

Dynamics data in Synapse Link for Dataverse

- Transitioning from Export to Data Lake to Synapse Link

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This is a series of TechTalks...



Today

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1. Synapse Link for Dataverse overview
 2. **Architecture patterns and virtual data warehousing**
Explore patterns and get started with virtual data warehousing using Synapse Link.
 3. **Explore Incremental Data Ingestion from lake to SQL:** Azure SQL and cloud MPP warehouse, transforming data using TSQL.
 4. **Explore Lakehouse architecture,** reading and transforming data using spark notebooks.

Agenda

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1. Upgrade to Synapse Link (Recap from previous)
 2. Architecture pattern & transition guidance
 3. Incremental Data Ingestion from lake to SQL
 4. Step by Step demo
 5. Q&A

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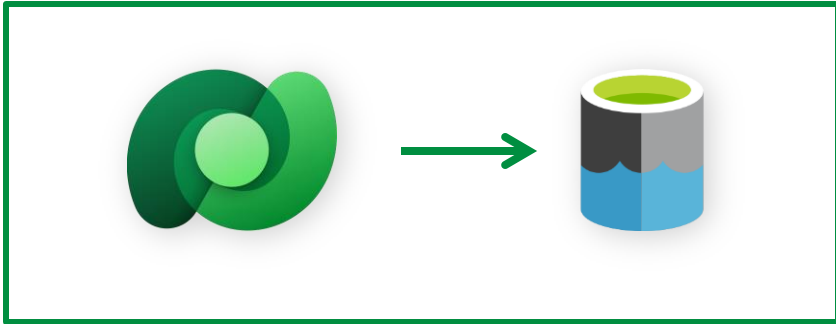
Transition



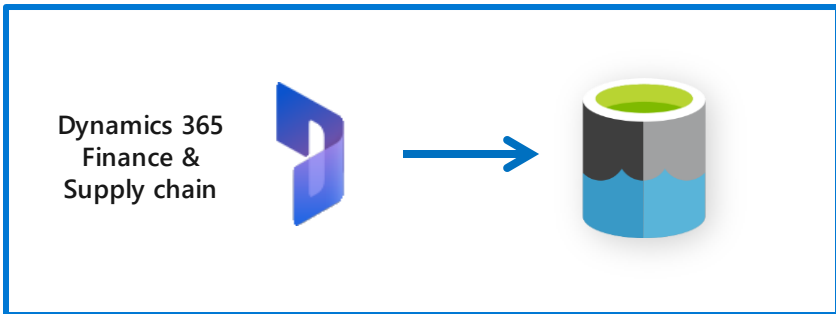
Upgrade to Synapse Link
Business benefits
Expected effort and timelines

Previously : Synapse Link & Export to Data Lake

Synapse Link for Dataverse



Export to Data lake



Synapse Analytics helps working with data using SQL and other tools



Power BI for data visualization and story telling

One experience to integrate all Dynamics data for Analytics

Synapse Link for Dataverse



One experience to integrate all your data for Analytics



Synapse Analytics helps working with data using SQL and other tools



Power BI for data visualization and story telling

This is an evolution and unification of our approach across Dynamics products

Unlock AI driven insights and action with Link to Fabric

Dataverse Link to Fabric



One experience to integrate all your
data for Analytics



Microsoft Fabric combines Synapse Analytics,
Power BI and more into a single, unified
experience on the cloud

Upgrading to Synapse Link provides a path to innovations in Microsoft Fabric

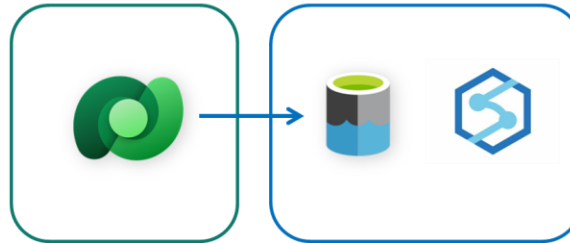
Extend your investments to AI driven insights & action

This is an evolution and unification of our approach across all Dynamics products

Legacy data integration services

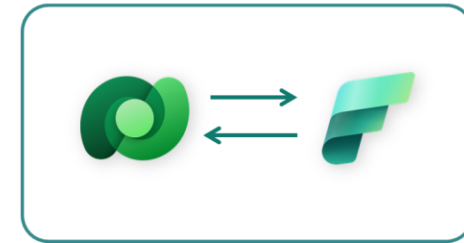
- Data Export Service (DES)
- Bring your own DB (BYOD)
- Export to Data Lake

Synapse Link for Dataverse



Generally available

Link to Microsoft Fabric



Generally available

Upgrade to Synapse Link*

Low code insights & action

Simplify data integration &
Reduce total cost of ownership

Data shapes remain the same –
no need to re-build

No-ETL, no-copy, two-way
integration enables Low code makers

AI driven insights & action with built-
in Copilots

* Existing customers have until 1-Nov-2024 to transition from Export to Data lake to Synapse Link. We advise new customers to use Synapse Link

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Architecture patterns and transition

Common analytics architecture patterns and transition strategy from export to data lake to Synapse link and Microsoft Fabric

Overview of common analytics architecture patterns



#1 Virtual data warehousing

(Reading data from data lake using TSQL views and SPs)



2 Lakehouse

(Reading and transforming data using spark notebooks)



3 Cloud Data warehousing

(Ingesting data from lake to cloud MPP data warehouse, transform data using TSQL)



4 Integration using TSQL

(Incremental ingestion of data to relational DB (SQL Server) or third party DW)

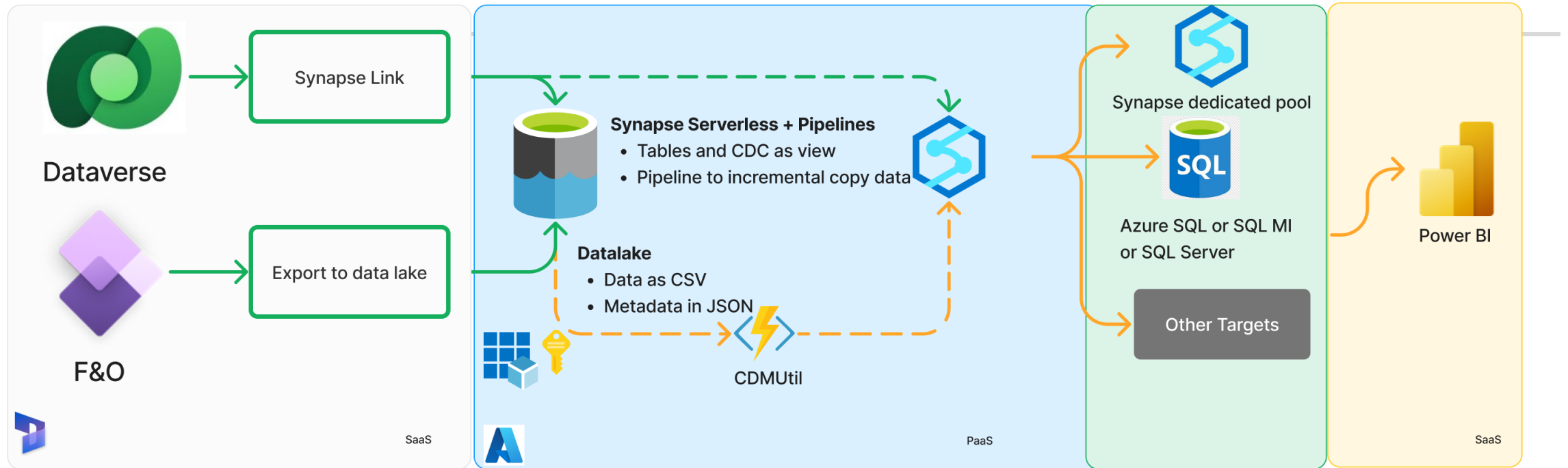
Click on the links above to go to the relevant section.

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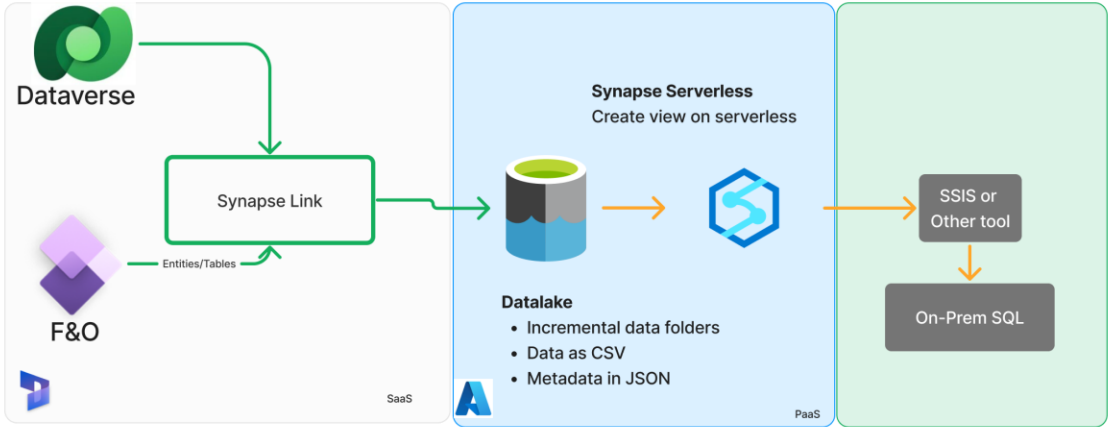
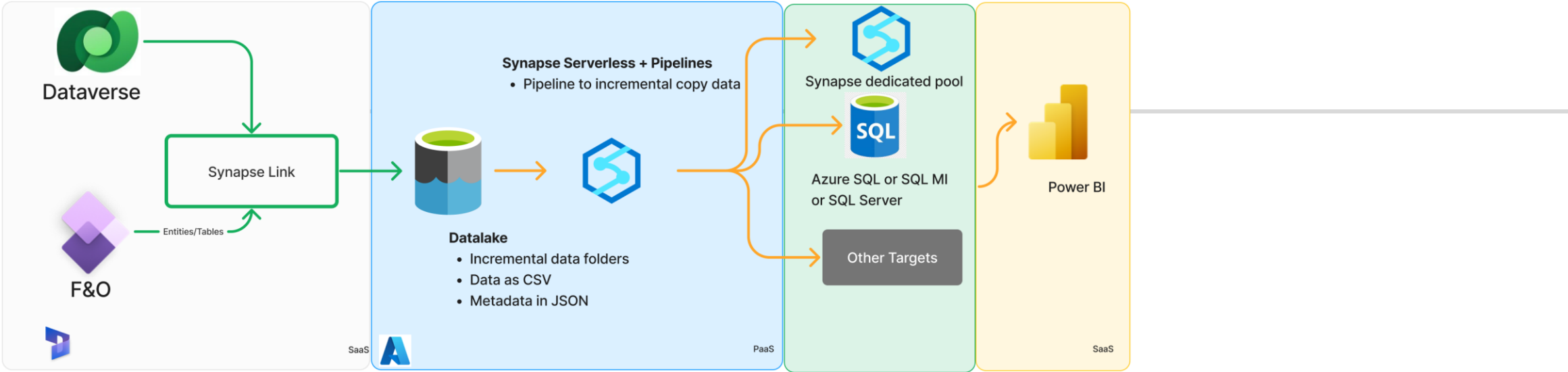
Incremental data ingestion from lake to SQL

How you can upgrade your incremental data ingestion from Export to Data lake to Synapse Link

#4 Integration using SQL: Synapse Link/Export to Data lake with Azure SQL, On-prem SQL, Synapse DW or third-party using Synapse



#4 Integration using SQL: Synapse Link - Export data to your lake with Azure SQL, On-prem SQL, third-party using Synapse



Step-by-step: Incremental data ingestion using Synapse Serverless and Pipelines

Prerequisites	#	Steps
Setup Synapse Link for finance and operations apps data: Link	1	Create synapse workspace and serverless SQL database.
Configure for incremental folder update feature Link	2	Create views on Synapse serverless db for table/entities on incremental folders
	3	Create ADF/Synapse pipeline to read new folders, copy incremental data from serverless views, de-duplicate and merge data to target database
	4	Schedule pipeline to periodically copy incremental data
	5	Validate existing ETL logic on the target SQL database

Tools to help:

Demo: Incremental data ingestion

Comparing – ChangeFeed(Old) vs Incremental folder (New)

	ChangeFeed	Incremental
File path to schema	<container>/ChangeFeed/<table name>.cdm.json	<container>/<folder name>/model.json <i>Folders are named by creation timestamp ("yyyy-MM-dd'T'HH:mm:ss.SSSz") in UTC.</i>
File path to data	<container>/ChangeFeed/<table name>/<file name>.csv	<container>/<folder name>/<table name>/<filename>.csv
Changed data identification	Use the Modified datetime on the individual CSV files	Use the name of the folder and model.json size does not equal 0
Column differences	Detailed here	Detailed here
Full push	Old files within <container>/ChangeFeed/<table name>/ deleted and new files created after table initialised	All records sync'd to latest folder <container>/<folder name>/<table name>/<filename>.csv
Additional details	ChangeFeed folder feature	Incremental folder feature

What are the benefits – deep dive

Area	What is changing	Effort	Value add
Admin and setup experience	LCS to Power platform maker portal for setup and add tables	Admin user training	Data from <u>all Dynamics apps</u> available in a simple experience
Tables available to use	Tables must have row version change tracking enabled Common OOB already enabled	One-time small X++ effort to extend missing OOB or custom tables	# of table limit is not applicable Default support for large memo fields
Change tracking mechanisms	CDC to Row version change tracking	No effort	Lower impact on operational database Full refresh is not needed to recover from failure/Database failovers/ movements
Integration with Synapse and Microsoft Fabric	No need of CDMUtil	Saved effort	Configures & connects Synapse workspace and Microsoft Fabric
Data format	Data format changes from CSV to delta lake BYOL – Customer Synapse Spark for delta conversion	No effort	Faster queries, smaller files, no update conflicts Integrated with Microsoft Fabric data platform for the age of AI
Data transformation/ETL	Adapt to any small audit field changes in ETL and data locations as applicable	Low effort to adapt	
Incremental data Integration	Adapt to Synapse link folder structure and audit fields and incremental logic	Low effort – adjusting the incremental pipelines to new Fasttrack guidance and sample available	Failover does not require full push Simpler logic to process full and incremental data with single pipeline
BI & Reporting	No change expected		

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Call to Action

Plan to transition

Learn more from community and Microsoft Team

Frequently Asked Questions

Call to Action

1. Learning

- a. Learn about the upgrade and improvements (overview + session)
- b. Configure a test environment and give it a try
- c. Review patterns and transition guidance <https://aka.ms/TransitionToSynapseLink>
- d. Join the community <https://aka.ms/SynapseLinkforDynamics>

2. Plan transition

- a. If you are using Export to data lake – plan for transition
- b. If you are planning to go live soon – adopt Synapse Link from start

3. Realize benefits of transition

- a. Simplify reporting with Delta
- b. Simplify the data integration
- c. Optimize your architecture with Microsoft Fabric

Resources

Documentation

- Synapse Link
 - [Azure Synapse Link - Power Apps | Microsoft Learn](#)
 - [Create an Azure Synapse Link for Dataverse with your Azure Synapse Workspace - Power Apps | Microsoft Learn](#)
 - [Export Microsoft Dataverse data in Delta Lake format - Power Apps | Microsoft Learn](#)
 - [Choose finance and operations data in Azure Synapse Link for Dataverse - Power Apps | Microsoft Learn](#)
 - [Use managed identities for Azure with your Azure data lake storage - Power Apps | Microsoft Learn](#)
- Microsoft Fabric
 - [Dataverse direct integration with Microsoft Fabric - Power Apps | Microsoft Learn](#)
 - [Microsoft Fabric documentation - Microsoft Fabric | Microsoft Learn](#)
- **Yammer group**
 - [Viva Engage- Synapse Link for Dynamics](#)

Video

- Dataverse
 - [Dynamics 365 Bites - Synapse Link for finance and operations apps - Getting started \(preview\) | August 2023](#)
 - [\(2747\) Build 2023: Dataverse integration for Microsoft Fabric - YouTube](#)
- Microsoft Fabric
 - [\(2747\) Microsoft Fabric: Satya Nadella at Microsoft Build 2023 – YouTube](#)
 - [Microsoft Fabric Launch Digital Event \(Day 1\) – YouTube](#)

Thank you!
See you at the next episode