



Microsoft Tech Summit

Stockholm

Business Application Platform

PowerApps, CDM, CDS and a true XRM at last!

Jonas Rapp, MVP





Microsoft Tech Summit

Stockholm, April 17-18 2018

Jonas Rapp, MVP

The days of *Dynamics CRM* as a sales-only-system are long gone.

With the consolidation of technologies, Microsoft now offers a tightly connected **Business Application Platform**, uniting CRM, XRM, ERP and Analytics within one common technology stack, all implementing the Common Data Model with the information accessible through the Common Data Service.

The addition of **no-code** and **low-code** tools to create task-focused apps and information flows truly empowers IT pros and employees to tailor their everyday work to **perfection**.

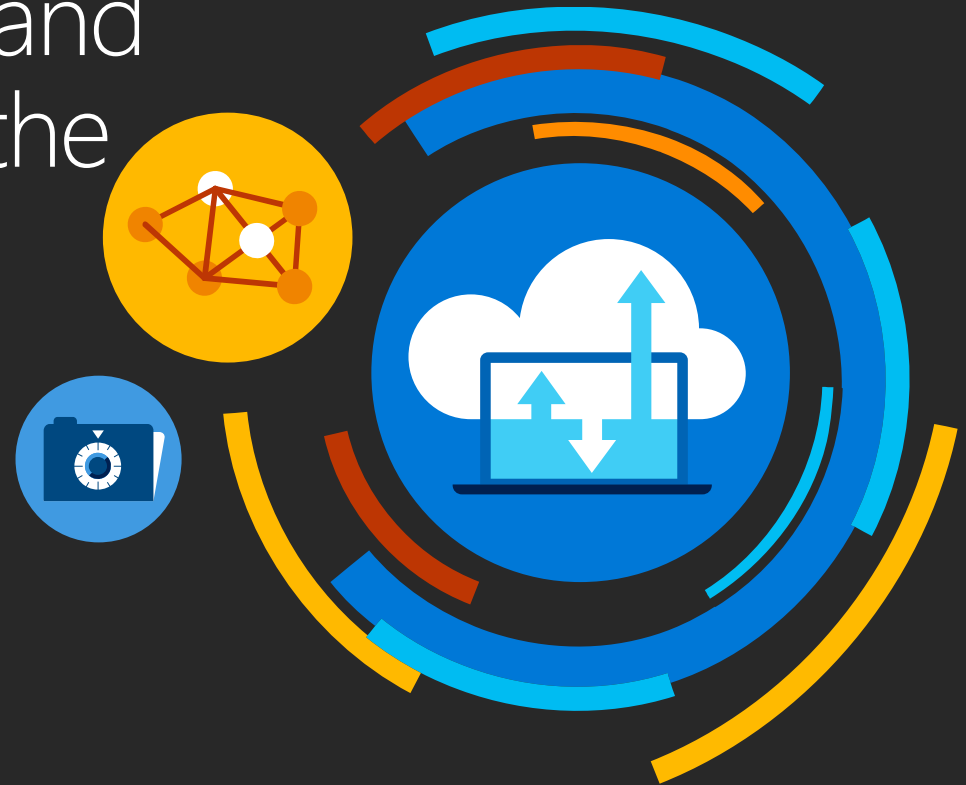
But what about **governance**, how do you manage all these newborn *citizen developers*?





Dynamics 365, BAP, CDS and PowerApps – governing the Citizen Developers

Jonas Rapp
MVP, Business Solutions



Jonas Rapp

- Microsoft MVP
 - Business Solutions (CRM)
- Chief Architect, Dynamics 365
 - Innofactor Sweden
- Developer at heart
 - But I still like this platform ;)

 @rappen

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Audience

Heard of / Currently use

- Microsoft Dynamics
- MS Dynamics CRM
- XRM
- CDS
- PowerApps (Canvas)



Business Application Platform

Business Application Platform

CRM – XRM – CDS – NAV – AX – PowerApps – xyz...



Business Application Platform

Evolution of a true XRM

Extensibility and portability (r)evolution

Business Application Platform

Single integrated platform to build and consume end-to-end solutions for every organization

Dynamics 365

Office 365

Standalone Apps

Common Data Service
for Apps (CDS for Apps)



Microsoft Flow



PowerApps

Power BI

Common Data Service for
Analytics (CDS for Analytics)



Common Data
Model (CDM)

Data
connectors

Azure



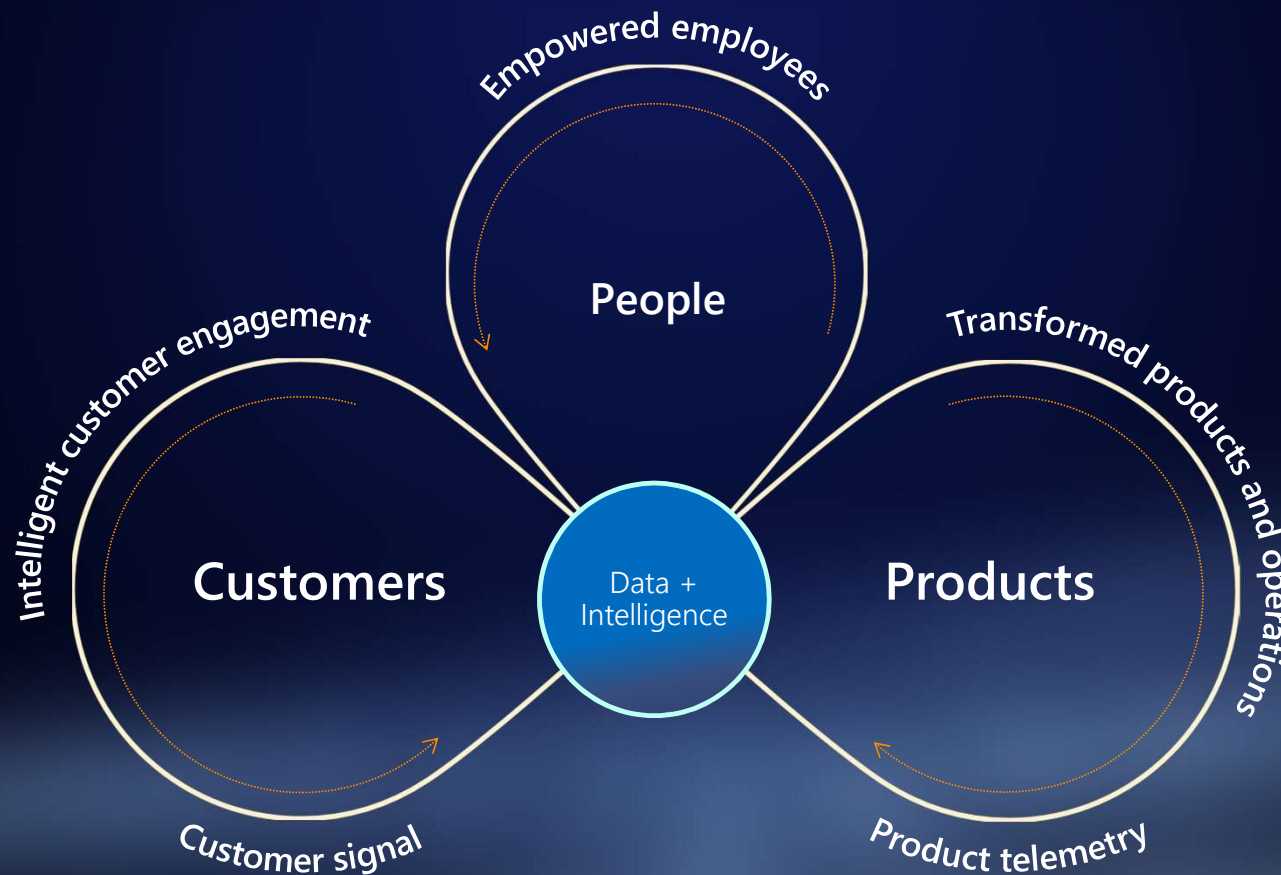
WHY?

"Our mission is to empower every person and every organization on the planet to achieve more."

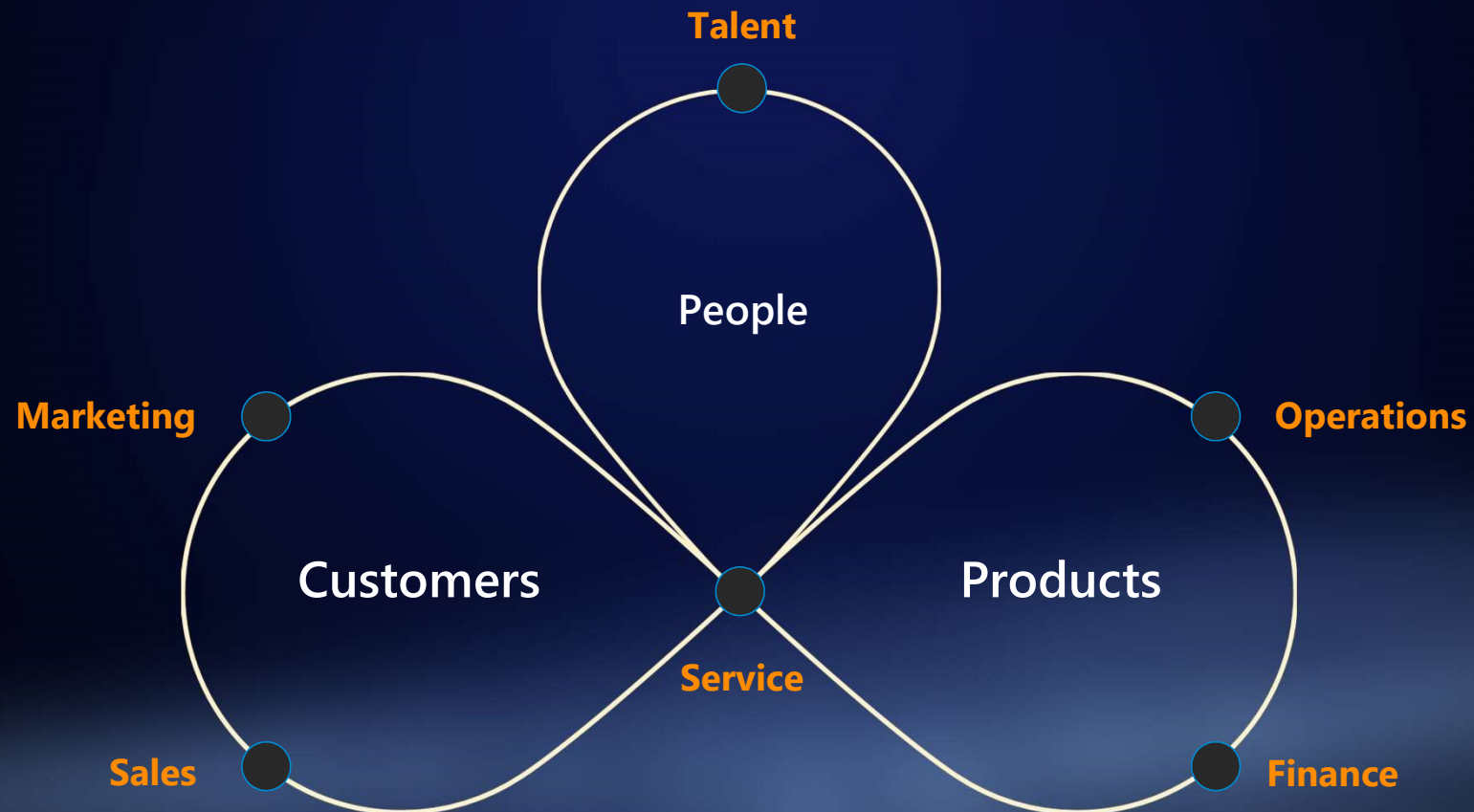
Satya Nadella
CEO, Microsoft

Driving Digital Transformation

The Digital Feedback Loop



Microsoft Dynamics 365



PowerApps Platform

PowerApps Platform

Unifying to one high-productivity application platform

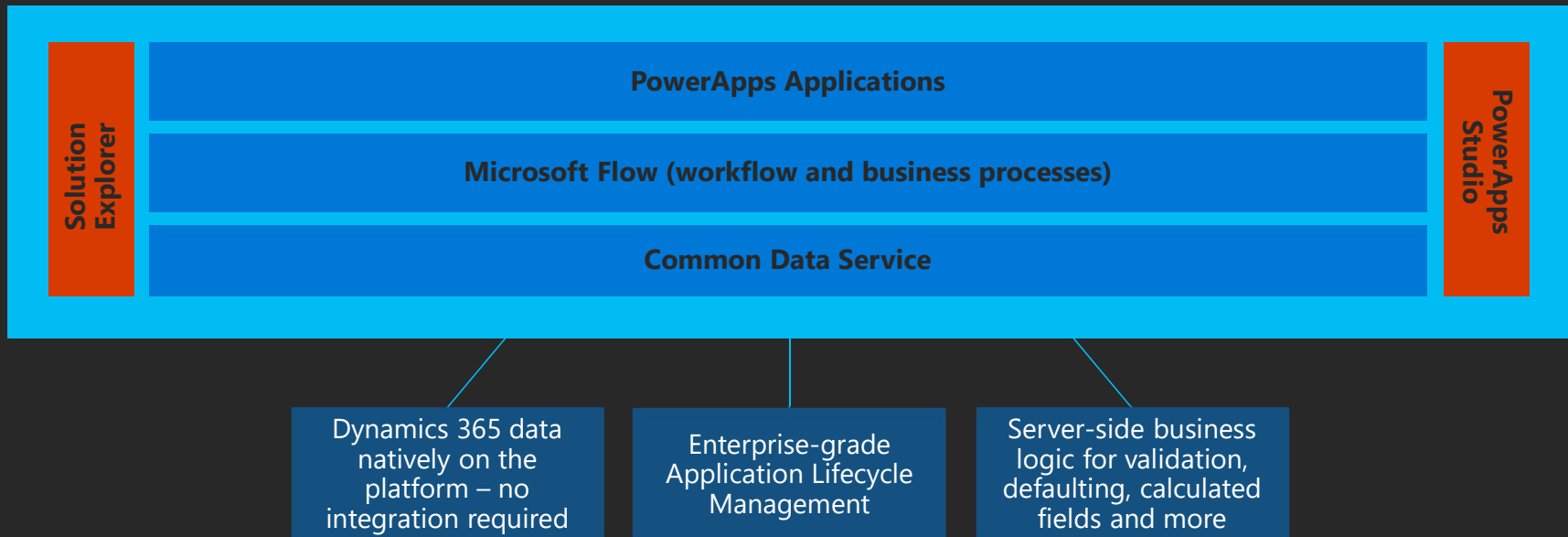
Dynamics 365
applications

Customized
Office 365
(e.g., SharePoint form)

Standalone
model-driven
apps

Standalone
canvas apps

ISV
apps



CDS for Apps

CDS for Apps – a brief history

- Microsoft Dynamics CRM
 - 1...4...2011...2016...
- Microsoft Dynamics 365 Customer Engagement
- PowerApps
- Common Data Service 1.0

- The PowerApps Platform

CDM

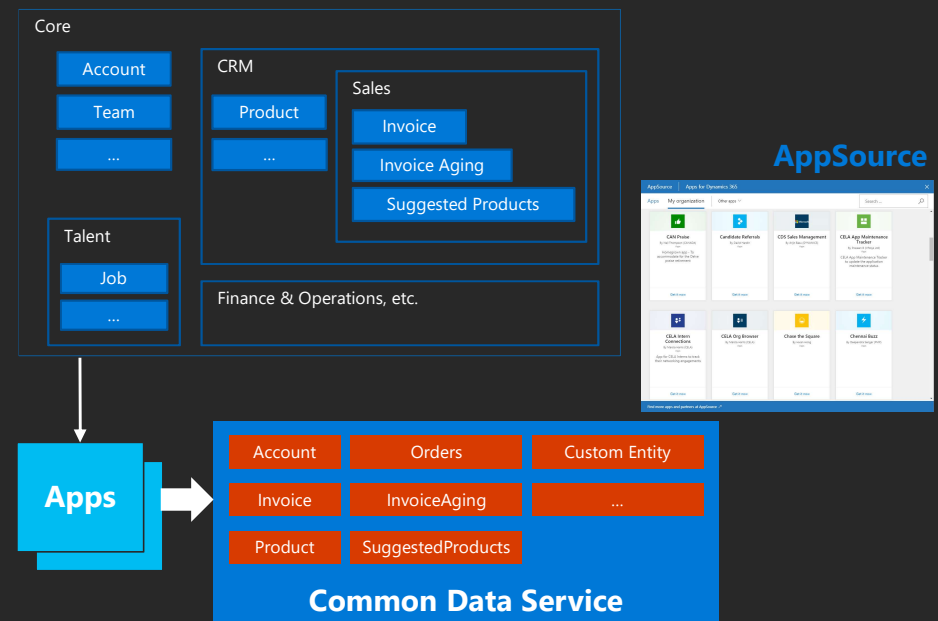
Common Data Model

Provides well-defined, modular, extensible business **entities**.

Anyone can build on and **extend CDM** definitions to capture additional business-specific ideas.

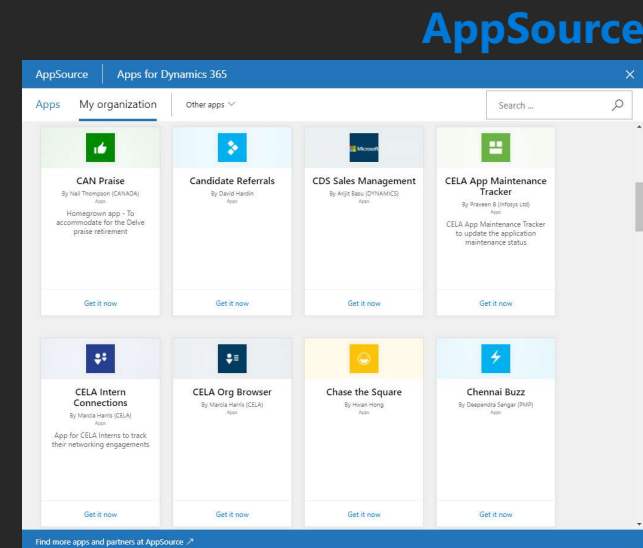
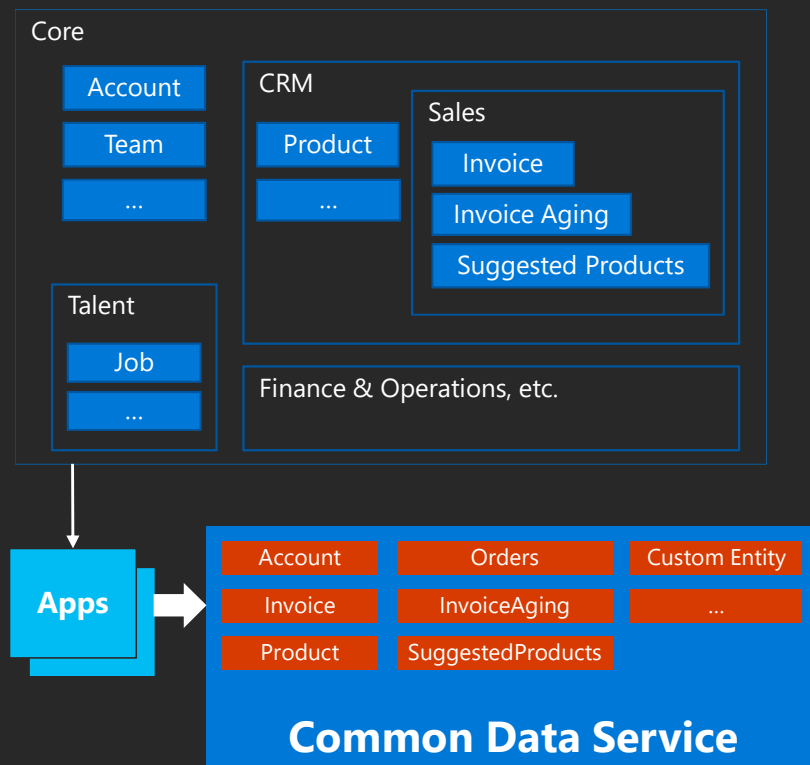
Power Query on the web is the built-in self-service data integration experience into CDS

Common Data Model: Definitions



Common Data Model

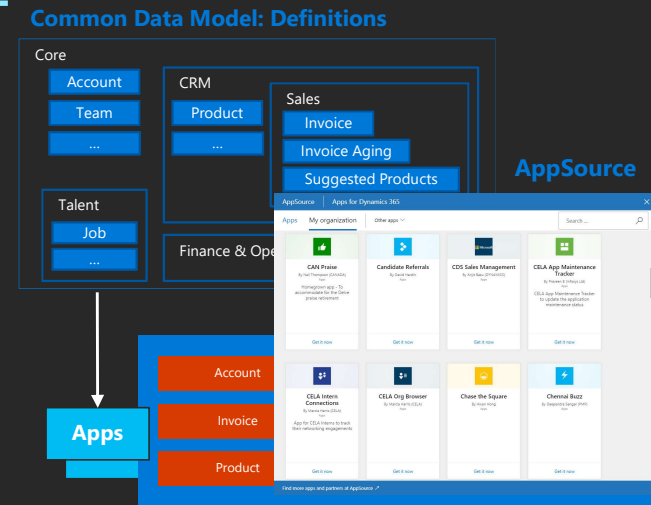
Common Data Model: Definitions



Common Data Model

<https://github.com/Microsoft/CDM>

<https://microsoft.github.io/CDM/>



Demo

PowerApps

Environments, DLP Policies and Data Groups

Environments etc.

<https://admin.powerapps.com/>

Create environment, no db

Check security, resources

Create db, no samples

Watch Dynamics Admin Center <https://port.crm4.dynamics.com/G/Instances/InstancePicker.aspx>

Open new org

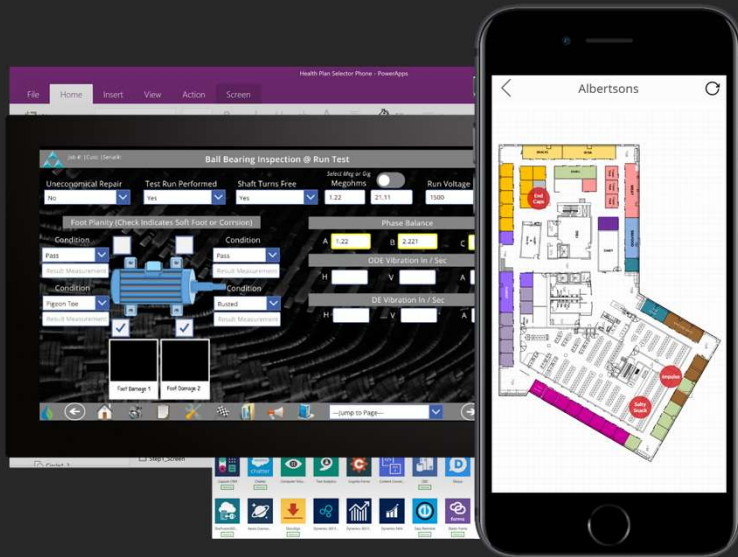
Check solutions

Check security, moved to dynamics

Check Data Policies, link to docs

Applications

PowerApps Applications



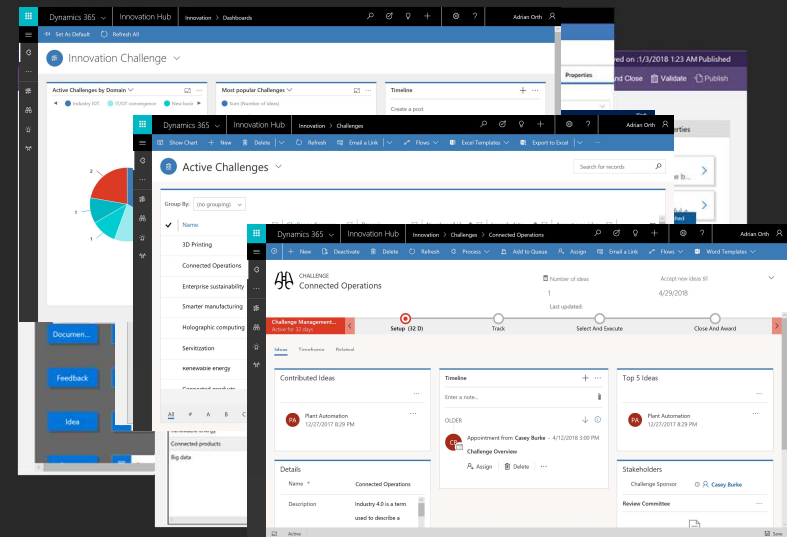
Canvas apps

UX, UX, UX

Pixel-perfect

Task- and role-based apps

Data from 190+ sources



Model-driven apps

Leverage data model, relationships, and business processes

Automatically generate immersive, responsive applications

Model Driven Applications

Responsive metadata driven applications to automate business processes

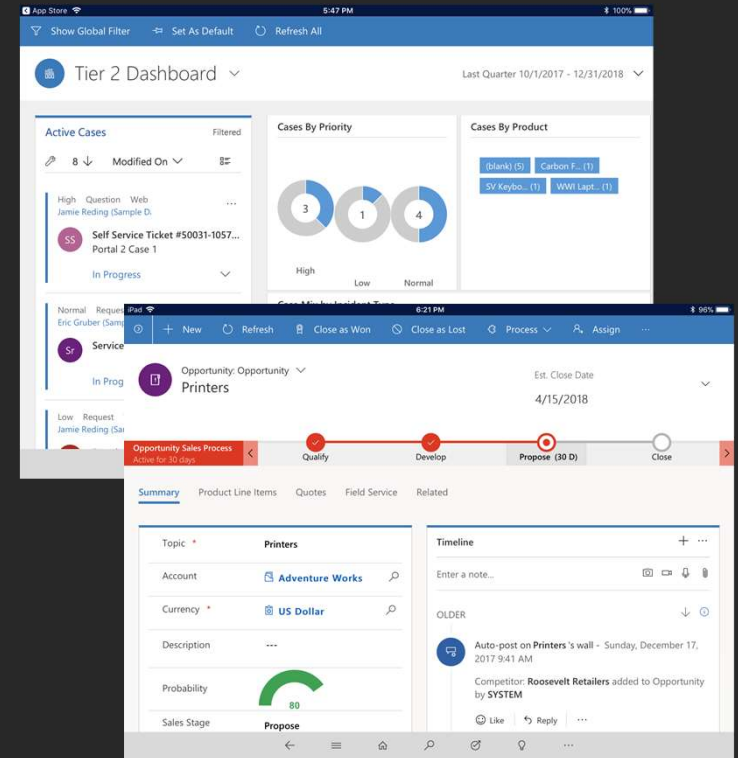
Create apps around forms and business logic

Process driven user experiences

Rich, responsive client experiences

Powerful connector eco system to 190+ services
and on-premises

Immersive integrations



Demo

PowerApps: Model Driven App ("CRM")

Model Driven App

Open TechSummit.org

Apps – edit JCM

Sitemap, entities, etc

Run it

Responsive to screen

Open Inno Challenge

"Dynamics 365 apps,
the fastest way to
transform your business"

Sometimes there's not "an app for that."

Canvas Applications

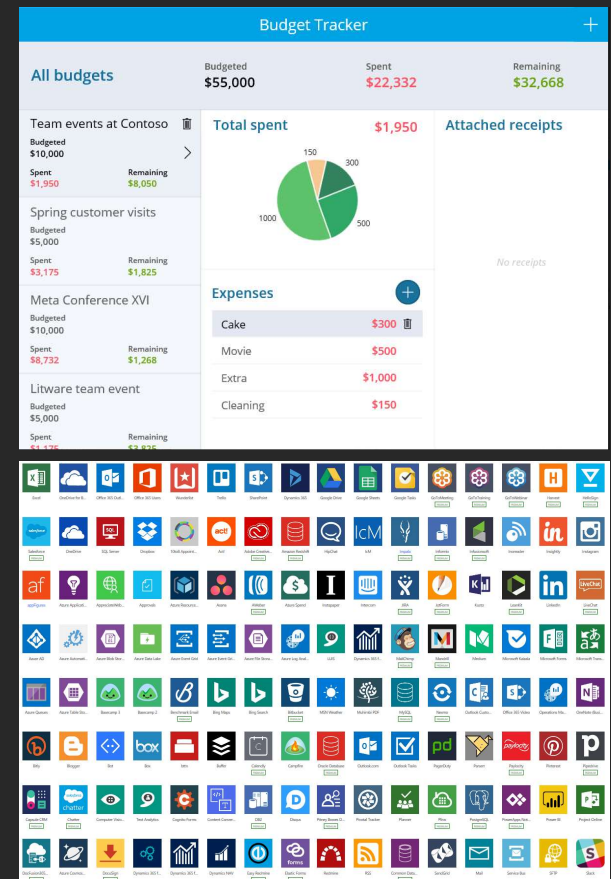
Pixel perfect high productivity applications

Single, "no-cliffs", high productivity app platform
across Microsoft

"True WYSIWYG"

Composite controls with layouts

Powerful connector eco system to 190+ services
and on-premises



Demo

PowerApps: Canvas App

Canvas App

<https://web.powerapps.com>

Create new from data

Conferences

Layout gallery

Look at Conference 3000

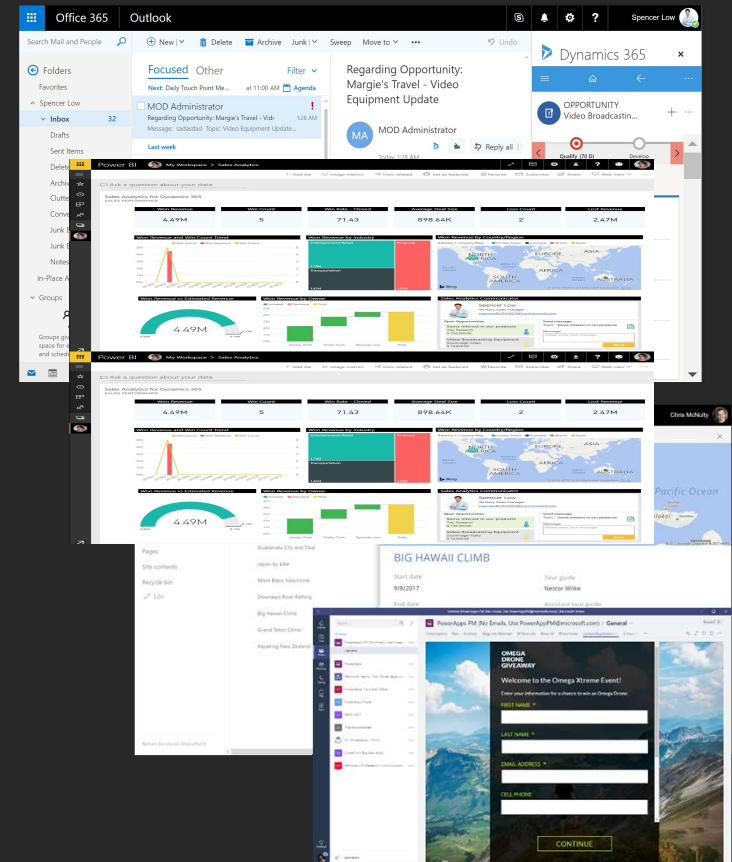
Embedded Apps

Apps embedded into tools users are already using

Embed apps in Outlook

Customize SharePoint forms

Embed apps in Power BI, Teams, and beyond



Automation and Integration

Automation and Integration

Microsoft Flow

Built on top of Logic Apps engine, leverages most of the same connectors

Integrated into the PowerApps Unified Interface experience

Special use cases for Flow Buttons both virtual and physical

Logic Apps

Enterprise Automation and Integration without code

Rich connector eco system

DevOps, Source Control, Testing support using Azure Resource Management

Individual
Productivity

Team Productivity

Dynamics 365
App Customizer

Developer/IT Pro

ISV

Automated workflow and business process

Microsoft Flow

Automate workflows, create business logic and model business processes across CDS and all 200+ connected data sources.

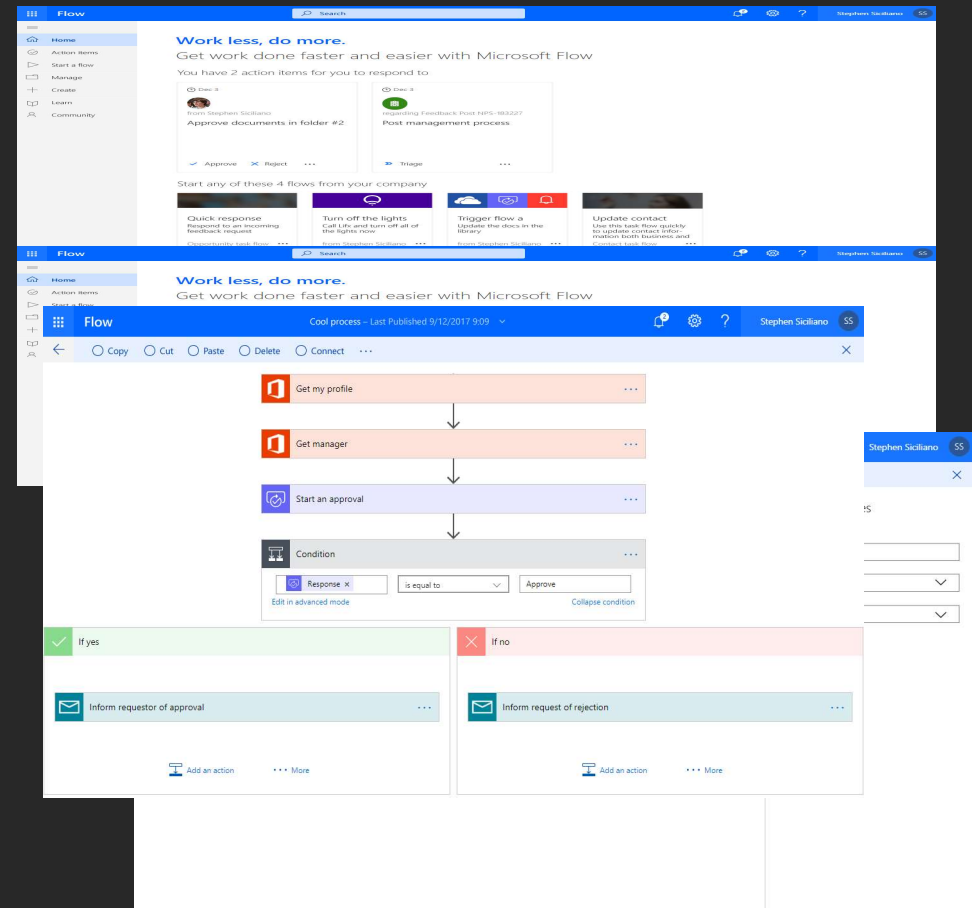
Build custom workflows

Create anything from a simple two-step flow to an advanced flow with parallel branches, conditionals, loops.

Process driven experiences

Construct processes to model and enforce their organization's best practices.

In-line authoring of serverless code for both server-side and client-side logic.

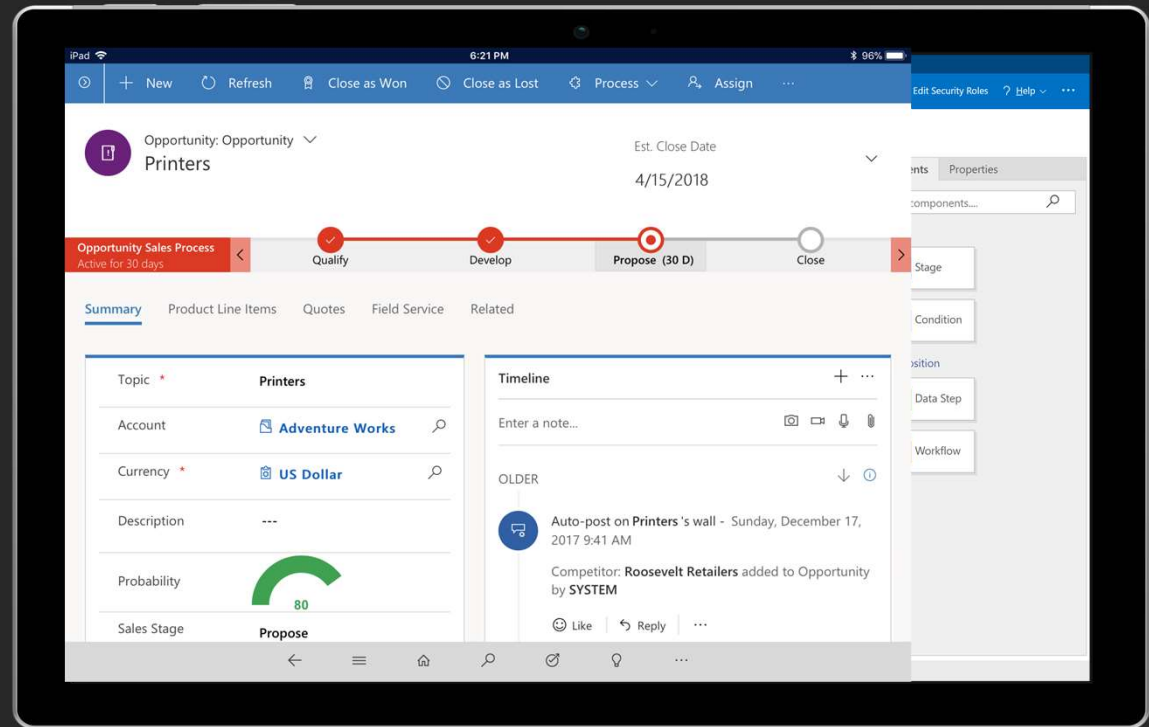


Business Process Flow

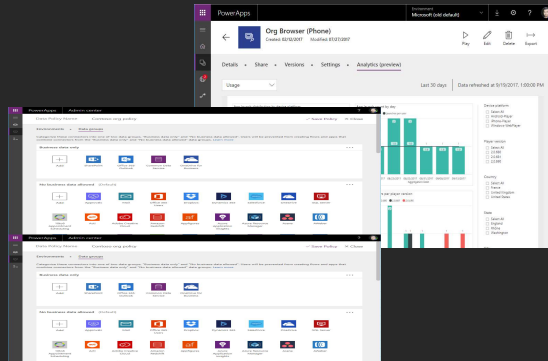
Visual indicators that tell users where they are in the business process

Reduce the need for training

Configurable to support common line of business methodologies



Enterprise-grade management + Pro-dev extensibility

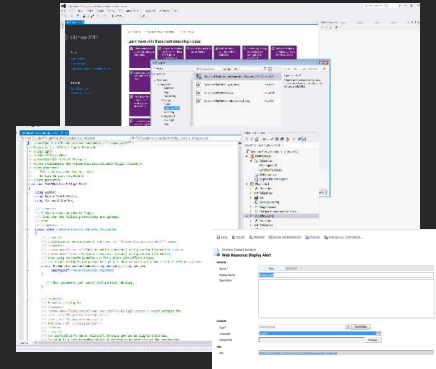


Unified admin center provides comprehensive management across 1st party, 3rd party and custom apps in an AAD tenant or environment, including DLP, backup, and audit logs

Compliance with 13+ standards including HIPPA, EU Model Clauses, SOC and GDPR

Mobile Application Management via Intune

Accessibility for authors including the ability to build accessible applications for end-users



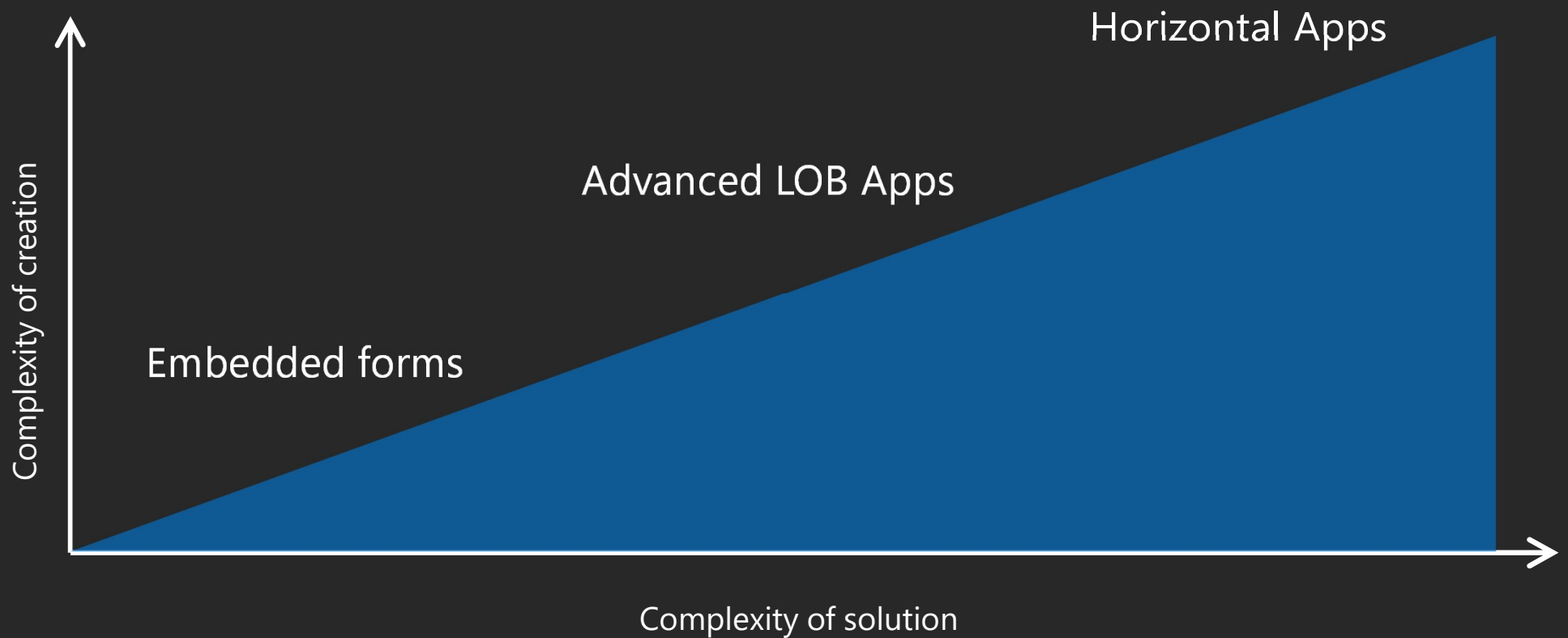
Visual Studio plugin, robust **Azure integrations**, and **in-line serverless code** amplify pro developer productivity at every step.

Robust APIs and SDK support. Every new entity generates APIs in the SDK automatically. Hook into business processes and actions and pre- and post-processing and interface with client events.

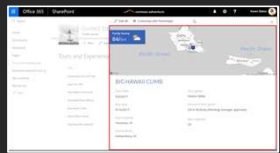
Custom controls and connectors. Pro devs provide building blocks by bringing their any REST interface or custom UI control.

No cliffs

High productivity app dev without “cliffs”



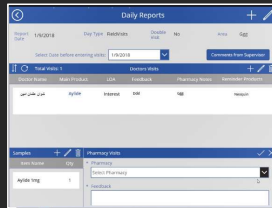
No Cliffs



Embedded forms



Simple LOB apps



Advanced LOB apps



Mission critical LOB apps

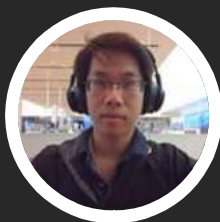


Horizontal, end-to-end apps

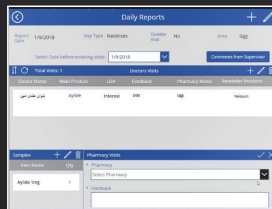
No cliffs



Embedded forms



Simple LOB apps



Advanced LOB apps



Mission critical LOB apps



Horizontal, end-to-end apps

Governance

Governance – Security

- O365 roles
 - Global admin, Tenant admin etc...
- Environment roles
 - Admin, Maker
- Dynamics security model
 - Roles, Teams, Sharing etc...

Governance – Security

- Resource permissions
 - Use, Share, Edit
- DLP policies
 - Connector communication
- Authentication Patterns
 - OAuth, shared, gateways

Trust Center

<https://www.microsoft.com/en-us/TrustCenter/>

Authentication Patterns

OAUTH

Store in Consent Server
Utilize Access Tokens
Data over Secure Port

AAD Integrated (SPO)
No impact / ui for user

3rd party (FB/Twitter)
Same as above, except surface UI

SHARED

(SQL Azure)
Store in the Environment with App

GATEWAYS

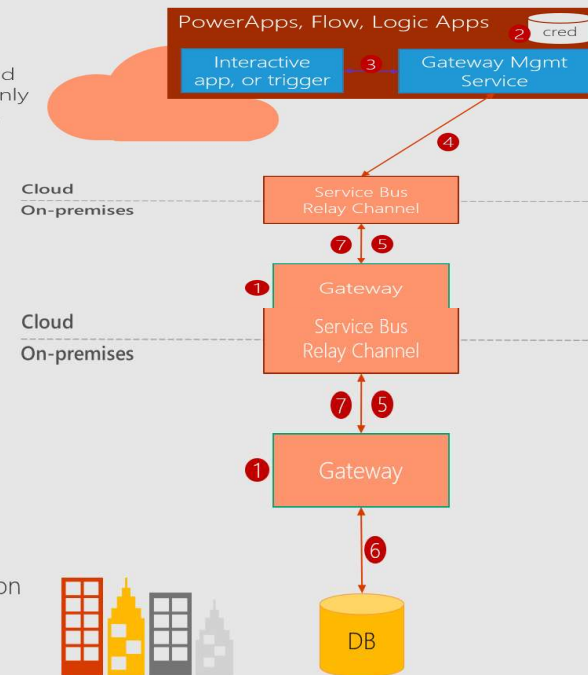
(SQL On-Prem)
Store in the Environment with App
Default Env't Only

OAUTH Consent Flow



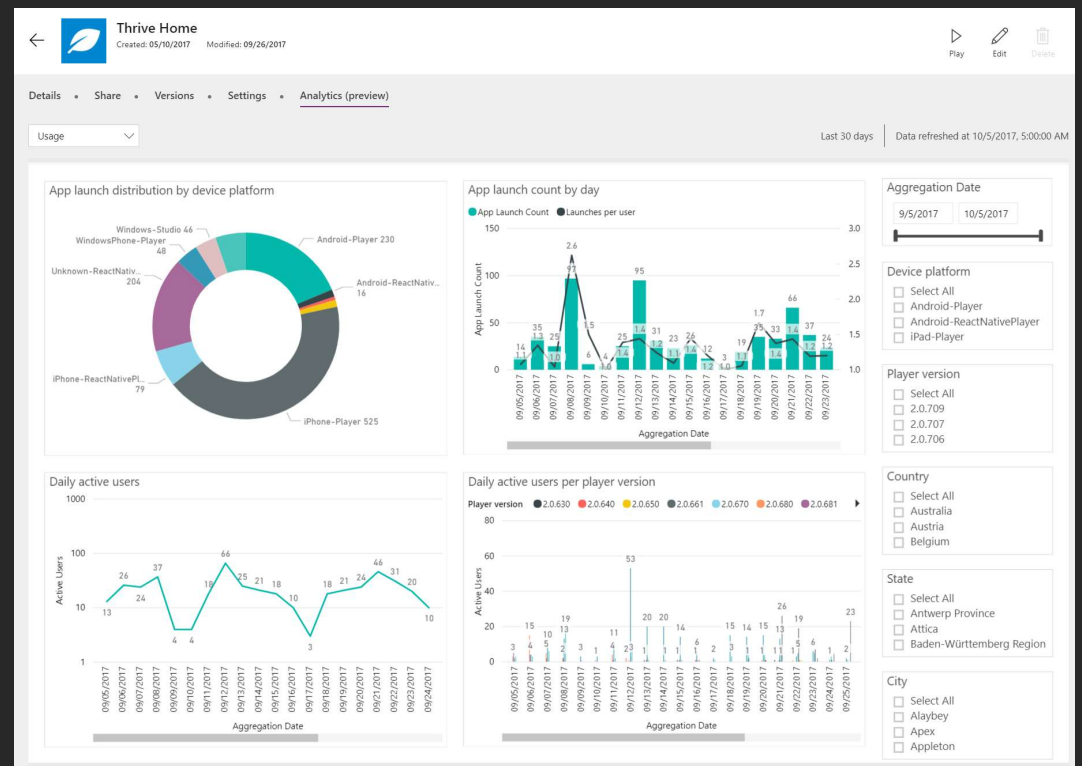
Architecture: Connections in PowerApps, Flow, Logic Apps

1. Gateway is installed & configured. During configuration, a corresponding service bus instance is also configured.
2. Credentials configured for a connection are encrypted, tested, and then stored encrypted with the connection object in the cloud. Only the corresponding on-prem gateway can decrypt the credentials.
3. A user in a PowerApps application, or a trigger/schedule in Flow/Logic Apps, starts a request using an on-prem connection.
4. The cloud service checks ACLs and the connector interacts with the Gateway Management Service to acquire permission to communicate with the associated gateway's Service Bus communication channel.
5. Gateway polls its Service Bus channel for pending requests. It
4. The cloud service checks ACLs and the connector interacts with the Gateway Management Service to acquire permission to communicate with the associated gateway's Service Bus communication channel.
5. Gateway polls its Service Bus channel for pending requests. It accepts the pending request.
6. Gateway gets the request details, decrypts the credentials, sends query/API call to the target data source/API endpoint for execution
7. After execution, gateway securely streams the data back to the calling cloud service.



Governance – Monitoring

- Azure Application Insights
- PowerApps dashboard
web.powerapps.com



Demo

PowerApps Analytics

2018-05-25...



SOLUTIONS TO HELP YOU PREPARE FOR THE GDPR



Dynamics 365 applications

ISV apps

Solution Explorer

Entity Designer

Form Designer

View Designer

Dashboard Designer

Process Designer

Rule Designer

....

App Module Designer

Standalone canvas apps

Customized Office 365
(e.g., SharePoint form)

PowerApps.com

Canvas Studio

Common Data Service

PowerApps + CDS

xRM

Dynamics 365 “flavors”

Dynamics 365 "flavors"

- Customer Engagement
 - CRM (XRM, CDS)
- Business Central
 - NAV
- Finance and Operations
 - AX

* 2018-03-21

Thank You!

Evaluations



Mobile App or
aka.ms/ts/stockholm