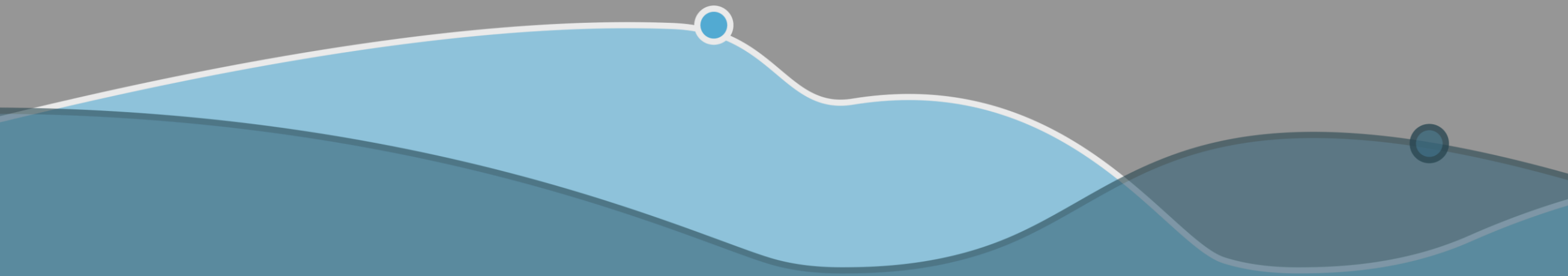




Cortana Analytics Workshop

Sept 10 – 11, 2015 • MSCC



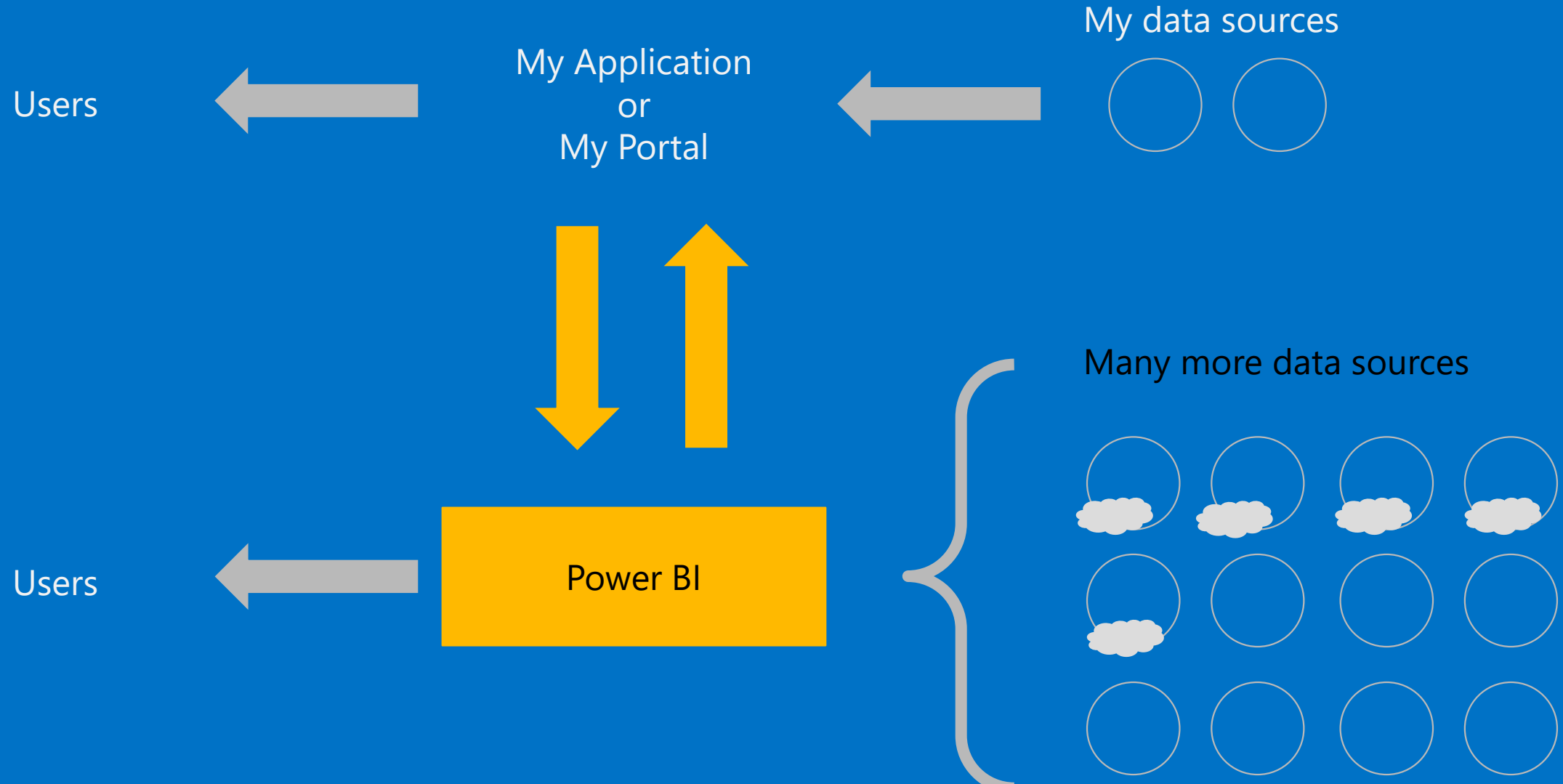
Developing with Power BI

Succeeding with Data Experiences

Faisal Mohamood
Group Product Manager, Power BI

Stay till the end to learn how
you can win \$5,000

The changing world of data



Power BI Developer Scenarios

Integrate

APIs for Power BI, including publishing content.

Push datasets to Power BI

Azure Stream Analytics for real-time insights at any scale.

Extend

Content Packs enable instant insights over application/service data.

Custom visualizations enable data experience tailored to each use case.

Data sources



SaaS solutions

e.g. Marketo, Salesforce, GitHub, Google analytics



On-premises data

e.g. Analysis Services



Custom content packs

Corporate data sources or external data services



Azure services

Azure SQL, Stream Analytics...



Excel files

Workbook data / data models



Power BI Desktop files

Data from files, databases, Azure, and other sources

Power BI service



Content packs



Live dashboards



Visualizations



Reports



Datasets



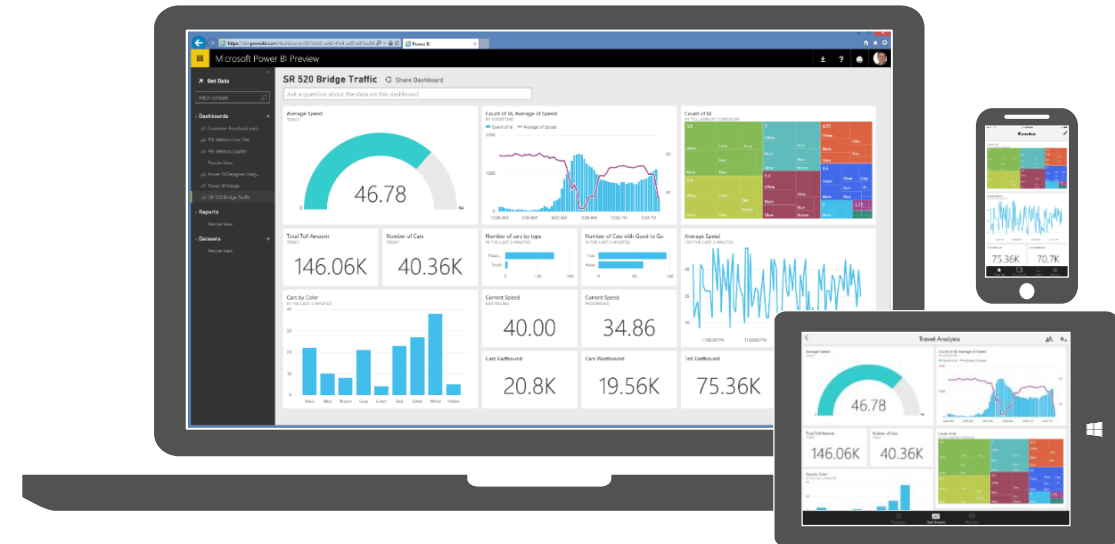
Data refresh



Natural language query









Sharing & collaboration





Data sources

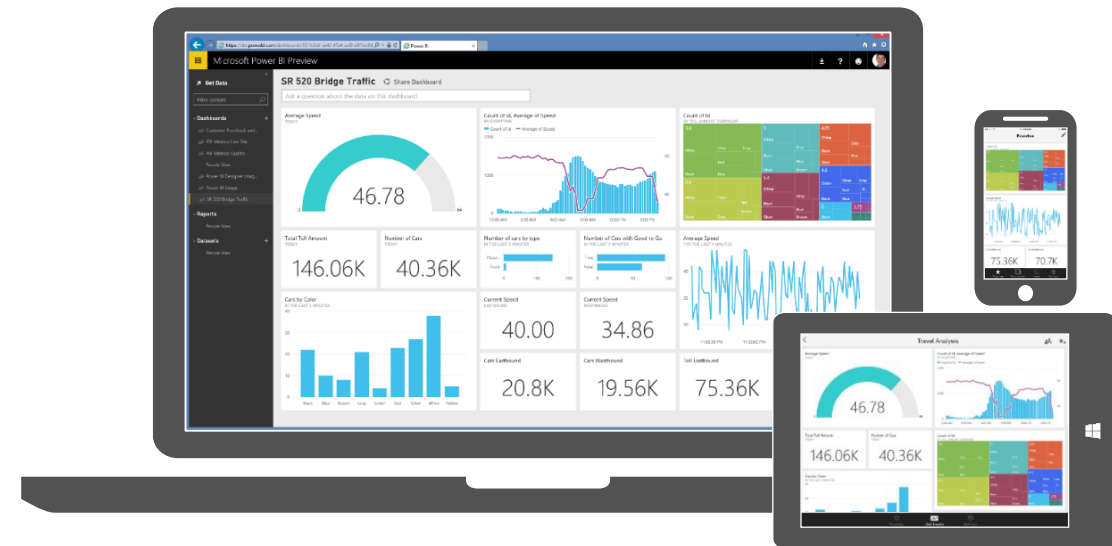
-  SaaS solutions
e.g. Marketo, Salesforce, GitHub, Google analytics
-  On-premises data
e.g. Analysis Services
-  Custom content packs
Corporate data sources or external data services
-  Azure services
Azure SQL, Stream Analytics...
-  Excel files
Workbook data / data models
-  Power BI Desktop files
Data from files, databases, Azure, and other sources

Power BI service

-  Content packs
-  Live dashboards
-  Visualizations
-  Reports
-  Datasets
-  Data refresh

 Natural language query

 Sharing & collaboration



Power BI Desktop



Prepare



Explore



Report



Share



Power BI REST APIs



```
{
  "name": "(String)",
  "columns": [
    ...
  ]
}
```

```
{
  "name": "(String)",
  "columns": [
    {
      "name": "(String)",
      "dataType": "(String)"
    },
    ...
  ]
}
```

Power BI REST APIs

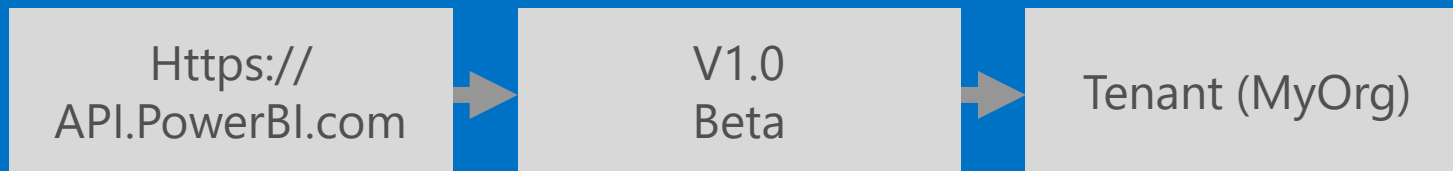
Addressing the APIs



<https://api.powerbi.com/v1.0/myorg/...>

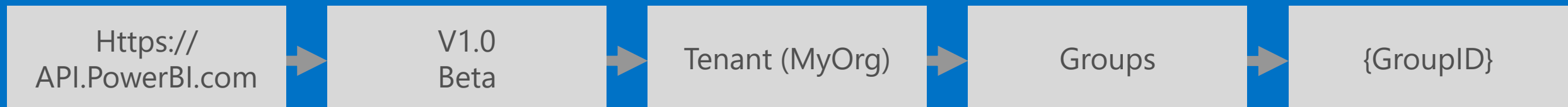
Workspaces – Personal and Groups

Personal Workspace



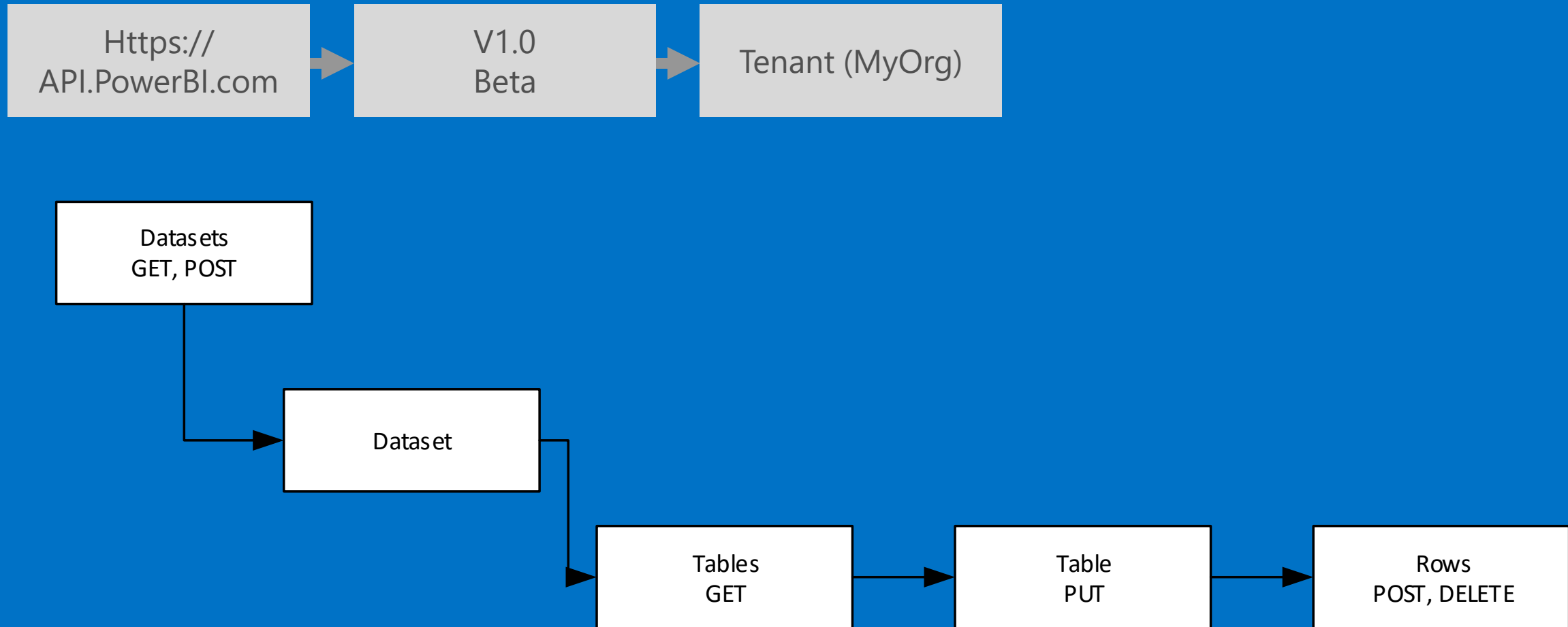
<https://api.powerbi.com/v1.0/myorg/>

Group Workspaces



<https://api.powerbi.com/v1.0/myorg/groups/{group ID}/>

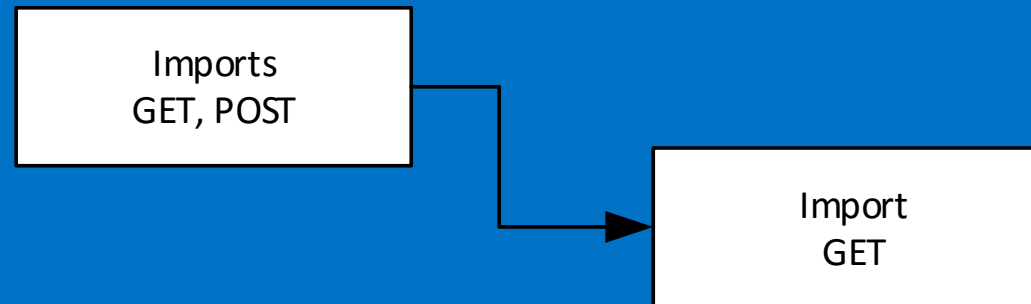
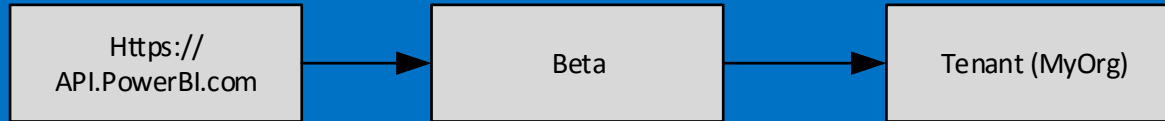
Available APIs



<https://api.powerbi.com/v1.0/myorg/datasets...>

Available APIs

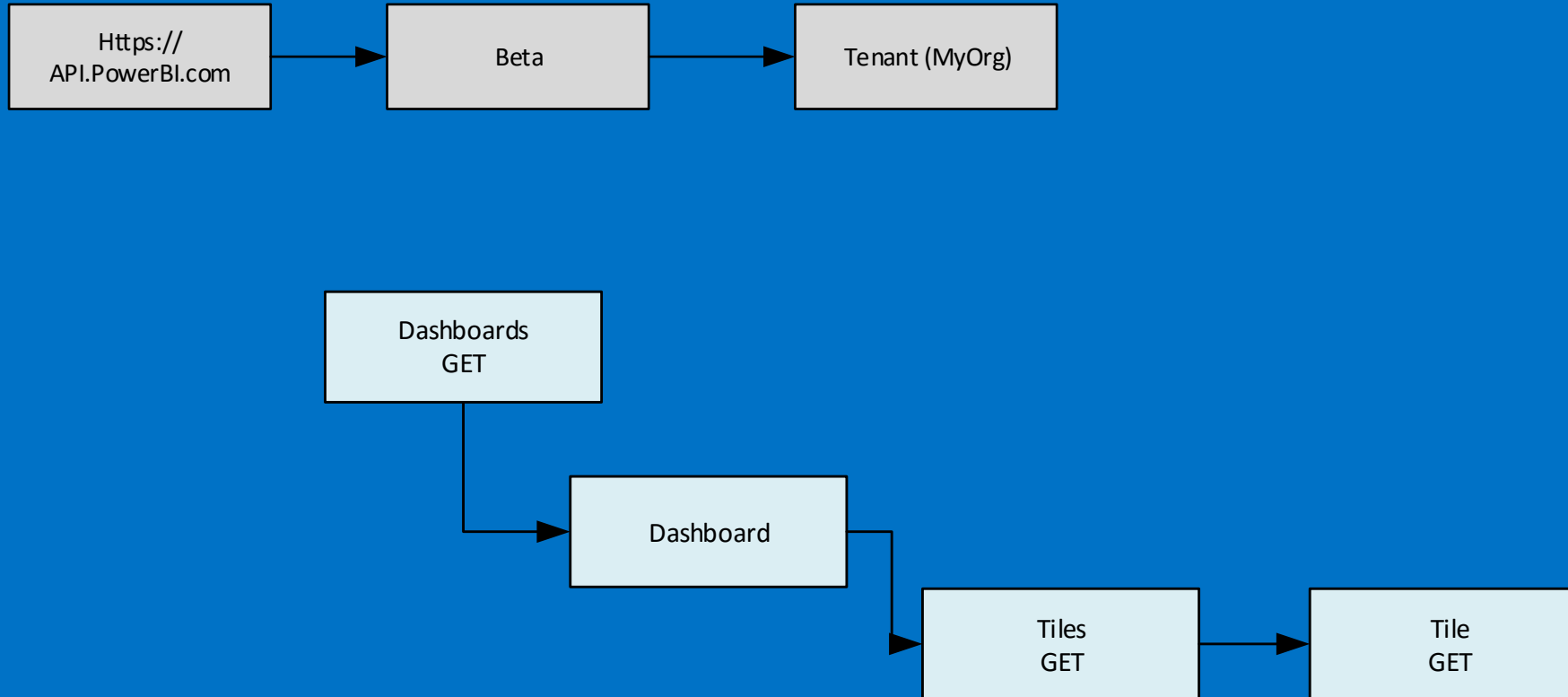
BETA



<https://api.powerbi.com/beta/myorg/imports...>

Available APIs

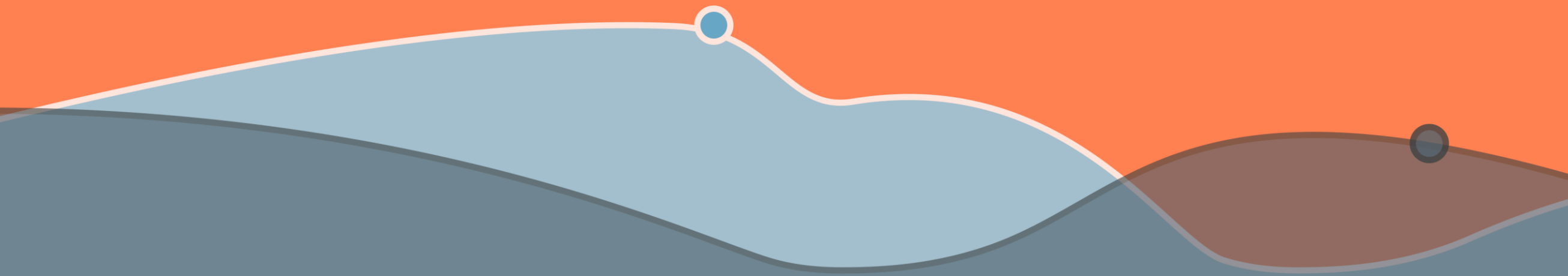
Coming Soon



<https://api.powerbi.com/beta/myorg/dashboards>

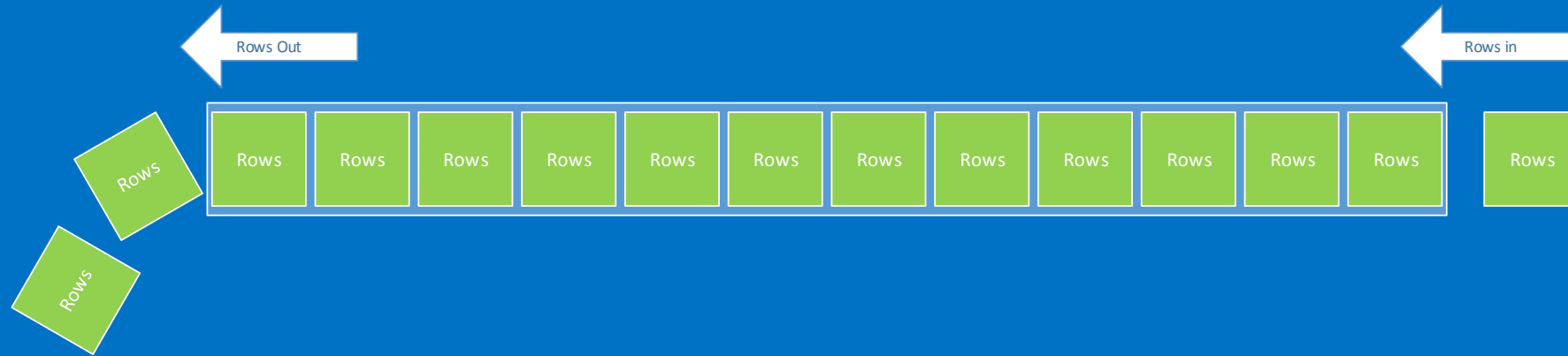
<https://api.powerbi.com/beta/myorg/dashboards/{DashboardID}/tiles>

API Console



Retention Policy

- BasicFIFO
 - Store up to 200,000 rows
 - Remove old data as new data flows in



- Default: None
 - Stores up to 5,000,000 rows per table
 - When limit is reached, you must call DELETE on the table rows

Scaling up push data scenarios

Using Azure Stream Analytics



How-Old.net

HOW OLD DO I LOOK DEMO



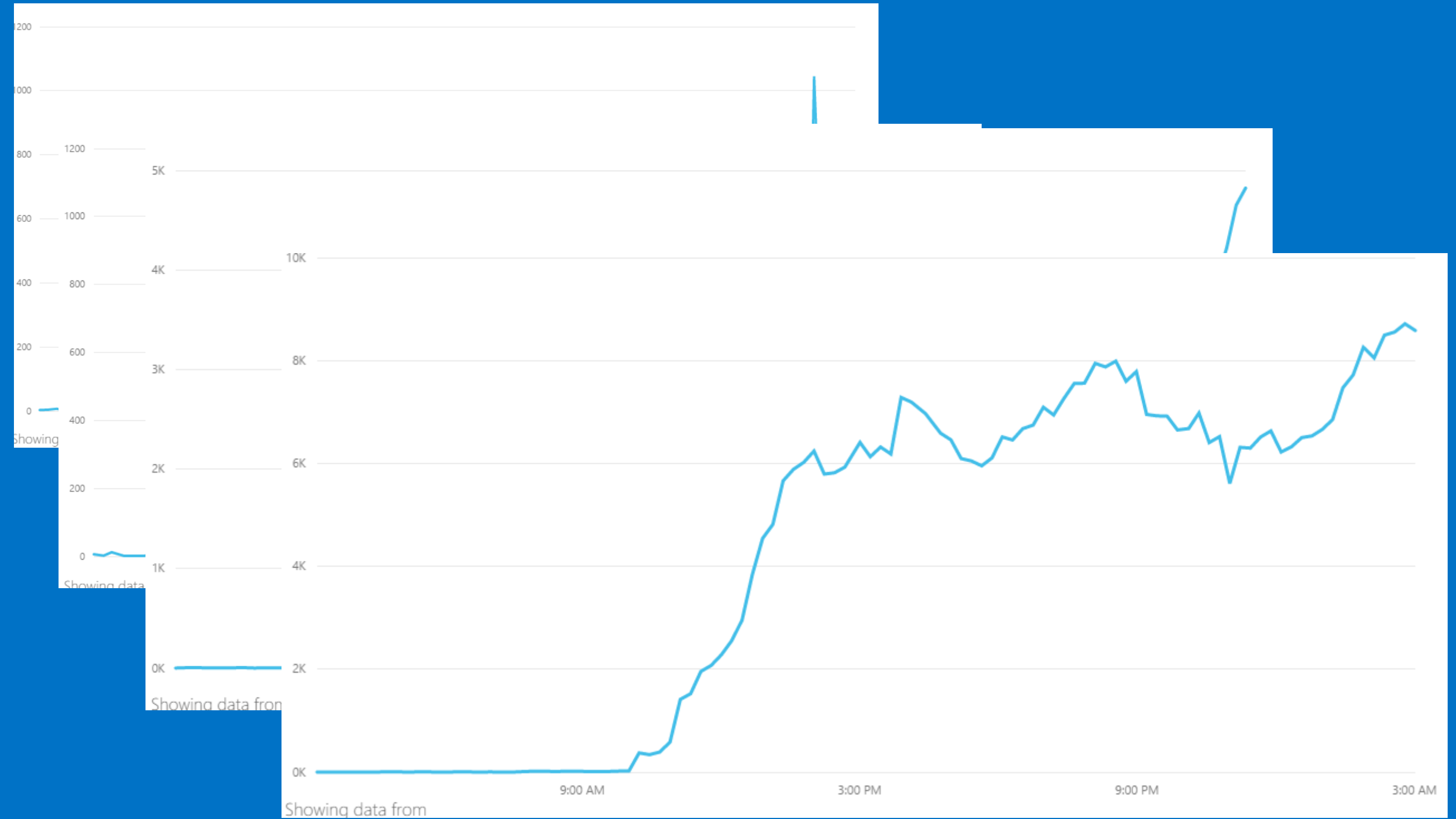
 Use This Photo



Use your own photo

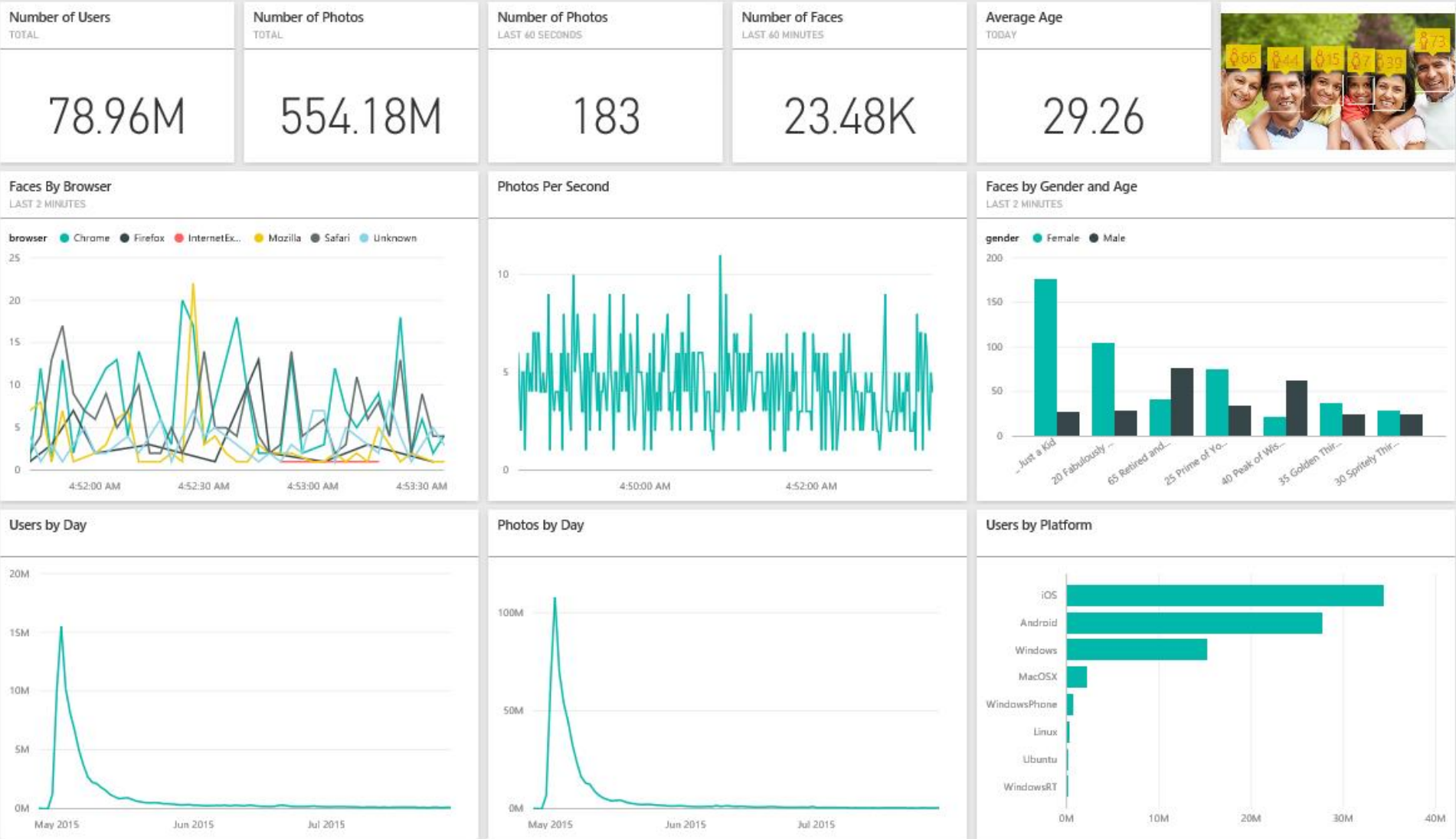
Max Photo Size 3MB

[Read the story behind this demo](#)

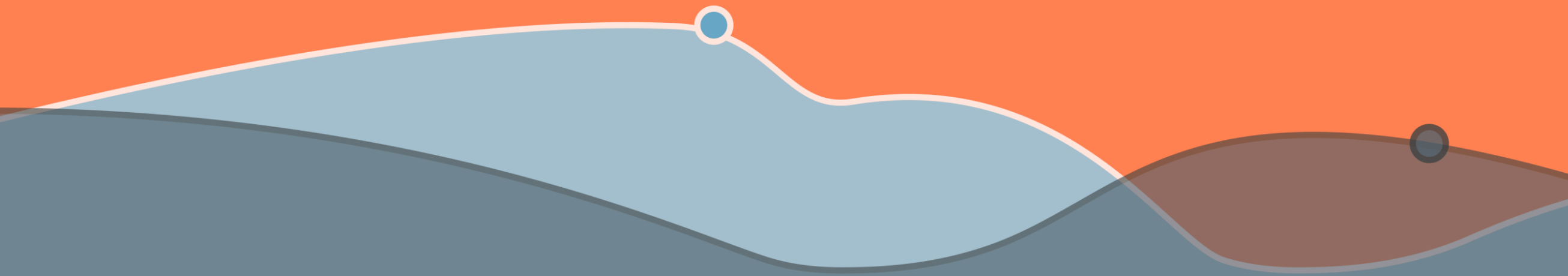


How Old Dashboard: how-old.net

Ask a question about the data on this dashboard

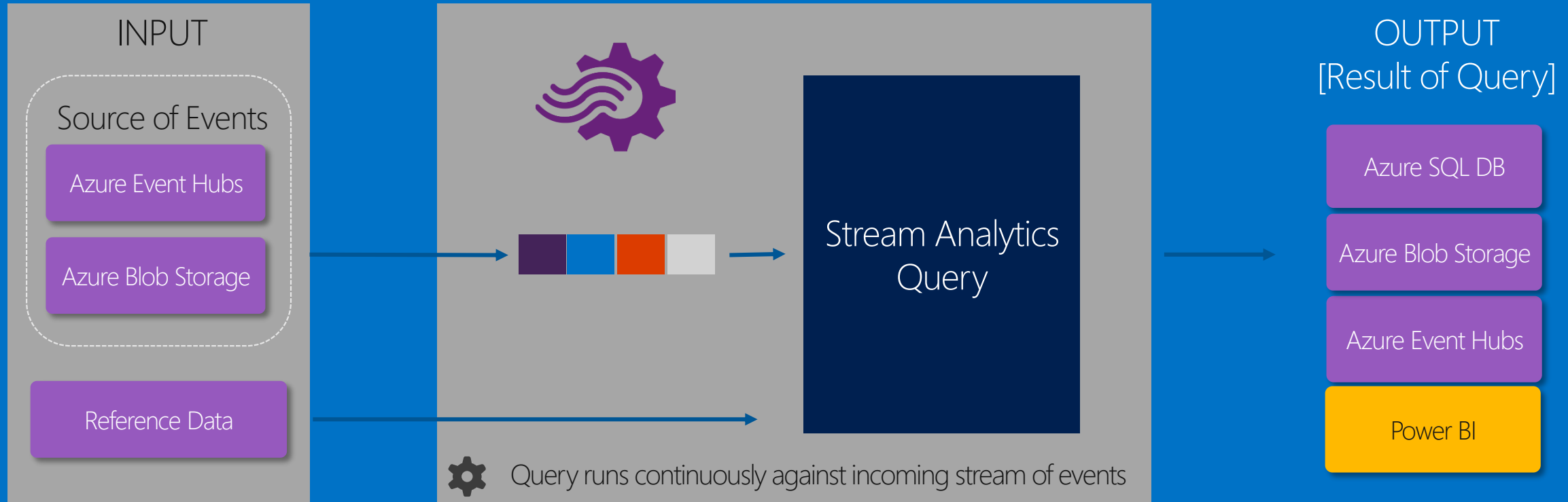


Demo: Azure Stream Analytics with Power BI



Application Components

Components of an Azure Stream Analytics Application





Custom Visuals

What's the story with Power BI visuals?

Power BI visualization stack is open source under MIT license, available on GitHub. Contributions welcome.

We don't think you should be constrained to just in-product visuals

Power BI will include the ability to develop and consume custom visuals

Desktop and service will support custom visuals across all scenarios – including dashboards, reports, content packs.

Demo: Custom Visuals



Custom Visuals – where we are headed

- Phase 1: Open source visuals

- Goal: Get ecosystem going
- <https://github.com/Microsoft/PowerBI-visuals>
- 20 + visuals, exact same code as we use in our service
- All the testing infrastructure to make it high quality

Use it now!

- Phase 2: Developer tools in Power BI

- Goals: enable developer to test and demo custom visuals
- Add “[?devToolsEnabled=true](#)” to the address bar
- Find developer tools under Settings -> Dev Tools

Use it now!

- Phase 3: Use custom visuals in Power BI

- Coming in Fall 2015

Coming soon



Code for the **gold**

**ENTER THE POWER BI BEST VISUAL
CONTEST TO WIN \$5000**

Enter contest

<http://aka.ms/PowerBIVisContest>

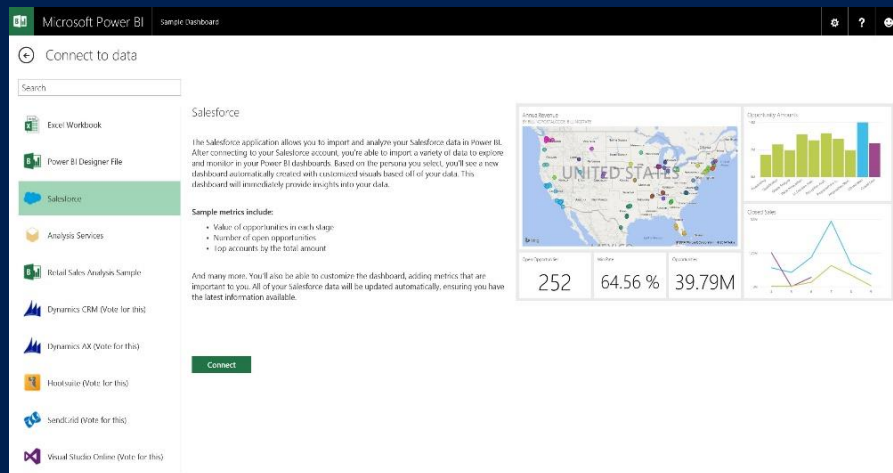
Submit your entry by
October 1st 2015 @11:59pm PT

Content Packs

Help your users do more with their data

Get started quickly

Prebuilt content packs for popular services



TODAY

GitHub



Google Analytics

Marketo



Microsoft Dynamics CRM

Dynamics Marketing

salesforce



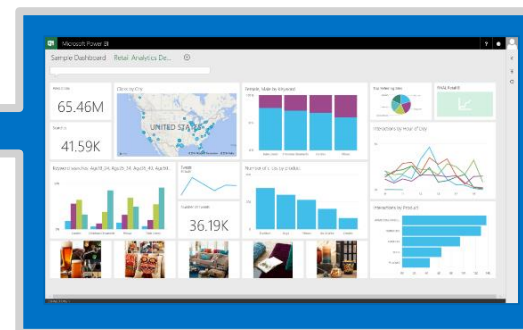
SendGrid



Visual Studio Online



zendesk



Acumatica



Adobe Analytics

appfigures

inkling

intuit



MailChimp



Office

Your Logo Here!

SpaceCurve
Spatial at the Speed of Reality

SQLSENTRY

wee10

COMING SOON

twilio

zuora

* Some solutions not yet available in preview

Building Content Packs

We welcome all partners/ISVs to partner with us to light up your content pack into Power BI

Basic requirements:

- Your content pack must address a business user scenario (SaaS app)
- Your app must have a public API for data access (REST, OAuth)
- Must work in partnership with us to build and ship content pack

This scenario will also allow you to light up your “data connectors” in Power BI Desktop & Excel

Email pbi_apps@microsoft.com with subject #CAW Content Pack

Developer Resources

Developer Center

<http://dev.powerbi.com>

Developer Blog

<http://blogs.msdn.com/powerbidev>

Samples

<https://github.com/PowerBI>

Open Source Visuals

<http://github.com/Microsoft/PowerBI-visuals>

Ask us questions

<http://stackoverflow.com/questions/tagged/powerbi>

Wrap up and conclusions

Power BI

Helps you bring amazing data experiences to your users, through your app

Start Now

Push Data

Integrations

Custom Visuals

Partner with us

Content Packs

Go to the Developer Center

<http://dev.powerbi.com>

