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  Exploring Dataverse Virtual Tables: New Features and Real-Life Use Cases

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- Book Nerd
- Unicorn nut
- Married, 2 cats  

"I'll take Rainbows and Unicorns over reality any day!"

<https://bio.link/powerplatformunicorn>



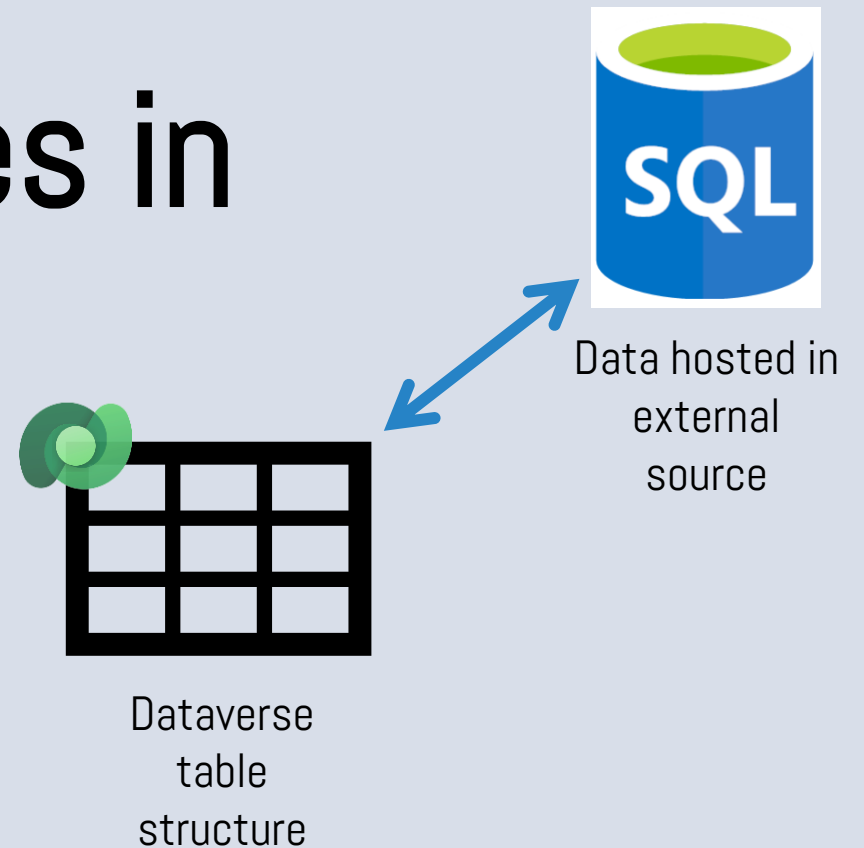
Show of hands! 🙌 🤝

What you will get out of this session

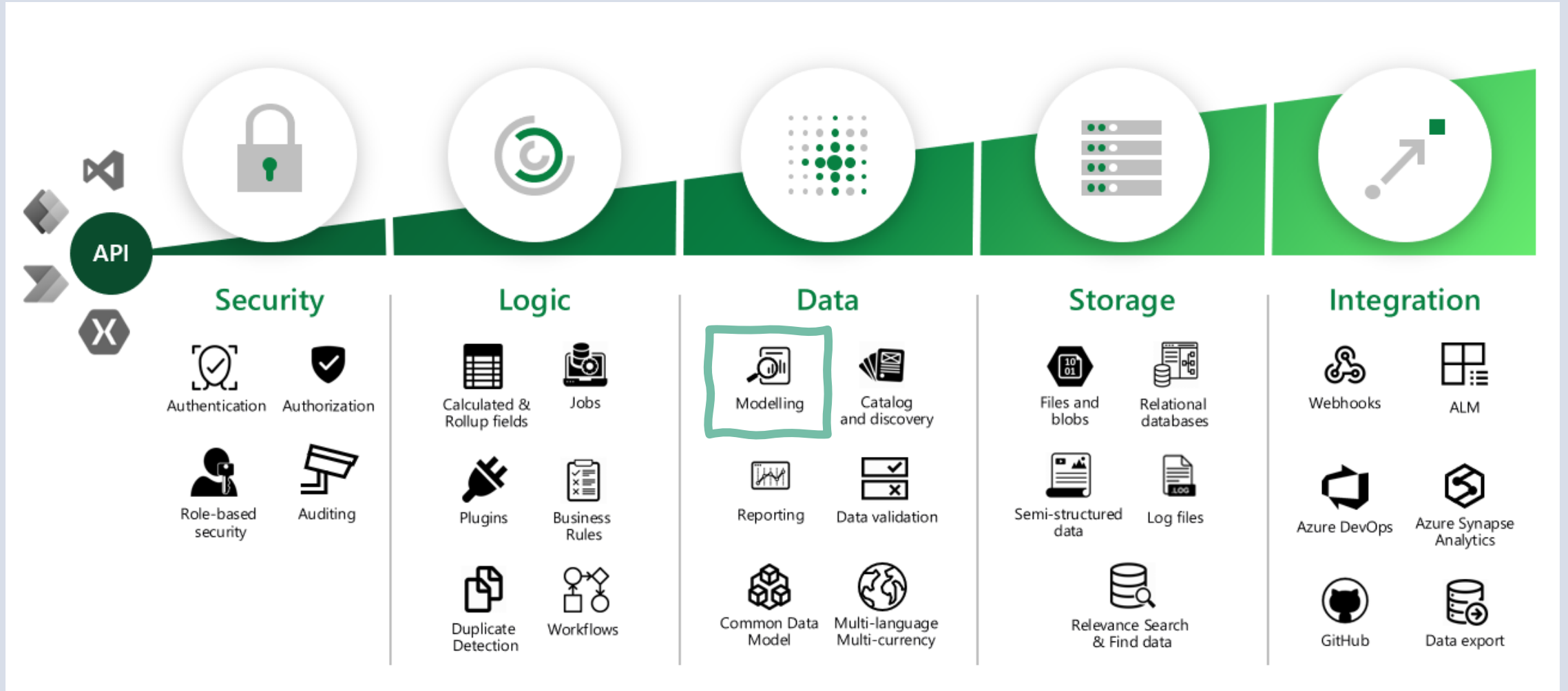
- 💡 A deeper understanding of the capabilities of Dataverse virtual tables
- 💡 Knowledge of how virtual tables can be used to solve real-world business problems
- 💡 Practical examples of how virtual tables can be used to simplify data modeling and integration
- 💡 The good, the bad and the ugly.

What are Virtual Tables in Dataverse?

Introduction






Dataverse: More than just a database

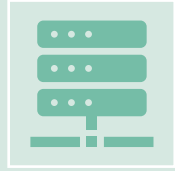


Dataverse Virtual Tables: A Deep Dive

A virtual table is a custom table in Microsoft Dataverse that has columns containing data from an external data source.

- Looks like a Dataverse table. 
- Behaves like a Dataverse table (at first glance). 
- Does not store the data in Dataverse itself but fetches it from the external source on request. 

Three main components



Data Provider

Connecting the Dataverse virtual table with the external data source.



Data Source Rows

Rows of data in the external data source to be exposed to the virtual table.



Virtual Table

The virtual table in Dataverse where the data is shown.

Data providers

- Included with Dataverse:

- Virtual Connector providers

- SQL Server

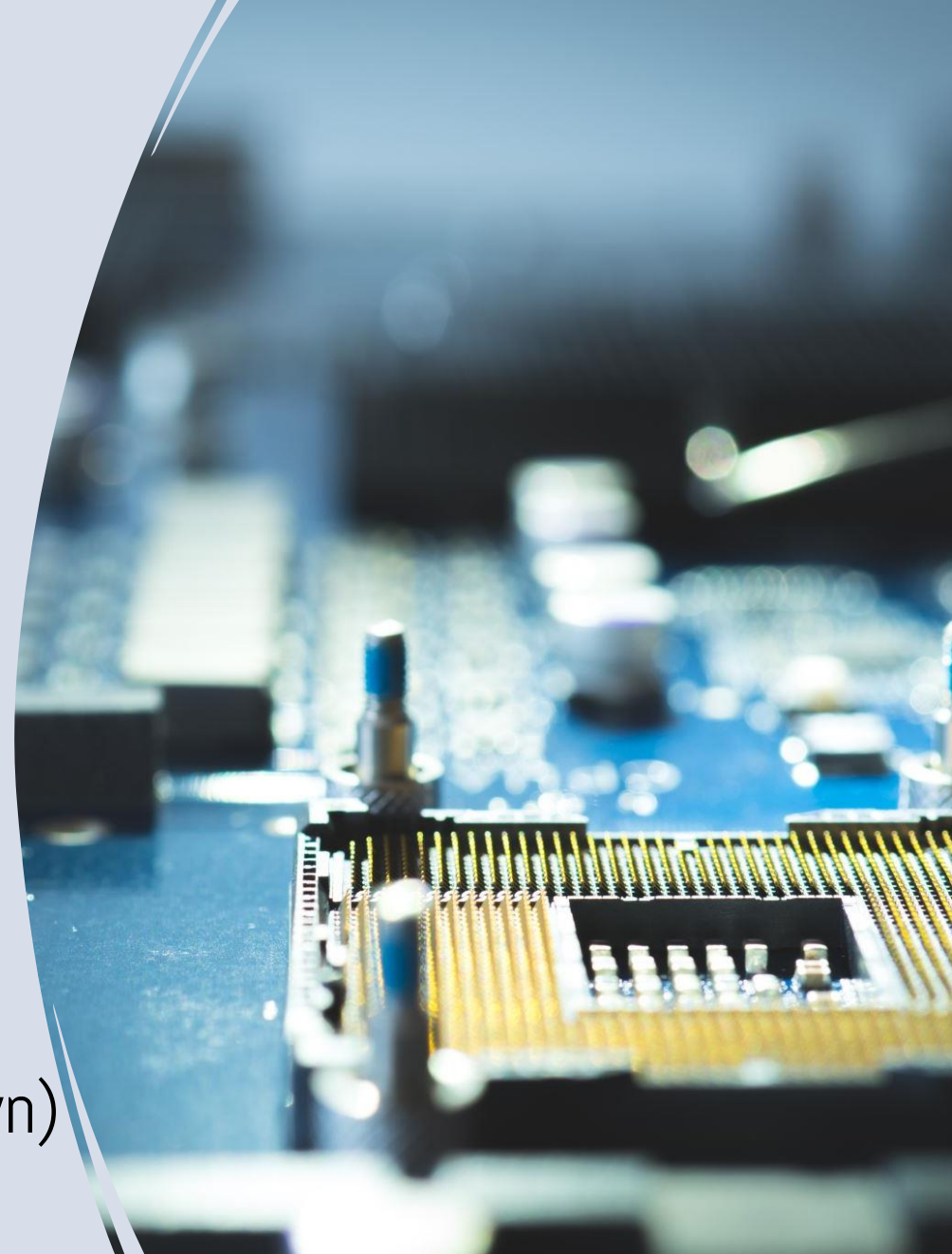
- SharePoint Online

- ~~Excel Online Business~~




- OData v4 Data Provider

- Azure Cosmos DB (through AppSource)

- Custom virtual table data provider (make your own)



The Power of Virtual Tables

- Good-bye  data duplication
- Share centrally managed data between multiple environments 
-  Specifically powerful when fetching detail information from other system to show on forms in Dataverse



Practical examples

Example 1

CRM-konsulterna has partnered with a leading marketing automation provider to enrich Dynamics 365 Sales with real-time event information.

- **Use Case:**
The objective is to empower users by providing comprehensive event details for individual contacts right within Dynamics 365 Sales. This is crucial for decision-making processes.
- **Challenge Addressed:**
Traditionally, integrating this data would involve heavy data transfer, complicating and slowing down the integration process.
- **Solution:**
By leveraging Dataverse Virtual Tables, we bypass the need for data duplication, thereby streamlining the integration. This approach not only accelerates the process but also enhances overall system performance.



Example 2

CRM-konsulterna has engineered a tailored solution for a Swedish electricity provider, specializing in contract management and invoicing preparation within Dynamics 365.

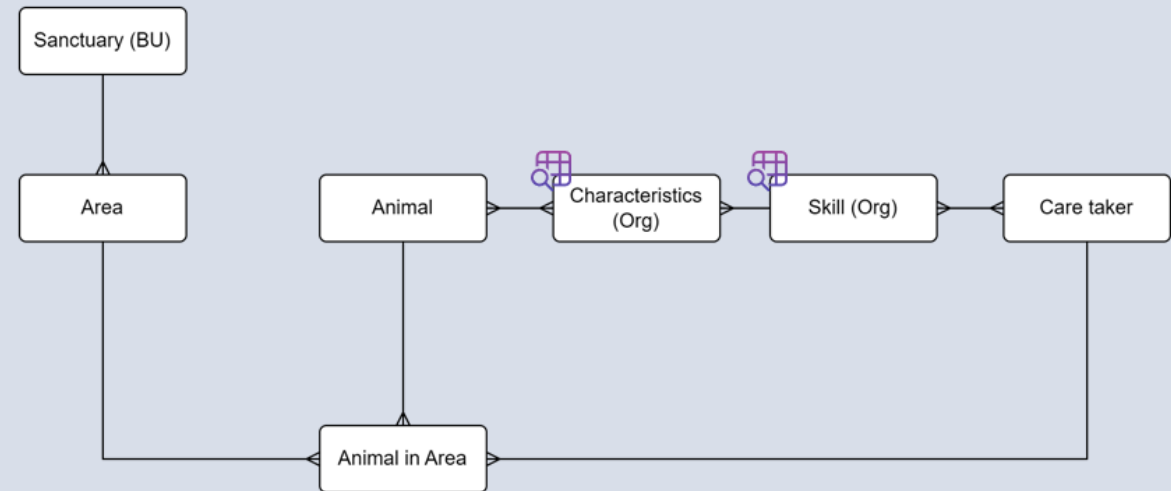
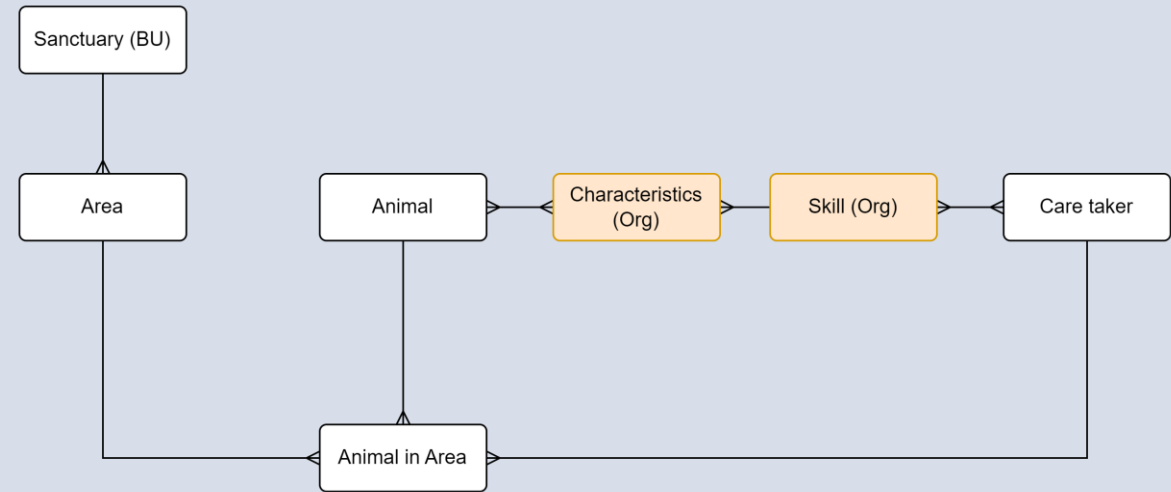
- **Use Case:**
The goal is to seamlessly integrate invoicing information, like payment statuses, into Dynamics 365, eliminating the need to switch between systems.
- **Challenge Addressed:**
Traditionally, this would require data duplication across multiple systems, consuming valuable storage and complicating data management.
- **Solution:**
We employed Virtual Tables to dynamically pull real-time invoicing information through an API. This negates the need for storing duplicate data, conserves Dataverse storage, and enhances user efficiency by centralizing all necessary information in a model-driven app.



How does this change data modeling design?

Make virtual tables recognizable

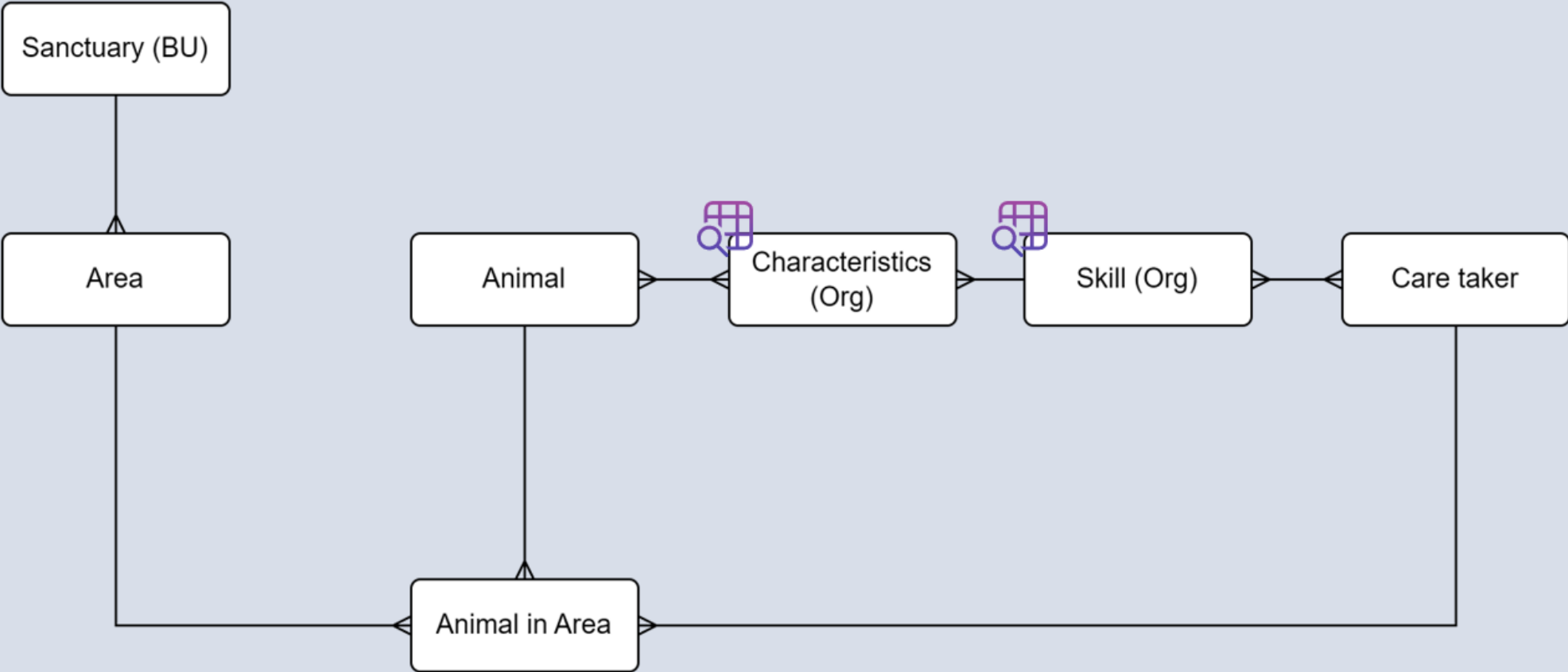
- Use a different color
- Use an icon
- Etc.



This sounds great!

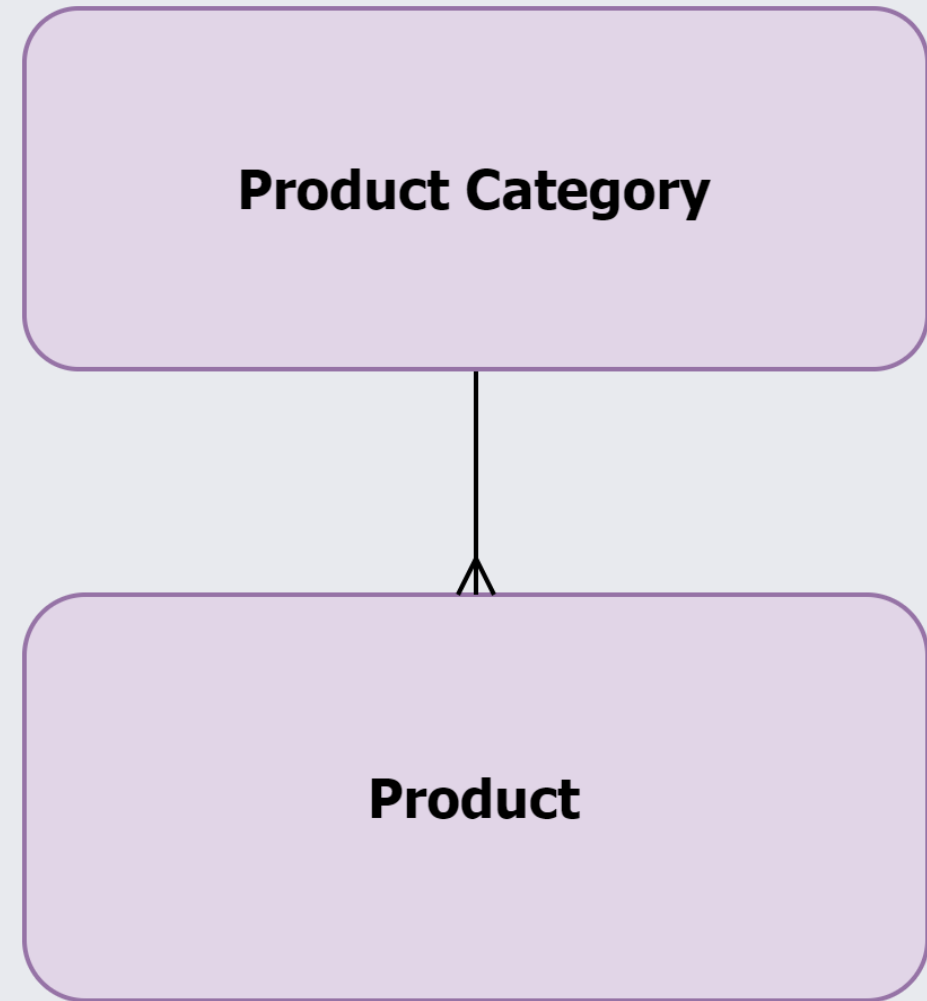
But is that the complete story?

Let's see how it works in practice

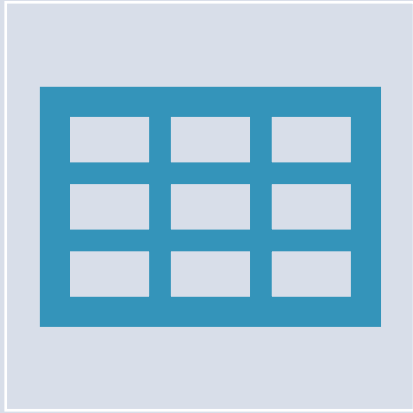


Can you reuse relationships between virtual tables?

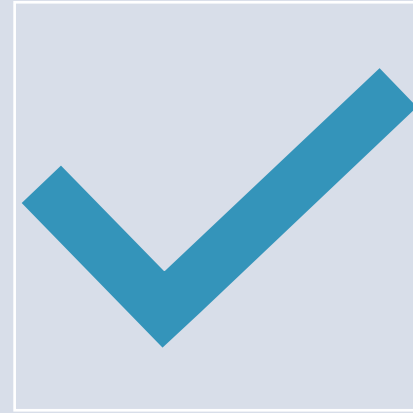
Adventure Works SQL Database



Multi Table Lookups with Virtual Tables



Define multi table lookups



How virtual tables enhance this feature



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Q&A

Conclusion & Takeaways

Promising at first glance but lacking some important features.

- 👍 for reducing data duplication
- 👍 if you only need to view data on forms and in views
- 👎 if you need to use the virtualized data to do advanced filtering
- 👎 you need role and row-based permission structures

Check before use!

[Limitations and troubleshooting virtual tables with Power Apps - Power Apps | Microsoft Learn](#)



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THANK YOU!