



Integrating APS Viewer with Power BI Reports

A Technical Guide for Users and Developers

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Safe Harbor Statement

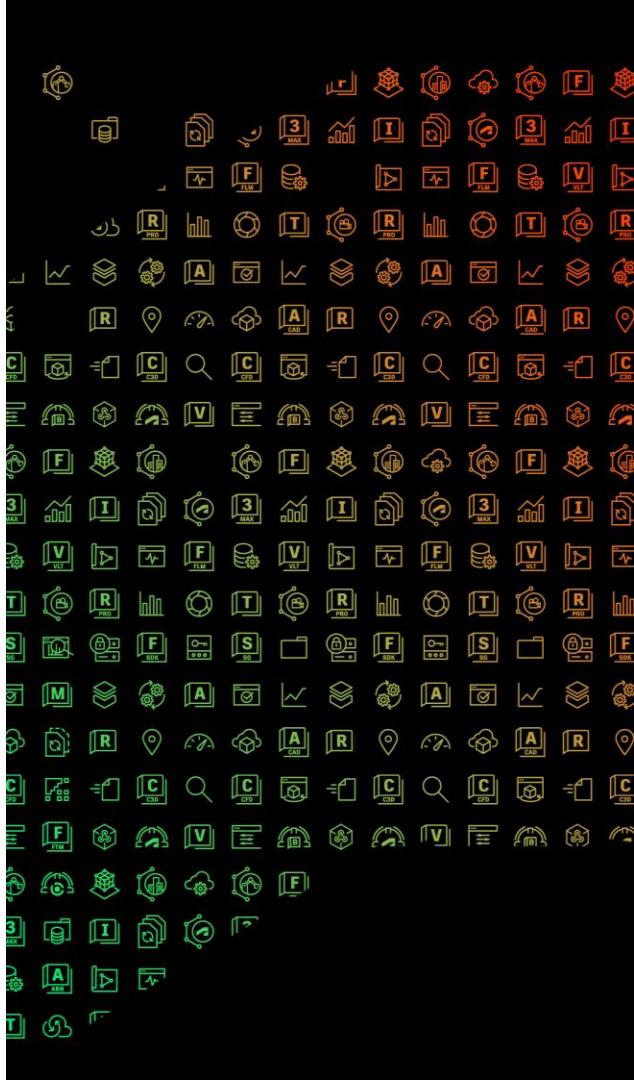
The presentations today may contain forward-looking statements about our strategies, products, future results, performance or achievements, financial, operational and otherwise, including statements about our strategic priorities, business model transition, and guidance for the fiscal year 2024 and beyond; our long term financial and operational goals; our M&A strategy; and our capital allocation initiatives. These statements reflect management's current expectations, estimates and assumptions based on the information currently available to us. These forward-looking statements are not guarantees of future performance and involve significant risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from results, performance or achievements expressed or implied by the forward-looking statements contained in these presentations, such as a failure to successfully integrate acquired businesses; developments in the COVID-19 pandemic and the resulting impact on our business and operations; general market, political, economic, and business conditions; complete transitions to new business model and markets; failure of the construction industry to grow as anticipated; failure to develop new products; failure to successfully expand adoption of our products; and failure of product changes to have the desired benefits.

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Agenda

- 1 Why Power BI ?
 - 2 History & Hurdles
 - 3 **Endymion Next:** ACC, Tandem, DX
 - 4 Future directions
 - 5 Q&A



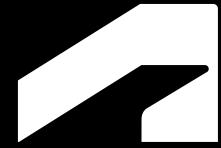
Why Power BI?

with APS Viewer

Why Power BI with Interactive 3D Viewer ?

- Add 3D Viewing capabilities to your existing reports and dashboards
- Connect Business data with Engineering Data
- Perform Spatial Analysis
- Give context to data
- Make better decisions
- Make it easy for developers to customize and extend





History

THE HISTORY OF THE COMPUTER

The history of the computer spans several centuries, from the first mechanical calculators to modern digital computers.

Antique Calculators: The first known mechanical calculator was the abacus, used in ancient Egypt, Mesopotamia, and China. In the 17th century, Blaise Pascal invented the first mechanical calculator, the Pascaline, followed by the more complex Difference Engine by Charles Babbage.

Modern Computers: The first electronic computer, the ENIAC, was built in 1945. It was a large-scale project funded by the U.S. Army during World War II. The first personal computer, the Altair 8800, was introduced in 1975. The first laptop computer, the Osborne 1, was released in 1981.

Software and Programming: The first programming language, Fortran, was developed in 1957. The first graphical user interface, Xerox's Alto, was introduced in 1973. The first mobile phone, the Motorola DynaTAC, was released in 1983.

Cloud Computing: The concept of cloud computing originated in the late 1990s, with the introduction of Amazon's AWS cloud services.

Artificial Intelligence: The field of AI began in the 1950s with the development of the first AI programs at the University of Michigan and the Massachusetts Institute of Technology.

Big Data: The term "big data" was coined in the early 2000s to describe the massive amounts of data generated by the Internet and other sources.

Quantum Computing: The field of quantum computing is still in its infancy, with the first quantum computer being demonstrated in 2011.

Robotics: The field of robotics has been around since the 1960s, with the first industrial robots being developed in the 1970s.

Blockchain: The technology behind blockchain was first proposed in 1991, but it wasn't until 2009 that the first blockchain, Bitcoin, was created.

Machine Learning: The field of machine learning has been around since the 1950s, but it really took off in the late 1990s and early 2000s with the development of neural networks and deep learning.

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Blog Posts

Embed Forge Viewer inside Power BI report

AUTODESK Platform Services

Solutions Getting Started Documentation Success Stories Community Support Pricing App Store

30 APR 2022

Embed Forge Viewer inside Power BI report

Xiaodong Liang

Share

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dbid material

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dbid

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material

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The Py

Intro legg with offic

Auth

Setting Up Forge Data Visualization

https://aps.autodesk.com/en/docs/endymion/v1/developers_guide/setup/

AUTODESK Platform Services

Solutions ▾ Getting Started Documentation Success Stories Community ▾ Support ▾ Pricing App Store

Endymion

Version 1

Developer's Guide

Overview

Exporting Model Data from BIM 360

Setting Up Forge Data Visualization in Power BI Desktop

Getting the temporary access token for Autodesk Forge

1. Click the ViewerCard visual in the **Visualizations** pane to open it.

How to configure the Forge Viewer Visual

Step 1: Sign into Autodesk Forge

Step 2: Paste your token here:

Step 3: Select the "urn" field from the Config table and bind it to the "Config" section in the Fields tab. Optionally, bind additional fields such as guid and region.

Step 4: Bind your model data fields to the "Model Properties" section.

2. To sign in to Forge, click the Autodesk Forge link in the configuration window.

3. When this opens your browser, sign in using your email and password. Then copy the temporary access token.

[REDACTED]

Step 1: Sign into Autodesk Forge

Step 2: Paste your token here:

Step 3: Select the "urn" field from the Config table and bind it to the "Config" section in the Fields tab. Optionally, bind additional fields such as guid and region.

Step 4: Bind your model data fields to the "Model Properties" section.

4. Click **Copy the Token** to copy it to your clipboard.

5. Back in Power BI Desktop, paste your token in the provided box.

Endymion v1

- Contributions from APS Viewer Team



Data Connector

- M script – good UX
- Metadata / properties

were limited



Viewer Visual

- Hand copy 3LO token
- Token would time-out
- Filter only on Revit Categories (limited properties)

Endymion v1

- Identifying the problems



- M script – good UX
- Metadata / properties

were limited



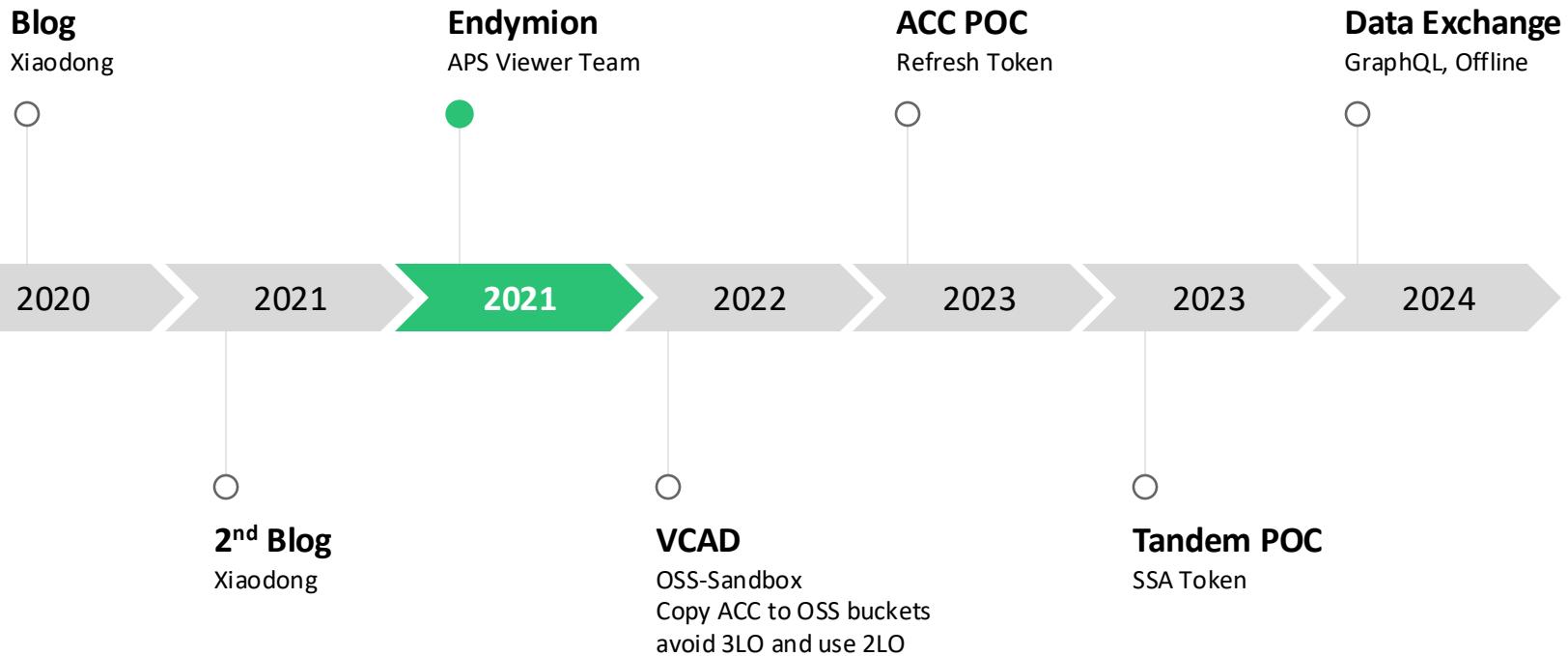
- Hand copy 3LO token
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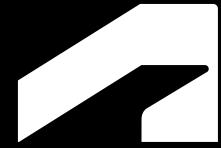
The screenshot shows a browser window titled "Setting Up Forge Data Visuals" on the Autodesk Platform Services website. The page displays a "Developer Guide" for "Endymion". It includes several numbered steps:

- Click the ViewerGorp visual in the Visualizations section.
- To sign in to Forge, click the Autodesk Forge link.
- Select the "Copy the Token" link.
- When this opens your browser, sign in using your temporary access token.
- Click Copy the Token to copy it to your clipboard.
- Paste the token in the Power BI Desktop paste your token in the Visual Properties section.

Below the steps, there is a section titled "Configuring the visual" with some configuration options.

Timeline





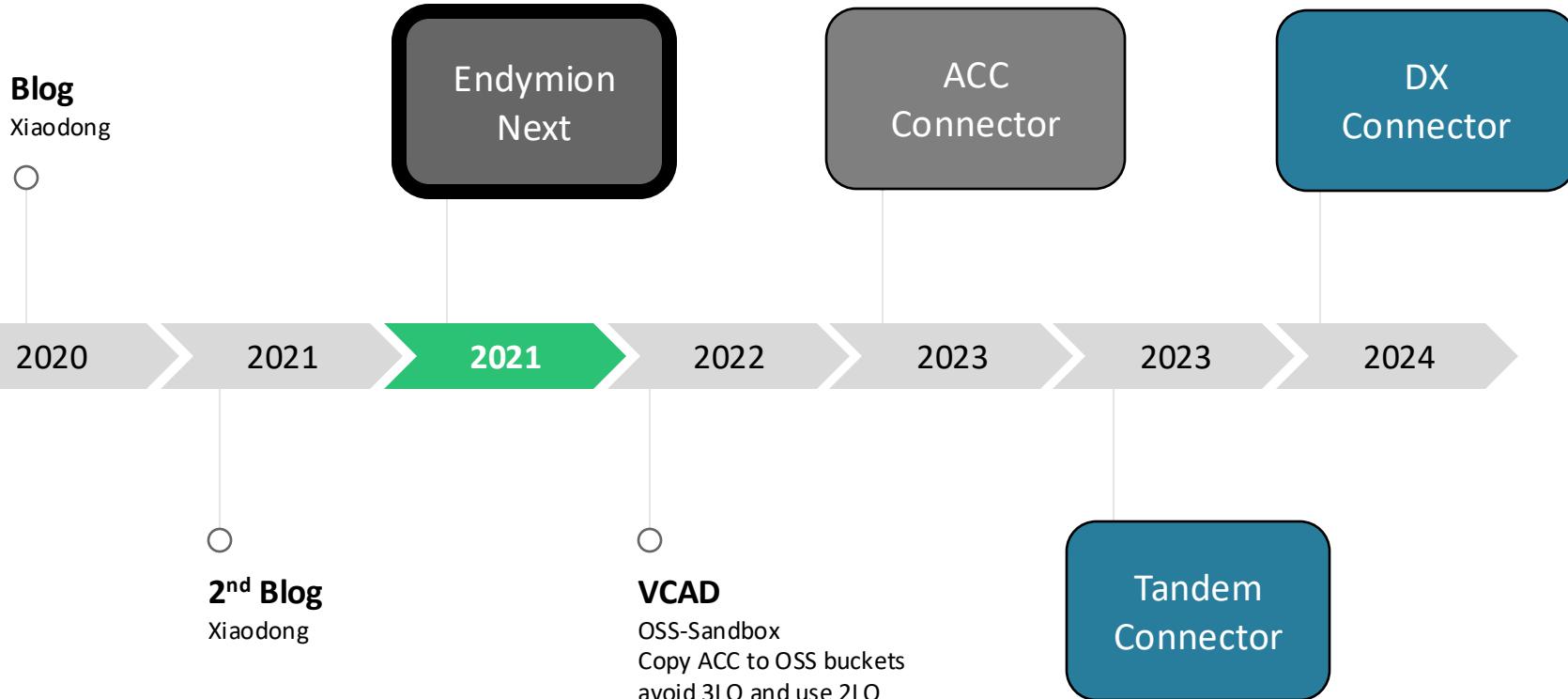
Endymion Next

Endymion Next is a modern, sans-serif font family designed for both digital and print applications. It features a clean, geometric design with a slight italic slant, making it suitable for headings and body text. The font includes a wide range of ligatures and alternates to provide flexibility in layout design.

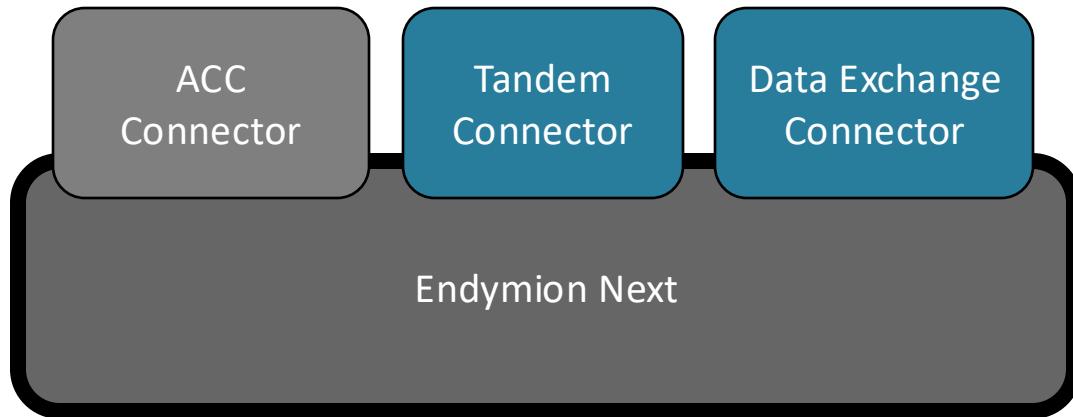
The font family consists of four weights: Regular, Medium, Bold, and Extra Bold. Each weight is available in two styles: a standard version and a matching italic version. The font also includes a variety of characters, including ligatures for 'f', 'fl', 'ff', and 'flf', as well as various diacritical marks and special characters from multiple language sets.

Endymion Next is a versatile font that can be used in a variety of contexts, from web design to book covers, and from business documents to creative projects. Its clean lines and modern feel make it a great choice for contemporary design.

Timeline



Unifying all these efforts into a single project



Endymion Next*

*APS PowerBI Tools



Data Connector

- Custom data connector
- Access to all metadata
- Easy to use 3LO



Viewer Visual

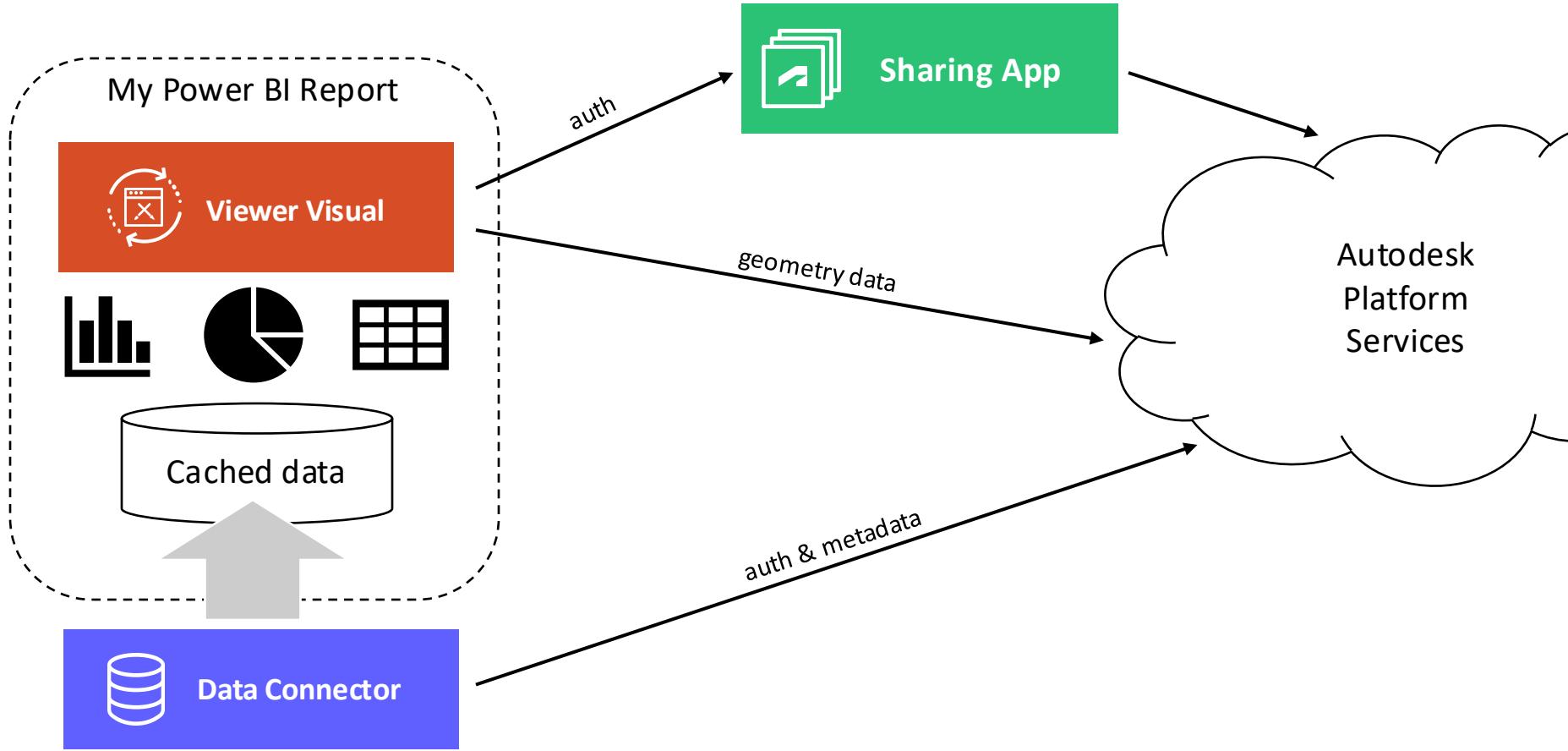
- Custom visual
- Wraps APS viewer
- Relies on external authentication



Sharing App

- Simple web service
- Avoids login box
- Workaround until SSA
- Providing long-lived sharing links

Architecture



Get Started Today



autodesk-platform-services/ [autodesk-platform-services/aps-powerbi-tools](https://github.com/autodesk-platform-services/aps-powerbi-tools)

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

aps-powerbi-tools Public Edit Pins Unwatch 8 Fork 8 Starred 11

develop 2 Branches 8 Tags Go to file Code

petbroz Merge branch 'release/0.0.8' into develop. 54ea94c · 20 hours ago 53 Commits

github/workflows Use Node.js v20 when building visuals. 3 months ago

connectors/aps-props-connector Bumped version to 0.0.8. 20 hours ago

services/aps-shares-app Moved to official APS SDK. 4 days ago

visuals/aps-viewer-visual Bumped version to 0.0.8. 20 hours ago

.gitignore Initial commit. 10 months ago

LICENSE Updated year in LICENSE files. 3 months ago

README.md Updated overview readme. 10 months ago

screenshot.png Added screenshot. 10 months ago

About Collection of tools for accessing Autodesk Platform Services design data - 2D/3D views as well as element properties - from Power BI reports.

Readme MIT license Activity Custom properties 11 stars 8 watching 6 forks Report repository

Releases v0.0.8 (Latest) 20 hours ago + 6 releases

Packages No packages published Publish your first package

Contributors petbroz Petr Broz yiskang Eason Kang

Languages TypeScript 41.9% JavaScript 30.5% EJS 26.1% Less 1.5%

A screenshot of a Microsoft Power BI report. The report displays a 3D architectural model of a single-story house with a red roof. Below the model, there are several data visualizations: a pie chart showing proportions of different categories, a table with numerical data, and other smaller charts and graphs. The interface includes standard Power BI navigation elements like filters and a search bar.



Data Connector

- Power Query (M language)
- 3-legged OAuth
- Custom build needed (with your APS client ID/secret)
 - Input: design URN
 - Output: table of element data

```
1 [Version = "0.0.8"]
2 section DesignPropsConnector;
3
4 SECRETS = Json.Document(Extension.Contents("secrets.json"));
5 REDIRECT_URI = "https://oauth.powerbi.com/views/oauthredirect.html";
6 PAGE_SIZE = 512; // Max number of object IDs to request properties for in one request (must be less than 1000)
7
8 [DataSource.Kind = "DesignPropsConnector", Publish = "DesignPropsConnector.Publish"]
9 shared DesignPropsConnector.Contents = (urn as text, region as text) as table =>
10 let
11     views = DesignPropsConnector.GetViews(urn, region), // Get the list of all viewables available for the
12     firstView = List.First(views), // Get the first viewable
13     objectTree = DesignPropsConnector.GetTree(urn, firstView[guid], region), // Get the hierarchy of objects
14     flattenedObjectTree = FlattenObjectTree(objectTree), // Flatten the object hierarchy into a table
15     objectIdPages = List.Split(Table.Column(flattenedObjectTree, "objectid"), PAGE_SIZE), // Split object
16     propertyPages = List.Transform(objectIdPages, each DesignPropsConnector.GetProperties(urn, firstView[guid], region))
17     properties = Table.FromRecords(List.Union(propertyPages)), // Combine paged results into a single table
18     joinedTables = Table.Join(properties, "objectid", flattenedObjectTree, "objectid"), // Join flattened
19     selectedColumns = Table.SelectColumns(joinedTables, {"objectid", "externalId", "hierarchy", "name", "is_group", "properties"})
20 in
21     Table.RenameColumns(selectedColumns, {
22         {"objectid", "Object ID"}, // Object ID
23         {"externalId", "External ID"}, // External ID
24         {"name", "Name"}, // Name
25         {"hierarchy", "Hierarchy"}, // Hierarchy
26         {"is_group", "Is Group"}, // Is Group
27         {"properties", "Properties"} // Properties
28 });
29
30 DesignPropsConnector = [
31     Authentication = [
32         OAuth = [
33             StartLogin = StartLogin,
34             FinishLogin = FinishLogin,
35             Refresh = RefreshToken
36         ]
37     ]
38 ];
39
40 StartLogin = (dataSourcePath, state, display) =>
41     let
42         query = [
43             response_type = "code",
44             client_id = SECRETS[APS_CLIENT_ID],
45             scope = "data:read",
46             redirect_uri = REDIRECT_URI,
47             state = state
48         ],
49         url = "https://developer.api.autodesk.com/authentication/v2/authorize? & Uri.BuildQueryString(query)
50     in
51         [
52             LoginUri = url,
53             CallbackUri = REDIRECT_URI,
54             Context = null,
```



Data Connector

aps-powerbi-tools - Visual Studio Code

File Edit Selection View Go Run Terminal Help

EXPLORER

- APSP-POWERBI-TOOLS
- .github
- connectors
- services
- visuals
- .gitignore
- LICENSE
- README.md
- screenshot.png

Show All Commands $\text{Ctrl} + \text{Shift} + \text{P}$

Go to File $\text{Ctrl} + \text{P}$

Find in Files $\text{Ctrl} + \text{Shift} + \text{F}$

Start Debugging F5

Toggle Terminal $\text{Ctrl} + \text{`}$

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\brozp\Code\aps-powerbi-tools> []

powershell + \downarrow \square \times

OUTLINE TIMELINE POWER QUERY SDK

develop Δ 0 Go Live \square

Type here to search

2:19 PM ENG 5/19/2021



Sharing App

- Avoids login box
- Generates fresh tokens on-demand
- You host this service
 - <https://aps-shares-app.autodesk.io> (for testing only)
- Provision it
 - Choose URNs to share

```
1 [Version = "0.0.8"]
2 section DesignPropsConnector;
3
4 SECRETS = Json.Document(Extension.Contents("secrets.json"));
5 REDIRECT_URI = "https://oauth.powerbi.com/views/oauthredirect.html";
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18      joinedTables = Table.Join(properties, "objectid", flattenedObjectTree, "objectid"), // Join flattened
19      selectedColumns = Table.SelectColumns(joinedTables, {"objectid", "externalId", "hierarchy", "name", "is_group", "properties"})
20      in Table.RenameColumns(selectedColumns, {
21        {"objectid", "Object ID"}, // Object ID
22        {"externalId", "External ID"}, // External ID
23        {"name", "Name"}, // Name
24        {"hierarchy", "Hierarchy"}, // Hierarchy
25        {"is_group", "Is Group"}, // Is Group
26        {"properties", "Properties"} // Properties
27      });
28
29 DesignPropsConnector = [
30   Authentication = [
31     OAuth = [
32       StartLogin = StartLogin,
33       FinishLogin = FinishLogin,
34       Refresh = RefreshToken
35     ]
36   ]
37 ];
38
39 StartLogin = (dataSourcePath, state, display) =>
40   let
41     query = [
42       response_type = "code",
43       client_id = SECRETS[APS_CLIENT_ID],
44       scope = "data:read",
45       redirect_uri = REDIRECT_URI,
46       state = state
47     ],
48     url = "https://developer.api.autodesk.com/authentication/v2/authorize?" & Uri.BuildQueryString(
49       [
50         LoginUri = url,
51         CallbackUri = REDIRECT_URI,
52         Context = null,
53       ]
54     )
55   in
```



Sharing App

Code & Demo



Viewer Visual

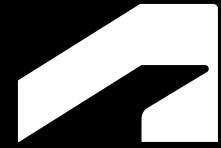
- TypeScript + pbiviz
- Use the latest released *.pbiviz
- Authentication backend
 - Your own service
 - <https://aps-shares-app.autodesk.io> (for testing only)
- Inputs:
 - Design URN
 - Access token URL

```
1 import powerbi from 'powerbi-visuals-api';
2 import { FormattingSettingsService } from 'powerbi-visuals-utils-formattingmodel';
3 import '../style/visual.less';
4
5 import VisualConstructorOptions = powerbi.extensibility.visual.VisualConstructorOptions;
6 import VisualUpdateOptions = powerbi.extensibility.visual.VisualUpdateOptions;
7 import IVisual = powerbi.extensibility.visual.IVisual;
8 import IVisualHost = powerbi.extensibility.visual.IVisualHost;
9 import ISelectionManager = powerbi.extensibility.ISelectionManager;
10 import DataView = powerbi.DataView;
11
12 import { VisualSettingsModel } from './settings';
13 import { initializeViewerRuntime, loadModel, IdMapping } from './viewer.utils';
14
15 /**
16  * Custom visual wrapper for the Autodesk Platform Services Viewer.
17 */
18 export class Visual implements IVisual {
19     // Visual state
20     private host: IVisualHost;
21     private container: HTMLElement;
22     private formattingSettings: VisualSettingsModel;
23     private formattingSettingsService: FormattingSettingsService;
24     private current DataView = null;
25     private selectionManager: ISelectionManager = null;
26
27     // Visual inputs
28     private accessTokenEndpoint: string = '';
29     private urn: string = '';
30     private guid: string = '';
31
32     // Viewer runtime
33     private viewer: Autodesk.Viewing.GuiViewer3D = null;
34     private model: Autodesk.Viewing.Model = null;
35     private idMapping: IdMapping = null;
36
37     /**
38      * Initializes the viewer visual.
39      * @param options Additional visual initialization options.
40     */
41     constructor(options: VisualConstructorOptions) {
42         this.host = options.host;
43         this.selectionManager = options.host.createSelectionManager();
44         this.formattingSettingsService = new FormattingSettingsService();
45         this.container = options.element;
46         this.getAccessToken = this.getAccessToken.bind(this);
47         this.onPropertiesLoaded = this.onPropertiesLoaded.bind(this);
48         this.onSelectionChanged = this.onSelectionChanged.bind(this);
49     }
50
51     /**
52      * Notifies the viewer visual of an update (data, viewmode, size change).
53      * @param options Additional visual update options.
54     */
```



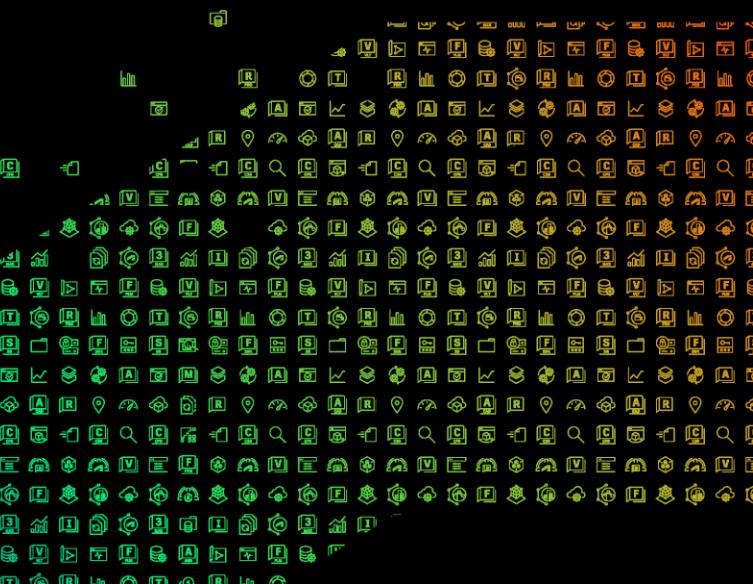
Viewer Visual

Code & Demo

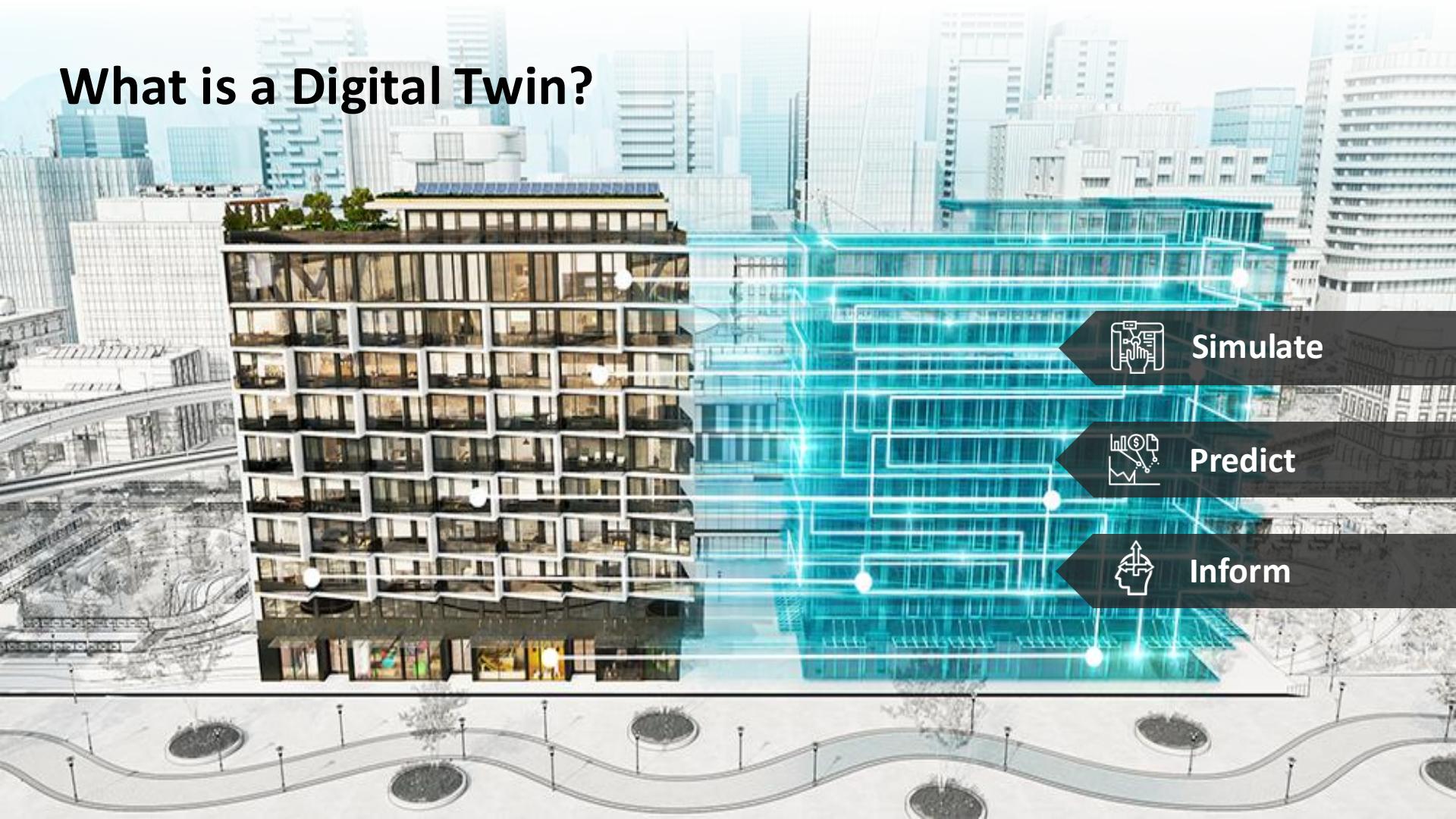


Tandem Connector

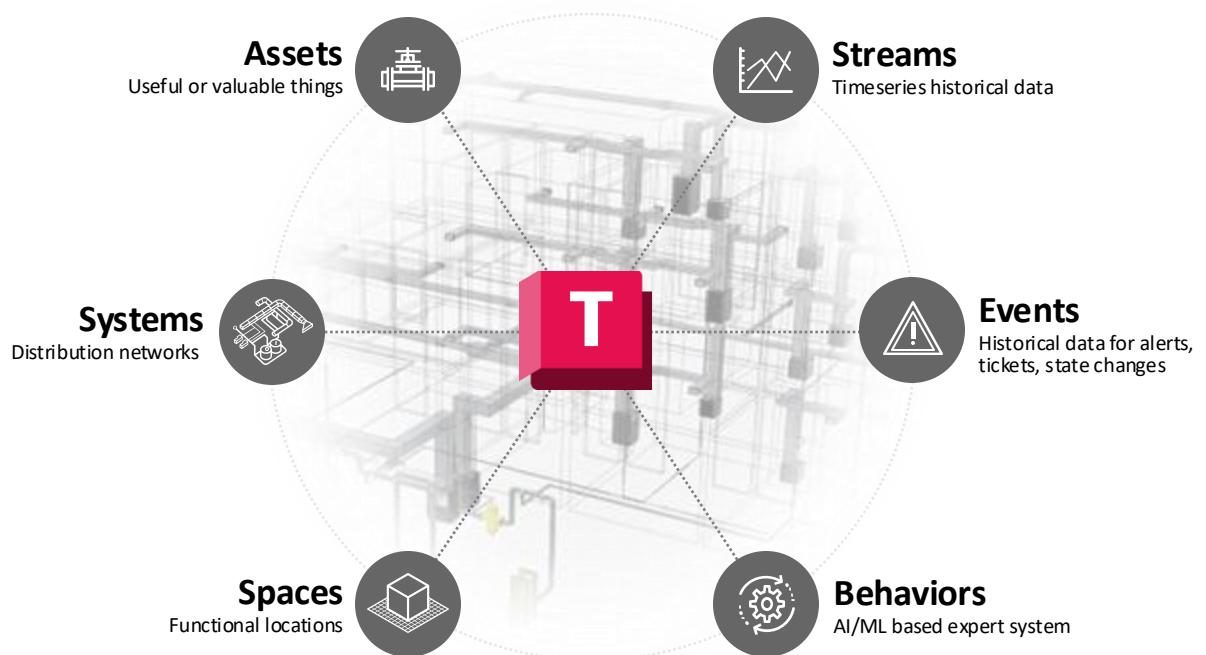
Multi-model loading, SSA Tokens and OData



What is a Digital Twin?



Digital Twin Anatomy



Outcomes

Access
correlated data across disparate systems

Visualize
time series and historical data in context

Measure
performance indicators accurately

Improve
performance based on actionable insight



Viewer Visual

Tandem Power Bi

A screenshot of a web browser displaying the Power BI application interface. The address bar shows "app.powerbi.com". The main header includes the Autodesk logo, "Power BI", and "My workspace". Below the header is a navigation menu with the following items:

- Home
- Create
- Browse
- Data hub
- Metrics
- Apps
- Deployment pipelines
- Learn
- Workspaces
- My workspace

The central area of the screen displays a progress bar with three yellow segments, indicating that a report is "Loading your report...". At the top right of the main content area, there is a search bar with the placeholder "Search" and several small icons for filtering and sorting.



Get Started with

Tandem in PowerBi

1. Install the Visual “dist/tandem-powerbi.pbiviz”
2. Drag drop the element
3. Configure the Inputs
4. Setup Access Token service

<https://f2iv2mhpbebrhrkfsnn2lvloxq0janqb.lambda-url.us-west-2.on.aws>

Format visual



Search

Visual Gen

External ID

URN

ElementID

Design

facility Number

1

Share URL

<https://f2iv2mhpbebrhrkfsnn2lvloxq0janqb.lambda-url.us-west-2.on.aws>

Reset to default



Embedded Tandem

..inside a Power BI Report

The screenshot shows the Autodesk Power BI desktop application interface. The left sidebar contains navigation links for Home, Create, Browse, OneLake data hub, Apps, Metrics, Monitoring hub, Deployment pipelines, Workspaces, My workspace, and Snowdon-Report... Untitled report. The main area displays a report titled "Snowdon-Report-DevCon2024". The report includes a table titled "Source File" with rows for "Snowdon Towers Sample Plumbing.rvt", "Snowdon Towers Sample HVAC.rvt", "Snowdon Towers Sample Facades.rvt", and "Snowdon Towers Sample Architectural.rvt", totaling 370 GUIDs. Below the table is a bar chart titled "Levels" showing the count of URN for various levels: (Blank), L4, L3, L2, L5, Parking, L1 - Block 37, L1 - Block 35, L1 - Block 43, and R2. A cursor is hovering over the "Parking" bar. To the right of the chart is a pie chart titled "Count of GUID by Rooms" showing the distribution of rooms across different categories. The visualization pane on the right lists various filters and data fields such as Area (ft²), Assembly Code, Category Name, Classification, ElementID, Exterior Material, GUID, Level, Name, Rooms, Source File, System Class, Systems, and URN. The status bar at the bottom indicates "Page 1 of 1" and "100%".



Data Import

Tandem Power Bi

Manual
approach

a. Export XLS,

b. then Import

The screenshot shows a web browser displaying the Autodesk Tandem website at intandem.autodesk.com. The page features a dark background with a large image of a modern building's exterior. Overlaid on the building are several glowing blue 3D cubes representing a digital twin. A man with a beard, wearing a white shirt, is holding a smartphone that displays a similar digital twin interface. The Autodesk logo is visible in the top left corner of the page. The main heading reads "Discover the value of digital twins". Below the heading, a subtext explains: "Autodesk Tandem is a digital twin solution, designed to deliver smarter buildings and operational excellence. By connecting data from the building's lifecycle within one dynamic, digital replica, actionable insights are always at your fingertips." At the bottom of the page, there are two buttons: "Start for free" and "About digital twins". The browser's address bar shows the URL "intandem.autodesk.com". The taskbar at the bottom of the screen displays various pinned icons, and the system tray shows the date and time as "5/1/2024 12:45 PM".



OData Connector

Tandem Power Bi

oData interface

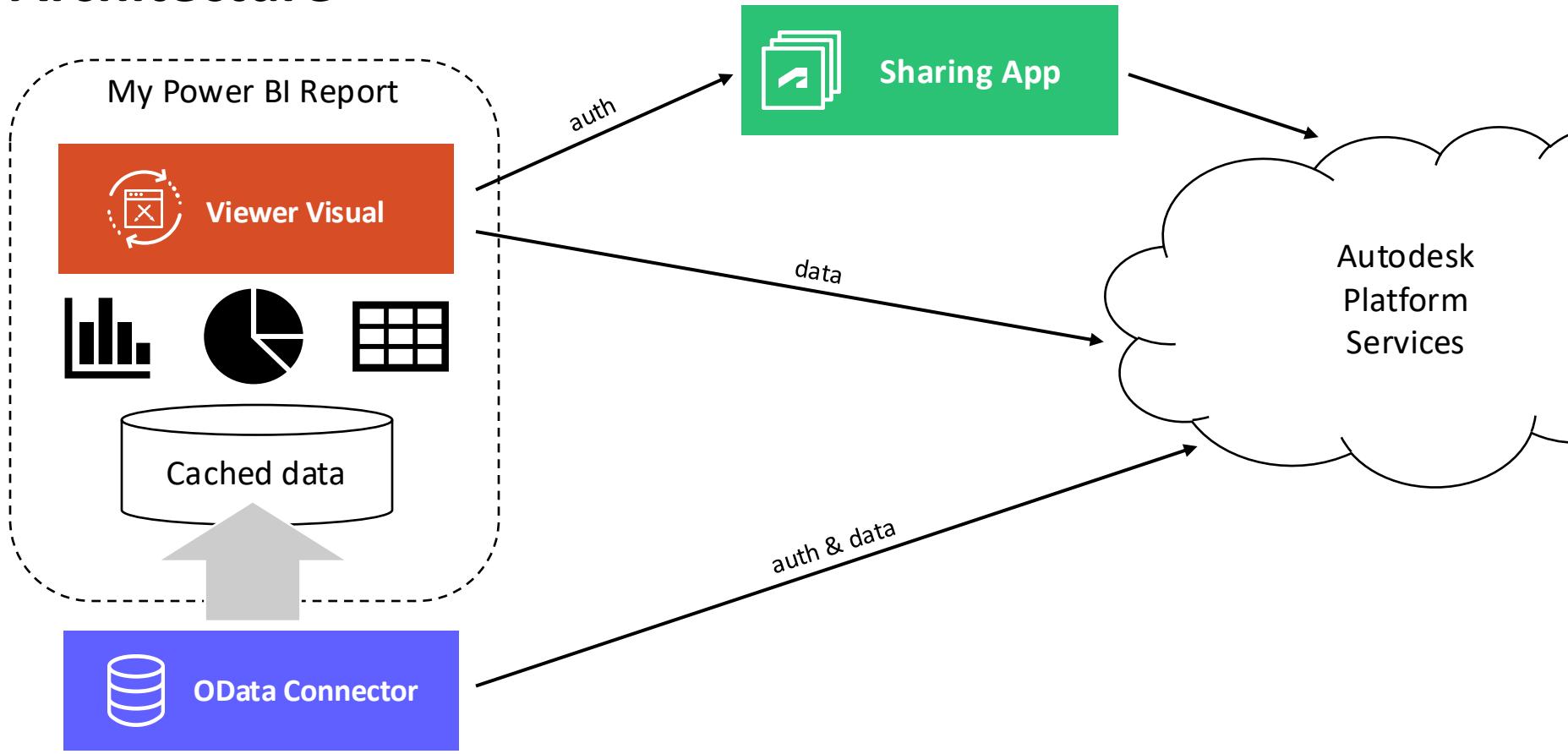
(experimental POC)

The screenshot shows the Microsoft Power Query Editor window titled "Untitled - Power Query Editor". The ribbon at the top has the "Home" tab selected. The main area is labeled "Queries [0]" and is currently empty. The ribbon contains various tools for managing data sources, queries, and transforming data. The "Transform" tab is also visible in the ribbon.

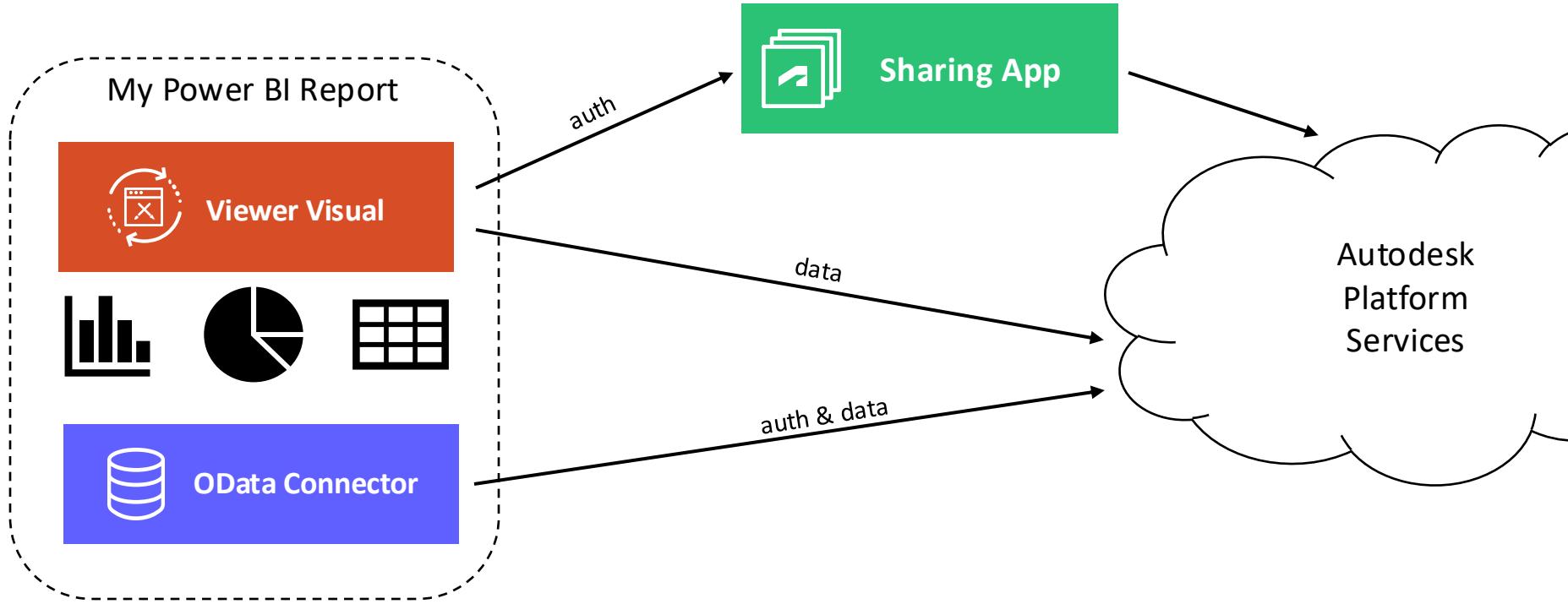
Key features visible in the ribbon include:

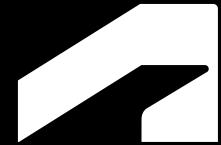
- File: Close & Apply, New, Recent, Sources, Data, Data source settings, Manage Parameters, Refresh, Advanced Editor, Properties, Choose Columns, Remove Columns, Keep Rows, Remove Rows, Split Column, Group By, Sort, Data Type: Text, Use First Row as Headers, Merge Queries, Append Queries, Combine Files, Combine, AI Insights.
- Home: Home, Transform, Add Column, View, Tools, Help.
- Transform: New Query, Data Sources, Parameters, Preview, Manage, Manage Columns, Reduce Rows, Sort.

Architecture



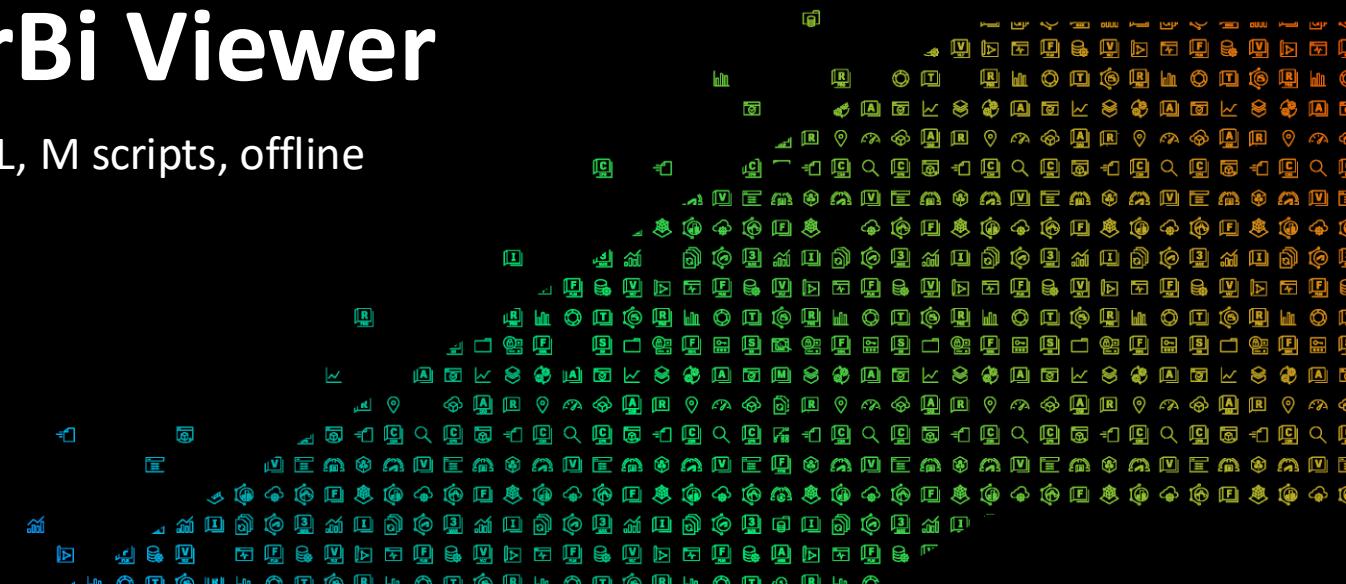
Architecture





Data Exchange for PowerBi Viewer

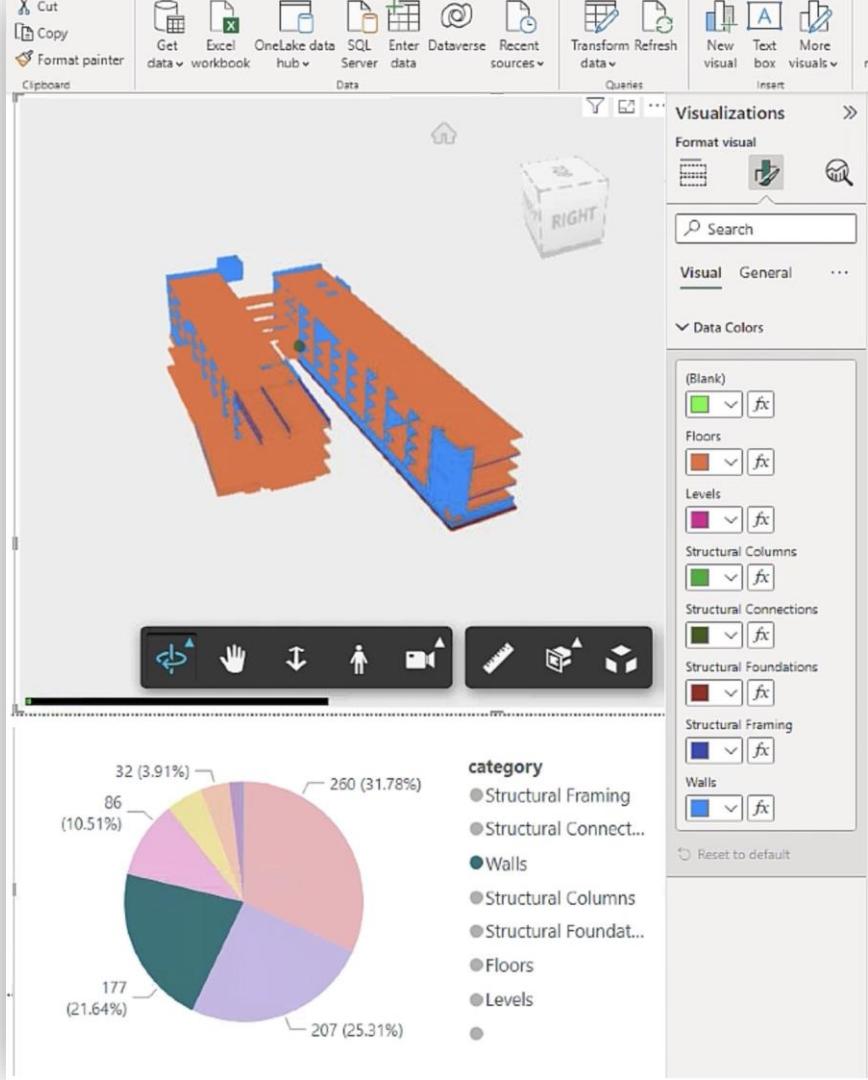
Off the shelf, GraphQL, M scripts, offline



DX PowerBi

With Viewer (Beta)

- Off the Shelf solution
- Features
 - Highlighting / Isolation Filtering
 - Coloring
 - Offline
- Prerequisites
 - Needs an ACC Data-Exchange
 - Connectors:
 - Revit 2023+
 - Rhino,
 - Inventor
 - and many more



File Home Insert Modeling View Optimize Help

Cut Copy Format painter Paste Get data from workbook Excel Onlake data hub SQL Server Enter Dataverse Recent sources Transform Refresh data New visual Text box More visual New measure Quick measure Calculations Sensitivity Share

Clipboard Data Queries Data pane

Visualizations Build visual Filters

Add data to your report

Once loaded, your data will appear in the Data pane.

Import data from Excel Import data from SQL Server Paste data into a blank table Try a sample dataset

Get data from another source →

Page 1 + Page 1 of 1 137% Update available (click to download)

The screenshot shows the Microsoft Power BI desktop application. The ribbon at the top includes tabs for File, Home, Insert, Modeling, View, Optimize, and Help. The Home tab is selected. The ribbon bar contains various icons for clipboard operations (Cut, Copy, Paste), data import (Get data from workbook, Excel, Onlake data hub, SQL Server, Enter Dataverse, Recent sources), data transformation (Transform, Refresh data), visualization creation (New visual, Text box, More visual), calculations (New measure, Quick measure), sensitivity analysis (Sensitivity), and publishing (Share). Below the ribbon is the 'Data pane' with sections for Visualizations (Build visual) and Filters. The main area displays the message 'Add data to your report' with instructions to load data into the Data pane. It features four buttons: 'Import data from Excel' (green icon), 'Import data from SQL Server' (blue icon), 'Paste data into a blank table' (yellow icon), and 'Try a sample dataset' (light blue icon). A link 'Get data from another source →' is also present. At the bottom, there's a navigation bar with 'Page 1' and a '+' button, along with page and zoom controls.

Autodesk Feedback Portal

Autodesk Data Connector for Power BI v2.0.4 Beta

The screenshot shows a web browser window for feedback.autodesk.com. The title bar reads "feedback.autodesk.com". The main content area displays the "Autodesk Data Connector for Power BI v2.0.4 - Beta" page. At the top left, there's a "Build Downloads" link. Below it, the product name is centered. A large callout box contains the text: "We are pleased to announce the Beta release of the Autodesk Data Connector for Power BI (available now, through an early access program). This connector unlocks the potential to create dashboards based on your design data – and keep these dashboards up to date over your project's lifecycle. This benefits design authors, and stakeholders – as well as extended members of the team like estimators and fabricators." Below this text, there are two download links: "Autodesk Data Connector for Power BI v2.0.4.exe" (1.9MB) and "powerbivisuallight.mp4" (47.4MB). Both files have a download icon next to them.

Build Downloads

Autodesk Data Connector for Power BI v2.0.4 - Beta

We are pleased to announce the Beta release of the Autodesk Data Connector for Power BI (available now, through an early access program). This connector unlocks the potential to create dashboards based on your design data – and keep these dashboards up to date over your project's lifecycle. This benefits design authors, and stakeholders – as well as extended members of the team like estimators and fabricators.

Autodesk Data Connector for Power BI v2.0.4.exe 1.9MB

powerbivisuallight.mp4 47.4MB

Try it Today !

What's Next?

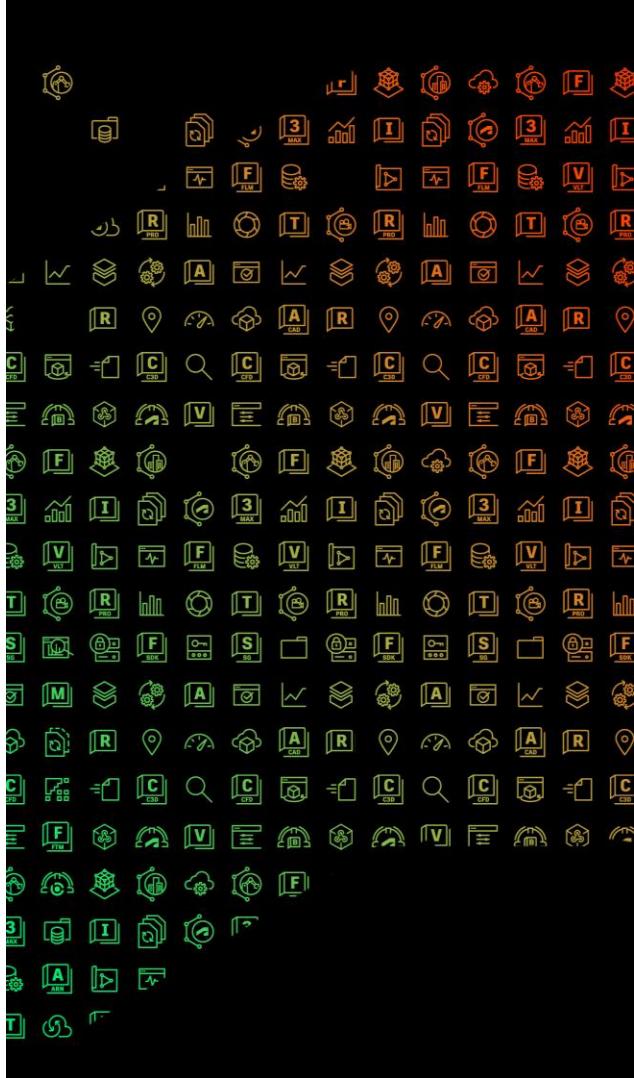
Future Looking

What do you want to see ?

- ~~2LO Sandbox (VCAD)~~
- We need your feedback:
 - Tandem: OData or Mez file ?
 - Mez: Use GraphQL or REST ?
- Blog post, Tutorial and Github Docs.
- Improved Auth experience
 - SSA Tokens
 - Based on 3LO
 - Robot “user” context, without Login prompt
 - Admin assigns fine grain permissions in ACC UI, etc

In Summary

- 1 Power BI and Viewer SDK
 - 2 Past efforts; new Unified effort
 - 3 **Endymion Next > ACC, Tandem, DX**
 - 4 Future improvements with SSA, Odata, GraphQL



Q&A

ACC Integration Partner Program

Learn More & Sign-Up For
The Program

Technology Benefits

- Access to Autodesk Construction Cloud
 - Access to APIs
 - Support from Autodesk Platform Services
-

Go to Market Benefits

- Web page listings
- Amplify your customer-facing collateral
- Coordinated Demand-Gen Activities

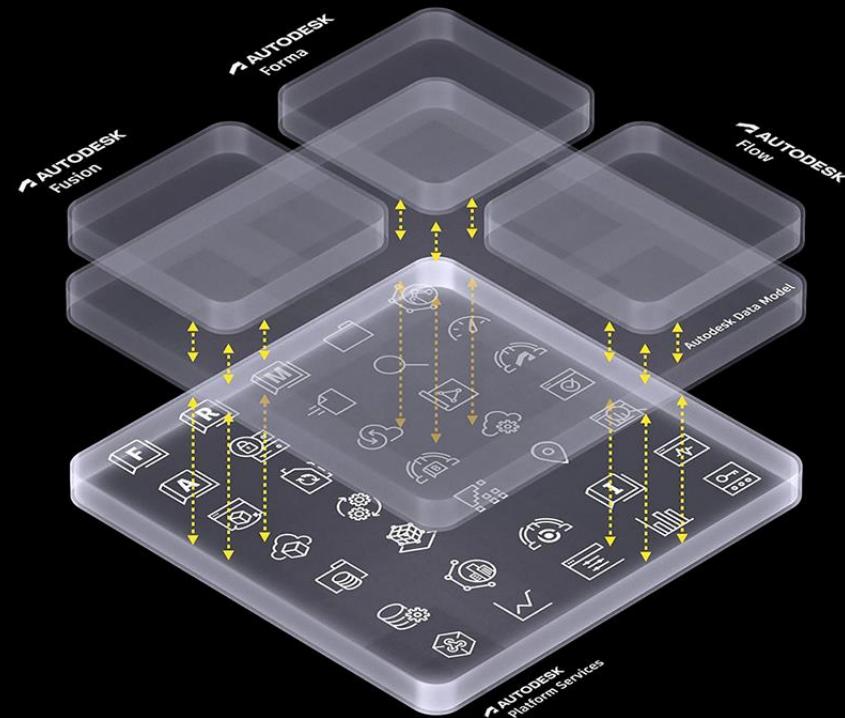


integration.partners@autodesk.com

APS Online Training for Software Developers – Data Model APIs

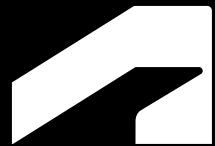
July 16-17, 2024

Free



DevCon Event Survey

Your experience is our top priority at Autodesk. Thank you for providing us with your valuable feedback.





Make Anything