

Dynamics 365 Meets Azure

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Azure & Friends Tampere

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Who am I?



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- ▶ Business tech guy who gets excited about (almost) everything
- ▶ Also CEO and founder of Vaaja Consulting
- ▶ Could figure out what to study and studied everything (still in progress)

- ▶ Growing consulting company of ~ 10 people
- ▶ Founded in 2022
- ▶ All things Microsoft, trying not to limit ourselves

I'm not an Azure architect.. so, how do I make use of cloud stuff?

In this presentation..

- ▶ Being a Dynamics 365 specialist, how has Azure helped and made my job easier?
- ▶ What added value does Azure bring to Dynamics?
- ▶ Conversely, how can you, as an Azure expert, help ERP/ CRM projects and teams succeed?

What's Dynamics 365 (or D365) anyways?

Everyone knows Azure, but a quick recap: what is D365?

- ▶ From Microsoft: *"Dynamics 365 as a suite of intelligent business applications that combine CRM and ERP capabilities"*
- ▶ In real life: tools to help Sales, Customer Service, Enterprise Resource Planning (ERP) big and small
- ▶ Importance of Cloud Technology:
 - ▶ Biz apps are old-fashioned compared to other tech
 - ▶ Only in recent years has SaaS, for example, started to become mainstream in the area of enterprise resource planning

Historical burden in old school business applications

- ▶ Usually biz app and cloud teams are located in different org units (Yei! Silos! Who's in?)
 - ▶ Cloud developers come from software engineering and IT training programs
 - ▶ ERP experts come from finance and business operations
- ▶ In ERP/CRM projects, people often try to solve issues with ERP/CRM tools
 - ▶ Law of the instrument
- ▶ Previously, D365 project was an exercise for finance, business and a "couple" of consultants
 - ▶ Nowadays more of an Azure project on the tech side

Okay, let's move to real life examples

- ▶ Some examples on what we've done and what's possible
- ▶ Some things just work better in Azure (Surprise!)
 - ▶ Reporting, storage, resource intensive tasks..

Reporting brought back to 21st century with Azure

► Reporting in traditional ERP



Customer - Order Detail

Shipment Date: 4/1/2010 8:49 PM
Page 1
CRONUS International Ltd. ISAAC\Dave

Shipment Date	Type	No.	Description	Quantity	Outstanding Quantity	Quantity on Back Order	Unit Price Excl. VAT	Line Discount Amount	Inv. Discount Amount	Outstanding Orders
01454545			New Concepts Furniture							
		Order No.	101018 1/29/2010							
01/29/10	Item	1980-S	MOSCOW Swivel Chair, red	6	6	6	221.146	66.34	0.00	1,260.54 US
			New Concepts Furniture							1,260.54 US
10000			The Cannon Group PLC							
		Order No.	2001 1/20/2010							
01/20/10	Item	LS-MAN-10	Manual for Loudspeakers	4	4	4	0.00	0.00	0.00	0.00
		Order No.	2006 1/20/2010							
01/20/10	Item	LS-MAN-10	Manual for Loudspeakers	10	10	10	0.00	0.00	0.00	0.00
		Order No.	2011 1/20/2010							
01/20/10	Item	LS-160	Loudspeaker, Cherry, 160W	10	10	10	129.00	0.00	0.00	1,290.00
			The Cannon Group PLC							1,290.00
20000			Selangorian Ltd.							
		Order No.	101017 1/29/2010							
01/29/10	Item	1928-W	ST.MORITZ Storage Unit/Dra	2	2	2	342.10	68.42	0.00	615.78
01/29/10	Item	1964-W	INNSBRUCK Storage Unit/G.	1	1	1	292.00	29.20	0.00	262.80
01/29/10	Item	1976-W	INNSBRUCK Storage Unit/W.	1	1	1	256.10	25.61	0.00	230.49
		Order No.	2002 1/20/2010							
01/20/10	Item	LS-75	Loudspeaker, Cherry, 75W	10	10	10	79.00	0.00	0.00	790.00
01/20/10	Item	LS-120	Loudspeaker, Black, 120W	6	6	6	88.00	0.00	0.00	528.00
01/20/10	Item	LS-10PC	Loudspeakers, White for PC	20	20	20	59.00	0.00	0.00	1,180.00
		Order No.	2007 1/20/2010							
01/20/10	Item	LS-2	Cables for Loudspeakers	20	20	20	21.00	0.00	0.00	420.00
01/20/10	Item	LS-S15	Stand for Loudspeakers LS-1	12	12	12	79.00	0.00	0.00	948.00
01/20/10	Item	LS-MAN-10	Manual for Loudspeakers	30	30	30	0.00	0.00	0.00	0.00

Dynamics 365 Business Central



ADLSE
Extension

Incremental
updates

SQL
Integrated
SQL DB



bc2adls

The bc2adls tool is used to export data from Dynamics 365 Business Central to Azure Data Lake Storage and expose it in the CDM folder format. Data is uploaded through a custom Business Central extension and transformed in Azure Synapse Analytics. Read more at aka.ms/bc2adls.

Uploading changes
to Data Lake

Azure Data Lake Storage



Deltas (CDM as CSV)

Staging (CSV/Parquet)

Data
(CDM as CSV/Parquet)

Import files or
CDM entities

Power BI
(or other consumers)

Read

Intermediate
staging

Read and update

Import/DirectQuery with
Serverless SQL

Reference parquet files

Azure Synapse Analytics



Consolidation pipeline

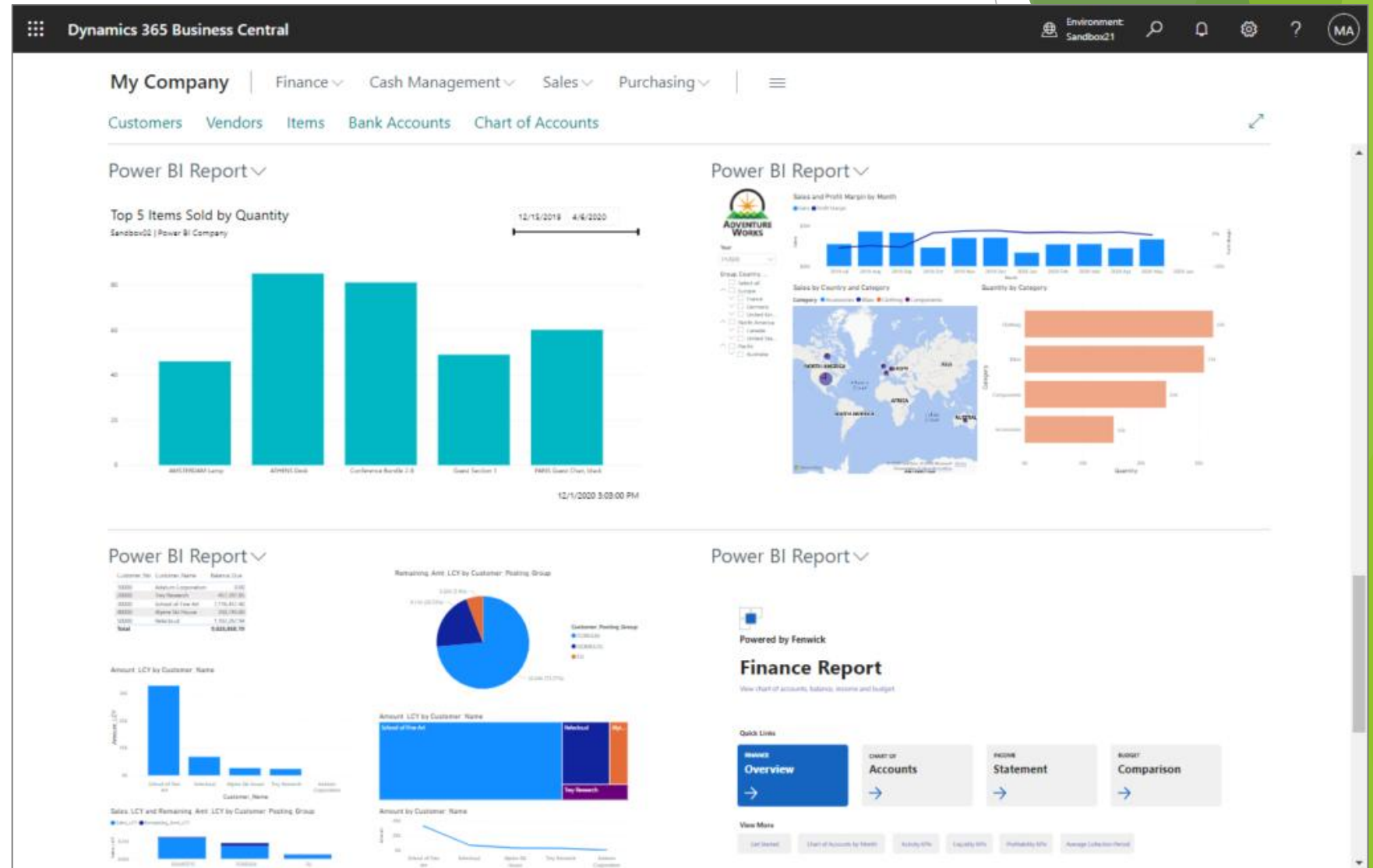
For new parquet entities

Create shared
metadata table

Lake database

Spark
PySpark
notebook

Reporting brought back to 21st century with Azure



Who likes storage?

Data storage prices pay-as-you-go	Premium	Hot	Cool
First 50 terabyte (TB) / month	\$0.15 per GB	\$0.018 per GB	\$0.01 per GB
Next 450 TB / month	\$0.15 per GB	\$0.0173 per GB	\$0.01 per GB
Over 500 TB / month	\$0.15 per GB	\$0.0166 per GB	\$0.01 per GB

- Blob storage prices in Azure..

..and in SaaS D365 solution (for example)

How much is Dynamics 365 Business Central database capacity?

Additional capacity:

Business Central Additional Environment	\$300 (per tenant/month)
Business Central Database Capacity	\$10 (per tenant/month)
Business Central Database Capacity 100GB	\$500 (per tenant/month)
Business Central Database Capacity Overage	\$5 (per tenant/month)

Easy for consultant to justify their hourly fee if capacity need can be reduced

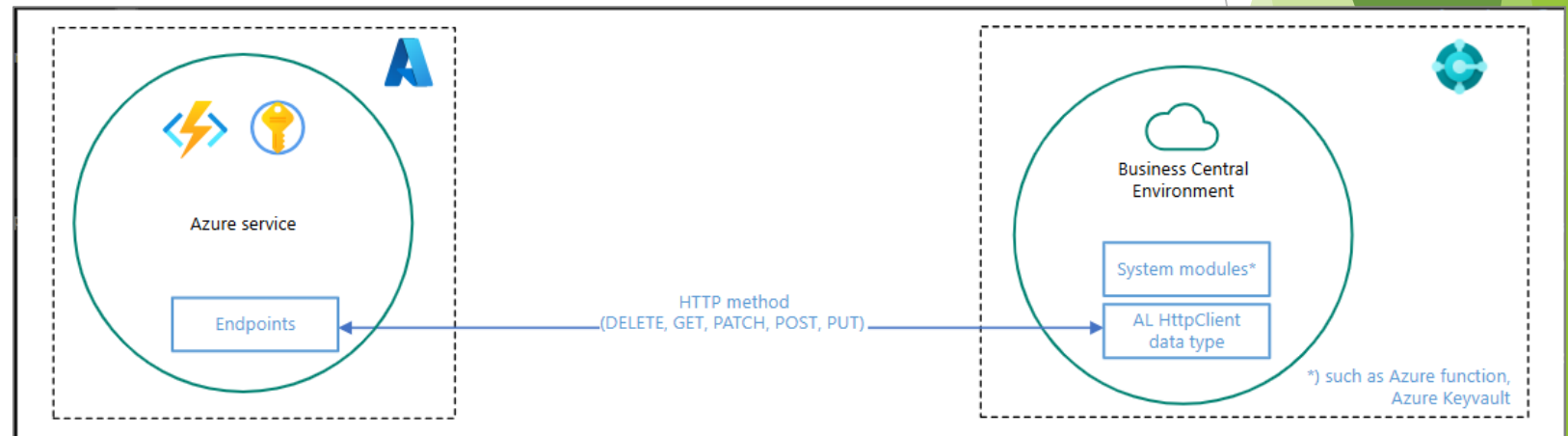
Better way to run resource intensive tasks

- ▶ Biz apps contain a lot of validation, since same data is used in various business domains (finance, warehouse, purchasing, manufacturing etc.)
 - ▶ Good with business rules, not so performant
- ▶ Parsing data from imports not usually the best idea in ERP's/CRM's
- ▶ Over night tight schedules to run daily scheduled data operations
- ▶ Azure Functions to replace old DLL's or custom libraries in SaaS env

Better way to run resource intensive tasks

The new module contains **three** (public) codeunits.

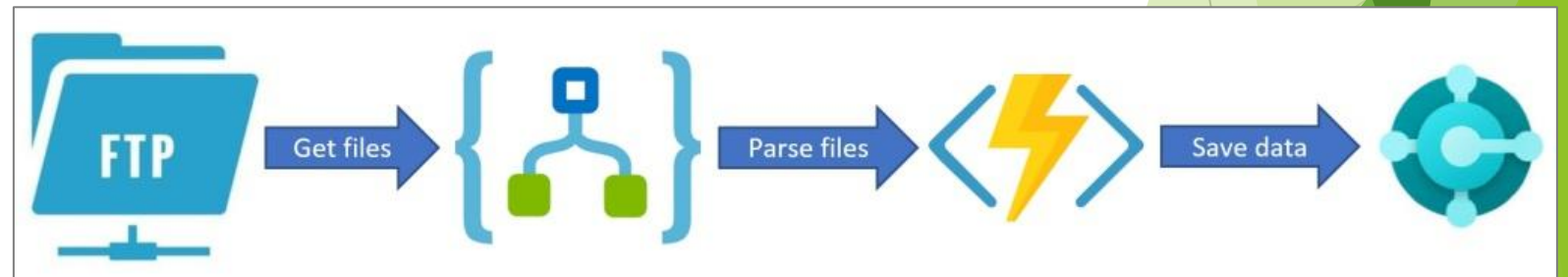
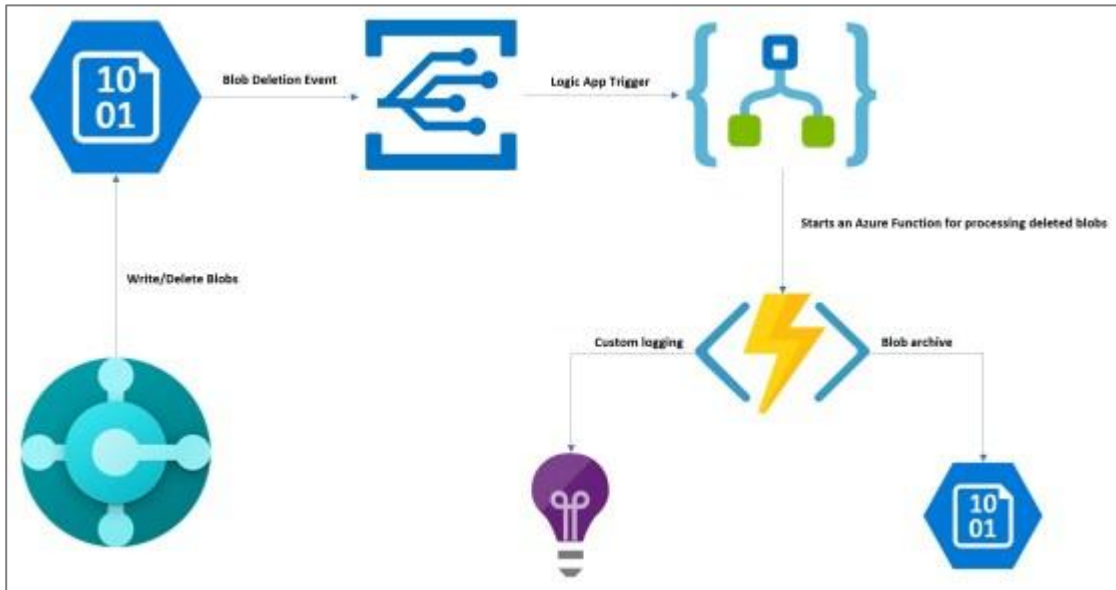
- **Azure Functions (codeunit 7804)**
- **Azure Functions Authentication (codeunit 7800)**
- **Azure Functions Response (codeunit 7805)**



Modern integrations and workflows

- ▶ Azure Logic Apps (and Power Automate) can automate processes and integrate Dynamics 365 with other enterprise systems and third-party applications
- ▶ Previously, a bunch of file-based transfers (because of legacy, burden of accounting and finance)
- ▶ Why develop custom when one can use WYSIWYG in cloud?

Modern integrations and workflows

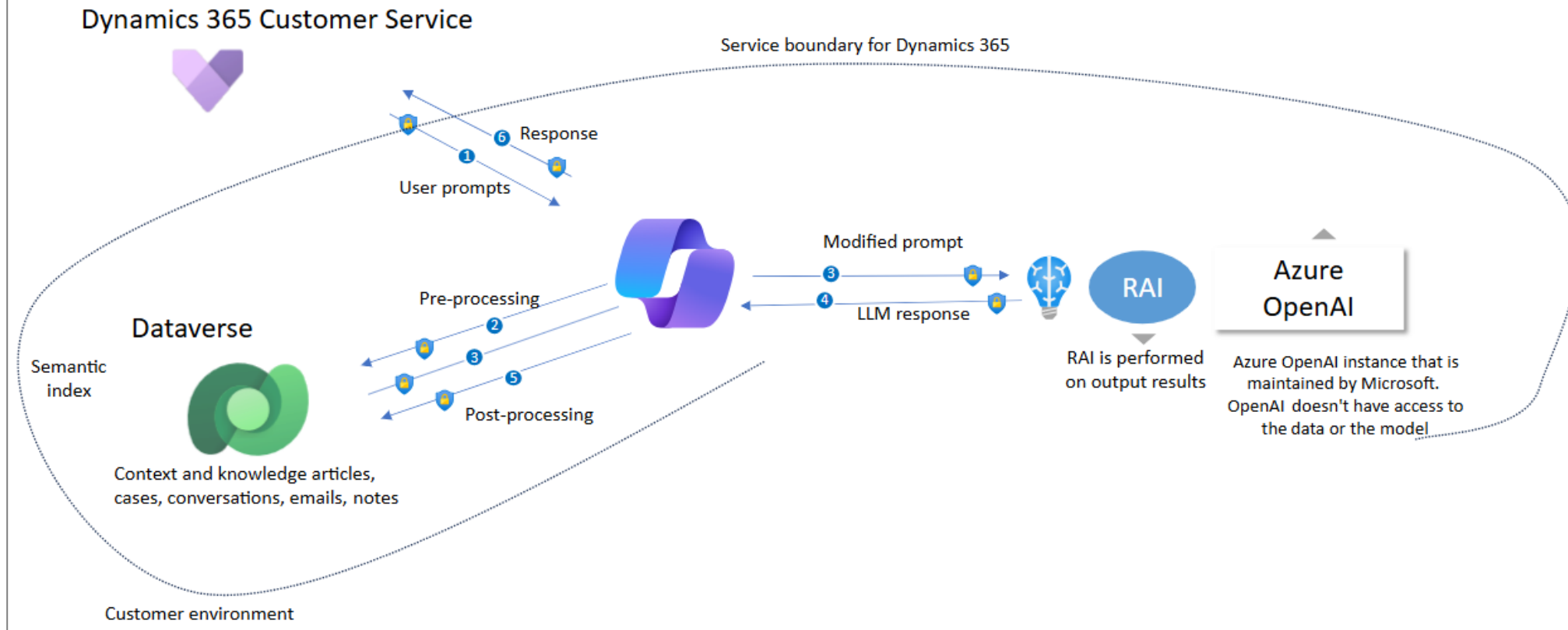


Finally some AI stuff, yei!

- ▶ Azure AI integrates into Dynamics 365, enabling businesses to use predictive analytics, automation, and intelligent insights
 - ▶ Like, a few years back this meant linear regression (which is boring)
- ▶ However, now Azure's AI tools used to predict, for example, shopping patterns, enabling personalized marketing campaigns and inventory optimization
- ▶ Copilot integrated into products, specific Copilot SDK's published for devs
 - ▶ Some stuff still in Preview, though

Finally some AI stuff, yei!

Copilot in Dynamics 365 Customer Service



Finally some AI stuff, yei!

The screenshot displays the Dynamics 365 Business Central interface for item 1936-S, BERLIN Guest Chair. A modal window titled "Marketing Text" is open, allowing users to customize how Business Central generates text. The modal includes settings for attributes to highlight, emphasis, style, and format. A "Generate Summary" button is visible, along with a "More options" dropdown. The generated content is displayed in a text area, showing a paragraph about the chair's features. The background shows the item card with various tabs like Home, Request Approval, Item, and Prices & Discounts. The item details include No. 1936-S, Description BERLIN Guest Chair, yellow, and Type Inventory. The background also shows a yellow armchair image and a "Marketing Text" section with "Generate" and "Edit" buttons.

Dynamics 365 Business Central

Item Card

1936-S · BERLIN Guest Chair

Home Request Approval Item Prices & Discounts

Item

No. 1936-S

Description BERLIN Guest Chair, yellow

Blocked ☐

Type Inventory

Inventory

Shelf No.

Quantity on Hand

Qty. on Purch. Order

Qty. on Sales Order

Costs & Posting >

Prices & Sales >

Replenishment >

Marketing Text

Customize how Business Central generates text

Attributes to highlight Yellow, Cotton, Wooden legs, 1940, 70cm

Emphasis

Style Fun and light

Format Tagline and Paragraph

Generate Summary More options

Content

"Bring a dash of sunshine to your interior with this cheerful BERLIN Guest Chair in bright yellow!"

Crafted with a sturdy wood frame and upholstered with soft cotton fabric, this timeless piece designed in the 1940s features a width of 70cm and is sure to bring a sense of warmth and comfort to any space. With its striking colour and sophisticated construction, this BERLIN Guest Chair is perfect for adding a touch of vintage charm to your home.

OK Cancel

Marketing Text

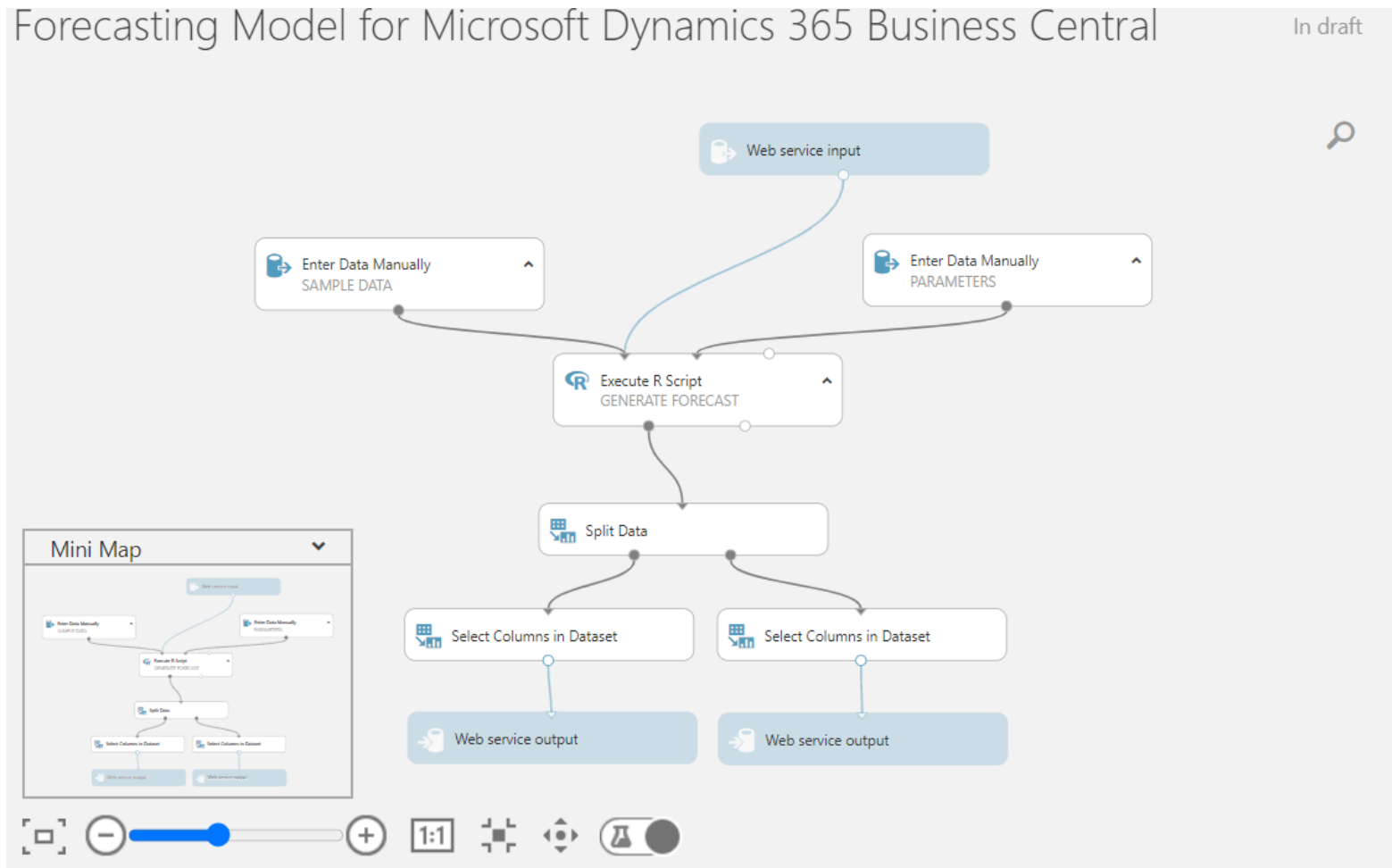
Generate Edit

Generate text based on the item attributes

Item Attributes >

29 November
2024

Finally some AI stuff, yei!



In short..

- ▶ As an Azure expert, if you ever see an ERP/CRM person..
- ▶ ..go and ask how you could help them
- ▶ They will appreciate it, even if you might not believe it at first

Questions, yes?

- ▶ Open the floor for any questions from the audience