

# Designing Dashboards in the Power BI Service



# Agenda

- Understanding How Dashboards Differ from Reports
- Working with Natural Language Queries
- Configuring Data Alerts on Dashboard Tiles
- Sharing Dashboards with Other Users
- Designing Real-time Dashboards
- Understanding Streaming vs Push vs Hybrid Datasets



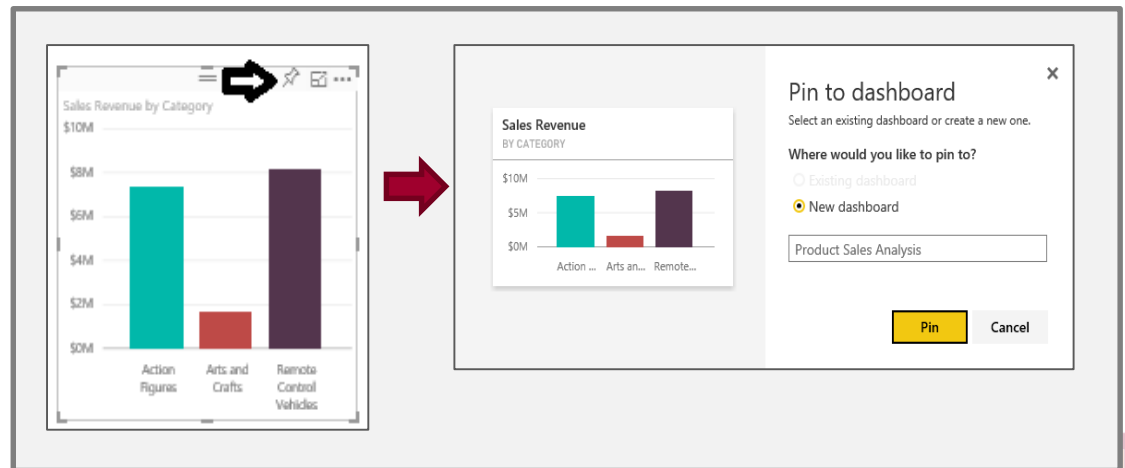
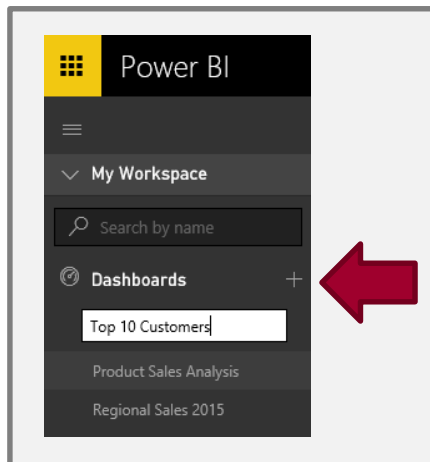
# Dashboards in Power BI

- Dashboard is consolidated view of reports & datasets
  - Provides simpler, more intuitive entry point to reports and datasets
  - Simplicity and intuition key for users with mobile devices & tablets
- Dashboard represents unit of deployment and reuse
  - Dashboards can be deployed via dashboard sharing
  - Dashboards can be deployed using organizational content packs



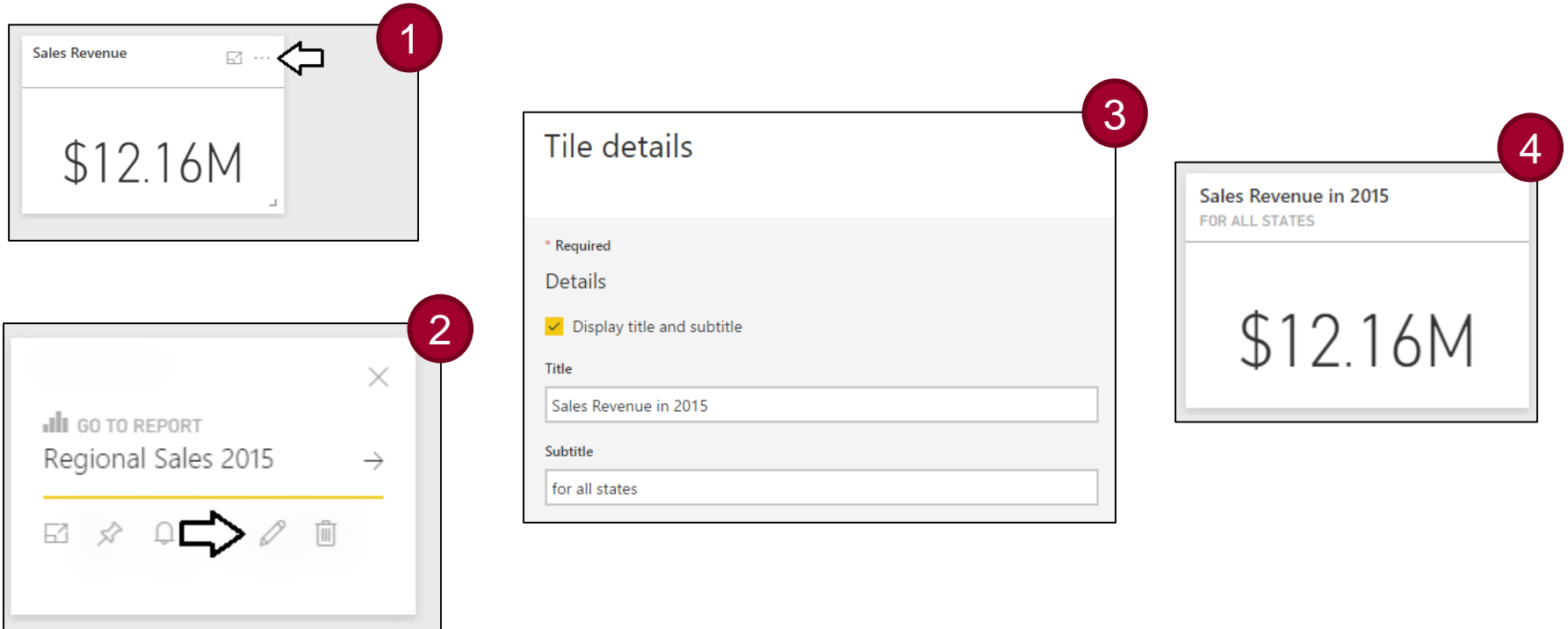
# Creating Dashboards

- Dashboard is a collection of tiles
  - Dashboard tiles can be created by pinning a visual from a report
  - Dashboard tiles can be created from Q&A search result
  - Each tile is snapshot of information from an underlying dataset
- Dashboard can be created two different ways
  - Click on (+) button in Dashboards section of navigation pane
  - Create new dashboard when pinning visual from report



# Modifying Tile Details

- You can customize a tile's title and subtitle
  - Default title and subtitle doesn't always provide enough clarity
  - Title and subtitle edited using **Tile details** dialog







**DEMO**

## Creating a Dashboard

# Agenda

- ✓ Designing Dashboards for Power BI
- Executing Queries with Natural Language Q&A
  - Sharing Dashboards
  - Building Real-time Dashboards



# The Q&A Search Box

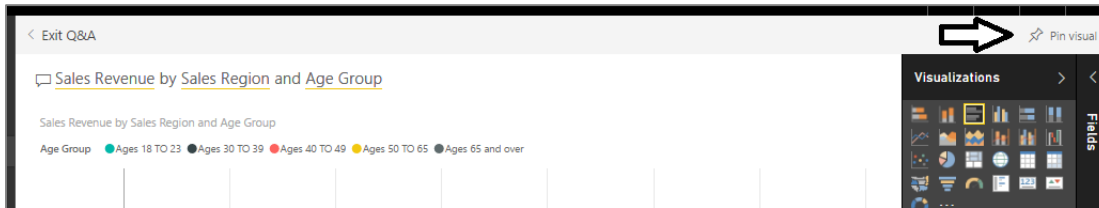
- Used to execute natural language queries
  - Queries are executed against underlying dataset(s) in workspace
  - Query results display using some type of Power BI visual
  - Power BI service selects Visualization type based on result type





# Pinning Search Result to Dashboard

- Q&A search results can be pinned to dashboard
- Allows users to easily save visuals from query results



This tile was created from a visual on a report

This tile was created from a Q&A query result



**DEMO**

## **Working with the Q&A Search Box**

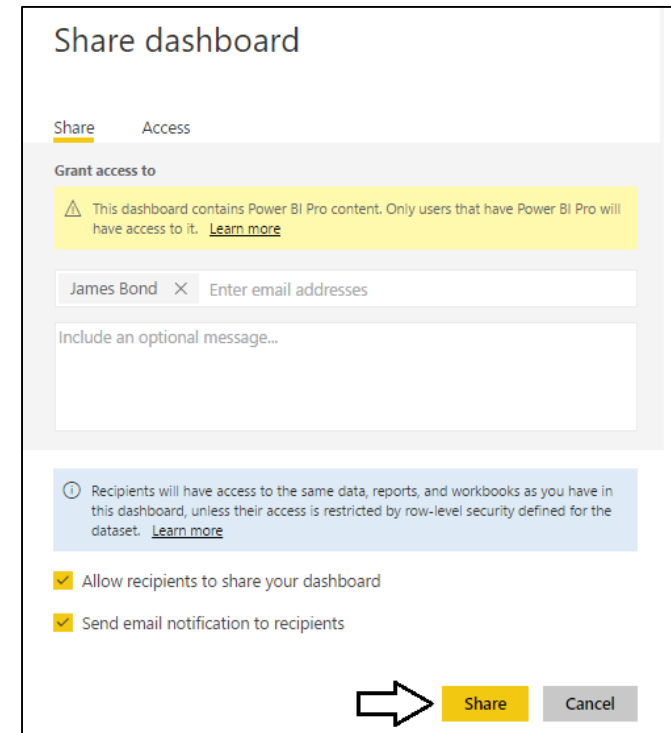
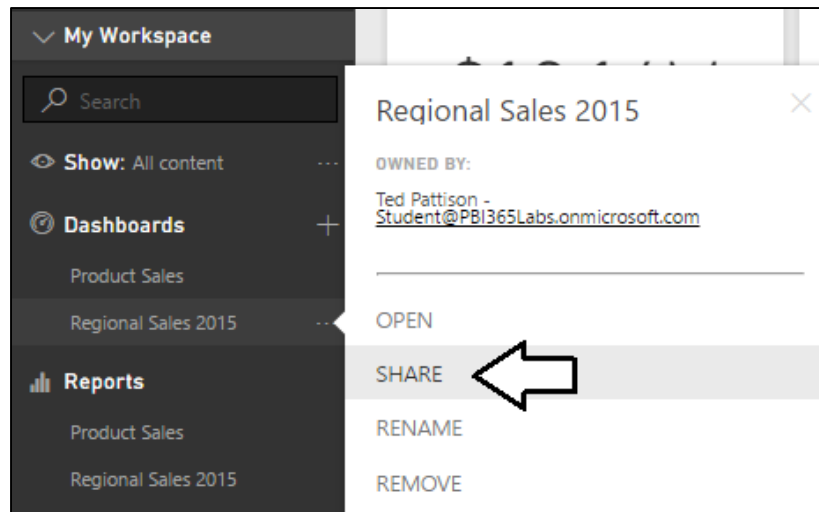
# Agenda

- ✓ Designing Dashboards for Power BI
- ✓ Executing Queries with Natural Language Q&A
- Sharing Dashboards
  - Building Real-time Dashboards



# Sharing Dashboards

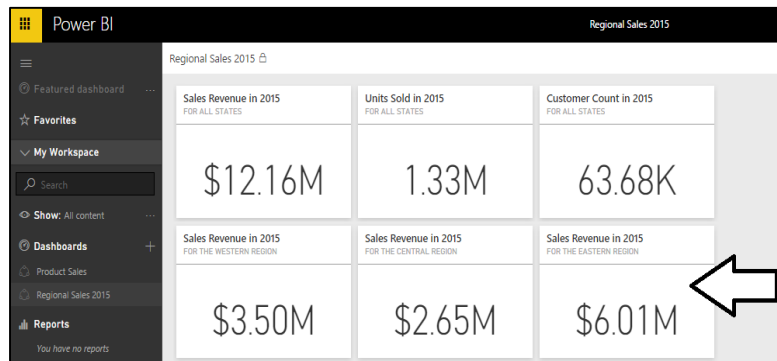
- Used to make dashboard accessible to other users
  - Other users must be within same Office 365 organization
  - Sharing dashboard provides indirect access to reports and datasets
  - Requires Power BI Pro license or Premium capacity



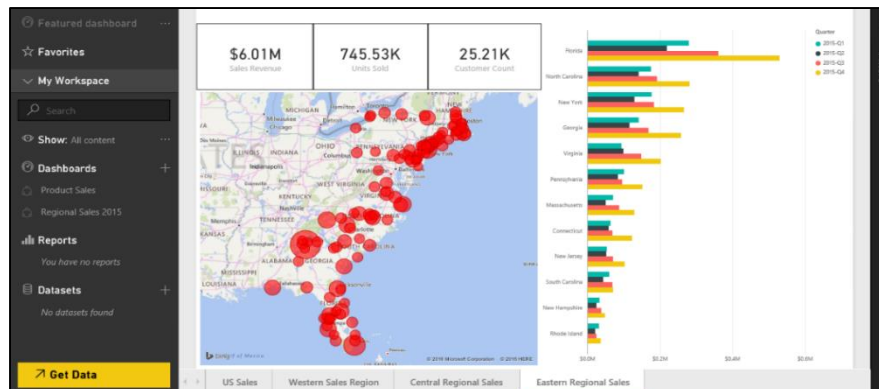


# Testing Dashboard Sharing

- Login as secondary user
  - Make sure you can access the dashboard
  - Observe there is a link to dashboard but not to report or dataset



- Clicking on dashboard tile navigates user to report





**DEMO**

## Sharing a Dashboard

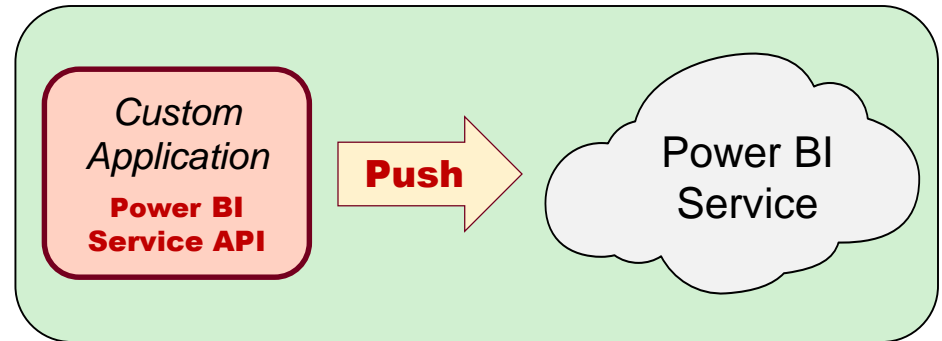
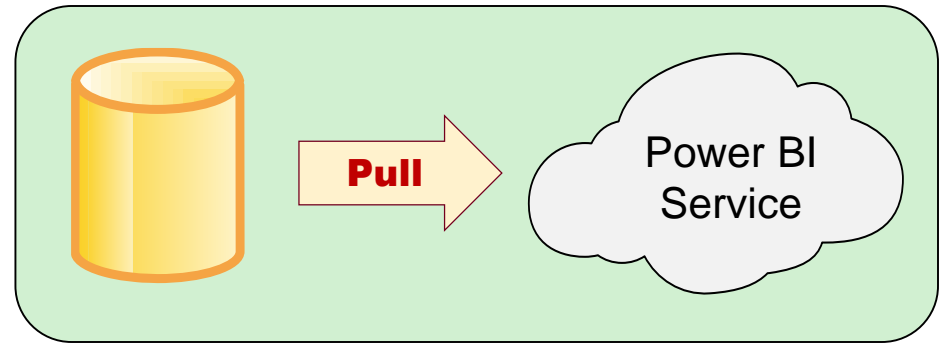
# Agenda

- ✓ Designing Dashboards for Power BI
- ✓ Executing Queries with Natural Language Q&A
- ✓ Sharing Dashboards
- Building Real-time Dashboards



# Pull Datasets versus Real-time Datasets

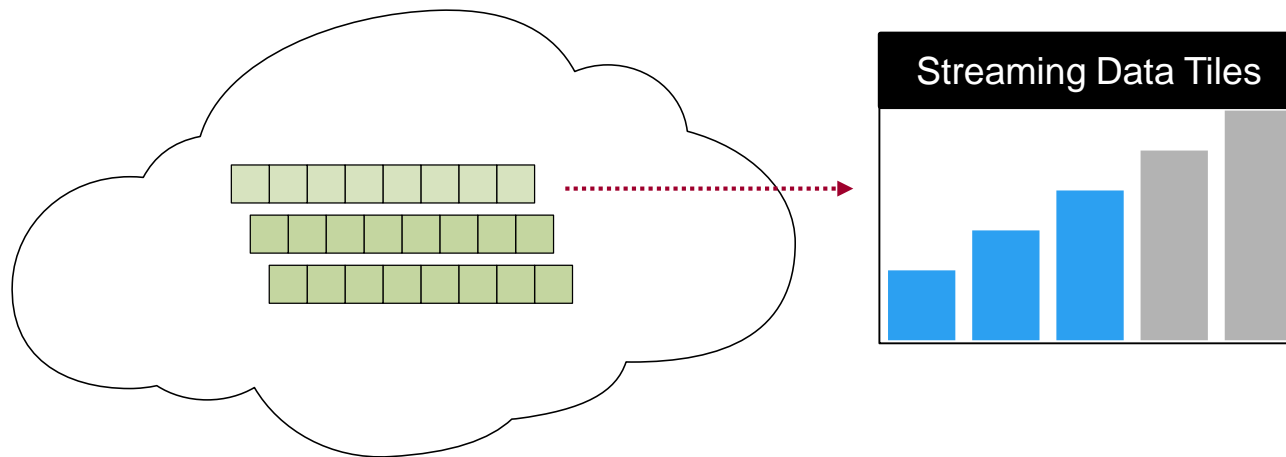
- Pull Datasets
  - Imported Datasets
  - DirectQuery Datasets
  - Live Connect Datasets
- Real-time Datasets
  - Streaming Datasets
  - Push Datasets
  - Hybrid Datasets





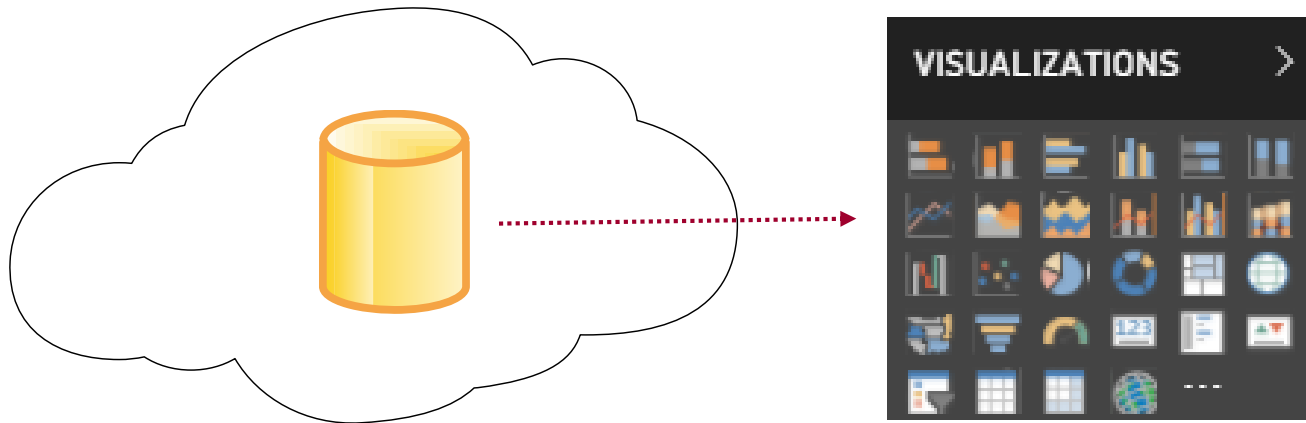
# Streaming Datasets

- Data stored in cloud-based cache – not persisted in DB
- Restricted to single table - no rich data modeling
- Not supported by standard Power BI report designer
- Dashboard created using specialized streaming data tiles
- No support for DAX, aggregation or filtering



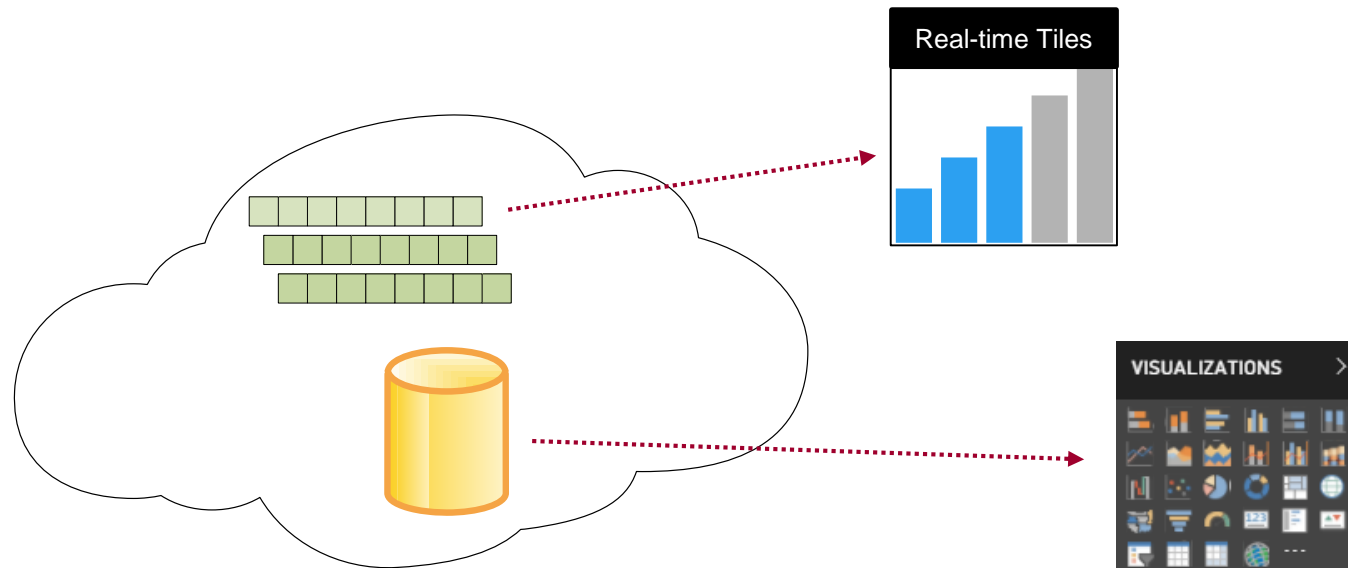
# Push Datasets

- Data stored in Azure SQL DB – not in cache
- Supports multiple tables and table relationships
- Supported by standard Power BI report designer
- Supports DAX, measures, aggregation & filtering



# Hybrid Datasets

- Data stored in cloud-based cache **AND** in Azure SQL DB
- Restricted to single table and no rich data modeling
- Supported by streaming data tiles
- Supported by Power BI report designer





**DEMO**

## **Creating a Hybrid Dataset by Hand**



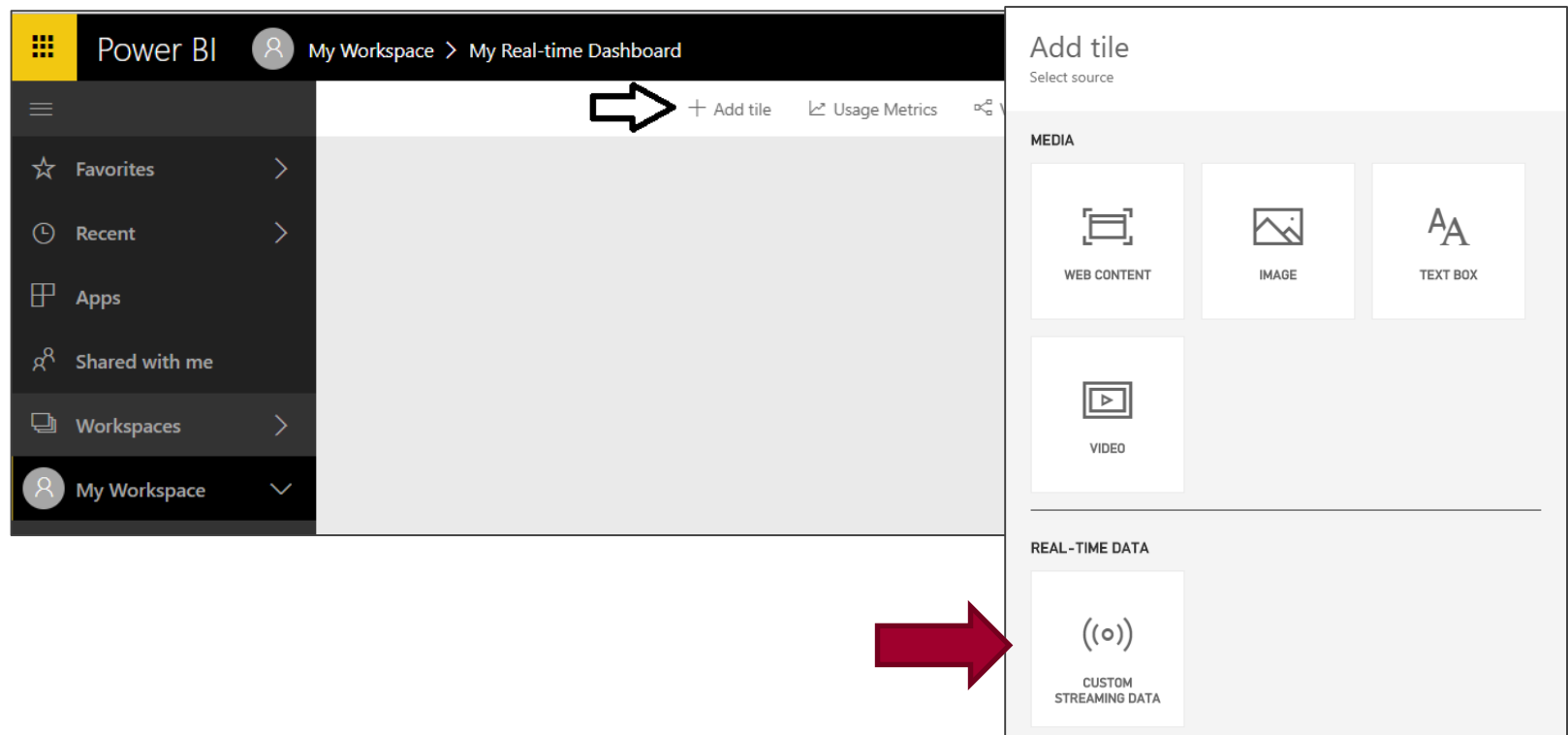
# Streaming Data Tiles

- Streaming Data surfaced using Streaming Data Tiles
  - Used to surface data values from streaming dataset cache
  - Optimized to provide smooth animations for real-time data
- Available set of streaming titles as of today
  - Card
  - Gauge
  - Line chart
  - Cluster Bar Chart
  - Cluster Column Chart



# Creating Dashboards with Streaming Datasets

- You cannot use the Power BI report designer
  - Instead, you add real-time data tiles directly to a dashboard
  - Real-time data tiles different from standard set of Power BI visuals



# Creating a New Streaming Data Tile

- When creating a streaming data tile...
  - Select dataset that is a streaming dataset or a hybrid dataset
  - Choose the type of data streaming tile

Add a custom streaming data tile

Choose a streaming dataset

[+ Add streaming dataset](#)

**YOUR DATASETS**

Demo 1: Streaming Dataset

[Manage datasets](#)

[Back](#) [Next](#) [Cancel](#)

Add a custom streaming data tile

Choose a streaming dataset > Visualization design

Visualization Type

Card

Card

Line chart

Clustered bar chart

Clustered column chart

Gauge

[Manage datasets](#)

[Back](#) [Next](#) [Cancel](#)






# Real-time Data Tile Field Pane

**Add a custom streaming data tile**  
Choose a streaming dataset > Visualization design

Visualization Type

Card

Fields

BatchA

+ Add value

[Manage datasets](#)

Back Next Cancel





# Real-time Data Tile Format Pane

**Add a custom streaming data tile**  
Choose a streaming dataset > Visualization design

Visualization Type  
Card

Data label

Display units  
None

Value decimal places  
2

[Manage datasets](#)

Back Next Cancel



# Streaming Gauge Tile



# Streaming Line Chart Tile



# Real-time Dataset Matrix

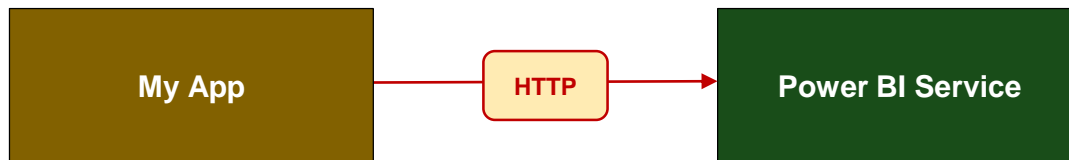
Feature	Streaming	Hybrid	Push
Updates in real-time	Yes	Yes	Yes
Smooth animations	Yes	Yes	No
Backed by Azure SQL DB	No	Yes	Yes
Report Designer Support	No	Yes	Yes
Allow Rich Data Modeling	No	No	Yes
Ingestion Rate	5 request/sec 15KB/request		1 request/second 16MB/request



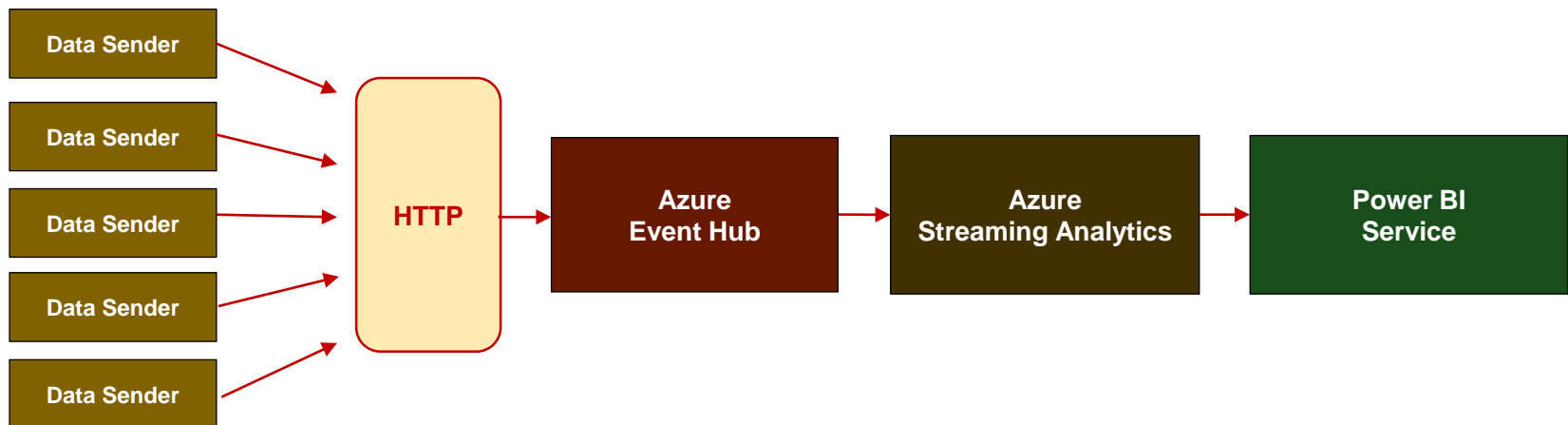


# Scaling a Real-time Dashboard

- Low velocity data scenario



- High velocity data scenario



# Summary

- ✓ Designing Dashboards for Power BI
- ✓ Executing Queries with Natural Language Q&A
- ✓ Sharing Dashboards
- ✓ Building Real-time Dashboards

