Dynamics 365 Meets Azure

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Azure & Friends Tampere

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Who am I?

- 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)

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- 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

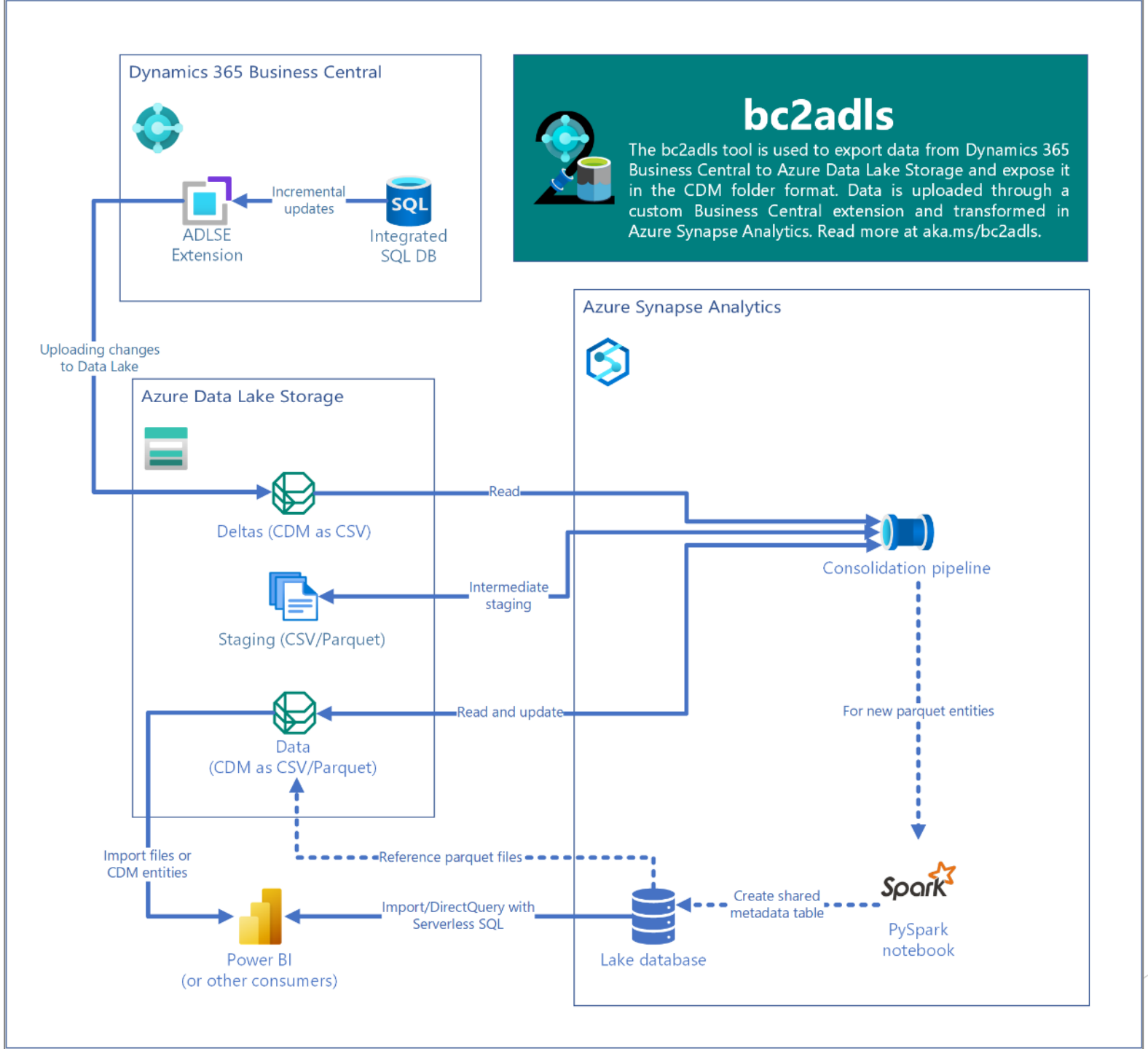
1 of 3 100% Find | Next

Customer - Order Detail 4/1/2010 8:49 PM

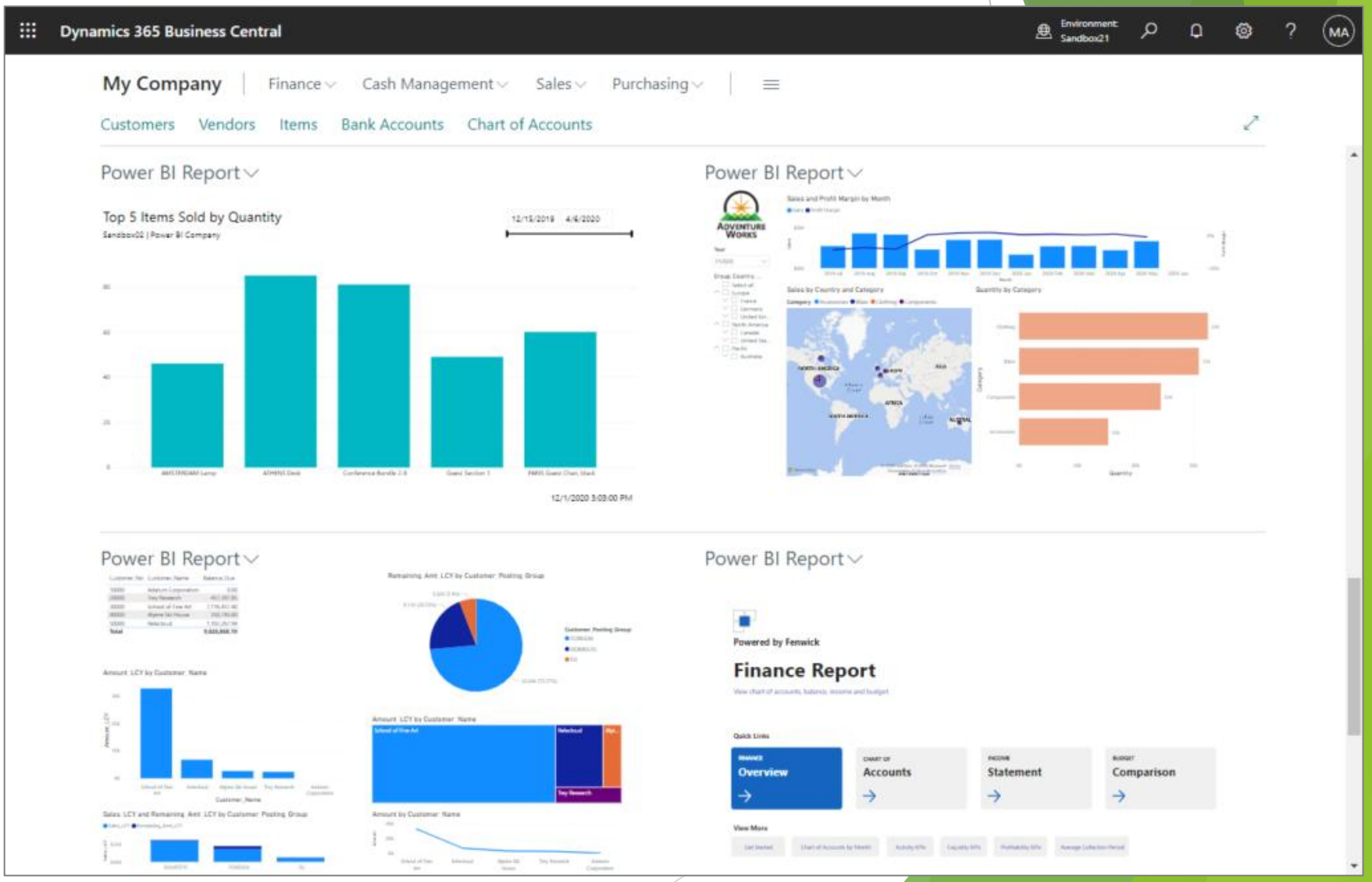
Shipment Date: Page 1

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-150	Loudspeaker, Cherry, 150W	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.
Azure Synapse Analytics
Uploading changes to Data Lake
Azure Data Lake Storage
Deltas (CDM as CSV)
Read
Consolidation pipeline
Intermediate staging
Staging (CSV/Parquet)
For new parquet entities
Read and update
Data (CDM as CSV/Parquet)
Import files or CDM entities
Reference parquet files
Import/DirectQuery with Serverless SQL
Create shared metadata table
Spark
PySpark notebook
Power BI (or other consumers)
Lake database

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

- 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

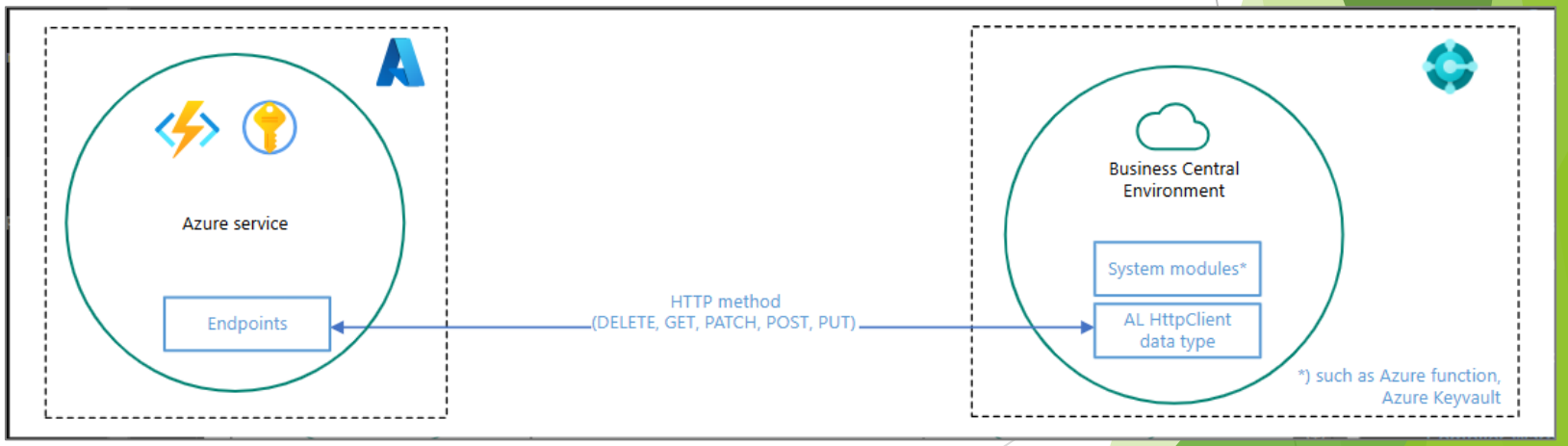
Better way to run resource intensive tasks

- 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.

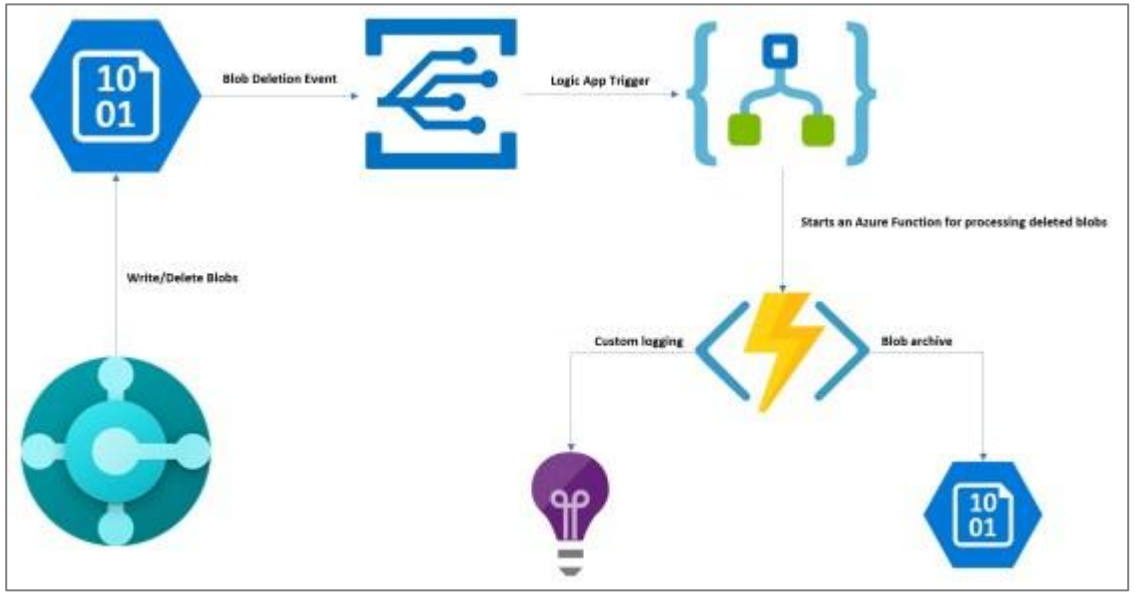
- **Azure Functions (codeunit 7804)**
- **Azure Functions Authentication (codeunit 7800)**
- **Azure Functions Response (codeunit 7805)**

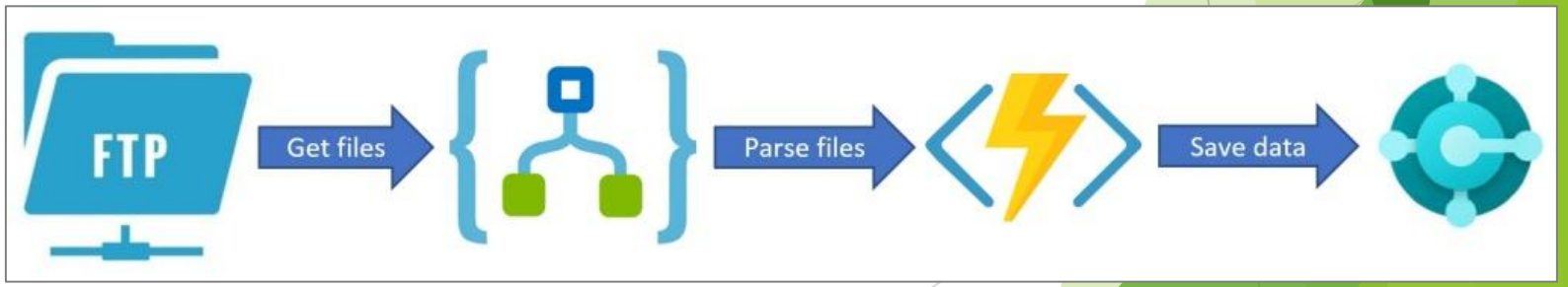


Modern integrations and workflows

- 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

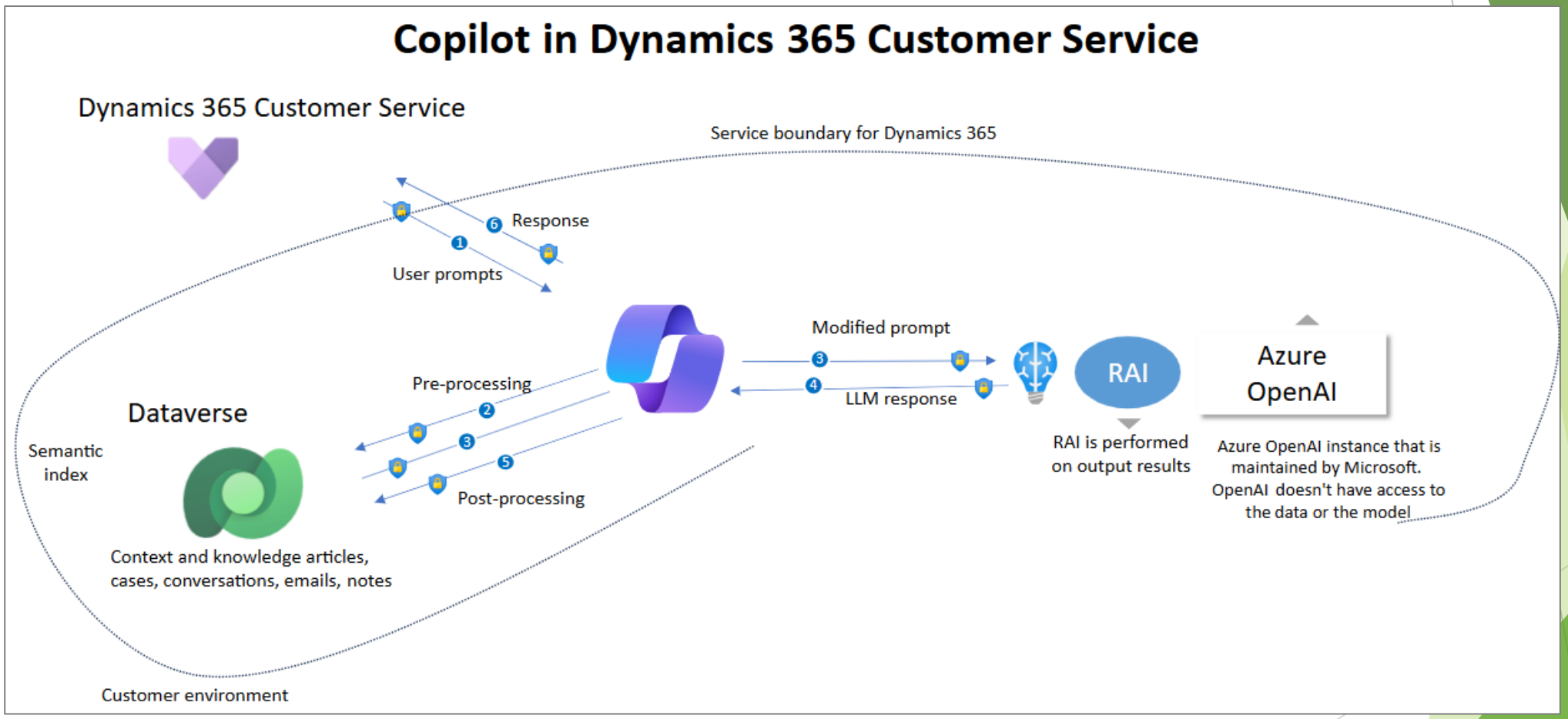




Finally some AI stuff, yei!

- 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!



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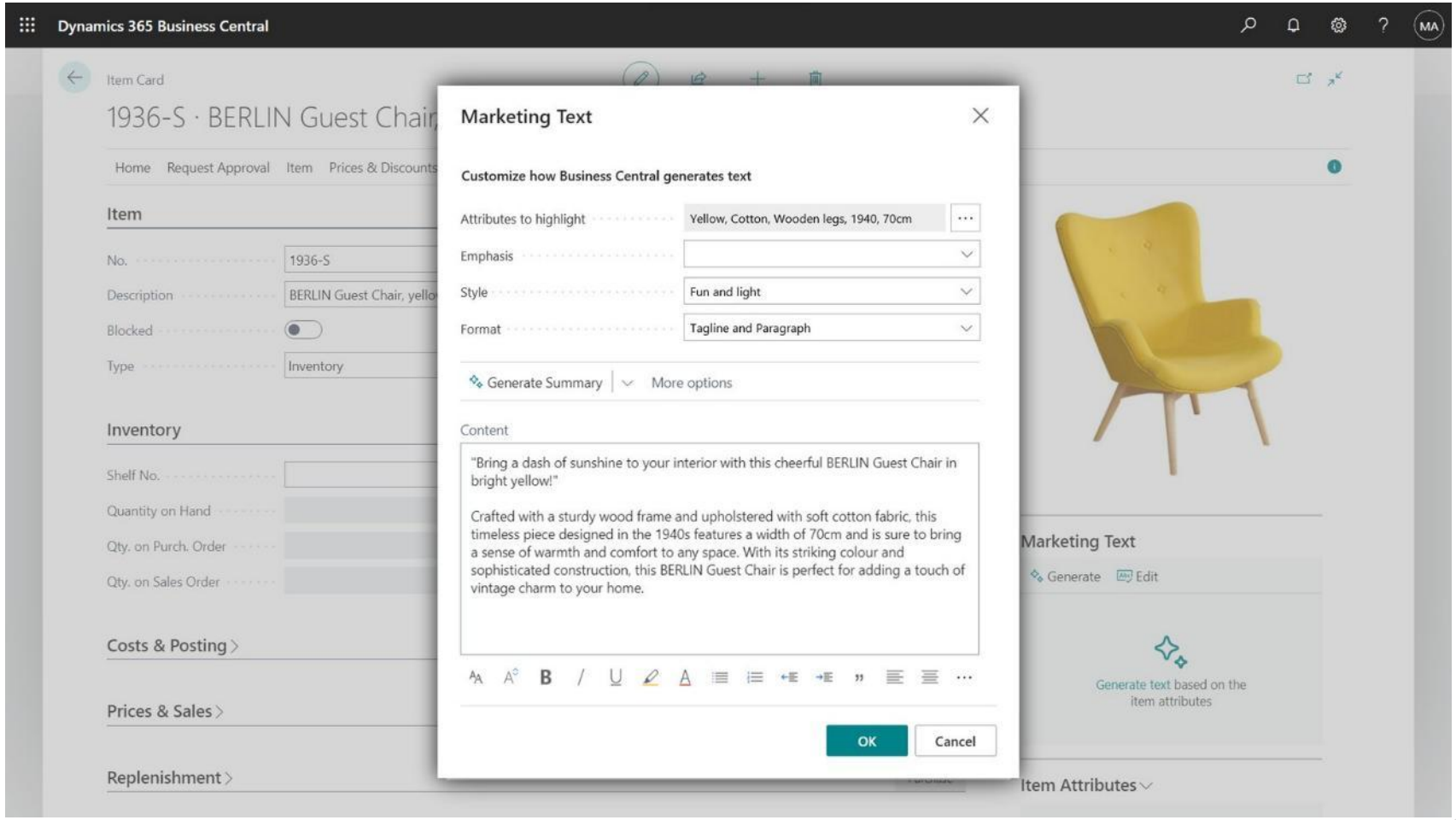

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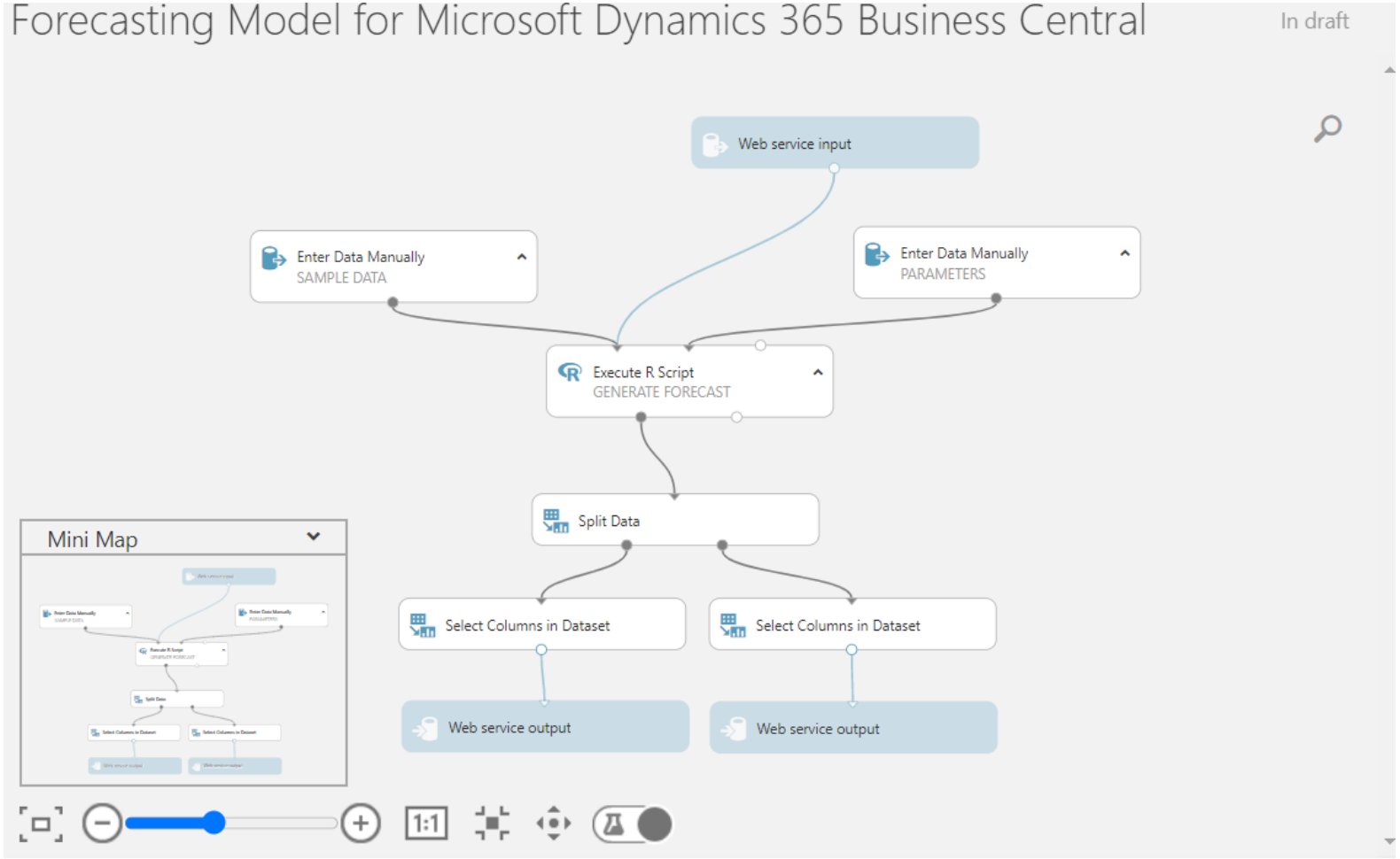

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In short..

- 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