Enterprise Power BI deployments with Azure DevOps

Marc Lelijveld

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Marc Lelijveld

Data & AI consultant
Macaw Netherlands

Microsoft® MVP Most Valuable Professional

Marc.Lelijveld@outlook.com

@MarcLelijveld

linkedin.com/in/MarcLelijveld

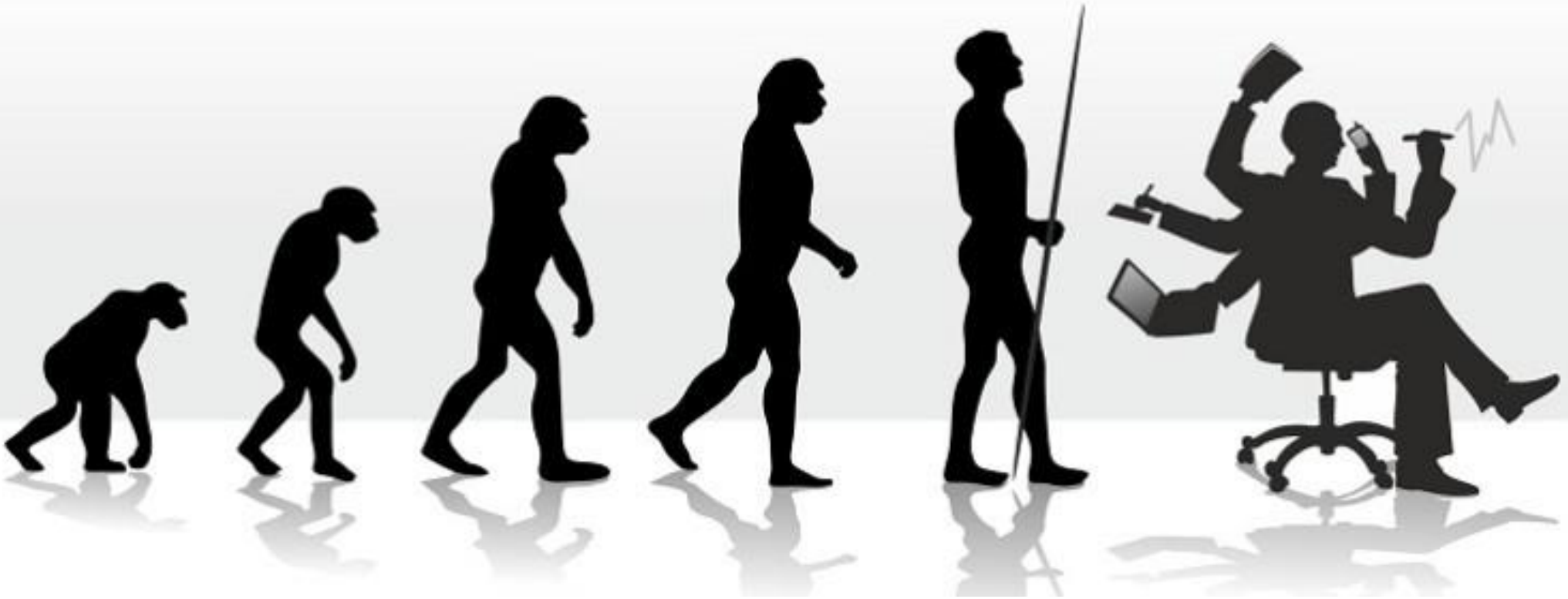
Data-Marc.com

What we cover today

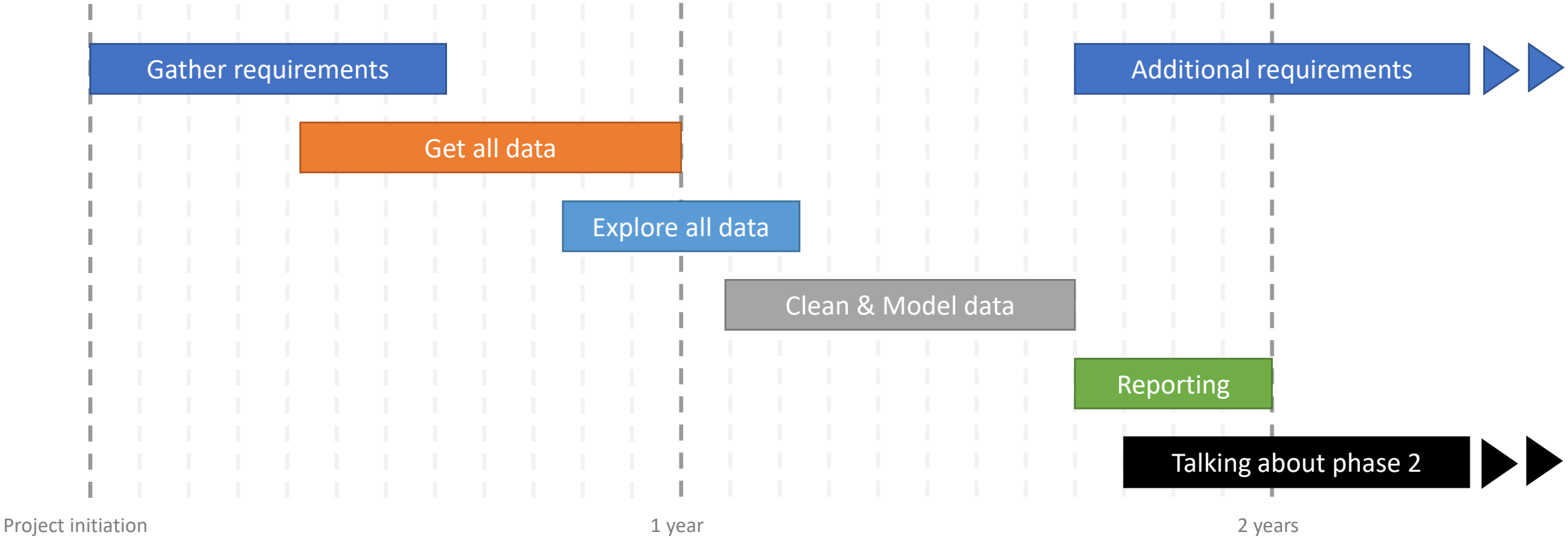
- Our way of working
- The evolution of BI
- Deployment framework
- Demo time!
- What about dataflows?
- Azure DevOps vs Deployment Pipelines
- XMLA endpoints & roadmap

Our way of working

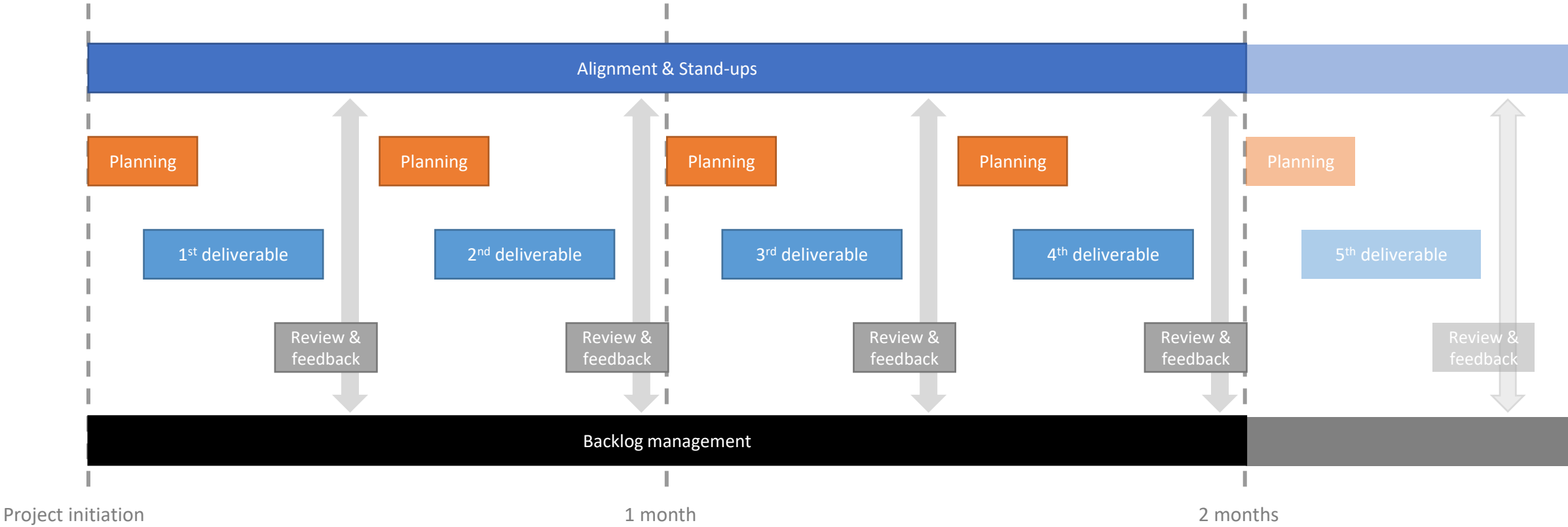
Busy era



Classic approach

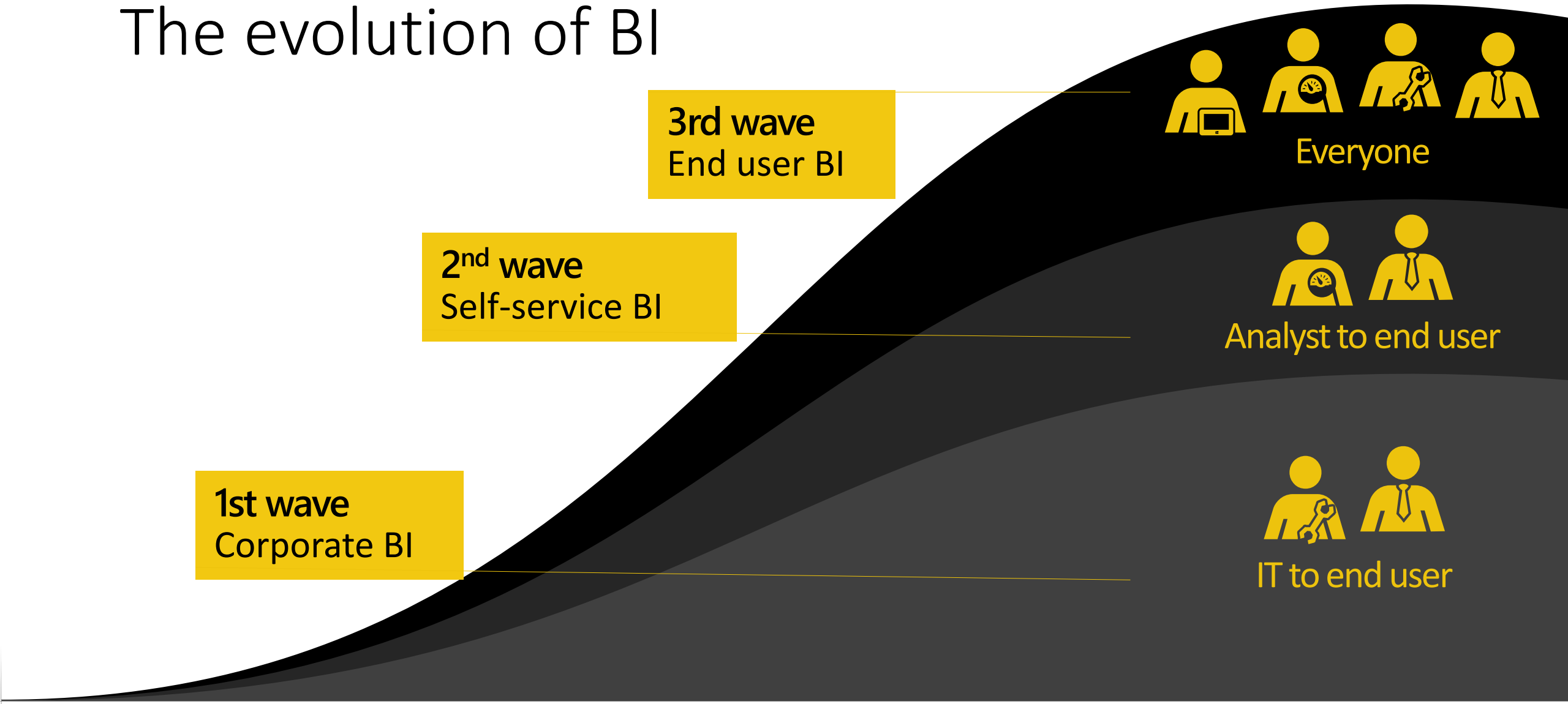


Start working agile



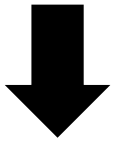
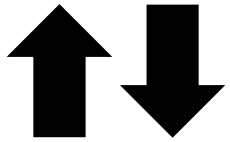
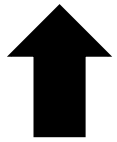
The evolution of BI

The evolution of BI

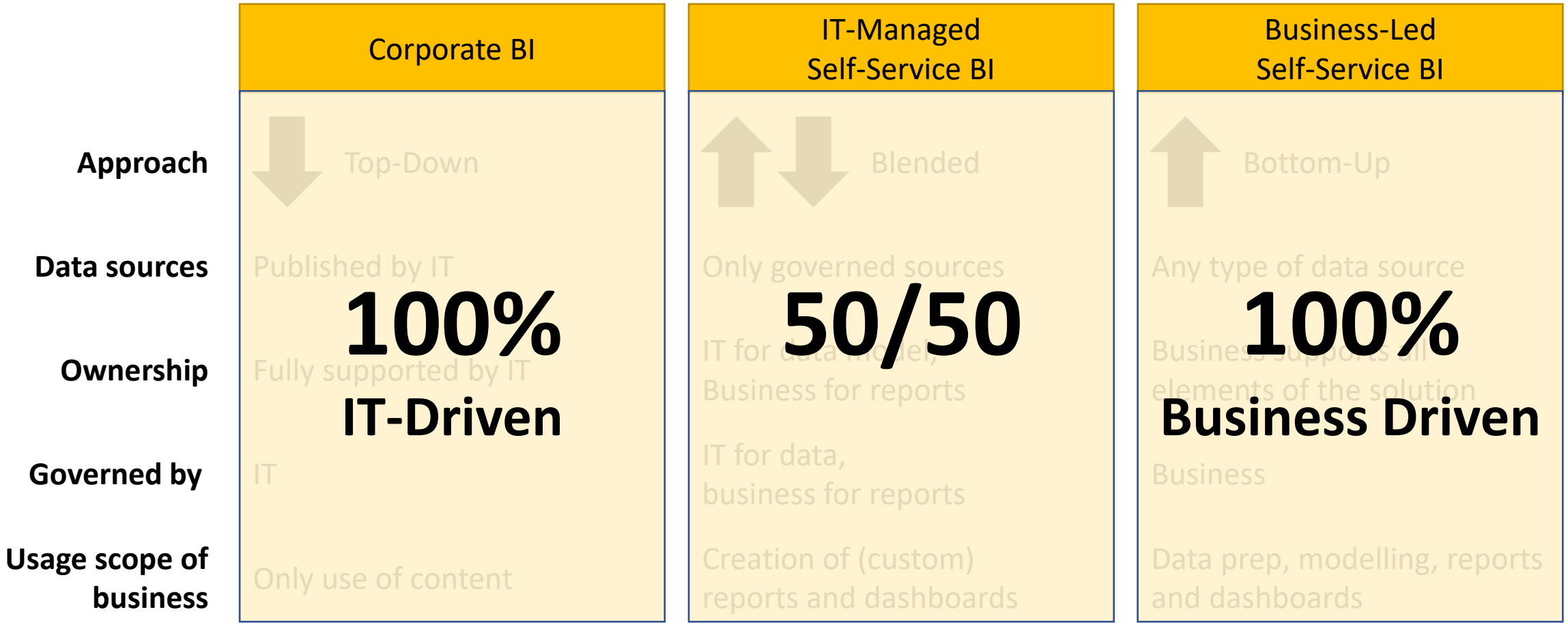


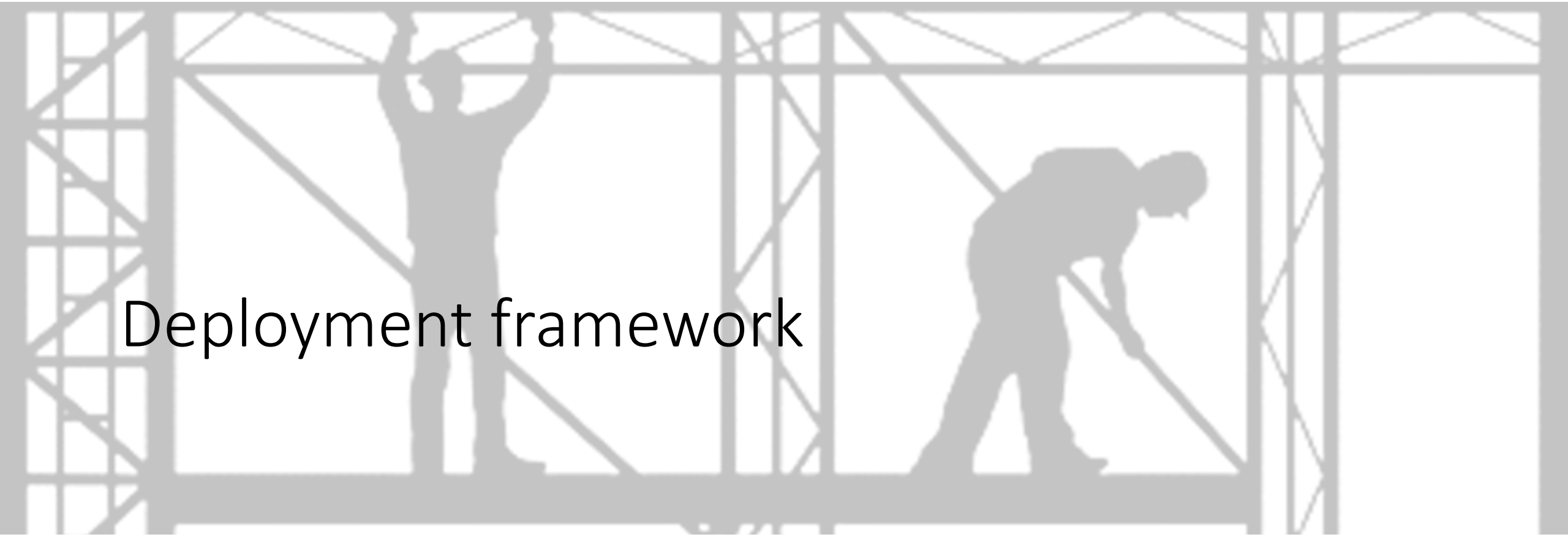
Self-service vs End-user BI

Deployment scenarios

	Corporate BI	IT-Managed Self-Service BI	Business-Led Self-Service BI
Approach	 Top-Down	 Blended	 Bottom-Up
Data sources	Published by IT	Only governed sources	Any type of data source
Ownership	Fully supported by IT	IT for data model, Business for reports	Business supports all elements of the solution
Governed by	IT	IT for data, business for reports	Business
Usage scope of business	Only use of content	Creation of (custom) reports and dashboards	Data prep, modelling, reports and dashboards

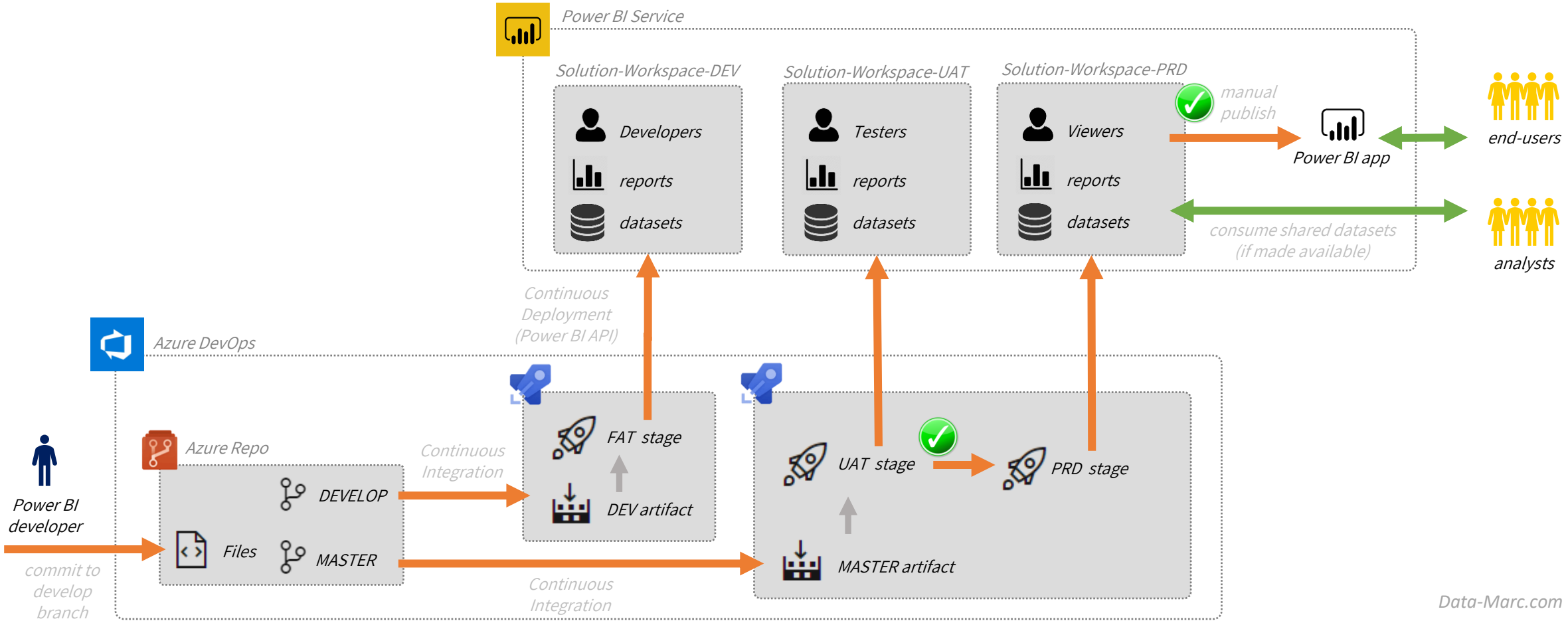
Deployment scenarios



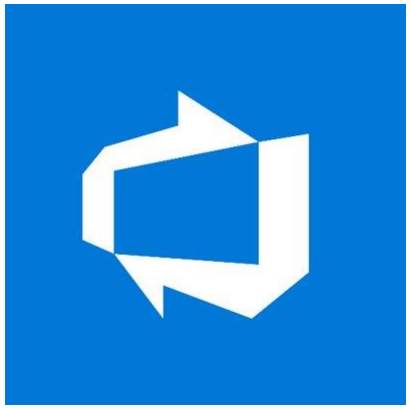


Deployment framework

Deployment scenario



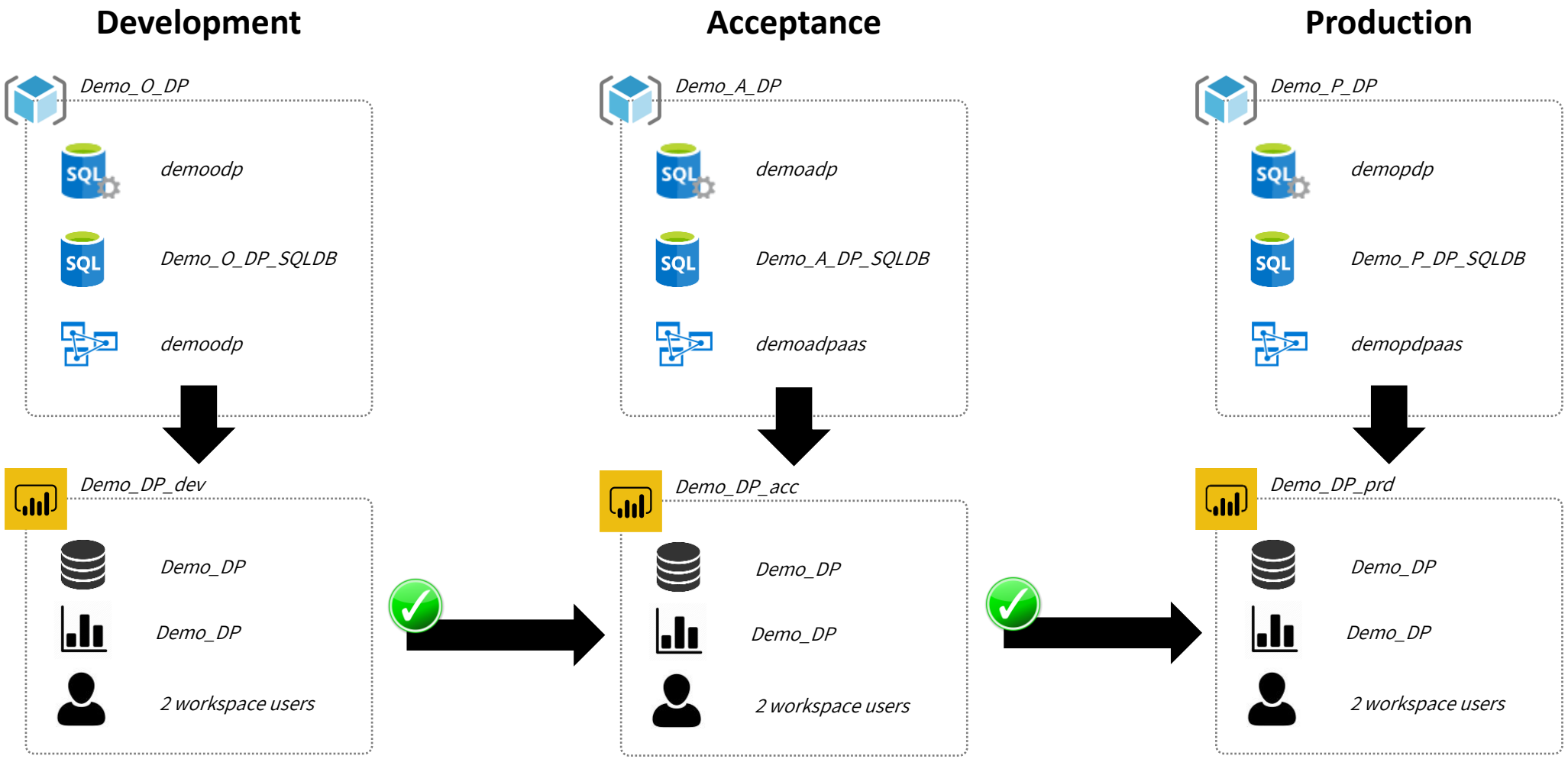
Deployment scenario



Azure DevOps

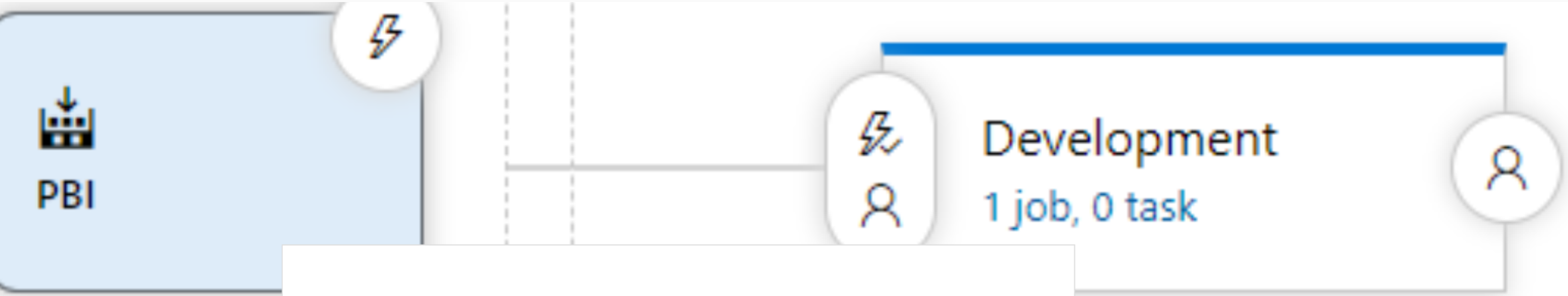
Power BI Service

Demo context



Demo time!

Because life is boring without risks



Versioning and CI/CD for Power BI with Azure DevOps

ON NOVEMBER 12, 2019 / BY MARC

/ IN AZURE, DEVELOPING, POWER BI REST API, POWER BI SERVICE, POWERSHELL

/ EDIT

Over a year ago, I wrote a blog about Multiple tier architecture and continuous delivery with Power BI, mainly an overview of the setup and manually creating development and production content. This blog will continue this story in more detail of Power BI CI/CD with Azure DevOps automated deployments. A solution where Dave Ruijter, Ton Swart and I worked on over the last year. The

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Macaw Power BI Extensions

Macaw | 85 installs | ★★★★★ (0) | Free

Power BI release manager tasks for Azure DevOps.

Get it free

Overview Q & A Rating & Review

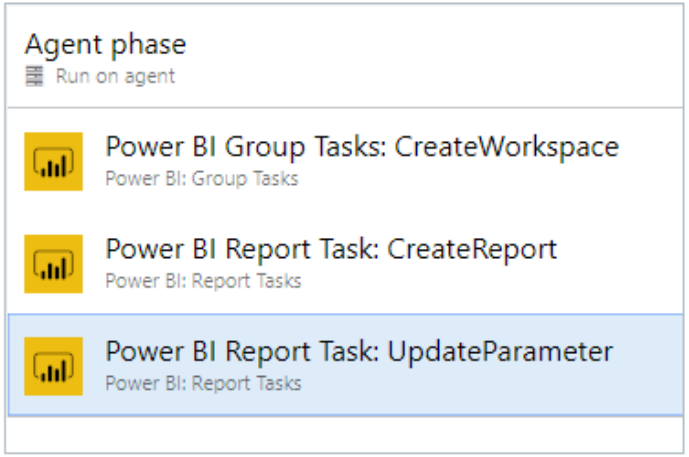
Macaw Power BI Extensions is a Build and Release Task for Azure Pipelines. With this tasks you can control your Power BI deployment in Azure DevOps

Actions that can be performed with this extension are:

- Group tasks
  - Create or Update Power BI workspace
  - Delete Power BI workspace
  - Write all workspace info to JSON logfile
- Report tasks
  - Create or Update Power BI Report
  - Delete Power BI Report
  - Delete Power BI DataSet
  - Update the datasources of the specified dataset
  - Update the parameters values for the specified dataset

For the custom task to work as it should, you need to configure the following parameters:

- ClientId: The client id of the native Azure Active Directory application. This application should have the appropriate rights in order to use the Power BI Api. To register an application, check the following URL: Register an Azure AD app to embed Power BI content
- Username: The username of the user that will perform the actions. Make sure the account does not have Multi



Categories

Azure Pipelines

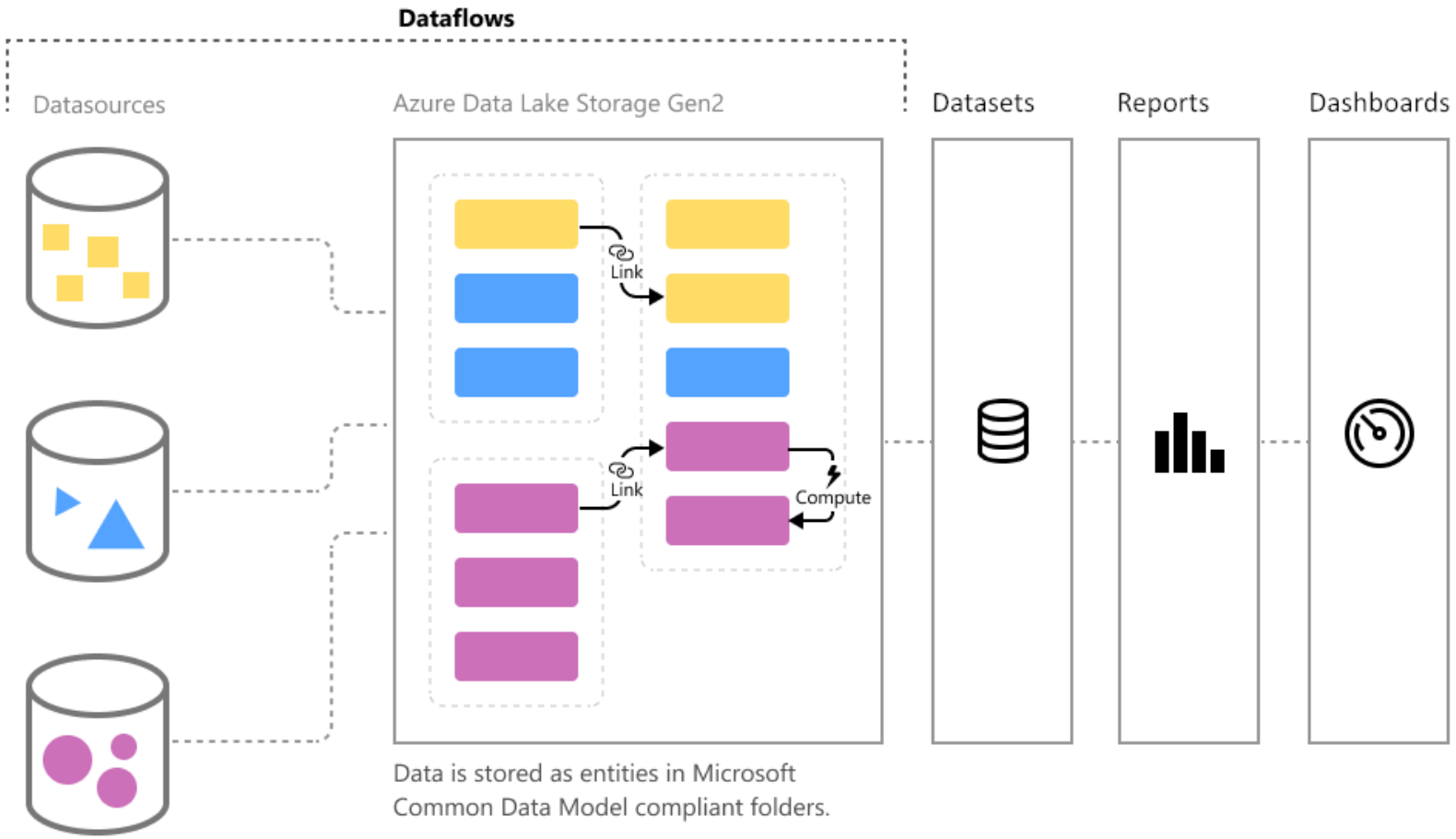
Works with

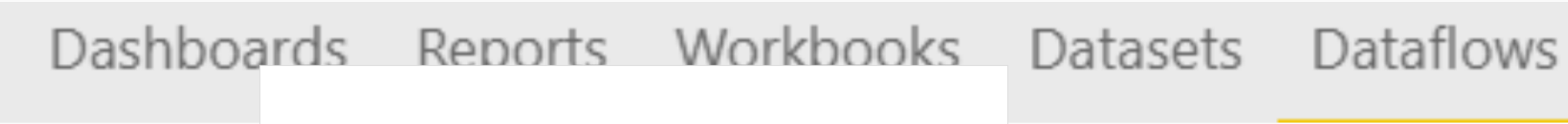
Azure DevOps Services

Azure DevOps Server

Resources

But what about dataflows?





Move dataflows across workspaces with the Power BI REST API

ON OCTOBER 22, 2019 / BY MARC
/ IN DATAFLOWS, DEVELOPING, POWER BI REST API, POWER BI SERVICE, POWERSHELL
/ EDIT

Dataflows are part of the Power BI service for a while now. More and more people are starting to benefit from it in multiple perspectives. The two most heard ones are re-use of data (and logic), but also isolate refreshes to avoid dependencies of refresh failures from different sources.

Same as for your data sources, you might have different workspaces setup in different stages of your DTAP development approach. In the past, I wrote a

Create a deployment pipeline

Use a pipeline to manage your workspace content through the deployment stages, continuously delivering the latest content to your users.

DevOps vs Deployment Pipelines

1 → 2 → 3 → 4

Create a pipeline

Start by creating the pipeline you'll use for managing and deploying the workspace content

Assign your workspace

Select your workspace and assign it to a deployment stage (development, test, or production).

Develop and test your content

Manage, preview, and compare your workspace content until its ready for releasing to users

Share with your users

Deploy your content to production and share it with your organization

Create a pipeline

How it works

- Meta data deployment
- Incremental deployment
- Requires Premium! (must be P-sku in production!)
- No dataflow support (yet?)
- No versioning (yet?)

Documentation demo

Access Settings ...

Development

Design, review, and revise your content in a development workspace. When it's ready to test and preview, deploy the content to the test stage. Learn more

Test

Test and verify your content in a preproduction workspace. When it's ready to distribute, deploy the content to the production stage. Learn more

Production

Your content has been tested and is ready to distribute to your consumers as an app or by access to the production workspace. Learn more

Documentation demo

DATASETS	REPORTS	DASHBOARDS
5 Refresh now	5	5

Select related — 3 selected

- Historical sales
- MyFoods income
- Product revenue
- Sales analysis drilldown — New
- Sentiment analysis
- Historical sales
- MyFoods income

Show less — Publish app — Deploy to test

Compare

≠ 1

+ 3

Documentation demo [Test]

Deployed: 4/20/2020, 3:39:00 PM

DATASETS	REPORTS	DASHBOARDS
4 Refresh now	3	5

- Historical sales
- MyFoods income
- Product revenue
- Sentiment analysis
- Historical sales
- MyFoods income

Show less — Publish app — Deploy to production

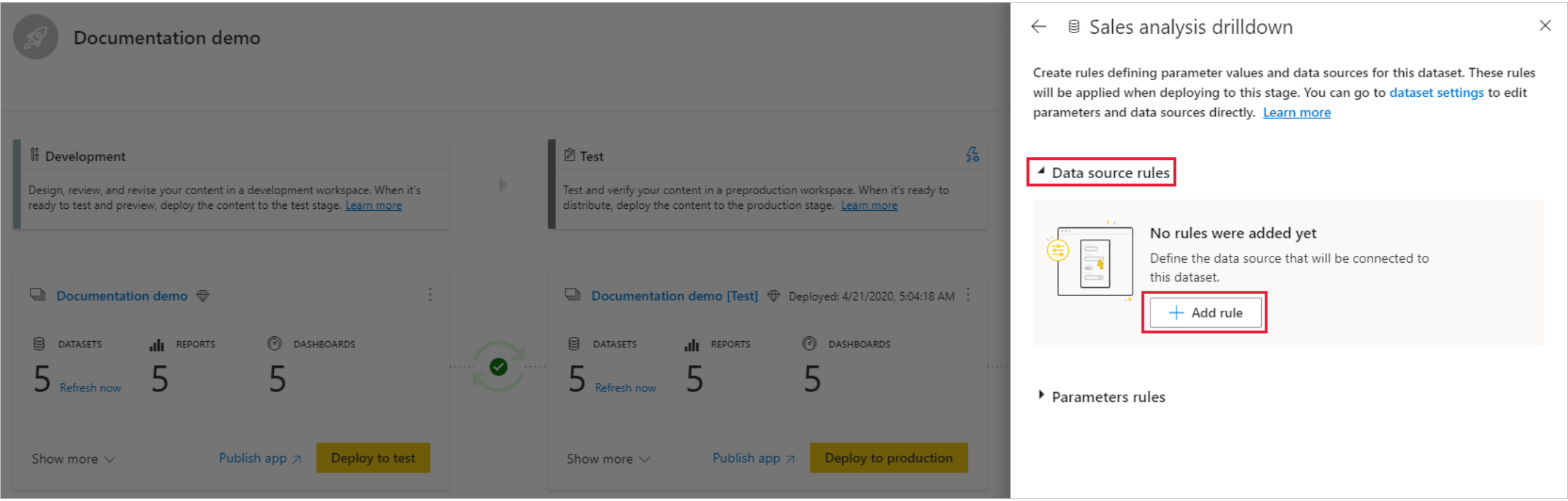
Documentation demo [Produ...

Deployed: 4/21/2020, 4:39:13 AM

DATASETS	REPORTS	DASHBOARDS
4 Refresh now	3	5

Show more — Publish app — Update app

Deployment settings



Power BI Deployment Pipelines

- Working with multiple users is a native functionality
- Meta data and incremental deployments is default
- Requires Power BI Premium
- No versioning capability
- No support for dataflows

Azure DevOps

- Working with multiple users is a native functionality
- Full overwrite at every deployment, unless you customize to use XMLA
- Works for both Pro and Premium
- Azure DevOps repositories can be used for versioning
- Dataflow support can be added by customizing the pipelines

Comparison

Functionality	Azure DevOps	Deployment Pipelines	Better option
Working with multiple users	Yes	Yes	-
Incremental deployment	No	Yes	Deployment pipelines
Meta data deployment	No	Yes	Deployment pipelines
Requires Power BI Premium	No	Yes	DevOps
Versioning	Yes	No	DevOps
Dataflow support	Yes	No	DevOps
Integration with other processes	Yes	No	DevOps
Customization	Yes	No	-

Why you should care about Power BI Deployment Pipelines

ON JULY 9, 2020 / BY MARC / IN POWER BI PREMIUM, POWER BI SERVICE / EDIT

After a short holiday break, it is time for a new blog post! This time about one of the most exciting functionalities in Power BI that has been released in the past release wave, Power BI Deployment Pipelines!

In this blog I will elaborate on what Power BI Deployment Pipelines are, why it is an important part of your landscape and a comparison to other options you

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Recap

- Version history done automatically
- Professionalize your deployment process
- Easy roll-back if needed
- Roll-out more than only Power BI in one go!
- Deployment pipelines is promising! But not complete yet.
- XMLA read/write will be even more awesome!

Thanks for attending!

Marc Lelijveld
Data & AI consultant
Macaw Netherlands

Marc.Lelijveld@outlook.com
@MarcLelijveld
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