



19TH JANUARY 2019

# DYNAMICS POWER! LONDON 365

BRITISH ANNUAL BUSINESS  
APPLICATIONS TECHNICAL  
CONFERENCE, 365 SATURDAY



# 365 Saturday

Solving the Challenges of CRM, ERP and Digital Transformation

## Demystifying Dynamics 365 & Power Platform Licensing

Jukka Niiranen



CognitiveGroup  
Microsoft Talent Solutions

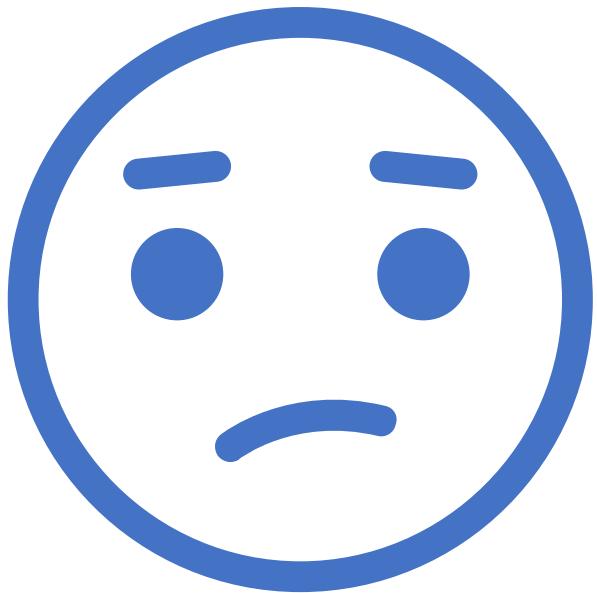
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Technology on the move

**POWER  
OBJECTS**  
An HCL Technologies Company



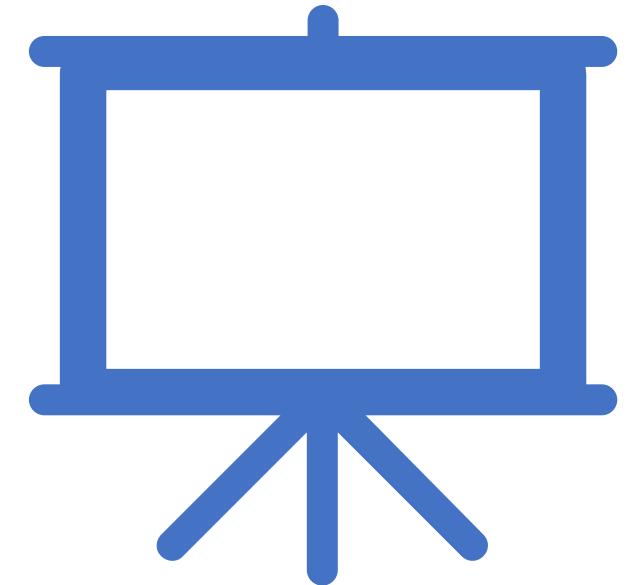
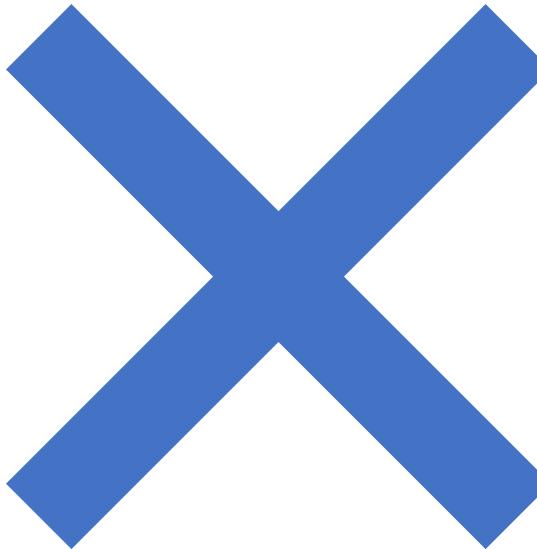
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Sorry, but...

there aren't any  
demos in this session.



Only slides.

# Agenda

- Licensing: why it matters & why it may seem complicated
- Essential information sources
- Dynamics 365 licensing: recent updates
- Power Platform vs. Dynamics 365
- A few gotchas



## About me

- Jukka Niiranen
- From Helsinki, Finland
- Dynamics 365 Tech Lead at Elisa (Finland's largest telco)
- Microsoft MVP since 2013
- Blogging at [survivingcrm.com](http://survivingcrm.com)
- Tweeting at @jukkan
- Working on the Microsoft Power Platform since 2005 ☺

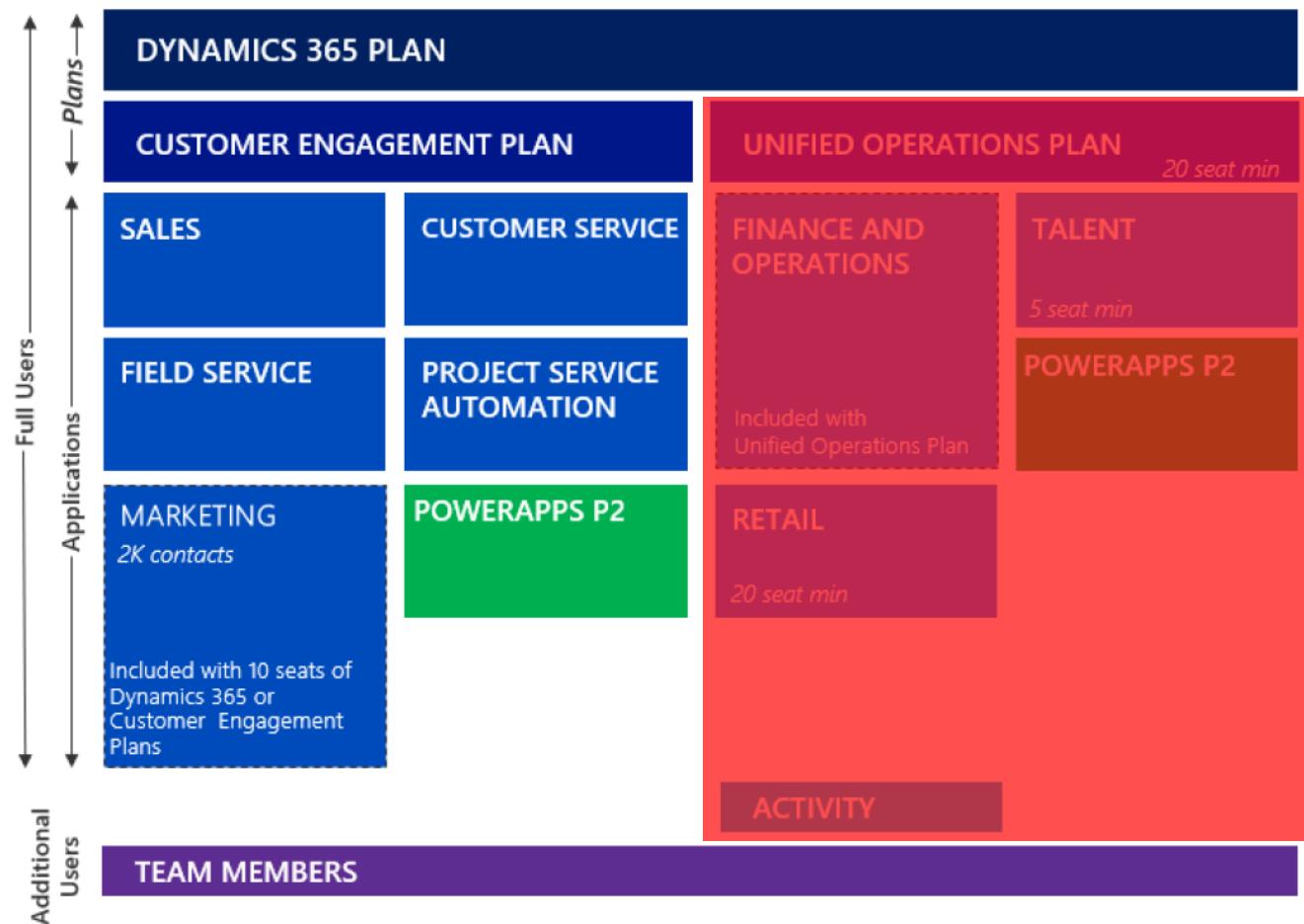
# Disclaimer: IANAL

- I Am Not A Licensing expert
- Everything in this presentation is based on:
  - Publicly available licensing documentation from Microsoft
  - My interpretation of them
- If I'm wrong, it's your problem
  - *"Additional charges may apply"*



# Disclaimer 2: I'm an XRM guy

- Customer Engagement, PowerApps, Flow, CDS are my domain
- Even Power BI would be a bit of a stretch
- Any questions specific to Finance & Operations, Talent, Retail, Business Central will be answered with a blank stare



# Lack of licensing awareness can lead to:

## Unrealistic designs

- Designing a beautiful solution, then realizing it would cost far too much in license fees for the organization to use

## Underutilized tools

- Paying for each application separately instead of using a common platform across the organization

## Limited access

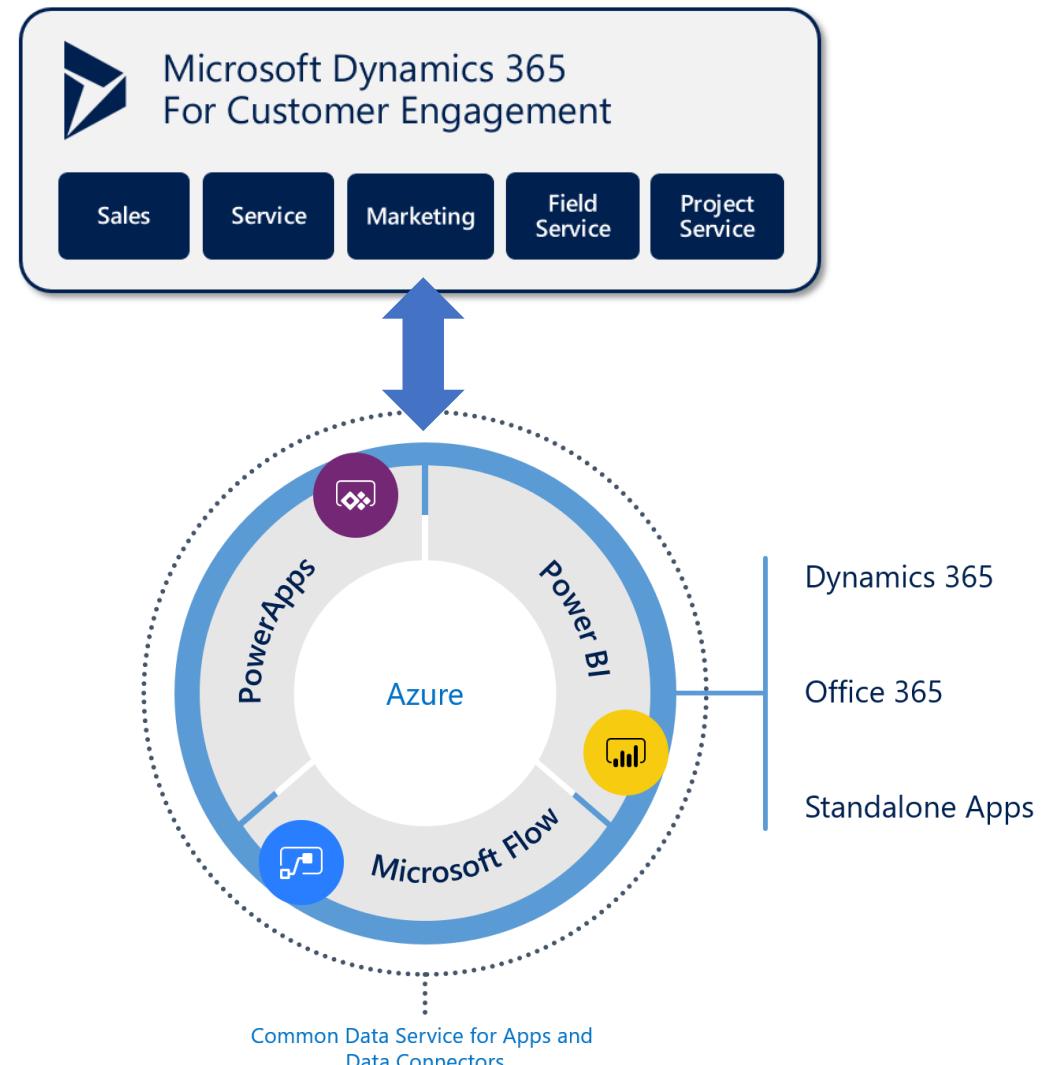
- Users may not be given access to required information if licenses are treated as scarce resource in the organization

# To understand Dynamics 365 licensing today, you need to know these concepts:

App	Plan	Enterprise	Professional	Team Member	Marketing contacts
AI App	Instances/ environments	Storage	Portals	External users	Model-driven PowerApps
Canvas PowerApps	Flow runs	Connectors	Business logic	Custom entities	App modules

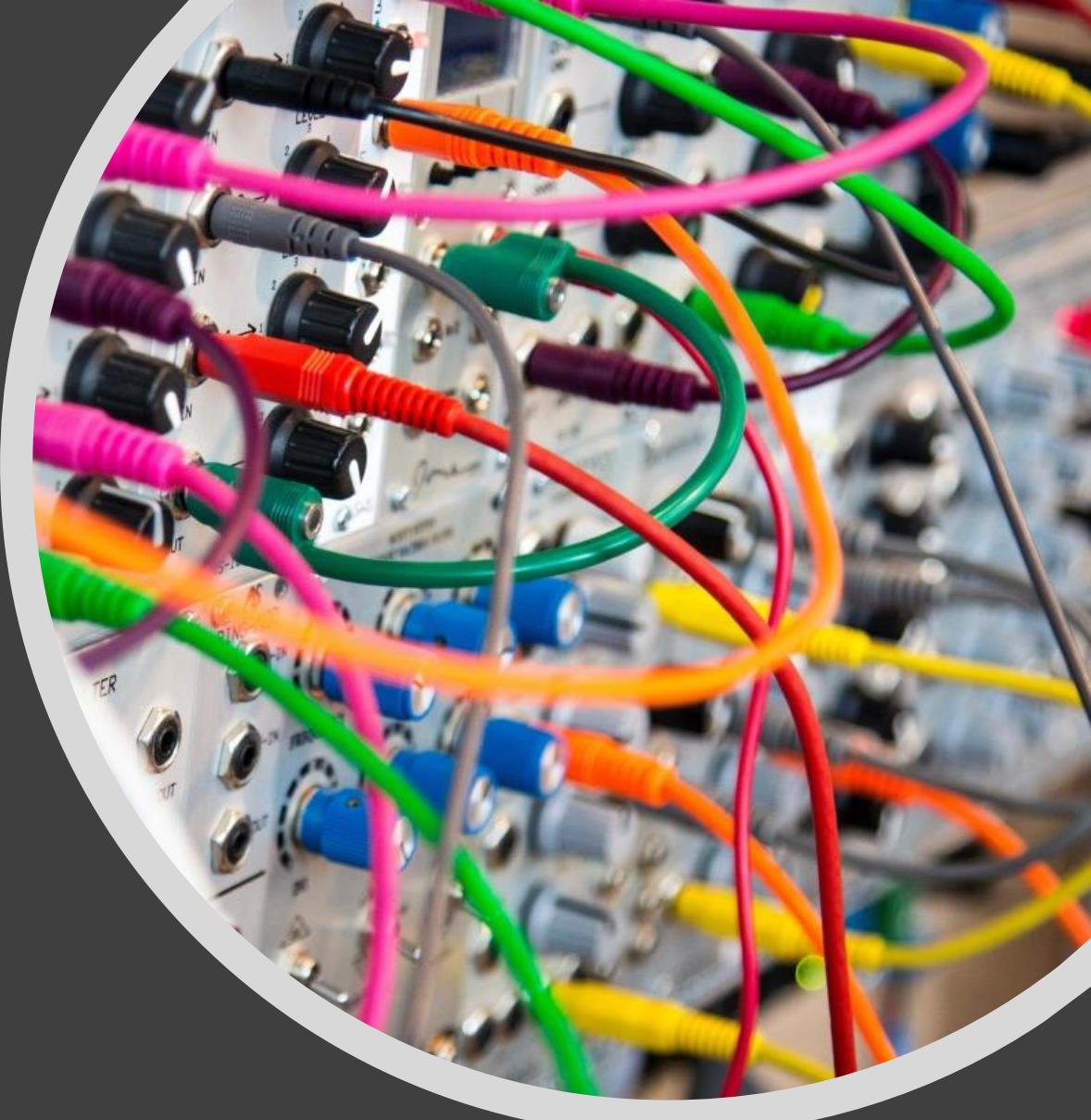
# Bigger platform = more licensing options

- Former XRM now offered as an actual application platform product
- Power Platform now powering all Dynamics 365 app customization
- Office 365 ecosystem linked with business apps beyond OoB features
- Connectors moving business data across 200+ other apps (with their respective license models)

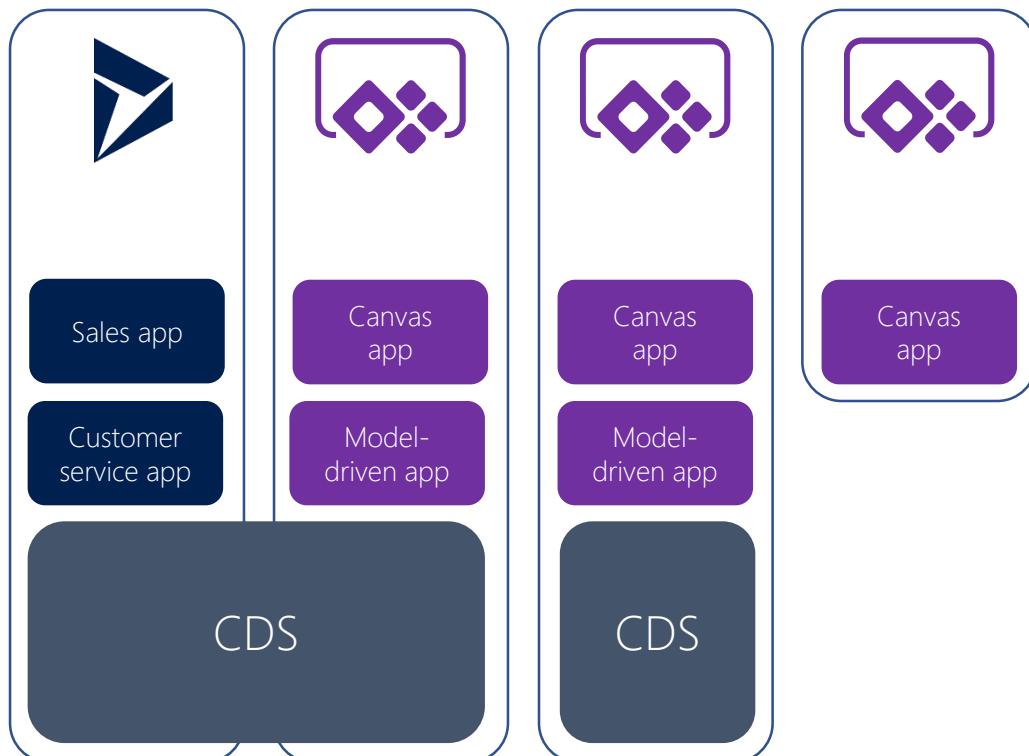


# Sources of complexity

- There is no single Power Platform SKU
- Access to PowerApps & Flow can be acquired through multiple different license types
- The same CDS database can be used with multiple different licenses
- App license requirements are based on features used and app complexity



# When enterprise meets citizen developers



- Different roles for different apps:
  - Dynamics 365: common business processes across the enterprise
  - PowerApps: tools for teams and small groups to better organize their work
- PowerApps can reside in shared CDS with Dynamics 365, in separate CDS, outside CDS completely (canvas apps)
- PowerApps was designed for viral adoption, Dynamics 365 for centralized planning and control
- License & admin design for these 2 ends of the spectrum can be interesting...

# Ways to get PowerApps & Flow licenses

## Office 365 bundle

- Limited PowerApps & Flow capabilities is included in Office 365 plans
- Intended for extending capabilities of Office 365 services

## Dynamics 365 bundle

- Enterprise Plans & Apps include full PowerApps P2 features
- Limited PowerApps & Flow capabilities in other Dynamics 365 licenses

## Dedicated license

- PowerApps P1/P2 including Flow
- Flow P1/P2 separately
- Power BI isn't bundled with any other product

# Microsoft 365 admin center: business apps licenses available for (direct) purchase

## Business apps

Boost employee productivity with apps that power your organization. Build apps, automate processes and tasks, plan and track your projects, and create diagrams, organization charts, maps, and workflows - all to support your business.

### Project Online Essentials

Collaborate on projects online, view and manage tasks, submit timesheets, and flag issues or risks.

Starting at  
€5.90 user/month

### Project Online Premium

A flexible solution for project portfolio management and everyday work. Includes the Project

Starting at  
€46.40 user/month

### Visio Online Plan 2

Makes it easier than ever for individuals and teams to create data-linked diagrams that simplify

Starting at  
€12.60 user/month

### Visio Online Plan 1

A lightweight web-based diagramming solution that gives users an opportunity to create,

Starting at  
€5.10 user/month

### Microsoft Stream Plan 1

Stream enables anyone to upload and share videos across their organization to improve

Starting at  
€2.50 user/month

### Microsoft PowerApps Plan 1

Create, share, and run business apps and workflows for cloud and on-premises data or the Microsoft

Starting at  
€5.90 user/month

### Microsoft Flow Plan 2

Create and collaborate on automated workflows for cloud and on-premises data. Includes

Starting at  
€12.70 user/month

### Microsoft Flow Plan 1

Create and collaborate on automated workflows for cloud and on-premises data with a

Starting at  
€4.20 user/month

### Project Online Essentials (Month to Month)

Collaborate on projects online, view and manage tasks, submit timesheets, and flag issues or risks.

Starting at  
€7.60 user/month

### Project Online Professional

A complete online project management solution to help keep your projects, resources, and teams

Starting at  
€25.30 user/month

### Microsoft Stream Plan 2

### Microsoft PowerApps Plan 2

### Visio Online Plan 1

### Visio Online Plan 2

# Dynamics 365 subscriptions: plans, apps, support, trials...



## Dynamics 365

Unify CRM and ERP capabilities and break down data silos with Dynamics 365 - modern, intelligent cloud applications that help move your business forward. End-to-end applications for Sales, Service, Finance and Operations, Talent, and Marketing that work great on their own and even better together.

Dynamics 365 Remote Assist	Dynamics 365 for Marketing	Dynamics 365 for Customer Service Professional	Pro Direct Support for Microsoft Dynamics 365 Applications And Plan 1	Dynamics 365 for Talent: Attract and Onboard
This subscription enables businesses to use Dynamics 365 Remote Assist to solve problems  Starting at €54.80 user/month	Subscription that includes Dynamics 365 for Marketing  Starting at €1,264.90 addon/month	User subscription that includes Dynamics 365 for Customer Service Professional  Starting at €42.20 user/month	Professional Direct paid support offering for Microsoft Dynamics 365 which includes 24x7 support,  Starting at €7.60 user/month	User subscription that includes Dynamics 365 for Talent: Attract and Onboard  Starting at €10.10 user/month

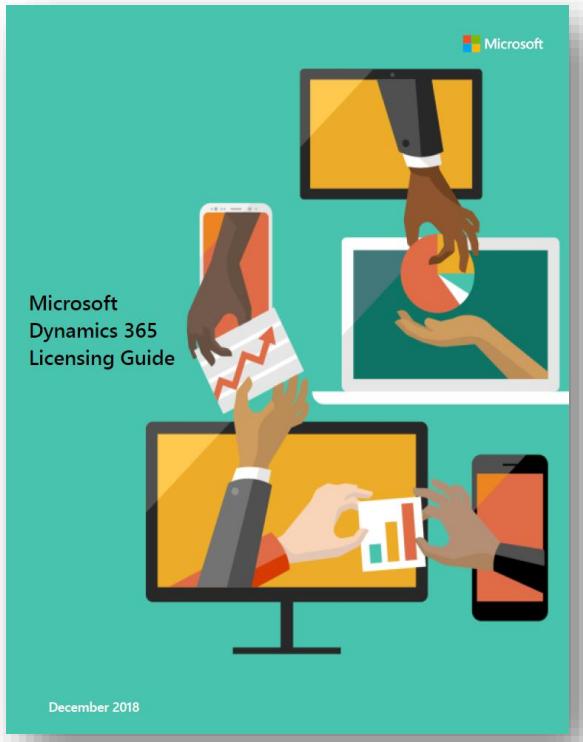
Dynamics 365 Remote Assist (Month to Month)	Dynamics 365 for Field Service	Dynamics 365 Customer Engagement Plan	Dynamics 365 Layout	Dynamics 365 AI for Sales
This subscription enables businesses to use Dynamics 365 Remote Assist to solve problems  Starting at €65.80 user/month	User subscription that includes Dynamics 365 for Field Service, Enterprise edition.  Starting at €80.10 user/month	User subscription that includes Dynamics 365 for Sales, Customer Service, Field Service, Project  Starting at €97.00 user/month	This subscription enables businesses to use Dynamics 365 Layout and its companion import  Starting at €80.10 user/month	User subscription that includes Dynamics 365 AI for Sales  Starting at €42.20 user/month

Dynamics 365 for Customer Service Enterprise	Dynamics 365 for Talent: Attract	Dynamics 365 for Customer Service Enterprise Device	Dynamics 365 for Talent Trial	Enhanced Support for Microsoft Dynamics 365
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# Different ways how Microsoft teams communicate their licensing model

## Dynamics 365

- A single, public facing Licensing Guide PDF document



## PowerApps

- Marketing and documentation pages here & there...

The image displays three screenshots of the Microsoft PowerApps website. The top screenshot shows a marketing page titled "Choose the right plans for your team" comparing four plans: PowerApps for Office 365, PowerApps Plan 1, PowerApps Plan 2, and PowerApps for Dynamics 365. The middle screenshot shows a "Licensing overview" article page with sections on Administer PowerApps, Pricing, Licenses, and PowerApps includes Flow. The bottom screenshot shows a "License requirements for entities" article page with sections on Entities with complex business logic, Restricted entities requiring Dynamics 365 licenses, and Create a Power BI report.



Search or jump to...

Pull requests Issues Marketplace Explore

MicrosoftDocs / powerapps-docs

Code

Issues 42

Pull requests 2

Projects 0

Wiki

Insights

History for powerapps-docs / powerapps-docs / administrator / pricing-billing-skus.md

Commits on Nov 13, 2018

Education license update

 jimholtz committed on Nov 13, 2018

Commits on Sep 12, 2018

PR 770 updated date

 jimholtz committed on Sep 12, 2018

Commits on Sep 11, 2018

Removing the data storage limit for CDS 

 MicroSri committed on Sep 11, 2018

There is no such limit of 10GB per CDS database, hence it makes sense to remove it.

PowerApps: you can see licensing document change log in the GitHub repo for MS Docs + add issues for comments



Search or jump to...

Pull requests Issues Marketplace Explore

MicrosoftDocs / powerapps-docs

Watch 57

Star 25

Fork 74

Code

Issues 42

Pull requests 2

Projects 0

Wiki

Insights

## Storage Capacity Information Missing #70

 Open jemsjose opened this issue on Oct 1, 2018 — with docs.microsoft.com · 0 comments



jemsjose commented on Oct 1, 2018 — with docs.microsoft.com

+ ...

The "PowerApps pricing page" refers to this page for Storage Capacity Information and this page refers back. So currently it is a bit hard to get those details. The additional storage cost details are equally hard to find. For Enterprises, this information is key for adoption.

### Document Details

 Do not edit this section. It is required for docs.microsoft.com → GitHub issue linking.

- ID: 243af97b-f47b-f3dd-dcf6-701f4d364831
- Version Independent ID: 8934d558-7c51-d5ee-597b-d986e84d683c
- Content: [Licensing overview - PowerApps](#)
- Content Source: [powerapps-docs/administrator/pricing-billing-skus.md](#)
- Service: [powerapps](#)
- GitHub Login: [@jamesol-msft](#)
- Microsoft Alias: [jamesol](#)



5



bishalgoswami assigned [jamesol-msft](#) on Oct 1, 2018

### Assignees

 jamesol-msft

### Labels

01admin

assigned-to-author

### Projects

1 closed project (show)

### Milestone

No milestone

### Notifications



You're receiving notifications because you're subscribed to this thread.

### 4 participants



<https://github.com/MicrosoftDocs/powerapps-docs/blob/live/powerapps-docs/administrator/pricing-billing-skus.md>



# What's new in this licensing guide

This licensing guide was updated to reflect licensing updates and new online service offerings as of November 2018.

## Appendix I: Change Log

Dynamics 365	Description	Change Summary
Customer Engagement	Dynamics 365 Team Members	<ul style="list-style-type: none"> <li>Realign the "light tasks" use rights intended for the Team Members license</li> <li>Maintain "read only" access across Dynamics 365 for knowledge sharing</li> <li>Limit use of custom entities, as part of the designated light weight team member experience</li> </ul>
	Dynamics 365 for Marketing contacts	<ul style="list-style-type: none"> <li>Redefined contacts as those only used for a marketing activity</li> <li>Introduce Additional Contact tiers for customers who need more than one contact</li> </ul>
	Microsoft Relationship Sales solution	<ul style="list-style-type: none"> <li>Introduce two new Microsoft Relationship Sales solution (Microsoft Relationship Sales solution Plus and Microsoft Relationship Sales solution)</li> <li>Retire existing Microsoft Relationship Sales solution promotional offer</li> </ul>
	Dynamics 365 for Customer Service Professional	<ul style="list-style-type: none"> <li>Introduce new SKU to deliver core customer support functionality</li> <li>Align to Dynamics 365 professional SKUs licensing terms</li> </ul>
	Portal	<ul style="list-style-type: none"> <li>Access to the first included portal now requires the purchase of a minimum of 10 Full User licenses</li> </ul>
	AI for Sales	<ul style="list-style-type: none"> <li>Introduce new SKU for customers licensed with Dynamics 365 Customer Service Professional to purchase</li> </ul>
Unified Operations	Dynamics 365 Unified Operations - Order Lines	<ul style="list-style-type: none"> <li>Introduce new SKU providing indirect access to partners, customers, IoT devices, and bots</li> <li>Allow indirect access on an 'order line' basis rather than on an 'order' basis</li> <li>Alleviate pricing and licensing friction in many common manufacturing scenarios</li> </ul>
	Dynamics 365 Talent comprehensive hiring	<ul style="list-style-type: none"> <li>Introduce new SKU enabling new capabilities for recruiters, within the Attract module</li> <li>Offers tiered pricing based on employee count</li> </ul>

Page	Topic	Change	Action	Date
30	Appendix A	Added	Team Members Use Rights Overview by Plan	December 2018
31-35	Appendix B	Updated	Customer Engagement Plan Applications Use Rights	December 2018
50	Appendix G	Added	Licensing Channels and Segments Availability	December 2018
17	Marketing Contacts	Added	Customers will only be charged for Contacts that are engaged in marketing activities using the D365 for Marketing application OR capabilities delivered as part of the application.	December 2018
16	Marketing Additional Application	Corrected	Move to Add-on section as this application is an add-on	December 2018
49	Additional File Storage	Corrected	Unified Operations File Storage is available in increments of 10GB not 1GB	December 2018
Various	Cosmetic/Branding	Corrected	Throughout the document	December 2018
15	AI for Sales	New	Added to Dynamics 365 for Sales	November 2018
Various	Restructure	New	Reformatted licensing guide	November 2018
45 & 46	Order Lines	Updates	<ul style="list-style-type: none"> <li>Order line licensing eligibility</li> <li>Clarified language for Retail and Manufacturing</li> </ul>	November 2018
9, 10 & Appendix B	Team Members	Updates	<ul style="list-style-type: none"> <li>Realign the "light tasks" use rights intended for the Team Members license</li> <li>Maintain "read only" access across Dynamics 365 for knowledge sharing</li> <li>Limit use of custom entities, as part of the designated light weight team member experience</li> </ul>	October 2018
48, 49	Marketing contacts	New	Additional Contacts Tier Packs	October 2018
20, 21	Microsoft Relationship Sales solution	New	New Offerings	October 2018
14, 15, 16	Customer Service Professional	New	New Offering	October 2018
25	Portal	Update	1st included portal requires the purchase of a minimum of 10 Full User licenses of Dynamics 365 Customer Engagement Plan, Dynamics 365 Customer Engagement applications	October 2018
49, 50	Order Lines	New	New Offering	October 2018
50, 51	Talent comprehensive hiring	New	New Offering	October 2018

Dynamics 365: you can find a What's New summary page + change log in the Licensing Guide PDF document

# Microsoft Licensing Guides archive available via Licensing School

- <https://bitly.com/MSLicensingGuides>
- Archive of Microsoft's licensing documents for various product lines
- The Dynamics category alone includes 50+ documents for you to enjoy!

## Microsoft Licensing Guides

Microsoft produce some great Licensing Guides, but they are not always easy to find. So we've gathered them all together in one place – how delicious! If you find a guide that we should include here, then let us know at [info@licensingschool.co.uk](mailto:info@licensingschool.co.uk).

+ Application Servers

+ Core Infrastructure

+ Desktop

+ Developer Tools

- Dynamics

### Microsoft Dynamics 365

[Dynamics 365 Licensing Guide – December 2018](#)

[Team Members Grandfathering – December 2018](#)

[Dynamics 365 Licensing Guide – November 2018](#)

[Dynamics 365 Licensing Guide – October 2018](#)

[Dynamics 365 Licensing Guide – July 2018](#)

[Dynamics 365 Licensing Guide – June 2018](#)

[Dynamics 365 Licensing Guide – May 2018 v2](#)

[Dynamics 365 Licensing Guide – May 2018 v1](#)

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# Recent changes in Dynamics 365 licensing

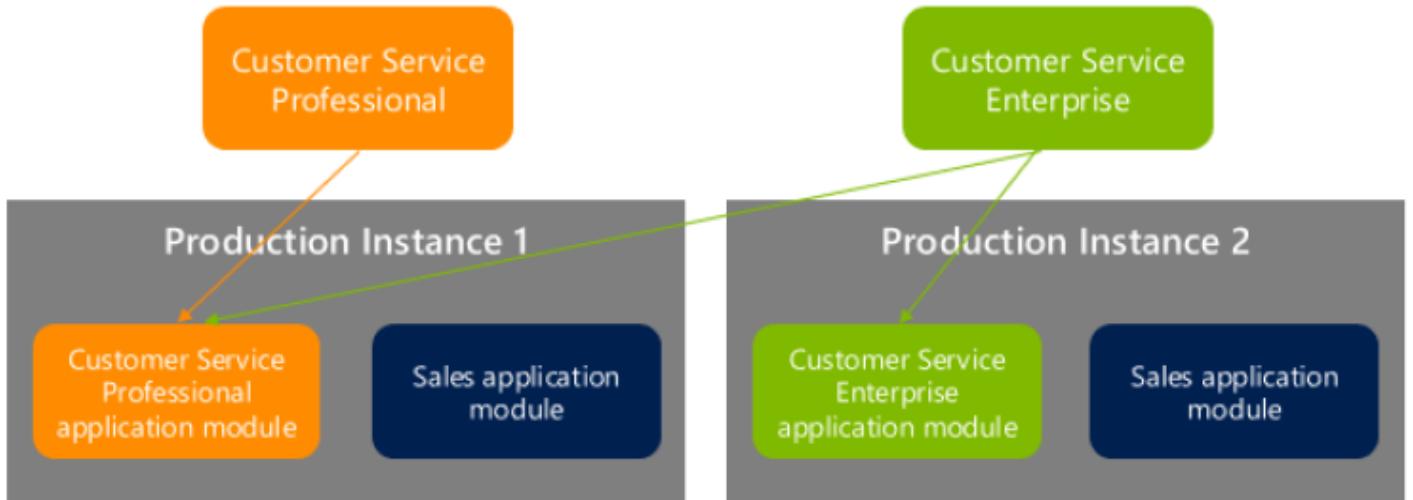


# Dynamics 365 Professional vs. Enterprise

- 2 different tiers available for Sales & Customer Service apps
  - Sales: Enterprise €80.10, Professional €54.80
  - Service: Enterprise €80.10, Professional €42.20
- Specific Enterprise features excluded from Professional apps
- Restrictions on customization capabilities
  - Currently: max 15 custom entities
  - Previous restrictions no longer found in Licensing Guide:
    - Max 5 Business Process Flows
    - Max 15 custom workflows
    - Max 10 3<sup>rd</sup> party application installs
    - Max 2 forms per entity

# Instances & App Modules

- Sales Pro & CS Pro are instance specific app modules
- Enterprise licensed users may access these instances via these apps, but Professional users can't access other apps or instances
- App module can be extended with up to 15 custom entities
- However, these entities should be "within the context of the app module"



# Enterprise features not in Professional apps

1 non-production instance	1 Portal instance	(Social Engagement)	Voice of the Customer	Unified Service Desk	Gamification
PowerApps P2	Mail Merge, Word Templates	Export to Excel	Activity Feeds	Embedded Intelligence	Connections
Advanced Find	Goals, Sales literature, Territories	Admin of SLA, KB, contracts, resources	Activity to Case/Lead to Opportunity		

A photograph showing a group of diverse business people from the waist down, all wearing white shirts. They are holding hands in a circular pattern, symbolizing teamwork and unity. A silver-toned wristwatch is visible on the left wrist. The background is a plain, light-colored wall.

Let's talk about  
Team Members

# The challenge with the old licensing terms

- Up until Spring 2018, there was no formal way to license Dynamics 365 CE as just a platform without any 1<sup>st</sup> party apps from MS
- Team Member license had limitations on what 1<sup>st</sup> party app entities & features you could access
  - Global read rights to everything, restricted edit rights to core entities
- However, usage of custom entities was unrestricted
- With a price of ~10% of a 1<sup>st</sup> party App license, you could build your own business apps and assign the users only a Team Member license

# Team Members 2.0

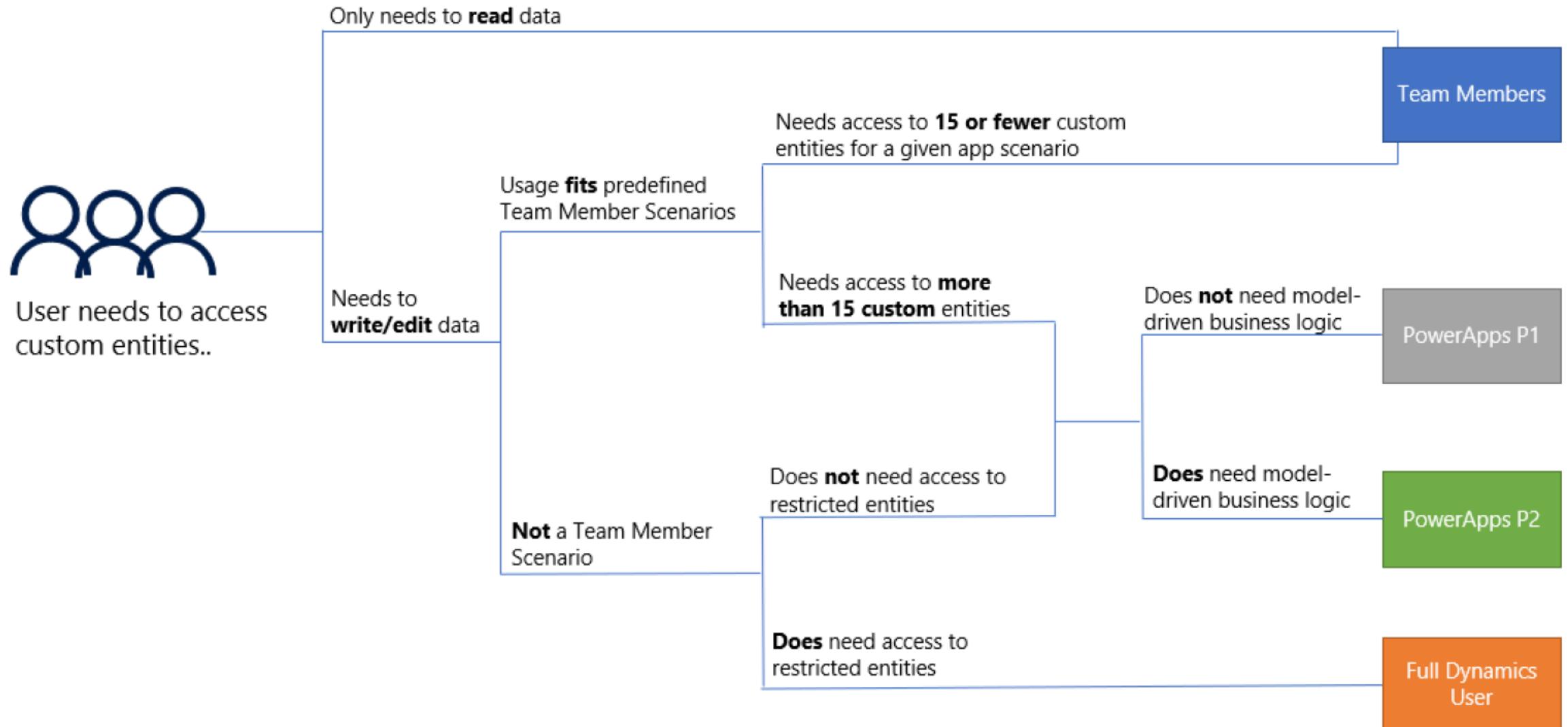
- In March 2018, MS declared that PowerApps P2 now was the platform SKU for building your own model-driven apps
- In October 2018 the Team Member license was redefined as a lot less powerful, standard apps only –type of a lite user
- New restrictions described in the Licensing Guide:
  - "*Entitles the user to light weight access through designated scenarios built into Team Members experience. The Team Members subscription does not provide access to custom applications and is not intended for scenarios beyond those listed in Appendix B.*"
- Same 15 entity limit as with Professional licenses
- And one more thing...

Use Rights	Team Members	Sales		
		Pro	Ent	
Entities: Create, Update, Delete				
Custom entities	15 max ^	15 max ^	● ^	
Dynamics 365 Unified Operations Plan functionality: Time and Expense	●		●	
Dynamics 365 Unified Operations Plan functionality: Requisitions	●		●	
Dynamics 365 Unified Operations Plan functionality: Quality Control	●		●	
Dynamics 365 Unified Operations Plan functionality: Service Orders			●	
Contacts	●	●	●	
Accounts		●	●	
Activities and Notes	●	●	●	
Personal Views; Saved Views	●	●	●	
Shared azure	●	●	●	
Announcements	●	●	●	
Active Segments				
Agent Service/Case Management				
Cases for Sales		●	●	
Competitors		●	●	
Contracts				
Customer Assets				
Dispatch				
Email Marketing				
Embedded Intelligence			●	
Entitlements				
Event Management				
Facilities/Equipment				
Inventory Management				
Invoices				

# NO ACCOUNTS!!!

Create/Update/Delete rights removed from Team Members, only Read remains

# Team Members & custom entities



# Team Members & existing customers

- Team Members  
Grandfathering PDF  
[available for download](#)
- For customers who had Team Member licensed prior to October 1, 2018
- Previous licensing terms still apply for ~1-3 years, until next subscription term ends

## Team Members License for Existing Customers

Customers with Team Members licenses acquired prior to October 1, 2018, may use their Team Members licenses in accordance with the description below through the duration of their term and any subsequent term begun prior to July 1, 2020, or through June 30, 2023, whichever is earlier.

Team Members use rights are unchanged for existing customers subscribing to Dynamics 365 Team Members as of October 1, 2018, including commercial, government, education and non-profit, and Team Members licenses acquired under the SMB promotion.

Existing Team Member customers and their licensed users may continue to exercise their use rights for the following workloads:

### Customer Engagement

- Dynamics 365 for Sales: non-employees may create and update opportunities via a portal or API
- Dynamics 365 for Customer Service:
  - Interactive Service Hub
  - Knowledgebase Management
  - User interface integration for Dynamics 365
- Dynamics 365 for Field Service: non-employees may update work order via a portal or API
- Across workloads:
  - Create, update, and delete Accounts
  - Create, update, and delete records against unlimited number of custom entities

### Unified Operations

- Dynamics 365 Finance and Operations:
  - Field service security roles
    - Field service technician
    - Service dispatcher

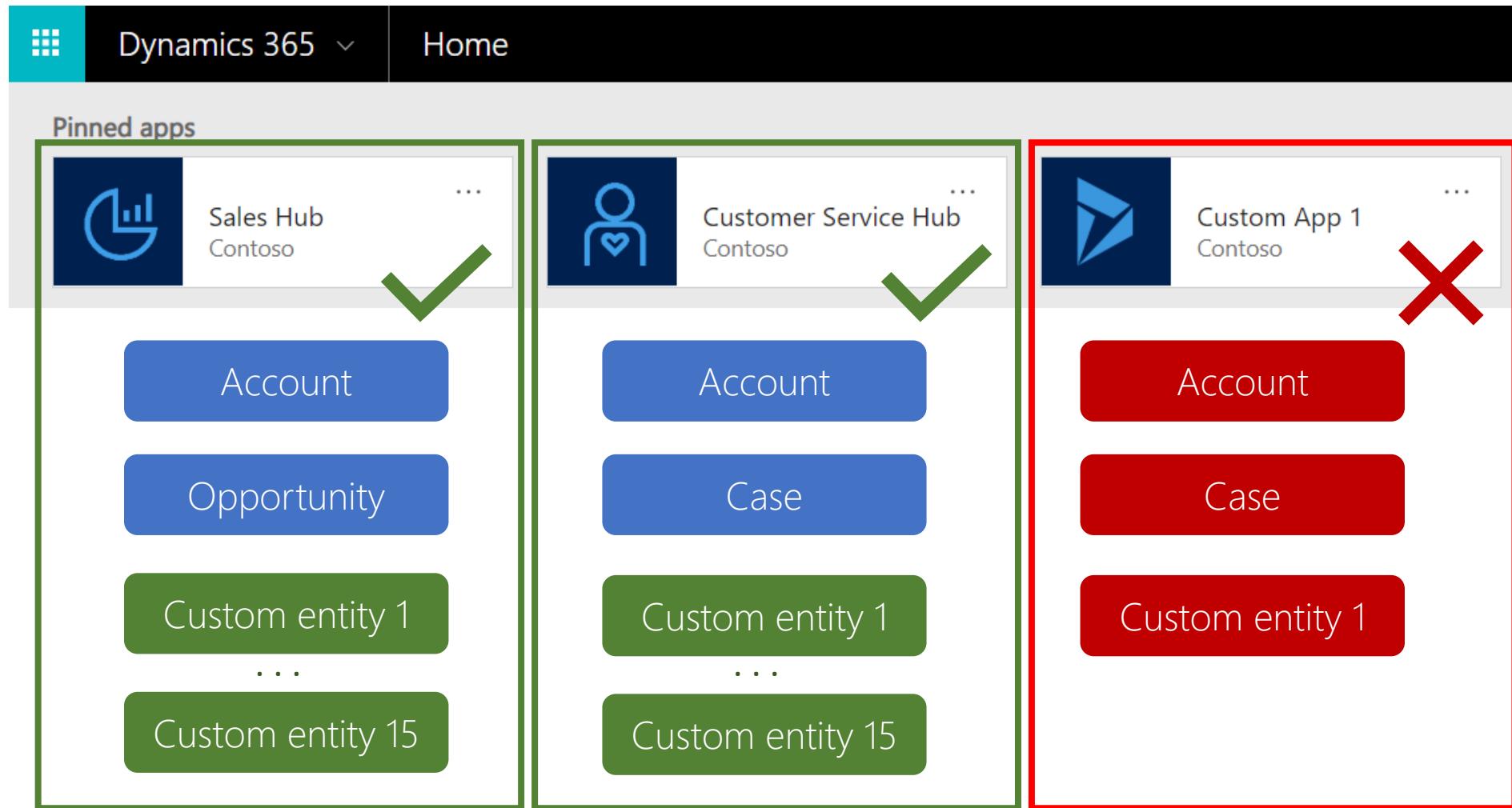
# Professional vs. Team Member: a few gotchas

- Create/read/update/delete Marketing Lists
  - Sales Pro: Yes. Team Member: No.
- Associate a Marketing List with an Account or Contact
  - Sales Pro: No. Team Member: Yes.
- Add or remove a Connection (stakeholder, sales team) for an Account or Contact
  - Sales Pro: No. Team Member: Yes.

# App Modules and licensing

- App Module was launched in 2016 with not much fanfare
- Unified Interface in 2017 showed us why App Modules are essential
- PowerApps & XRM platform merger in 2018 brought the App concept front & center (canvas apps, model-driven apps)
- In the future, App Modules will be tied directly to the licenses, to technically enforce access rights to specific areas
- Current licensing terms for Team Members & Professional licenses already restrict the number of custom entities per App, as well as referring to standard apps and custom apps

# Apps available for Professional & TM licenses

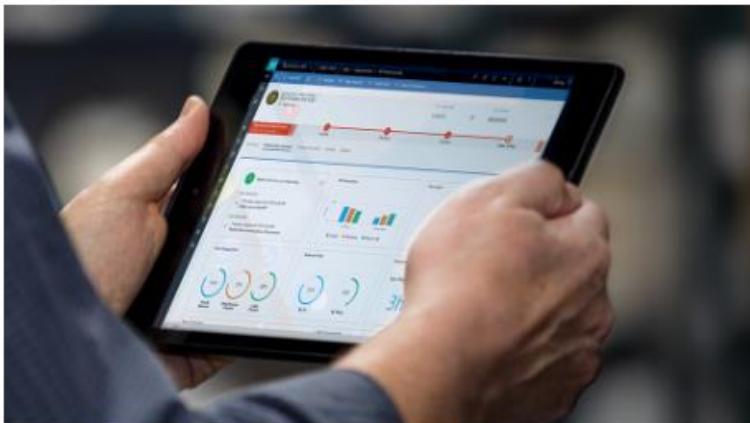


# Dynamics 365 for Marketing: how is it licensed

- Per instance, not per user
  - Can request free Marketing app access license for users who don't have other Dynamics 365 user specific license
- Priced per marketing contacts in the database
  - Marketing activity includes any contact or engagement via Marketing emails, landing pages, forms, LinkedIn integration, events, surveys or custom channel
- Bundled into Dynamics 365 Plans
  - 10 Plan users = 2k contacts included
  - Less = paid Attach plan of 10k contacts available
- Additional contacts available for purchase (5k & 50k)
- Requires 1 unconfigured Portal for installation (free or paid)

# Dynamics 365 AI for "X"

- 3 new apps launched in Fall 2018



**Dynamics 365 AI for Sales**

Available in  
North America

€42,20



**Dynamics 365 AI for Customer  
Service**

In Preview



**Dynamics 365 AI for Market  
Insights**

In Preview

# AI for Sales: what's included where

## Embedded Intelligence

- Relationship assistant
- Email engagement
- Auto capture

## AI for Sales: Sellers

- Relationship analytics
- Predictive lead scoring
- Predictive opportunity scoring
- Notes analysis
- Talking points
- Who knows whom

## AI for Sales: Managers

- Business report
- Team report
- Call intelligence

Inside Dynamics 365 Customer Engagement App UI

Separate AI for Sales App

Enterprise Apps & Plans

Dynamics 365 AI for Sales license required



Let's try &  
combine two  
platforms  
into one

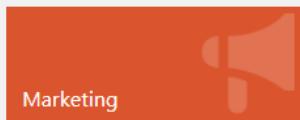




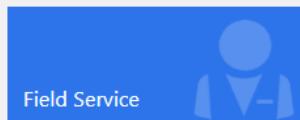
Sales



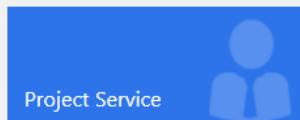
Service



Marketing



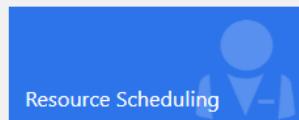
Field Service



Project Service



Settings



Resource Scheduling

**Business**

Business Management...



Templates



Product Catalog



Service Management

**Customization**

Customizations



Solutions



Microsoft AppSource



Plug-In Trace Log

**System**

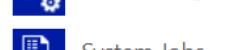
Administration



Security



Data Management



System Jobs



Document Manage...



Auditing

**Process Center**

Processes



Microsoft Flows

**Application**

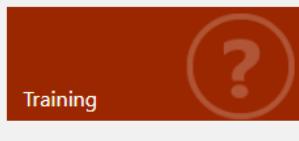
My Apps

**Upgrade Logs**

Upgrade Runs

**Dynamics 365 CE instance**

Settings



Training

**Business**

Business Management...



Templates

**Customization**

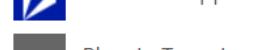
Customizations



Solutions



Microsoft AppSource



Plug-In Trace Log

**System**

Administration



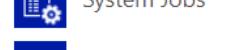
Security



Data Management



System Jobs



Auditing



Email Configuration

**Process Center**

Processes



Microsoft Flows

**CDS for Apps environment**

# Dynamics 365 specific features (i.e. not found in CDS environment)

App for Outlook / Outlook client

Exchange server-side sync

SharePoint integration

Dynamics 365 for Teams

Activity Feeds

Yammer

# Storage

## Dynamics 365 CE

- Default 10 GB per tenant, shared across all instances
- Additional 5 GB per every 20 full users (i.e. not Team Member)
- Additional database storage add-on available in 1 GB increments

## PowerApps

- Default 10 GB per tenant, shared across all CDS environments
- Additional storage per each user: P1 = 20 MB, P2 = 200 MB
- Add-ons for data storage & file storage(?)

### Storage Capacity Information Missing #70

 Open jemsjose opened this issue on Oct 1, 2018 — with [docs.microsoft.com](#) · 0 comments



jemsjose commented on Oct 1, 2018 — with [docs.microsoft.com](#)

+ ...

The "PowerApps pricing page" refers to this page for Storage Capacity Information and this page refers back. So currently it is a bit hard to get those details. The additional storage cost details are equally hard to find. For Enterprises, this information is key for adoption.

# Instances / environments

## Dynamics 365 CE

- Default: 1 production instance & 1 sandbox (Enterprise only) per tenant
- No relation to licensed user count
- Paid add-ons available for additional production & non-production instances

## PowerApps

- Default: 1 environment created per tenant
- Every PowerApps P2 licensed user grants an entitlement to provision 2 environments into the tenant
  - Example: 100 users with PowerApps P2 license = **200 production environments!**
- Also available: free Community Plan
  - For individual development, includes CDS
- Environment administration requires P2

# PowerApps Plans included with Dynamics 365 licenses

	PowerApps for Dynamics 365 Applications	PowerApps Plan 2 for Dynamics 365
Plan purpose	<ul style="list-style-type: none"><li>Extend and run Dynamics 365 applications within the context of application use rights</li></ul>	<ul style="list-style-type: none"><li>Extend and run Dynamics 365 applications within the context of application use rights</li><li>Additionally, run standalone applications</li></ul>
Number of custom entities	<ul style="list-style-type: none"><li>15 (per application)</li></ul>	<ul style="list-style-type: none"><li>Unlimited</li></ul>
Included flow capacity (pooled across tenant)	<ul style="list-style-type: none"><li>2,000 Flow runs per user per month</li></ul>	<ul style="list-style-type: none"><li>15,000 Flow runs per user per month</li></ul>
Limitations on use rights	<ul style="list-style-type: none"><li><b>Cannot run standalone canvas or model driven applications</b></li><li>Can run customized Dynamics 365 applications that contain a maximum of 15 custom entities per app</li><li>Customizations should be within the context of the application intent</li></ul>	<ul style="list-style-type: none"><li>N/A</li></ul>
Included within	<ul style="list-style-type: none"><li>Dynamics 365 for Sales Professional,</li><li>Dynamics 365 for Customer Service Professional,</li><li>Dynamics 365 for Talent: Attract,</li><li>Dynamics 365 for Talent: Onboard</li><li>Dynamics 365 for Team Members</li></ul>	<ul style="list-style-type: none"><li>Dynamics 365 for Sales Enterprise</li><li>Dynamics 365 for Customer Service</li><li>Dynamics 365 for Field Service</li><li>Dynamics 365 for Talent</li><li>Dynamics 365 for Project Service Automation</li><li>Dynamics 365 for Retail</li><li>Dynamics 365 Customer Engagement Plan</li><li>Dynamics 365 Unified Operations Plan</li><li>Dynamics 365 Plan</li></ul>

# Embedded vs. Standalone canvas app

Available to all Dynamics 365 licensed users

Not available to Professional & Team Member licenses

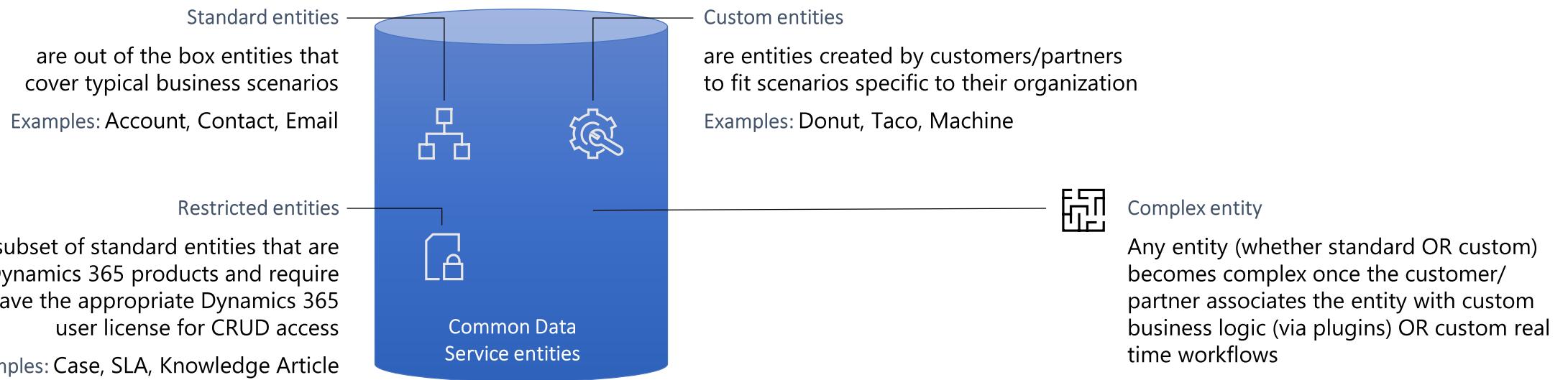
The screenshot shows an embedded Dynamics 365 canvas app. At the top, there's a navigation bar with icons for New, Deactivate, Connect, Assign, Delete, Refresh, Process, Share, and more. Below it, the account summary for "Adventure Works (Sample)" is displayed, including revenue (\$10,000,000) and number of employees (4,300). The main area is divided into sections: "ACCOUNT INFORMATION" (Account Name: Adventure Works (Sa...), Phone: 555-0152, Fax: ---, Website: http://www.adven..., Parent Account: ---, Ticker Symbol: ---); "Timeline" (Enter a note..., No records to show); and "CONTACTS" (Nancy Anderson (sample), someone\_c@example.com, with three small contact photos below).

The screenshot shows a standalone Dynamics 365 canvas app titled "Contacts". It has a header with icons for back, forward, and new. A search bar says "Search items". Below it is a list of contacts with their names, emails, and a right-pointing arrow: Florine Wilkerson (florine\_wilkerson@fabrikam.com), Maryanne Wilcox (maryanne\_wilcox@fabrikam.com), Martina Welch (martina\_welch@fabrikam.com), Catalina Weeks (425-555-9199), Marianne Watson (marianne\_watson@fabrikam.com), and Thiti Wang-Aryattawanich (thiti@litware.com, 123-879-9952).

# Comparison of Standalone PowerApps Plans

Area	Description	PowerApps Plan 1	PowerApps Plan 2
Application	Application type	• <b>Canvas only</b>	Canvas + model driven
	Create, share and run unlimited custom apps	✓	✓
Common Data Service—Entities	<b>Common data service use rights</b>	✓	✓
	Custom entities: create and use unlimited custom entities (Full CRUD)	✓	✓
	Complex entities: entities with custom business logic (code plug-ins)		✓
	Dynamics 365 restricted entities use rights (Read only)		✓
Common Data Service—Workflows	Microsoft Flow use rights	✓	✓
	Background workflows	✓	✓
	<b>Real time workflows</b>		✓
	<b>Business process flows</b>		✓
Connectors	Standard connectors	✓	✓
	Premium, custom, and on-prem gateway connectors	✓	✓
Administration	<b>Enterprise grade administration (environments, policies, analytics)</b>		✓
Capacity (per user license, pooled across tenant)	Relational database capacity	20 MB	200 MB
	Flow runs (per month)	4,500	15,000

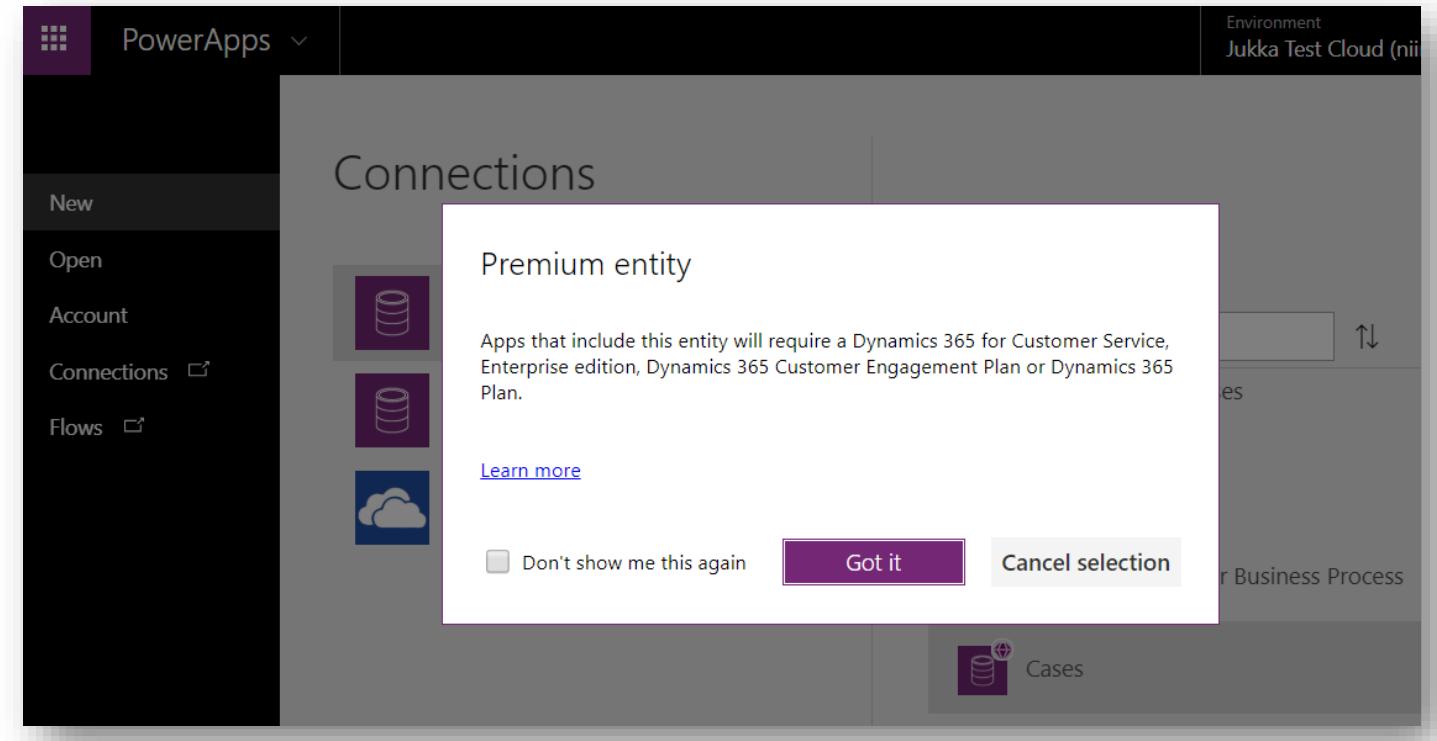
# Common Data Service—entities



Area	PowerApps for Office 365	PowerApps Plan 1 (\$7 per user per month)	PowerApps Plan2 (\$40 per user per month)	PowerApps for Dynamics 365 Applications	PowerApps Plan 2 for Dynamics 365
CDS Use Rights		✓	✓	✓	✓
Custom Entities		Unlimited	Unlimited	15 custom entities per appl—should map to app context	Unlimited
Standard (Non-restricted) entities		CRUD	CRUD	CRUD for entities included within application use rights	CRUD for entities included within application use rights
Restricted Entities			Read only	CRUD for entities included within application use rights	CRUD for entities included within application use rights
Complex Entities			✓	✓	✓

# Restricted (premium) entities in PowerApps

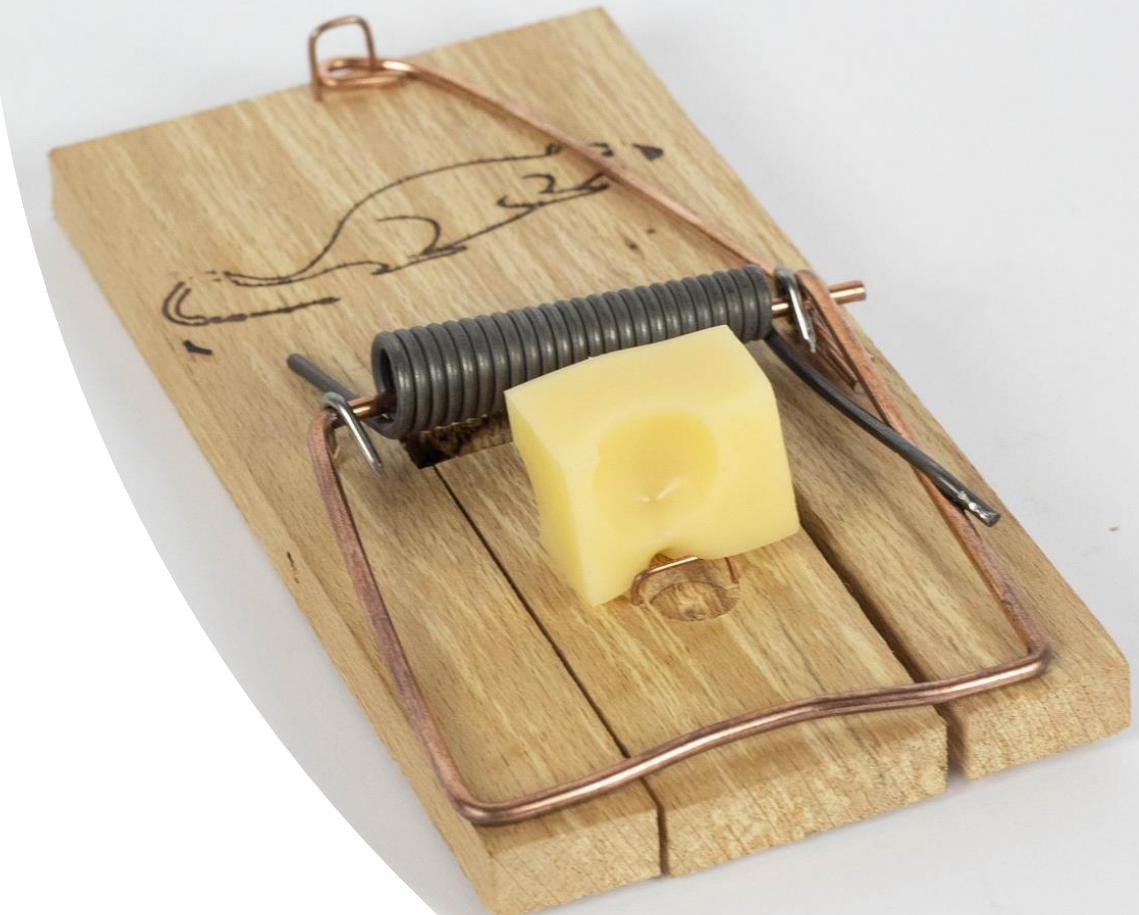
- CDS Connector flags the restricted entities with a "diamond" and instructs on the required license for accessing them

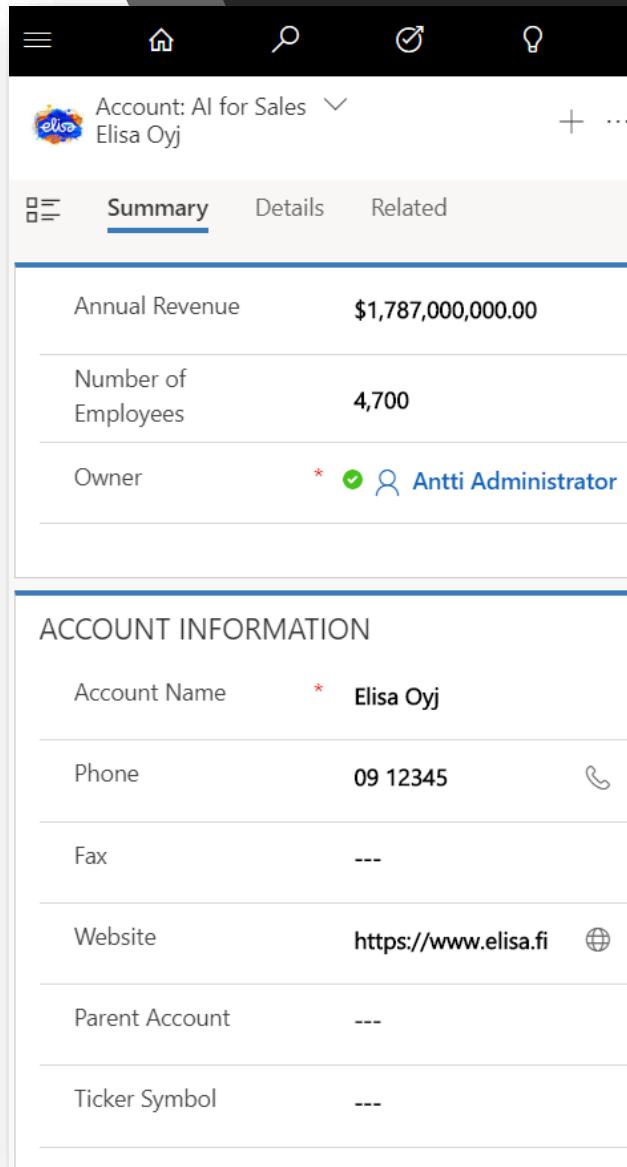


# The complexity trap

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- Users licensed based on PowerApps P1
- Data is managed in CDS
- Uses a CDM entity like Contact that is leveraged across many apps
- License requirement for all app users goes up from P1 to P2 if:
  - Power users creates/modifies XRM workflow to run **in real time**
  - Developer creates a **plugin**
  - Admin installs a **3<sup>rd</sup> party app** that includes either of these





# Editing accounts

- As we know, Team Members can now only view accounts
- How about PowerApps P1 users?
- Yes! They have CRUD rights to account via canvas app, since it's not a restricted entity
- Oh, but there are plugins registered for account entity by default...
- Don't worry: plugins added by MS solutions (Activity Feeds etc.) do NOT make the entity complex

# Connector types

- Standard: available to all PowerApps & Flow users
- Premium: require paid license
  - Office 365 not sufficient
- List of premium connectors accessible via Flow website:
  - <https://flow.microsoft.com/en-us/connectors/?filter=&category=premium>
- Custom & on-premises: requirement moving up from Office 365 to P1
  - See post on [Office retirement blog](#)

Premium connector

Standard connector



UPDATED - Updates to Microsoft Flow and PowerApps for Office 365

Chris McNulty on 11-27-2018 10:43 PM

Effective February 1st, 2019 we are introducing some changes to simplify the distinction between the version of PowerApp...

Data		
← My connections		
	Common Data Service	
	Computer Vision API	
	Content Conversion	
	Content Moderator	
	Custom Vision	
	D&B Optimizer	
	Dynamics 365	
	Dynamics 365 for Operations	
	Dynamics NAV	
	Easy Redmine	 

A photograph of a person's legs and feet as they walk up a set of blue metal stairs. The person is wearing black leggings and bright orange-red sneakers with white soles. The stairs have a textured blue metal handrail and a matching blue metal frame. The background shows more of the staircase and a blurred view of what might be a city street or park area.

# Moving your PowerApps up to a higher Platform

# CDS usage: effect on license cost per user

- Scenario:
  - 1000 users with Office 365 E3 (~€20,000/month)
  - PowerApps for Office 365 available to everyone
- License cost of PowerApps canvas apps within Office 365: €0/month
- First canvas app using CDS: ~€6/user/month
  - 100 named app users in the organization = €600/month
  - 100 unnamed potential users in the organization (all users) = €6000/month
- Price per each organization wide canvas app in use:
  - 1st app: €6000/month
  - 10th app: €600/month

# Model-driven app usage: effect on license cost

- Same scenario, but now moving from CDS based canvas apps to model-driven apps
- 1000 users for N canvas apps using CDS: €6,000/month
- 1000 users for the 1st model-driven app: €34,000/month
- Price difference in moving from PowerApps P1 to P2 = 5.7x
- However, if the organization would be using Dynamics 365 Enterprise apps or plans, the marginal cost in licenses would be zero

# Can I build my own Sales CRM app on CDS?

- Before:
  - "You may not replicate a standard feature of Dynamics 365 without purchasing a license for the standard app"
- Today:
  - "Go ahead!"

Licensing Guide, May 2018:

## Custom Entities

Microsoft Dynamics 365 for Team Members and higher provide the right to use custom entities. Custom entities may only be created or replicated by a partner or user licensed for full Application or Plan use. Rights to create or replicate new custom entities are not included with Dynamics 365 for Team Members and Dynamics 365 for Operations Activity licenses. Custom entities may be based on entities included in Dynamics 365 or created by a customer or partner. **If the custom entity is based on or replicates the functionality of entities included in Microsoft Dynamics 365, or if the entity links to entities included in Microsoft Dynamics 365, then users accessing the custom entity must also be licensed to access the included or replicated entity.** For example, users creating an entity that replicates the cases entity for a ticketing system would still require the user to be licensed for cases. In other words, customizations may only be performed against entities users are licensed to access.

Licensing Guide, November 2018:

## Custom Entity Overview:

An entity defines information that you want to track in the form of records, which typically include properties such as company name, location, products, email, and phone.

Dynamics 365 applications and plans offer "out-of-the-box" entities to cover typical scenarios. However, there may be times when customers and partners need to create entities to store data that is specific to your organization – namely custom entities. Note, adding a field to existing standard entities does not make it a custom entity.

Custom entities may be created by a customer or partner. These custom entities can either map to existing Dynamics 365 entities (directly change Dynamics 365 entities) or they can create brand new entities.

# Closing thoughts

- Knowing each license in detail isn't necessary, but you should recognize the moving parts when designing solutions
- As the Dynamics 365 enterprise apps & PowerApps citizen developer platform continue to converge, expect to see further adjustments to their licensing models



# Dynamics 365 Community

Join the Dynamics 365 Community, where you can interact with your peers and Microsoft Dynamics 365 experts. You can get answers to your questions by posting questions in the forums, starting discussions, reading informative blog articles, and watching how-to videos.

<https://community.dynamics.com>

## Benefits

- Participate and help build a pool of knowledge that's accessible by members at any time!
- Expand your network by engaging with peers

## Involvement

- Need help? Ask questions and join in on business or technical discussions in the forums
- Share your expertise by hosting a blog or syndicating your existing blog

## Recognition

- Earn badges for participation and engagement
- Become a Community Star and earn appreciation from peers

## Join Today!

- Get answers, find inspiration, connect with others
- Free membership

Any questions? Email us at [dlcommed@Microsoft.com](mailto:dlcommed@Microsoft.com)





19TH JANUARY 2019

# DYNAMICS POWER! LONDON 365

BRITISH ANNUAL BUSINESS  
APPLICATIONS TECHNICAL  
CONFERENCE, 365 SATURDAY



365  
Saturday

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