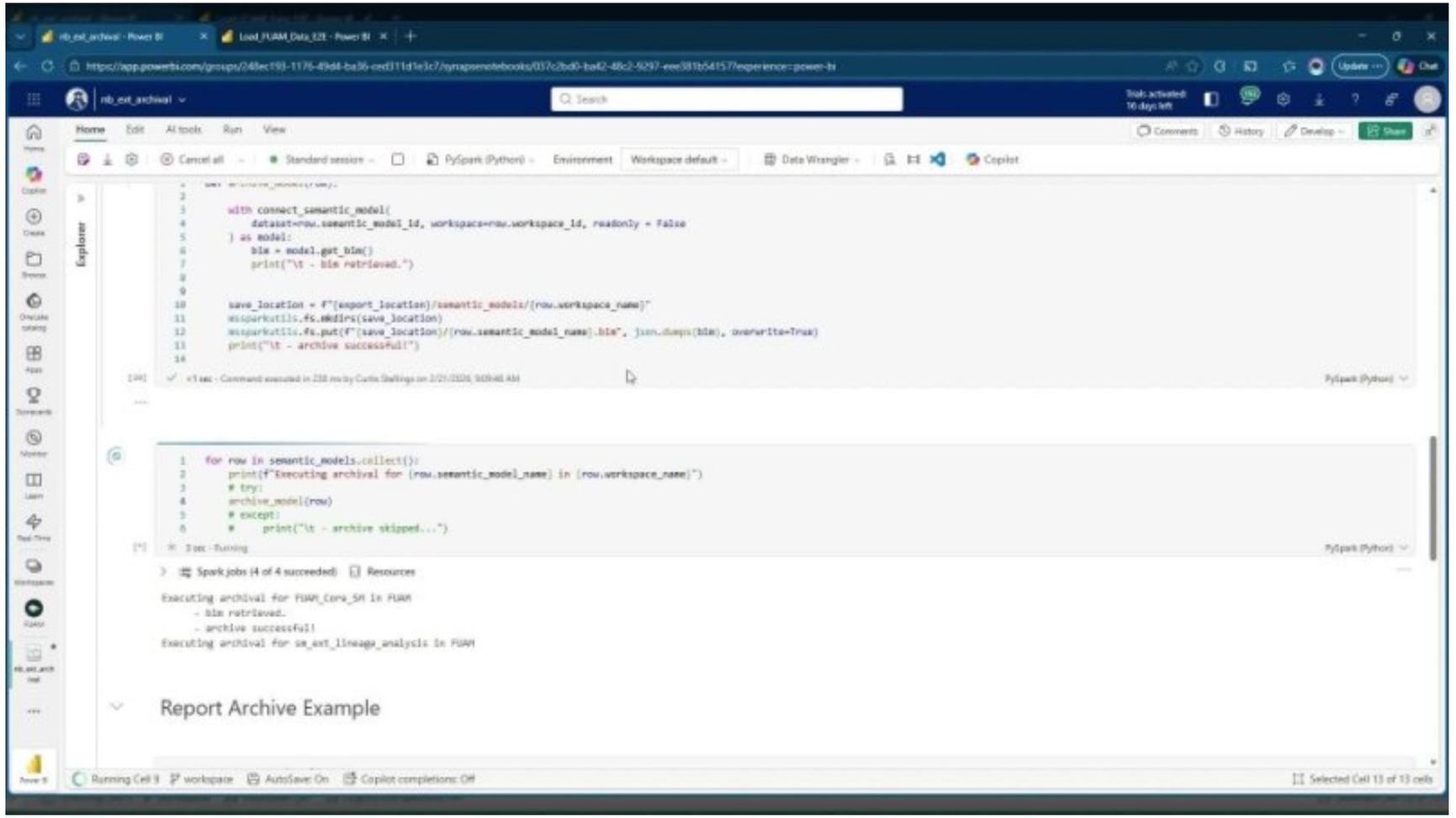
Remove

Why is ***Remove*** second?

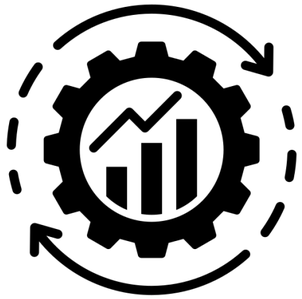
Removal Strategies

1. Objects identified and added to the backlog
   - Backlog prioritized
2. Users notified (Email, Teams, Office Hours)
3. Access removed
   - Monitor feedback
4. Archive objects
   - Semantic Link Labs script
5. Delete objects



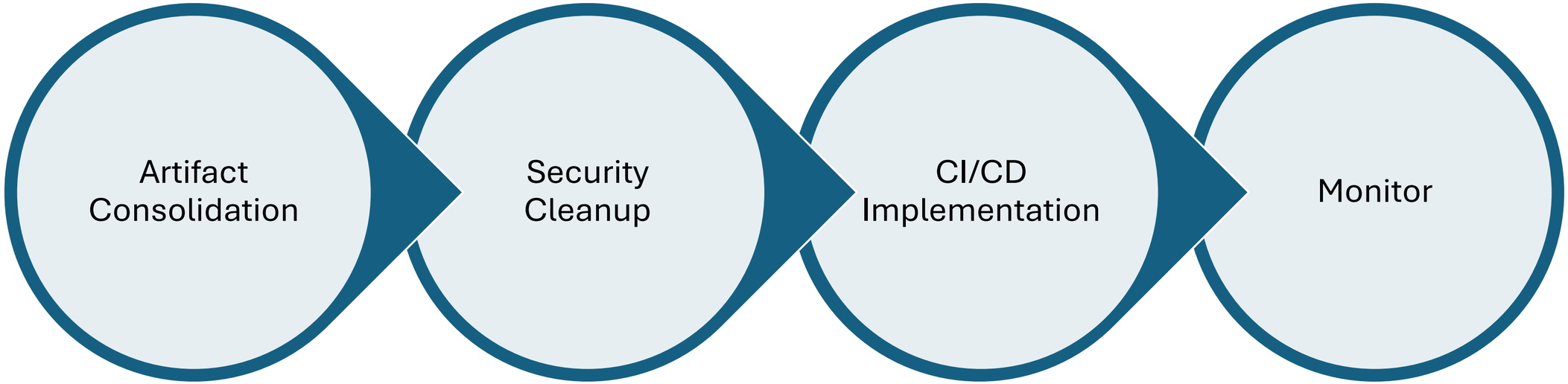


[Semantic Link Labs] combined with data collected by FUAM allows for easy automated archiving.



Improve

Fabric Sprawl Prevention



Artifact Consolidation

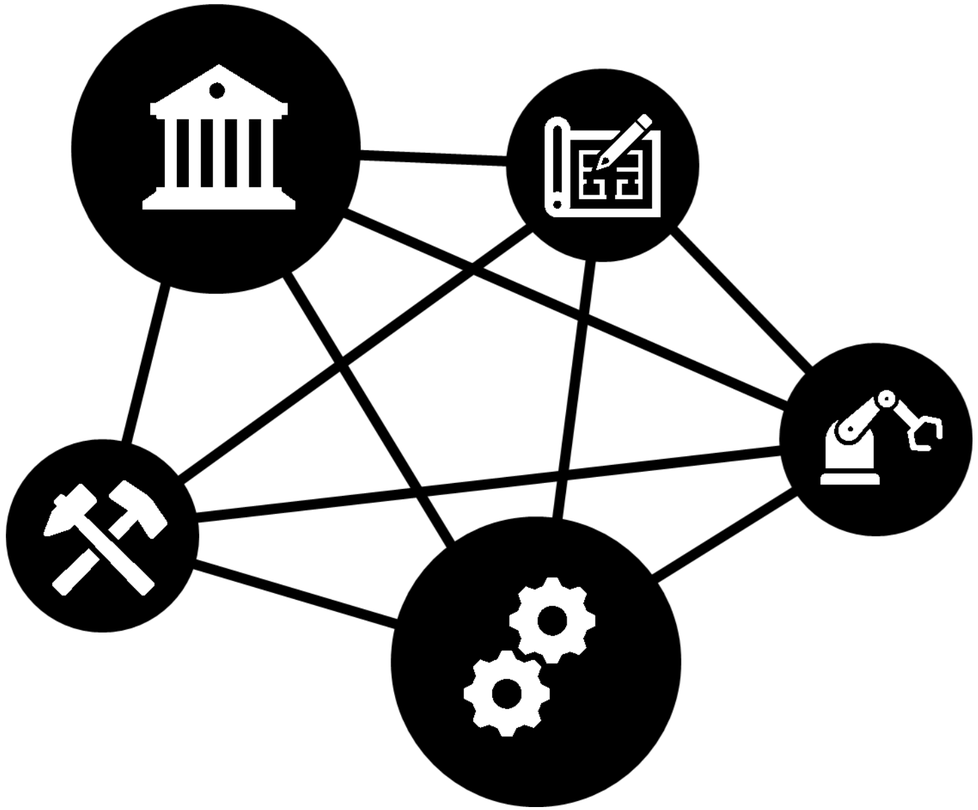
Collaborate with Data Governance

Utilize Fabric Tags for archival process

Promote and Certify content through Fabric Endorsements

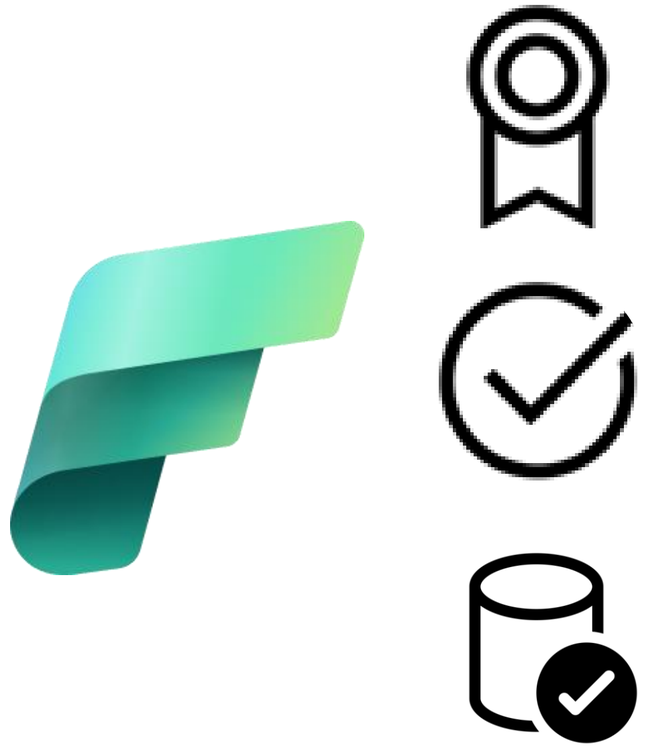
Domain Based Governance

- Identify data governance roles
  - Executive Sponsor, Domain Owners, Data Owners, Data Stewards
- Select a data governance platform
  - Microsoft Purview
- Scan, collect, curate, and monitor data assets



Endorsements

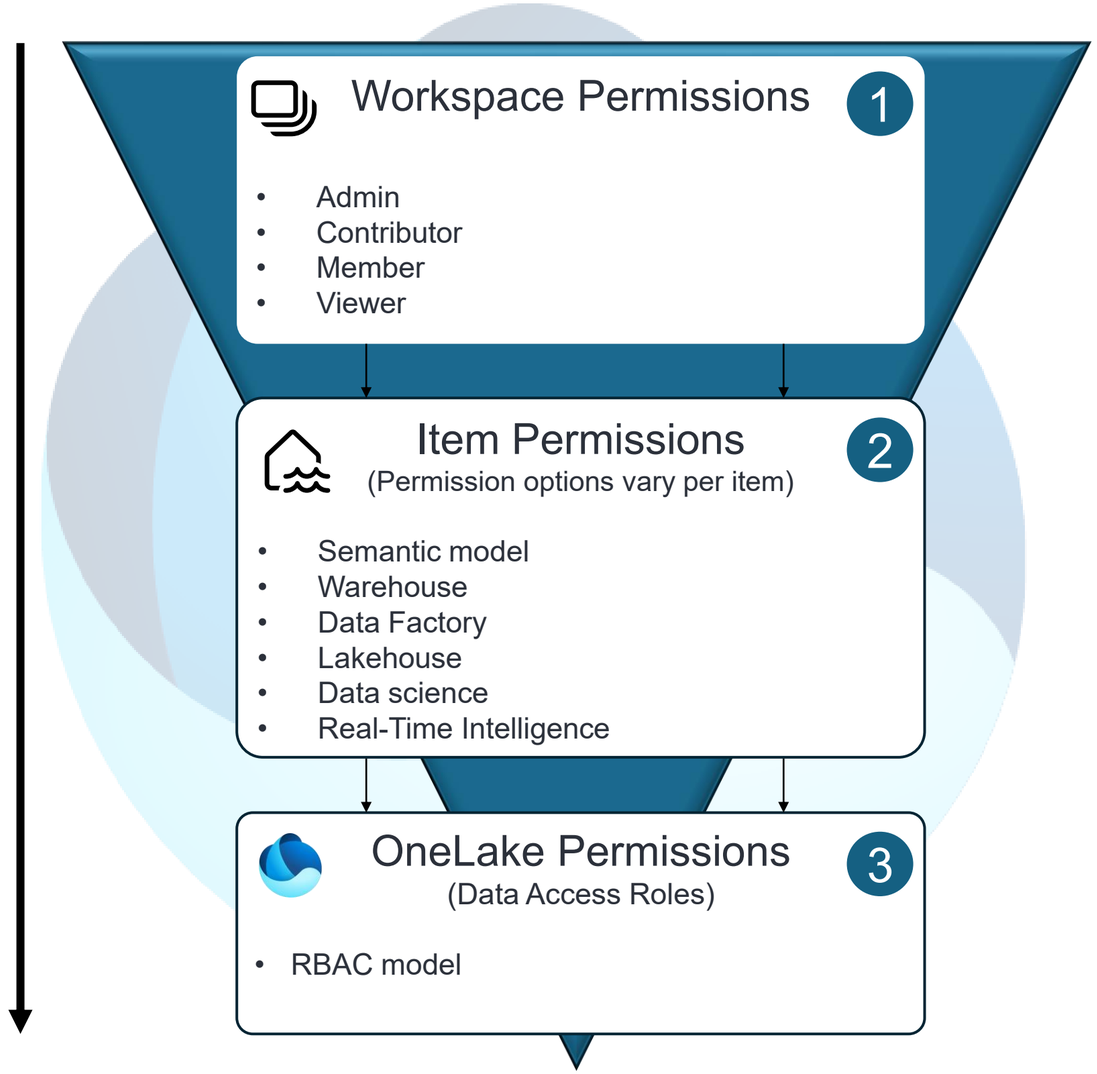
- Leverage Fabric endorsement labels to make data trust visible and actionable
  - Business domain self-service data assets are **promoted**
  - IT created data assets are **certified**
  - “Golden” record data assets are labeled **master data**
- Align endorsement with data governance processes



Security Group Cleanup

Fabric Permission Levels

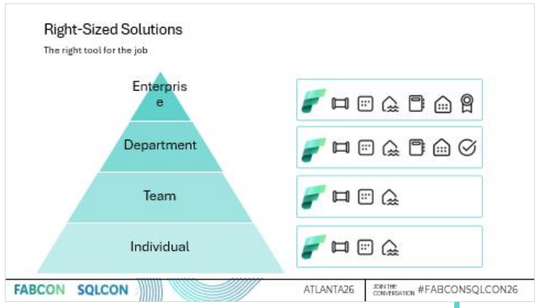
- Evaluate Fabric permissions for coarse-grain workspace access
- Evaluate item permissions for coarse-grain item access
- Evaluate OneLake RBAC permissions for fine-grain folder access
- Consider trusted workspace access and private endpoints for increased network security



Fabric as a Product

Fabric Platform

Tighter Controls



IT – developed and maintained

Fewer creators, more consumers

Permanent record
Subject to compliance
Change Management

Push up content
VS Code + Git Integration

Enterprise

Department

Team

Individual

Push down content
Reporting platforms

Certified

Knowledge Management
Information sharing

Promoted

More creators, fewer consumers

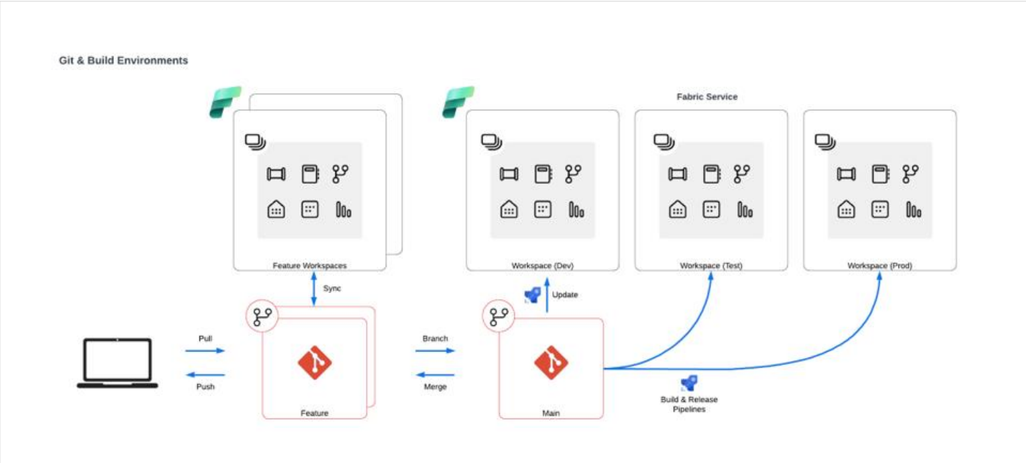
Business developed and maintained

Personal / private views
Data science exploration

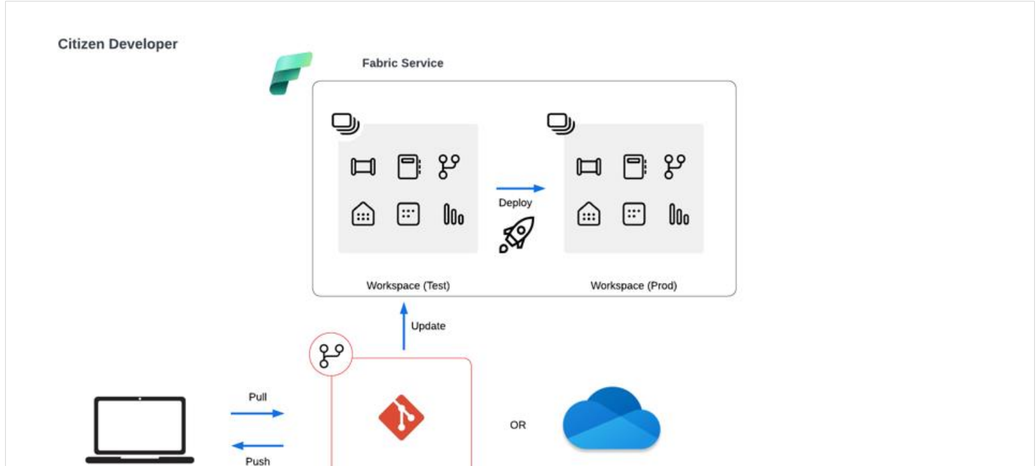
Looser Controls

CICD Implementation

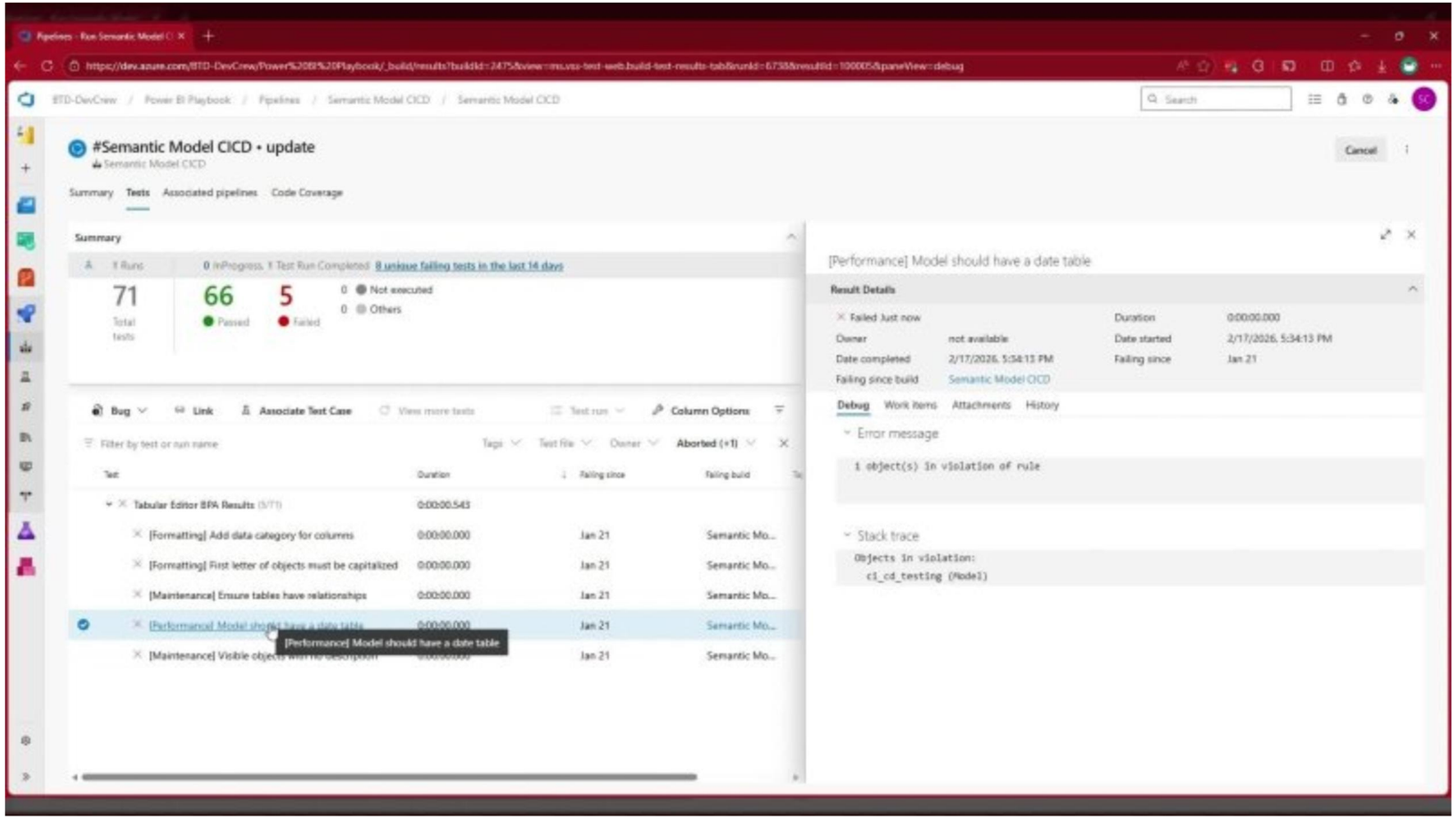
Enterprise IT



Citizen Developer



Semantic Model CICD Example

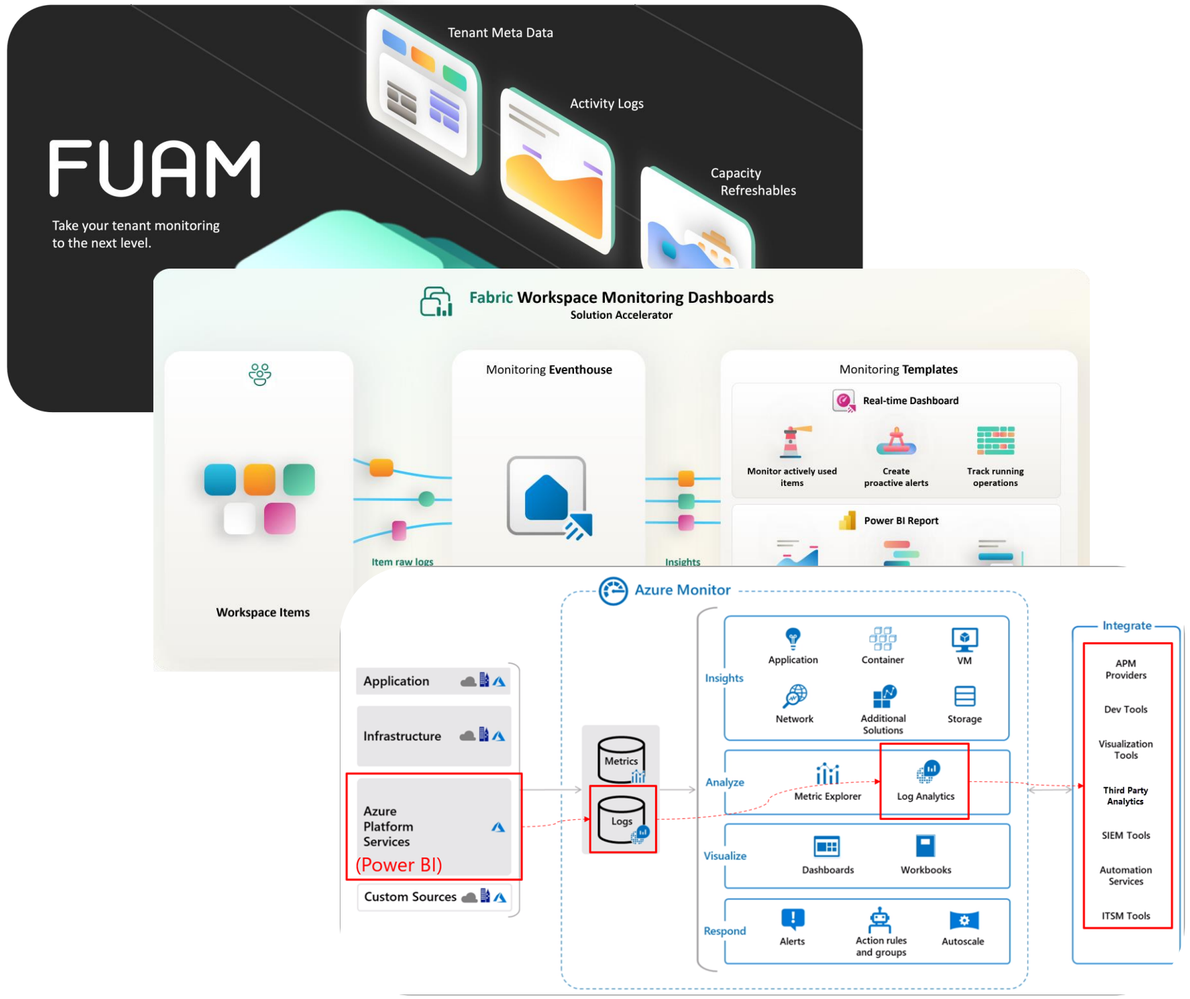


Pipelines for Semantic Modeling

- Automated, Scheduled, & Manual
- Best Practice Analyzer Integration
- Optional Manual Override
- Workspace Deployment
- Post Deployment Refresh & Validation
- Test Results Integrated to Test Plans
- Failover Capability to Previous Version

Audit & Monitor

- **Fabric Unified Admin Monitoring (FUAM)**
  - Easy install
  - Extend functionality
  - Analyze and create actionable insights
- **Fabric Workspace Monitoring**
  - High-cost entry point (Fabric CUs)
  - Low development time
  - Capture high granularity logging events
- **Log Analytics**
  - Low-cost entry point
  - Higher development time
  - Capture high granularity logging events



Azure Log Analytics

“How can I keep track of the overall performance of all these visuals when so many users are building out their own content?”

```
AzureDiagnostics
| where OperationName == "QueryEnd"
| where EventSubclass_s == 3
| where Resource == "ENTERAZURERESOURCE" //Enter Azure
Resource
| where ApplicationName_s == "PowerBI"
| where TimeGenerated > ago(30d) //Remove if you would prefer
to use the time selection in Azure
| summarize
avg_load_time_sec = avg(toint(Duration_s)) / 1000,
sum_load_time_sec = sum(toint(Duration_s)) / 1000,
count_queries = count()
by ApplicationContext_s,Resource
| extend ReportId_ =
tostring(parse_json(tostring(parse_json(ApplicationContext_s)
.Sources))[0].ReportId)
| extend VisualId_ =
tostring(parse_json(tostring(parse_json(ApplicationContext_s)
.Sources))[0].VisualId)
| extend ReportUrl =
strcat('https://app.powerbi.com/groups/me/reports/',
ReportId_)
| project-away ApplicationContext_s,Resource
| order by sum_load_time_sec desc
```

Avg_Load_Time_Secs	Sum_Load_Time_Secs	Number_Of_Queries
1.25	9751	2174
2.39	9784	5416
0.64	8069	2369
0.1	8065	4086
0.26	8363	9932
4.04	7577	8832
1.43	7437	3284
0.71	4629	2866
0.1	7051	2301

Report_Id	Visual_Id	Report_Url
00000000-0000-0000-0000-000000000001	odearuaxawjodukotyle	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000002	ejlgzymegcvjuflpkikx	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000003	ytkoajtdresrwfxspmuk	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000004	qsopqwqoykwxemqhbxqw	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000005	vboqdszyvjfnvkhdpygs	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000006	cgxambpvacxgsngycued	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000007	qwcezyeyefhlsodsxdjq	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000008	euoqaulkaqfyaprmqwun	https://app.powerbi.com/groups/me/r
00000000-0000-0000-0000-000000000009	fpcxsmbdiiiygaagtdpm	https://app.powerbi.com/groups/me/r

Azure Log Analytics

“I want to remove this column, is it being used?”

```
AzureDiagnostics
| where OperationName == "QueryEnd"
| where EventSubclass_s == 3
| where Resource == "ENTERAZURERESOURCE"
//Enter Azure Resource
| where ApplicationName_s == "PowerBI"
| where TimeGenerated > ago(30d) //Remove if
you would prefer to use the time selection in
Azure
| extend extract_column = extract_all(@"('.*?'\
[.*?\])",TextData_s)
| mv-expand extract_column
| summarize Total_Number_Queried=dcount(SPID_s)
by Table_Column= tostring(extract_column)
```

Table_Column	Total_Number_Queried
Table1'[Column1]	36861
Table1'[Column2]	48516
Table1'[Column3]	36861
Table2'[Column2]	43768
Table2'[Column5]	43566
Table3'[Column2]	52209
Table3'[Column1]	36840
Table3'[Column6]	80697
Table4'[Column2]	36865

Azure Log Analytics

“Did I refresh a blank partition? How long are my partitions taking to refresh?”

```
let process_table =
AzureDiagnostics
| where OperationName == "ProgressReportEnd"
| where EventSubclass_s == 1
| where Success_s == 1
| extend Object_Json = parse_xml(ObjectReference_s)
| extend Database = tostring(Object_Json.Object.Database)
| extend Model = tostring(Object_Json.Object.Model)
| extend Table = tostring(Object_Json.Object.Table)
| extend Partition = tostring(Object_Json.Object.Partition)
| extend Duration_Seconds = toint(Duration_s)/1000.00
| extend unique_id = strcat(tostring(SPID_s),"-",ObjectPath_s)
| project-keep ResourceGroup, Resource, Database, Model, Table, Partition,
User_s, Duration_Seconds, StartTime_t, EndTime_t, unique_id
| project-rename End_Time = EndTime_t, Start_Time = StartTime_t, User =
User_s, Resource_Group = ResourceGroup;
let rows_table =
AzureDiagnostics
| where OperationName == "ProgressReportEnd"
| where EventSubclass_s == 17
| where Success_s == 1
| extend unique_id = strcat(tostring(SPID_s),"-",ObjectPath_s)
| project-keep unique_id, IntegerData_s
| project-rename Number_Of_Rows = IntegerData_s;
process_table
| join kind = leftouter  rows_table on $left.unique_id == $right.unique_id
| project-away unique_id, unique_id1
| project-reorder Resource_Group, Resource, Database, Model, Table,
Partition, User, Duration_Seconds, Number_Of_Rows, Start_Time, End_Time
| distinct *
```

Resource_Group	Resource	Database	Model	Table	Partition	User
Resource-Group-1	Resource1	Database1	Model	Orders	Current Fiscal Year	serviceuser@company.com
Resource-Group-1	Resource1	Database1	Model	Orders	Current Fiscal Year	serviceuser@company.com
Resource-Group-1	Resource1	Database2	Model	Orders	Previous Fiscal Year	serviceuser@company.com
Resource-Group-1	Resource1	Database2	Model	Orders	Previous Fiscal Year	serviceuser@company.com
Resource-Group-2	Resource2	Database3	Model	Product	Partition	userwhoshouldnthaveaccess@
Resource-Group-2	Resource2	Database3	Model	Product	Partition	serviceuser@company.com
Resource-Group-2	Resource3	Database4	Model	Customer	Partition	serviceuser@company.com
Resource-Group-2	Resource3	Database5	Model	Customer	Partition	serviceuser@company.com
Resource-Group-2	Resource3	Database5	Model	Customer	Partition	serviceuser@company.com

Duration_Seconds	Number_Of_Rows	Start_Time [Local Time]	End_Time [Local Time]
7605.87	30195643	4/14/2022, 10:56:57.137 AM	4/14/2022, 10:57:10.871 AM
7334.06	72588126	4/14/2022, 10:57:14.828 AM	4/14/2022, 10:57:14.938 AM
2260.44	16791661	4/14/2022, 10:57:22.172 AM	4/14/2022, 10:57:24.000 AM
871.33	21860928	4/14/2022, 11:04:17.646 AM	4/14/2022, 11:07:05.377 AM
74.5	41816142	4/14/2022, 10:52:34.949 AM	4/14/2022, 10:53:47.419 AM
7420.28	88936371	4/14/2022, 11:10:25.454 AM	4/14/2022, 11:14:28.378 AM
7741.37	93077217	4/14/2022, 10:53:44.254 AM	4/14/2022, 10:53:44.270 AM
2725.78	21015189	4/14/2022, 10:53:44.410 AM	4/14/2022, 10:53:44.426 AM
7836.26	30764685	4/14/2022, 10:53:44.613 AM	4/14/2022, 10:53:44.613 AM

Azure Log Analytics

“My processing is slow; how does my encoding look?”

```
AzureDiagnostics
| where OperationName == "ProgressReportEnd"
| where EventSubclass_s == 55
| project-keep Resource, DatabaseName_s, ObjectReference_s,
TextData_s, Duration_s, StartTime_t, EndTime_t
| extend Object_Json = parse_xml(ObjectReference_s)
| extend Database = tostring(Object_Json.Object.Database)
| extend Model = tostring(Object_Json.Object.Model)
| extend Table = tostring(Object_Json.Object.Table)
| extend Partition = tostring(Object_Json.Object.Partition)
| extend Duration_Seconds = toint(Duration_s)/1000.00
| extend Column = extract(@"<pii>(.*?)</pii>",1,TextData_s)
| project-away Object_Json,
DatabaseName_s,ObjectReference_s,Duration_s
| project-rename Start_Time = StartTime_t, End_Time = EndTime_t,
Text = TextData_s
| project-reorder Start_Time, End_Time, Table, Column,
Duration_Seconds, Text, Database, Model, Partition, Resource
| order by Start_Time desc
```

Start_Time [Local Time]	End_Time [Local Time]	Table	Column	Duration_Seconds
Start Time	End Time	Sales	QUANTITY	1.828
Start Time	End Time	Sales	TOTAL_AMT	0.063
Start Time	End Time	Product	PRODUCT_SKU	0.203
Start Time	End Time	Product	PRODUCT_SKU	0.203

Text	Database	Model	Partition	Resource
Encoding Details	Database	Model	CFY	Resource1
Encoding Details	Database	Model	CFY	Resource1
Encoding Details	Database	Model	Partition	Resource1
Encoding Details	Database	Model	Partition	Resource1

Azure Log Analytics

“I got 99 problems, and a dupe key error is definitely one. Can I see the history of my processing errors?”

```
let error_table =
    AzureDiagnostics
    | where ResourceProvider == 'MICROSOFT.ANALYSISSERVICES'
    | where OperationName == 'Error'
    | where isempty(User_s) == false;
let process_table =
    AzureDiagnostics
    | where ResourceProvider == 'MICROSOFT.ANALYSISSERVICES'
    | where Error_s == -1055784777
    | where OperationName == 'CommandEnd'
    | where EventSubclass_s == 38;
let main_table =
    error_table
    | join kind=innerunique process_table on RootActivityId_g;
main_table
| project-keep
EndTime_t1,DatabaseName_s1,TextData_s1,TextData_s,Resource,ServerName_s,User
_s,ApplicationName_s
| project-reorder
EndTime_t1,DatabaseName_s1,TextData_s1,TextData_s,ServerName_s,Resource,User
_s,ApplicationName_s
| project-rename
End_Time=EndTime_t1,Database=DatabaseName_s1,Details=TextData_s1,Error=TextD
ata_s,Server=ServerName_s,User=User_s,Application=ApplicationName_s
| order by End_Time desc
bclass_s == 17
| where Success_s == 1
| extend unique_id = strcat(tostring(SPID_s),"-",ObjectPath_s)
| project-keep unique_id, IntegerData_s
| project-rename Number_Of_Rows = IntegerData_s;
process_table
| join kind = leftouter  rows_table on $left.unique_id == $right.unique_id
| project-away unique_id, unique_id1
| project-reorder Resource_Group, Resource, Database, Model, Table,
Partition, User, Duration_Seconds, Number_Of_Rows, Start_Time, End_Time
| distinct *
```

End_Time [Local Time]	Database	Details
4/14/2022, 10:57:32.583 AM	Database1	Processing Info Like DB, Table, Partition, Max Parallelism, Type
4/14/2022, 10:45:22.583 AM	Database1	Processing Info Like DB, Table, Partition, Max Parallelism, Type
4/14/2022, 10:59:32.583 AM	Database1	Processing Info Like DB, Table, Partition, Max Parallelism, Type

Error	Server	Resource	User	Application
Error Text	Server	Resource	serviceuser@company.com	PowerBi
Error Text	Server	Resource	serviceuser@company.com	TabularEditor
Error Text	Server	Resource	serviceuser@company.com	PowerBi

Resources

- FUAM: fabric-toolbox/monitoring/fabric-unified-admin-monitoring at main · microsoft/fabric-toolbox
- Code resources: GitHub - Curts0

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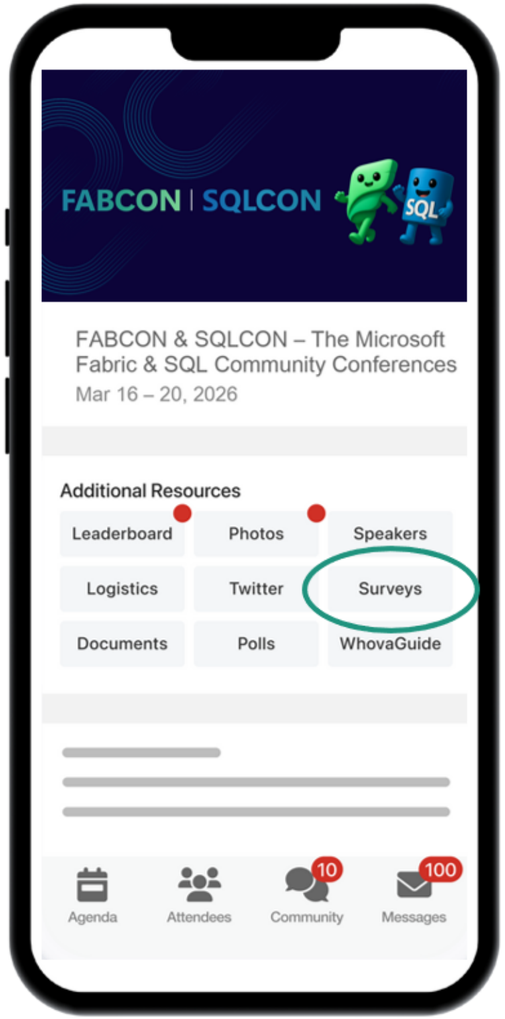

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