

#ScottishSummit2022



Microsoft Dataverse: What's in it for us ERP people?

Stefan Strube

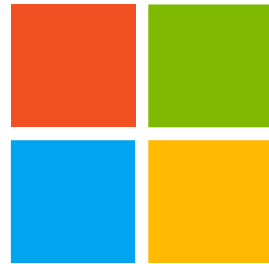
Strukton





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Data Quality



Event Lunch



Accessibility



Data Analytics



Stefan Strube

Bio

Solution architect
Strukton (NL)



- 9 Years Experience with Dynamics 365 | CRM
- Co-founder of PowerAddictsNL user group
- Microsoft Business Applications MVP
- Dancing

“There’s something about...”



stefanstrube365



2die4it.com



@StefanS365



PowerAddictsNL



MVP profile



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Déjà vu



Model-driven apps in PowerApps, powered by Dynamics 365

Stefan Strube
20 juni 2018
DDC jaarevent





Past, present, future

“You have to know the past to understand the present.”



Carl Sagan



Past, present, future

**“We study the past to understand the present;
we understand the present to guide the future.”**



William Lund

Agenda

Past

History

Present

What is Microsoft Dataverse?

Where to find?

Interesting features

What's in it for us?

Future

How to start?

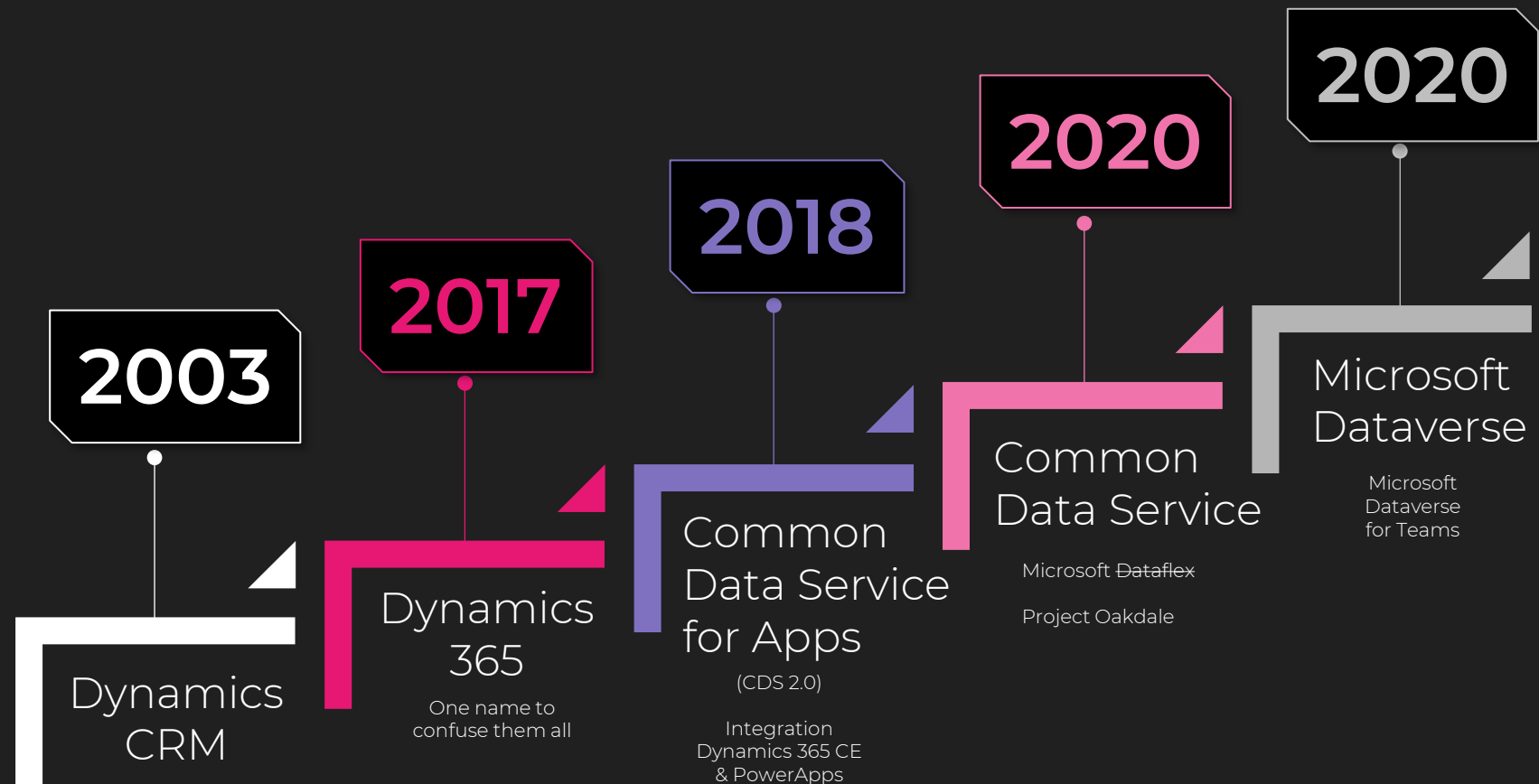
Licensing

What's next?





Microsoft Dataverse: Past



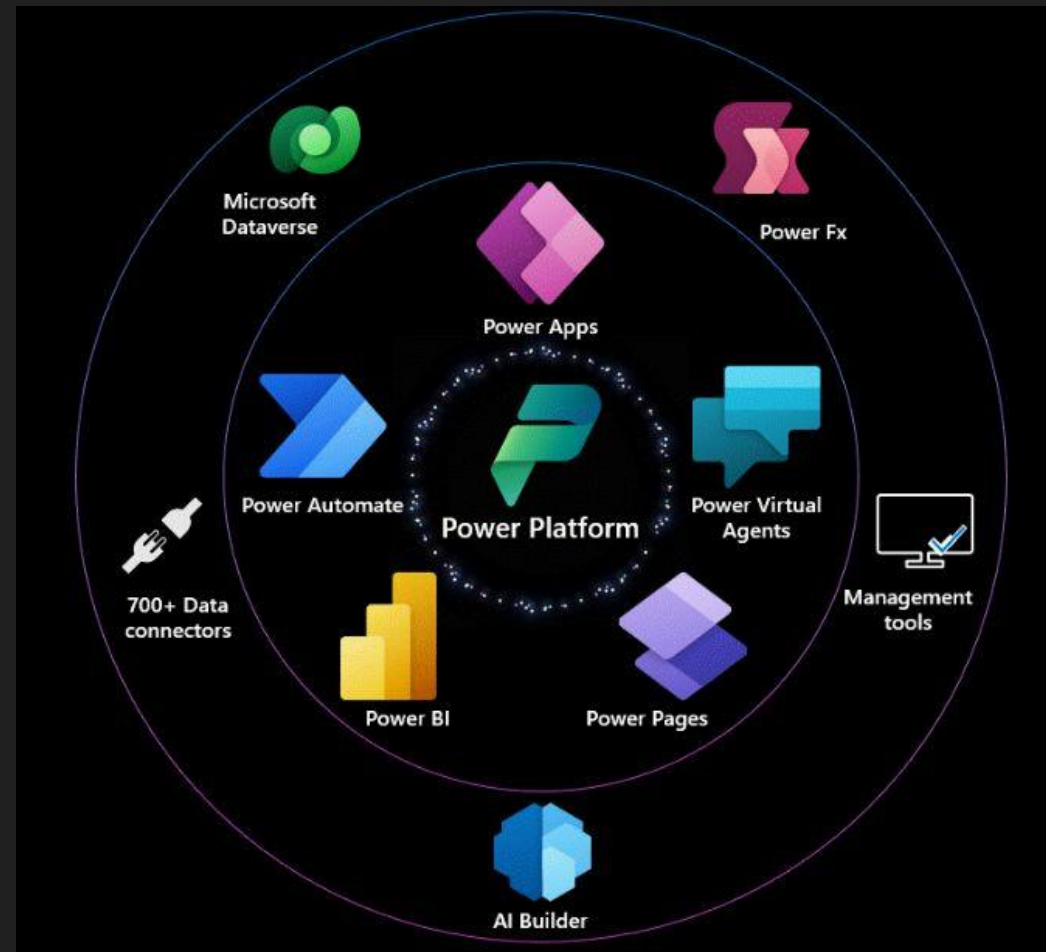


Microsoft Dataverse: Present

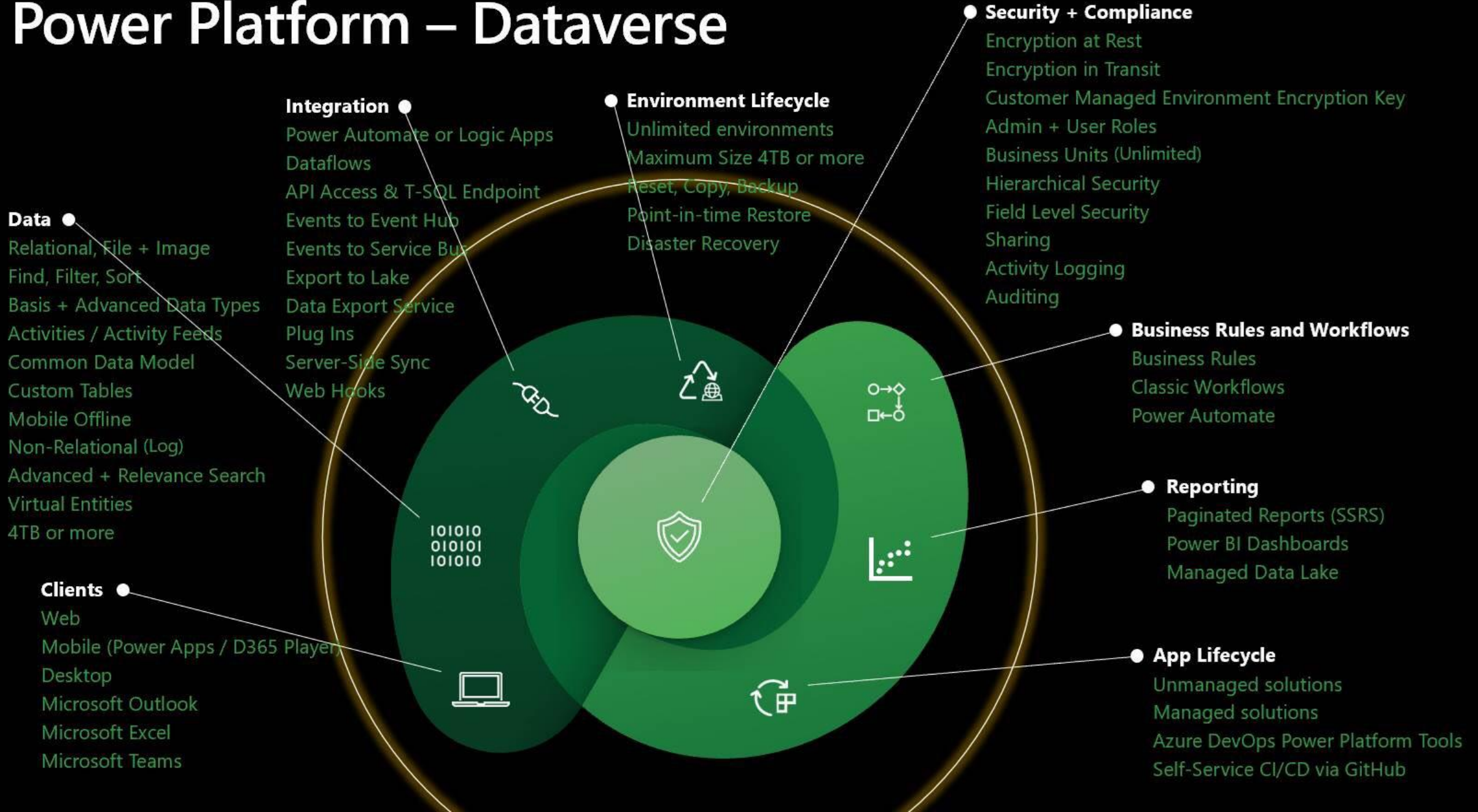
- What is Microsoft Dataverse?
- Where to find?
- Interesting features
- What's in it for us?



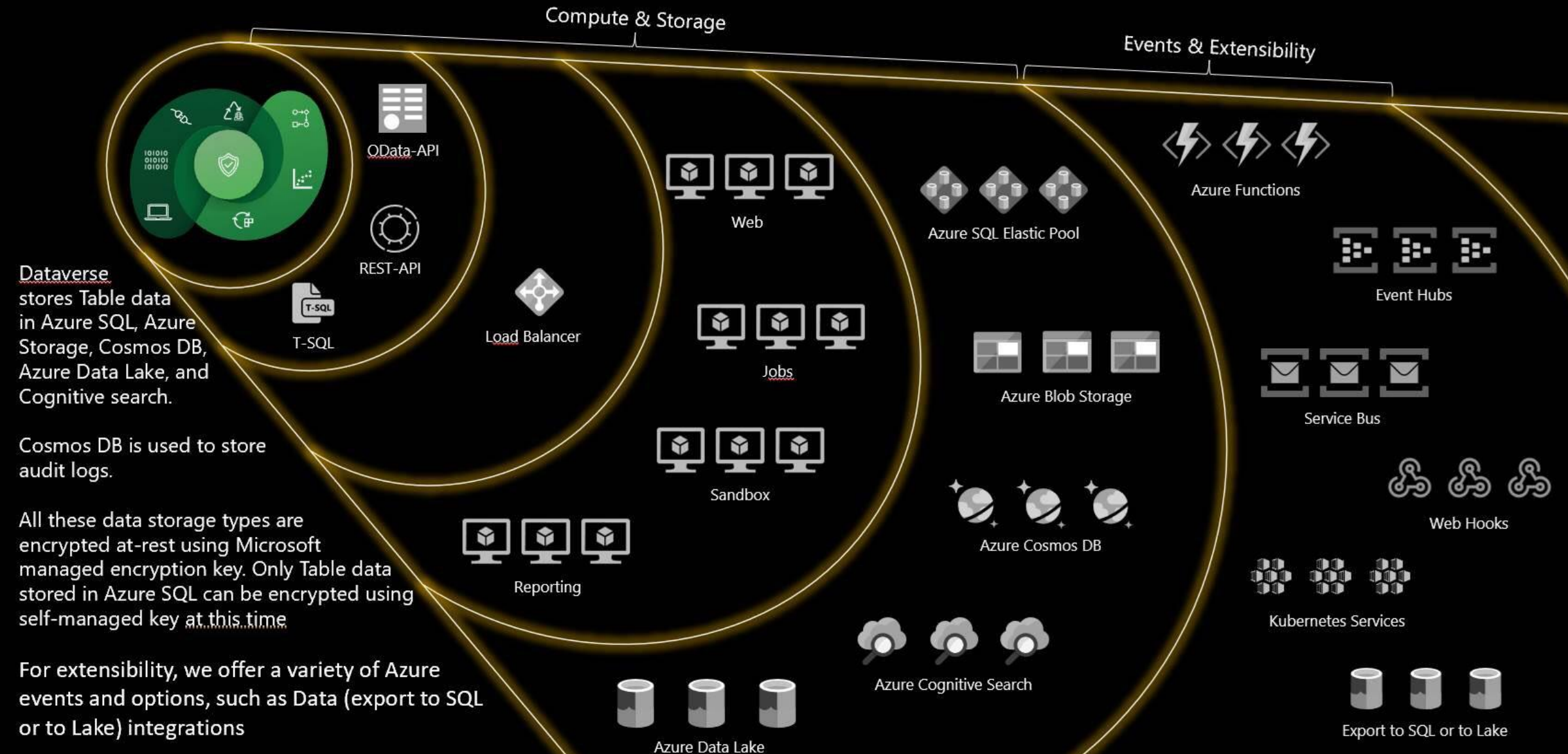
What is Microsoft Dataverse?



Power Platform – Dataverse

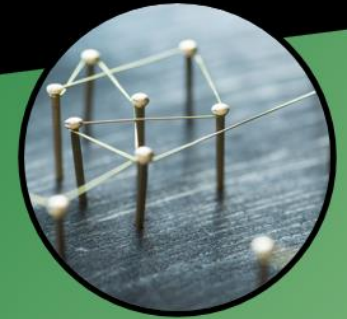


Power Platform – Dataverse: But what's behind?



Dataverse – what's in the box?

API



Security

Logic

Data

Storage

Integration



Authentication



Calculated &
Rollup fields



Jobs



Modelling



Catalog
and discovery



Files and
blobs



Relational
databases



Event to
Webhooks



Application
Lifecycle
Management



Authorization



Plugins



Business
Rules



Reporting



Mobile Offline



Semi-structured
data



Audit Log
Retention



Azure DevOps



Azure Synapse
Analytics



Auditing



Duplicate
Detection



Workflows



Data validation



Common Data
Model



Data lake



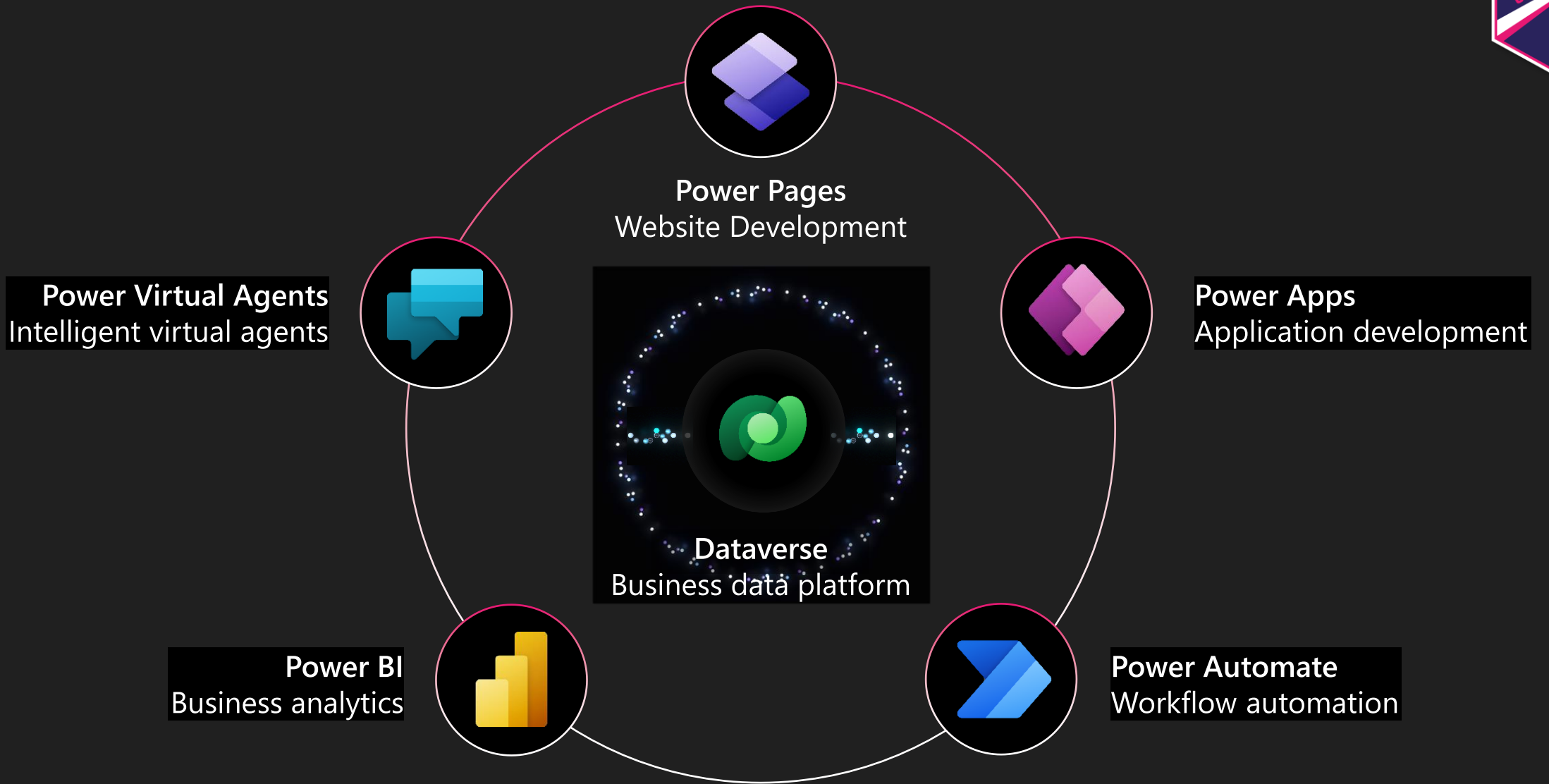
Dataverse Search
& Find data



Export to lake

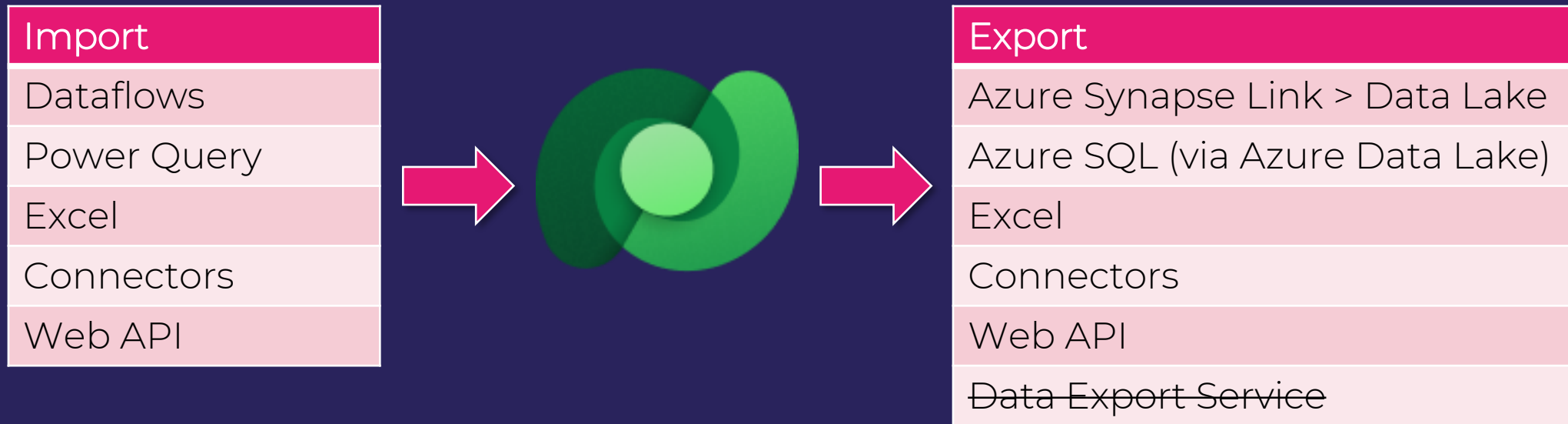


Data export



What is Microsoft Dataverse?

Microsoft Dataverse is a data platform





Common Data Model

The Common Data Model (CDM) is a standard and extensible collection of schemas (entities, attributes, relationships) that represents business concepts and activities with well-defined semantics, to facilitate data interoperability.

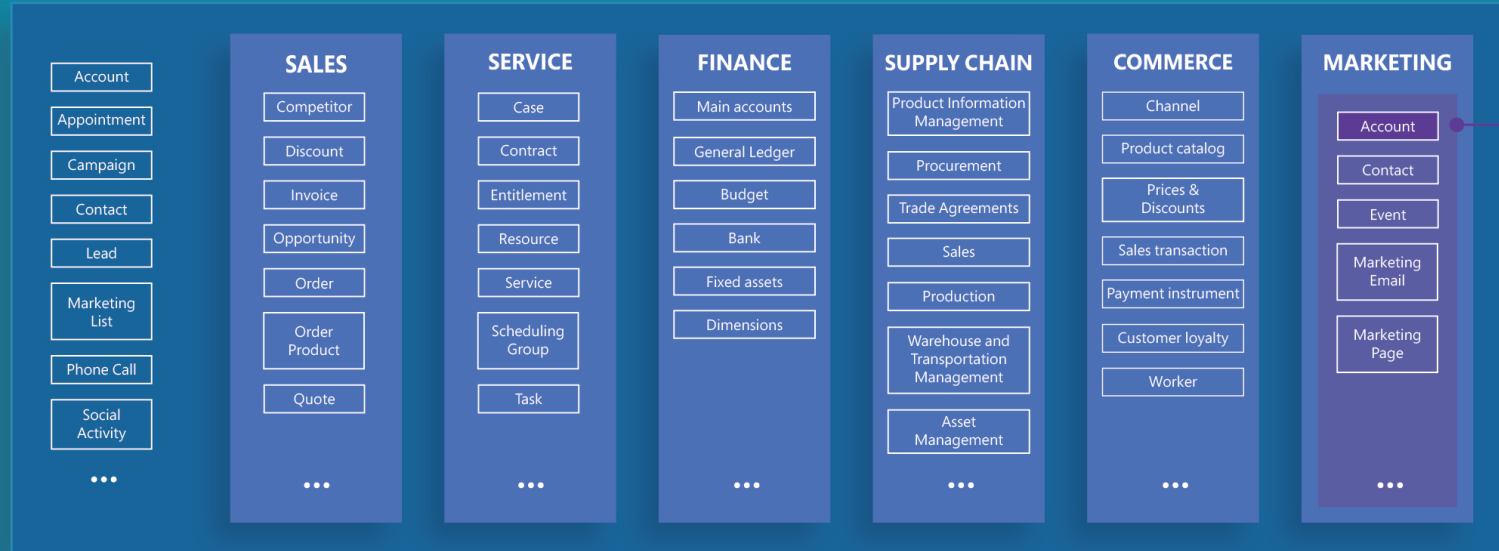
Common									
AccountLeads	Activity	Appointment	Campaign	CampaignActivity	CampaignActivityItem				
CampaignResponse	Contact	ContactLeads	Email	Fax	Lead	LeadAddress	Letter		
Member	PhoneCall	QuickCampaign	RecurringAppointment	SocialActivity					
CompetitorAddress	CompetitorProduct	CompetitorSalesLiterature	ContactInvoices	Contact					
Discount	DiscountList	Invoice	InvoiceProduct	LeadCompetitors	LeadProduct	Opportunity			
OpportunityClose	OpportunityCompetitors	OpportunityProduct	OpportunityRelationship	Order	Order				
PriceListItem	ProductSalesLiterature	PropertyInstance	Quote	QuoteClose	QuoteProduct				
SalesLiterature									
Case	CaseResolution	ChildIncidentCount	Contract	ContractLine	Entitlement	Entitlement			
Product	FacilityEquipment	IncidentKnowledgeBaseRecord	KnowledgeArticleIncident	Reservation					
ResourceSpecification	SchedulingGroup	Service	ServiceActivity	ServiceContract					
Instance	Task	User							

COMMON DATA MODEL SCHEMA

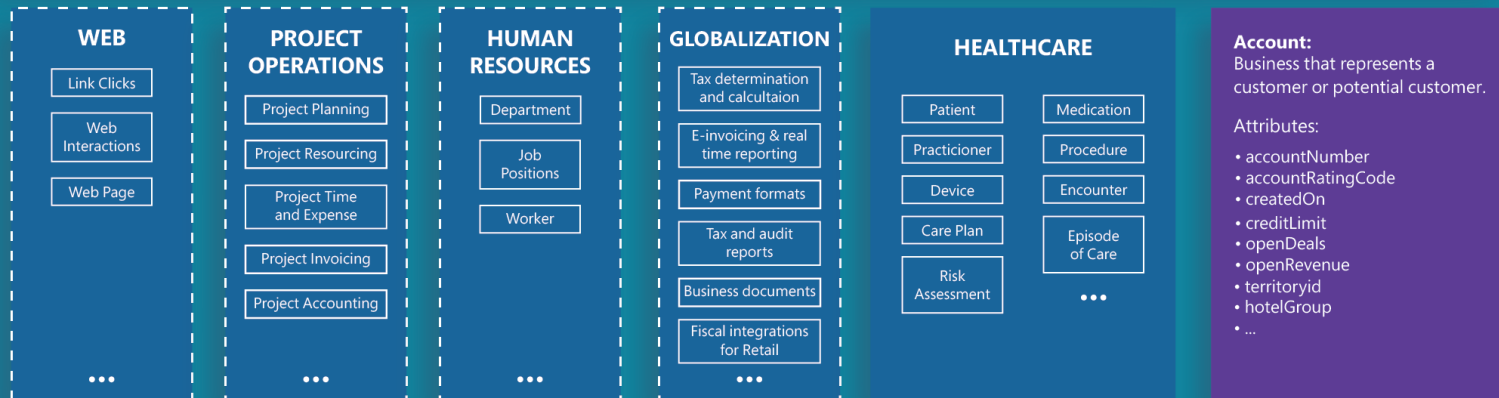
Dynamics 365

CORE

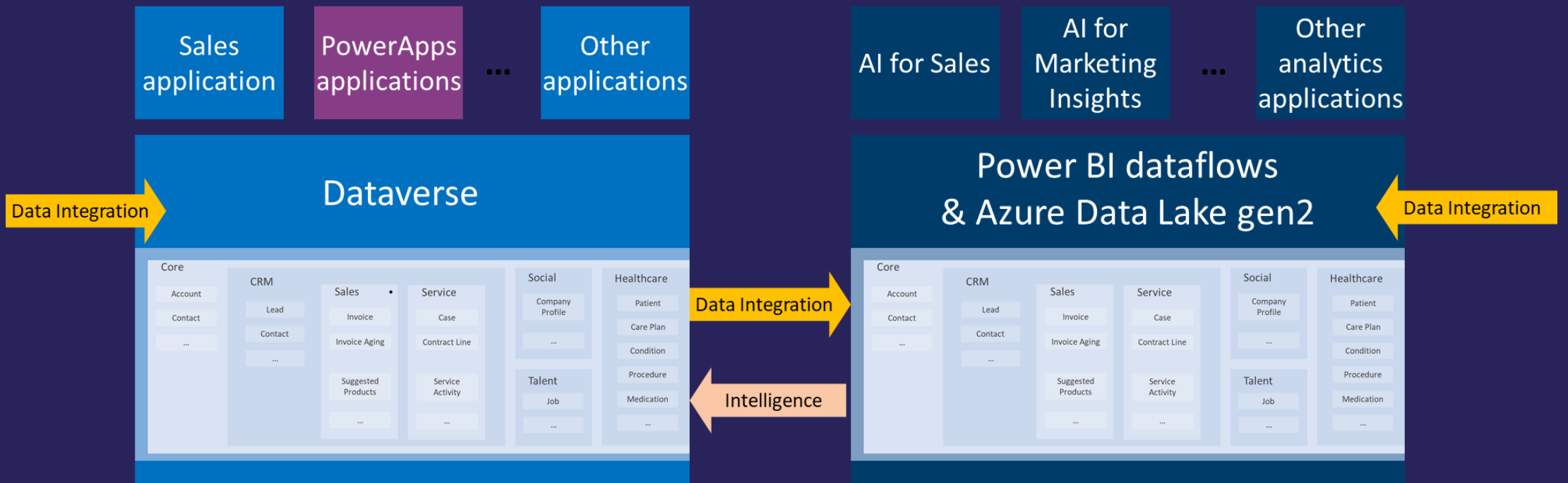
- Account
- Activity
- Contact
- Currency
- Email
- Goal
- Letter
- Note
- Owner
- Organization
- Position
- Task
- ...



Working with subject matter & industry experts, Common Data Model is expanding to include additional business entities and concepts



CDM in data integration





Where to find Microsoft Dataverse?

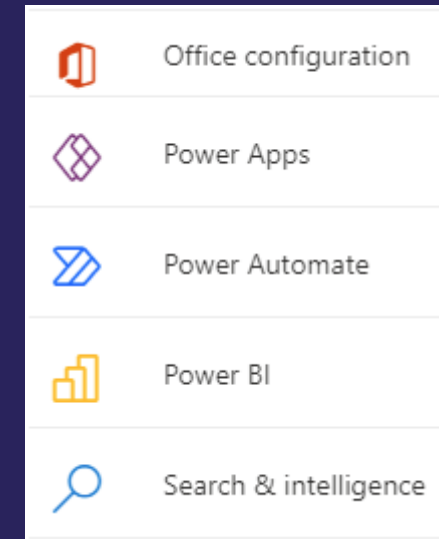
Go to Power Platform admin center

Access with administrative roles:

- Global administrator
- Power Platform administrator
- Dynamics 365 administrator

URL: <https://admin.powerplatform.microsoft.com>

- Short URL: aka.ms/ppac





Power Platform admin center

Power Platform admin center

Home

Environments

Analytics

Resources

Help + support

Data integration

Data (preview)

Policies

Admin centers

Welcome, System

The Power Platform admin center is the place to manage users, environments, policies, and more.

+ Add cards Share feedback

Service health

Some advisories reported.

1 advisory

Message center

250 unread messages

- Consistently block delegates or shared mailbox members from accessing protected messages in Outlook
- Microsoft Feed on the Outlook Mobile Search Page
- Join Meetings by a Meeting ID and Passcode
- SharePoint: Updated Site Logo Management

Show all Preferences

Documentation

- Power Platform admin center
- Licensing overview for Microsoft Power Platform
- Power Apps and Power Automate licensing FAQs
- Microsoft Power Platform Center of Excellence Kit
- Power Platform Community
- Microsoft Dynamics Community



Microsoft Dataverse

1. (Create) Environment
2. (Create) Database
3. (At least 1GB capacity available)



Microsoft Docs



Environment

Definition:

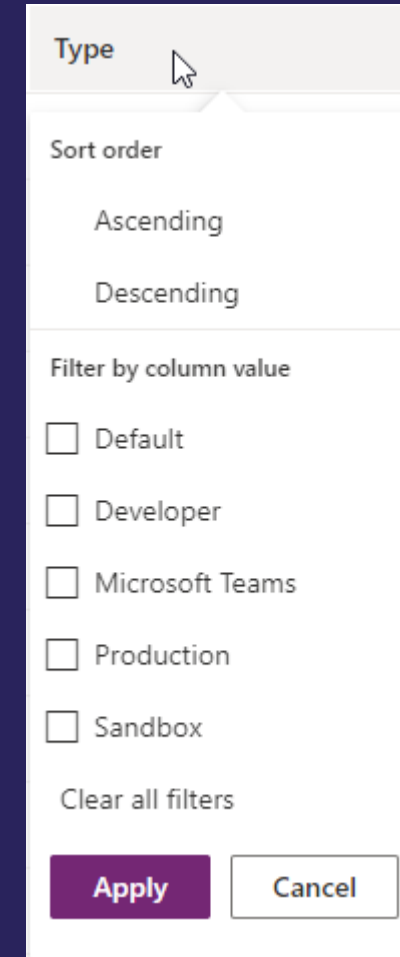
- Container in which end users with maker permissions can create and share resources and data. Admins can manage those resources and data, and administer users' permissions.

Key facts:

- An environment is tied to a geographic location
- There are 7 types of environments
- Every tenant has a default environment

Type of Environments

1. Default
2. Production
3. Sandbox
4. Trial
5. Developer
6. Microsoft Teams
7. Support

A screenshot of a software filter menu. The menu is titled "Type" and has a mouse cursor pointing to it. Below the title, there are two sections: "Sort order" with options "Ascending" and "Descending", and "Filter by column value" with a list of checkboxes for "Default", "Developer", "Microsoft Teams", "Production", and "Sandbox". At the bottom of the menu, there is a "Clear all filters" link and two buttons: "Apply" (in a purple box) and "Cancel" (in a white box with a grey border).



Demo

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Interesting features

- Virtual tables with CRUD support
- Microsoft Dataverse connectors
- Solutions (ALM)
- Dataverse for developers
- Integrations with Dynamics 365, Microsoft 365 and Azure




Microsoft Dataverse connectors














- Power Automate flow
- Power Apps canvas app
- Excel add-in
- TDS endpoint
- Power BI
 - TDS protocol
- Business Central



Microsoft Dataverse connector

in Power Automate flow

Triggers	Actions
 When a flow step is run from a business process flow PREMIUM Microsoft Dataverse	
 When a row is added, modified or deleted PREMIUM Microsoft Dataverse	
 When an action is performed PREMIUM Microsoft Dataverse	

Triggers	Actions
 Add a new row PREMIUM Microsoft Dataverse	 Perform an unbound action PREMIUM Microsoft Dataverse
 Delete a row PREMIUM Microsoft Dataverse	 Relate rows PREMIUM Microsoft Dataverse
 Download a file or an image PREMIUM Microsoft Dataverse	 Search rows (preview) PREMIUM Microsoft Dataverse
 Get a row by ID PREMIUM Microsoft Dataverse	 Unrelate rows PREMIUM Microsoft Dataverse
 List rows PREMIUM Microsoft Dataverse	 Update a row PREMIUM Microsoft Dataverse
 Perform a bound action PREMIUM Microsoft Dataverse	 Upload a file or an image PREMIUM Microsoft Dataverse
	 Perform a changeset request PREMIUM Microsoft Dataverse

Solutions (ALM)

Fundamentals: Solutions



SOLUTIONS ARE USED TO PACKAGE AND MAINTAIN COMPONENTS THAT MAKE UP ONE OR MORE POWERAPPS



SOLUTIONS ARE CREATED AND AUTHORED BY A PUBLISHER

Solution 

<p>Data Model </p> <ul style="list-style-type: none"> Entities Attributes Forms Views Charts Relationships Global Option Sets 	<p>User Interface </p> <ul style="list-style-type: none"> Model Apps Canvas Apps Web Resources PCF Controls Dashboards Sitemap Dialogs
<p>Process/Code </p> <ul style="list-style-type: none"> Assemblies Custom Activities Plug-ins Workflow Definitions Flows Workflow Business Process Rules 	<p>Other </p> <ul style="list-style-type: none"> Reports Templates Security Roles FLS Profiles System Settings (transport only) Virtual Entities App Modules










Dataverse for developers

- Web API
- Webhooks
- Plugins
- Azure Service Bus
- Azure Event Hub
- Source control, release pipelines








Dataverse | Hidden Treasures

When talking about Dataverse as part of Power Platform, many just think about the data services

-  **Environment Lifecycle:** Update management (release waves, early access, maintenance window)
-  **Environment Lifecycle:** Reset, Copy, Backup, Point-in-time Restore and Disaster Recovery
-  **Integration:** Azure Synapse Link for Dataverse, API-based (REST), T-SQL-based, OData-based, Dataflows
-  **Security:** Role-based access control with pre-configured, customizable security roles
-  **Security:** Environment Encryption Key (customer managed)
-  **Developer velocity:** Solution Management with either unmanaged or managed layers, Developer profiles
-  **Compliance:** Auditing that can be configured and activated for tables and fields

Dataverse | Hidden Treasures (continued)

When talking about Dataverse as part of Power Platform, many just think about the data services

-  **Environment Lifecycle:** Feature management (AI Builder, Geospatial services, Collaboration & more)
-  **Multi-user:** Language Settings, Currency Management (incl. Base currency)
-  **Integration:** E-Mail Server Profile Management, Mailbox Management, E-Mail Tracking, Attachment blocking
-  **Security:** Automatic role assignment based on License to role mapping
-  **Security:** Mobile offline profile management
-  **Integration:** Document Management (SharePoint, OneDrive for Business), Yammer
-  **Cost Management:** Billing policies & Azure subscription link for Pay-as-you-go

What's in it for us?

What's in it for us, Dynamics 365 ERP people?

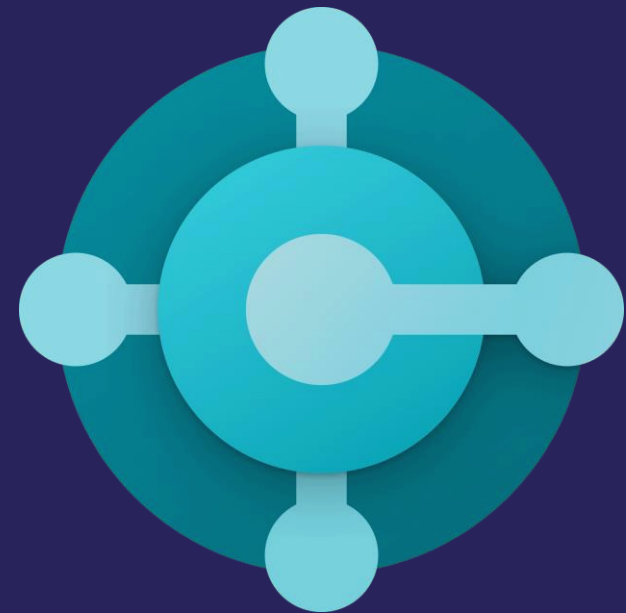
- Business Central
- Finance and Operations



What's in it for Business Central?



- Central CRM | master data in Dataverse
- Power Pages | Power Apps portals
- Virtual tables
- App development





What's in it for Business Central?

Central CRM | master data in Dataverse, using sync



CRM



Business Central



Business Central



Business Central

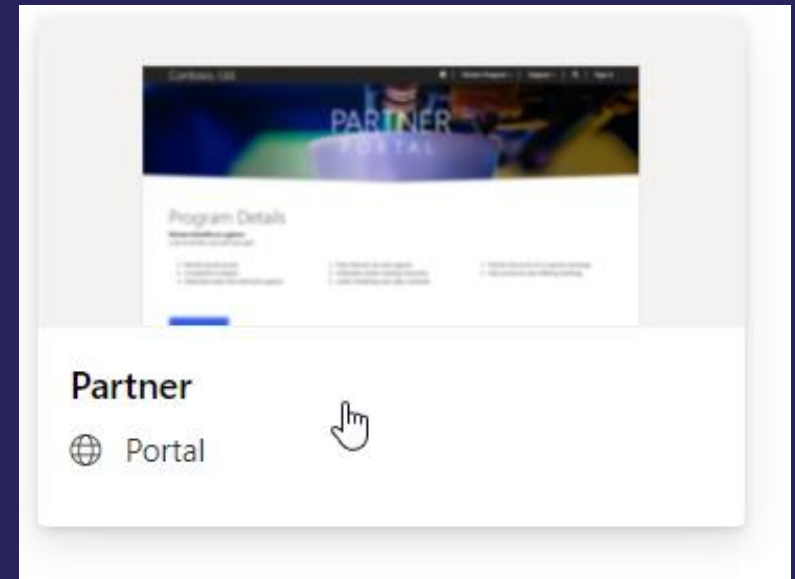
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What's in it for Business Central?



Power Pages | Power Apps portals

- Expose data from BC via
 - Synchronization
 - Virtual tables
(not supported in current preview)
 - Dataflows



What's in it for Business Central?



Accelerate app development

- More focus on the UX design rather than the data integration
- Security trimmed and dynamic views from Microsoft Dataverse make authorization logic in the app redundant
- Data consolidation and preparation in Microsoft Dataverse based on a simplified data model
- Less complex/simpler, it takes less development time and app is easier to maintain



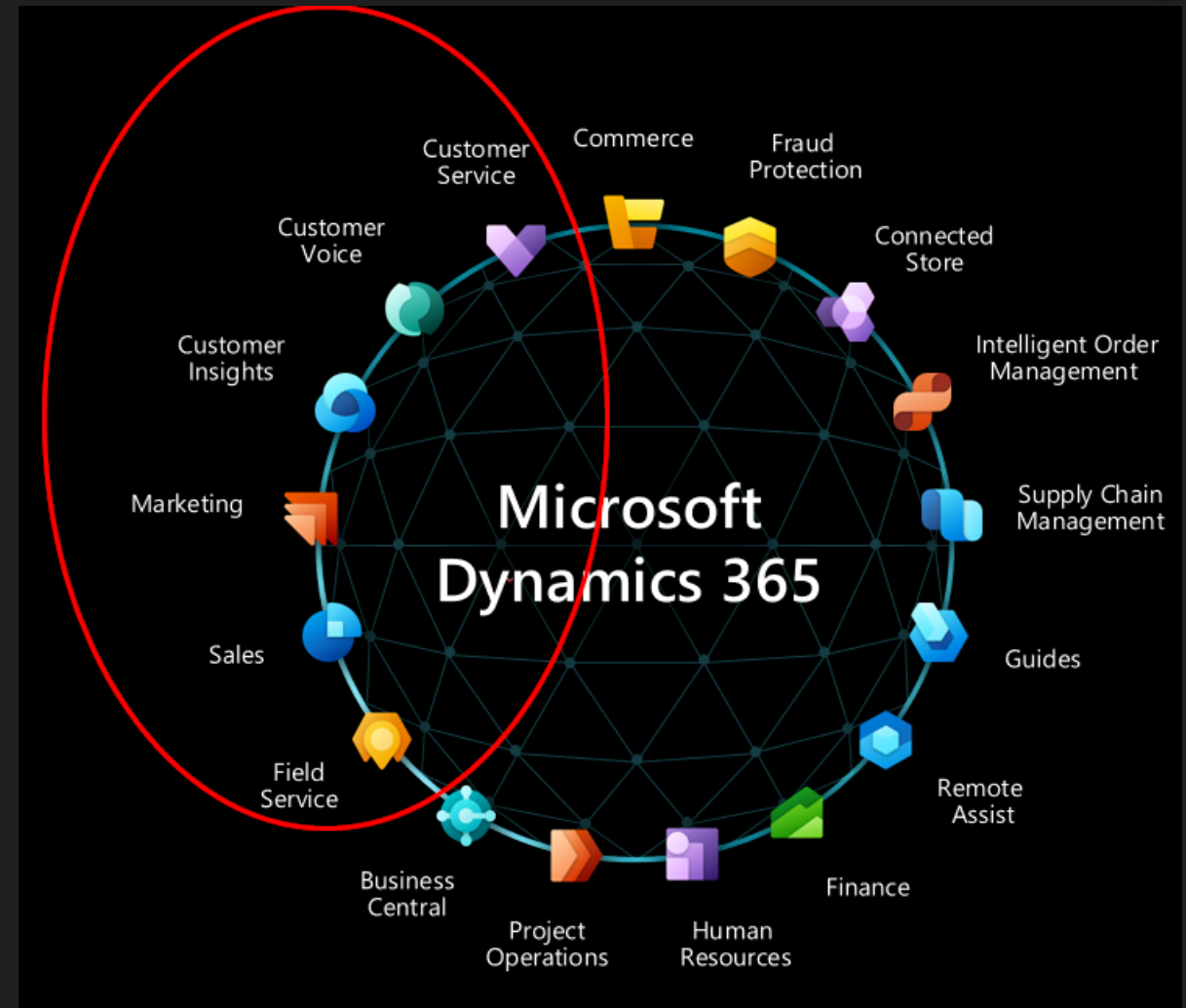
What's in it for Finance and Operations?

- Integration with the Dynamics 365 apps that use Microsoft Dataverse (dual-write, virtual tables)
- Power Pages | Power Apps portals
- App development



What's in it for Finance and Operations?

Integration with the Dynamics 365 apps that use Microsoft Dataverse (dual-write framework, virtual tables)




What's in it for Finance and Operations?



Power Pages | Power Apps portals

Customer portal



Dynamics 365
Supply Chain Management

Customer portal creates a self-service website where your customers can place orders, review order history, manage contacts and other information from Dynamics 365 Supply Chain Management. [Learn more](#)

Portal

Before you can provision the customer portal, you must first install [dual-write solutions](#). See the [dual-write documentation](#) for details.

Name *

Address * ⓘ

Language

English

By clicking on Create, you agree to the [Terms and Conditions](#) and the [Terms of Service](#).

[Privacy and Cookies](#)

Create Cancel



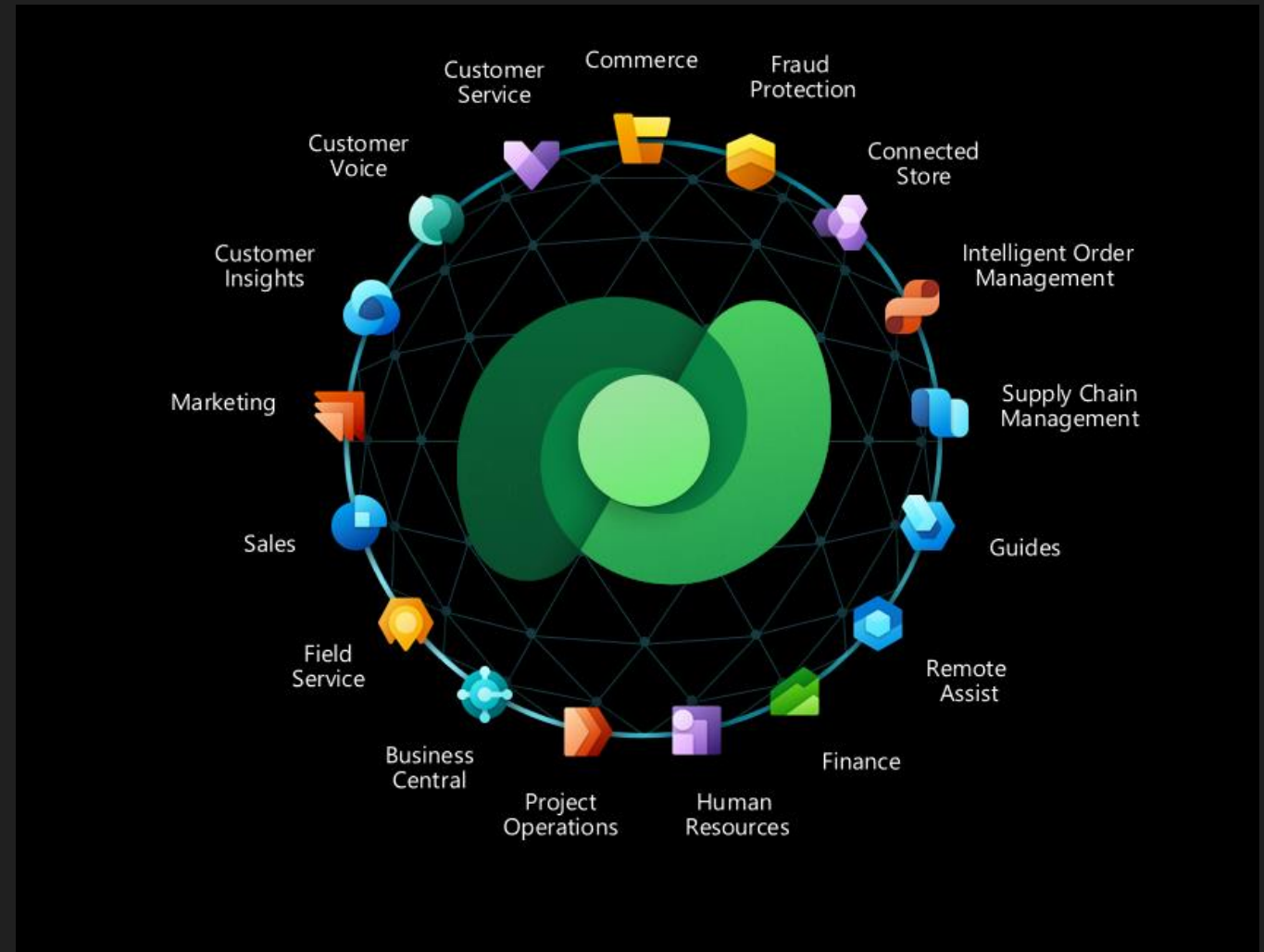
What's in it for Finance and Operations?

(Mobile) App development

- The Microsoft Finance and Operations (Dynamics 365) mobile app, the associated mobile platform, and related mobile workspaces are deprecated effective June 2022.
- New mobile Finance and Operations experiences should be built in Power Apps, using virtual tables from Microsoft Power Platform to access Finance and Operations data.

What's in it for us?

Microsoft Dataverse is at the center of an integrated Dynamics 365 business applications platform





Microsoft Dataverse: Future

- How to start?
- Licensing
- What's next?



Microsoft Dataverse: How to start?



- Power Apps [Developer Plan](#)
 - Build and test Power Apps for free
- Power Apps per user plan [trial](#)





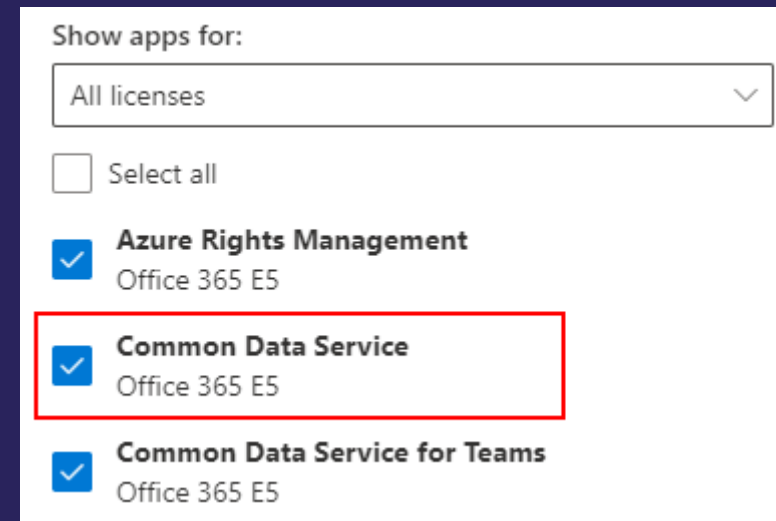
Microsoft Dataverse: Licensing

- Dataverse capabilities with Microsoft 365 licenses
- Default capacity per tenant
- Standalone Power Apps licensing
- Pay-as-you-go plan (Azure subscription)
- Standalone Power Automate licensing
- Capacity add-on per 1 GB

Microsoft Dataverse: Licensing

Dataverse capabilities with Microsoft 365 licenses

- Limited Dataverse functionality is added to select Microsoft 365 licenses
- This is achieved by adding a new service plan named “Dataverse” to the Microsoft 365 licenses

A screenshot of the Microsoft 365 license selection interface. It shows a dropdown menu for "Show apps for:" set to "All licenses". Below this, there are three service plans listed, each with a checked checkbox and the text "Office 365 E5". The "Common Data Service" service plan is highlighted with a red rectangular box.

Service Plan	License Type
<input type="checkbox"/> Select all	
<input checked="" type="checkbox"/> Azure Rights Management	Office 365 E5
<input checked="" type="checkbox"/> Common Data Service	Office 365 E5
<input checked="" type="checkbox"/> Common Data Service for Teams	Office 365 E5

Microsoft Dataverse



“The capacity, stupid”



James Contoso

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Microsoft Dataverse: Licensing

Default capacity per tenant

- Every tenant with a Power Apps, Power Automate or Power Virtual Agents license receives default capacity
- Buy at least 1 Power Apps per user plan to unlock the default capacity

Power Apps Default Capacity per tenant	Default per user	Default per app	Accrued per user	Accrued per app
Dataverse Database capacity	10GB	5GB	250MB	50MB
Dataverse File capacity	20GB	20GB	2GB	400MB
Dataverse Log capacity	2GB	2GB	-	-



Power Apps Licensing

Microsoft 365	Per app plan	Per user plan	Pay-as-you-go
Seeded	€4,20 £3.80 /month	€16,90 £15.10	€8,43 £7.45 /month
per user/month	per user/app	per user/month	per active user/app
n/a	50 MB db cap	250 MB db cap	1 GB db cap/env
n/a	400 MB file cap	2 GB file cap	1 GB file cap/env



Power Apps licensing

Triage between the licensing options to fit your company's and app purposes

Plans and capabilities		Office 365	Per App	Per User	PAYGO
Run custom apps / portals	Run custom apps (canvas)	Unlimited	1 or	Unlimited	1 or
	Run custom apps (model-driven)	-	1 or	Unlimited	1 or
	Access custom portals	-	1	Unlimited	1 ⁶
Connect to your data	Standard connectors	•	•	•	•
	Premium and custom connectors	- ⁵	•	•	•
	On premises data gateway	-	•	•	•
Store and manage data	Utilize Dataverse (formerly Common Data Service)	-	•	•	•
	Utilize Dataverse for Teams (use for apps in Teams only) ^{a,b,c}	Select Office 365 licenses	•	•	•
	Create and access custom tables (includes complex tables)	-	•	•	•
	Dynamics 365 restricted tables access ¹	-	Read only	Read only	-
Execute workflows	Automated, instant, and scheduled flows ²	•	Within app context	Within app context	Within app context
	Business process flows	-			
Entitlement	Dataverse Database Capacity ³	-	50 MB	250 MB	1,000 MB ⁷
	Dataverse File capacity ³	-	400 MB	2,000 MB	1,000 MB ⁷
Infuse AI	AI Builder service credits ⁴	-	250 credits	500 credits	-

Microsoft Dataverse: What's next?



2022 release wave 1 plan

- Microsoft Dataverse
- Business Central
- Finance and Operations



What's in 2022 release wave 1 plan



Microsoft Dataverse

- Data archival

Business Central

- Dataverse data change events on virtual tables

Finance and Operations

- One Azure Synapse experience for all Dynamics 365 data

Tip XrmToolBox

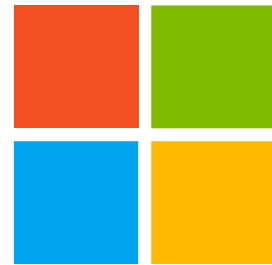
- The ultimate set of tools for Microsoft Dataverse
- [XrmToolBox](#) is a Windows application that connects to Microsoft Dataverse





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Data Quality



Event Lunch



Accessibility



Data Analytics





Q & A

Any questions?



“Thank you”

Dataverse – Feedback from our community



- We can model data fast
- Reliable data storage facility
- If you're coming from a "data background", relatively easy to familiarize with
- No need for professional code to start with
- No need for huge technical expertise to start with



- ...but it causes our company to invest in licensing → **costs**
- ...but we heard about our scenario might be "multiplexing" → **fear**
- ...but we need something enterprise-ready for large volumes of data → **myth**
- ...using it, we would build a "monster database" and we already struggled with "big-data projects" in the past → **map to negative experience**
- ...full understanding all capabilities takes time → **readiness**