



Korcomptenz



Microsoft Fabric

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Streamlining the
Data Deluge in
MS Dynamics 365

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Businesses running on Microsoft Dynamics 365 often face challenges in real-time reporting and advanced analytics and harnessing the immense potential of using Big Data. This impairs the ability to make smarter business decisions based on data analytics. Microsoft's latest release of MS Fabric has been designed to address these limitations as a cloud-based solution that duplicates and replicates data from Microsoft Dynamics 365, without altering the existing data source.

MS Fabric paves the way for businesses running on MS Dynamics 365, to enhance their enterprise analytical capabilities using advanced technologies such as Artificial Intelligence (AI), Machine Learning (ML), Natural Language Processing (NLP), amongst others. MS Fabric also comes with Integrated Copilots that simplifies usage, ensuring optimal solution adaptability for even novice users without the need for advanced technical skills with a self-service model for reporting and analytical dashboards.

The most significant feature of Microsoft Fabric lies in its ability to create a unified Data Lake from various data sources, either on-premise or deployed on the cloud. You get the advantage of a centralized data storage model, without having to deal with integration challenges across different databases and data warehouses within your existing technology stack.

Limitations of existing reporting in MS Dynamics 365 and why MS Fabric is best suited

MS Dynamics initially came with OData for reporting, which enabled real-time data access using HTTP and RESTful web services for small datasets. It used the Entity Store for providing pre-aggregated data which is optimized for analytics.

Limitations: This approach was not suitable for large-scale data processing and had performance issues while handling high volumes of data. This limited its utility in high transaction environments.

BYOD Approach

To address the above limitations Microsoft introduced the BYOD approach in MS Dynamics F&O, enabling users to export D365 data to an Azure SQL Database. This approach was based on a batch processing method, with custom scheduling and incremental data refresh. Data in Azure could be processed and consumed by external BI applications such as Tableau, Power BI, or SQL Server Reporting Services (SSRS).

Limitations: BYOD has limitations in scheduling of data exports and managing incremental data uploads. It had inherent bottlenecks with high volumes of data. The approach also did not suit custom and cascading entities and was not scalable.

D365 Data Lake and Azure Synapse Analytics

With the above limitations in easy scheduling and dealing with large volumes of data without performance issue, Microsoft introduced data lake integration with Azure Synapse Analytics for advanced analytics and AI-based capabilities.

This approach resolved the storage and performance limitations, and enabled executing SQL-like queries on the datasets, without limitations in the volume of data.

Limitations: Though this approach resolved many of limitations of OData and BYOD, the implementation and management of a data lake required in-depth technical skills and was very cost-intensive for using the Azure resources.



Export to Data Lake (ETDL) for D365

This option enabled the direct export of D365 data into the Azure Data Lake, which was optimized for integration with Azure Synapse Analytics. The model scored high on real-time analytics, and usage of data in raw or CSV format, and reduced the data latency issues.

Limitations: ETDL was very cost-intensive, requiring a robust Azure infrastructure setup and for dealing with large volumes of data synchronization with a high frequency.



Here's a summary of why Microsoft Dynamics 365 using BYOD approach has various limitations in terms of its reporting and analytical capabilities

- Unable to deal with large volumes of data
- Data synchronization is done by batch jobs which usually refresh the existing data at the end of the day, thereby hindering real-time data consumption. No feature for real-time data synchronization. Requires manual scheduling and export of data.
- Any locks on the data during the process of synchronization will throttle the data, leading to chokepoints in analytics.
- Lower processing capability for big volumes of data
- Custom entities for analytics require in-depth technical skills to create and maintain. Any changes require deployment across the entire MS Dynamics 365 development lifecycle, which is time-consuming and impairs the ability to act on real-time data.
- Microsoft Dynamics 365 requires additional configuration and management to ensure data synchronization. It cannot export composite entities and does not support the incremental export of entities which do not have a unique key.
- Microsoft Dynamics 365 has limited capabilities for Big Data analytics when compared to Microsoft Fabric, which is tuned to seamlessly work with Big Data.
- With Microsoft Dynamics 365, scalability becomes challenging after a certain stage, when you have more data and entities, which affects the analytical processing.





The Solution

Microsoft Fabric with Synapse/Fabric Link

Fabric did away with the limitations of using scheduled exports of data, with the Synapse link continuously replicating data changes from the underlying D365 into Fabric's OneLake in Delta Lake.

Microsoft Fabric uses advanced tools to ingest, process, and generate reports and analytics with Big Data models. It uses Synapse and Fabric links for ingesting data from MS Dynamics 365 using duplication and replication of the underlying data in incremental steps using Delta Lake with the Parquet.

The stored data is then processed using Spark pools. It uses the Medallion data architecture format for the Lake Houses and unstructured data and makes it easy for consumption without any changes being made to the existing data in Microsoft Dynamics, ensuring data integrity and accuracy at source.

By using Microsoft Fabric over the existing MS Dynamics 365 application, you get the advantage of having real-time data, with refreshes done every fifteen minutes using Azure Synapse links for continuous export of data from Dataverse into the Lakehouse storage in Fabric.

This feature ensures continuous access to real-time data without any chokepoints, so that you get on-time reporting and analytics without the need for manual data refreshes.

In Microsoft Fabric, the data processing time is almost instantaneous, and scales automatically based on the number of compute nodes.

Fabric enables even Citizen Analysts to work on the data without need for advanced technical skills.

It facilitates embedding Real-time Power BI Dashboards, and reports within D365, with data being duplicated and replicated, so that the original data remains unaltered.

Fabric supports very large volumes of data in various formats enabling easy scalability. It provides a high degree of scalability, with less latency and faster throughput. It also enables additions of new unstructured and structured data sources, as your enterprise needs



Capabilities of MS Fabric for Enterprise Analytics

Here are some of its main capabilities in advanced analytics:

1 Data Integration and Engineering

Data Factory: Fabric's Data Factory simplifies ETL (Extract, Transform, Load) processes, allowing users to ingest data from multiple sources into the platform for analysis. The no-code/low-code pipelines make it accessible for both technical and non-technical users.

Lakehouse: It integrates well with Microsoft OneLake (Fabric's unified data lake), allowing large-scale storage and processing of data, optimized for high-performance analytics.

2 Machine Learning and AI Integration

Synapse Data Science: Built into Fabric, Synapse supports the creation, training, and deployment of machine learning models with a collaborative workspace for data scientists.

AutoML: Fabric offers AutoML capabilities to automatically build, test, and deploy machine learning models, making ML accessible for users without extensive coding expertise.

MLOps Integration: It allows seamless integration with Git and Azure DevOps for continuous integration and continuous deployment (CI/CD) of machine learning workflows.

3 Advanced Analytics

Notebooks: Users can create and run Python, R, and Spark-based Jupyter Notebooks directly in Fabric, enabling complex data analysis and visualization.

Real-Time Analytics: Through Azure Synapse's Real-Time Analytics capabilities, Fabric can process data in real-time, which is useful for applications like IoT analytics, fraud detection, and operational monitoring.

Spark Clusters: Fabric supports Apache Spark for big data analytics, enabling parallel processing of large data sets and leveraging Spark's machine learning libraries.

4 Data Governance and Security

Microsoft Purview Integration: Fabric includes Microsoft Purview for managing data governance, compliance, and lineage, helping organizations ensure data quality and regulatory compliance.

Role-Based Access Control (RBAC): It enables fine-grained access control across all data assets and analytics processes, ensuring that only authorized users have access to sensitive information.

5 Visualization and Reporting

Power BI Integration: Power BI is tightly integrated into Microsoft Fabric, allowing data from the Lakehouse or SQL-based analytics to be visualized in interactive dashboards and reports.

Embedded Analytics: Fabric allows embedding Power BI reports into applications, making it easier for businesses to share insights with external partners or customers.

6 Collaboration and Workflow Management

Unified Workspace: Fabric provides a shared workspace for data engineers, data scientists, and analysts to collaborate in real-time, enhancing productivity and communication.

Version Control: Integration with Git for version control allows teams to track changes, manage branches, and merge updates seamlessly.

7 Cost Efficiency

By consolidating multiple data processes onto a single platform, Fabric reduces infrastructure costs, data movement expenses, and license fees. This unified approach also minimizes the need for third-party add-ons, which can be costly and require complex integrations.

You get the scalability to add features as per your requirements, starting from the basic package that comes with reporting capabilities to more high-end packages that include AI-powered capabilities and usage of the Microsoft Copilot for Fabric. This feature ensures that you scale up or down as per your requirements, in flexible packages without any upfront costs.



Need for Microsoft Fabric

Enterprises need much-more than a conventional BI and reporting platform to get accurate and real-time analytics, which needs a transformational shift to MS Fabric. Fabric is intended to simplify analytics, with included capabilities of seamless data movement, advanced data processing capabilities that include Big Data analytics, data transformation, data warehousing, real-time event routing, business intelligence tools (BI), and simplified reporting.

Using Microsoft Fabric, you can transform your raw business data into a unified model to generate reliable and accurate insights that simplify decision-making.

Conclusion

In summary, Microsoft Fabric brings together the power of a unified data platform, advanced analytics, real-time insights, and seamless integration with the Microsoft ecosystem. These advantages help businesses using Microsoft Dynamics 365 to streamline operations, cut costs, and foster a data-driven culture that can adapt to evolving business needs.

The Korcomptenz Advantage

Korcomptenz is a Microsoft Gold Partner, with over two decades of experience in ERP consulting, development, and support. Our diverse experience across embedding analytical solutions for various industry verticals gives you the perfect pathway towards digital transformation. Our Microsoft Fabric solutions have helped many enterprises using MS Dynamics as the core ERP and have accelerated the path towards digital transformation.

Do contact us for more information on how Microsoft Fabric with your MS Dynamics 365 system will transform your reporting and analytics, both for current sustenance and future growth.

[Contact Us](#)





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