

# What You Need to Know to Administer Power BI

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Melissa Coates

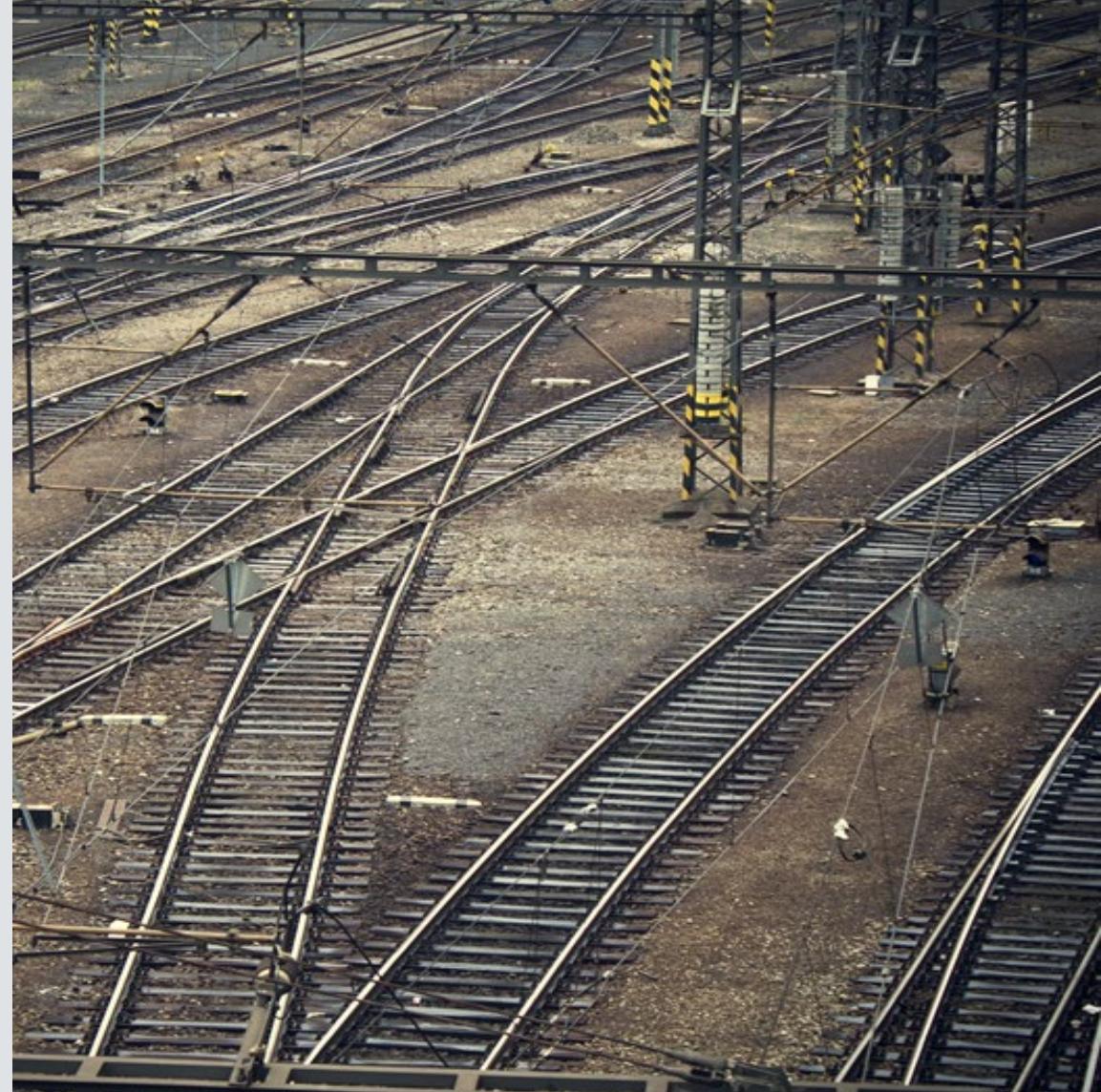
Data Architect | Consultant | Trainer

CoatesDataStrategies.com

@SQLChick | @CoatesDS



Slides & recordings: [CoatesDS.com/Presentations](http://CoatesDS.com/Presentations)



Content last updated: March 24, 2022

# Melissa Coates



Owner of [Coates Data Strategies](#) | [@SQLChick](#) | [@CoatesDS](#)

Data architect specializing in Power BI governance & administration

Author of [Power BI Adoption Roadmap](#)

Author of [Power BI Implementation Planning](#)

Creator of [Power BI Deployment & Governance](#) online course

## Power BI Deployment & Governance

Comprehensive online course

- Governance
- Adoption & data culture
- Center of Excellence
- Data architecture
- Content management
- Data trustworthiness
- Security & protection
- System oversight



- Comprehensive set of video recordings
- Live group Q&A sessions
- Live hands-on workshops
- Customizable templates
- Recommended actions
- Access for 6 months





# Goals for This Session

- ➊ How and why the Power BI administrator role varies based upon the BI approach being used
- ➋ Introduce the breadth & scope of responsibilities
- ➌ Suggestions for next steps

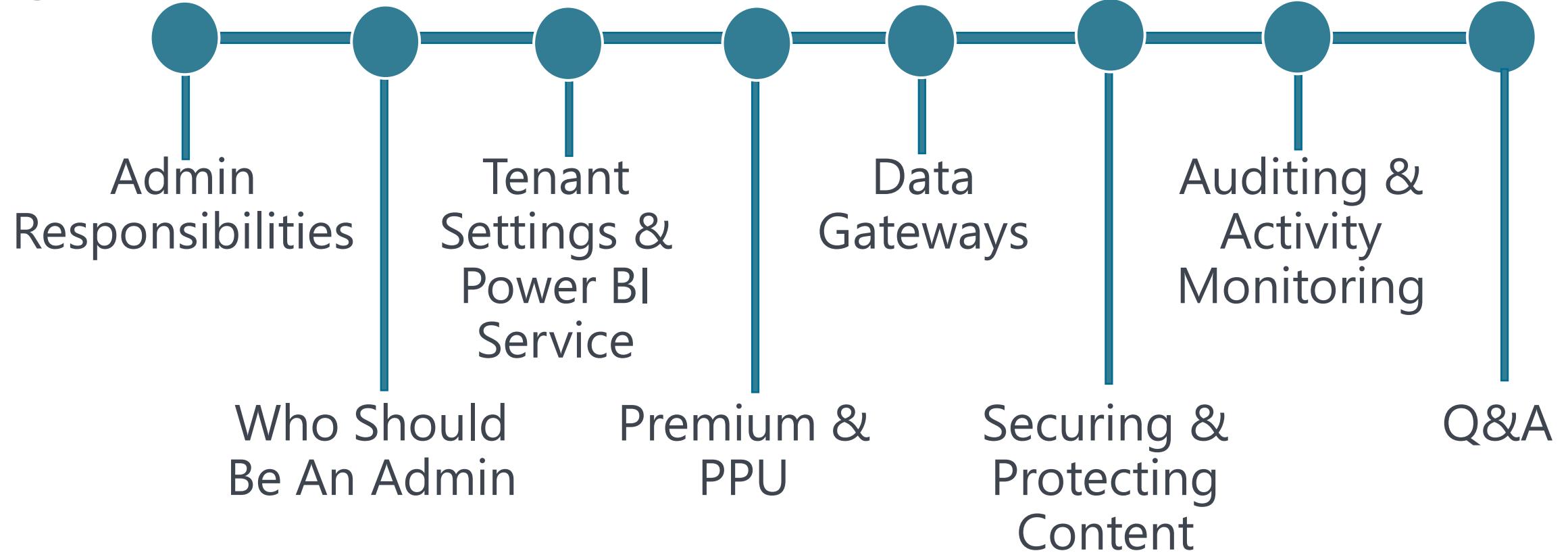
**Session focus:** Using the Power BI Service with the commercial cloud service only. The national clouds (ex: Government, China, Germany) are not specifically covered.

**Out of scope:** Power BI Report Server and Power BI Embedded.



# What You Need to Know to Administer Power BI

## Agenda





# Typical Power BI Administrator Responsibilities

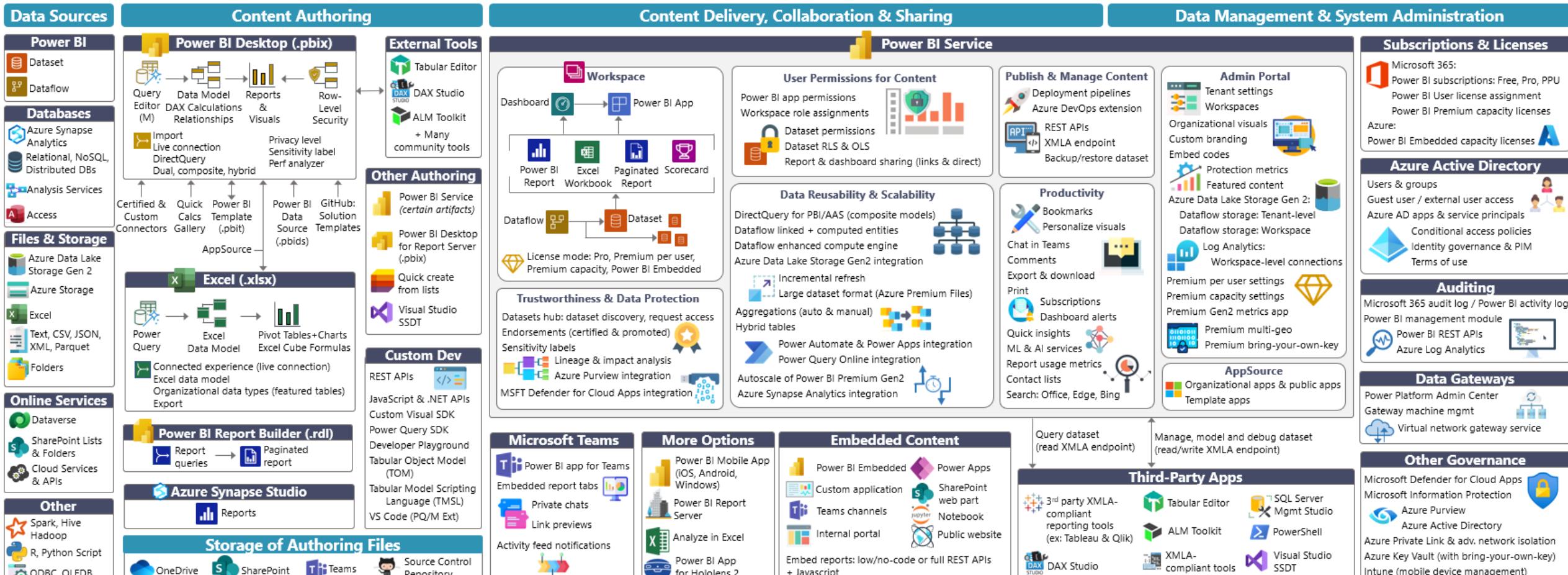


# Power BI is a Broad and Deep Ecosystem

## Power BI End-To-End: Top Features, Key Integration Points & Related Services

Last Updated: March 23, 2022

Coates Data Strategies



Original diag

Derivative Works 3.0

Download at: [CoatesDS.com/diagrams](https://CoatesDS.com/diagrams)

# Power BI Admins Affect the User Experience



Why can't I  
create a  
workspace?

Why can't I start  
a Pro trial?



Why can't  
I export data?



Why can't I  
share to  
Teams?

Why can't  
I certify a  
dataset?

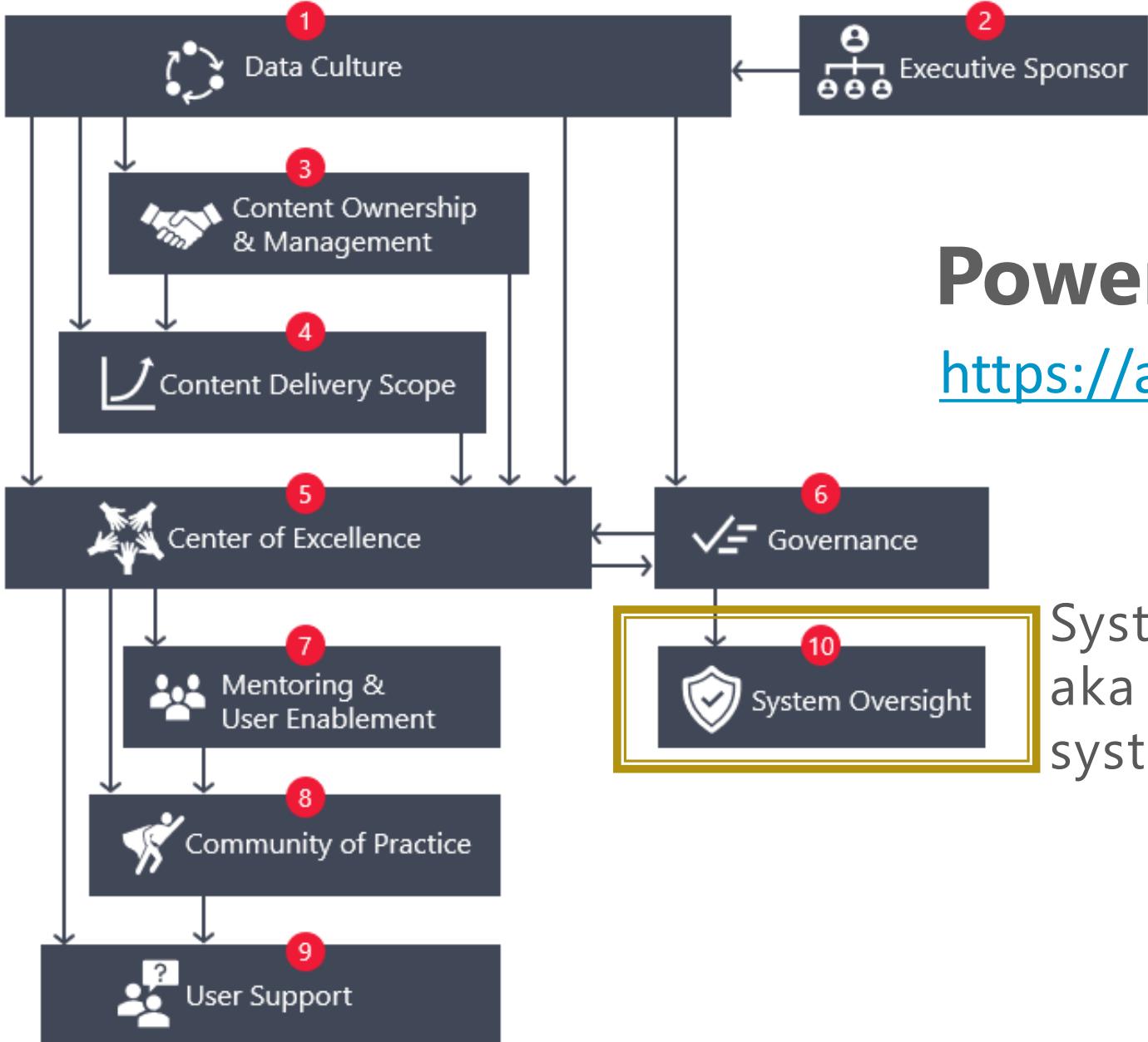


Why can't I use  
this custom  
visual?



Why can't I  
install a  
gateway?





# Power BI Adoption Roadmap

<https://aka.ms/PowerBIAdoptionRoadmap>

System oversight  
aka  
system administration



# Main Goals for Governing Self-Service BI

1

## User Enablement

Empower the internal user community to be productive & efficient

2

## Internal Requirements

Adhere to internal requirements for the proper use of data

3

## Regulations

Comply with external industry, governmental & contractual regulations



# Administration/System Oversight Goals

1

**Enact governance guidelines and policies** to support self-service BI & enterprise BI

2

**Support internal processes & systems** that empower the internal user community, while adhering to the org's regulations & requirements

3

**Allow for broader organizational adoption of Power BI** with effective governance & data management practices (in coordination with the Center of Excellence/IT/BI teams)



# Where Does an Admin Fit?



## Organizational Adoption

The effectiveness of Power BI **governance** and **data management** practices to support and enable BI efforts



## User Adoption

The extent to which users continually **increase their knowledge** to **actively use** Power BI in an **effective way**



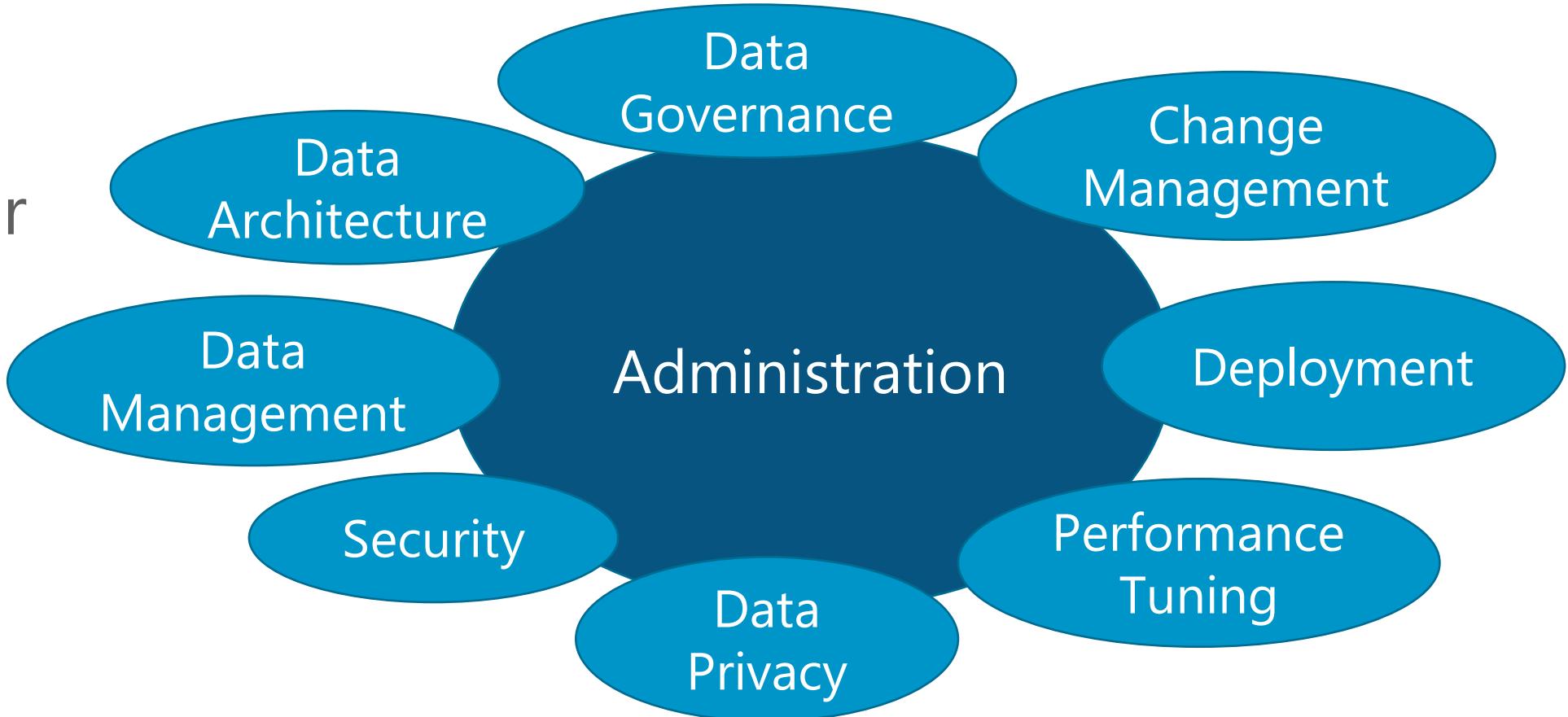
## Solution Adoption

The **impact** and **business value** achieved for individual requirements & solutions



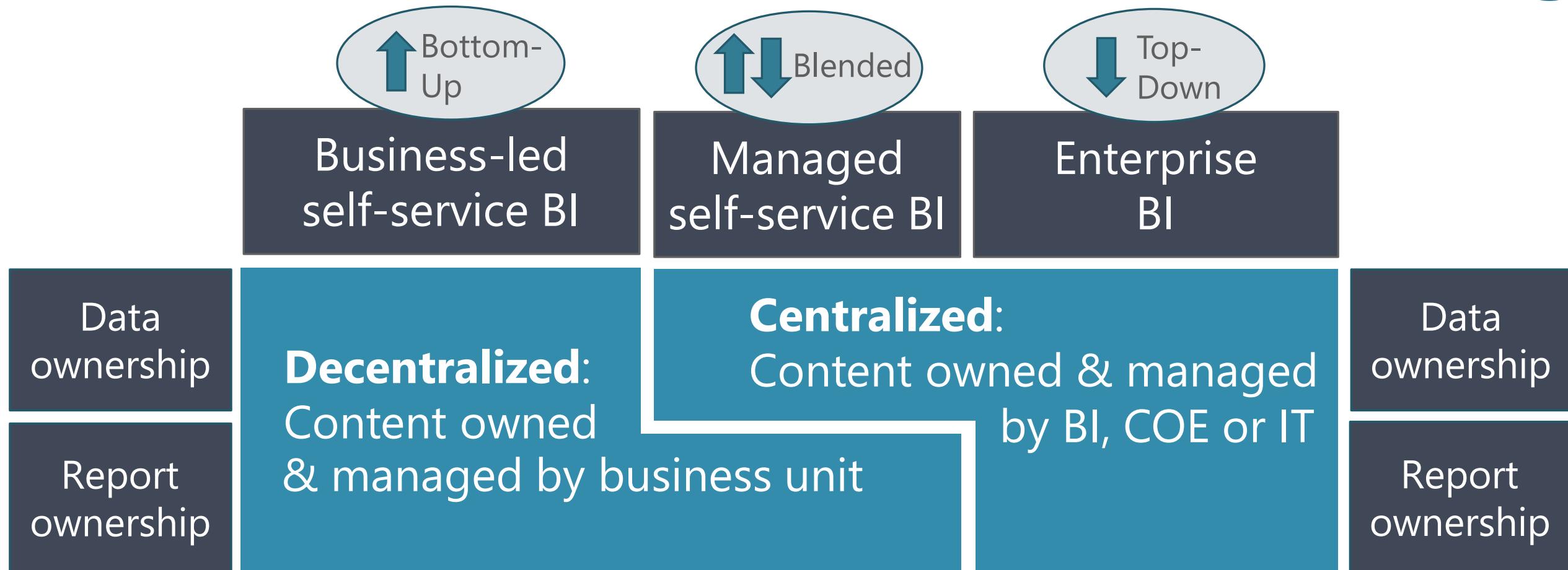
# Where Does Administration Start & End?

A lot of overlap with other things



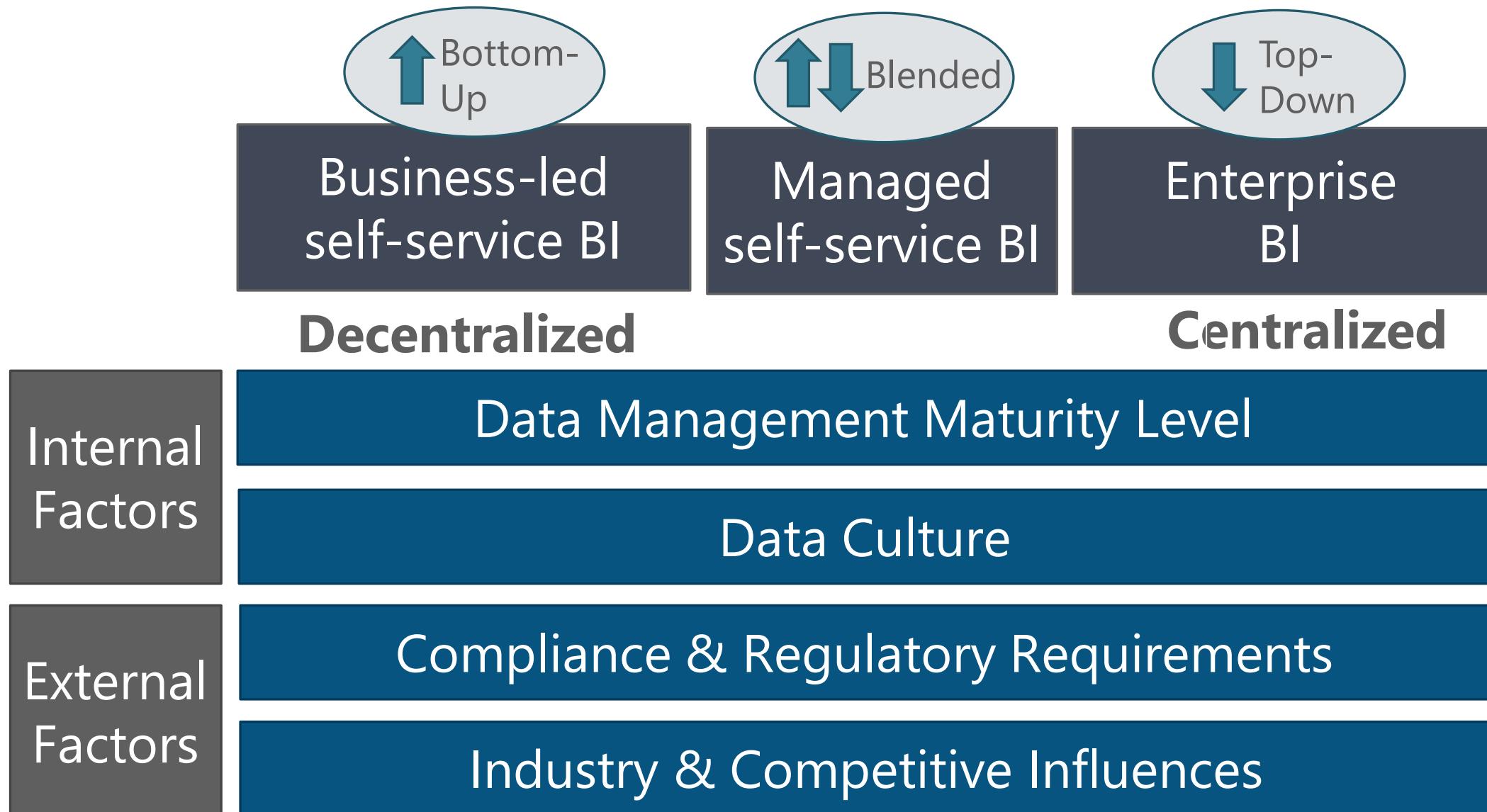


# How Does an Admin Support Users?





# How Does an Admin Support Users?





# Types of Power BI Administrators

Power BI Service Administrator

Power BI Gateway Administrator

Power BI Premium Capacity Administrator

Power BI Report Server Administrator

Power BI Workspace Administrator



# Common Power BI Admin Responsibilities

Power BI Service	Workspace creation
Tenant settings	Security & access
Gateways & data sources	Auditing & monitoring
Premium capacity	Deployments
Desktop software	Licensing & user mgmt
Power BI Report Server	Integration w/ other apps



# Other Administrators & Teams Involved

Global Microsoft 365 admin  
SharePoint administrator  
OneDrive administrator  
Teams administrator

Azure AD administrator  
Azure & DB administrators  
Licensing & billing admin  
Intune administrator

Desktop support  
Infrastructure team  
Networking

Security & compliance  
Legal & risk management  
Internal audit



# Who Is Allowed To Be A Power BI Administrator

# Who is Permitted to be a Power BI Admin?



Competent people able to get things done independently



Risk of too many people with elevated permissions



Consider the Power BI administrator role to be a high privilege role that's provided to just a few people.



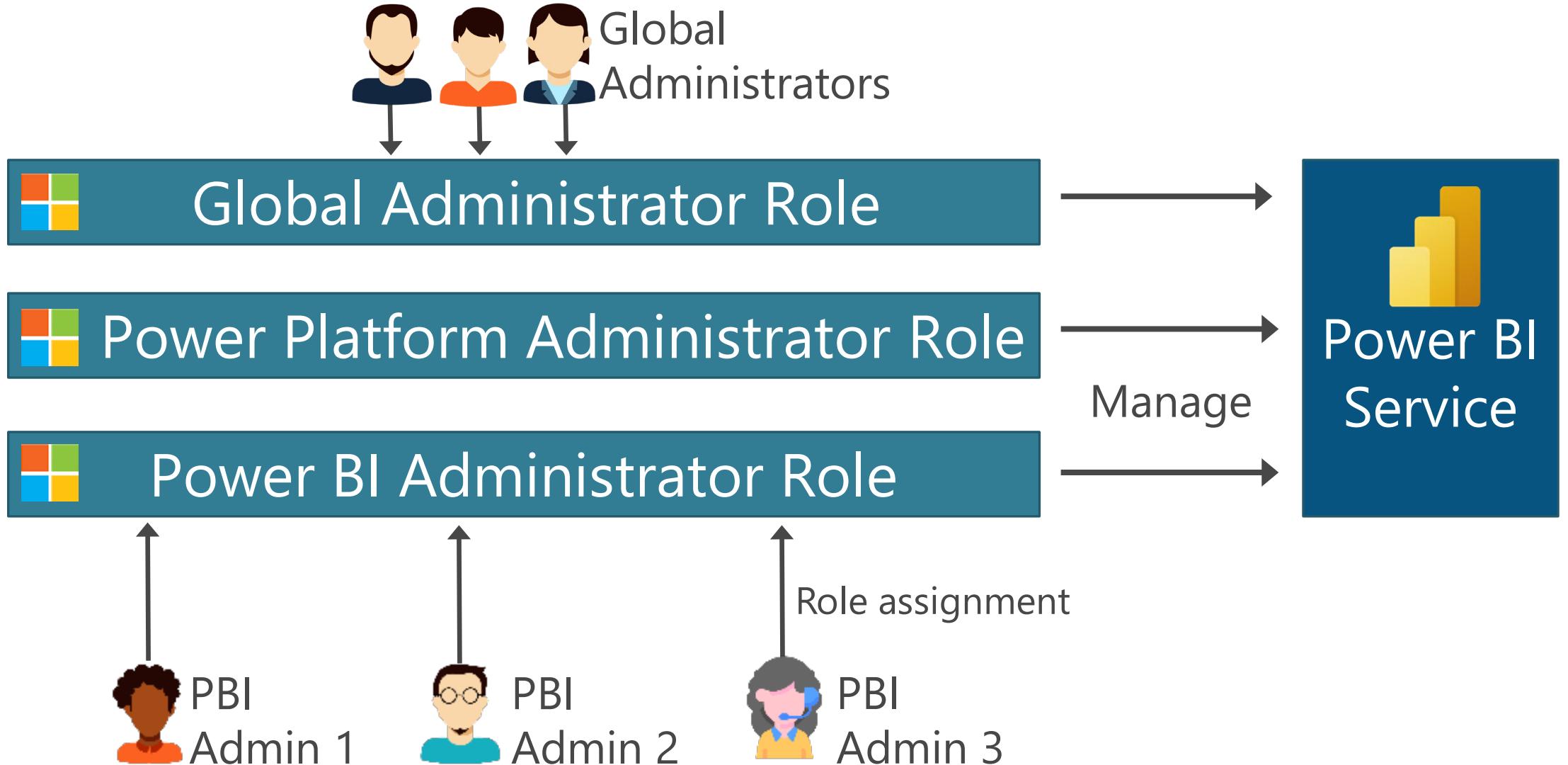
# Roles for Managing the Power BI Service

Microsoft 365 Roles:





# Option 1: Assign Individuals to the Role





# What If You Also Use a Group?



## Power BI Administrators Group

### Tenant Settings

Groups used to allow/disallow features

### Workspace Access

Auditing, health, adoption & security reports

### Alerting

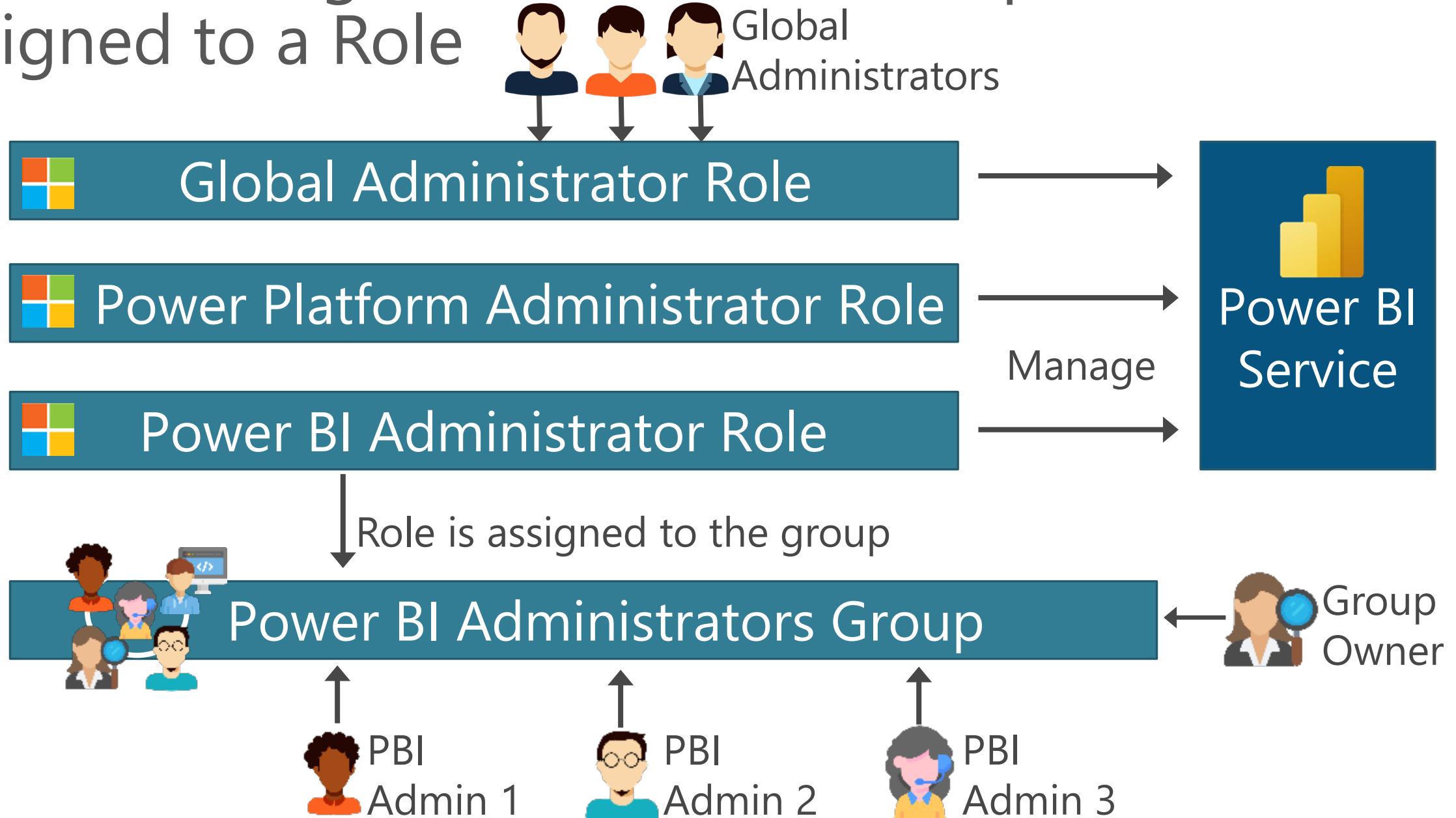
Notifications such as PowerShell jobs or MS Defender alerts



We don't want to have to maintain the Power BI Admin group **\*and\*** the built-in role twice.



# Option 2: Assign Individuals to Group that's Assigned to a Role





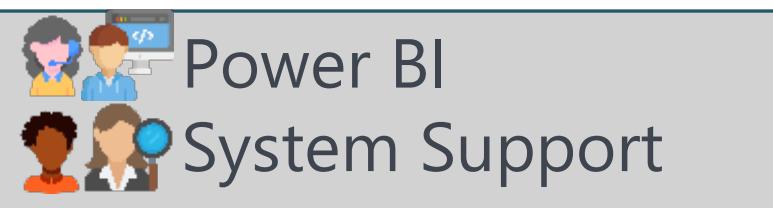
# Administrator-Related Groups Useful to Have

Security group  
(Azure AD)



- Power BI administrator role
- Workspace access: admin, auditing, adoption, security reporting
- Tenant setting: incidents and alerts
- Notifications from PowerShell or MSFT Defender for Cloud Apps

Mail-enabled  
security group  
(Exchange)



Mail-enabled  
security group  
OR  
M365 unified  
group



- Gateway cluster administrators



- Premium capacity administrators



- User contact group for support

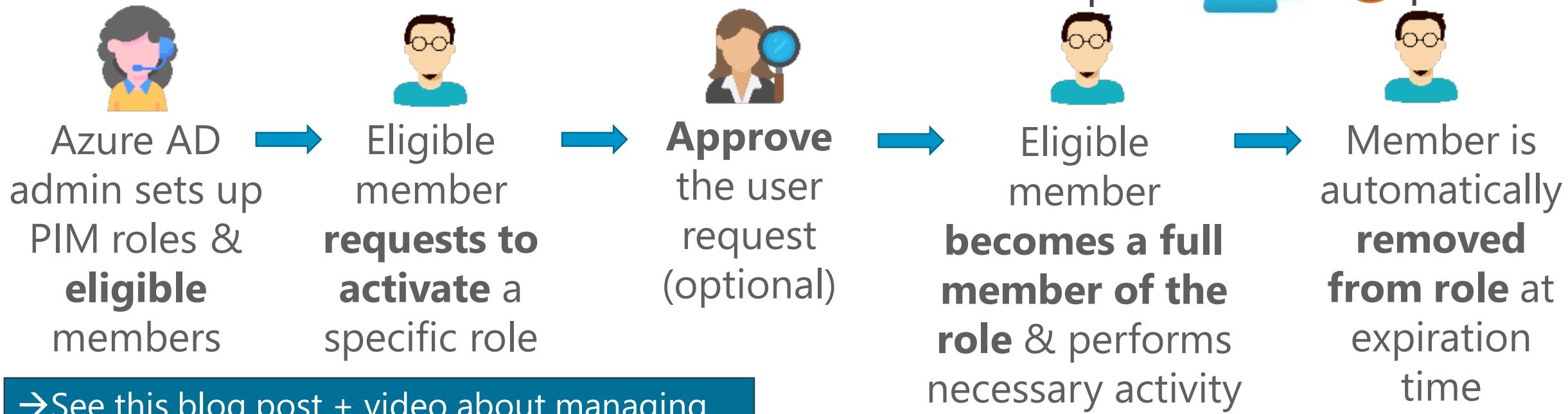


# How to Reduce the # of Administrators



## Azure AD Privileged Identity Management (PIM)

Provides “just-in-time” membership in roles such as Global Administrator, Power BI Administrator, etc.



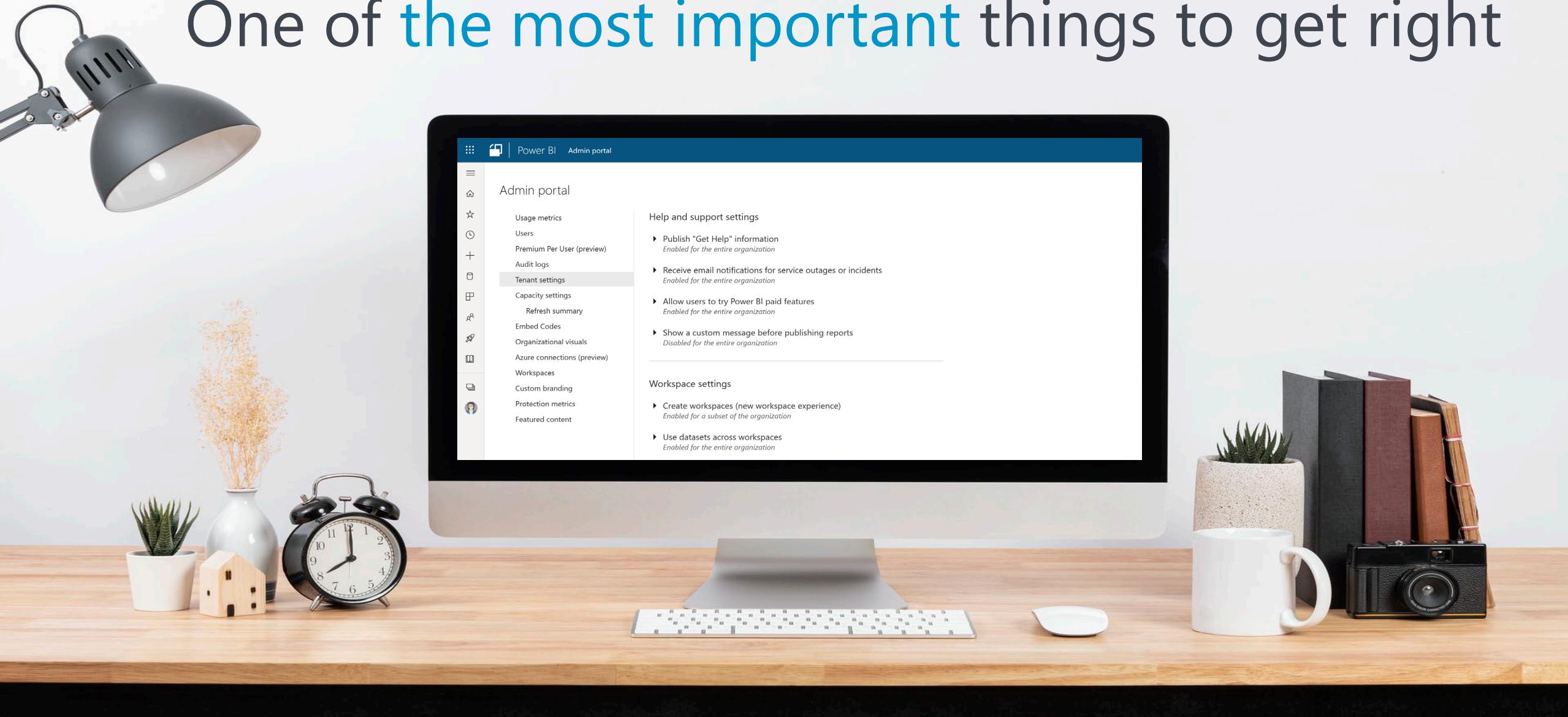
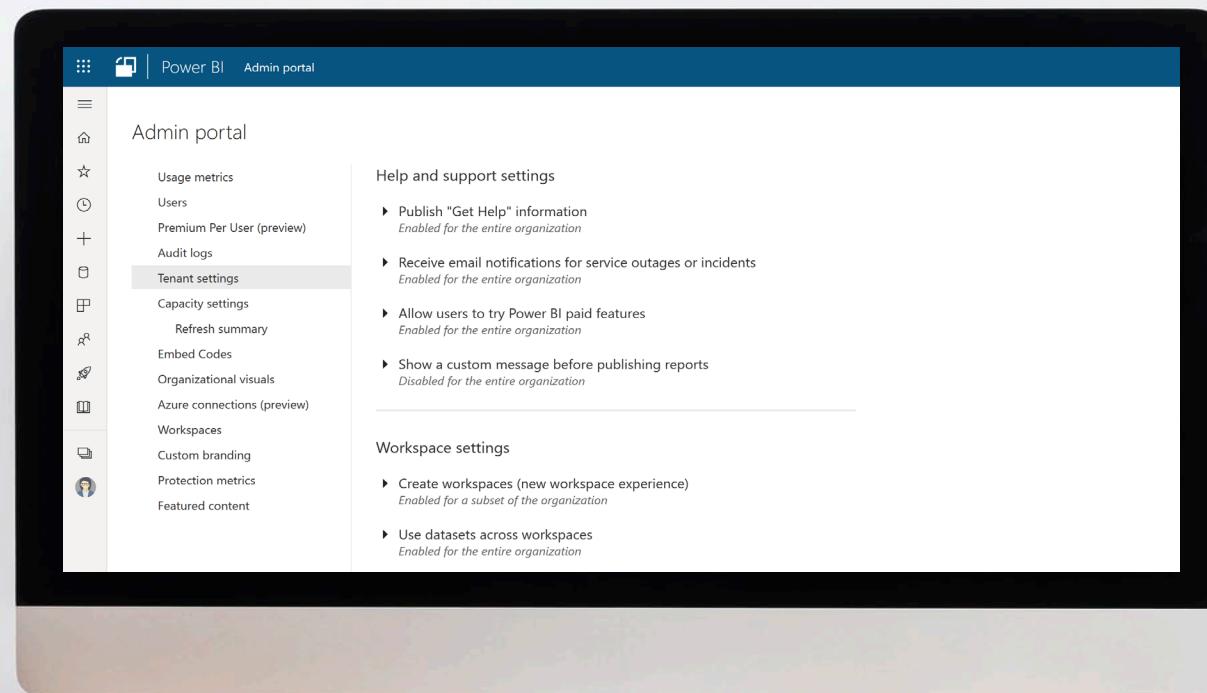
→ See [this blog post + video](#) about managing the admin role & PIM



# Managing & Documenting Tenant Settings

# Tenant settings

One of **the most important** things to get right





# How Tenant Settings Work



A Power BI administrator can ***manage*** and ***edit*** all of the tenant settings.

However, the Power BI admin cannot ***perform*** those activities unless they are allowed to by the specific tenant setting.



# Managing Tenant Settings



1. Review every tenant setting
2. Document decisions made (who, when, why)
3. Document the settings for users to view
  - + which groups are used for functionality
  - + how to get approved for a group
3. Track changes with the 'UpdatedAdminFeatureSwitch' operation in the activity log (plus alerts if desired)
4. Audit the tenant settings regularly (every 3-6 months)



# Reviewing Tenant Settings



Review every tenant setting



Enabled or disabled?

Setting limited to specific security group(s)?



Does an existing security group exist which is suitable?



Need to request new security group(s)?



# Why Document Tenant Settings for Users?



There's no "reader role" for a Power BI administrator. This is a challenge in bigger, decentralized companies.



Users read online things they can do, and end up being frustrated things don't work.

# Tenant Settings: Email Alerts When a Setting Is Changed

→ See [this blog post + video](#) about getting alerted when a tenant setting changes

Microsoft Defender for Cloud Apps

Edit activity policy

Policy name \*  
Power BI - Administrative Activity

Policy severity \*  
Category \*

Description  
Administrative activity occurred in Power BI.

Create filters for the policy

Act on:

Single activity  
Every activity that matches the filters

Repeated activity:  
Repeated activity by a single user

ACTIVITIES MATCHING ALL OF THE FOLLOWING

App equals Microsoft Power BI

Administrative activity is True

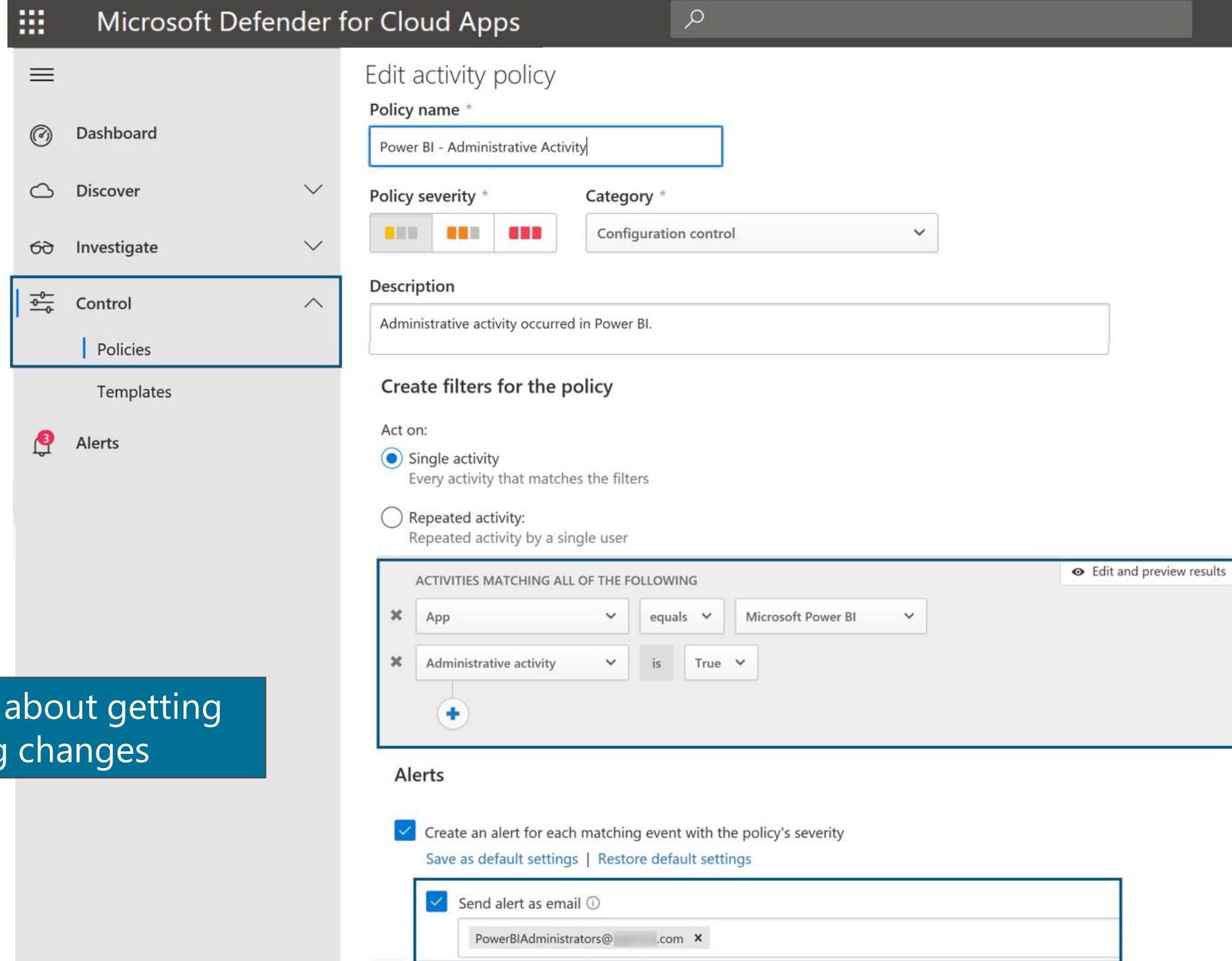
Alerts

Create an alert for each matching event with the policy's severity

Save as default settings | Restore default settings

Send alert as email ⓘ

PowerBIAdministrators@.com





# Managing the Power BI Service



# Managing Workspaces

View & update metadata for all non-personal workspaces\* in the tenant: Name, description, and security access

Admin portal

Usage metrics  
Users  
Audit logs  
**Tenant settings**  
Capacity settings  
  Refresh summary  
Embed Codes  
Organizational visuals  
Dataflow settings  
**Workspaces**  
Custom branding  
Protection metrics (preview)  
Featured content

**Workspaces**

View personal and group workspaces that exist in your organization. To change users' ability to create workspaces, see [Tenant settings](#).

⟳ Refresh ⏪ Export

Name	Description	Type	State	Read only	On dedicated capacity
Device Telemetry Data	Production data workspace w...	Workspace	Active	False	False
Sales Analytics	MTD, QTD, YTD sales reporting.	Workspace	Active	False	False
Sales Data	Production data workspace fo...	Workspace	Active	False	False
Common Data	Production data workspace co...	Workspace	Active	False	False
Executive Metrics	Production workspace for exe...	Workspace	Active	False	True
Executive Bonuses [R]	Restricted	Workspace	Active	False	False
Power BI Admin & Monitoring	Workspace for Corporate BI a...	Workspace	Active	False	False
Power BI Community [Team]	Power BI artifacts, resources, a...	Workspace	Active	False	False

\*V2 new workspace experience

# Embed Codes

Admin portal

Usage metrics

Users

Audit logs

Tenant settings

Capacity settings

Refresh summary

**Embed Codes**

Organizational visuals

Dataflow settings

Workspaces

Custom branding

Protection metrics (preview)

Featured content

## Embed Codes

View embed codes that have been created by your organization. To change users' ability to use publish to web, see [Tenant settings](#).

⟳ Refresh ⏪ Export

Report name

Workspace name

Published by

Public Financial Summary

Financial Summary [Public]

Payton Adamsen

Items per page: 10

### ▲ Publish to web ⓘ

Enabled for a subset of the organization

People in your org can publish public reports on the web. Publicly published reports don't require authentication to view them.

Go to [Embed Codes](#) in the admin portal to review and manage public embed codes. If any of the codes contain private or confidential content remove them.

Review embed codes regularly to make sure no confidential information is live on the web. [Learn more about Publish to web](#)



Enabled

Choose how embed codes work

Only allow existing codes

Allow existing and new codes

Apply to:

The entire organization

Specific security groups

Power BI Public Publishing X Enter security groups

Except specific security groups



1. Ensure tenant setting permits **very few people to use Publish to Web**
2. Track use of the 'GenerateEmbedToken' operation in the **activity log**
3. **Validate** the list of embed codes on a regular basis

# Organizational Visuals

Custom visuals give report creators significantly more flexibility



1. Enable [tenant setting](#) to use certified visuals only in the Power BI Service.
2. Enable [group policy](#) to use certified visuals only in Power BI Desktop.
3. Handle exceptions using [organizational visuals](#). Specific allowed visuals may include:
  - Internally developed visuals
  - Non-certified, but trustworthy & approved for use

Admin portal

Usage metrics  
Users  
Audit logs  
Tenant settings  
Capacity settings  
Refresh summary  
Embed Codes  
**Organizational visuals**  
Dataflow settings  
Workspaces

Organizational visuals

Add and manage Power BI visuals for your organization. [Learn more](#)

VISUAL CHANGED BY

Corporate Custom Scatterplot Payton Adamsen

Add an organizational visual



# Azure Connections

Azure Data Lake Storage Gen 2 account:  
“Bring your own data lake” for dataflows & backup / restore datasets

Allow use of Azure Log Analytics

Admin portal

- Tenant settings
- Usage metrics
- Users
- Premium Per User
- Audit logs
- Capacity settings
- Refresh summary
- Embed Codes
- Organizational visuals
- Azure connections**
- Workspaces
- Custom branding
- Protection metrics
- Featured content

Connect to Azure resources (preview)

▲ Tenant-level storage (preview)

Connect an Azure Data Lake Gen2 storage account. [Learn more](#)

**Subscription** 2a [redacted] e7d

**Resource group** CorporateAnalyticsRGDev

**Storage account** corpdatalakedev

**Disconnect from Azure**

▲ Workspace-level storage permissions (preview)

Allow workspace admins to connect their own storage account

**Save** **Cancel**

▲ Workspace-level Log Analytics permissions (preview)

You can allow Workspace administrators to configure activity logging in [Tenant settings](#)



# Monitoring Power BI System Health

## Power BI Support Site

<https://powerbi.microsoft.com/en-us/support/>

The screenshot shows the Power BI Support Site. At the top, there's a yellow header with a search bar and a 'SEARCH SUPPORT' button. Below this, a 'Service Status Per Region' section lists 'Good' status for America, Asia Pacific, and Europe. A 'Service Outage/Degradation' section states 'No known issues: Power BI is running smoothly'. In the 'Awareness' section, a message from the Intuit team discusses a temporary fix for Power BI customers using QuickBooks Online.

## Azure Status

<https://status.azure.com/en-us/status>

The screenshot shows the Microsoft Azure Status page. It features a dark blue header with 'Azure status' and 'Last updated 50 seconds ago'. Below this, a 'View other issues that may be impacting your services' section has a 'Go to Azure Service Health' button. On the right, there are 'HELPFUL LINKS' for status history, Root Cause Analysis (RCAs), service health alerts, and Service Level Agreements (SLAs). The main area shows a grid of service health status for various regions: Americas, Europe, Asia Pacific, Middle East and Africa, Azure Government, and Azure China. The 'Power BI Embedded' service is listed under 'PRODUCTS AND SERVICES' and is marked as 'Healthy' with a green checkmark across all regions.

## Microsoft 365 Admin Center

<https://admin.microsoft.com>

The screenshot shows the Microsoft 365 Admin Center. The left sidebar has a 'Health' section highlighted with a red box. The main area is titled 'Service health' and shows a table of service status. Services listed include Exchange Online, SharePoint Online, OneDrive for Business, Planner, Power Apps in Microsoft 365, and Power BI, all of which are marked as 'Healthy' with green checkmarks.

Includes:  
Root cause  
Scope & user impact  
Start & end time  
Next steps



# Power BI Service Updates



There is NOT a way to receive updates in the Power BI Service faster or slower.

Power BI doesn't participate in the Microsoft 365 update channels (current, monthly, semi-annual).



# Power BI Service Updates

## You can control:

- When **Desktop** updates are installed
- When **Gateway** updates are installed

Best to keep current & aligned with the Service

**Desktop:** only the latest release is officially supported.

**Gateway:** the last 6 months are officially supported.



# User Support - Internal



Decide what your internal support team is willing & capable of handling, such as:

- Data discrepancies
- Technical troubleshooting (ex: refreshes & connectivity)
- Updates & installations

Make sure your internal support team is ready & there are clear expectations (SLAs).

The extent of support for enterprise content vs. self-service content needs to be clear.



# User Support - Microsoft

Microsoft Support Option	Service Level Agreement
<b>Power BI Community</b> Web-based forum: answers from community members & Microsoft <a href="https://community.powerbi.com/">https://community.powerbi.com/</a>	Best effort
<b>Power BI Pro User Support</b> Basic technical support for content authors & consumers who have a Pro license <a href="https://support.powerbi.com/">https://support.powerbi.com/</a> <a href="https://powerbi.microsoft.com/en-us/support/pro/">https://powerbi.microsoft.com/en-us/support/pro/</a>	1 business day
<b>Power BI Administrator Support</b> Technical support for Power Platform admins & M365 Global admins <a href="https://admin.powerplatform.microsoft.com/support">https://admin.powerplatform.microsoft.com/support</a> <a href="https://admin.microsoft.com/AdminPortal/Home#/support/requests">https://admin.microsoft.com/AdminPortal/Home#/support/requests</a>	1 business day or 1 hour depending on severity
<b>Microsoft Premier Support</b> Enterprise support & additional training, reviews & workshops for customers with a Premium Support contract <a href="https://admin.microsoft.com/AdminPortal/Home#/support/requests">https://admin.microsoft.com/AdminPortal/Home#/support/requests</a>	Varies depending on customer agreement & severity

Authoritative source: <https://docs.microsoft.com/en-us/power-bi/admin/service-support-options>



# Tenant Location

Locate as close as possible to each other:

- Power BI tenant
- Data sources
- Gateways
- Users

The screenshot shows the top ribbon of the Power BI desktop application. The 'Help' icon (a question mark) is highlighted with a red box. A dropdown menu is open from this icon, listing options: Getting started, Documentation, Learn, Community, Get help, Power BI for developers, Privacy & cookies, Accessibility shortcuts, and About Power BI. The 'About Power BI' option is also highlighted with a red box.

## Power BI

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Service version 13.0.15302.46

Client version 2101.4.04609-train

Activity ID 6289257b-054f-4df7-89f7-2d7cc20f352d

App Instance ID 3i936

Time Fri Feb 05 2021 08:04:33 GMT-0500 (Eastern Standard Time)

Your data is stored in North Central US (Illinois)

Tenant URL <https://app.powerbi.com/home?ctid=a198ef79-e>

Close

A Premium capacity node can reside in a specific geography if needed.



# Managing User Machines & Devices

## Power BI Software to Install & Update

Power BI Desktop (monthly updates + QFE releases)

Power BI Desktop Optimized for Report Server (3x/year updates)

Power BI Paginated Report Builder

Power BI Mobile App

Power BI App for Windows 10

Ideally pushed to  
users so all authors  
are on same version

*QFE = Quick Fix Engineering*

# Managing User Machines & Devices



## Other Common Items to Install & Update

Drivers (ex: Oracle, HANA, MS Access Engine, etc.)

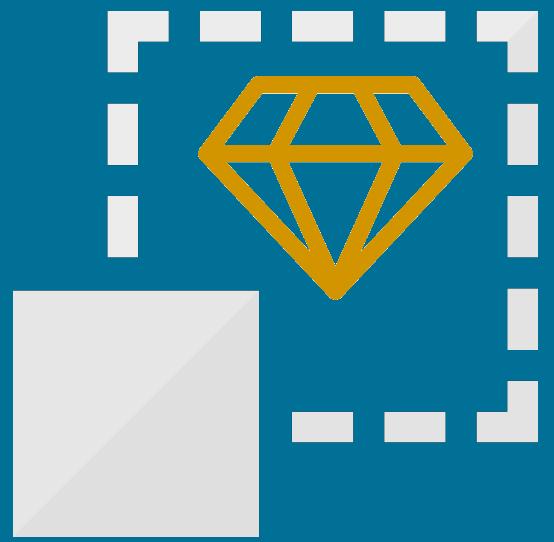
Analyze in Excel Provider

External Tools (ex: Tabular Editor, DAX Studio, ALM Toolkit)

Custom connectors

Group Policy settings (ex: use of custom visuals)

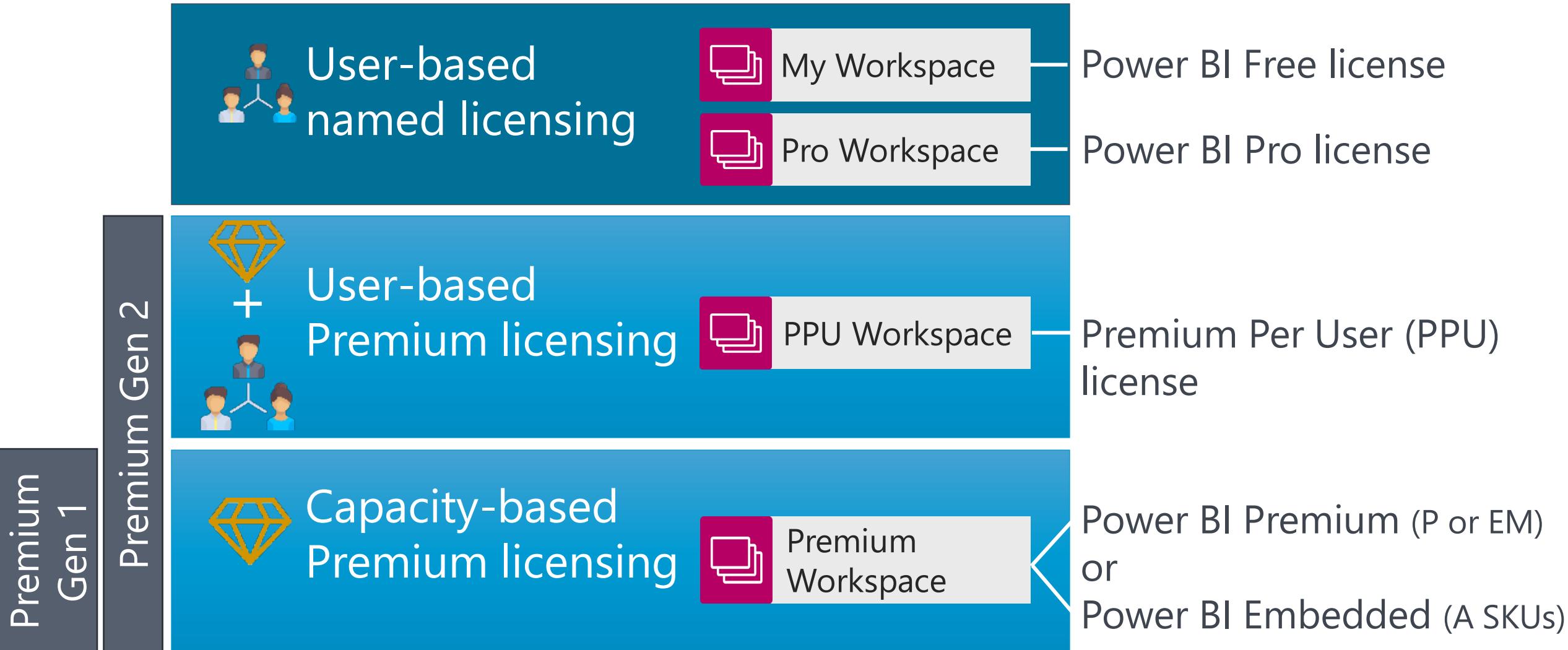
Registry settings (ex: set global privacy level, disable update notifications)



# Managing Power BI Premium & Premium Per User



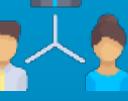
# 4 Workspace License Modes





# Who Can Access a Workspace?

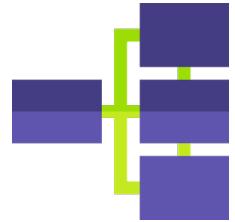
Free User Pro User PPU User

		 User-based named licensing	 My Workspace  Pro Workspace	X	X	X
Premium Gen 1	Premium Gen 2	 User-based Premium licensing 	 PPU Workspace			X
		 Capacity-based Premium licensing	 Premium Workspace	X	X	X



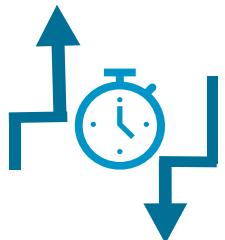
# Why Go Premium?

## Both PPU & Premium Capacity Licensing:



### Additional Enterprise BI Capabilities

Deployment pipelines, paginated reports, XMLA read/write, full featureset for dataflows, change detection for auto page refresh



### Scalability

Auto-scale for 24 hours, large datasets, more frequent refreshes



### Integration with Other Apps

Azure Cognitive Services and Azure Machine Learning



# Why Go Premium?

## Premium Capacity Only (not available to PPU):



### Unlimited Content Distribution to Free Users

Capacity-based licensing for a large number of read-only users is more cost-effective



### Regulatory & Privacy

Bring-your-own-key, specific geography for data storage



### Hybrid Cloud

Use of Power BI Report Server as alternative deployment location

# Using Both PPU & Premium Capacity



Premium Per User (PPU)  
Licenses

Premium  
Capacity License

## Development

**Read/write access:**  
Content authors &  
admins



## Test

**Read/write access:**  
Content authors &  
admins

**Read access:**  
Quality assurance &  
user acceptance  
testing



## Production

**Read/write access:**  
Content authors &  
admins

**Read access:**  
Content viewers

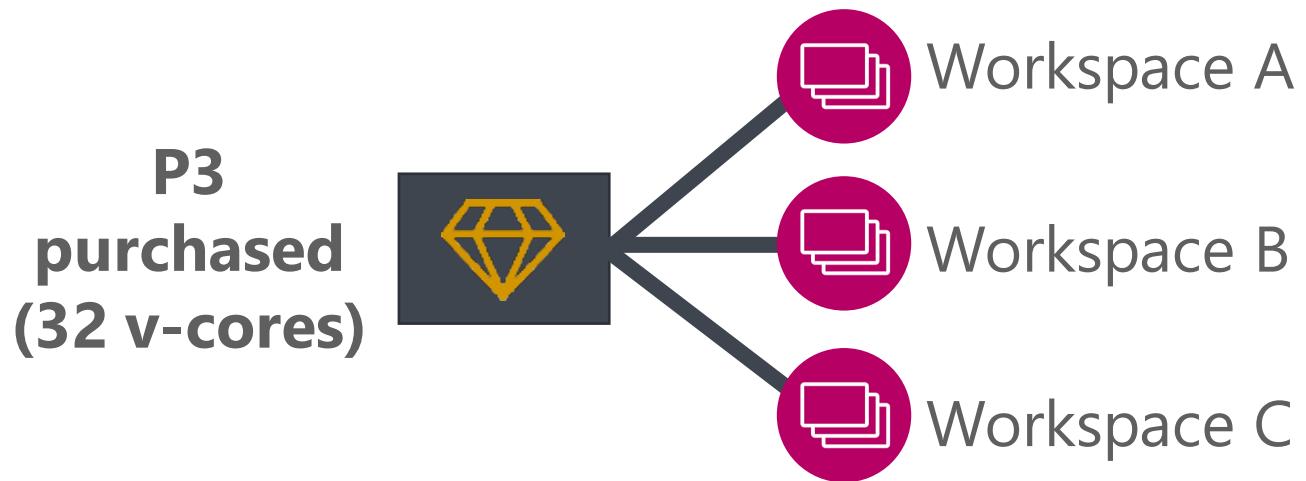




# Deciding on Premium Capacity Size

## Single larger capacity:

- Larger model size
- Greater parallelism

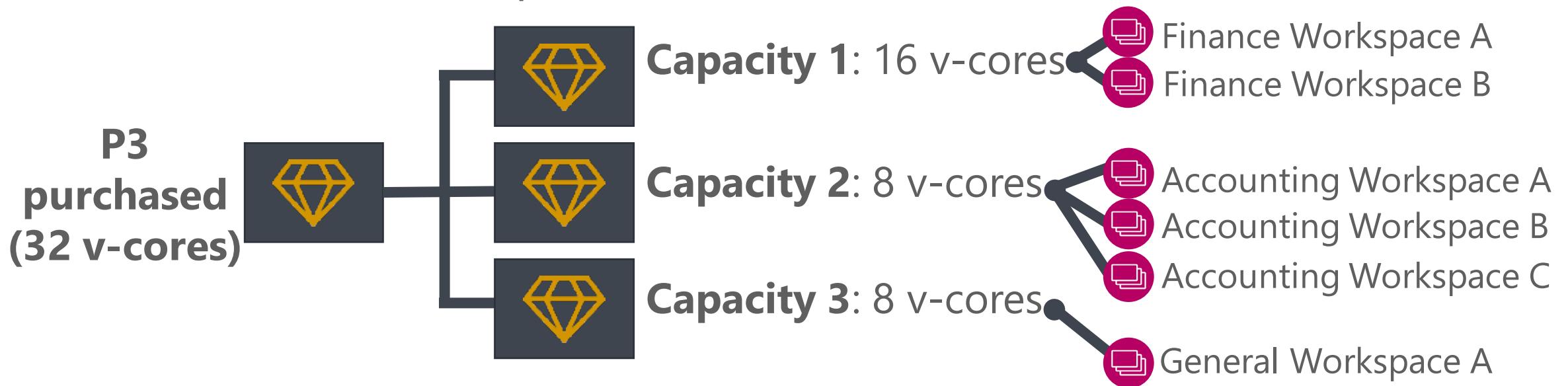




# Deciding on Premium Capacity Size

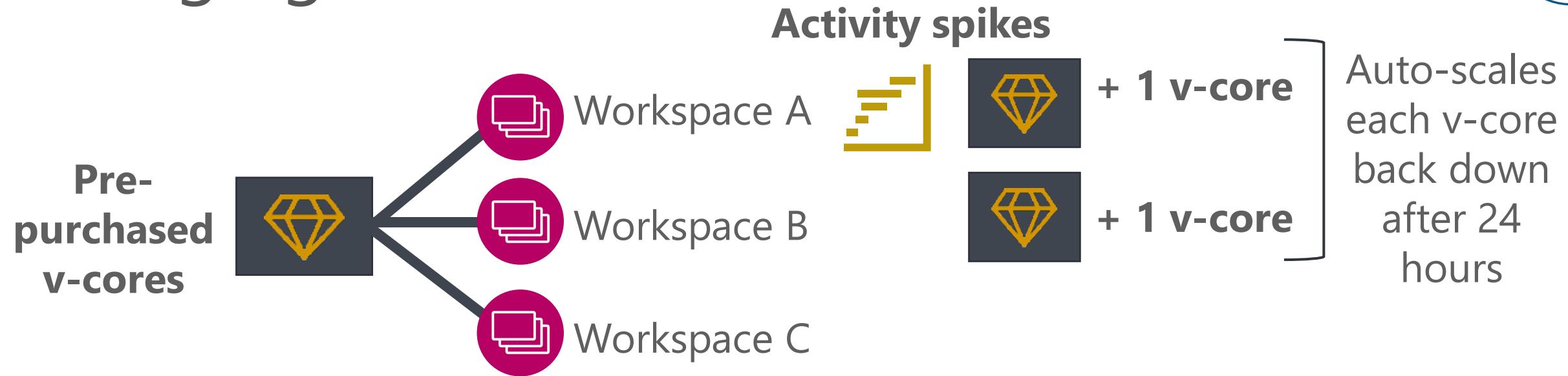
## Multiple smaller capacities:

- Isolated workloads for departments
- Separate capacity contributors
- The full maximum purchased isn't available





# Managing Auto-Scale



## Two options for managing auto-scale cost:

1. Max v-cores set in the Power BI Service
2. Spending limits & budgets set in Azure (auto-scale v-cores are supported by the Azure Power BI Embedded service)

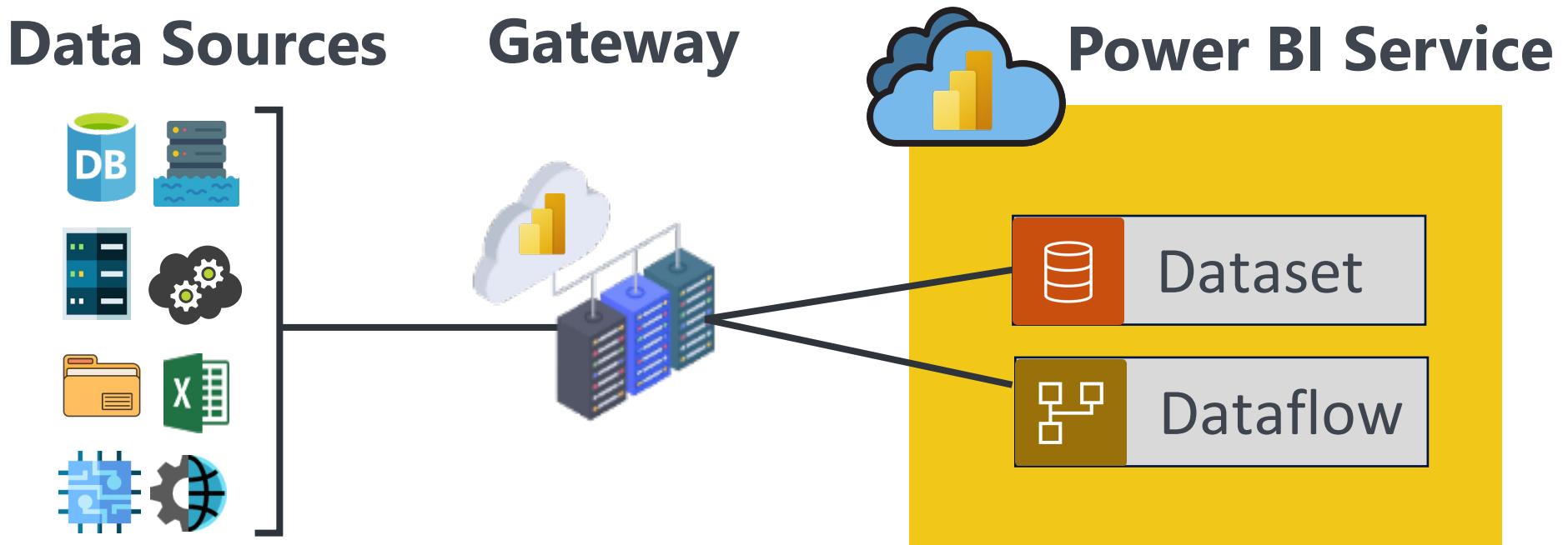


# Managing Power BI Data Gateways



# Purpose of a Data Gateway

Reach data sources from the cloud service:





# When is a Gateway Needed?

1

In the  
Power BI Service

AND

2

Data source is located in  
a private network

OR

3

Security isolation when certain  
Power Query connectors &  
functions are used



# When is a Gateway Needed?

1

In the  
Power BI Service

- Refreshing imported datasets
- Refreshing dataflows
- Using DirectQuery
- Using Live Connection for Analysis Services



# When is a Gateway Needed?

2

Data source  
is located in a  
private network

- Data center within organizational network or on-premises
- Cloud-based virtual machine (IaaS: infrastructure as a service)
- Cloud-based database in a VNet (PaaS: platform as a service in a virtual network)



# When is a Gateway Needed?

3

Security isolation  
when certain Power  
Query connectors &  
functions are used

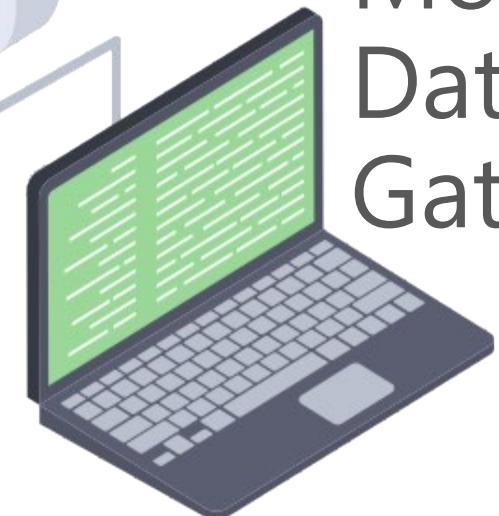
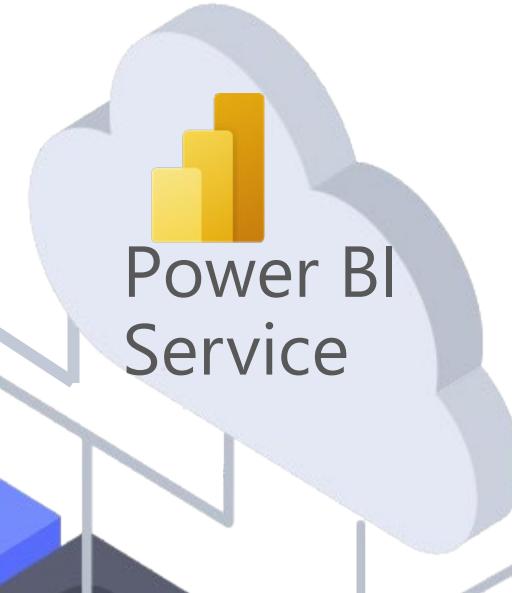
Situations such as:

- Web Page connector
- Web.BrowserContent function
- Web.Page function
- Use of the ACE driver



# Three Types of Gateways

Virtual Network  
Data Gateway

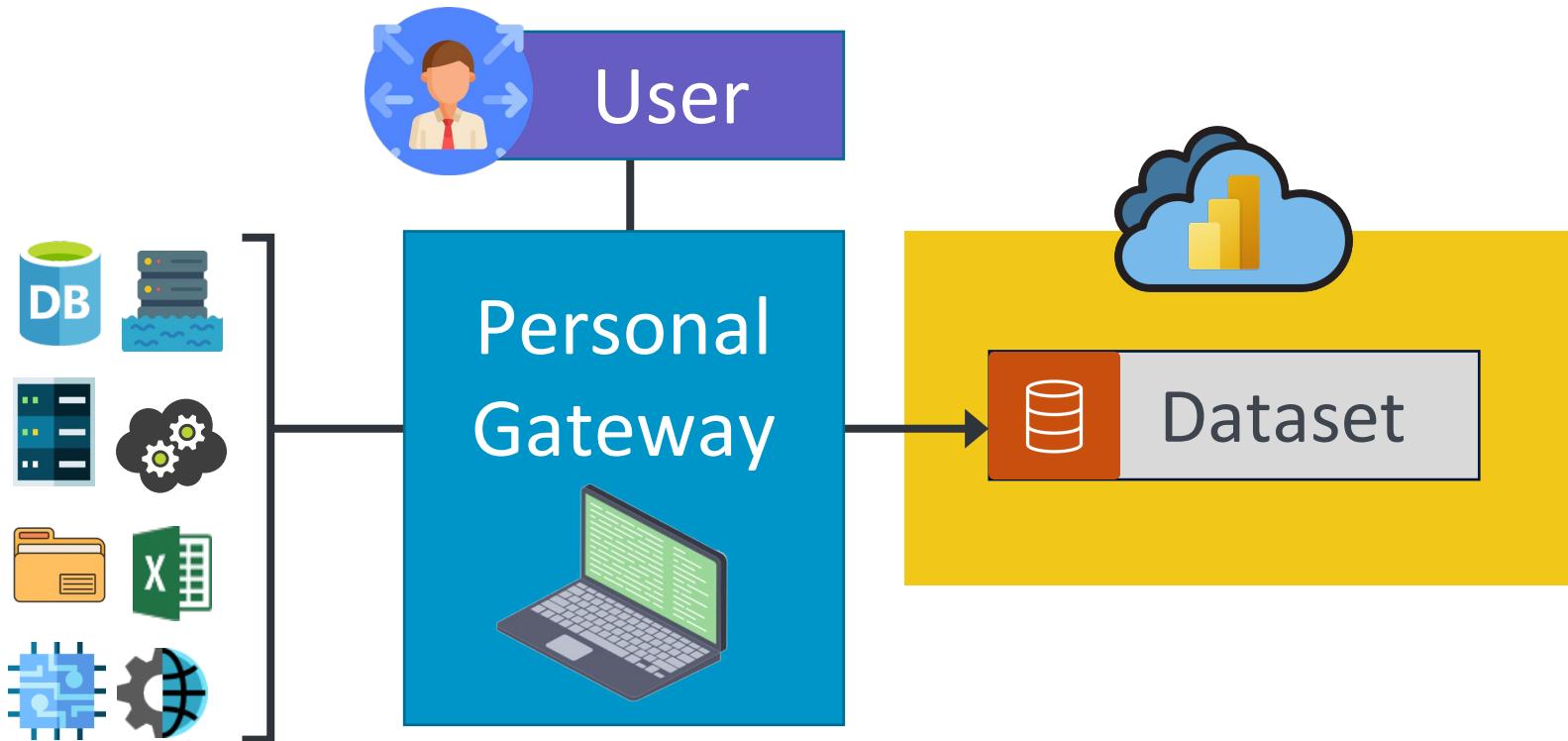


Standard Mode  
Data Gateway Cluster

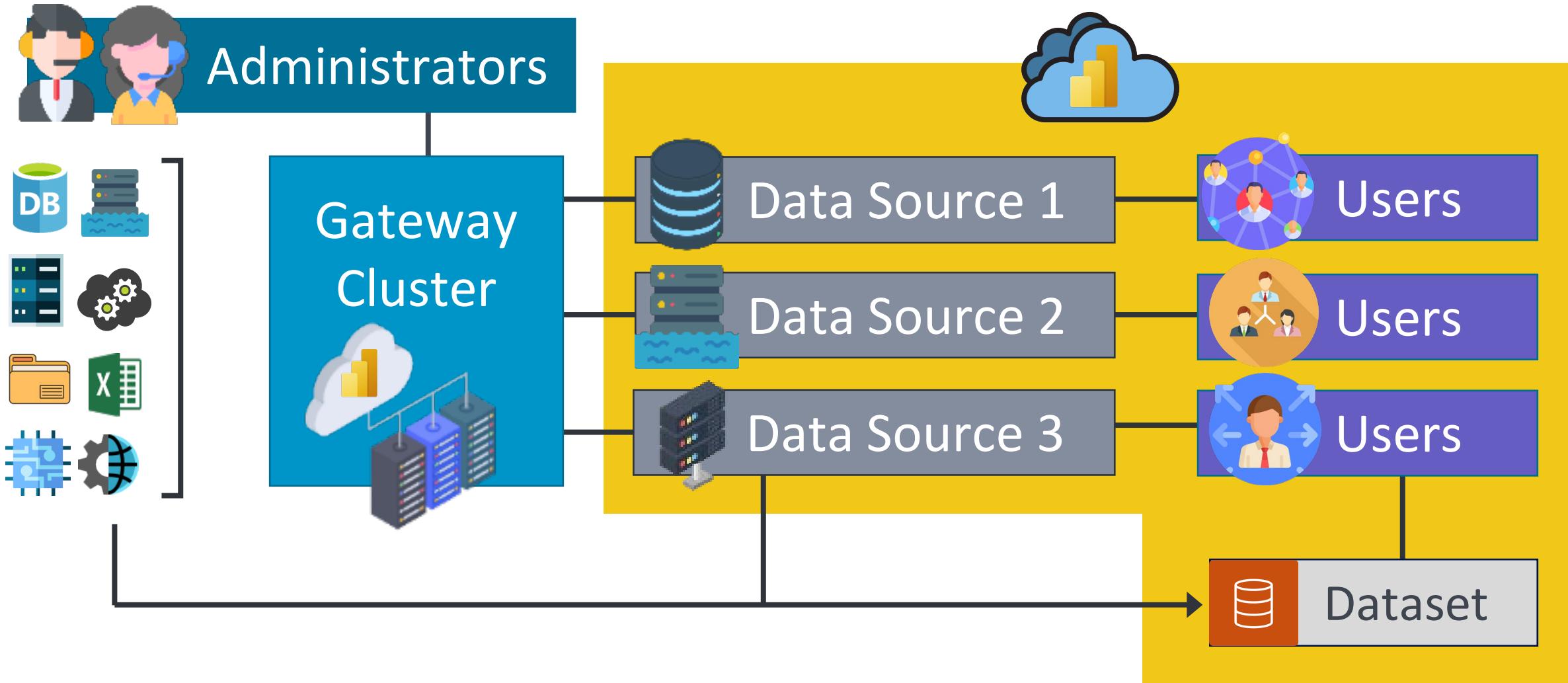
Personal  
Mode  
Data  
Gateway



# Personal Mode Data Gateway

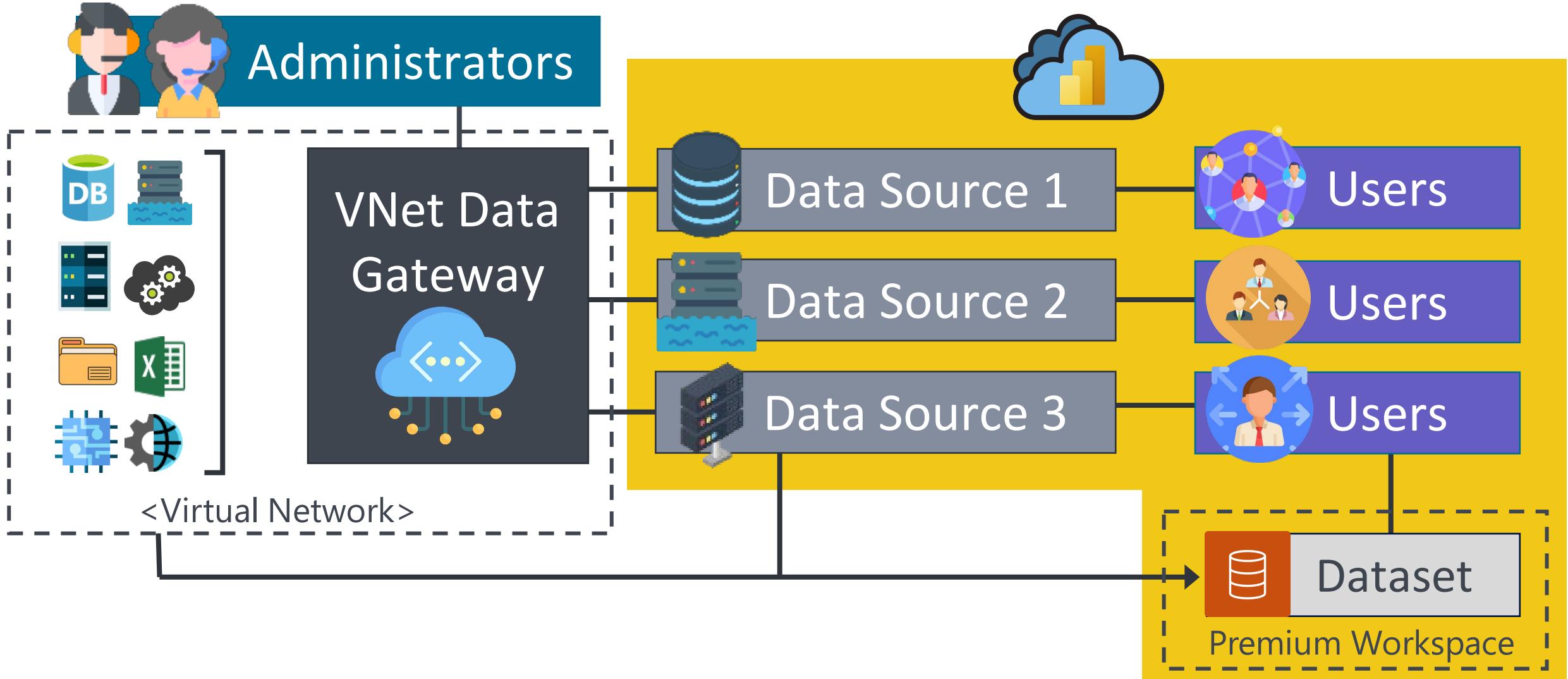


# Standard Mode Data Gateway





# Virtual Network Data Gateway





# Three Types of Gateways



VNet



Standard Mode



Personal Mode

For use by	Many users	Many users	One user
Managed by	Microsoft	Customer (Admin)	Customer (User)
Premium Workspaces	--Yes--	N/A	N/A
Supports:			
Data Refresh	Yes	Yes	Yes
DirectQuery	Yes	Yes	--No--
Live Connection	Yes	Yes	--No--
Azure AD Single Sign-On	Yes	Yes	--No--
R & Python Connectivity	--No--	--No--	Yes



# Gateway Cluster Environments



## Production gateway cluster

Should have at least 2 machines for:

### High availability

Goal: eliminate single point of failure

### Load balancing

Goal: distribute workload across machines

### Rotating updates

Goal: ensure uptime



## Dev/test gateway cluster

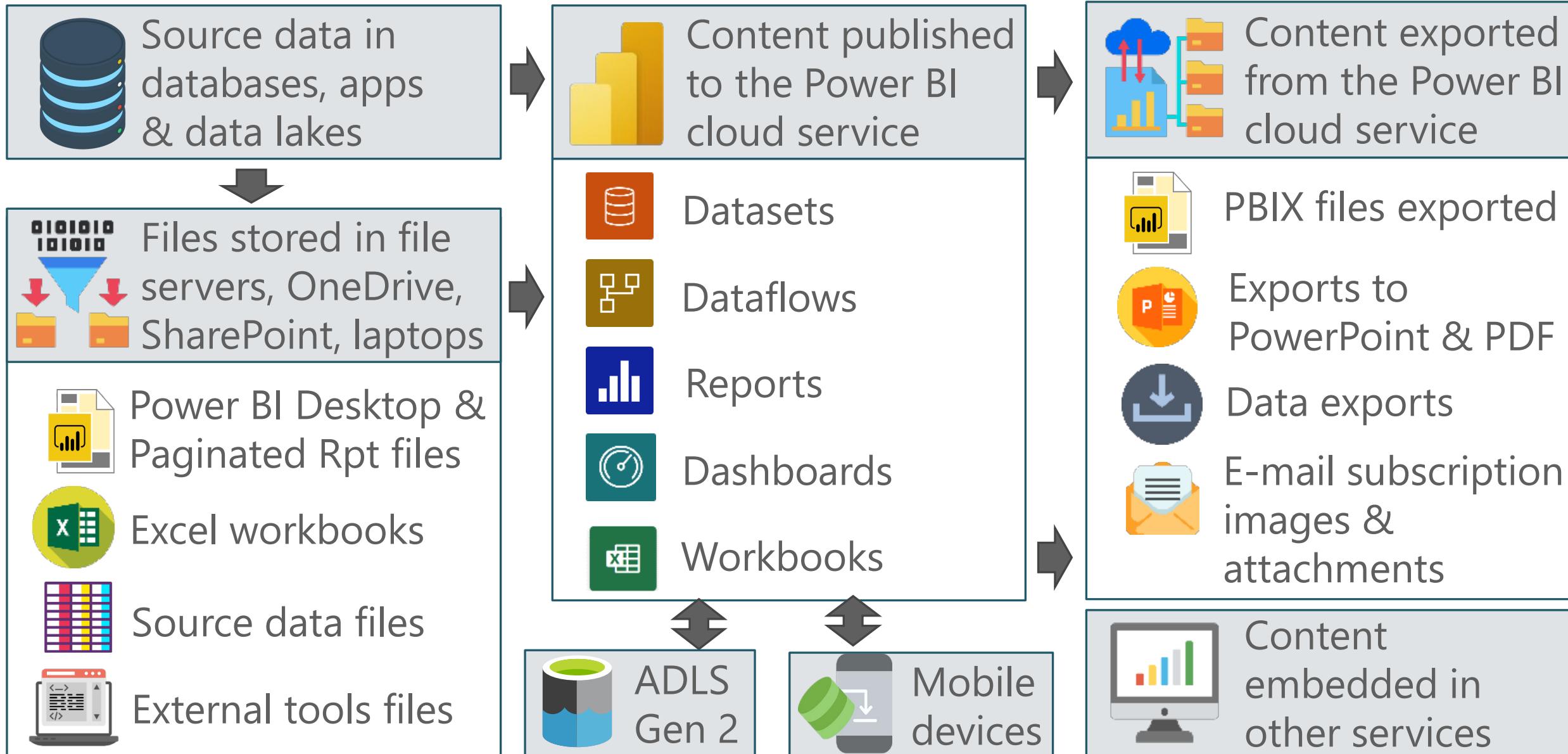
Okay to allocate fewer servers & less resources;  
Most useful for testing monthly updates



# Securing & Protecting Power BI Content



# What Needs To Be Secured & Protected?



# File Location Permissions



Have clear guidance for the internal user community regarding use of approved file storage locations:

- Source files (ex: PBIX, RDL, XLSX)
- Source data (ex: flat files, XLSX, etc)
- Saved subscription e-mail attachments
- Exports of data
- Exports of reports



# Managing User Licenses



All Power BI users need to be identified via Azure Active Directory identity associated with a user license:

- Power BI Free license,
- Power BI Pro license, or
- Power BI Premium Per User (PPU) license

## Exceptions:

- Content published publicly with Publish to Web
- Power BI Embedded (when application is managing authentication)
- Power BI Report Server (publishers of content need Pro license)



# Azure AD Conditional Access

**Implement security requirements based on conditions:**

## **Conditions**

Users and groups

Sign-in risk

Device platform

Location

Device state

## **Block access**

Block access from:

- Locations which are not trusted
- Devices not domain-joined
- Devices not Intune-compliant

## **Grant access**

Allow access if:

- Multi-factor authentication is completed
- Login from specific IP address range
- Login is from a specific device type
- Login is from certain Azure AD groups



# Power BI Permissions Managed by Authors

Workspace

Admin | Member | Contributor | Viewer

## Dashboards & Reports

Read:  
Direct access sharing  
or sharing link

Reshare

Sensitivity Label

## Subscriptions

Recipients

Read

## Apps

Read

Reshare

Sensitivity label

## Datasets

Read

Reshare

Build

Owner

Credentials or  
GW data source

Sensitivity label

Discover

Request Access

## Dataflows

Credentials or  
GW data source

Owner

Sensitivity label

## Goals

View

Check-in

Personal  
gateway  
credentials

File locations for  
original &  
exported files

Power BI  
Desktop  
Sensitivity  
Label

Row-  
Level  
Security

Data  
Source  
Settings

Premium  
Capacity

Contributor

Deployment  
Pipelines

Admin

External  
Tool

Object-  
Level  
Security

→ See this [blog post](#) & [video](#) for more info

# Permissions Managed by Gateway Admin



Per gateway



Per data source

Administrators

Stored credentials\*

User permissions

Use of single sign-on

Data privacy levels



# Data Sensitivity Labels

Tenant setting controls who may apply sensitivity labels in Power BI

Sales Analytics  
MTD, QTD, YTD sales reporting.

+ New ▾ View ▾ Filters Settings Access ...

All Content Datasets + dataflows

Name	Type	Owner	Refreshed	Sensitivity (preview)	Include in app
Call Center Dashboard	Dashboard	Sales Analytics	—	Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
Call Center Stats	Report	Sales Analytics	5/12/20, 8:33:11 PM	Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
Customer Analysis	Report	Sales Analytics	5/12/20, 8:33:15 PM	Highly Confidential ⓘ	<input type="checkbox"/> No
Gross Margin Analysis	Report	Sales Analytics	5/12/20, 8:33:27 PM	Restricted ⓘ	<input checked="" type="checkbox"/> Yes
Product Sales Analysis	Report	Sales Analytics	5/12/20, 8:33:27 PM	Restricted ⓘ	<input checked="" type="checkbox"/> Yes
Sales KPIs	Dashboard	Sales Analytics	—	Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
Usage Metrics - Product Sales Analysis	Report	Sales Analytics	5/26/20, 6:17:36 PM	—	<input type="checkbox"/> No
YTD Sales Dashboard	Dashboard	Sales Analytics	—	Restricted ⓘ	<input checked="" type="checkbox"/> Yes
YTD Sales Revenue	Report	Sales Analytics	5/12/20, 8:33:27 PM	Restricted ⓘ	<input checked="" type="checkbox"/> Yes



# Data Sensitivity Labels

# Tenant-wide view of sensitivity labels used

Admin portal

- Usage metrics
- Users
- Audit logs
- Tenant settings
- Capacity settings
- Refresh summary
- Embed Codes
- Organizational visuals
- Dataflow settings
- Workspaces
- Custom branding
- Protection metrics (preview)**
- Featured content

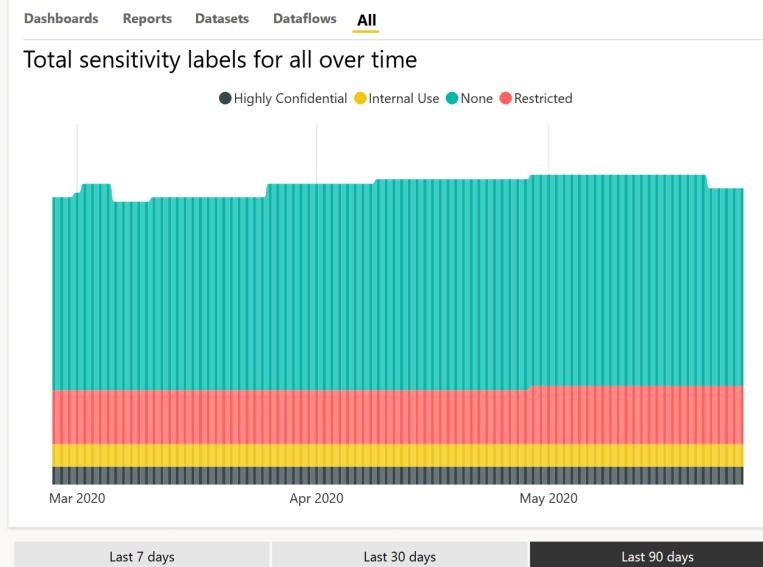
## Data protection metrics report (preview)

This report shows how Power BI sensitivity labels help protect your content.

Power BI data protection is integrated with Microsoft Cloud App Security [Learn more](#)

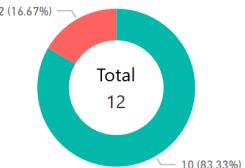
[Open the Cloud App Security portal to view more metrics](#)

### Data Protection Summary

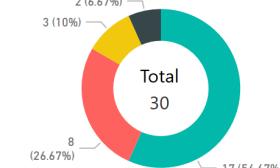


### Sensitivity labels in your organization today

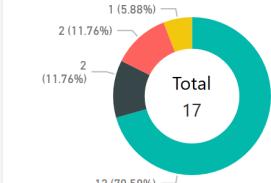
Dashboards



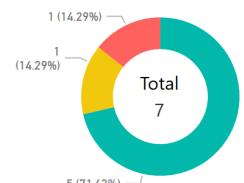
Reports



Datasets



Dataflows





# Data Sensitivity Labels



Have a data handling policy for each sensitivity label which explains what can, and cannot, happen with the data.

For instance:

- Data access permitted (ex: internal only)
- Download allowed to local PC
- Content markings required
- Anonymization required

# Data Loss Prevention with Defender for Cloud Apps



Microsoft Defender for Cloud Apps

Policies

Threat detection Information protection Conditional access Shadow IT All policies

Filters:

Name: power Type: Select type Status: ACTIVE DISABLED Severity: Category: Select risk category

+ Create policy Export 1 - 4 of 4 Policies

Policy	Count	Severity	Category	Action	Modified
Power BI - highly restricted data - block downloads	1 open alerts	High	DLP		Mar 2, 2022
Suspicious Power BI report sharing This policy profiles your environment and triggers alerts when a user shared a Power BI report that may includ...	0 open alerts	Medi...	Threat detection		Mar 21, 2022
Multiple Power BI report sharing activities This policy profiles your environment and triggers alerts when users perform multiple share report in Power BI ...	0 open alerts	Medi...	Threat detection		Mar 21, 2022
Power BI - Administrative Activity Administrative activity occurred in Power BI. This includes when a tenant setting changes.	0 open alerts	Low	Configuration control		Nov 1, 2021



# Limiting Activities in the Power BI Service

**Session Control: Limits an experience in a connected cloud application.**

For example, block download of PBIX from Power BI Service if it's been assigned the "highly confidential" sensitivity label.



Conditional Access  
App Control



Session Control  
Policy

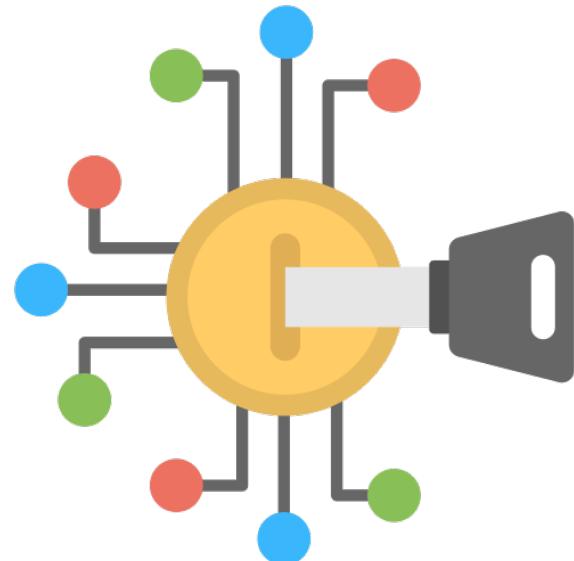


Connected app



# Managing Encryption Keys

- Data gateway recovery key (standard mode)
- Power BI Premium encryption key (if 'byok' is used)
- Azure Premium Storage encryption key (if large models)
- Power BI Report Server encryption key





# Auditing & Activity Monitoring



# Why Usage Monitoring is Critical



## Critical content

What content is most frequently used?  
Is it adequately supported?



## Change tracking

What changes occur, when, and by whom?



## Internal and external auditing

Are you able to satisfy requests from auditors?



# Why Usage Monitoring is Critical



## Monitoring adoption efforts

Can we analyze not only usage stats, but that the system is being used consistently and optimally/as it was intended?



## Data trustworthiness levels

How many certified vs. non-certified datasets? How many datasets support > 1 report?



## License usage

Who is (and is not) using Power BI, at what frequency?



# Why Usage Monitoring is Critical



## Understanding usage patterns

How are users \*really\* using Power BI?



## Finding training opportunities

Is training actively made available to new users, or to encourage specific behaviors?

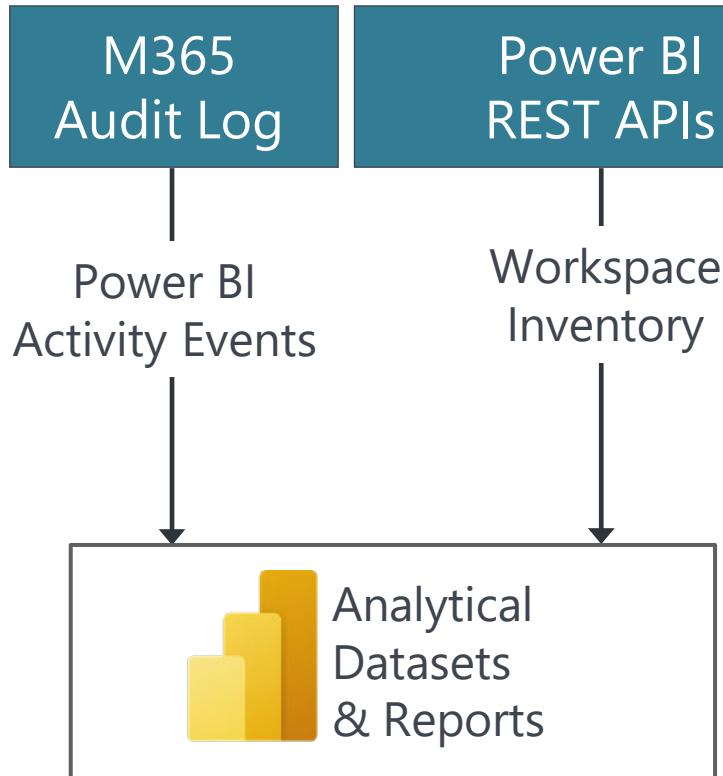


## Suspicious usage patterns

Are any concerning activities occurring?



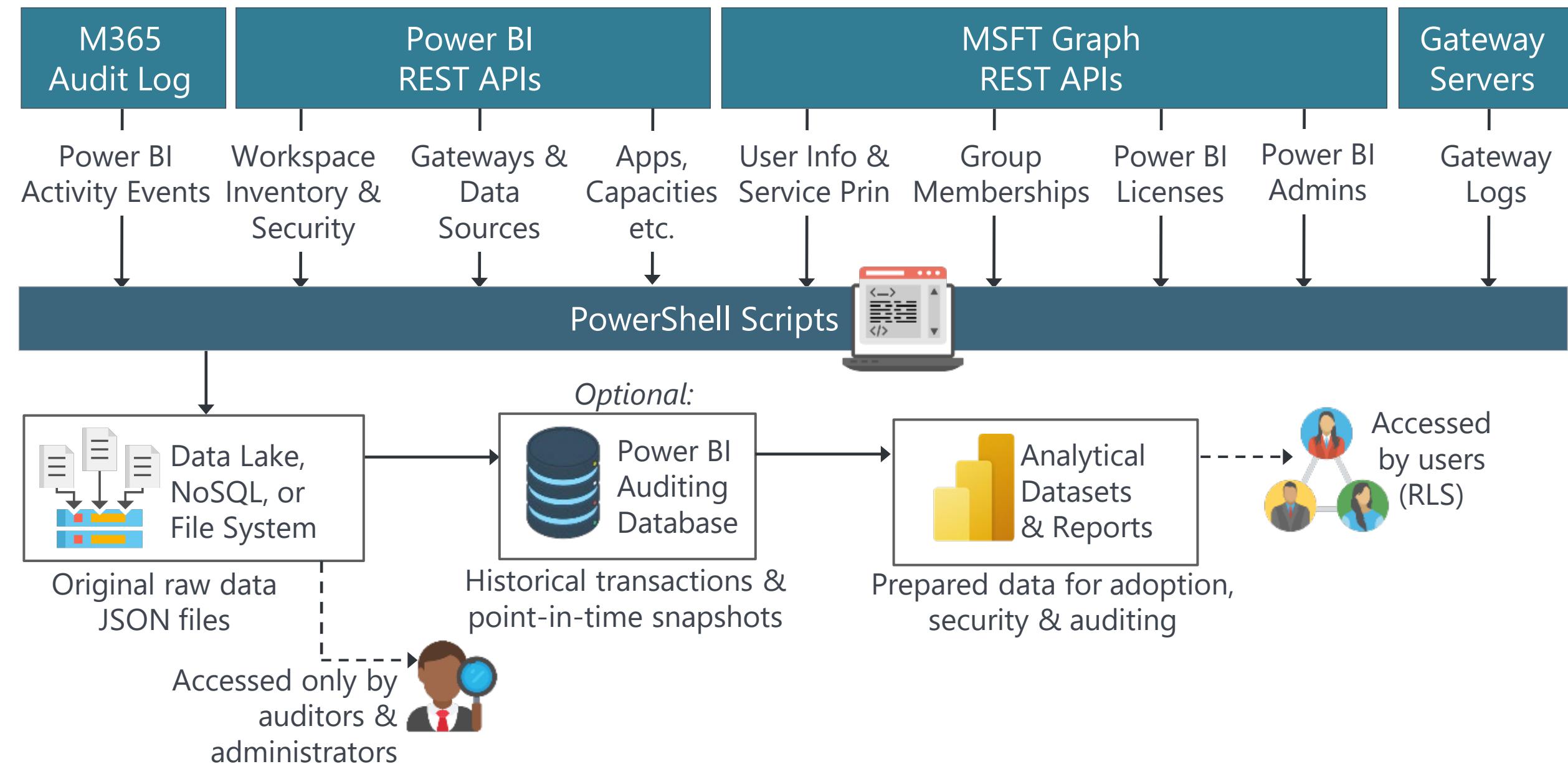
# Basic Power BI Auditing Solution



Prepared data for adoption,  
security & auditing



# End-To-End Power BI Auditing Solution





# Tips for Successful Usage Monitoring

Know what your  
“normal” is

Recognize when something is unusual to take action early

Accumulate history

Comply with auditing requests & do useful trending analysis

Securely retain raw data files

Retain raw files in a secure and immutable (no modifications or deletions) location so you can:

- Re-parse the data if you missed a new attribute
- Rely on this data for formal auditing

Correlate data

Improve usefulness by correlating with other related data



Q&A

# More Information from Melissa Coates



**Slides:**

[CoatesDS.com/Presentations](http://CoatesDS.com/Presentations)



**Diagrams:**

[CoatesDS.com/Diagrams](http://CoatesDS.com/Diagrams)



**Power BI Governance Training:**

[CoatesDS.com/Training](http://CoatesDS.com/Training)



**Blog:**

[CoatesDS.com/Blog-Posts](http://CoatesDS.com/Blog-Posts)



**YouTube:**

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