DEVELOP YOUR POWER AUTOMATE AND POWERAPPS CUSTOM CONNECTORS
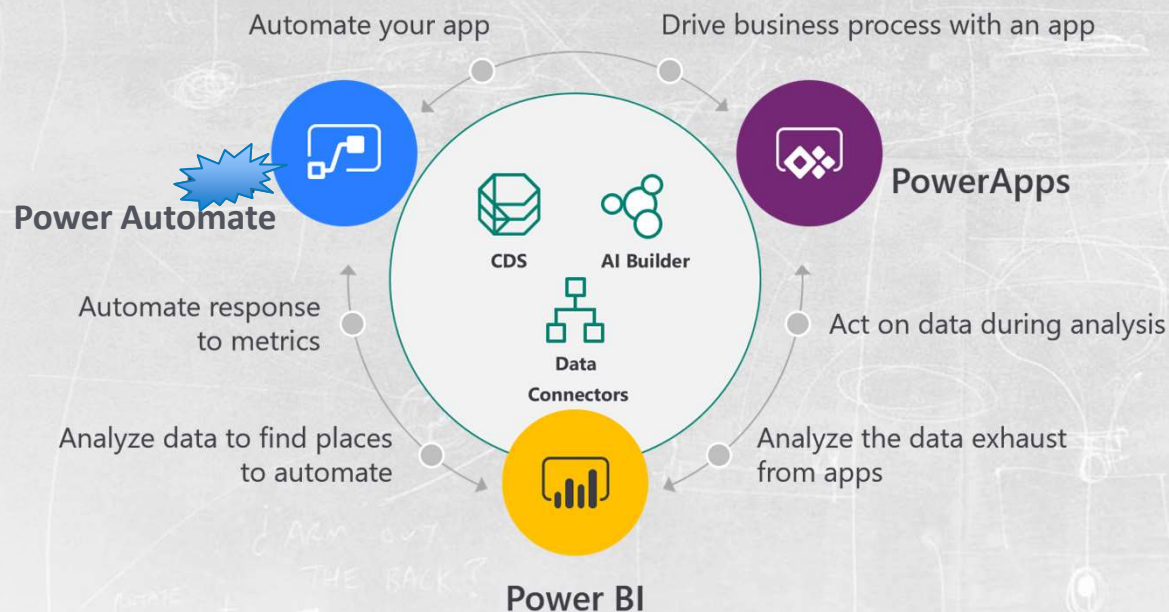
EXPERTS INSIDE

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"I focus on everything modern and fancy in Microsoft 365 collaboration services except mail and voice."

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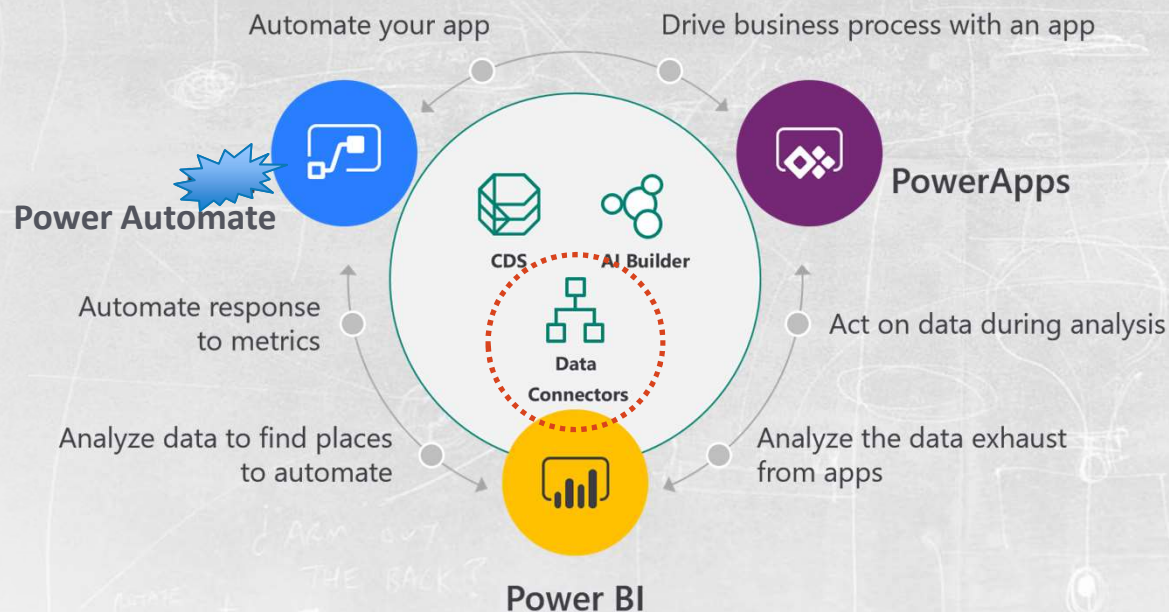- Web: www.expertsinside.com

MICROSOFT POWER PLATFORM

Automate your app

Drive business process with an app

Power Automate

CDS   AI Builder

Data Connectors

PowerApps

Automate response to metrics

Act on data during analysis

Analyze data to find places to automate

Analyze the data exhaust from apps

Power BI

Scenarios

- Individual/Team Productivity Applications
- Dynamics 365 Applications
- Apps from AppSource
- SharePoint, Outlook, Teams, and Excel
- Mission-critical line of business applications

DATA CONNECTORS

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What are connectors?

- API wrappers
- Communicate between Power Automate, PowerApps and the custom API
- More than 200+ connectors available
- Custom Connectors

COOKING YOUR CONNECTOR – KEY INGREDIENTS

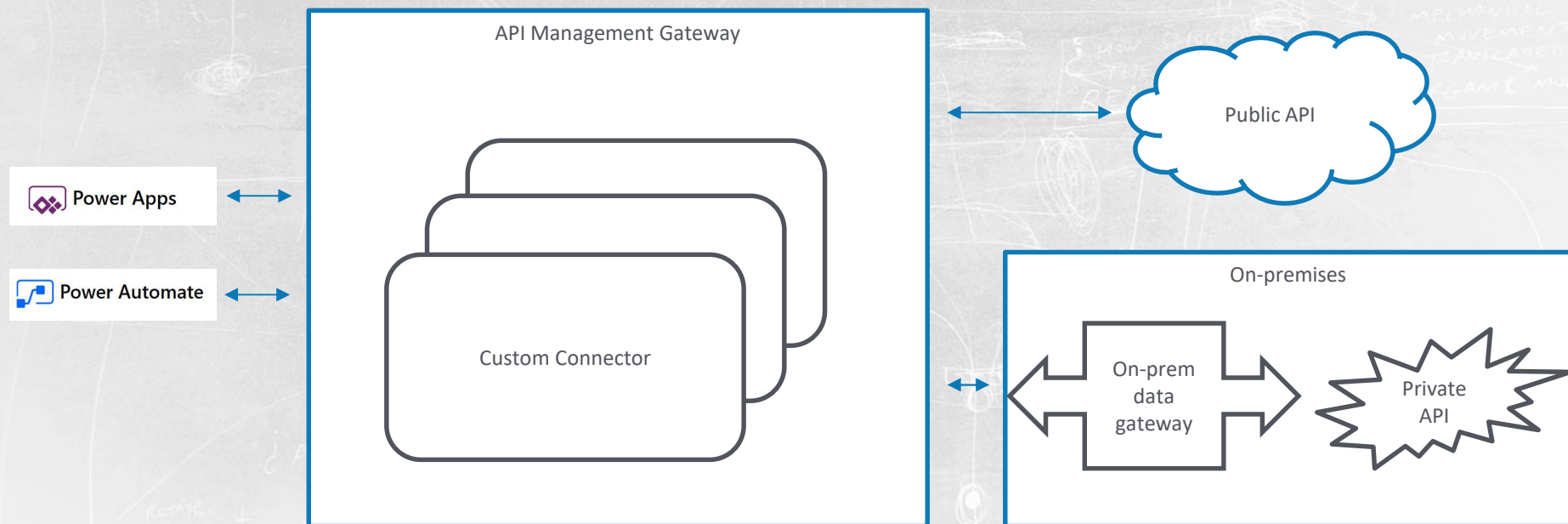**Core setup and infrastructure**
- REST or SOAP API
- Hosted in the cloud or on-premises
- Anonymous or secured

Operations
- **Action** – determine operation a user can perform
- **Trigger** – Read data from your connector and trigger an event
- **Policies** – change the behavior of actions and triggers

ARCHITECTURE

API Management Gateway

Custom Connector

Power Apps

Power Automate

Public API

On-premises

On-prem data gateway

Private API

BUILD AND SECURE

Create your custom API

Secure it or keep it anonymous

DESCRIBE AND DEFINE

Describe the connector and how to access your custom API

USE

Use the connector in Power Automate or PowerApps and access your data

SHARE

Share your connector with individuals, organization, or the rest of the world

BUILD AND SECURE

BUILD

- *REST API for Power Automate and PowerApps*
- *SOAP API supported by Logic Apps*
- *Host in Azure or other services in public*
- *Host on-premises and use the on-premises data gateway to avoid complex access scenarios*

SECURE

- *Generic OAuth 2.0*
- *Dedicated OAuth 2.0 for specific service (AAD, Dropbox, Github, Salesforce)*
- *Basic authentication*
- *API Key*
- *Windows-based authentication with on-premises data gateway*
- *No authentication*

Build and Secure → Describe and Define → Use → Share

DESCRIBE AND DEFINE

DESCRIBE

- *Choose the connector name carefully (no renames)*
- *Add descriptions and friendly names*
- *Add triggers (webhook or polling)*
- *Get sample payloads to help you define the custom connectors*

DEFINE

- *An OpenAPI definition (aka Swagger file)*
- *Create from Azure Service*
- *A Postman collection*
- *Start from scratch using the custom connector portal (Microsoft Flow and PowerApps only)*

Build and Secure → Describe and Define → Use → Share

DEMO

Create a custom connector

Secure a custom connector

Build and Secure → Describe and Define → Use → Share

TEST AND USE

TEST

- *Use Azure Remote Debugging*
- *Ngrok to tunnel a connection to your environment (paid subscription recommended)*

USE

- *The connector is immediately visible to owners through Power Automate or PowerApps after publishing*
- *Changes might take a couple of minutes to propagate*

Build and Secure → Describe and Define → Use → Share

SHARE (OPTIONAL)

SHARE

- *Owner is the creator only at the beginning*
- *Share with individual users or the whole organization*
- *No formal process*

CERTIFY

- *Share it with the rest of the world*
- *Submit for Microsoft Certification*

Build and Secure › Describe and Define › Use › Share

DEMO

Debugging and sharing your custom connector

LONG-RUNNING OPERATIONS IN FLOW

- Calls to Power Automate require an immediate response
- Long-term actions can be processed in a job-style pattern

Procedure
- Return an HTTP 202 with the retry-after header
- Flow will try to access your endpoint after the retry-after time
- Repeat the process until you are completed
- Once done reply with an HTTP 200

TRIGGERS

- Polling – recurring call on your API
- Webhook – trigger an endpoint

Procedure for Webhooks
- Provide endpoint for Webhook registration, listing, and deletion
- Flow or Logic apps will call the Webhook for creations or changes
- Trigger the endpoint when the event is happening
- Good sample: https://github.com/weng5e/flow-connector-trigger

RESOURCES

- **PowerPlattform** -
  https://powerplatform.microsoft.com/en-us/
- **Custom Connectors Overview** -
  https://docs.microsoft.com/en-
  us/connectors/custom-connectors/
- **GitHub Samples** -
  https://github.com/plamber/powerplattformcustomc
  onnectors
- **Microsoft GitHub Samples** -
  https://github.com/microsoft/PowerPlatformConnect
  ors

THANK YOU

FAQ