Microsoft

tech·days

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Distributing Power BI Content

Distributing Power BI Content

Heidi Enho

Microsoft MVP (Data Platform & Excel)

Microsoft Certified Trainer, MCSA

heidi.enho@sulava.com
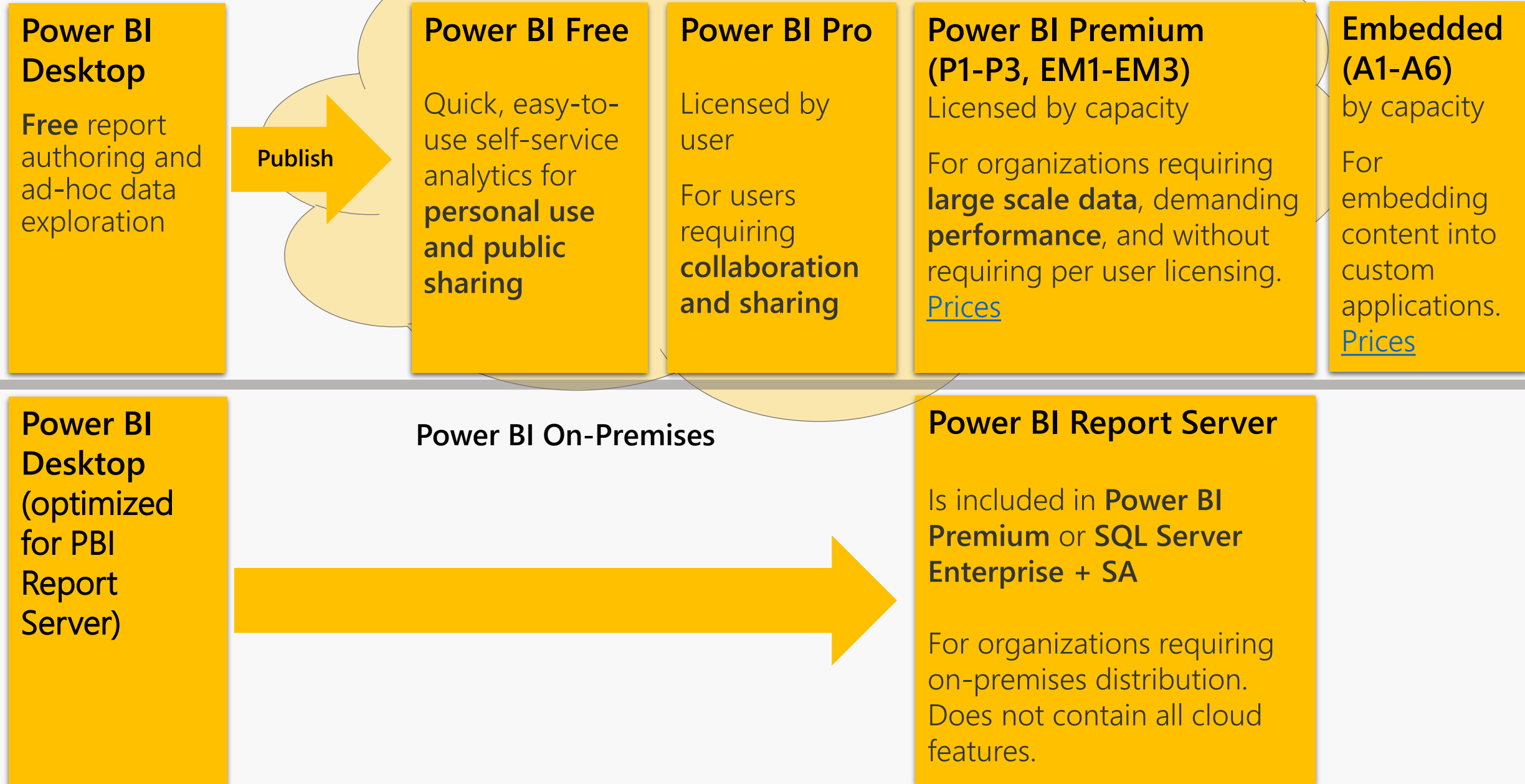
HExcelligent.fi, vilahdus.fi

Objectives and takeaways

- Learn about capabilities for successful distribution of Power BI content

  - Licensing
  - Data Sources
  - Distribution
  - Consumption

Licensing

Power BI Portfolio

Power BI Desktop

Free report authoring and ad-hoc data exploration

Publish

Power BI Free

Quick, easy-to-use self-service analytics for **personal use and public sharing**

Power BI Pro

Licensed by user

For users requiring **collaboration and sharing**

Power BI Premium (P1-P3, EM1-EM3)
Licensed by capacity

For organizations requiring **large scale data**, demanding **performance**, and without requiring per user licensing.
Prices

Embedded (A1-A6)
by capacity

For embedding content into custom applications.
Prices

Power BI Desktop (optimized for PBI Report Server)

Power BI On-Premises

Power BI Report Server

Is included in **Power BI Premium** or **SQL Server Enterprise + SA**

For organizations requiring on-premises distribution. Does not contain all cloud features.

Data Sources

Kinds of Data Sources

Cloud Models

Data and dataset metadata stored in Power BI

- Imported
- Streaming

External Models

Data stored externally, dataset metadata stored in Power BI

- Live Connection to SSAS (On-Prem or Azure)
- Direct Query to Source Databases (On-Prem or Azure)

Collaboration

Workspaces

Top-level containers of Power BI content

- My Workspace: scratch scenarios

- App Workspaces: co-authoring, collaboration

My Workspace is just a scratch space. Use App Workspaces for everything.

Create & Collaborate

My Workspace

App Workspace

App Workspaces

Admins create & manage access to the App workspace

1

App Workspace

App Workspaces

App Workspaces

1 Admins create & manage access to the App workspace

2 Authors create all dashboards and reports inside the app workspace

App Workspace

Dashboards

Reports

Datasets

Distribution
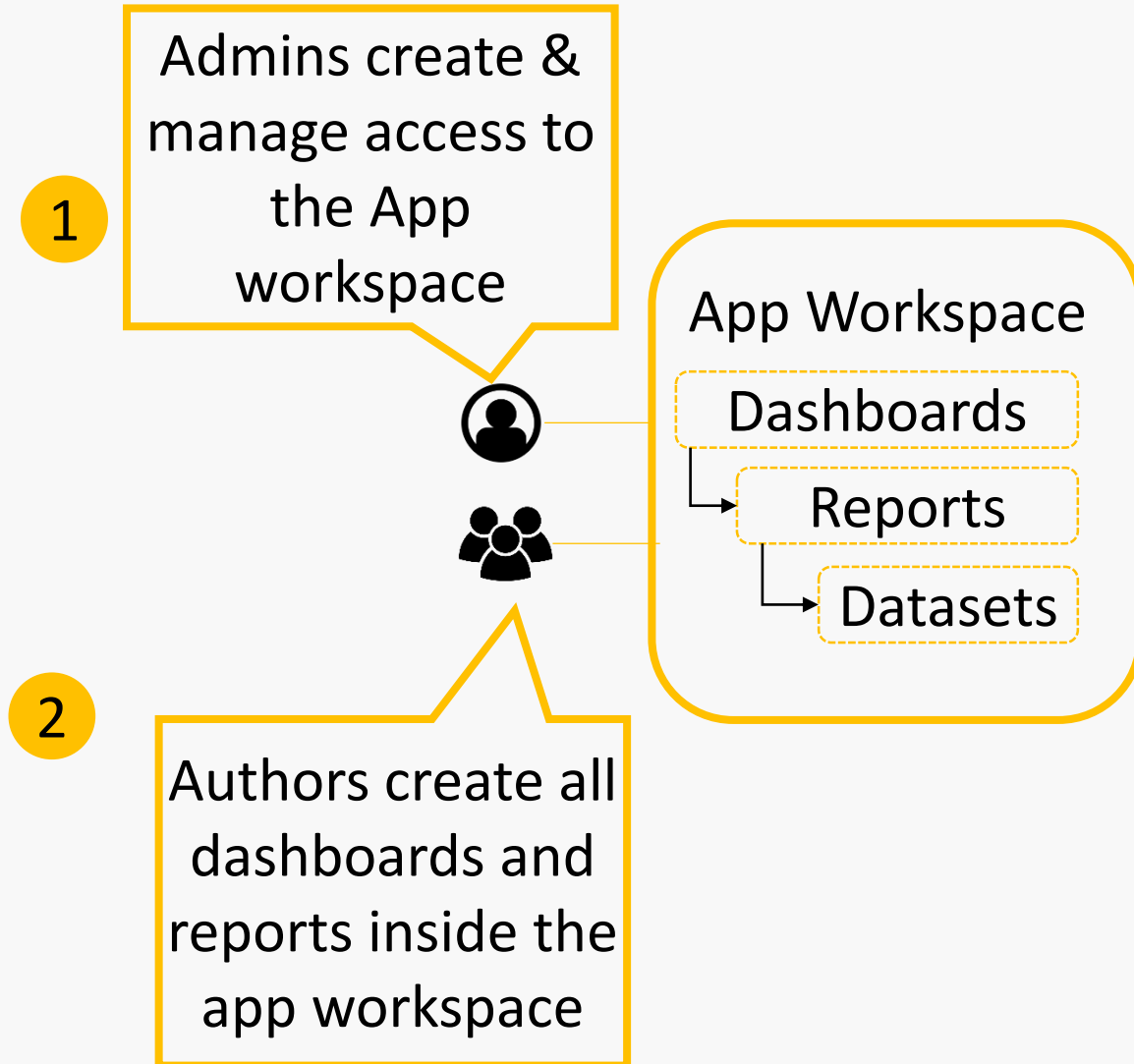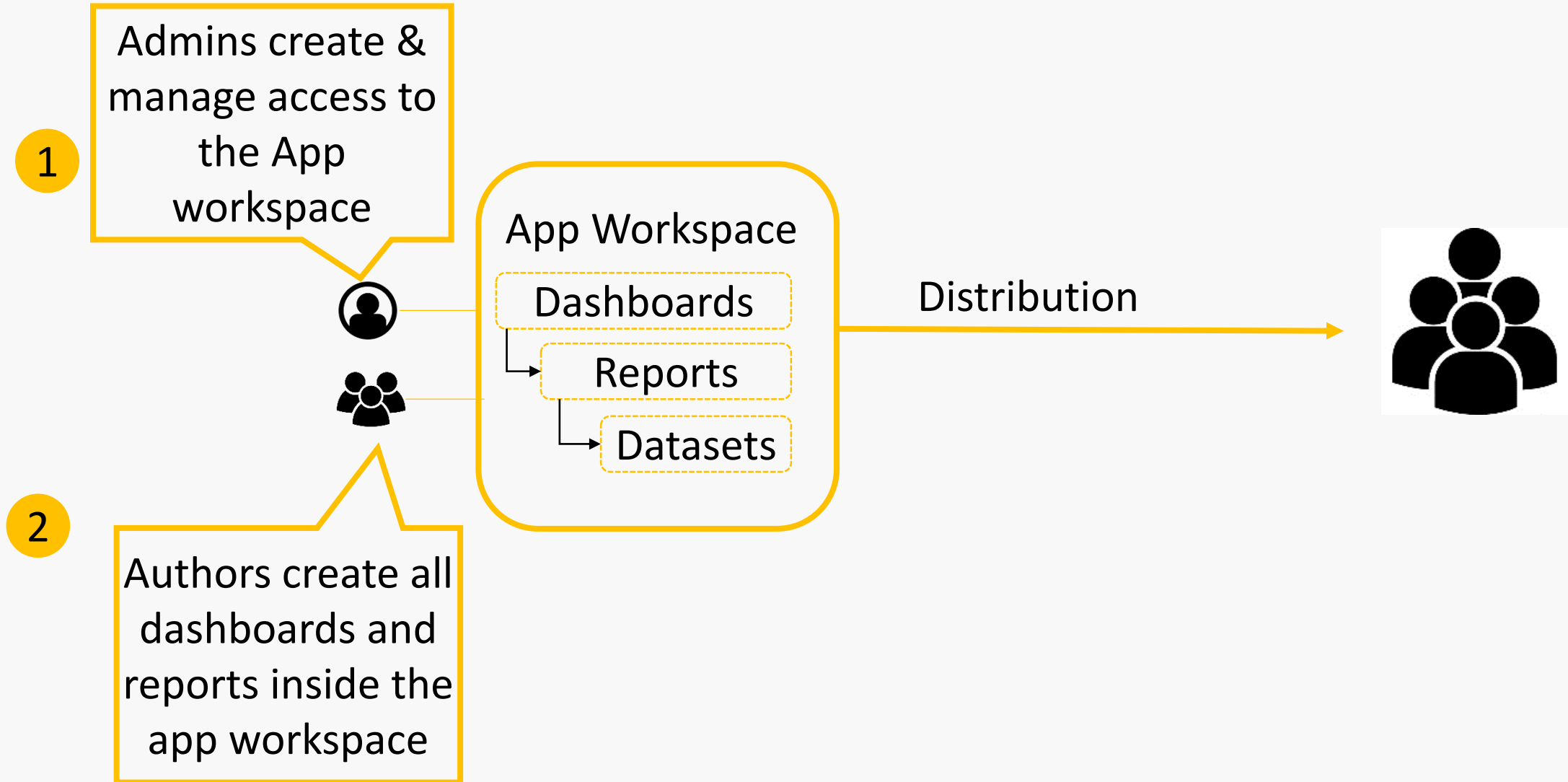
Thank you Sirui Sun!

Collaboration Best Practices

- When in doubt, start with an app workspace

- SharePoint online library OneDrive for Business for versioning Power BI Desktop files (.PBIX)

- Recap of the process: https://aka.ms/usingpbiworkspaces

- Complete governance/deployment whitepaper: https://aka.ms/pbideploywhitepaper

Roadmap

Over the [next few months](#)

- Creating app workspaces won't create corresponding entities in Office 365
- Today you can add only individuals to the members and admin lists. Soon AD security groups or modern groups are allowed.

Distribution
Inside organization

Dashboards and Reports

- **Dashboards:** one pane of glass for your organization

- **Reports:** drill into the details

Self-Service BI – Teams and Small Groups

- Small number of users
- Focus on freedom and flexibility
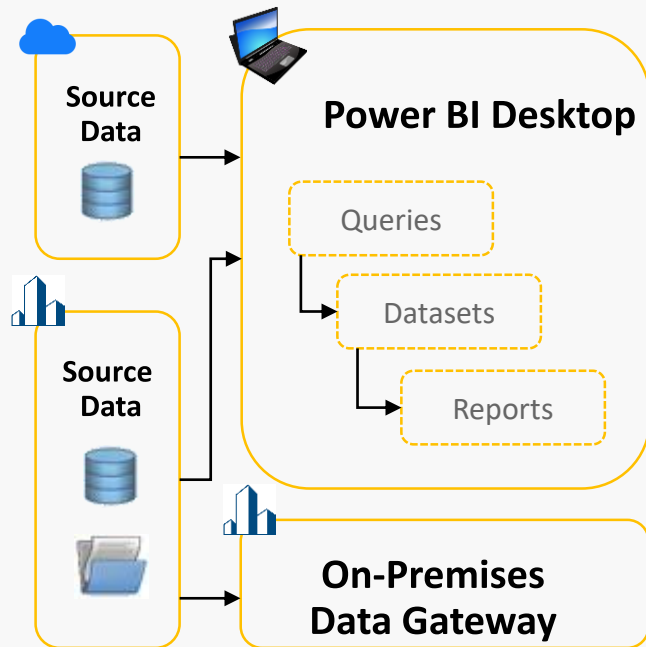
Self-Service BI – Teams and Small Groups

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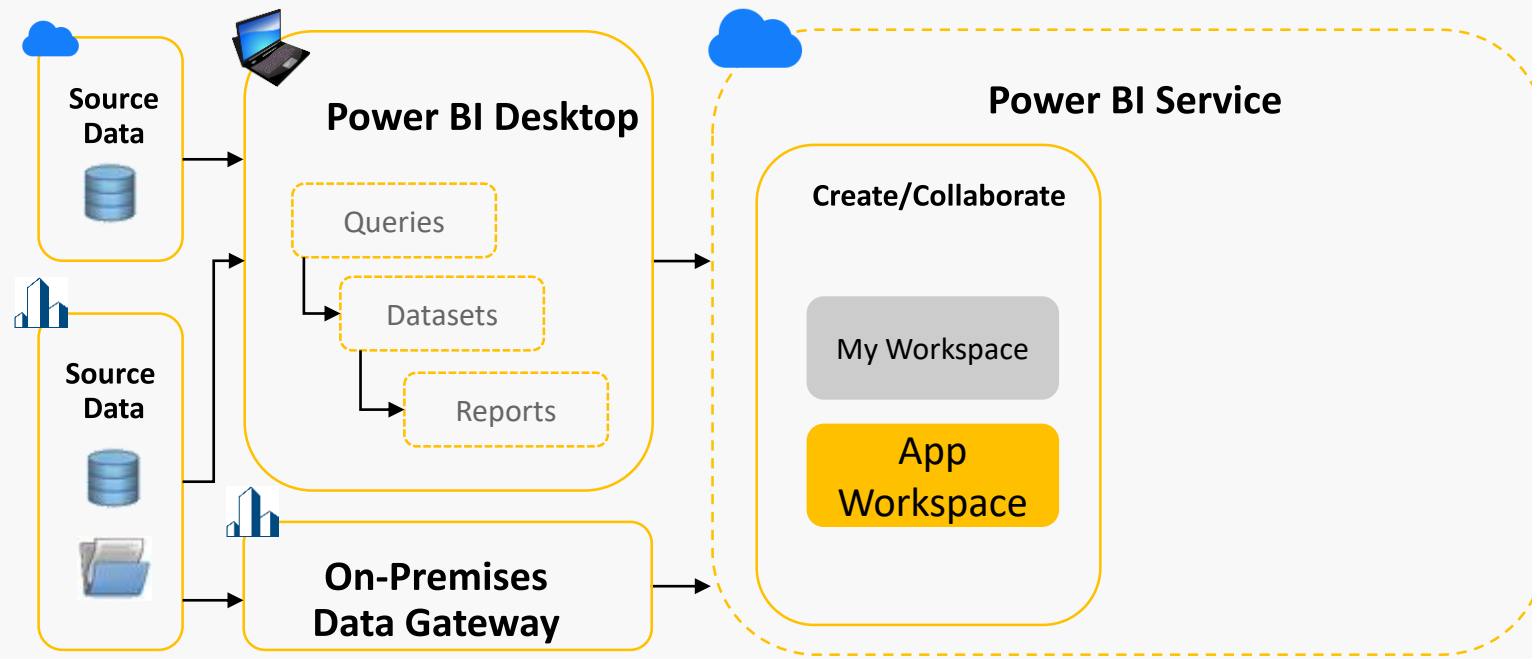
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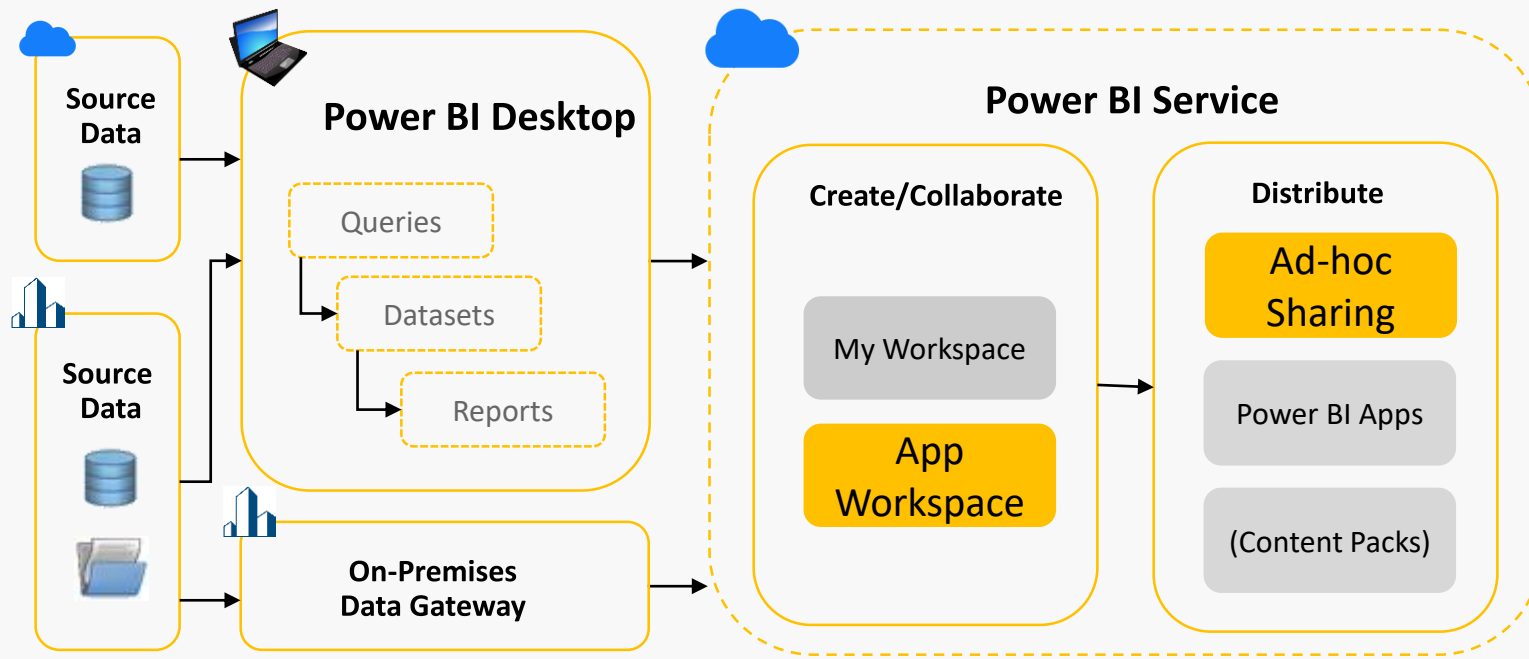
Self-Service BI – Teams and Small Groups

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- Focus on freedom and flexibility

Enterprise Reporting

- Large number of users & centrally managed datasets
- Focused on accuracy, reliability, and security
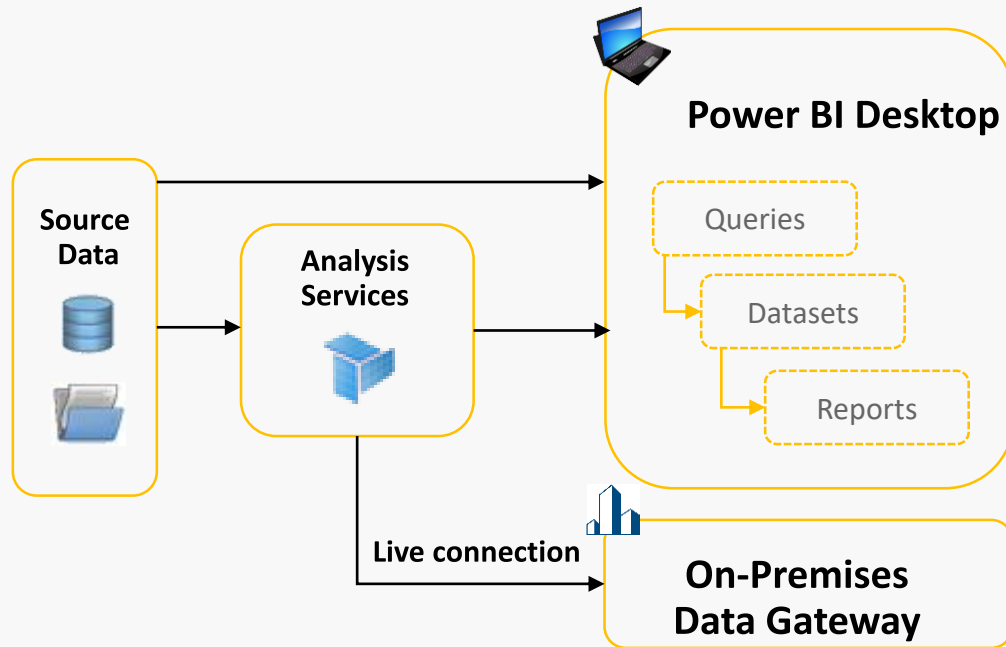
Enterprise Reporting

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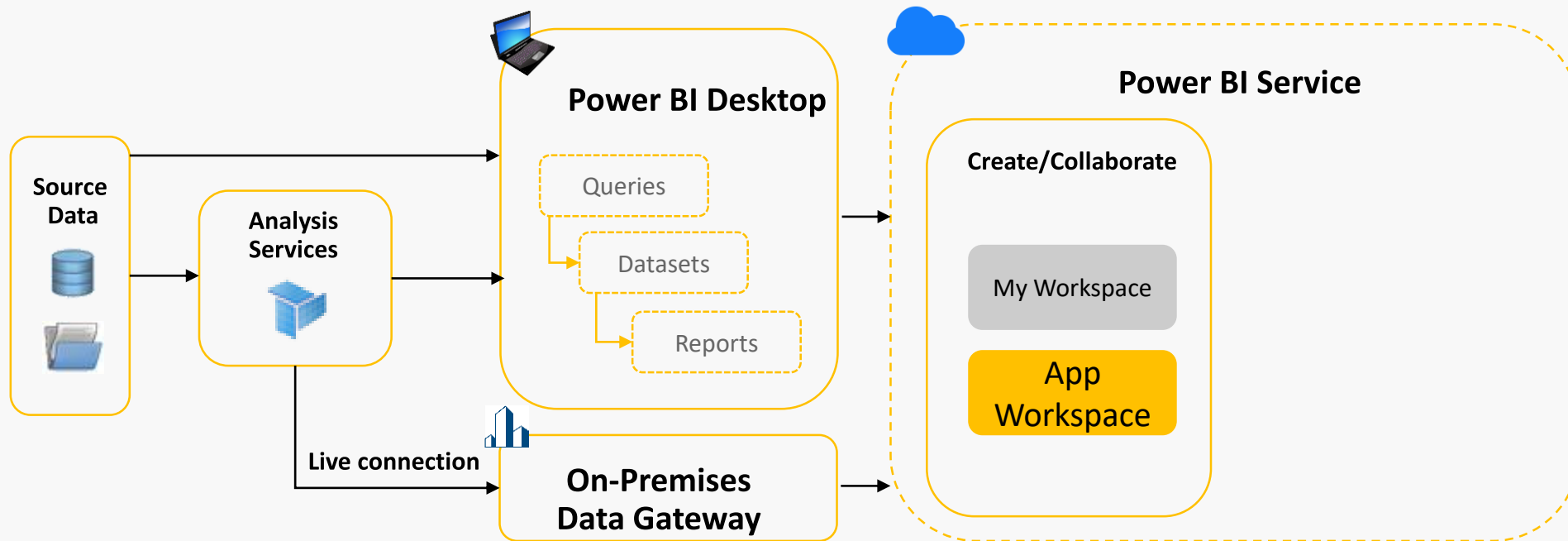
Enterprise Reporting

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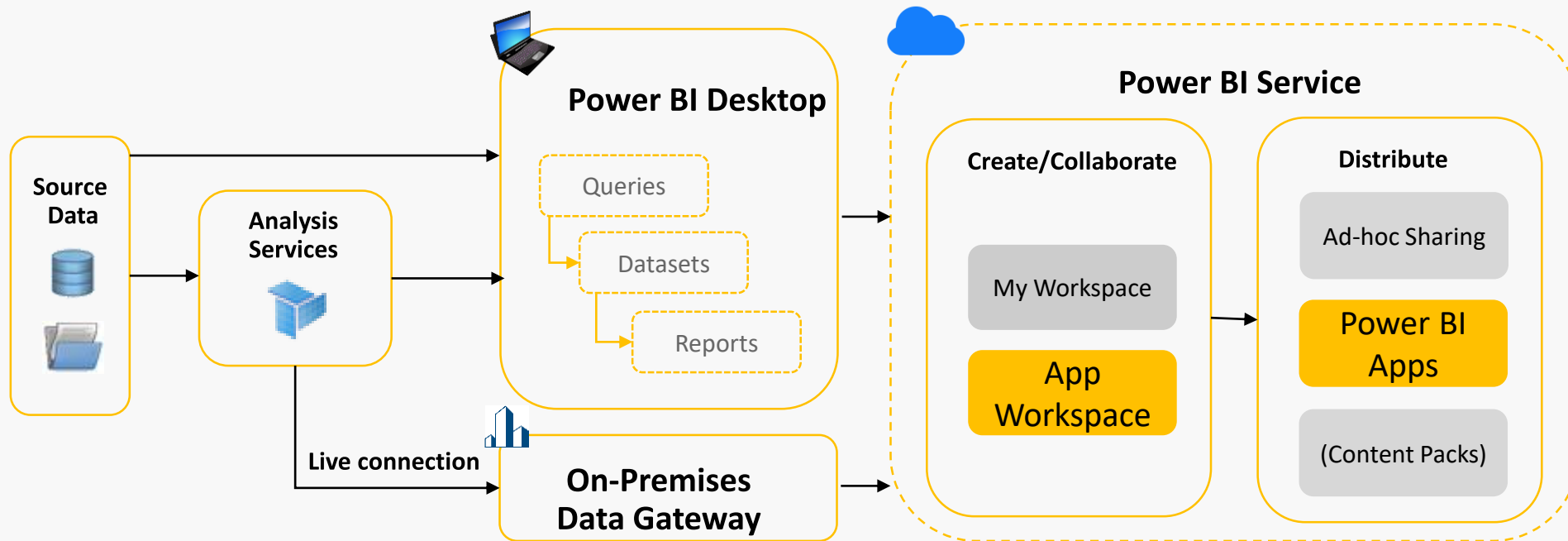
Enterprise Reporting

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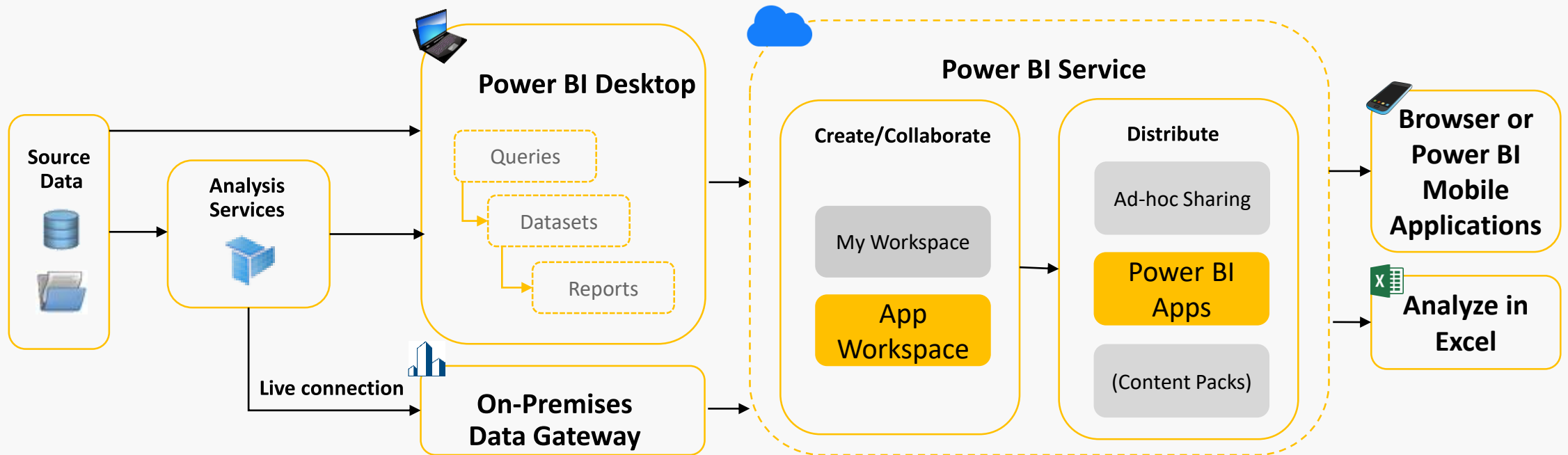
Push apps to end users

- Since 02/2018
- Previously users had to get apps themselves
- Needs to be enabled from Power BI Admin Portal

Distribution with Power BI

| self-service | managed |

Ad-hoc Sharing

- ✓ Share single dashboards or reports
- ✓ Low friction
- ✓ Share to users and SGs

Apps

- ✓ Share multiple assets
- ✓ Wide-spread distribution
- ✓ Share to users and SGs

What about ~~good~~ old Content Packs?

- Apps are an evolution and simplification of content packs
- You can create multiple content packs from any workspace, but an app has a 1:1 relationship with its workspace.
- Over time MS plans to [deprecate organizational content packs](), so apps are recommended from now on.

Demo
App workspaces and Apps

Distribution
Outside organization

Public Sharing – Publish to web

- Available also with free license
- Available only for reports, not dashboards
- Other restrictions
  - Only for cloud models
  - No filter pane available
  - No Row Level Security (RLS)
  - No ESRI ArcGis maps
  - No R-visuals
  - No metrics statistics
- Admins can allow this feature only for authorized users or SGs

Rautatieliikenne

6.12.2017 23.59

Ajoissa/Myöhässä

26,54%   21,21%

73,46%   78,79%

● Ajoissa
● Myöhässä

Eilen   Tänään

Myöhästymiraja
Yli 1 min

Saapumiset
23 798

Perutut junat
1

Perutut junat

Junan nro	Junan kategoria	Junan tyyppi	Lähtöpäivä
63167	Shunting	SAA	6.12.2017
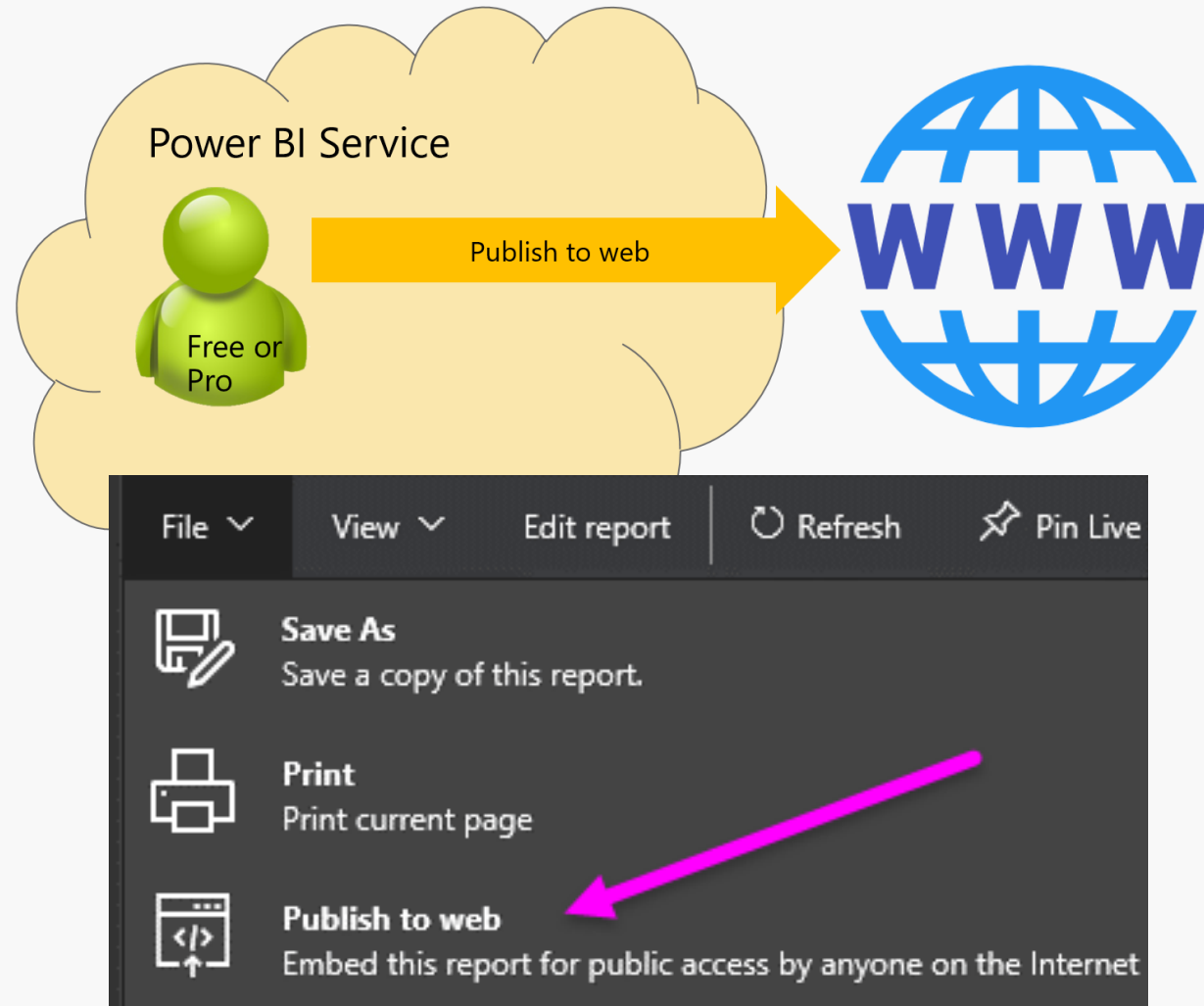
Saapumiset

Lähtöpäivä

Tänään/eilen
☑ Eilen
☑ Tänään

Aseman tyyppi

Aseman tyyppi
☐ STATION
☐ STOPPING_POINT
☐ TURNOUT_IN_THE_OPEN_...

Asema

Aseman nimi
🔍
☐ Valitse kaikki
☐ Ahonpää
☐ Ahvenus
☐ Ainola
☐ Airaksela
☐ Aittaluoto
☐ Ajos
☐ Alapitkä
☐ Alavus
☐ Alholma
☐ Arola
☐ Asola
☐ Aviapolis
☐ Dragsvik
☐ Dynamiittiva...

Kategoria

Junan kategoria
🔍
☐ Valitse kaikki
☐ Cargo
☐ Commuter
☐ Locomotive
☐ Long-distance
☐ On-track mac...
☐ Shunting

☐ 01 keskiyö
☐ 02 aamuyö
☐ 03 aamu
☐ 04 aamupäivä
☐ 05 iltapäivä
☐ 06 ilta
☐ 07 iltayö

Lähijuna

Lähilinja
🔍
☐ A
☐ D
☐ E
☐ G
☐ I
☐ K
☐ L

Saapumiset kategorioittain

Commuter	19 514
Long-dista...	3 044
Cargo	912
Locomotive	218
Shunting	93
On-track m...	17
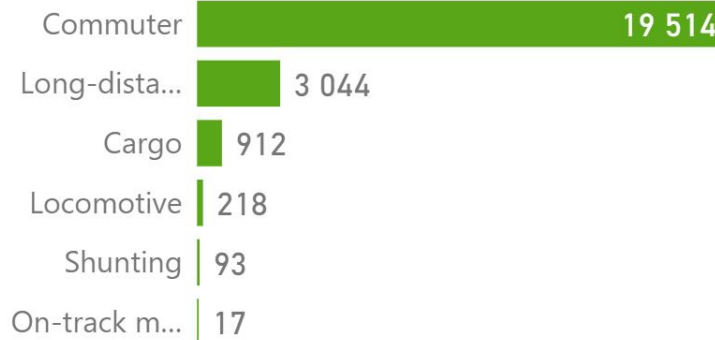
Junien saapumismäärät asemille

● Eilen   ● Tänään

20

0:00 3:00 6:00 9:00 12:00 15:00 18:00 21:00
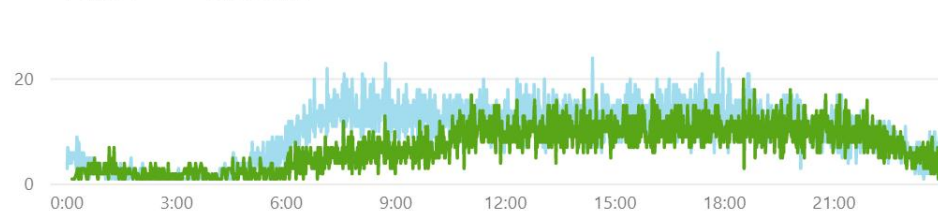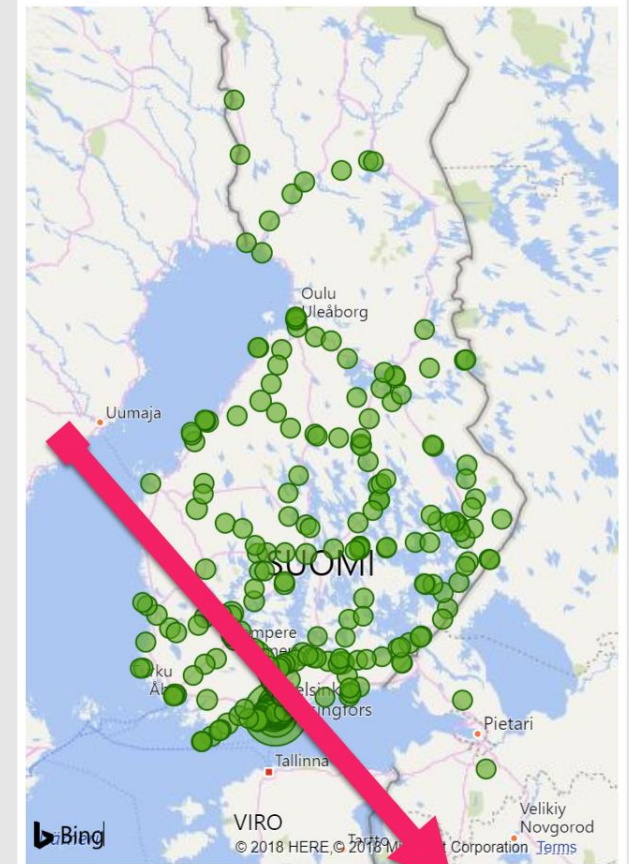
Ad-hoc sharing outside organization

- Dashboards and Reports
- Pro -> Pro
- Row Level Security (RLS) is not supported
- Can be disabled

Power BI Service

Organization A

Pro

Pro   Pro

Share

Share

Organization B

Pro
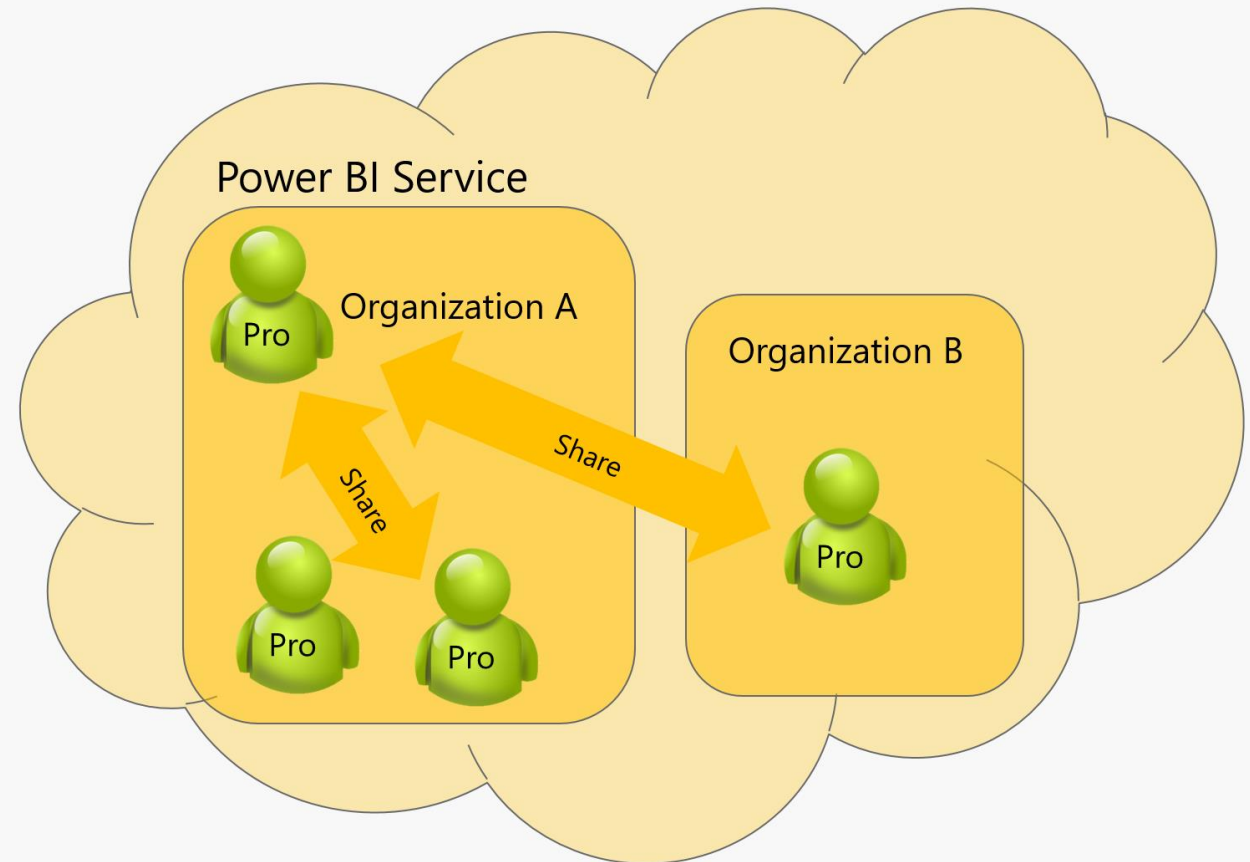
Ad-hoc sharing outside organization

- Dashboard and Reports
- Premium -> Free
- Row Level Security (RLS) is not supported
- Can be disabled
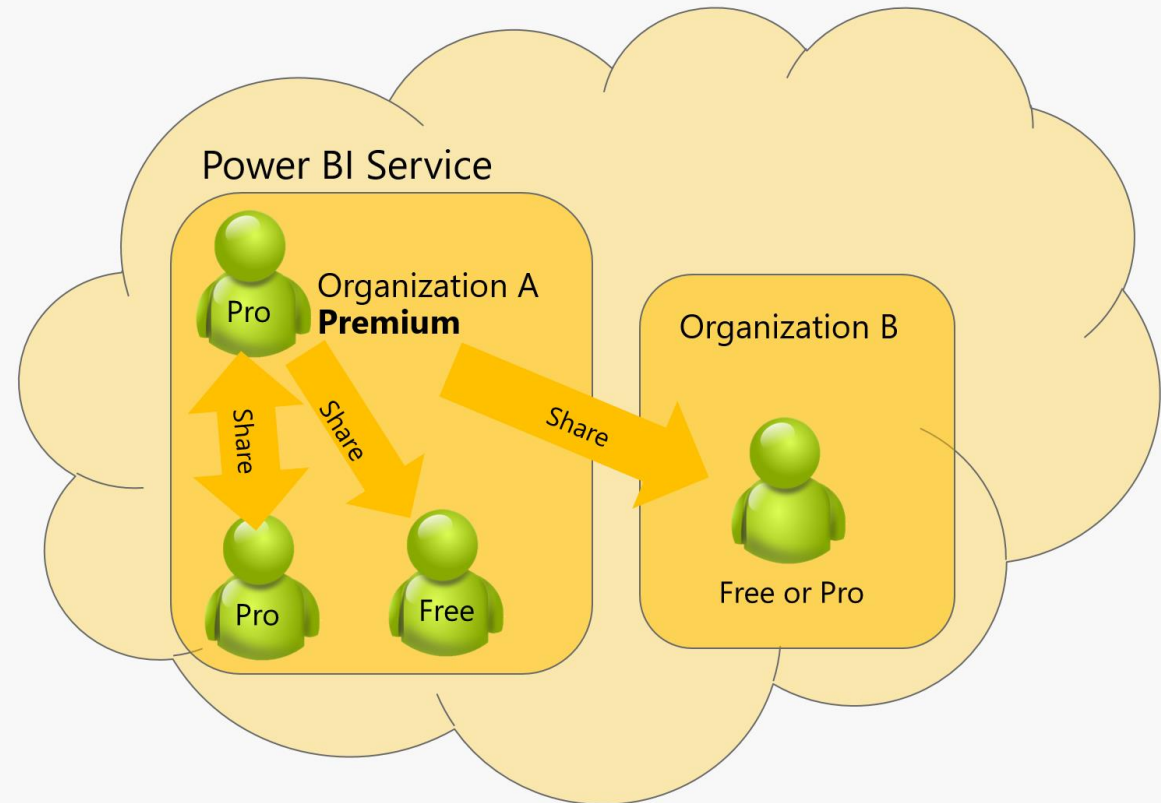
Distribute to external guest users with Azure AD B2B

- Available since 11/2017
- They can view apps, dashboards, reports, export data and create email subscriptions
- They can't access workspaces or publish their own content.
- RLS is supported
- Planned invites or ad-hoc invites

- Licensing options
  - Power BI Premium
  - Assign Power BI Pro license to guest user
  - Guest user brings their own Power BI Pro license
- Is available also with personal e-mail accounts since 02/2018 such as gmail.com, outlook.com, or hotmail.com

Embedding in Custom Application to share outside organization

- Explained in Embedding Section

Embedding
Self-Service

Embedding in Office 365

- Available with Pro and Premium (P1-P3) licenses
  - SharePoint Online
  - Microsoft Teams
  - Dynamics CRM Personal Dashboards
  - Integration with Flow & PowerApps

SharePoint Online

- Users must also have access to the Power BI Report
- Is supported only with Modern Pages
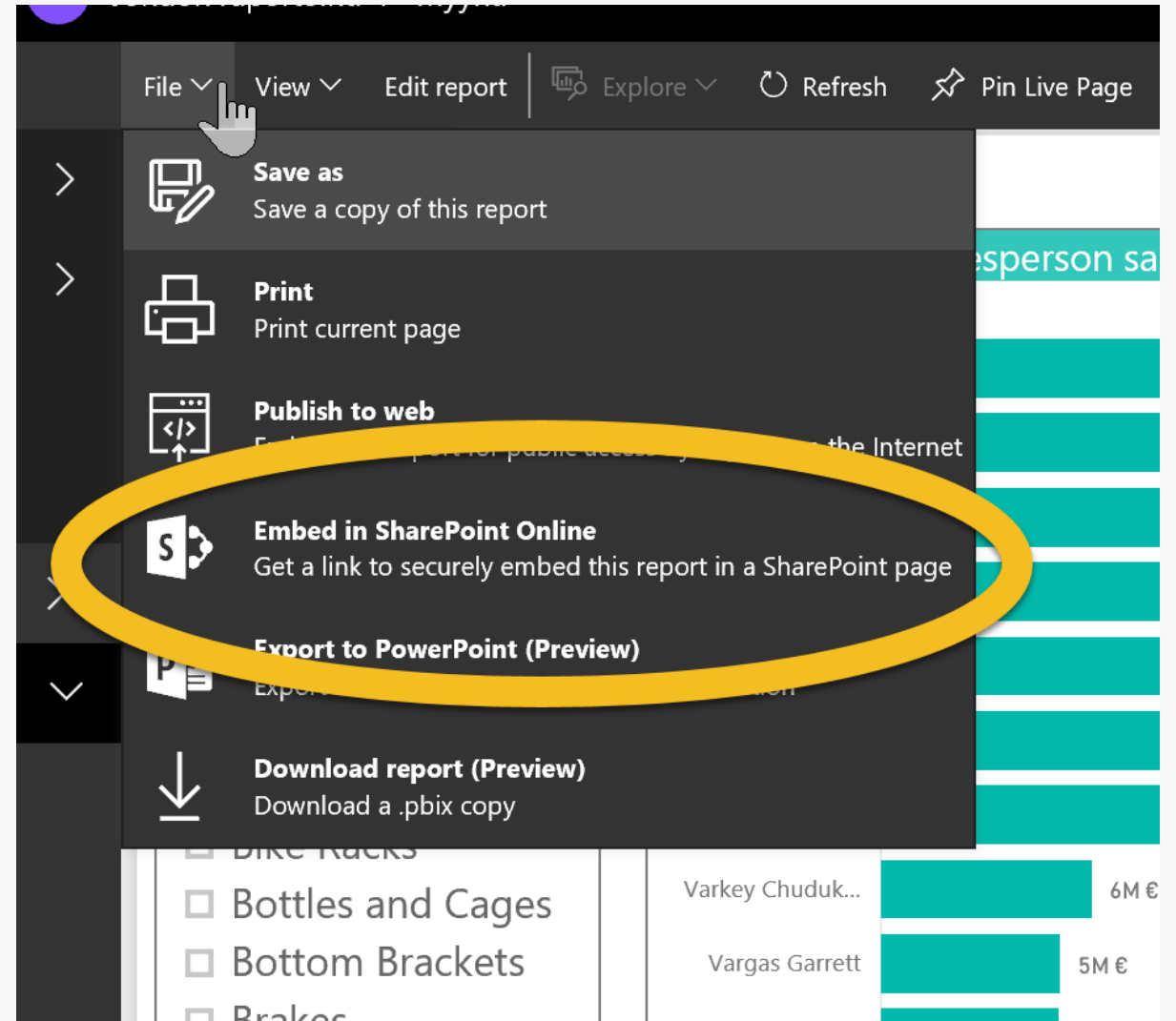
Microsoft Teams

- Users must also have access to the Power BI Report
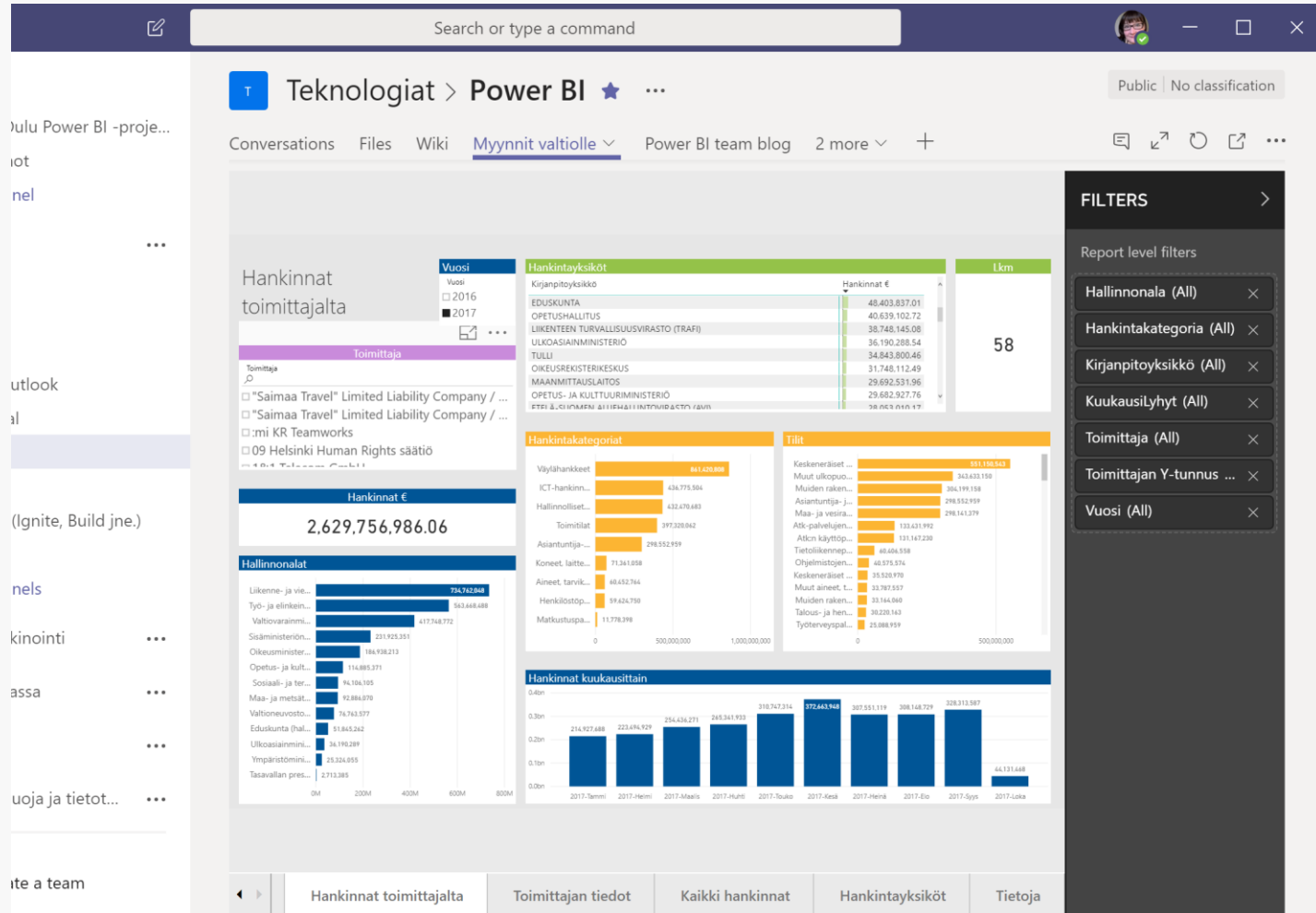
Dynamics 365

- Users must also have access to the Power BI Report
- Is supported with CRM Online Personal Dashboards
- Allow Power BI visualization embedding option needed
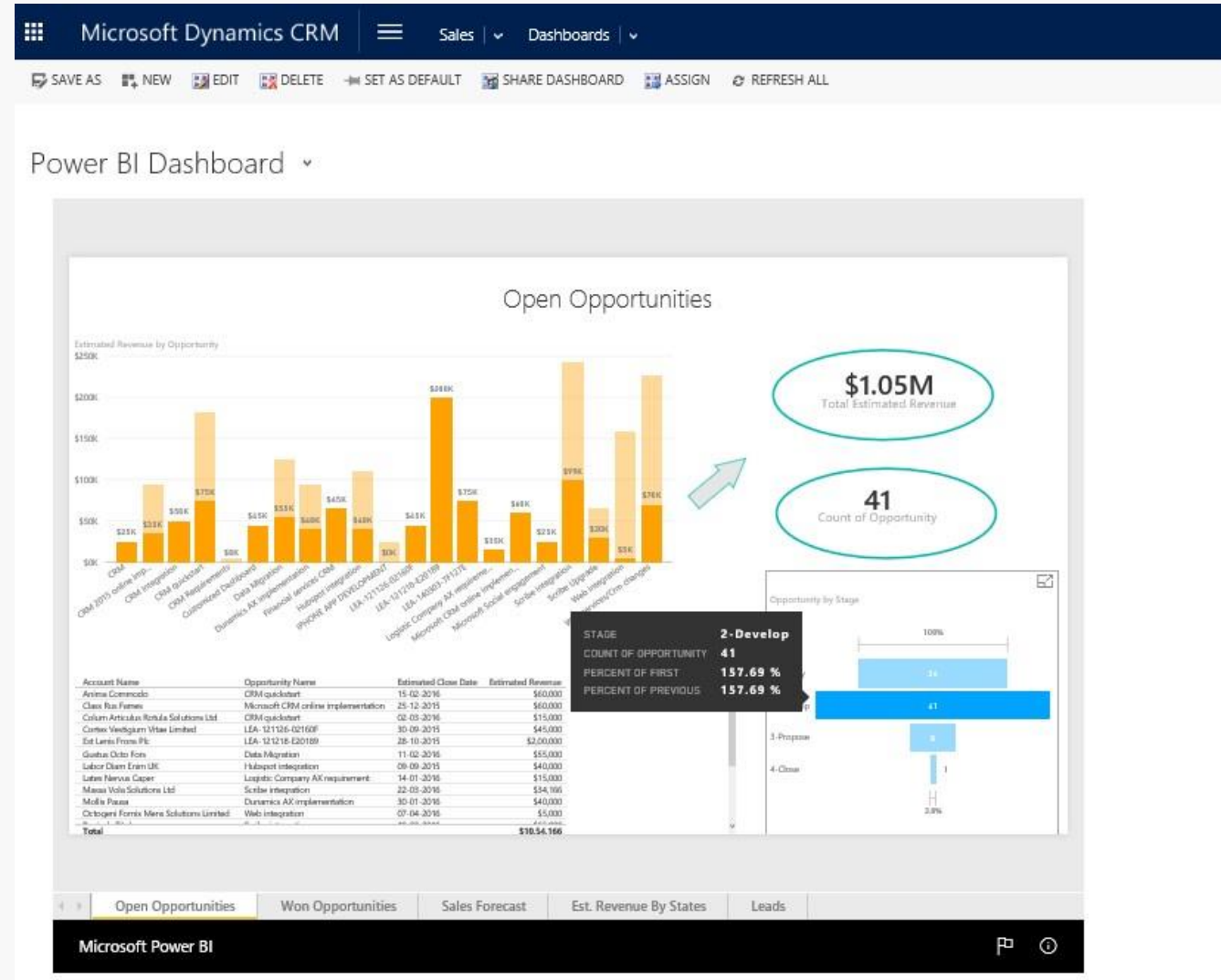
Integration with Flow

- [Examples](#)

Trigger a flow with a Power BI data-driven alert	Send an e-mail to any audience when a Power BI data alert is triggered	Run sentiment analysis on tweets and push results to a Power BI dataset	Send e-mail from my personal Outlook.com to anyone on Power ...
By Microsoft Used 3438 times	By Microsoft Used 1853 times	By Microsoft Used 553 times	By Microsoft Used 399 times
Trigger an alert in Microsoft Teams when a Power BI alert is triggered	Post a message to a Slack channel when a Power BI data alert is triggered	Alert your team via email when a Power BI data alert is triggered	Visualize classroom walkthrough data in Power BI
By Microsoft Used 211 times	By Microsoft Used 192 times	By Microsoft Used 187 times	By Microsoft Used 56 times
Trigger a text message with a Power BI data-driven alert	Create a Wunderlist task when a Power BI data alert is triggered	Alert your team when a Power BI data alert is triggered	Create a Trello card when a Power BI data alert is triggered

Integration with PowerApps

- Show Power BI tiles inside PowerApps app
- Embed PowerApps App in Power BI Dashboard
- Add PowerApps Custom Visual (Preview) in Power BI report
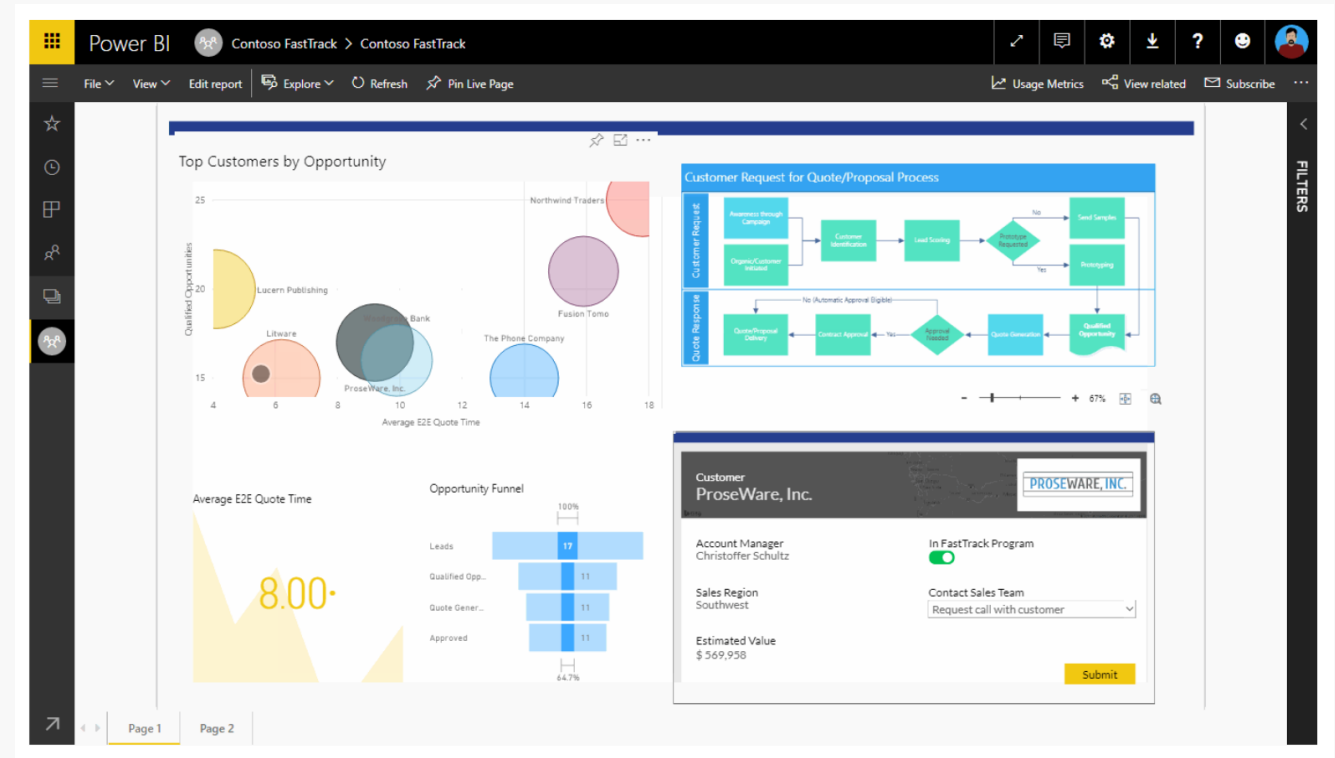
Embedding
Custom Applications

Embedding in Custom Applications
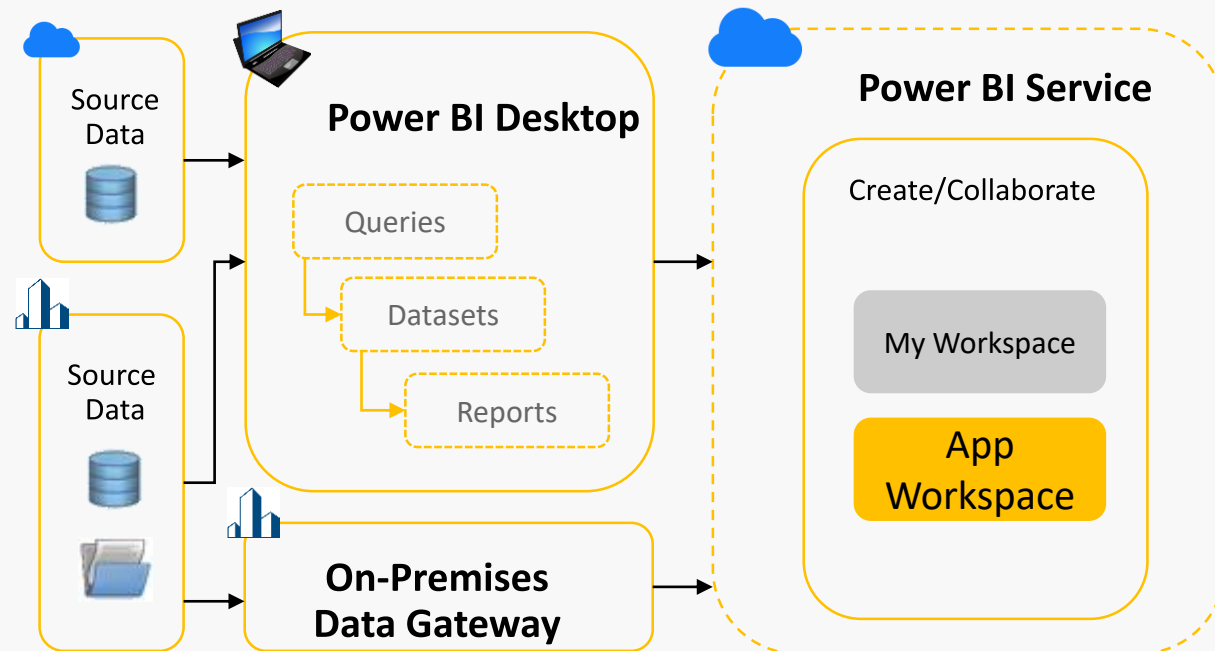
Inside Organization

- Pro and Premium licenses
- Premium EM1-EM3 licenses
- A1-A6 licenses

Outside Organization

- To users who don't have Power BI licenses
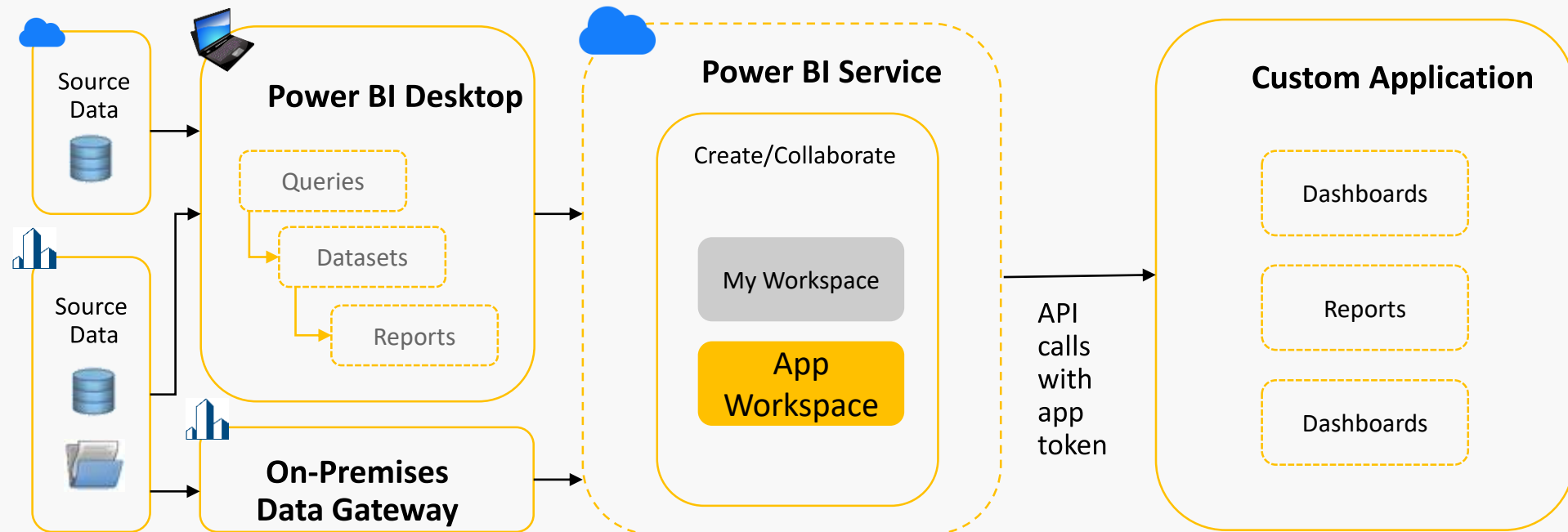- Premium EM1-EM3
- A1-A6

Embedding in Custom Applications

- Dashboards/reports embedded into custom application
- Allows sharing inside or outside your organization

Embedding in Custom Applications

- Dashboards/reports embedded into custom application
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Requirements for Embedding

- Azure Active Directory tenant
- Power BI Pro account
- Register your app within the tenant
- App workspace in Power BI Service
- Outside your organization: Authenticate users and get an Azure AD access token for your Power BI app
- Embed content into your application
- https://microsoft.github.io/PowerBI-JavaScript/demo/v2-demo/

Consumption

Consumption Options

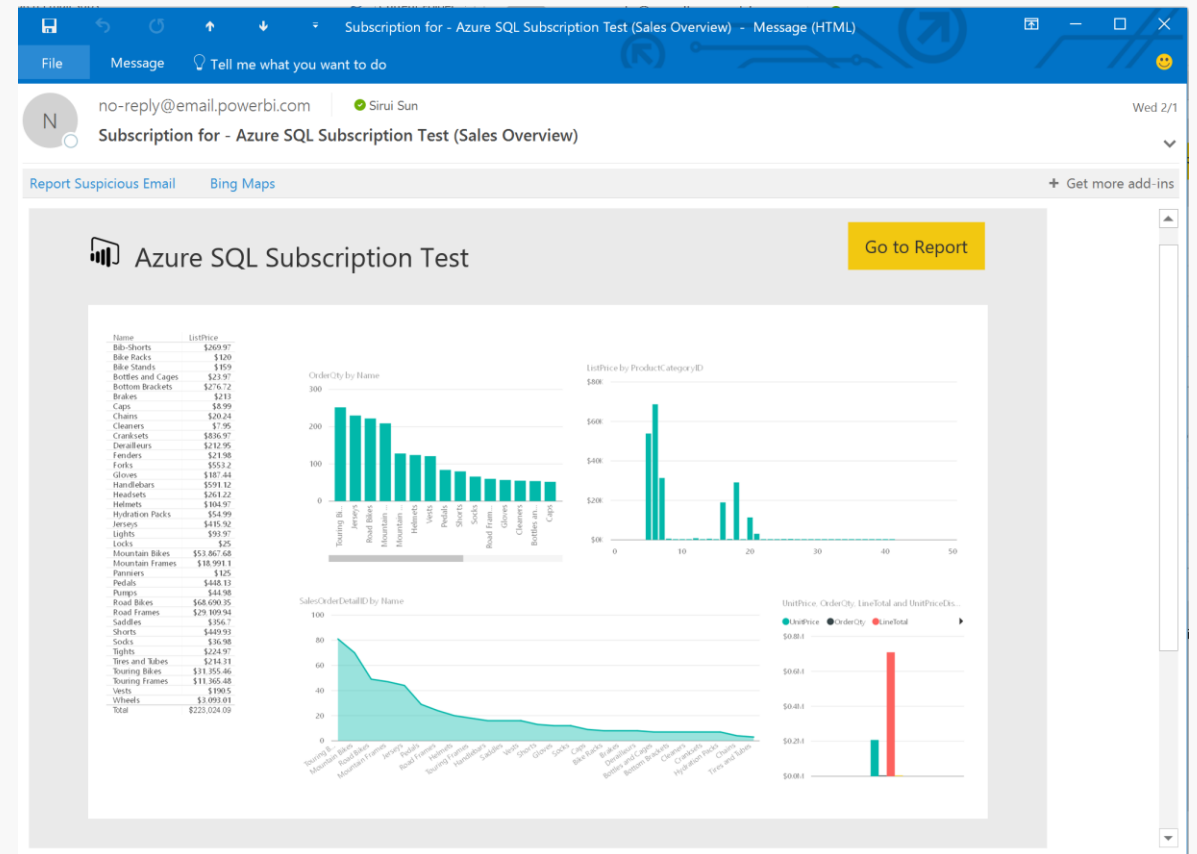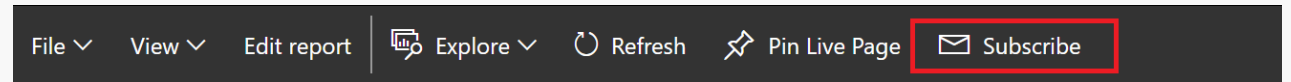|			
Power BI portal (reports, Q&A, quick insights)	Mobile apps	Embedded in O365	Embedded in apps using APIs
Ad-hoc analysis with Analyze in Excel	Data alerts	Export static views to PowerPoint or print	Email subscriptions

Export to .csv

E-mail subscriptions

- E-mail subscriptions delivered after data refresh
  - Supported for both **dashboards** and reports

Data Alerts

- Get notified right when data changes

- Integrate with Microsoft Flow

LISTPRICE
Manage alerts

+ Add alert rule

∧ Alert for Error Count 🗑

Active

⬤ On

Alert title

Alert for Error Count

Set alerts rule for

ListPrice

Condition   Threshold

Above ▾   100000

Maximum notification frequency
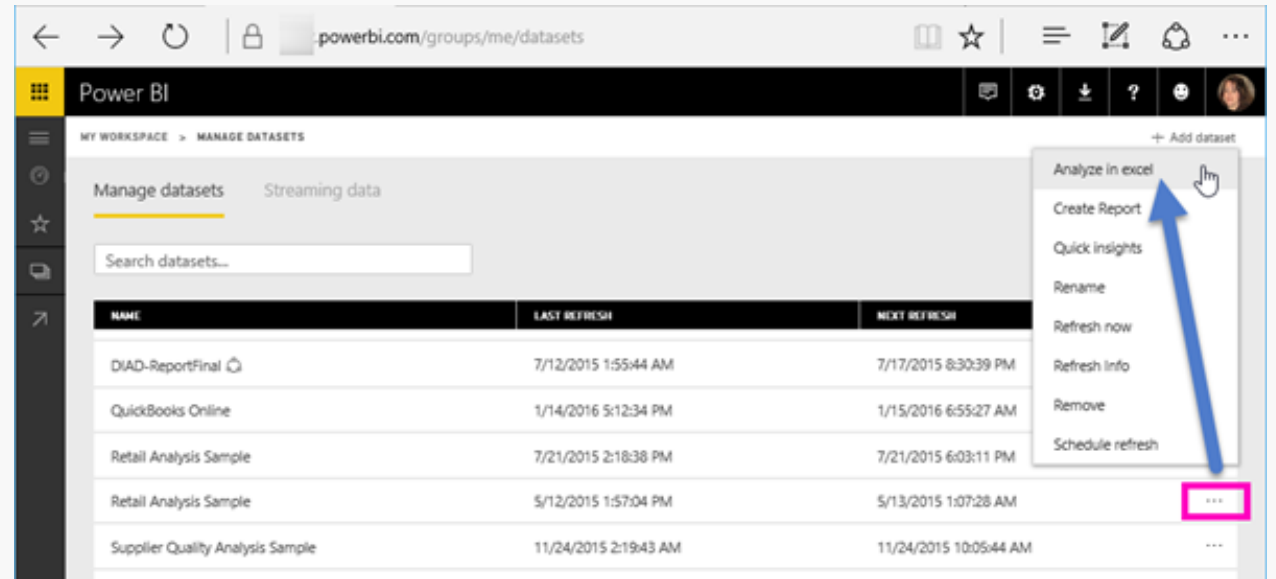⦿ At most every 24 hours
◯ At most once an hour

Alerts are only sent if your data changes.

By default, you'll receive notifications on the service in the notification center.
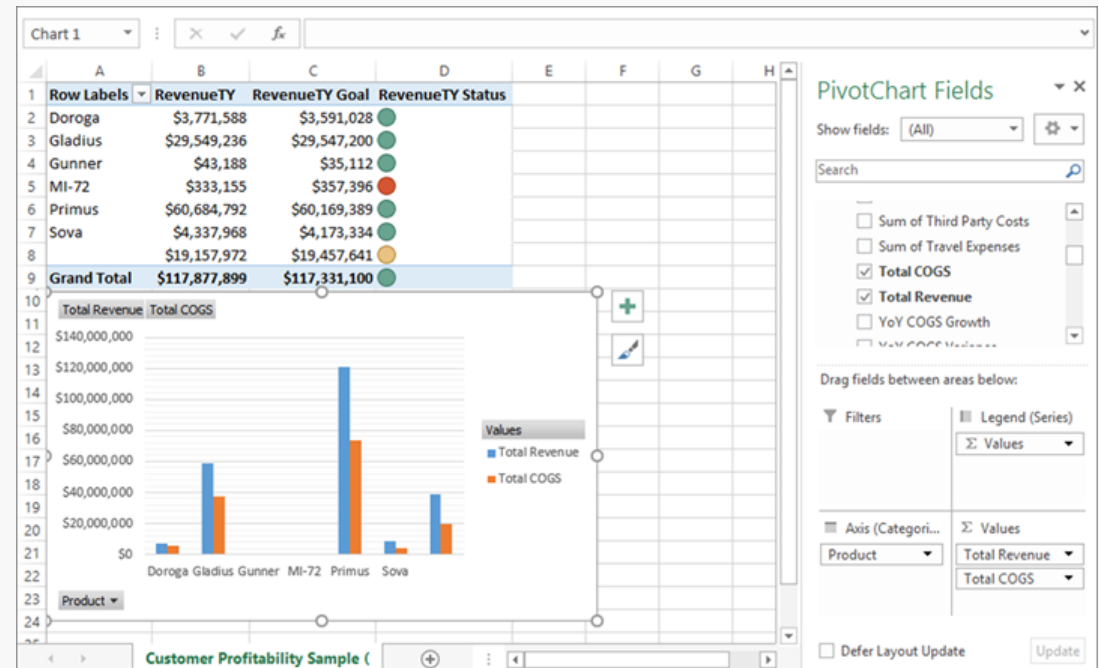
Save and close   Cancel

Analyze in Excel

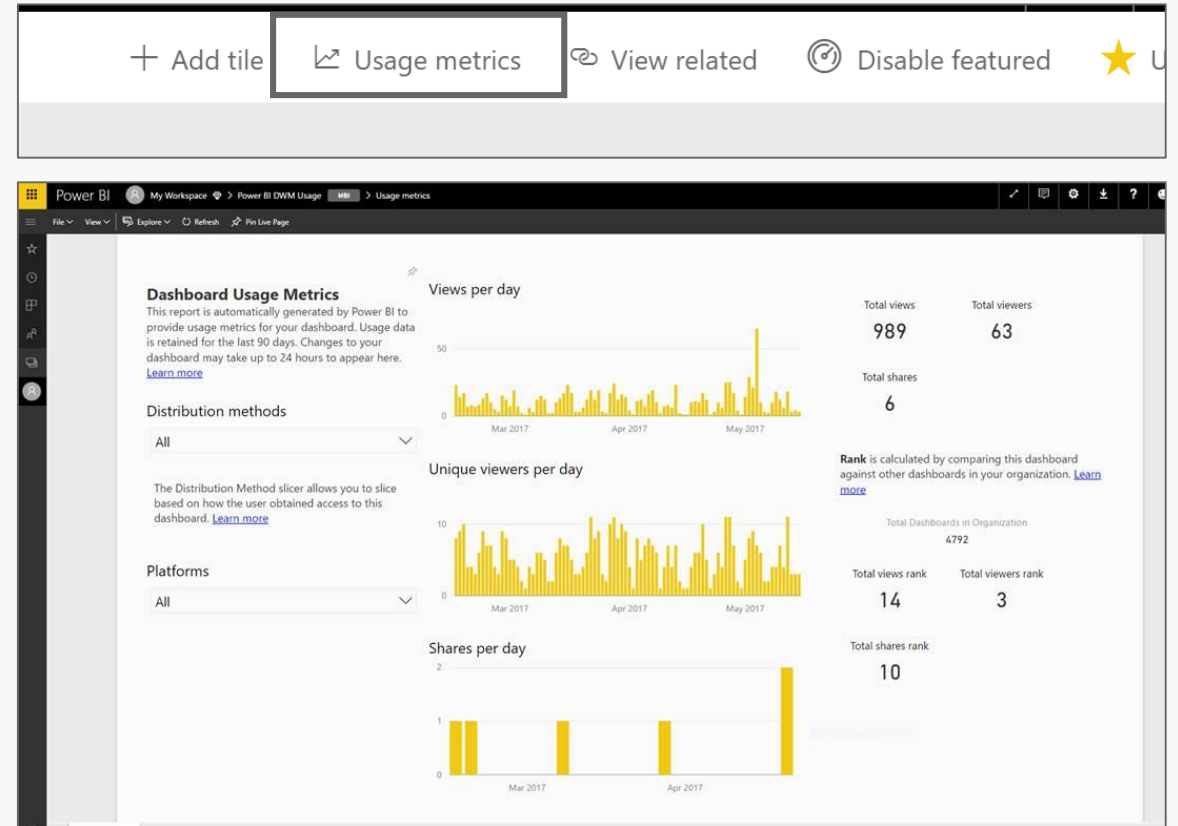- Connect to and Analyze Power BI datasets using Excel

Demo
Data Alerts, E-mail Subscriptions, etc.

Measure Impact

Usage Metrics

- **Automatically generated** for all dashboards and reports

- Understand usage about the **all the dashboards and reports that you author**

- **Customize** for your own uses

Report Server

Power BI Reports on premises

- Web portal you can view in a browser
- Sharing Power BI Desktop Reports, Excel Workbooks and paginated reports created with Report Builder or SSDT
- KPI's
- Mobile reports
- Add-hoc embedding with [embed code](#)
- Report Server programming features to integrate reports in applications

Topics

Licensing	**Data Sources**	**Collaboration**	**Distribution** Inside organization
Distribution Outside organization	**Embedding** Self-Service	**Embedding** Custom Applications	**Consumption**
Measure Impact	**Report Server**		

Thank you!