Distributing Content using App Workspaces

Agenda

- App Workspaces

- Dedicated Capacities

- Publishing Apps

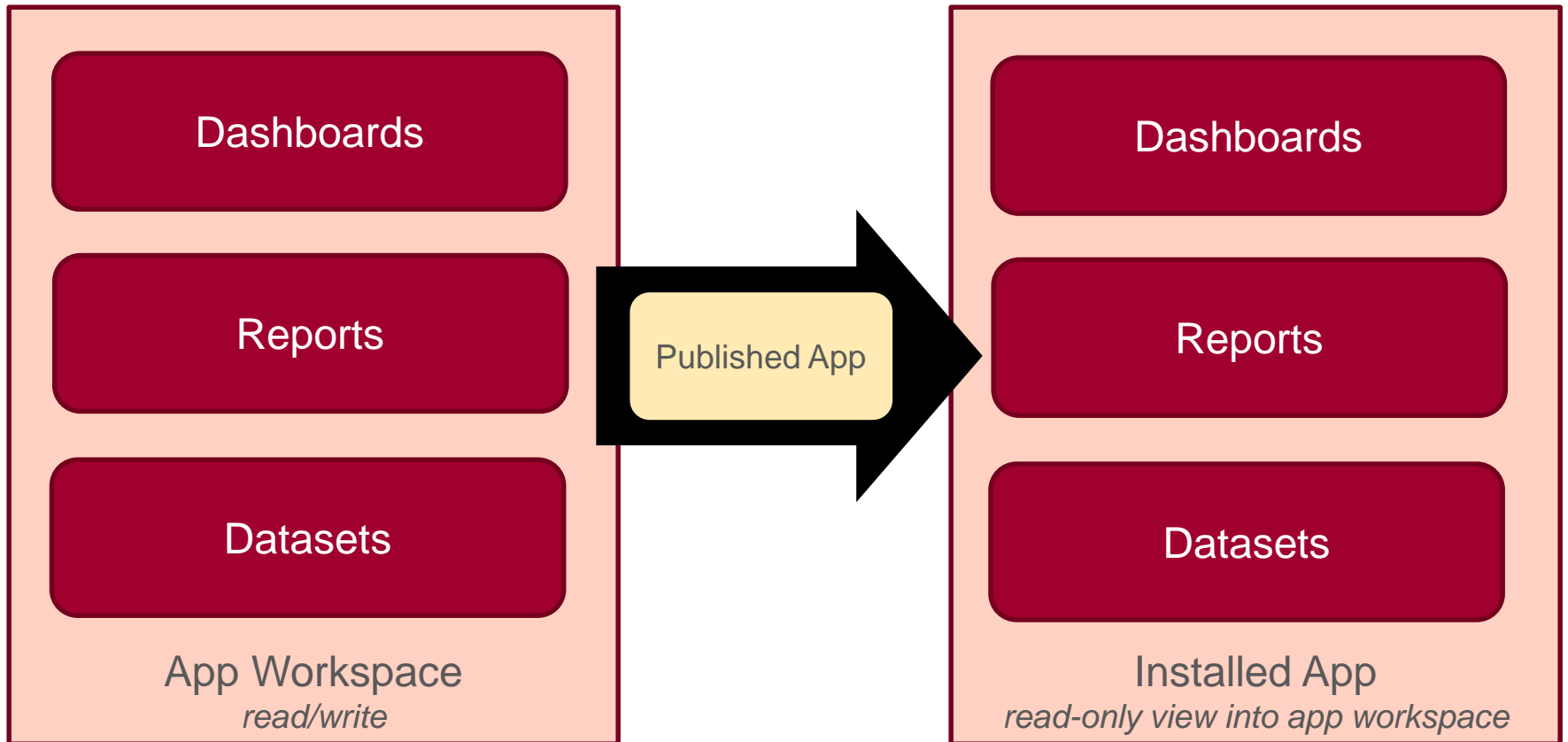- Developing Template Apps

Distributing a Custom Solution

- Strategies for sharing reports and dashboards
  - Dashboard sharing and report sharing
  - Read-only App Workspaces
  - Power BI Apps (supports staged updates)

App Distribution Model

Dashboards

Reports

Published App

Datasets

App Workspace
read/write

Dashboards

Reports

Datasets

Installed App
*read-only view into app workspace*

What Exactly is an App Workspace?

- App Workspace is Power BI resource container
  - Provides storage for datasets, reports and dashboards

- App Workspace created as Office 365 Group
  - Acts as both a security group and distribution list
  - Requires provisioning SharePoint team site

- Light App Workspaces are on MSFT Roadmap
  - Lightweight workspaces should be here by end of 2018
  - Lightweight workspaces will not have SharePoint site
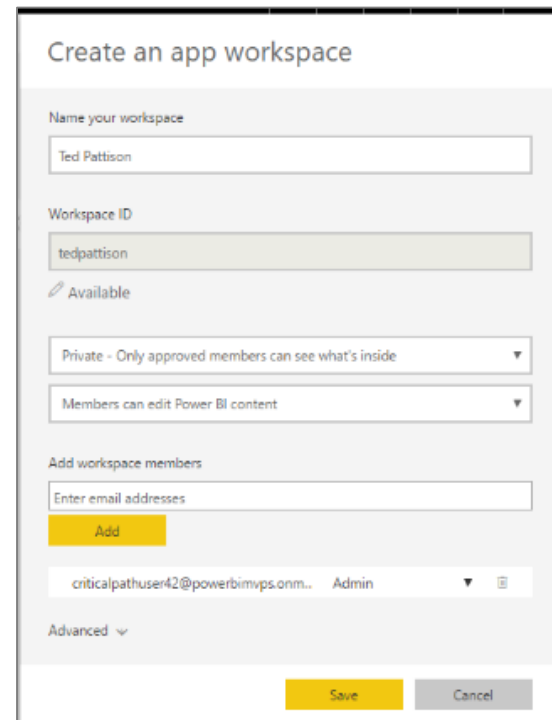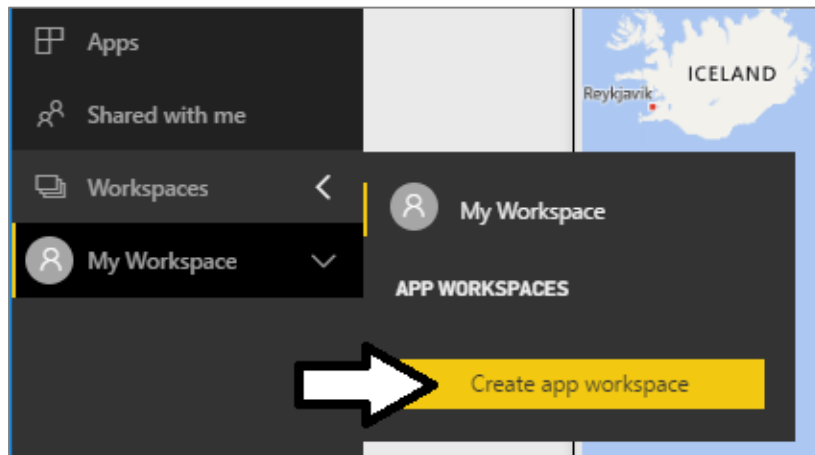
Central Power BI Concepts
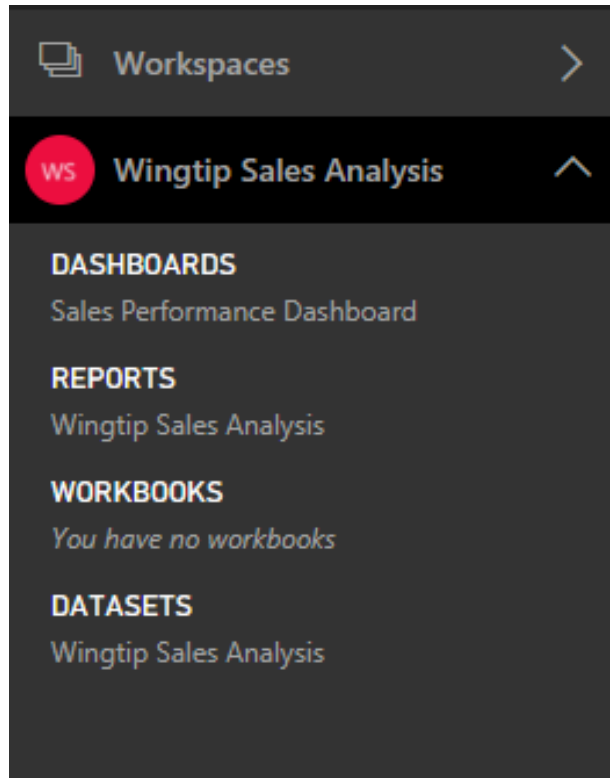
- Workspace
  - Provides user context and asset container
  - Every user has personal workspace
  - Team development requires app workspaces

- Dashboard
  - Consolidated view into reports and datasets
  - Custom solution entry point for mobile users

- Report
  - Collection of pages with tables & visualizations
  - Provides interactive control of filtering

- Dataset
  - Data model containing one or more tables
  - Can be very simple or very complex

Solution Deployment using App Workspaces

- App workspaces used to deploy custom solutions
  - App workspaces required for team-based development
  - App workspace can be secured using private membership
  - App workspace used to publish apps for licensed users

App Workspace v1 with Office 365 Group

- Office 365 group provisions SharePoint team site
  - Accessible to workspace members users through Outlook Online
    - Provides conversations, files, calendar, OneNote Notebook, etc.

Power BI App Workspaces - V2

- Power BI transitioning between workspace models
  - V2 app workspaces are currently in preview
  - Microsoft will soon force the migration from V1 to V2

- V1 workspaces built on top of Office 365 groups
  - Largely managed in Office 365 admin not Power BI

- V2 workspaces independent of Office 365 groups
  - Fully managed within Power BI admin portal
  - Provides more flexibility in assigning members

Agenda

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- ➢ Dedicated Capacities
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Power BI Licensing

- ## User-based licensing

Power BI (free)	Power BI Pro	Office 365 Enterprise E5
$0.00 user/month	**$9.99** user/month	**$35.00** user/month
A cloud-based business analytics service that enables anyone to visualize and analyze data with greater speed, efficiency, and understanding. It ...	A cloud-based business analytics service that enables anyone to visualize and analyze data with greater speed, efficiency, and understanding. Power ...	The Office suite, plus email, instant messaging, HD video conferencing, 1 TB personal file storage and sharing, and advanced security, analytics and PSTN ...
Office 2016 desktop & mobile apps Not included	**Office 2016 desktop & mobile apps** Not included	**Office 2016 desktop & mobile apps**
Office 365 services	**Office 365 services**	**Office 365 services**

- ## Capacity-based Licensing

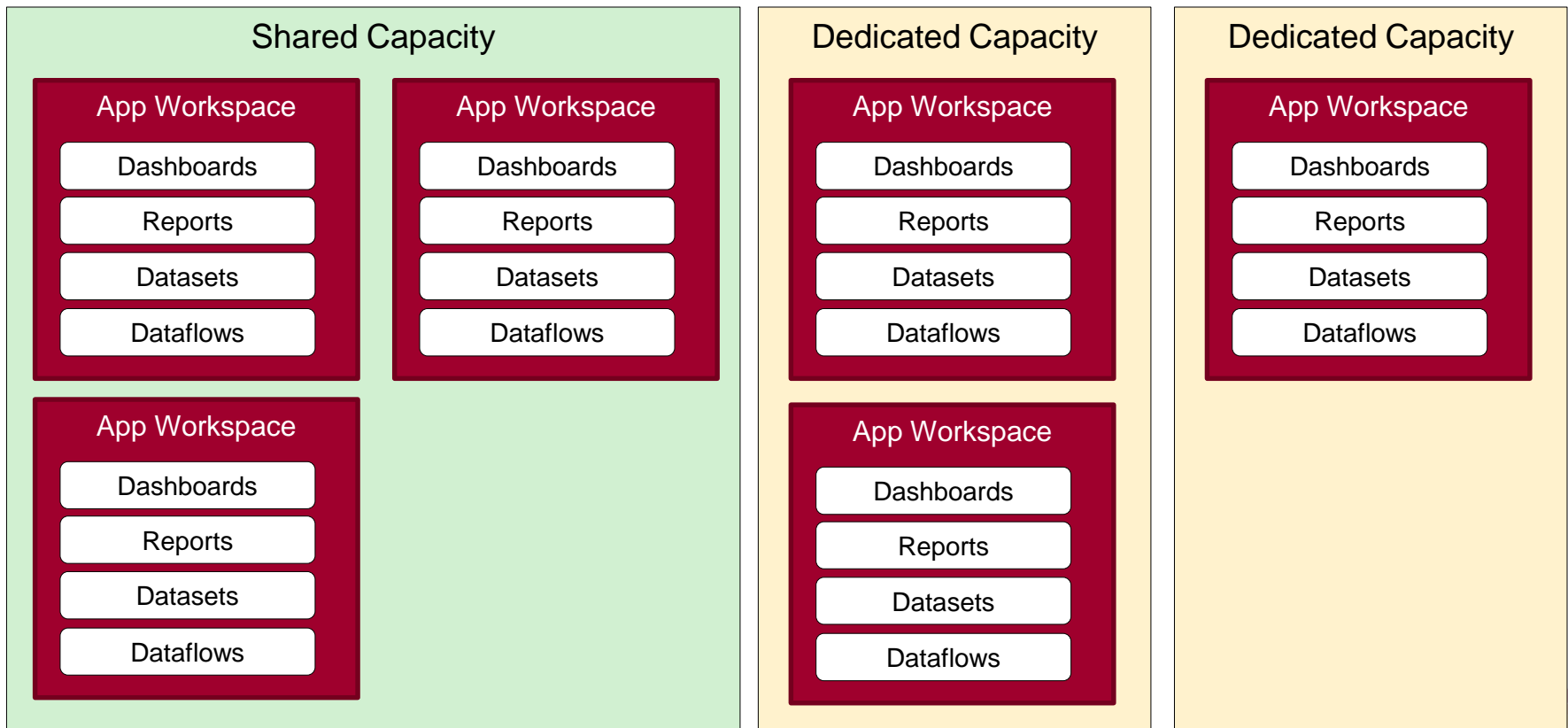| Power BI Premium P1	Power BI Premium P2	Power BI Premium P3	Power BI Premium EM3 (Month to Month)
$4,995.00 instance/month	**$9,995.00** instance/month	**$19,995.00** instance/month	**$2,495.00** instance/month
Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 8 virtual cores ...	Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 16 virtual core ...	Power BI capacity dedicated to your organization, unlocking unlimited content distribution and dependable performance. P1 offers 32 virtual core ...	Embed Power BI content in your custom application, powered by 4 virtual cores of dedicated capacity. Some Premium features are disabled ...
Office 2016 desktop & mobile apps Not included	**Office 2016 desktop & mobile apps** Not included	**Office 2016 desktop & mobile apps** Not included	**Office 2016 desktop & mobile apps** Not included
Office 365 services	**Office 365 services**	**Office 365 services**	**Office 365 services**

Dedicated Capacities

- Power BI workspaces run in two possible environments
  - Shared Capacities
  - Dedicated Capacities *(also known as premium capacities)*

- Dedicated capacity usually acts as dedicated resource
  - Premium capacity only used by single organization
  - PBIX file uploads not limited to 1GB
  - Data refresh frequency can exceed 8 times per day
  - Each premium capacity defines its own set of admins
  - *Dedicated capacity required to share with users w/o pro license*

Capacities and Workspace Associations

- Every Power BI workspace runs in the context of a capacity
  - By default, app workspaces and personal workspace run in **shared capacity**
  - Organizations have the option of purchasing **dedicated capacities**

Shared Capacity		Dedicated Capacity	Dedicated Capacity

Shared Capacity

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

Dedicated Capacity

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

Dedicated Capacity

App Workspace
- Dashboards
- Reports
- Datasets
- Dataflows

Managing Premium Capacities

- Dedicated capacities managed in Power BI Admin portal

Associating App Workspaces with a Capacity

- App Workspace in Premium Capacity has diamond icon
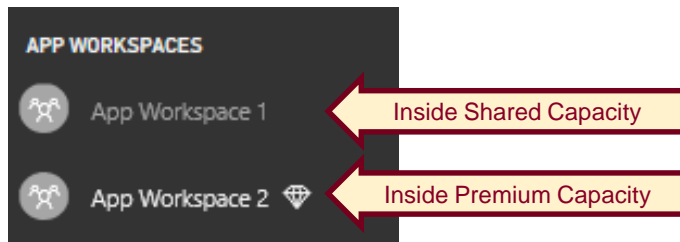
- App workspace moved into Premium capacity in Advanced settings
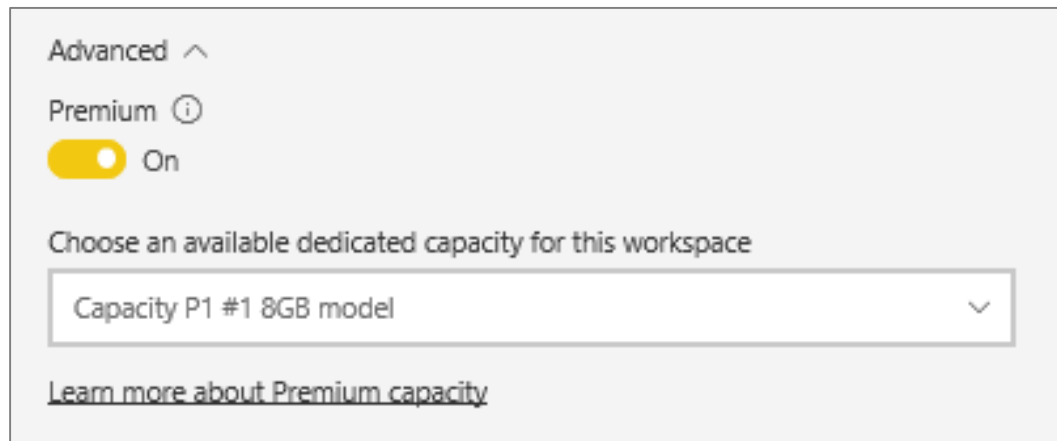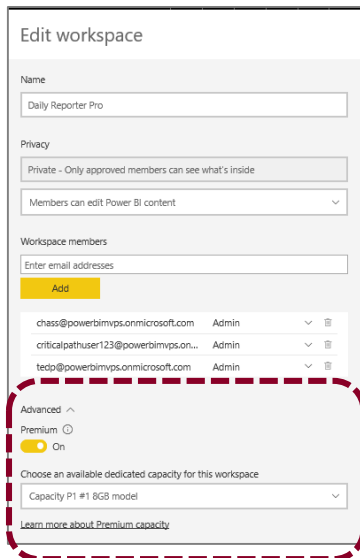
Creating the Power BI Embedded Service

- Power BI Embedded in an Azure on-demand service
  - Must be created in same location as Power BI Service for tenant
  - Can be created manually through the Azure portal
  - Can be created in automated fashion using PowerShell
  - Requires an Azure subscription *in same tenant*

Embedded Capacity Pricing Tiers

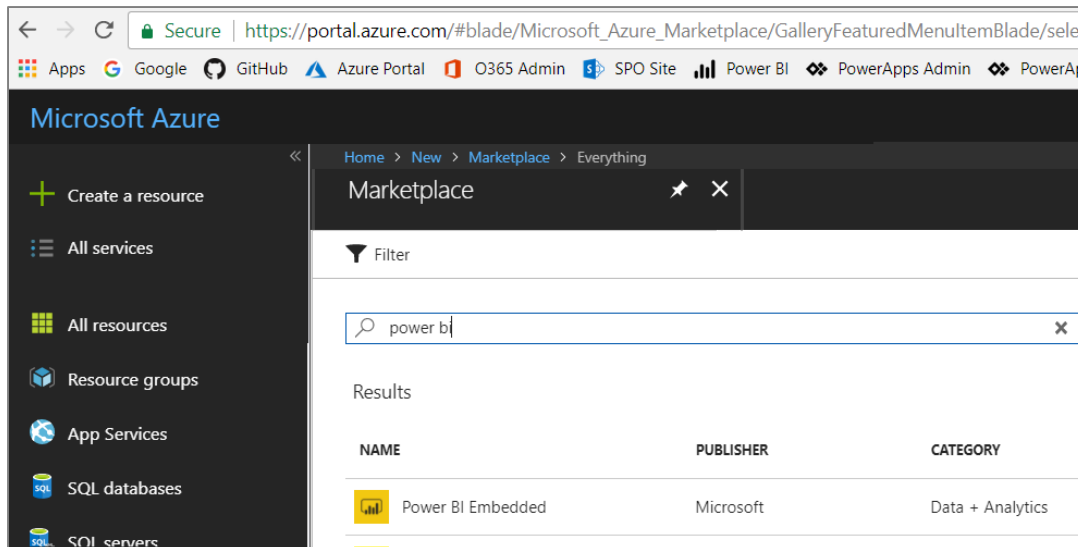# Managing Power BI Embedded Capacities

- Managing Power BI Embedded capacity done Azure portal
  - Use Azure portal to assign administrators & change pricing tier to scale
- Managing Power BI Embedded capacity in Power BI Admin portal
  - Power BI Admin portal to assign workspaces to capacities

P SKUs (P is for Premium)

- All-in version which allows greatest flexibility
  - Used to provide free users with access to apps and content
  - Used to support 1st party and 3rd party embedding
  - The more you pay per month, the more resources you get

Name	Virtual cores	Memory (GB)	Peak renders/hr	Cost
P1	8	25	1-300	$4,995/mo
P2	16	50	301-600	$9,995/mo
P3	32	100	601-1,200	$19,995/mo

EM SKUs (EM is for Embedded)

- SKUs for embedding into SaaS Applications
  - SaaS applications include SharePoint and Teams
  - Supports 1st party and 3rd party embedding
  - Does not provide user with access to PowerBI.com

Name	Virtual cores	Memory (GB)	Peak renders/hr	Cost
EM1	1	3	1-300	$625/mo
EM2	2	5	301-600	$1,245/mo
EM3	4	10	601-1,200	$2,495/mo

A SKUs (A is for Azure)

- A SKU is a Platform-as-a-Service
  - Used by ISVs as the data visualization layer
  - Allows for PBI Embedding into Custom Applications
  - Only supports 3rd party embedding (i.e. App-Owns-Data model)

Name	Virtual cores	Memory (GB)	Peak renders/hour	Cost/hour
A1	1	3	300	~$1
A2	2	5	600	~$2
A3	4	10	1,200	~$4
A4	8	25	2,400	~$8
A5	16	50	4,800	~$16
A6	32	100	9,600	~$32

PBI Capacity SKU Decoder Ring

	P SKU	EM SKU	A SKU
Purchased through…	**Office 365**	**Office 365**	**Azure**
Supports Power BI embedding in custom applications	**Yes**	**Yes**	**Yes**
Supports 3rd Party Embedding in custom applications	**Yes**	**Yes**	**Yes**
Supports 1st Party Embedding in custom applications	**Yes**	**Yes**	**Yes**
Supports free users accessing content in Power BI portal	**Yes**	**No**	**No**
Supports free users accessing content in Power BI Mobile	**Yes**	**No**	**No**
Billing cycle	**Monthly**	**Monthly**	**Hourly**
Commitment	**Monthly**	**Monthly/Yearly**	**None**
Turn it off when your not using it	**No**	**No**	**Yes**

Agenda

- ✓ App Workspaces
- ✓ Dedicated Capacities
- ➢ Publishing Apps
- • Developing Template Apps

DEMO

Publishing an App Workspace and Installing a Power BI App

Agenda

- ✓ App Workspaces
- ✓ Dedicated Capacities
- ✓ Publishing Apps
- ➤ Developing Template Apps

Summary

- ✓ App Workspaces
- ✓ Dedicated Capacities
- ✓ Publishing Apps
- ✓ Developing Template Apps