



Best Practices for Delivering, Sharing & Discovering Content in the Power BI Service

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Slides & recordings: CoatesDS.com/Presentations

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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



Best Practices for Delivering, Sharing & Discovering Content in the Power BI Service



Our focus is on the Power BI service.

Power BI Report Server and embedding solutions are out of scope.



Slides & recordings: CoatesDS.com/Presentations



Other Related Presentations

Related presentations you might also find helpful:



Increasing Trustworthiness of Power BI Content



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Options for Securely Sharing Content in the Power BI Service

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Terminology

4 key terms to know

Terminology



Collaboration

A general term for **people working together**.

Ex: data modeler, report designer, and quality assurance.

Workspaces are a key aspect of collaboration (in addition to Power BI Desktop or other 3rd party tools).



Distribution

A general term for the **delivery of content** for others to consume. It's usually referring to read-only permissions for viewers.

There are several techniques to distribute content: apps, sharing, or the workspace viewer role.

Terminology



Sharing

Sharing is an **actual feature** in the Power BI Service in which 1 artifact may be viewed by others.

It's one way to distribute content.

The sharing feature is **intended to be 'read-only'** but it can grant additional 'build' permissions too.

This term is **used generally** a lot too. Watch out if someone literally means the feature, or generally means content distribution.



Data Discovery

The display of metadata to enable someone to find content that already exists.

Discovery **encourages the reuse of data** that already exists.

The **Data Hub** in the Power BI service helps content creators find existing data.



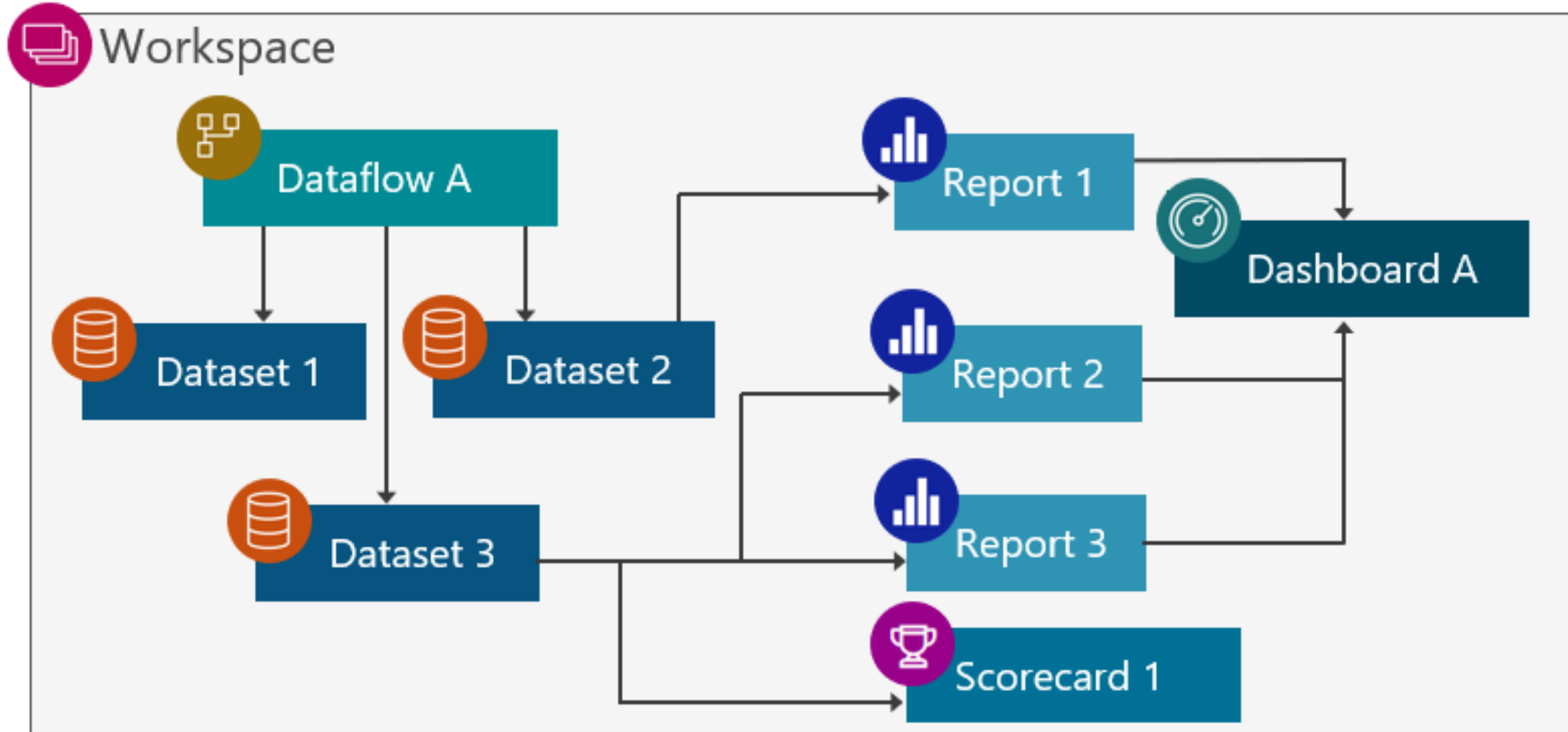
Collaboration in the Power BI Service

Workspaces for people who create, publish,
and test content



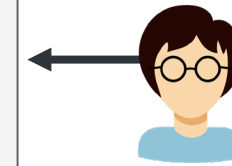
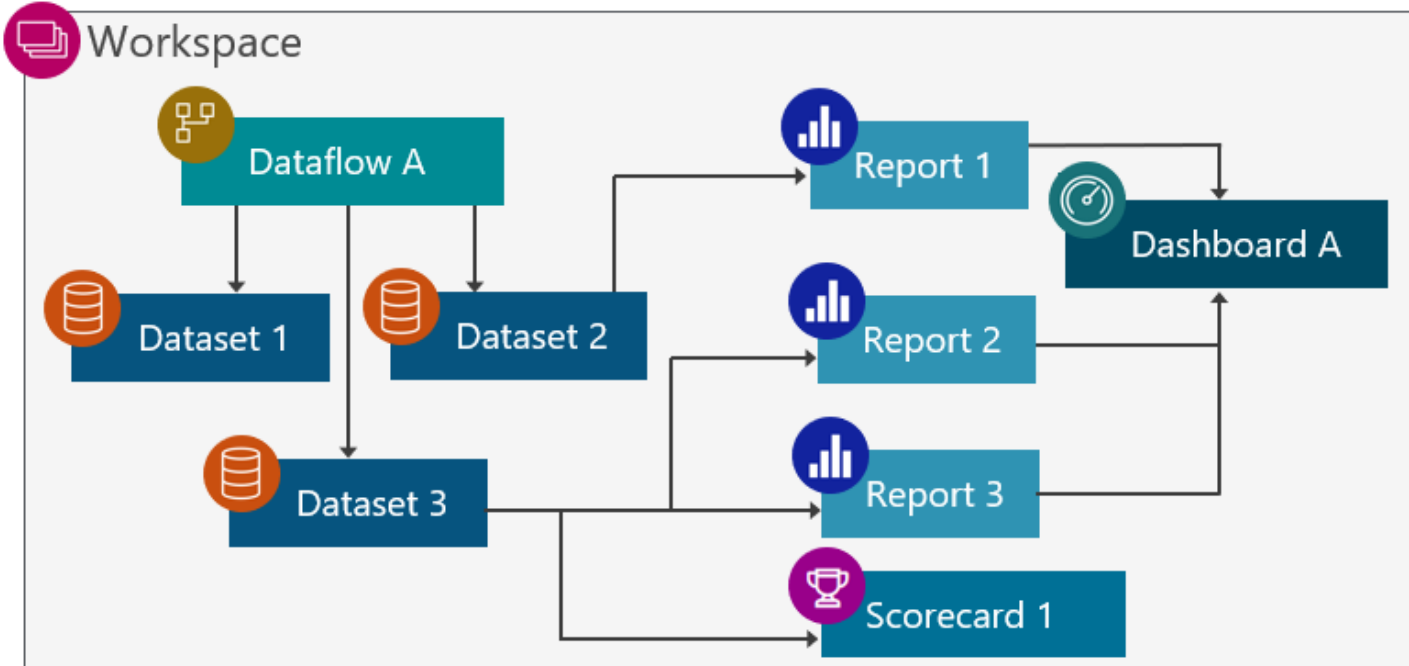
Workspace Purpose

Storage of content in the Power BI Service



Workspace: Primary Purpose

#1 Collaboration on content



Tester

Data validation,
QA, UAT



Data model owner

Designs dataset &
manages refresh

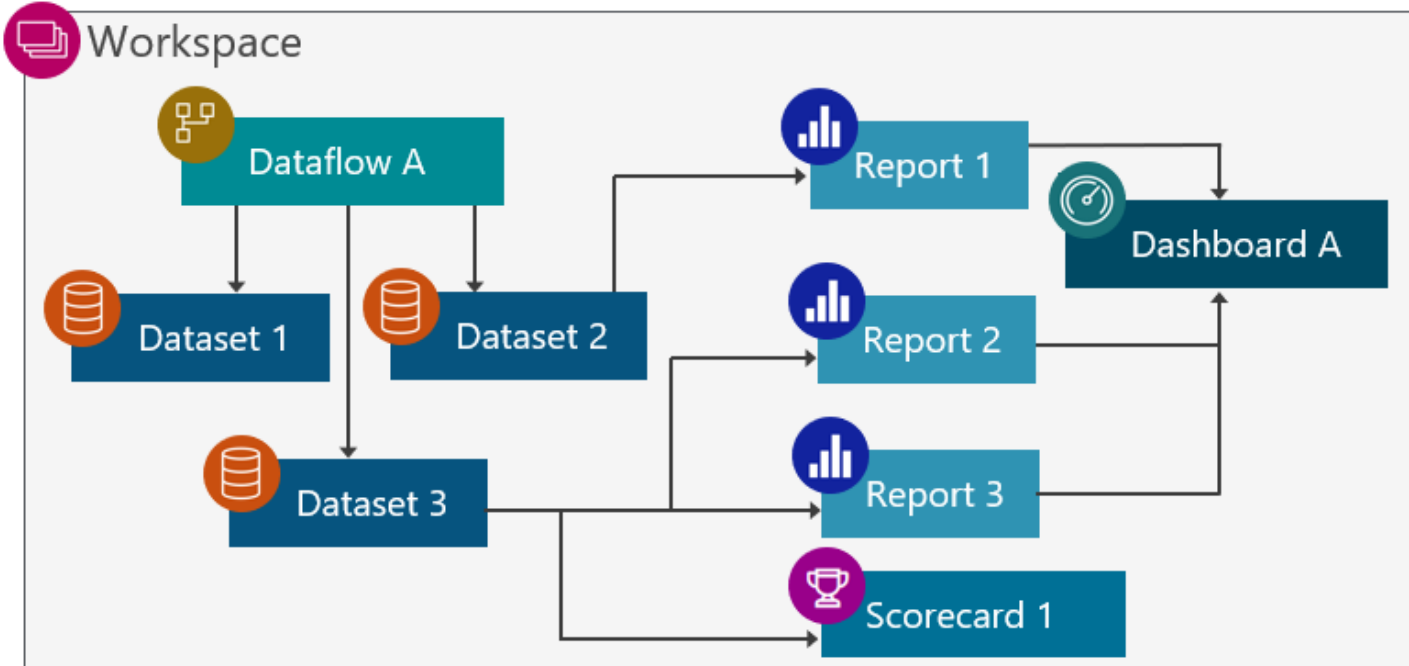


Report owner

Designs visuals

Workspace: Secondary Purpose

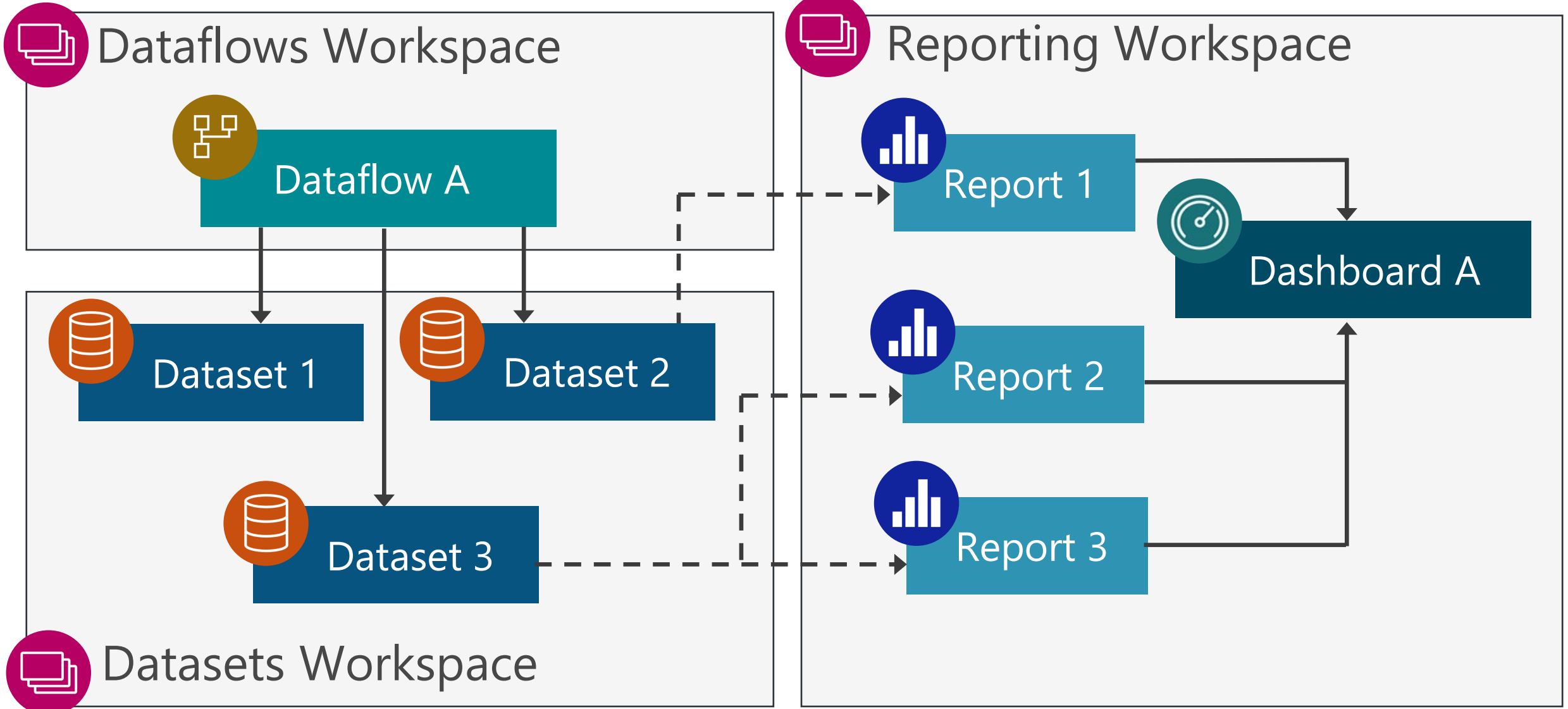
#2 Content distribution for small teams



Content viewers

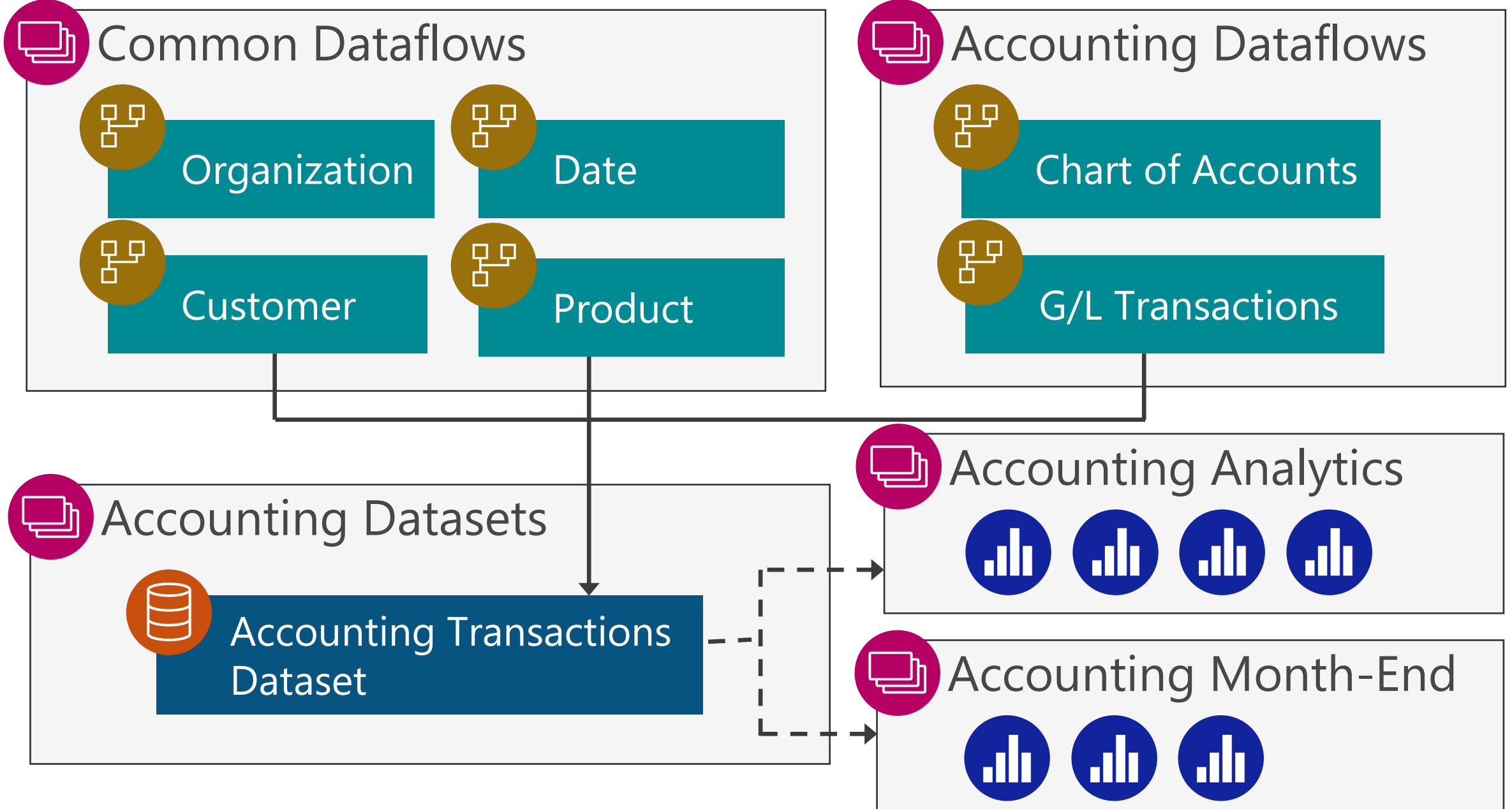


Workspace Organization





Workspace Organization





Workspace Planning

1 What is the content?

- Subject area / topic / purpose
- Level of sensitivity

2 Who is the content delivered to?

- Content delivery scope / security boundary
- License mode (Pro / PPU / Premium) & features
- Licensing needs & integration w/ other services
- Intentions for app distribution

3 How will the content be managed & by whom?

- Content ownership & management
- Separation of data vs. reports & visuals

4 How will the content be deployed?

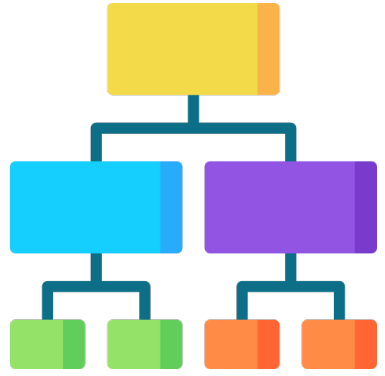
- Separation of dev / test / prod
- Application lifecycle management (ALM)
- Data sovereignty & storage needs
- Other technical limitations

More info:

CoatesDS.com/blog/pbi-workspace-planning



Workspace Scope



Most people start off with workspaces based on their organizational structure (ex: dept).

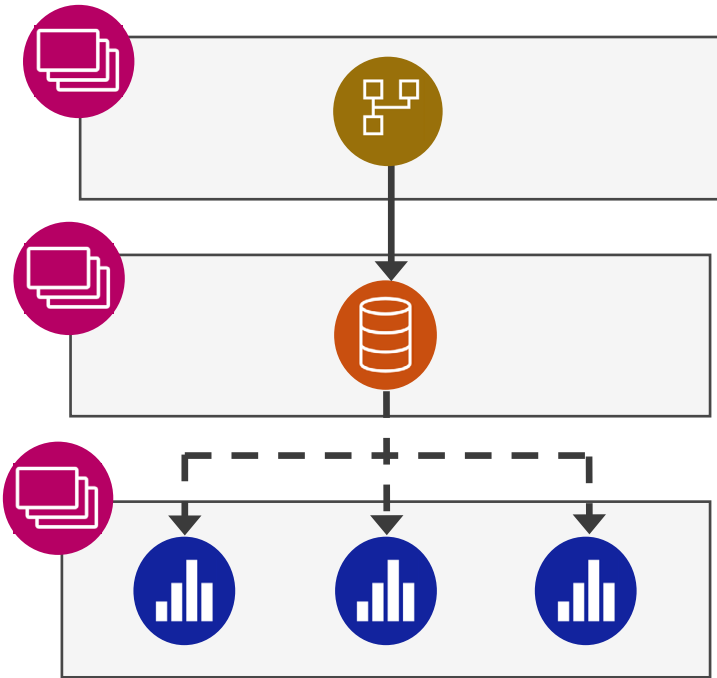
Often that's too broad. Works ok for small, collaborative (informal) workspaces.



Workspaces which are broadly defined with a lot of unrelated content are harder to manage, and more tedious to secure well.



Multiple Types of Workspaces

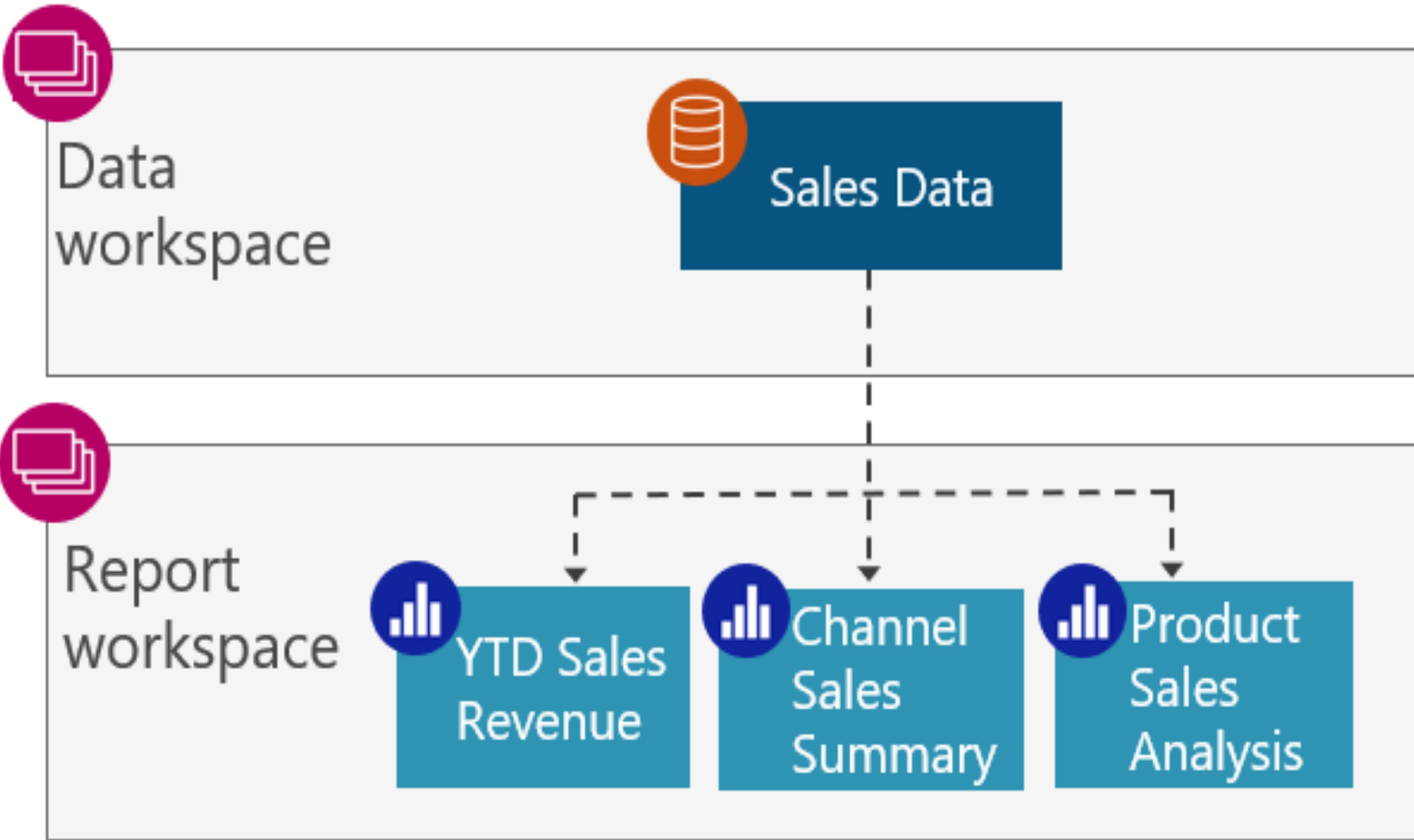


- ❑ Collaboration: clarity on who may edit vs. view: helpful when separate people are responsible for data vs. reports
- ❑ No over-provisioning of permissions; no reliance on the “honor system” for who may edit content


- ❑ Row-level and object-level security works for report authors who only have view permissions on the dataset




Helping Authors Collaborate Securely



Data authors:

Workspace role (admin, member, contributor) 

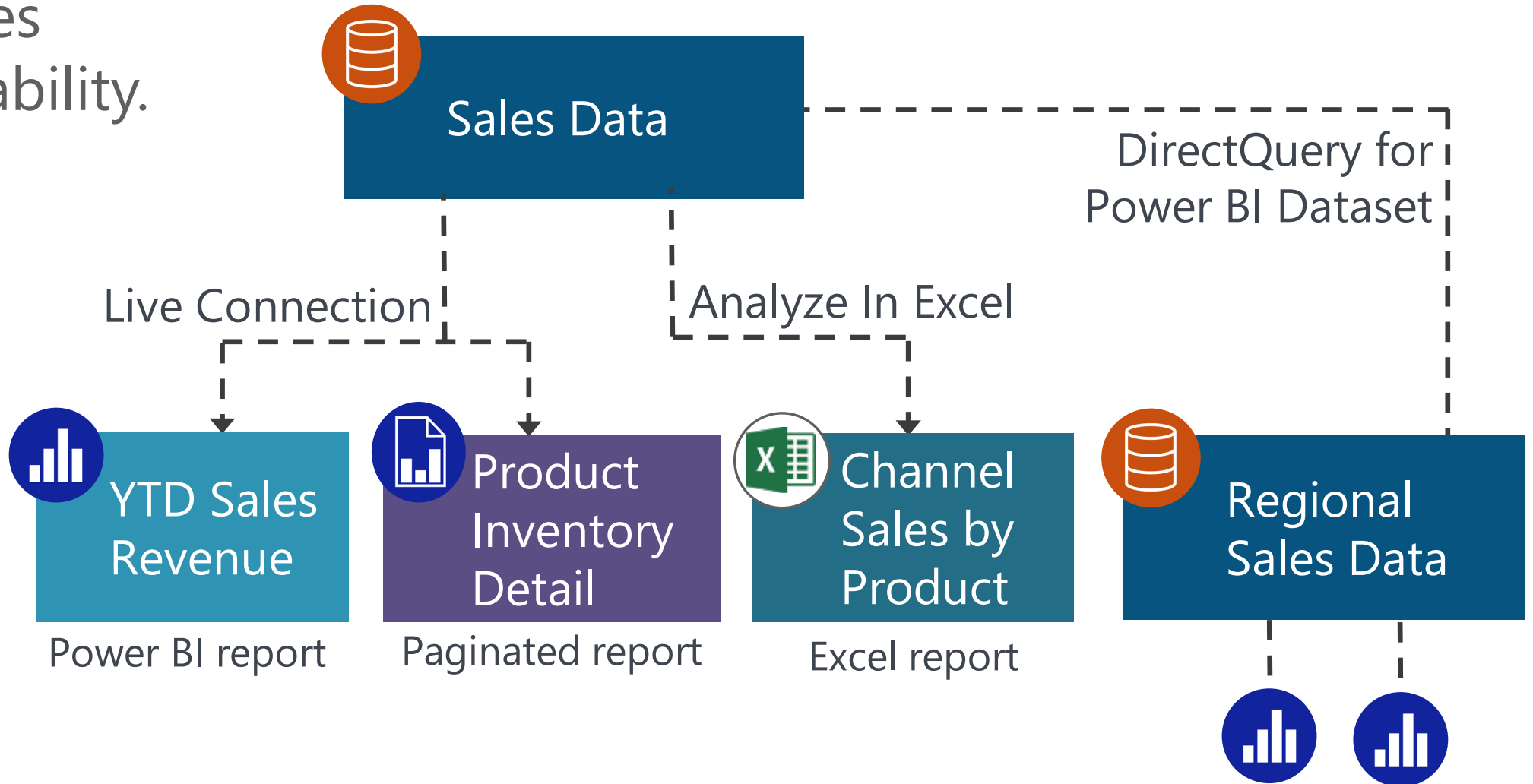
Report authors:

Build on the dataset 
+
Workspace role (admin, member, contributor)



Helping Authors Collaborate

A **shared dataset** (also known as a "golden dataset") encourages data reusability.

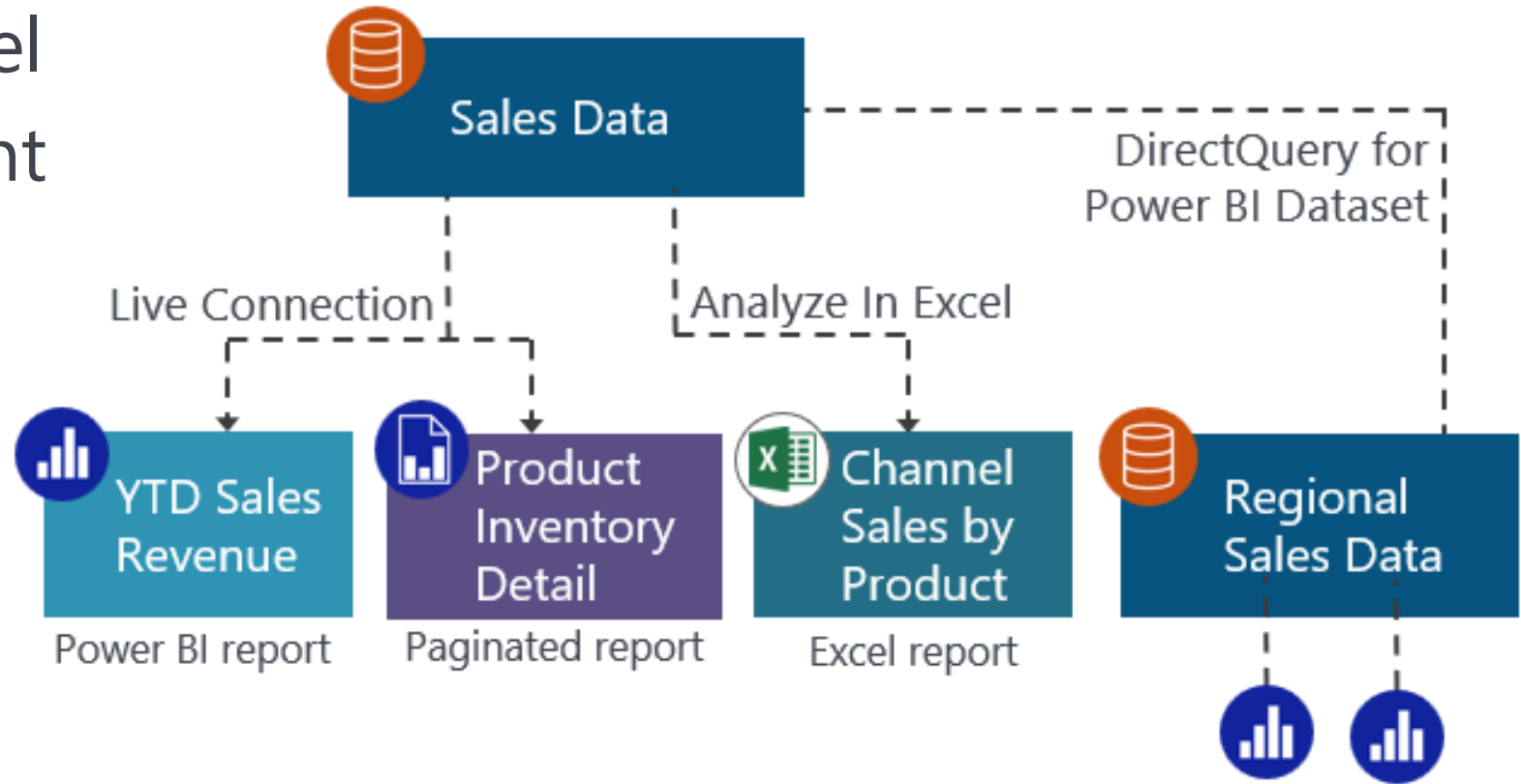




Helping Authors Collaborate

The 'Build' permission on a dataset allows a user to:

- ✓ Create new reports
- ✓ Create composite model
- ✓ Connect XMLA endpoint
- ✓ Analyze in Excel



(If allowed by relevant tenant settings)

Helping Authors Collaborate Securely



The 'Build' permission on a dataset can be granted a few ways:

Directly granted

- ✓ Via dataset permissions

Can be indirectly granted

- ✓ When sharing report or dashboard
- ✓ When publishing an app
- ✓ With workspace roles of contributor, member & admin

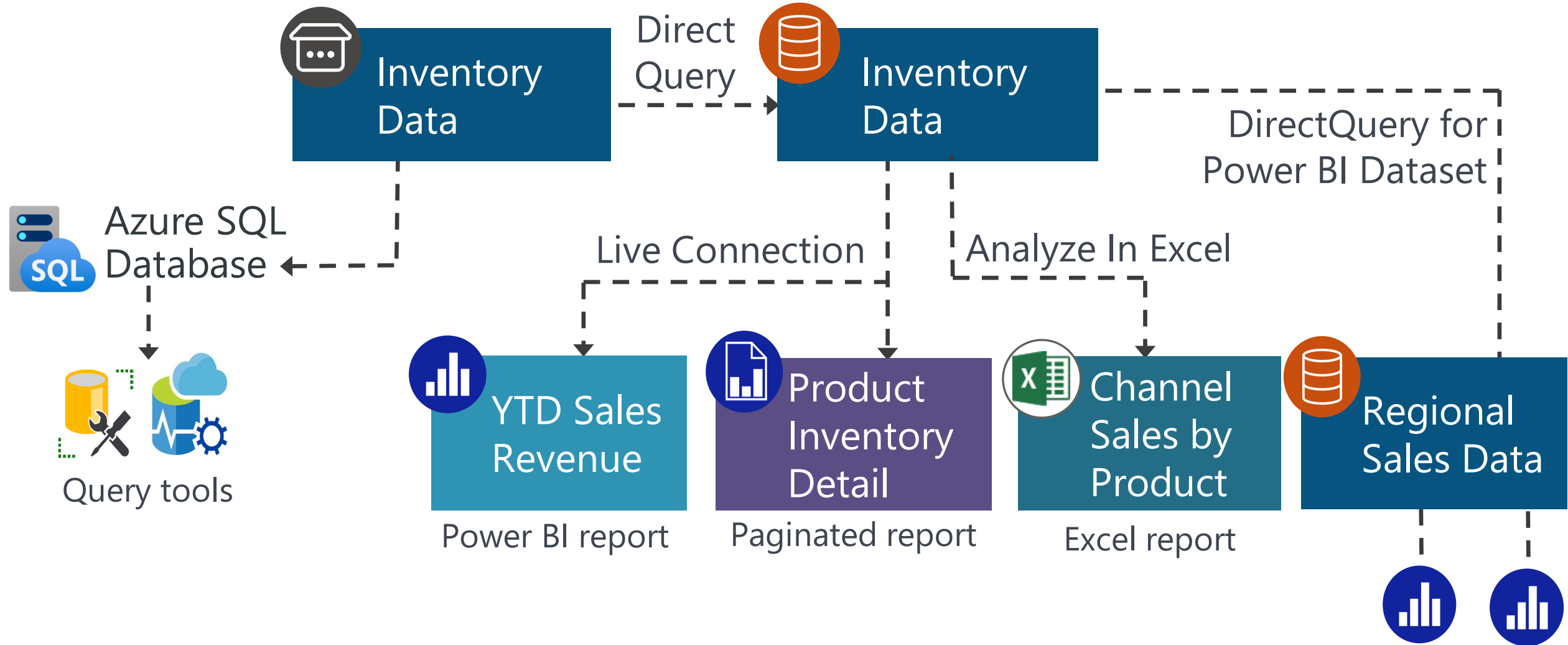


Educate your users to think carefully about the selections (and defaults) for 'build' and 'reshare.'



Helping Authors Collaborate

A **datamart** + its dataset also encourages data reusability.

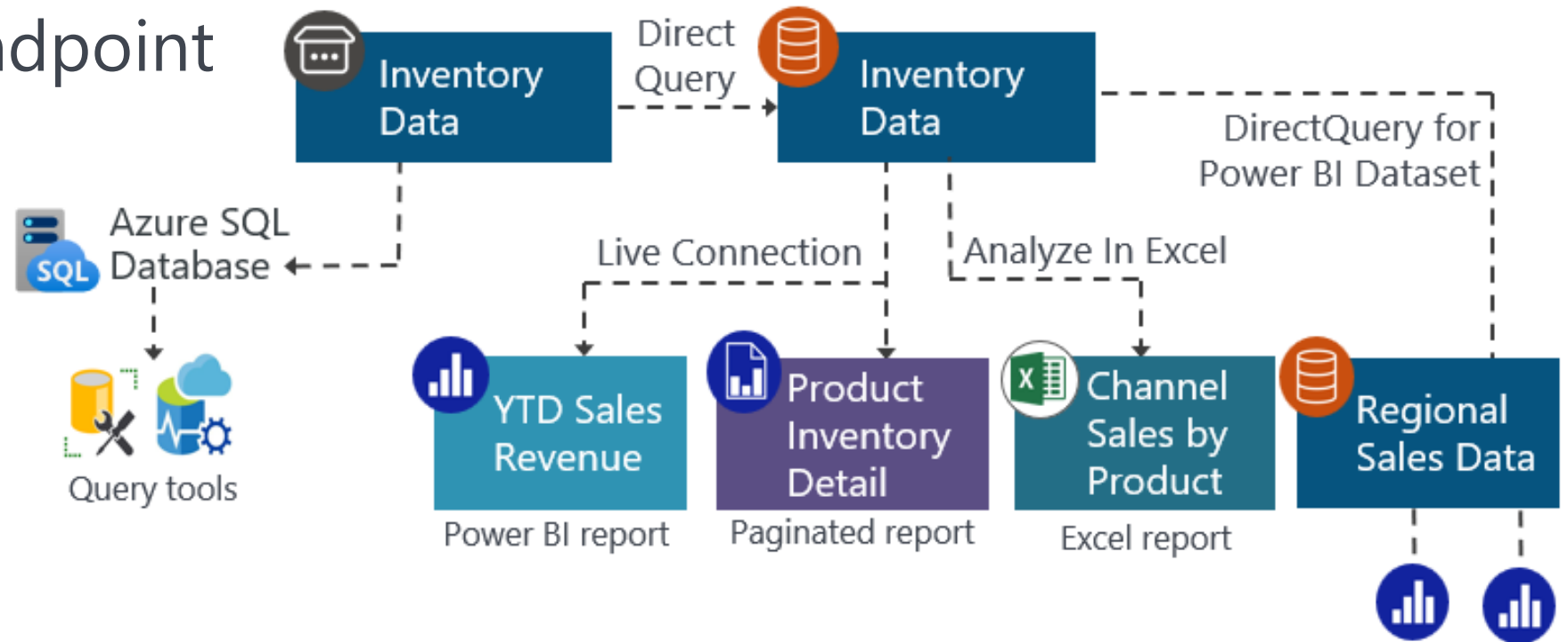




Helping Authors Collaborate

The 'Build' permission on a datamart allows a user to:

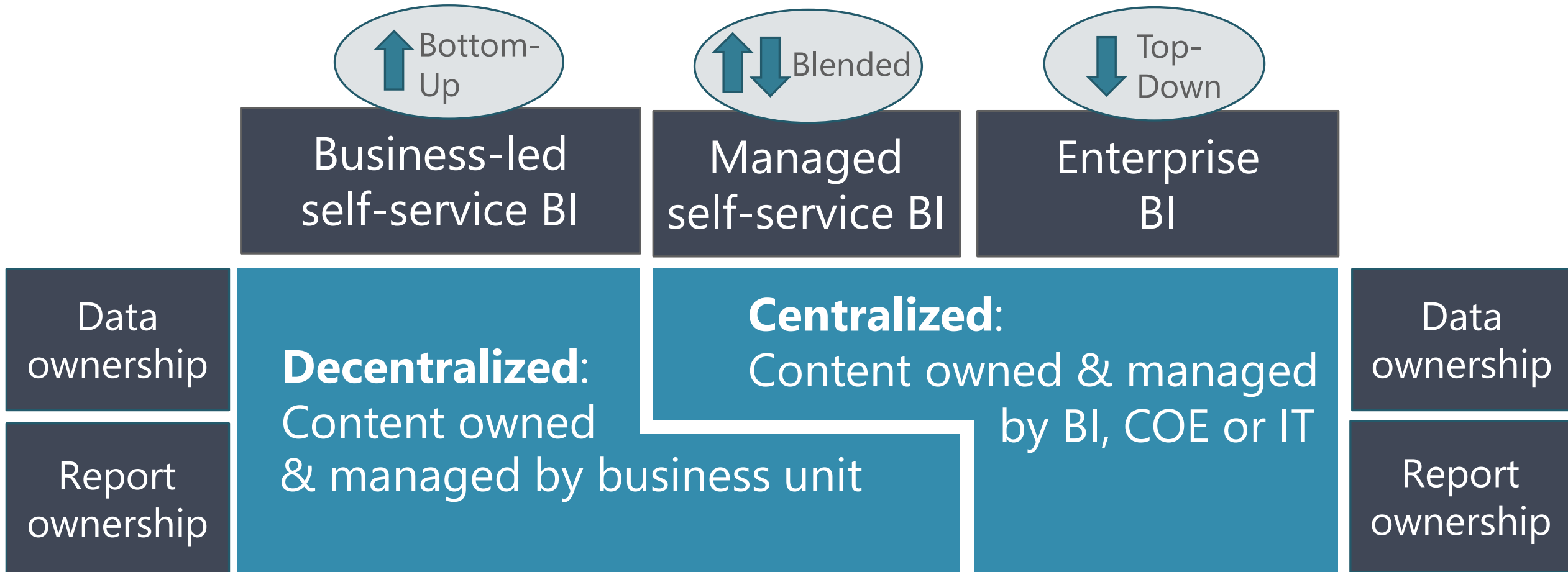
- ✓ Create new reports
- ✓ Create a new dataset
- ✓ Connect to the SQL endpoint
- ✓ Connect XMLA endpoint
- ✓ Analyze in Excel





3 BI Content Ownership Approaches




Affects how you collaborate with multiple teams:



Source: [Power BI Adoption Roadmap](#)

Workspace Roles



-  **Admin**
-  **Member**
-  **Contributor**

Collaboration among team members for content editing, testing, deployment

-  **Viewer**

Distribution for small teams



Manage security closely for workspaces. Too many people who can edit content in a workspace = risk of unapproved changes or modifications outside of your normal process.

Best Practices: Personal Workspaces



Don't store mission critical content in personal workspaces.

Use a standard workspace instead to allow for:

- Better collaboration
- Better security
- Reduced risk



Distributing Content in the Power BI Service

Apps, sharing & workspaces for consumers who have viewer-only permissions

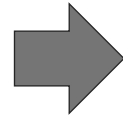
Viewing Content



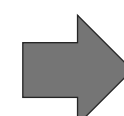
   


Content & Data

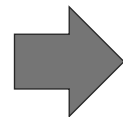
Artifacts:
Dashboards,
reports,
datasets,
dataflows



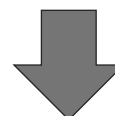
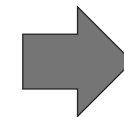
 **My Workspace**
Personal BI



 **Sharing**
View
individual
pieces of
content

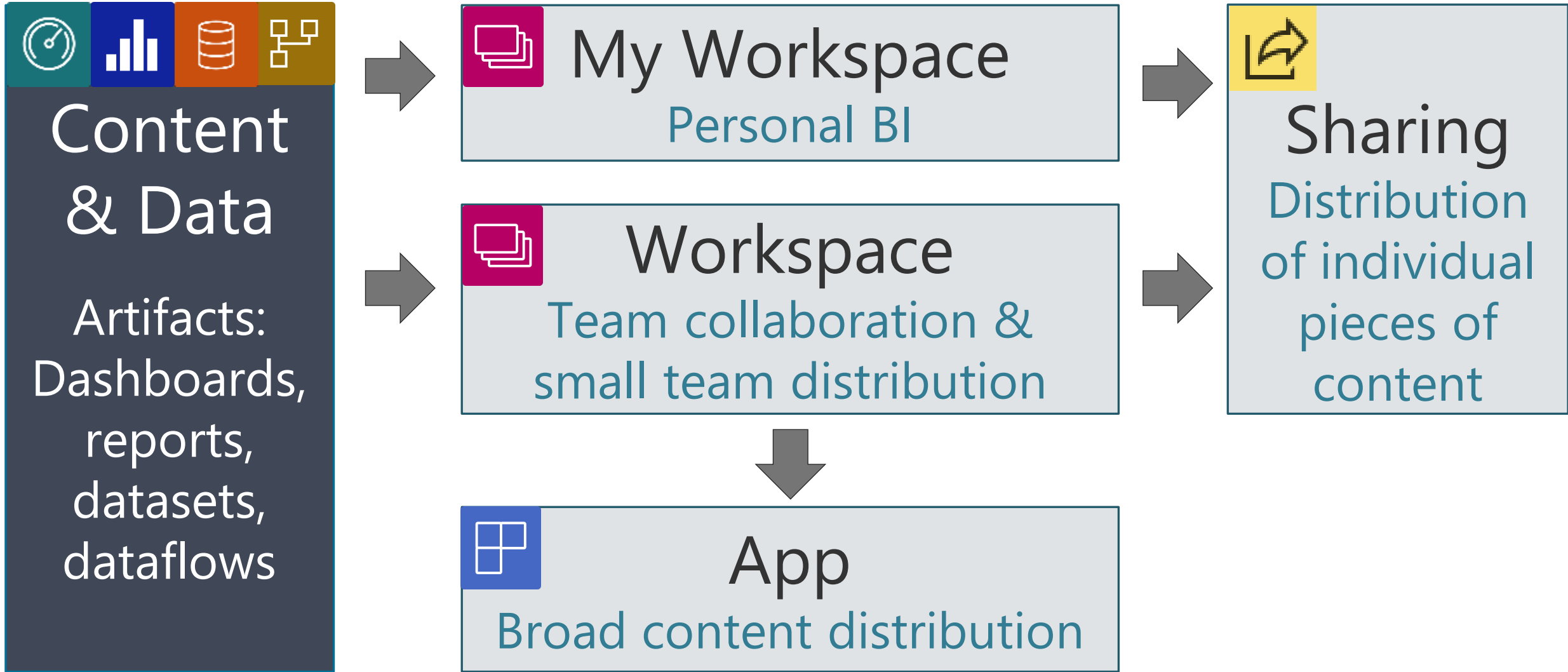


 **Workspace**
View all contents of
a workspace



 **App**
View a collection of content

Primary Purpose for Each



Distributing Content in a Workspace



Sales Analytics

MTD, QTD, YTD sales reporting

Update app

+ New ▼ Create a pipeline

≡ View ▼ Filters Settings Access ⋮ Search

All Content Datasets + dataflows

	Name	Type	Owner	Refreshed	Next refresh	Endorsement	Sensitivity	Include in app
	Call Center Dashboard	Dashboard	Sales Analytics	—	—	—	General Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
	Call Center Stats	Report	Sales Analytics	5/25/22, 12:01:50 PM	—	—	General Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
	Channel Sales by Product	Workbook	Sales Analytics	3/17/21, 12:16:03 PM	—	—	—	<input checked="" type="checkbox"/> Yes



Using a workspace for content viewers is easy.

It's best suited to small teams who:

- Work informally together, and
- Who don't need the extra overhead of an app

Distributing Content in a Power BI App



Sales Analytics

MTD, QTD, YTD sales reporting

Update app

+ New ▼ Create a pipeline

≡ View ▼ Filters Settings Access ⋮ Search

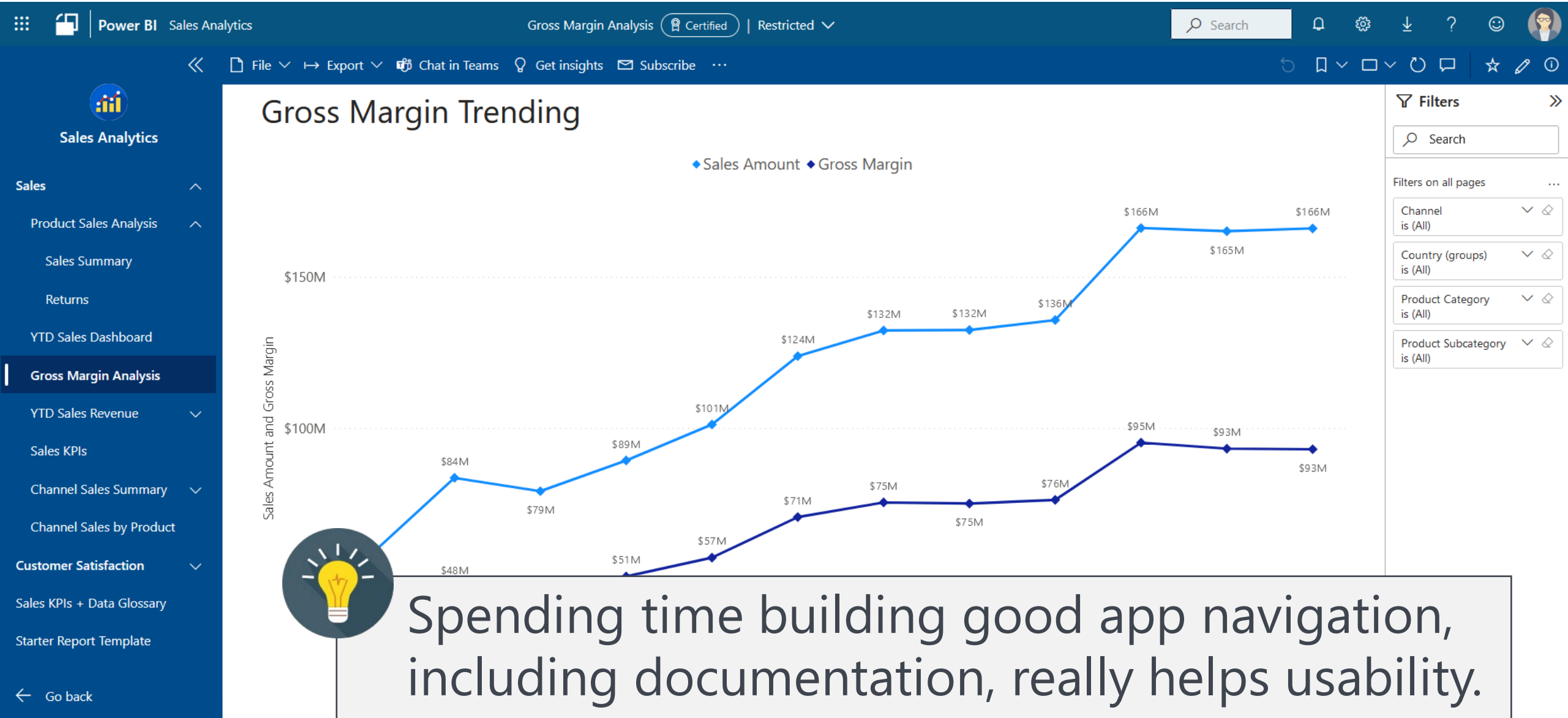
All Content Datasets + dataflows

	Name	Type	Owner	Refreshed	Next refresh	Endorsement	Sensitivity	Include in app
	Call Center Dashboard	Dashboard	Sales Analytics	—	—	—	General Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
	Call Center Stats	Report	Sales Analytics	5/25/22, 12:01:50 PM	—	—	General Internal Use ⓘ	<input checked="" type="checkbox"/> Yes
	Channel Sales by Product	Workbook	Sales Analytics	3/17/21, 12:16:03 PM	—	—	—	<input checked="" type="checkbox"/> Yes
	Channel Sales Summary	Report	Sales Analytics	5/9/22, 5:24:15 PM	—	—	General Internal Use ⓘ	<input checked="" type="checkbox"/> Yes

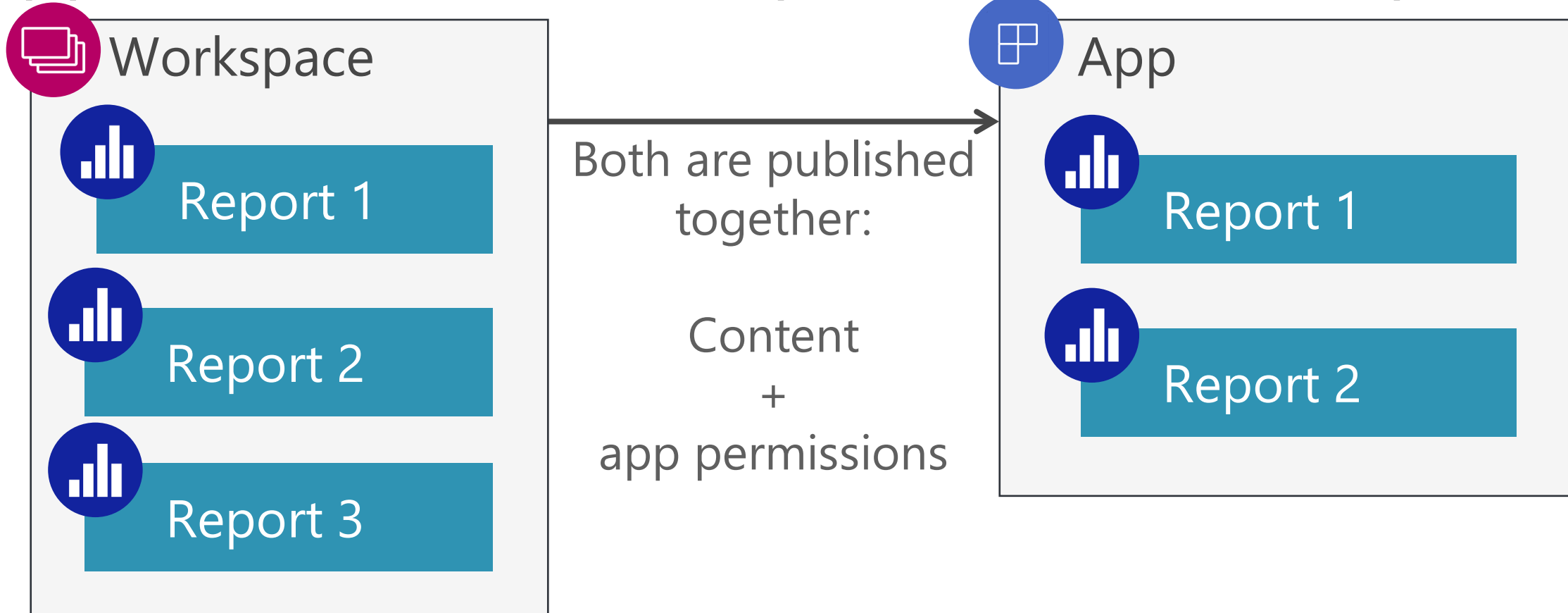


An app can be thought of as a packaged-up set of related content. It's one reason why workspace planning is so important.

Distributing Content in a Power BI App

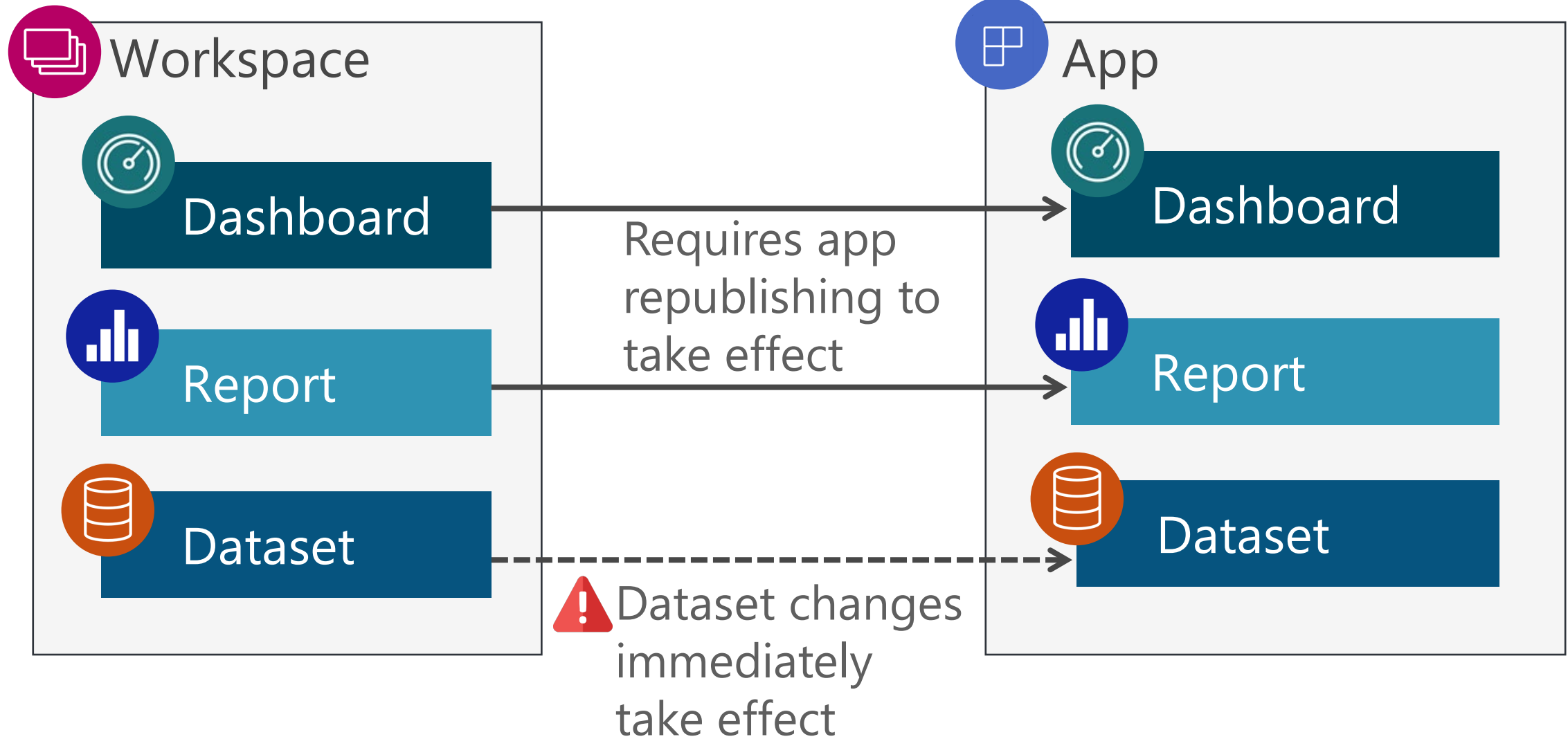


Apps Permissions are Separate from Workspace



Using groups for app permissions reduces your risk, reduces effort, and improves consistency.

Apps Aren't Really Decoupled from Workspace



Rule of Thumb for Workspace vs. App



Workspace

Limit access to those who are handling:

- Authoring
- Development
- Data validations
- Quality assurance (QA)
- User acceptance testing (UAT)

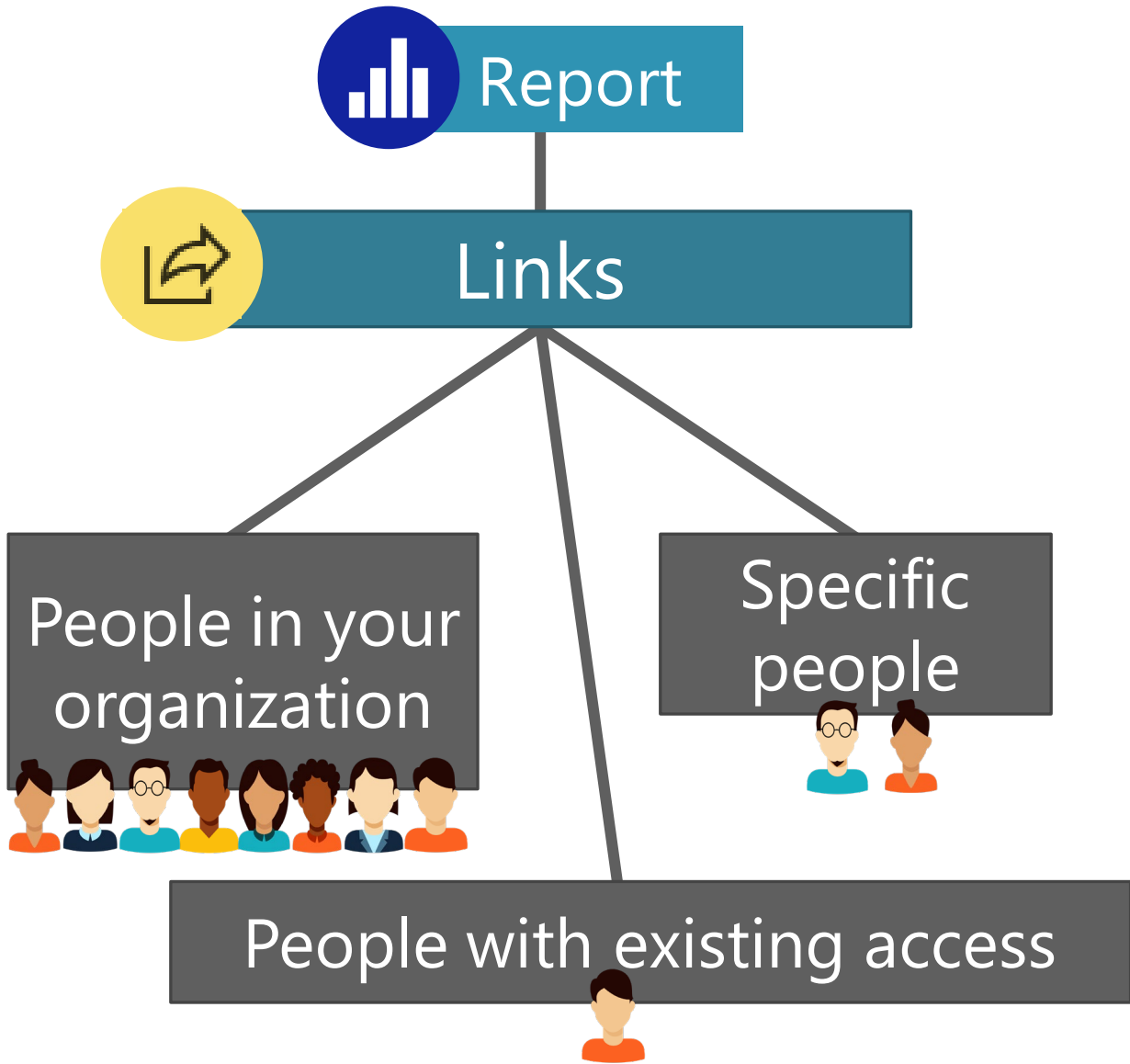


App

Provide access for:

- Read-only consumers

Distributing Content with Sharing



When to Use Sharing for Reports?



Sharing is best suited to **informal scenarios** where content is shared with **just a few people** who work closely together.

Why?

Sharing is per-report, per-dashboard.

This can be tedious to maintain.

It can be error-prone if you maintain a lot of items.

When to Use Sharing for Reports



Sharing is most suitable when:

- You want to provide read-only access to 1 report or dashboard
BECAUSE
- You do *not* want the recipient to view everything in workspace
OR
- You do *not* want the recipient to view everything in an app



Think of sharing as an 'exception' to workspace roles



When to Use Sharing for a Datamart

With datamarts, sharing represents:

- The ability to build content with the auto-generated dataset
AND
- The ability to connect to the SQL endpoint
- The ability to re-share (if granted)



- Datamart sharing is (currently) different in 2 ways:
1. Sharing a datamart includes **both** read & build.
 2. Sharing a datamart results in direct access (not a link).

Which Audience Needs to View Content?



Large Teams and Broad Distribution

Apps are usually the best situation, especially for people who do not work closely together.



Small Teams

Either workspace or app. Depends on if the additional layer of an app is desirable.



Certain Individuals

Sharing is a valid option for small # of people if you don't want recipient to see everything in the workspace or the app.

Ways to Distribute Content to Viewers



1st choice: App

Best user consumption experience for distributing a collection of reports & dashboards.



2nd choice: Workspace viewer

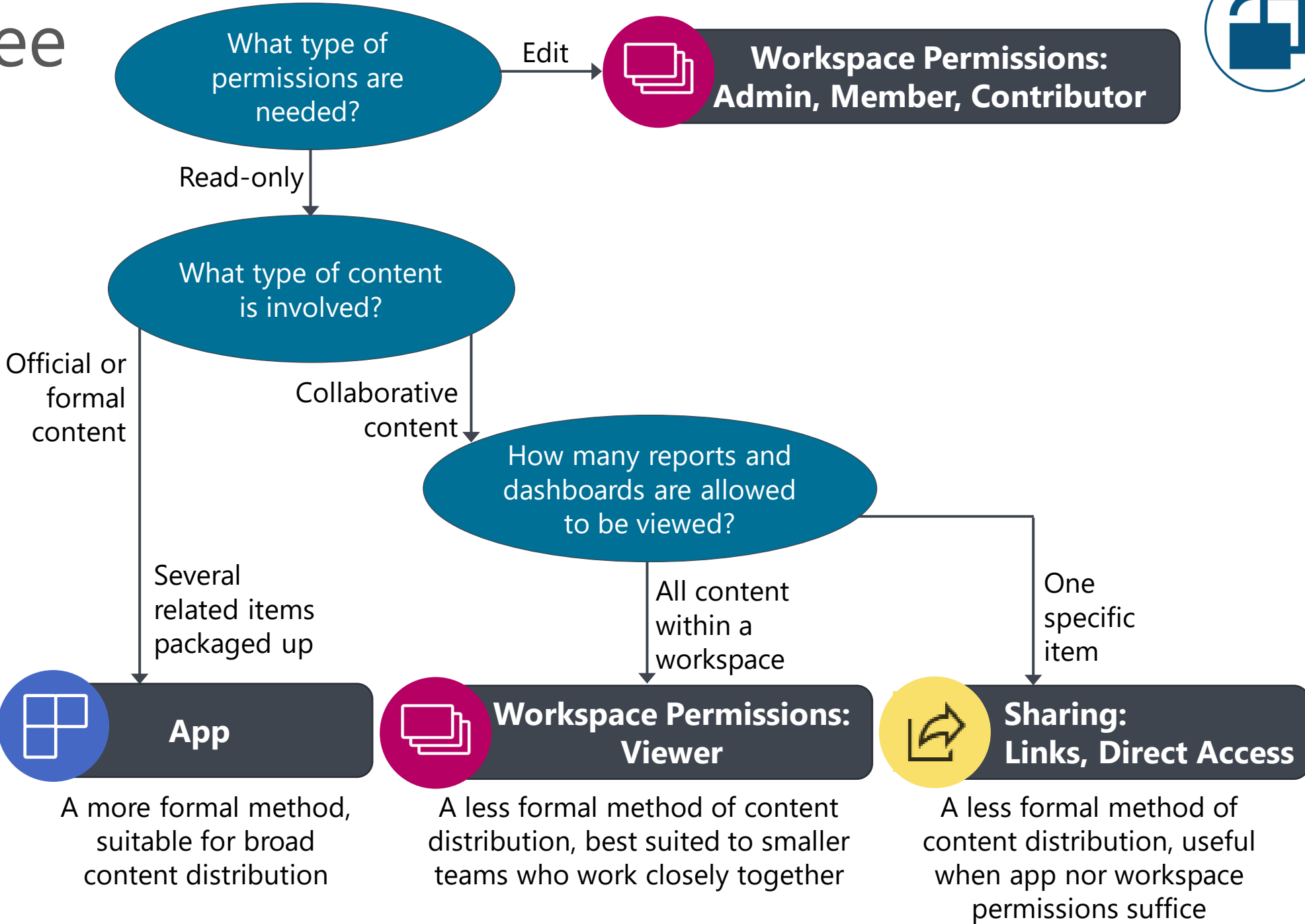
Suitable for small teams that don't need an app & when viewers are allowed to see everything in the workspace.



3rd choice: Individual item sharing

Links or direct access per individual artifact. Consider sharing to be an 'exception' to workspace roles; maintained for every item.

Decision Tree



Adapted from:
[Planning a Power BI Enterprise Deployment Whitepaper](#)

Co-authored by
Melissa Coates &
Chris Webb

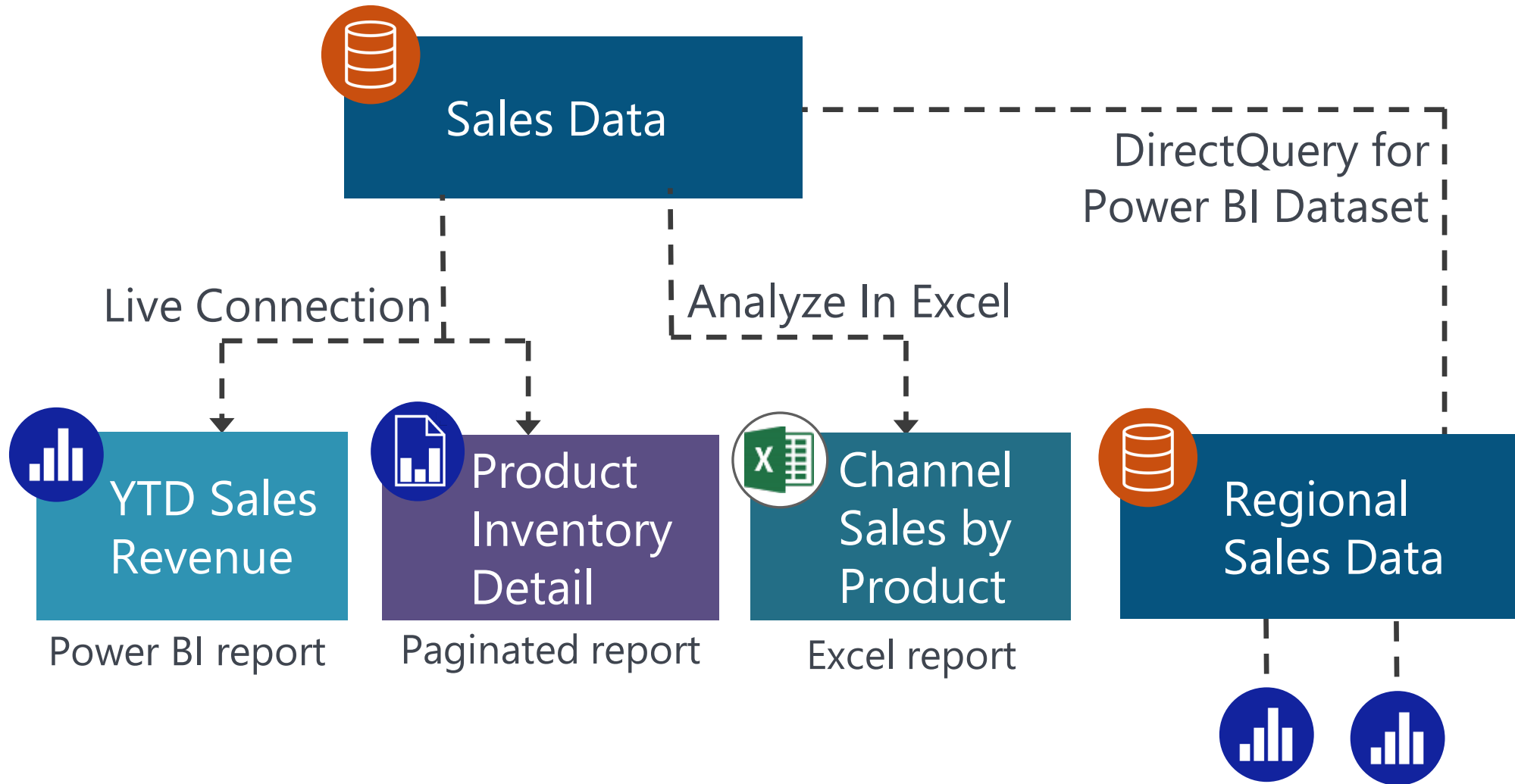


Discovering Content in the Power BI Service

Content creators who need to locate and
use data that already exists



How Do Users Know Data Exists?





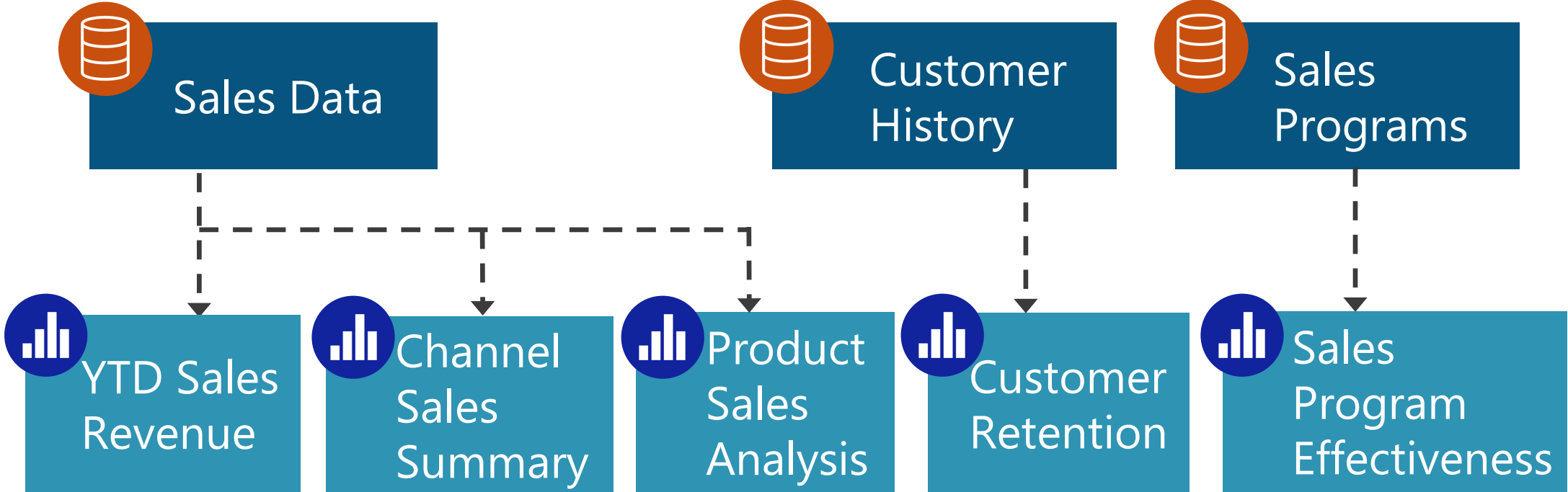
How Do Users Know Data Exists?



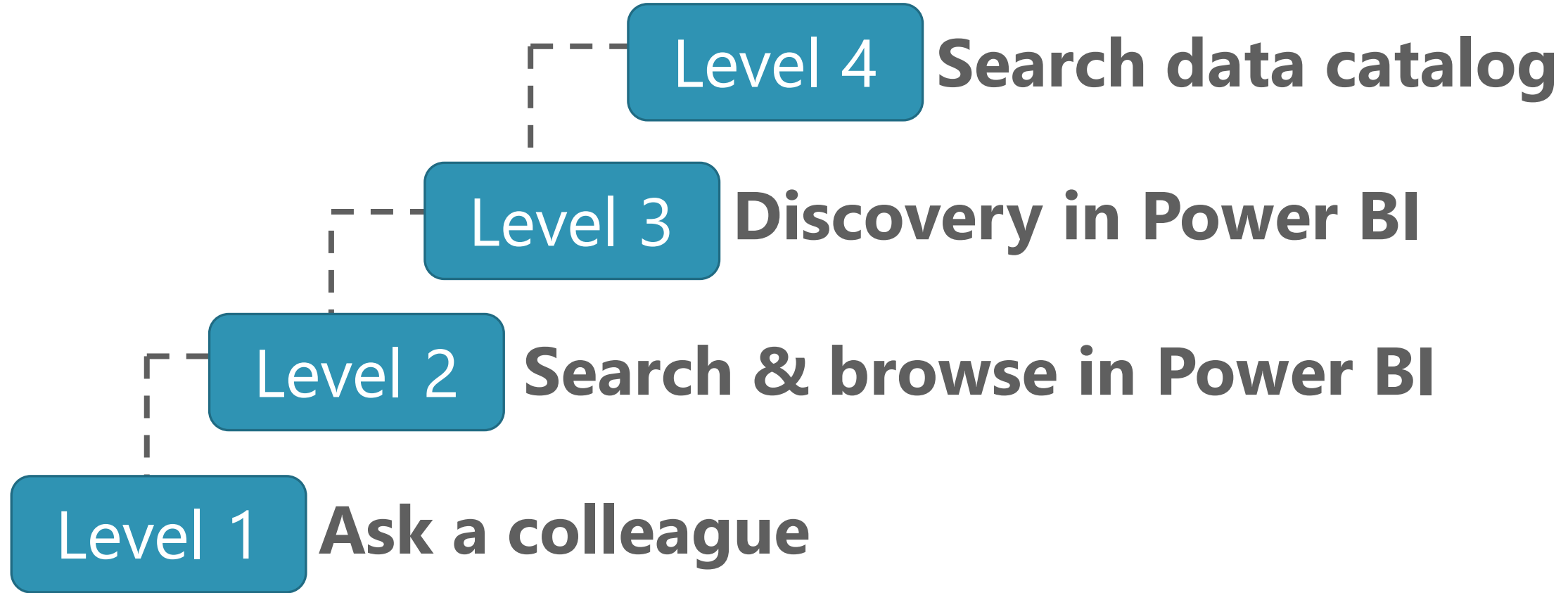
Shared Datasets:



Reports:



How Do Users Know Data Exists?





How Do Users Know Data Exists?



Search =

Finds data based on existing user permissions.

Discovery =

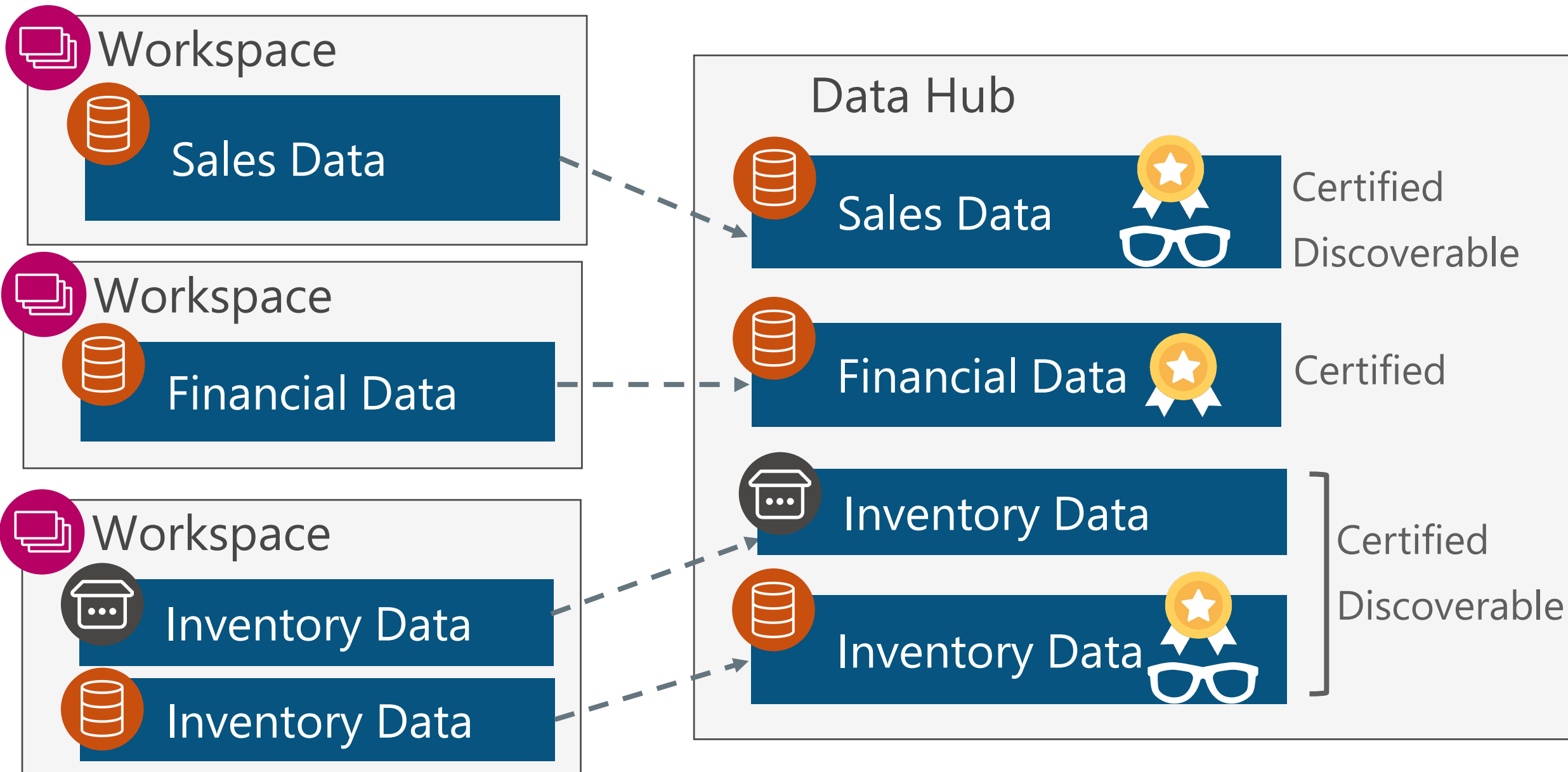
Finds data you don't necessarily have permission to (yet).
Exposes metadata to encourage reuse of a data artifact.

Requires:

1. An endorsement (certified or promoted)
2. Discoverable setting



The Data Hub



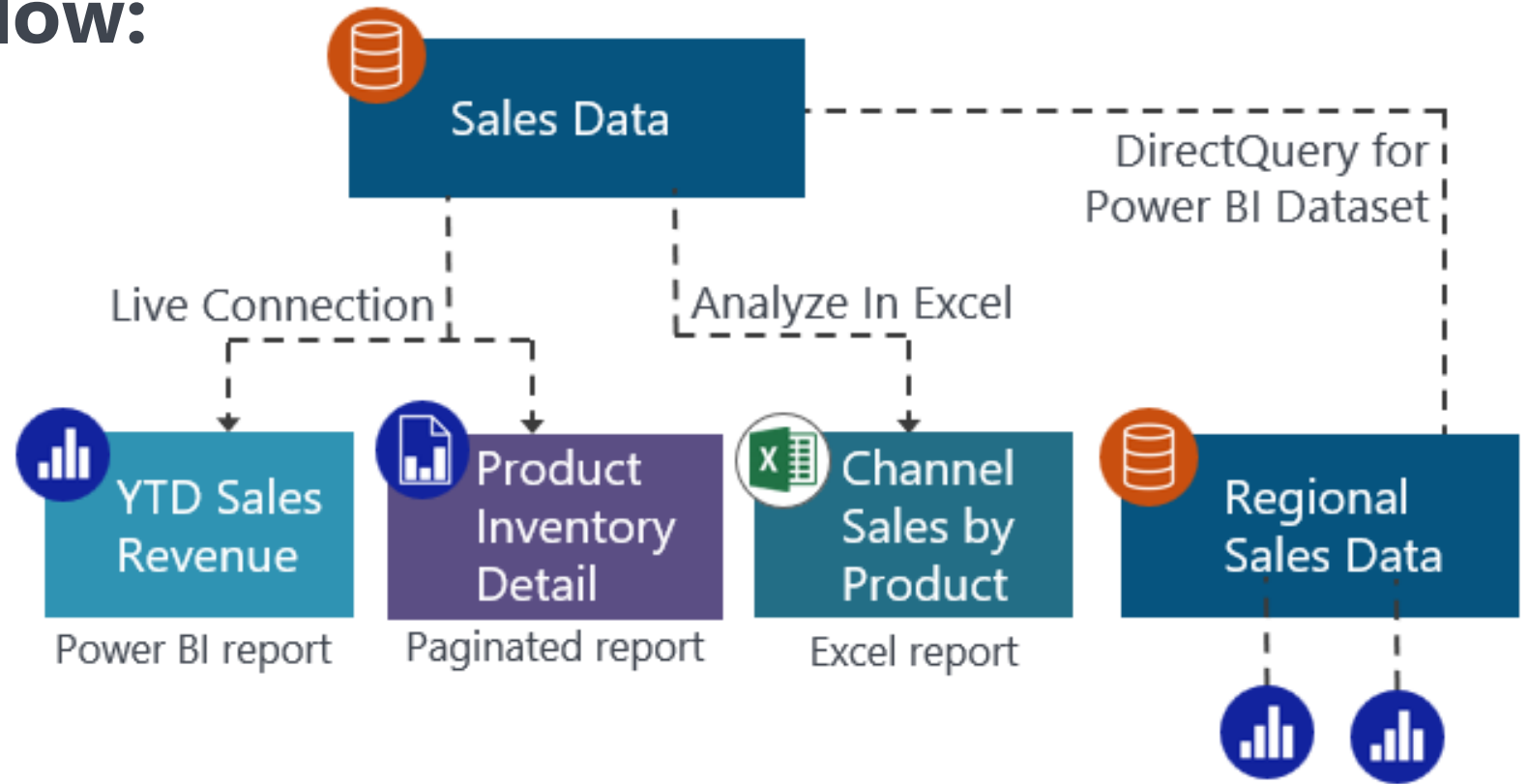


Helping Authors Collaborate Securely

Request access workflow:

The 'Build' permission is what is being requested in the *Request Access* workflow.

It's targeted towards other content creators.





Q&A

More Information from Melissa Coates



Slides:

CoatesDS.com/Presentations



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