#TeamsNation

Dataverse meets Teams:
Low-code app opportunities for everyone

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Microsoft Teams Microsoft Tech Community

Session objectives

1. Positioning Microsoft Dataverse into the Microsoft Teams application platform story
2. Showing app examples of what Dataverse for Teams can do
3. Helping you evaluate when Dataverse for Teams is a good fit (and when it isn’t)

A quick introduction

Jukka Niiranen: who, what, when, why?

- Started working with Microsoft business apps in 2005
- Launched my blog in 2008, Microsoft MVP since 2013
- Switched my focus from Dynamics 365 to Power Platform around 3 years ago
- Working as Power Platform Advisor & Co-founder at Forward Forever
- Citizen developer by heart, zero coding skills
- Working out loud since 2010 (Yammer😍)
- Excited about the Teams as a Platform story – because this could really be the next Microsoft Operating System

Microsoft MVP Most Valuable Professional

FORWARD FOREVER

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Agenda

- Dataverse: the big picture
  - Where it came from & why it is the center of MS low-code universe
- Dataverse for Teams in practice
  - 3 demo scenarios of real apps
- When to use / not to use Dataverse for Teams
  - Limitations to keep in mind when architecting your solutions

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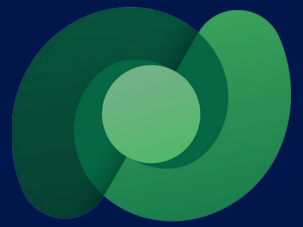
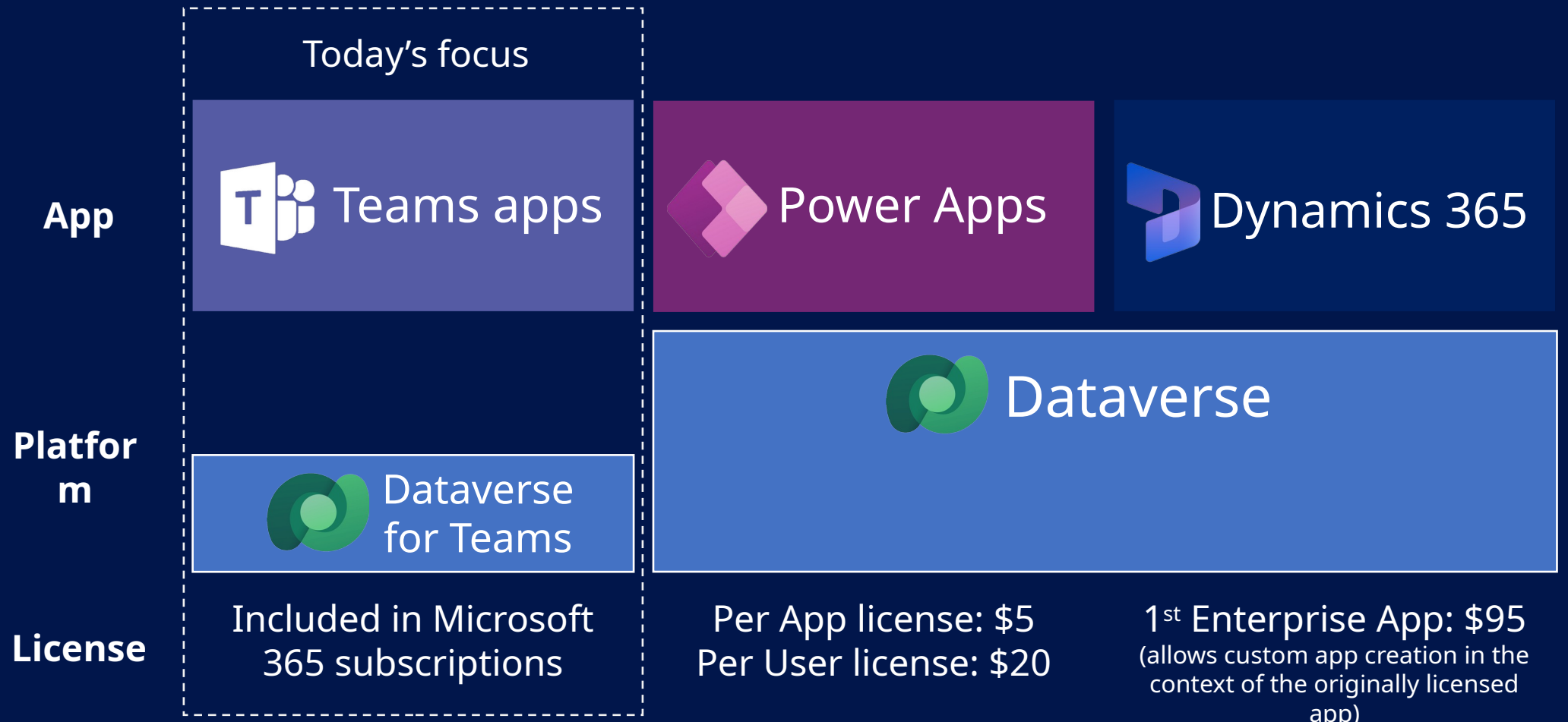
Dataverse: the big picture

Dataverse: what is it & why should I care?



- It's not *just* a relational database
  - Offers features for managing security, workflows, integration, audit, app lifecycle etc.
- Mature platform for enterprise scale business applications
  - Available as a MS cloud service since 2011 (just with a different name)
- Caters to both citizen developers and code-first developers
  - Full GUI for building apps with zero code, extensive APIs for building custom apps and integrations with as much code as you need
- Microsoft's preferred choice for you to build Power Apps on
  - While SharePoint may be the most widely used app data source still, MS investments are aiming at making Dataverse work as natively with Power Apps as possible

Types of business apps built on Dataverse

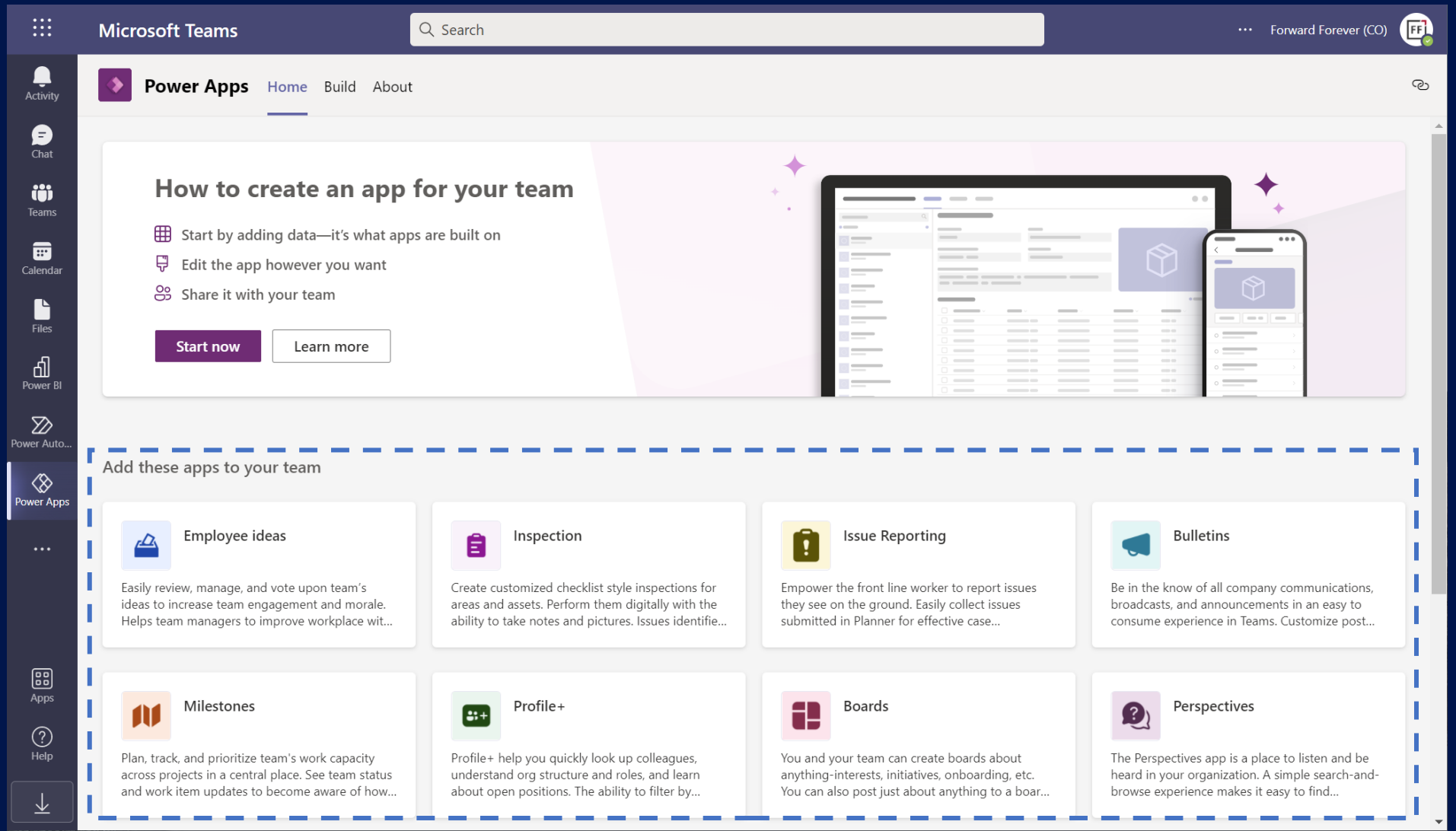


Key benefits of Dataverse for Teams

- Available to every Microsoft Teams user
- Better foundation for app data model than Microsoft Lists (SharePoint)
- Self-service management of Dataverse environment, users are tightly coupled with the team's roles (owner, member, guest – "OMG")
- Simplified feature set aimed at citizen developers (vs. full Dataverse aimed at enterprise solutions and pro devs)
- Can integrate with external systems via Azure API Management (with the help of pro devs…)
- Offers an upgrade path to full Dataverse without needing to re-architect the applications

The quickest way to try Dataverse

Use the sample apps from Microsoft Teams store



Everyone can be an app maker in Teams

- If you’re a team member, you can provision a new Dataverse for Teams environment by creating a new app (or installing a sample app)
  - Unless the Teams admin has explicitly blocked Power Apps + all the MS sample apps
- Each DV4T environment gets 2 GB worth of storage capacity – does not affect the tenant level capacity for full Dataverse environments
- Each tenant gets 5 environments + 1 additional environment for every 20 eligible Microsoft 365 user licenses
  - With 1K users you get 55 environments, with 100K you get 5,005 environments
- 1 environment per team, but you can have as many apps there as needed

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Dataverse for Teams in practice

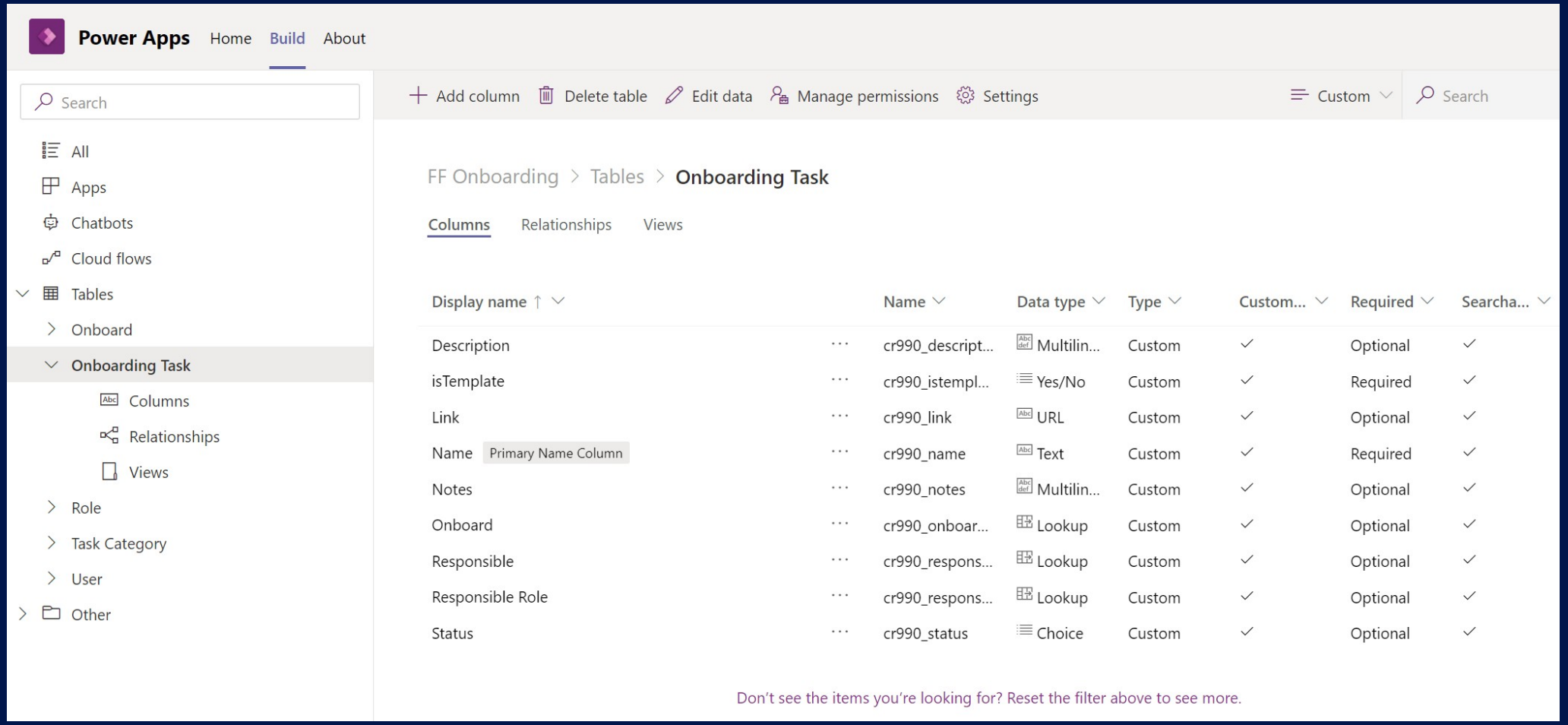
Example scenarios

Onboarding app

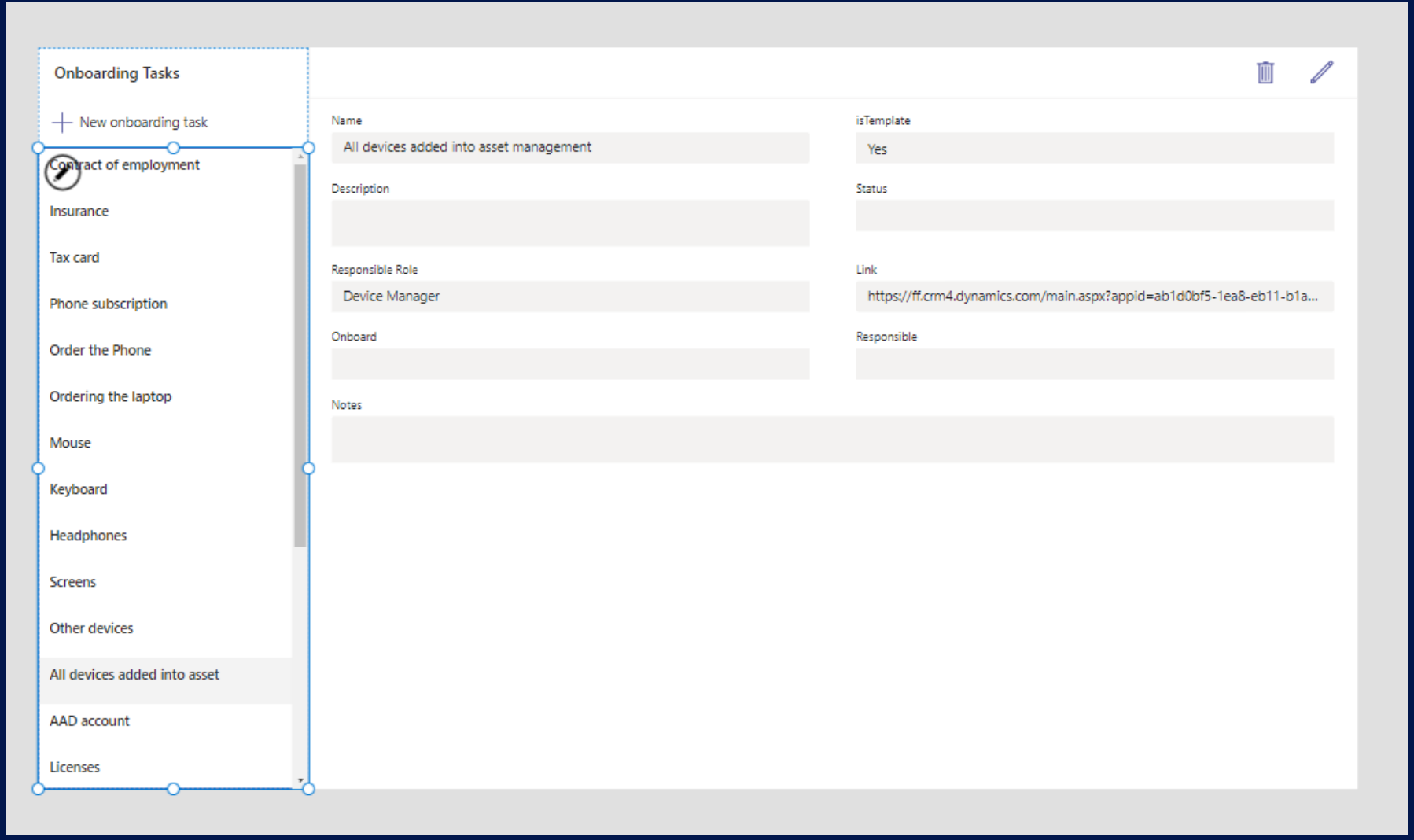
Scenario

- Organization’s need:
  - Ensure a smooth experience for handling all necessary tasks when a new employee joins the organization - for both the new employee and those who are responsible for helping in completing the tasks
- Starting point:
  - OneNote based template list of onboarding tasks
  - New copy created to serve as a checklist for each new employee
- Solution on Dataverse for Teams:
  - Dataverse tables for storing onboarding tasks and employees
  - Business logic to copy tasks from a template when new employees are added
  - Power Apps UI to show tasks per responsible person and track task completion

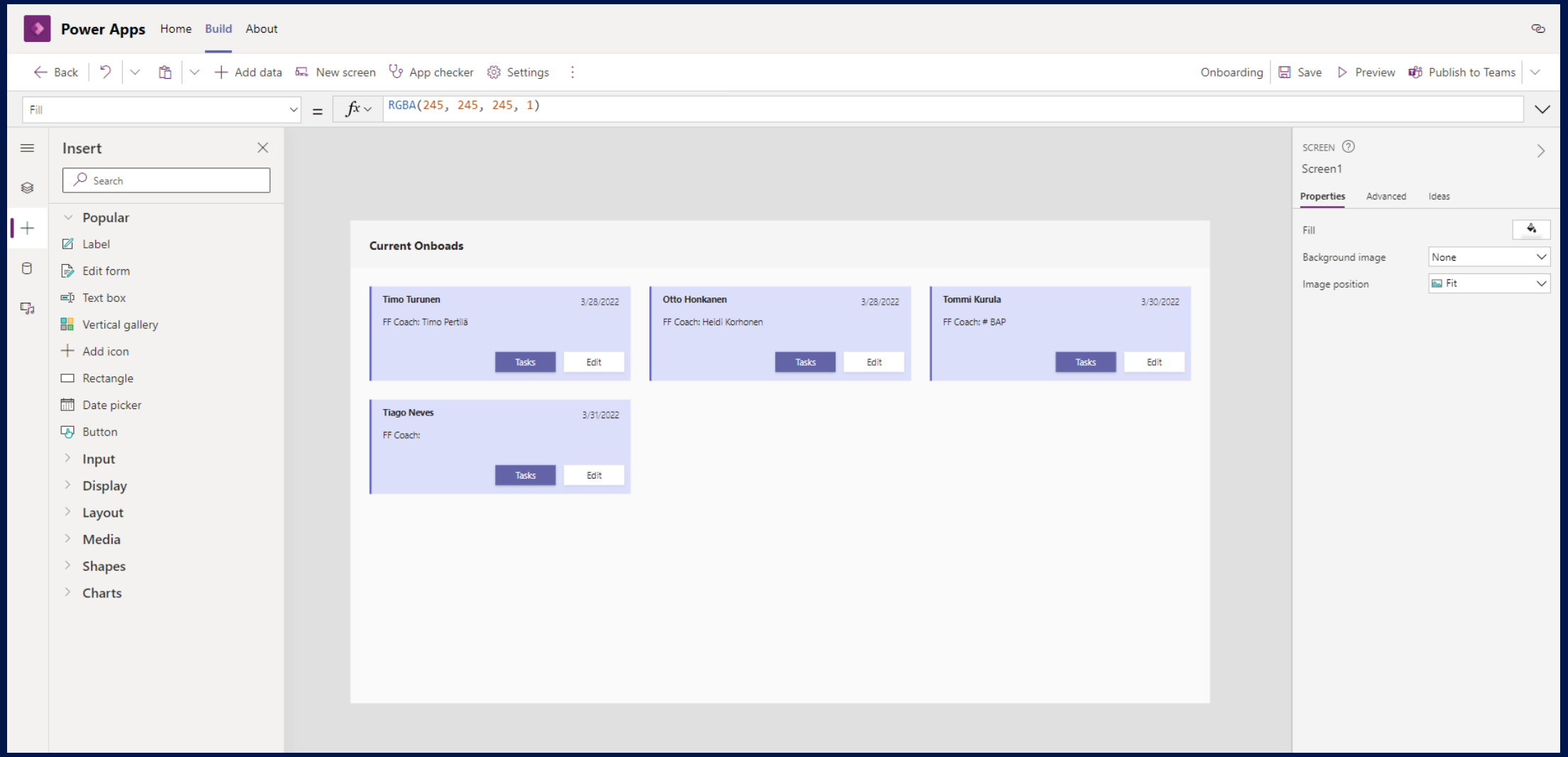
Creating the tables



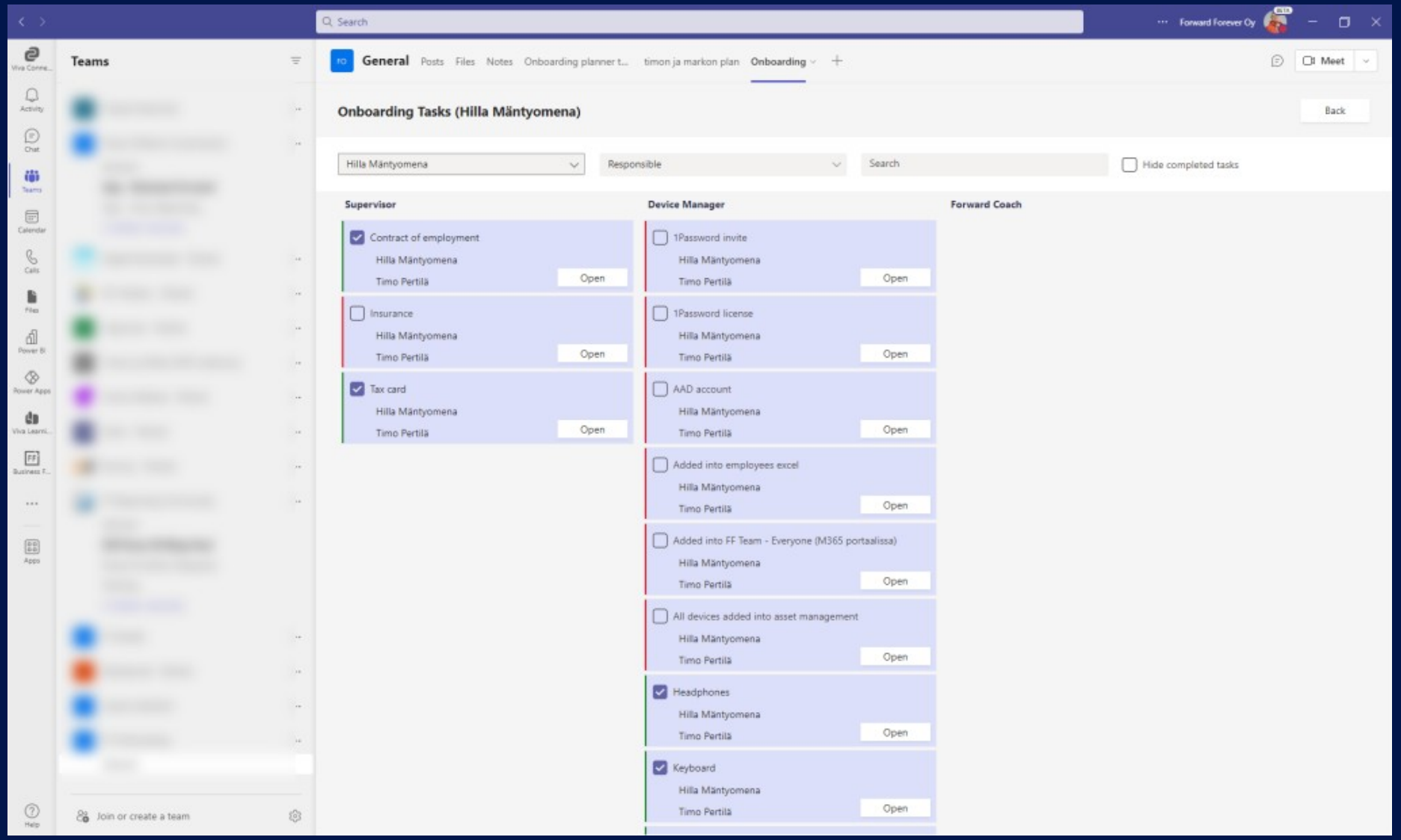
Default UI generated for updating template tasks



Custom card UI for the employee list



Final app published to a team’s channel



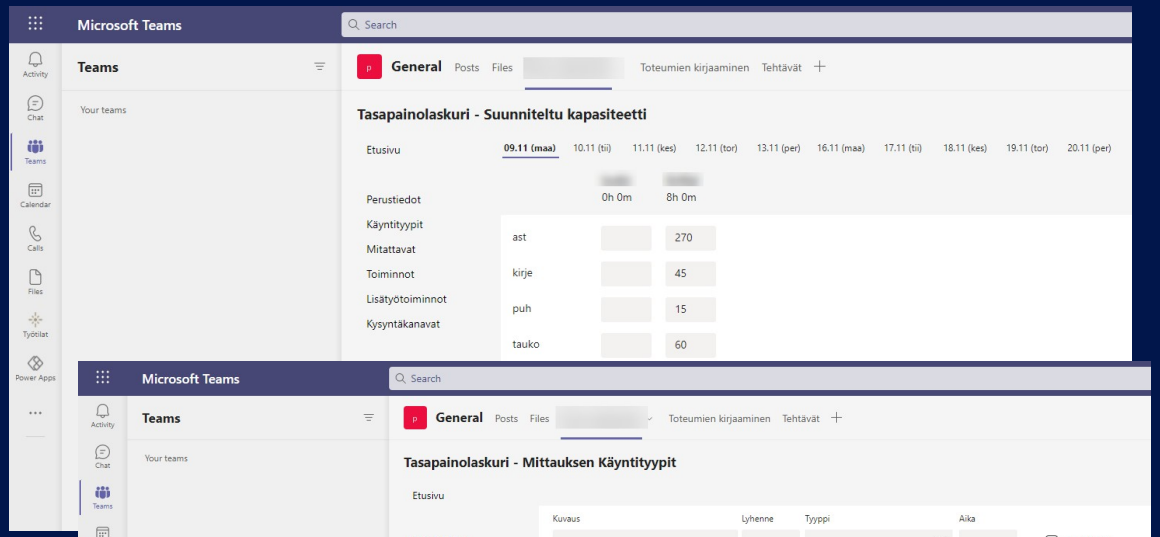
Hospital capacity planning & tracking app

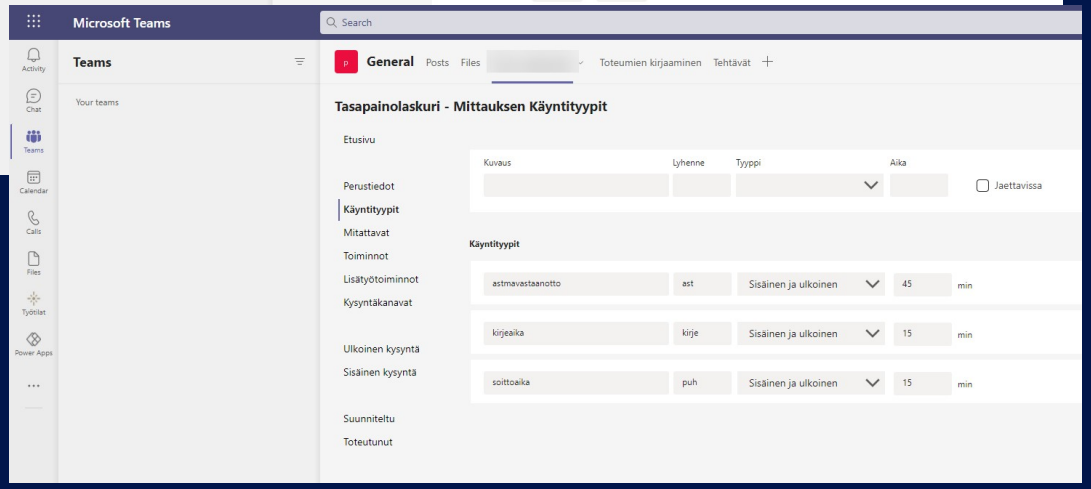
Scenario

- Organization’s need:
  - Manage the availability of hospital staff required for different categories of visits and activities associated with them
  - Create demand estimates through extensive calculation formulas, track actual number of visits + duration of activities
- Starting point:
  - Common Excel workbook that contained all the planning calculations as well as actual visit and activity duration data
  - Infrequent and inaccurate entry of data by the hospital personnel, due to having to open the Excel workbook on a PC at the end of the shift
- Solution on Dataverse for Teams:
  - Capacity elements modelled into Dataverse tables, with required calculation logic
  - Dedicated UIs for capacity planning, actual data entry and results analysis

Hospital capacity planning & tracking app

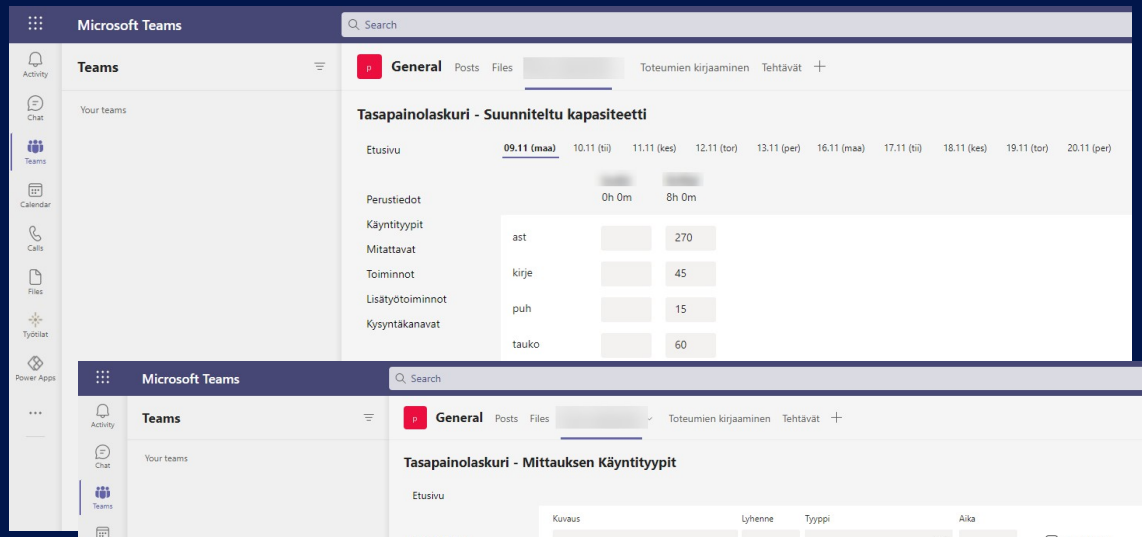
1) Capacity planning app for Teams desktop client

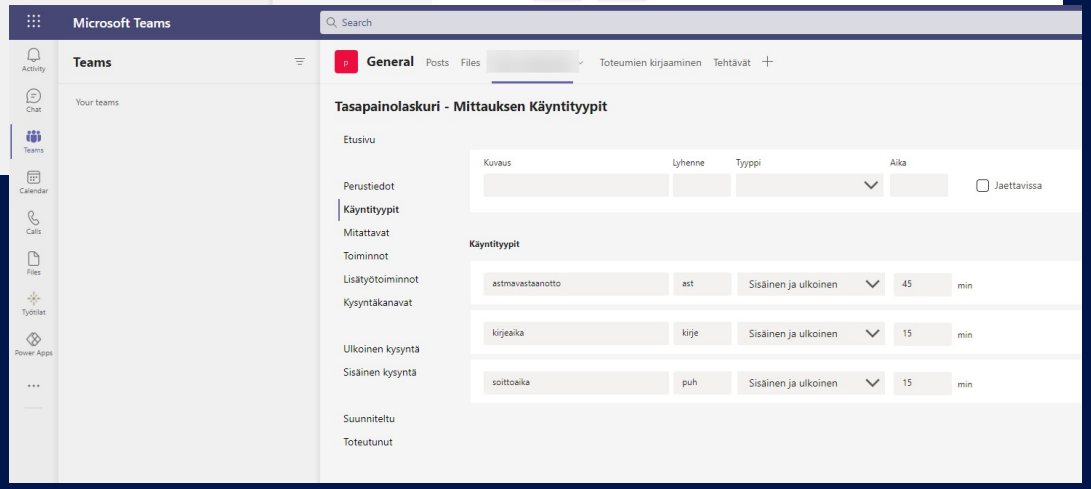


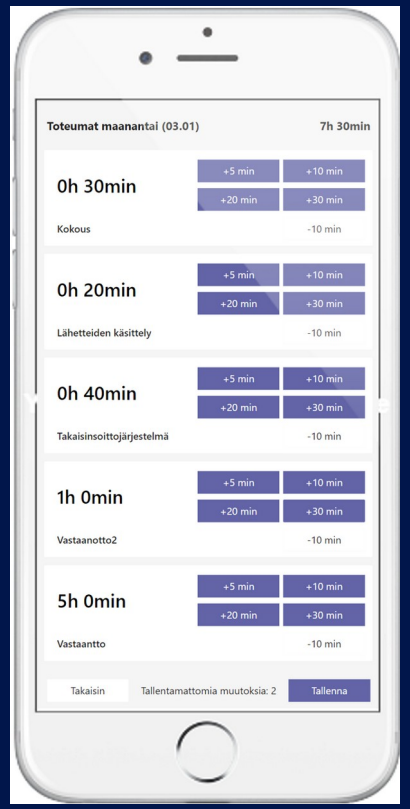


Hospital capacity planning & tracking app

2) Capacity tracking app for mobile devices

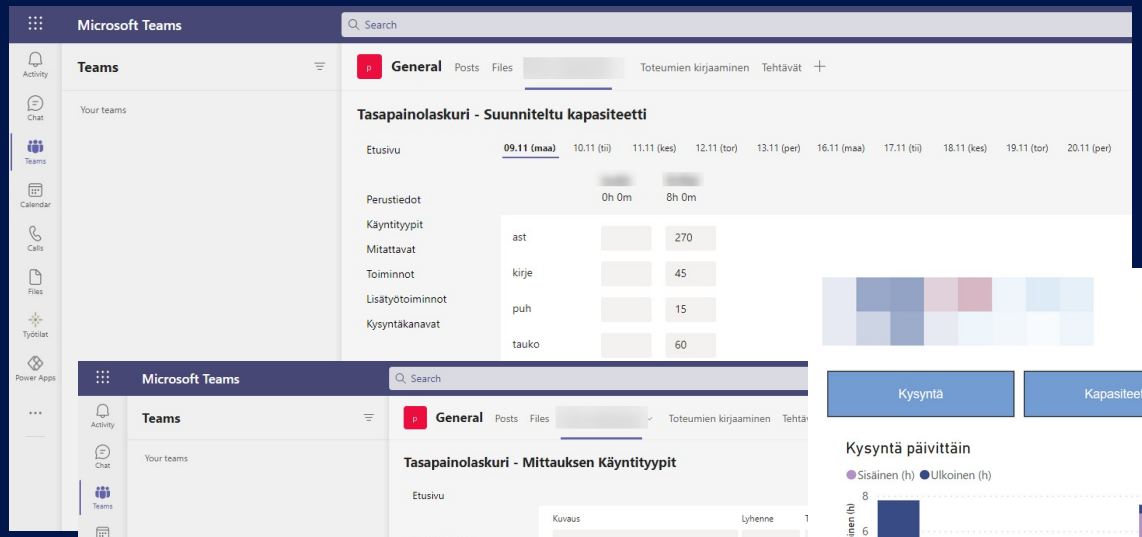


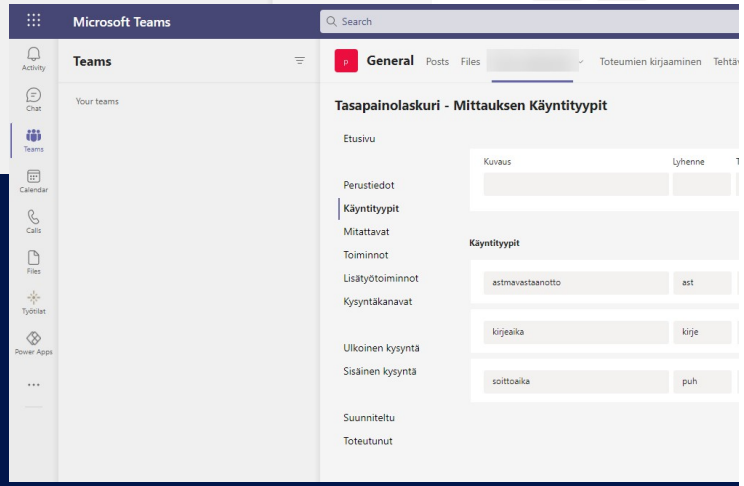


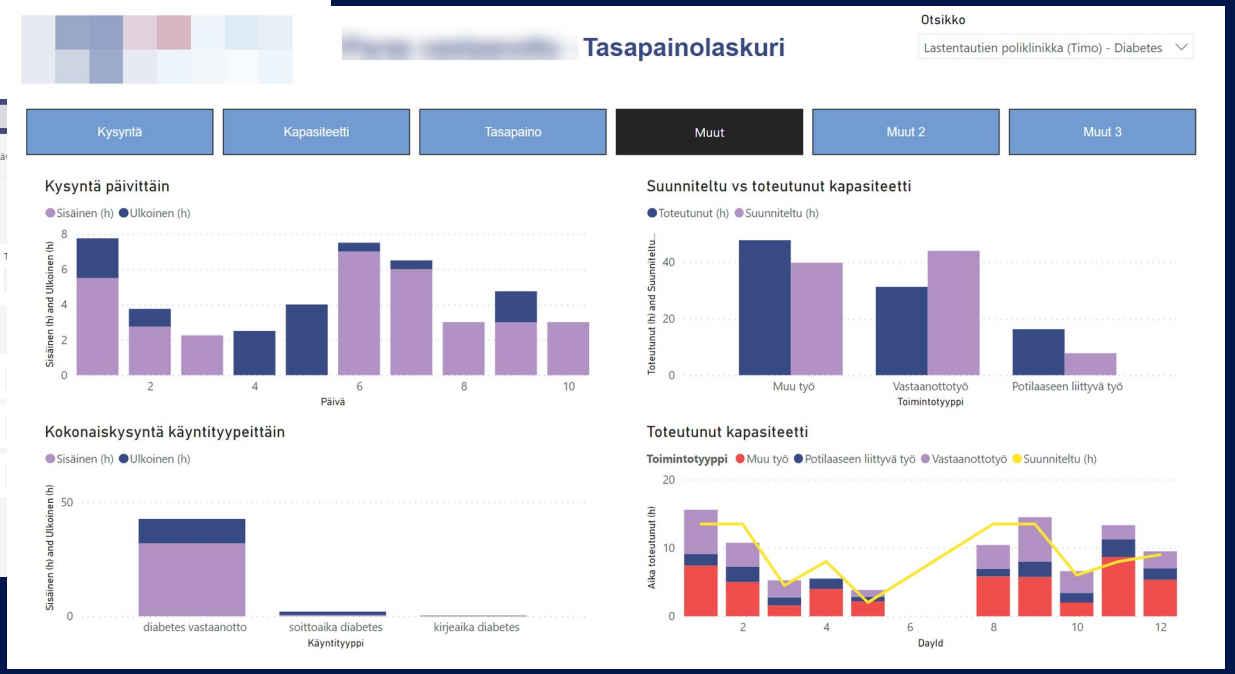


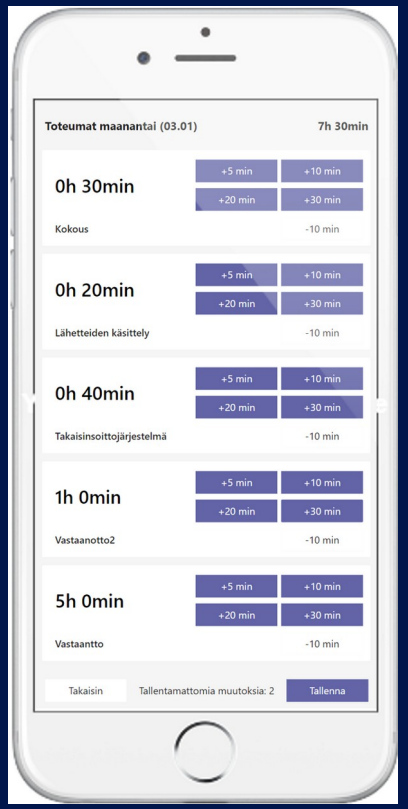
Hospital capacity planning & tracking app

3) Power BI report for tracking planned vs. actual capacity









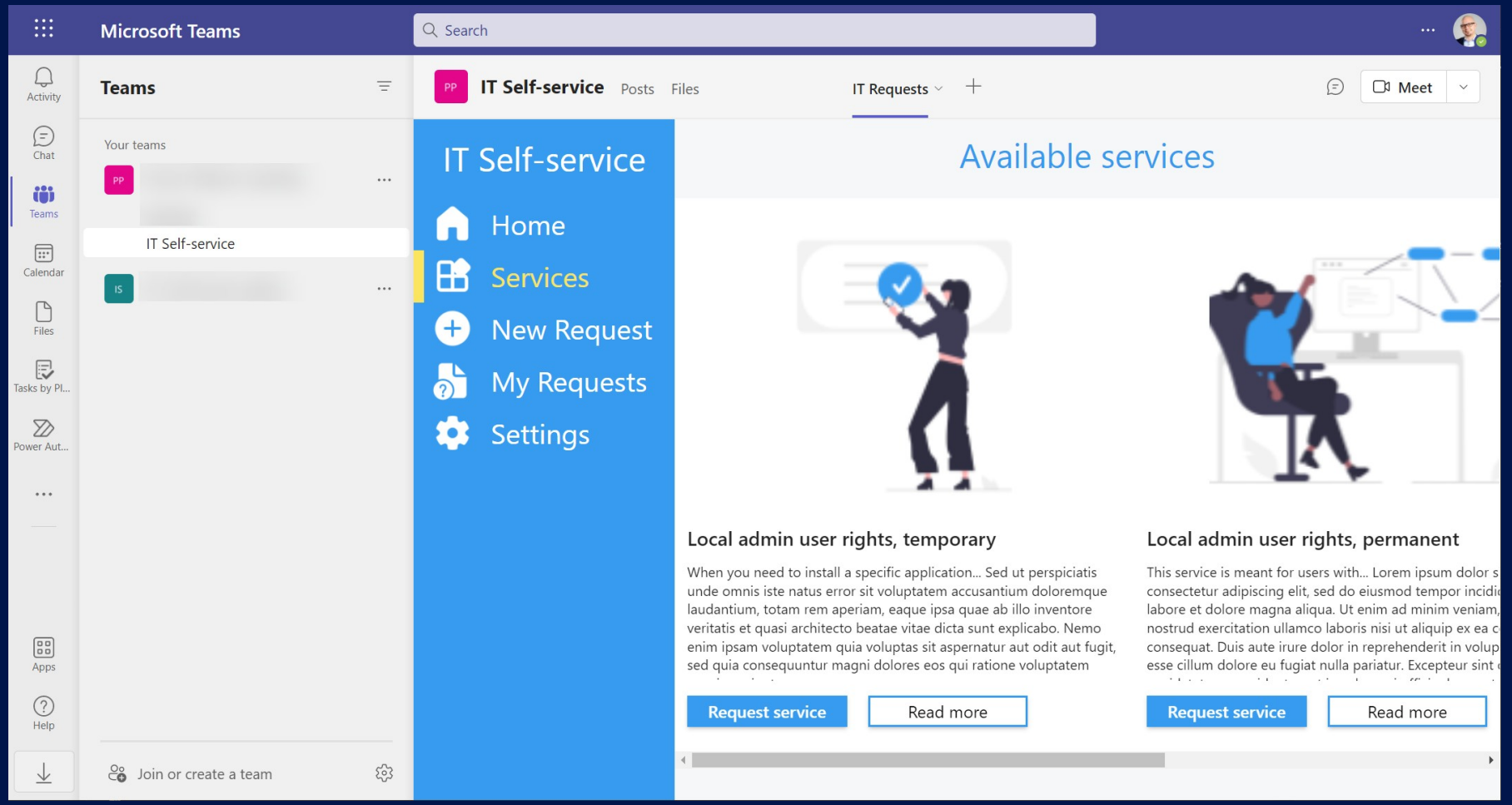
IT Self-service app

Scenario

- Organization’s need:
  - Allow employees to request services from IT, such as local admin rights to PC, installation of additional software, access to specific cloud services
- Starting point:
  - No formal intranet instructions page or forms for submitting requests, process handled via email, no central visibility to requests/approvals/delivery
- Solution on Dataverse for Teams:
  - Dataverse tables + IT Admin app developed into a team accessible by IT only
  - Employee facing IT Requests app published from that same team to the whole organization, pinned as a tab in common Teams channels
  - Request approval process managed via native MS Approvals app inside Teams, triggered and monitored via Power Automate cloud flows

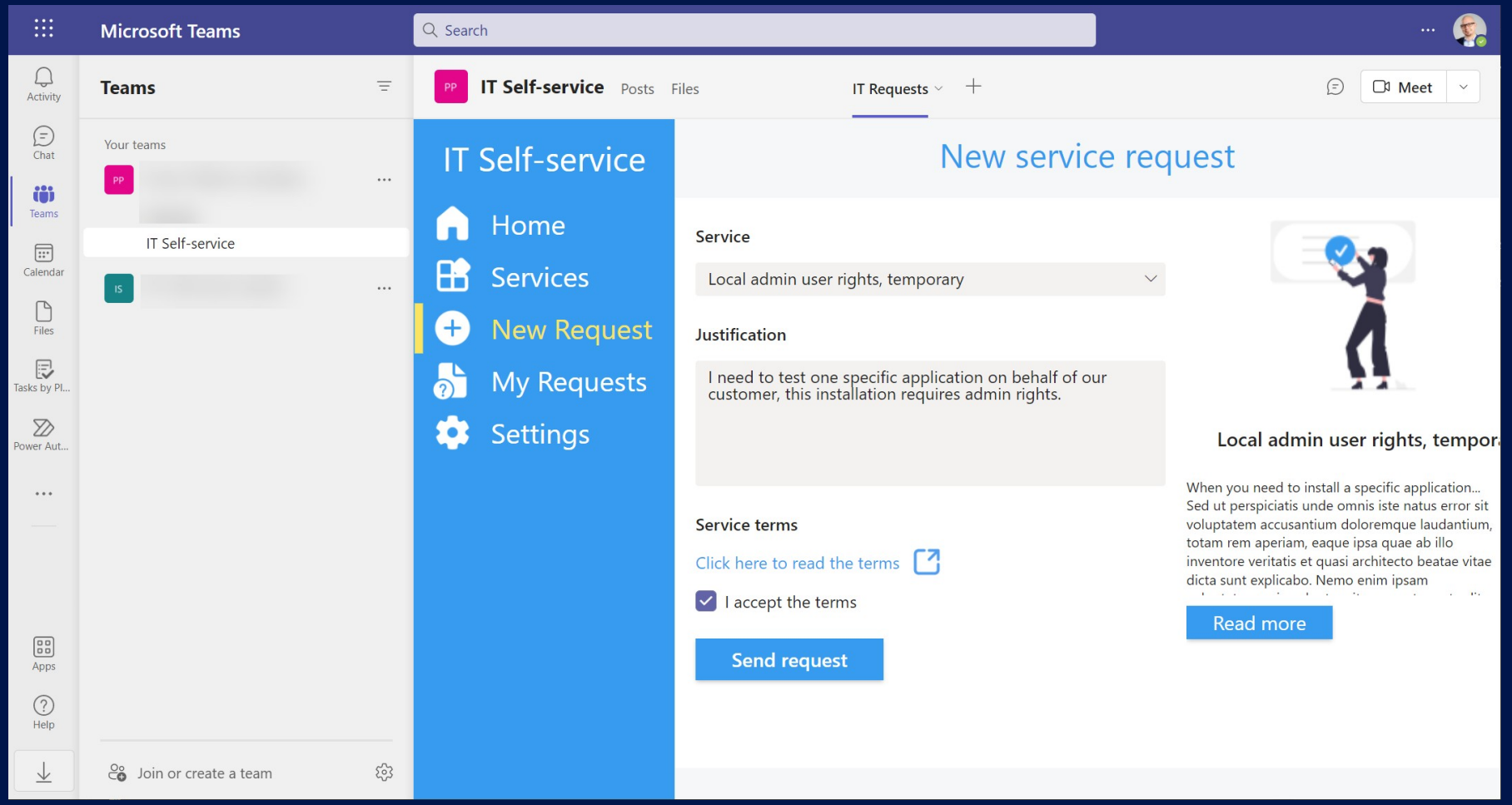
IT Self-service app: employee

1) Employee browses the service catalog and selects a service



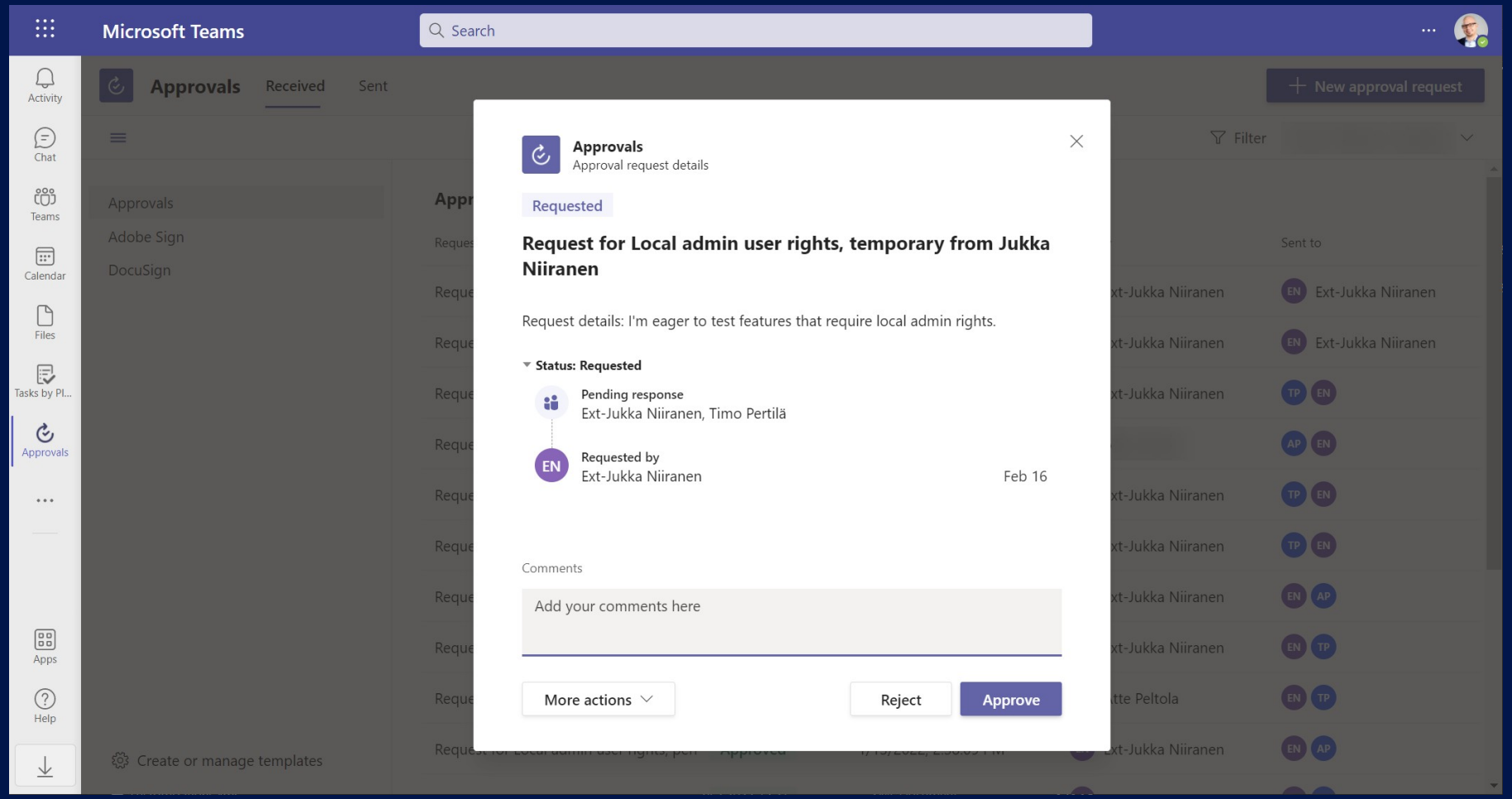
IT Self-service app: employee

2) Employee fills the service request form with justification details & accepts the terms



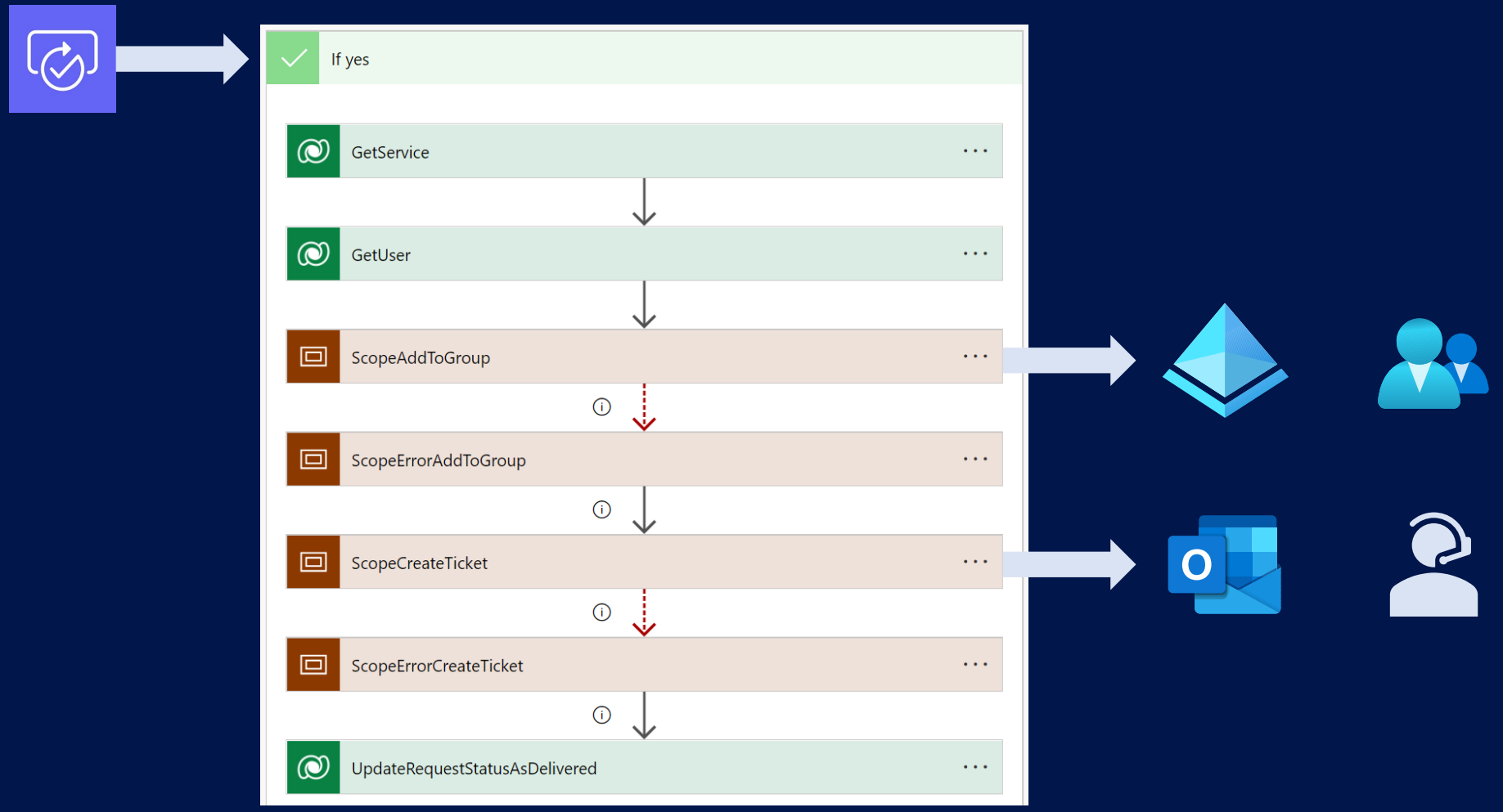
IT Self-service app: approval team member

3) Members of the approval team for the service get the employee's request for review



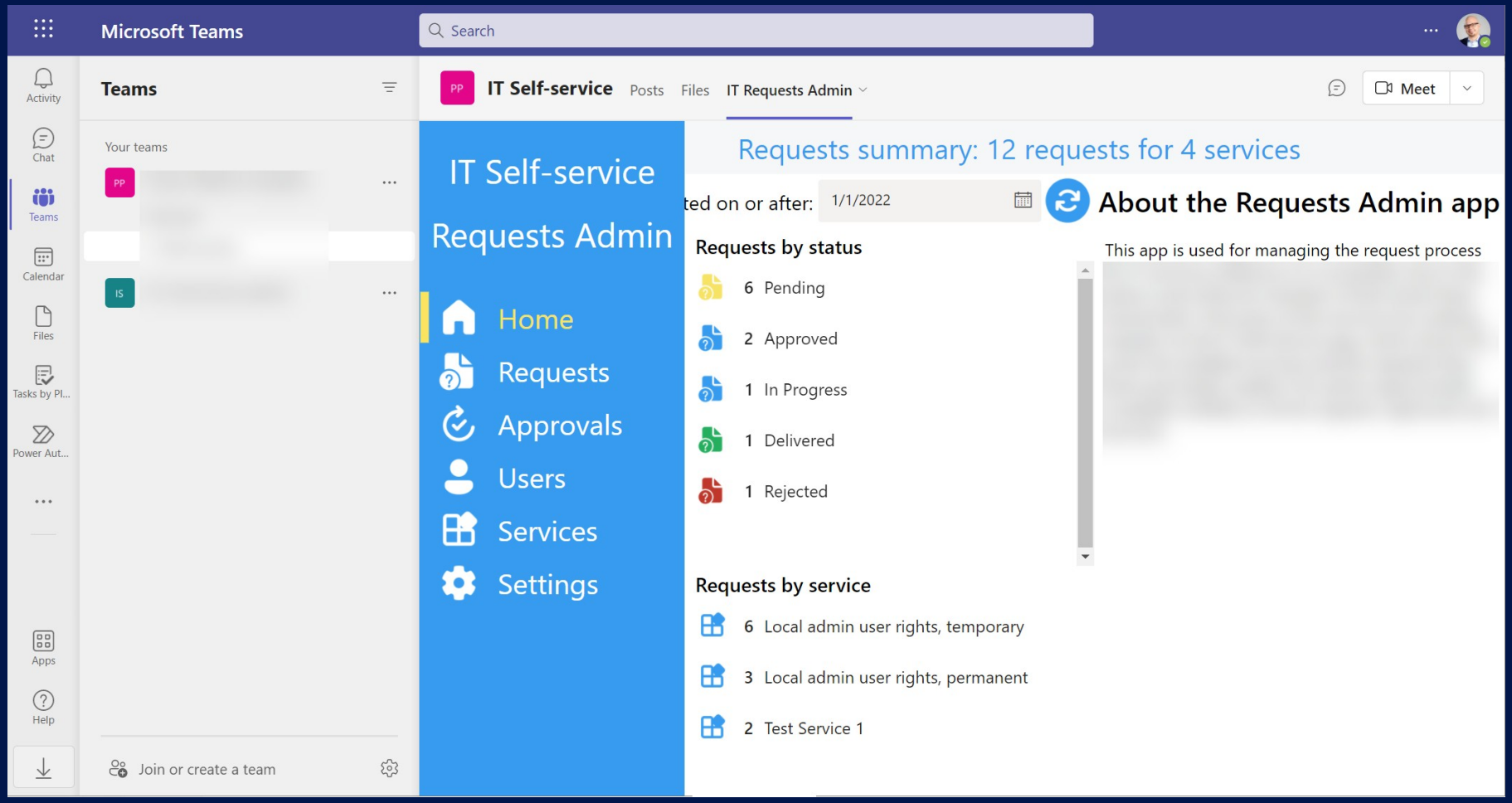
IT Self-service app: service delivery

4) Approved request results in either Azure AD group membership or email ticket to helpdesk



IT Self-service app: IT admin

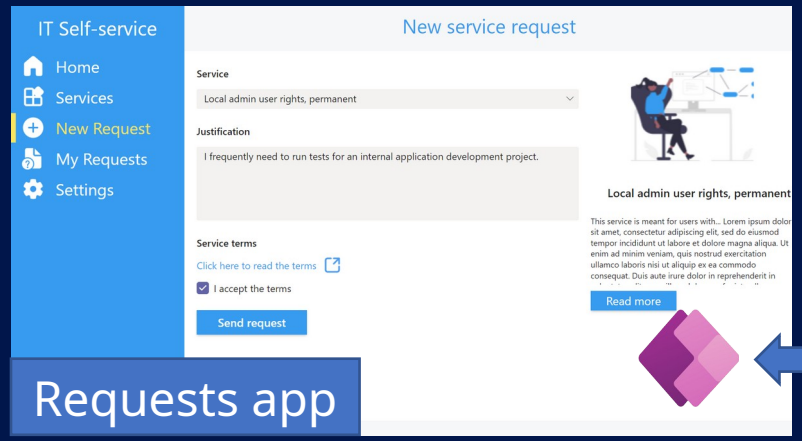
5) Admin app provides overview and details of all request by status, service, user



IT Self-service app: team architecture

Data hosted in one Dataverse for Teams environment, shared to other teams for employee access

Access: shared to whole organization, available in any team



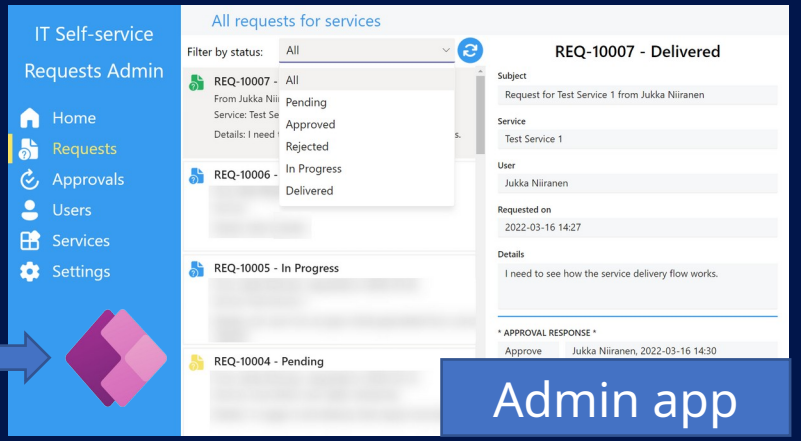
User

Requests app

Access: only members of the app's hosting team

- Services
- Approval Teams
- Requests
- Approvals
- Users/People

Dataverse for Teams



Admin app

Admin

Approval team

Approvals app

Cloud flows

Azure AD group membership

Service desk ticket via email

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When to use / not to use Dataverse for Teams

The “free” version can’t do everything

- Building apps for your team to replace Excels or MS Lists used in an encapsulated, independent process is a great fit for Dataverse for Teams
- Trying to develop an organization wide app or manage a critical business process with DV4T requires detailed understanding of what the technical limitations are
- These limitations are intentional – we aren’t likely to see Microsoft significantly enhance the DV4T feature set in the near future
- While you can always upgrade the environment from Teams to full Dataverse later, you should analyze the requirements upfront to avoid nasty surprises

Dataverse for Teams features

Clients

Microsoft Teams

Data

Relational

Basic data types

Common data modeling (coming soon)

Custom tables

File + Image

Find, filter, sort

Integration

Power automate
O356 and Microsoft Dataverse for Teams included, premium with license

Data flows (import only)

Security + compliance

Encryption at rest

Encryption in transit

Business unit (1 per team)

Admin roles

User roles

Environment lifecycle

One environment per team

Promote to common data service/D365

Backup

Pont-in-time restore

Disaster recovery

App lifecycle

Unmanaged solution (1 per team)

Managed solution (gallery)

Managed solution (classic import/export)

Business rules and workflows

Power automate

N/A

Reporting

Data visualization

Power BI

Dataverse full feature set

Clients
Web
Mobile (power Apps/D365 Player)
Desktop
Microsoft Outlook
Microsoft Excel
Microsoft Teams

Data
Advanced Data Types
Activities/Activity Feeds
Common Data Model
Managed Lake
Mobile Offline
Non-Relational Log
Relevance Search
Virtual Entities
Relational
Basic Datatypes
Common Data Model
Custom Tables
File + Image, Find, Filter, Sort

Integration
API Access
Event to Event Hub
Events to Service Bus
Export to Lake
Plugins
Server-Side Sync
Web Hooks
Power Automate
O365 and Microsoft Dataverse for Teams included, Premium with license
Data Flows (Import only)

Security + compliance
Admin Roles
User Roles
Business unites (multiple)
Customer Managed Keys
Hierarchical Security
Field Level Security
Sharing WS Trust/Legacy AuthN
Activity Logging
Auditing
Encryption at Rest
Encryption in Transit
Business units

Environment lifecycle
Unlimited environments
Reset
Copy
Promote to Dataverse/D365
Backup
Point-in-time Restore
Disaster Recovery

App lifecycle
Unmanaged solutions (unlimited)
Managed solutions (unlimited)

Business rules and workflows
Business Rules
Business Process Flows

Reporting
Paginated reports (SSRS)
Data Visualization
Power BI

Can your app live only within Teams?

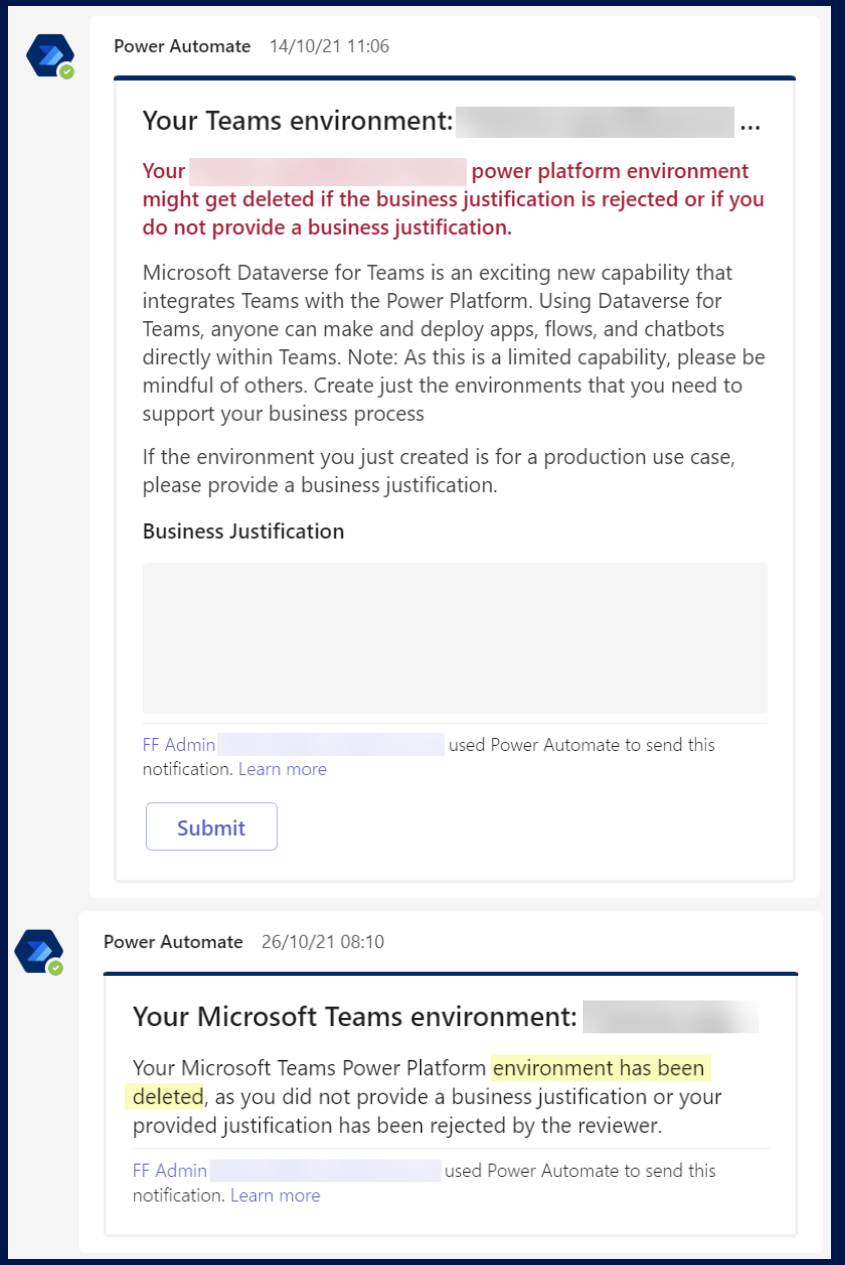
- For processes that are already discussed and manually managed within Teams, having your apps there makes perfect sense
- However, if you need to provide access to users who perform a bulk of their tasks elsewhere, this may become a real barrier for adoption
- Mobile use cases are especially cumbersome, since users can’t pin their Power Apps onto phone start screens the way full Dataverse apps would be supported
- Opening a DV4T app in a browser tab is supported – but only if you have a premium Power Apps license

Find the right platform for experimentation

- Sometimes you need a way to have real users interact with your app “in preview”, before committing to developing the final production solution
- Dataverse for Teams is a great option for this, with no extra license purchases required beyond Microsoft 365
- If you know you’ll eventually need more than DV4T can support, though, consider an alternative to use full Dataverse right from the start
- **Pay-as-you-go** licensing model for Power Apps could be a solution
  - No upfront commitment on number of licensed users, pay only for users who’ve launched the app during the month
  - Create dev/test/prod environments on-demand, pay for the storage capacity consumed
  - Billed via Azure subscriptions, consumption can be monitored via Azure Cost Management

Environment sprawl is very real

- Anyone can create a Dataverse for Teams environment if they are a team member
- Environments will get created accidentally, or intentionally without full understanding of the implications
- Establish a governance policy early on to determine the allowed usage and ownership concept for environments
- Leverage the templates available in Power Platform Center of Excellence (CoE) Starter Kit for managing Dataverse for Teams environments: [link]



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Closing thoughts

Embrace DV4T with these things in mind

- Dataverse for Teams plays a critical role in the “Teams OS” story, while full Dataverse puts the “platform” in Power Platform
- Expect to find some quirks in the DV4T app maker experience, especially if you come from the full Dataverse / Dynamics 365 side
- Despite of the intentional limitations in Dataverse for Teams, there are plenty of scenarios where the licensing model strongly favors designing your app within these boundaries
- Don’t bet your low-code strategy only on the Microsoft 365 feature set – prepare to also consume premium Power Apps/Automate licenses where it makes sense
  - Admin/governance capabilities, more complex apps, connecting to external data

THANK YOU, TEAMS NATION!

Any questions in mind?

Slides will be here (shortly...)

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