



Interfaces with Dynamics 365 Finance and Dynamics 365 Supply Chain Management

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Your PTS!



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Amsterdam, NL

Detailed agenda

- Opening Remarks and Instructions
- An overview of the Microsoft Dynamics 365 Business Applications
- Microsoft Dynamics 365 Finance and Dynamics 365 Supply Chain Management
 - a. Capabilities overview
- The Lifecycle Service (LCS)
 - a. Services and Tools available within the LCS
 - b. Creating a projects
 - c. Provisioning and configuring an environment
 - d. Development Tools (Hello World exercise)
 - e. The Shared asset library
 - f. Support Management within the LCS
 - g. Solution Management, RSAT and Continuous updates
- **Coffee Break (20 min)**
- Architecture
- Integration Platform and Tools
- Integration patterns
- The Data Management
 - a. Creating and Managing Jobs
 - b. Data Integration

Detailed agenda

- Demo integration endpoint
- Lunch (45 min)
- Global Electronic Reporting Tool
- Web Services
- Coffee Break (10 min)
- Business Events
- Logic Apps and Microsoft Flow
- Service Bus
- Event Grid
- The Common Data Service 2.0
 - a. The Power Platform
 - b. Dual Write
 - c. Industry Accelerators
- Q&A
- Wrap-up (End time ~ 17.00)

Transforming the Business with Dynamics 365 Business Applications





Transform
products



Optimize
operations

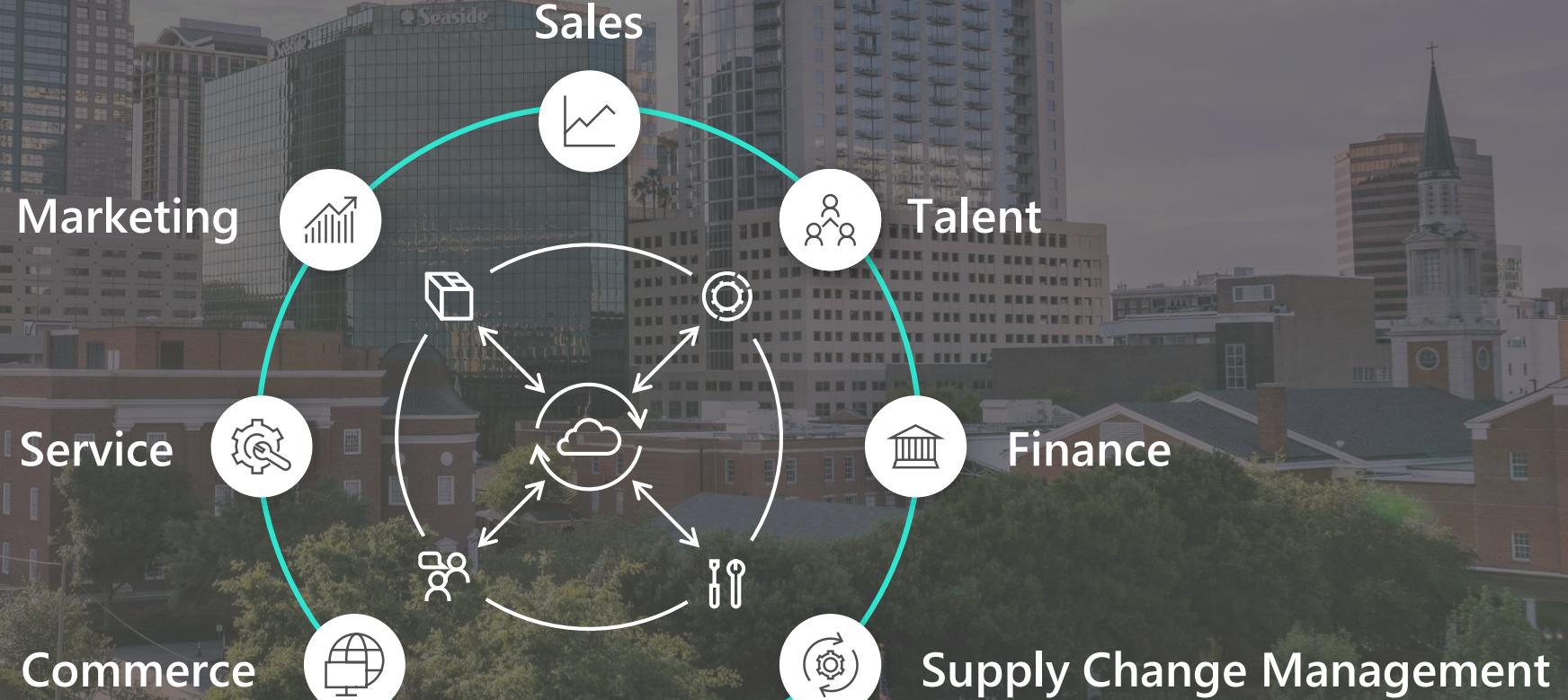


Engage
customers



Empower
people

The world's connected AI business cloud

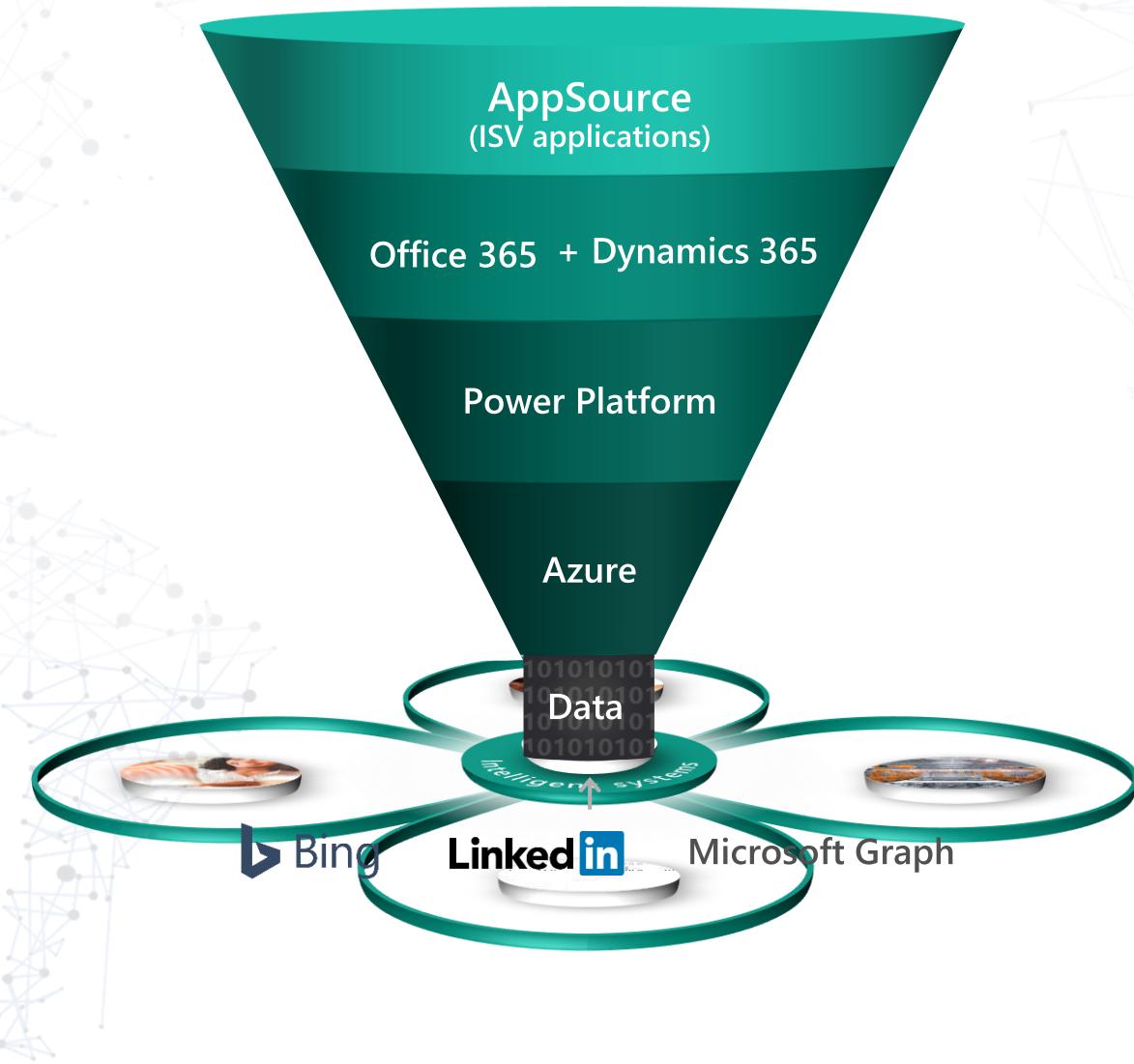


Dynamics 365 & Power Platform

Digital feedback loop



Digital feedback loop



Digital feedback loop



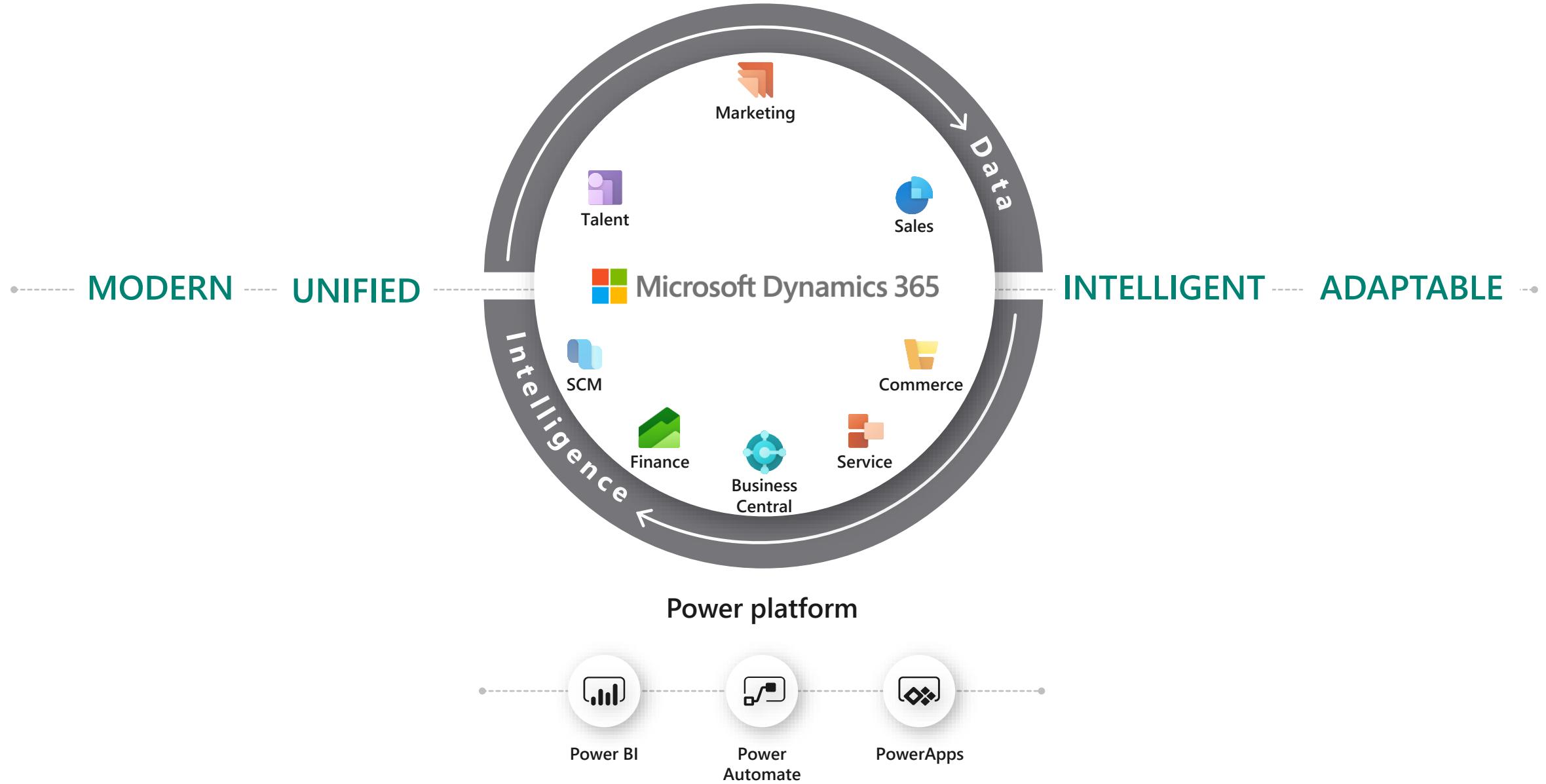
Microsoft cloud

Intelligent business applications

Productivity and collaboration

Open, flexible, enterprise-grade cloud computing platform

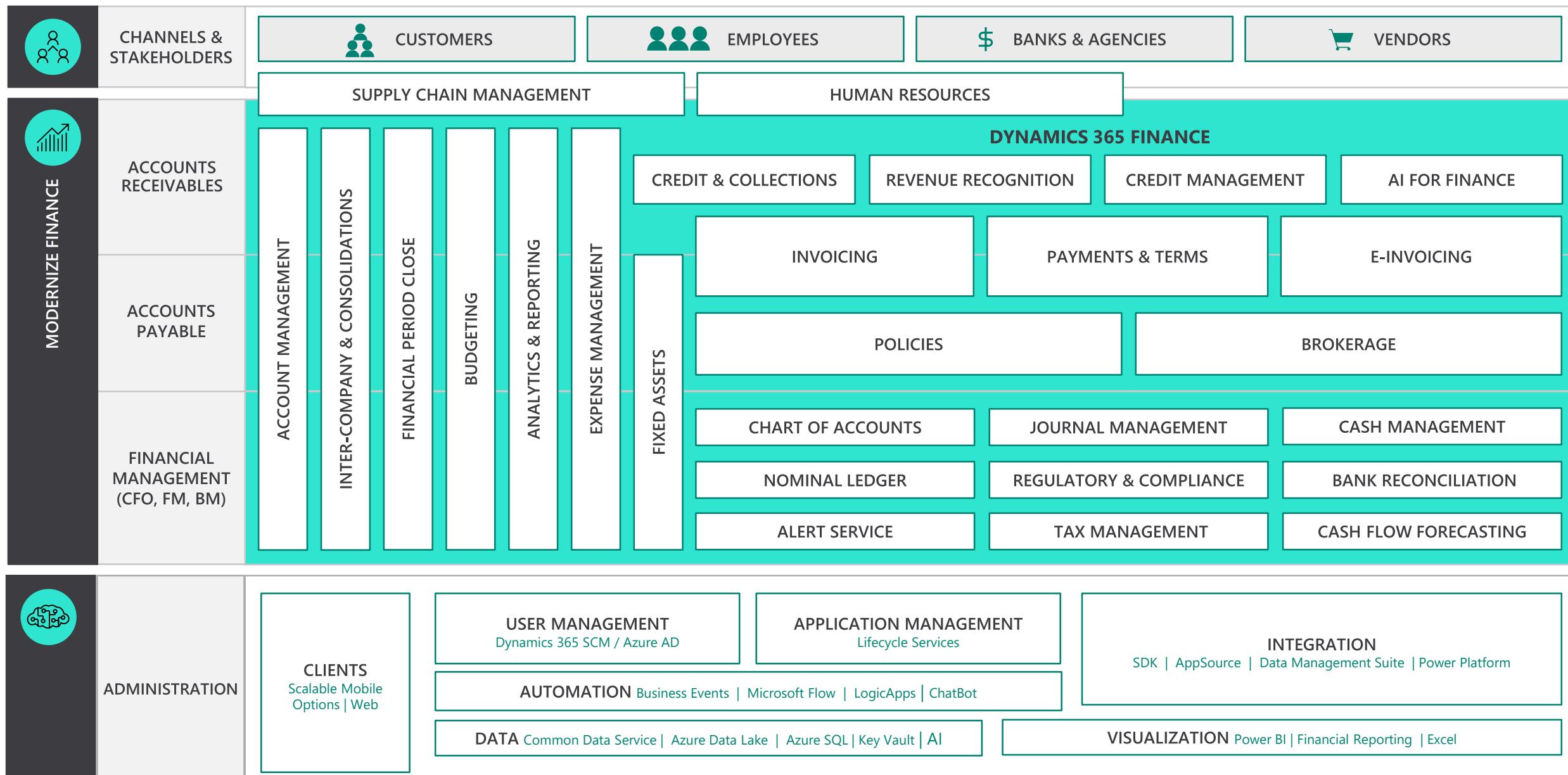




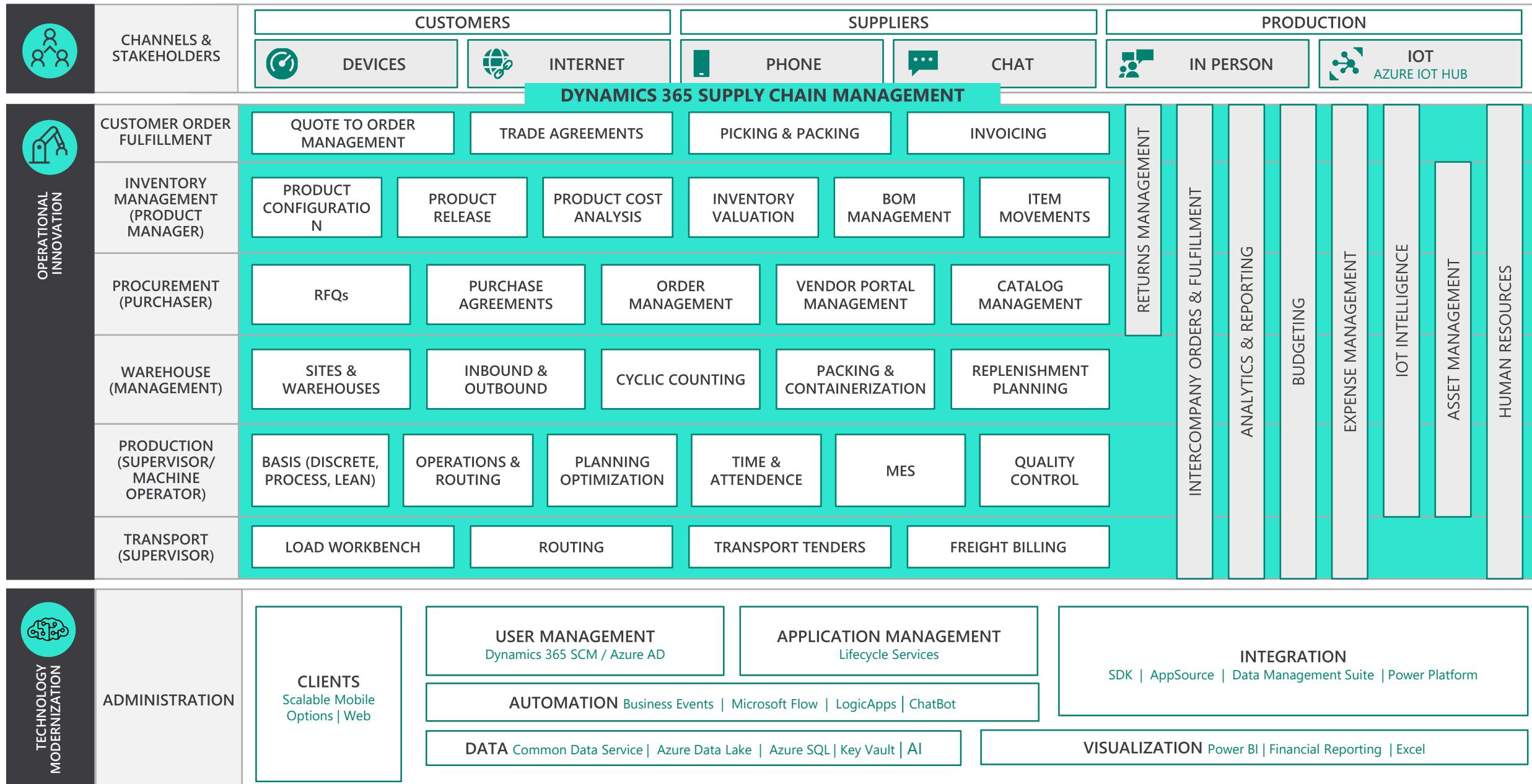
Dynamics 365 Unified Operations



Microsoft ecosystem supporting modern finance



Microsoft ecosystem supporting modern supply chain management



An adaptable approach to modernizing finance

Core



Extended



Advanced



Foundational accounting and finance

Lay the groundwork with general ledger, accounts payable, Cashbook AR, budgeting, and fixed assets capabilities

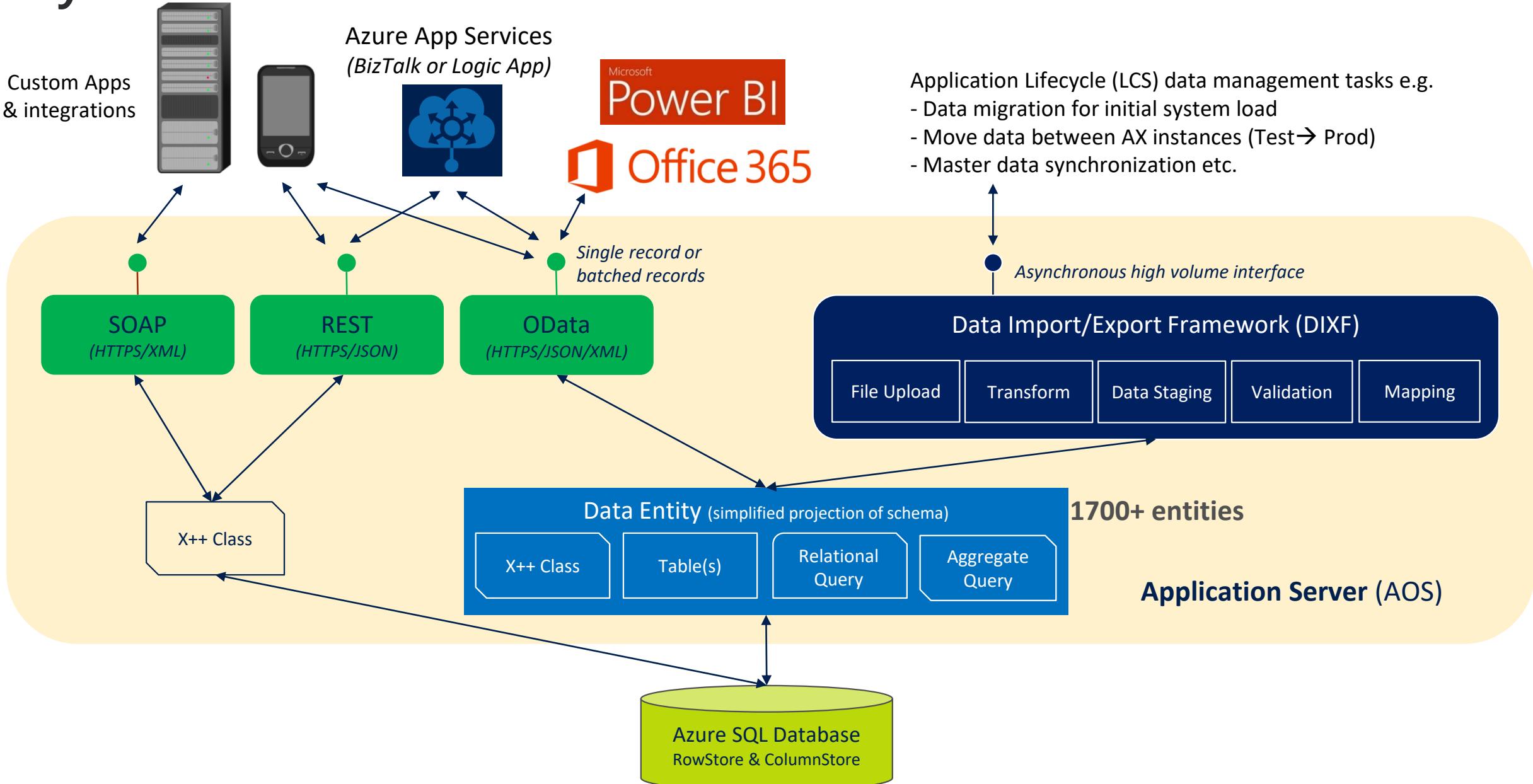
Expanded reporting and finance

Enable consolidation, intercompany, credit management, and revenue recognition functions

Modern finance

Integrate AI-driven predictive analytics and intelligent actionable insights with electronic invoicing and other enterprise applications

Dynamics 365 Finance — Architecture



Lifecycle services (LCS) overview



Lifecycle
Services

Effectively manage and operate your Dynamics 365 Finance implementation and governance



Lifecycle Services

- Manage Dynamics 365 Finance through a cloud-based collaborative workspace using Lifecycle Services
- Obtain up-to-date project information using an intuitive dashboard from a single location
- Use for projects from pre-sales to implementation and operations

The screenshot shows the Microsoft Dynamics Lifecycle Services interface. At the top, there's a navigation bar with icons for Home, Projects, Solutions, and Help. The main area has a dark header with the title "Lifecycle Services".

Get started section:

- Issue search input field.
- Learn**: Find out more about Lifecycle Services through our TechNet resources.
- Blog**: Learn about scheduled maintenance and new feature releases from Lifecycle Services engineering team.
- Downloadable tools**: Resources for repeatable and predictable implementations.

Recent projects grid:

Project Name	Author	Status
KidzAzure	Microsoft	NEW
Sunil RTW	Microsoft	NEW
AprilPostRelease	Microsoft	NEW
AX7 APQC Unified Library...	Microsoft	NEW
Learn Development in Dy...	Microsoft	NEW
Test sales project	Microsoft	
Dynamics Demo Project	Dynamics demo Implementation	
Migrate and Create Dyna...	Microsoft	
UpdateMethodologyProje...	Microsoft	
Project	Microsoft	

Announcements section:

- June release notes**: The Microsoft Dynamics Lifecycle Services team is happy to announce the immediate availability of the June release of Lifecycle Services.
- Functionality to be deprecated**: Deploying Dynamics AX 2012 R3 through the Azure Marketplace will be deprecated by end of June 2017.
- May release notes**: The Microsoft Dynamics Lifecycle Services team is happy to announce the immediate availability of the May release of Lifecycle Services.
- April release notes**: The Microsoft Dynamics Lifecycle Services team is happy to announce the immediate availability of the April release of Lifecycle Services.

Known Issues in Lifecycle Services: This blog post contains updated information on the known issues currently being investigated.

Latest kernel version: The latest kernel version for Dynamics AX 2009, 2012 now available.

Set up milestones section:

Milestone	End date
Analysis	1/6/2016
Design	2/9/2016
Test	3/17/2016

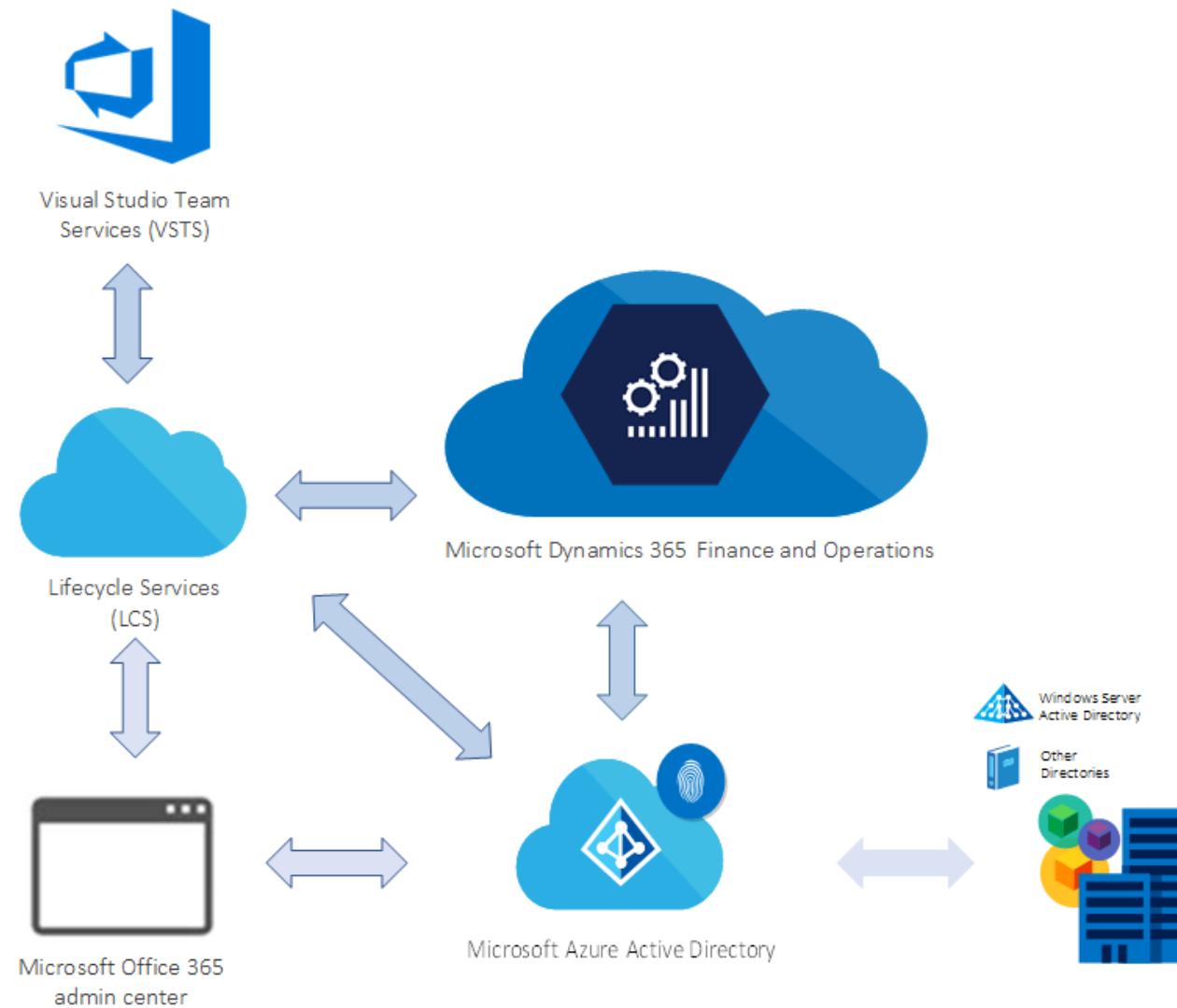
Date table:

Date	Time
5/2/2016	2:51 PM
5/2/2016	2:50 PM
5/2/2016	2:47 PM
3/15/2016	6:35 AM
3/15/2016	6:35 AM
2/18/2016	7:12 PM
2/18/2016	7:10 PM

Business processes and analysis of the each: Business processes and analysis of the each

Save and **Cancel** buttons at the bottom right.

Dynamics 365 Finance & Ops architecture



Lifecycle services (LCS) Demo

- Projects
- Connection to DevOps
- Connection to the partner's Azure tenant (OneBox VMs)
- OneBox VM configuration
- Hello World example
- Shared asset library
- Supportability

Business process modeler



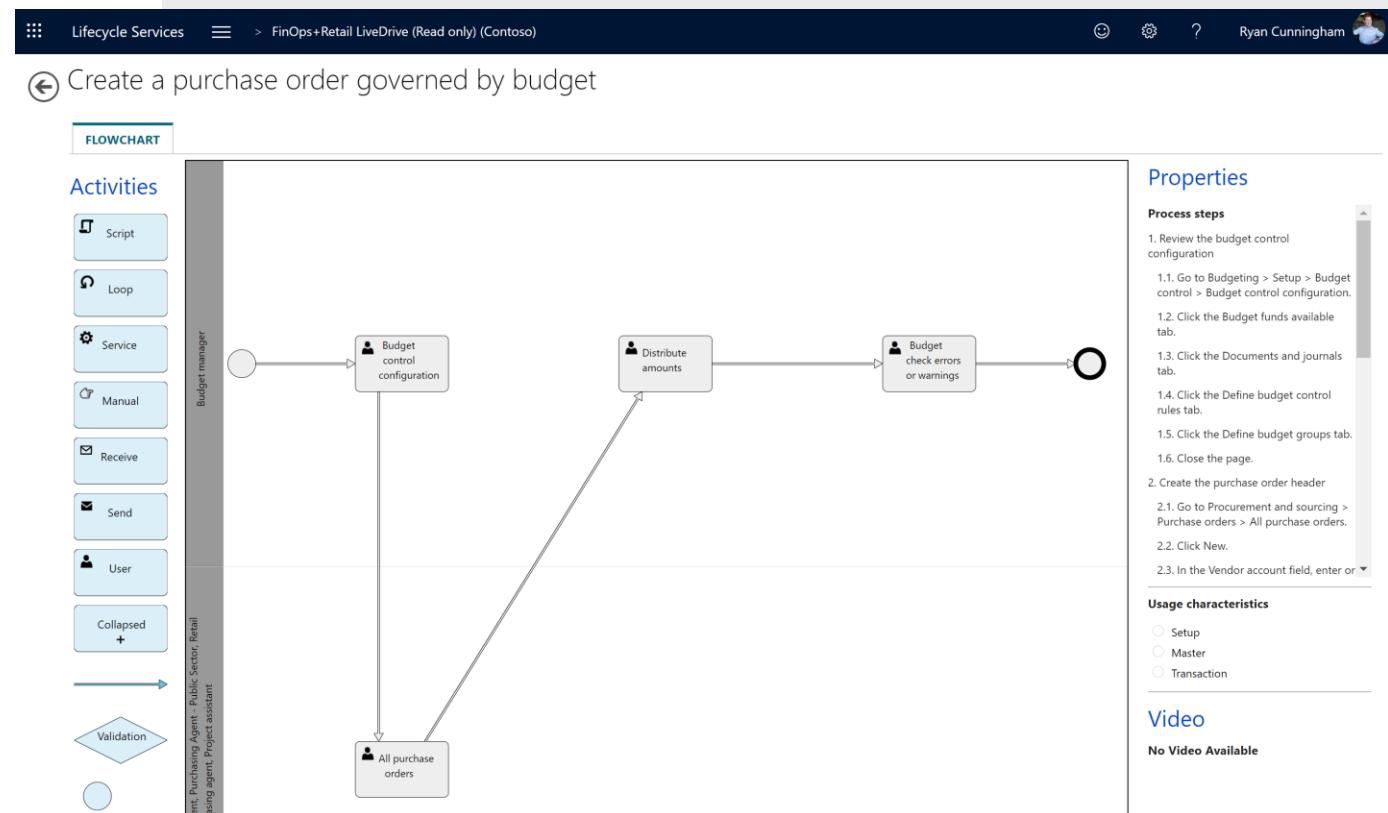
Business process
modeler

Effectively manage and operate your Dynamics 365 Finance implementation and governance



Business process modeler

- Create, view, and modify repeatable implementations based on business process libraries and flowchart using the business process modeler (BPM) in Lifecycle Services
- Synchronize BPM library with Microsoft Azure DevOps
- Export to Microsoft Word or Visio to expand communication and documentation of processes



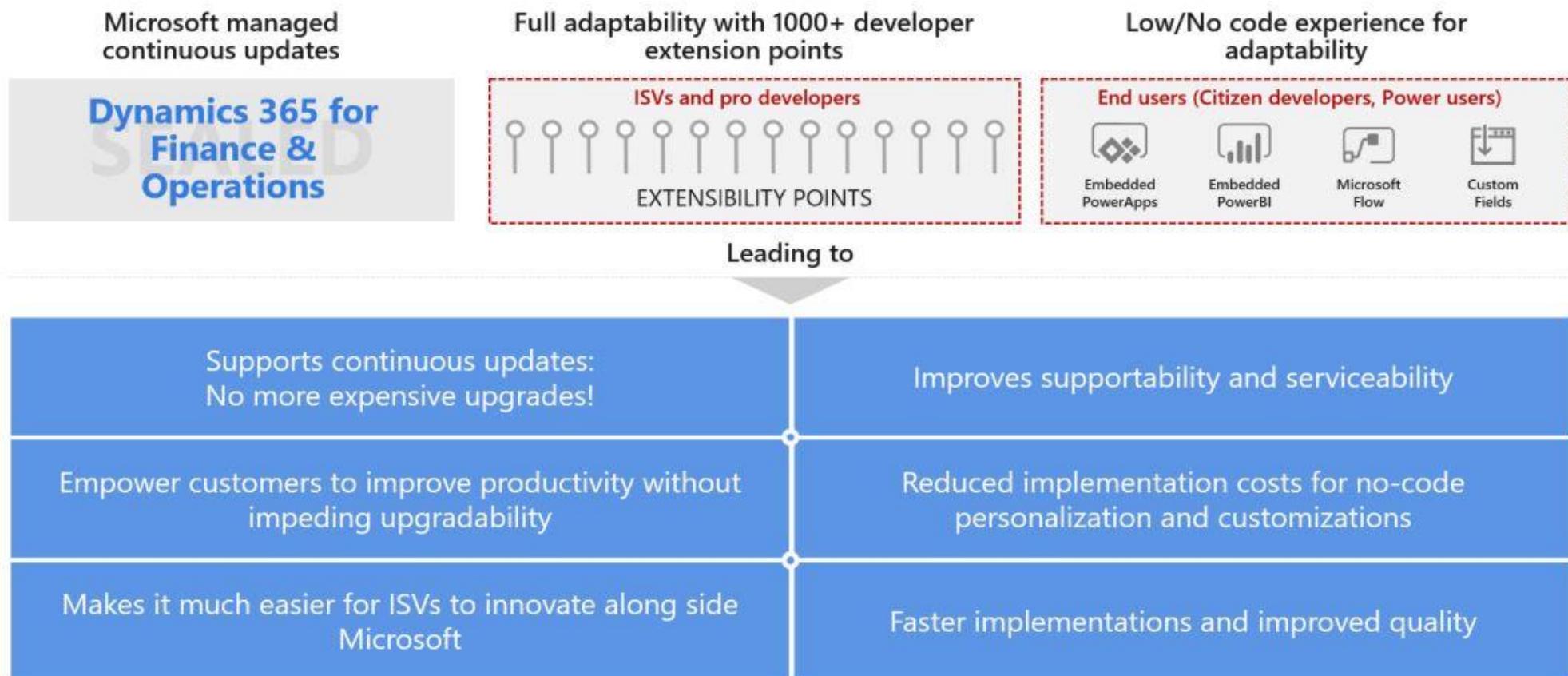
Coffee Break

One version and its implications

One Version / Evergreen application

Evergreen Application

Every customer on latest release, always



One Version / Evergreen application II

Getting ready for major updates

April and October releases

1. Release notes
2. Sandboxes availability
3. Opt-in production updates
4. Automatic production updates

Evergreen: managing new features

The screenshot shows the Microsoft Dynamics 365 Feature management workspace. The URL in the browser is <https://test005023f3e53ecb6d222aos.cloudax.dynamics.com/?cmp=USMF&mi=FeatureManagementWorkspace>. The page title is "Feature management". The top navigation bar includes links for Microsoft Demos, Trials Dynamics 365, Azure, LCS, Microsoft, BC Basics, BC Trainings, FO, OCP, Virt and Docker, Other Trainings, Learn4D365 by MBS-, Dynamics 365 License, Dynamics 365 Business, USMF, and AD.

The main content area is titled "Feature management" with a sub-instruction "Do not enable new features automatically". It shows three categories: New (2), Not enabled (43), and Scheduled (0). Buttons for "Enable all" and "Check for updates" are present.

The "New" tab is selected, displaying a table with columns: Feature name, Enable date, Feature added, and Module. The table contains two rows:

Feature name	Enable date	Feature added	Module
Ability to confirm accepted pur...	9/10/2019	9/10/2019	Procurement and sourcing
Select all product receipts to m...	9/10/2019	9/10/2019	Accounts payable

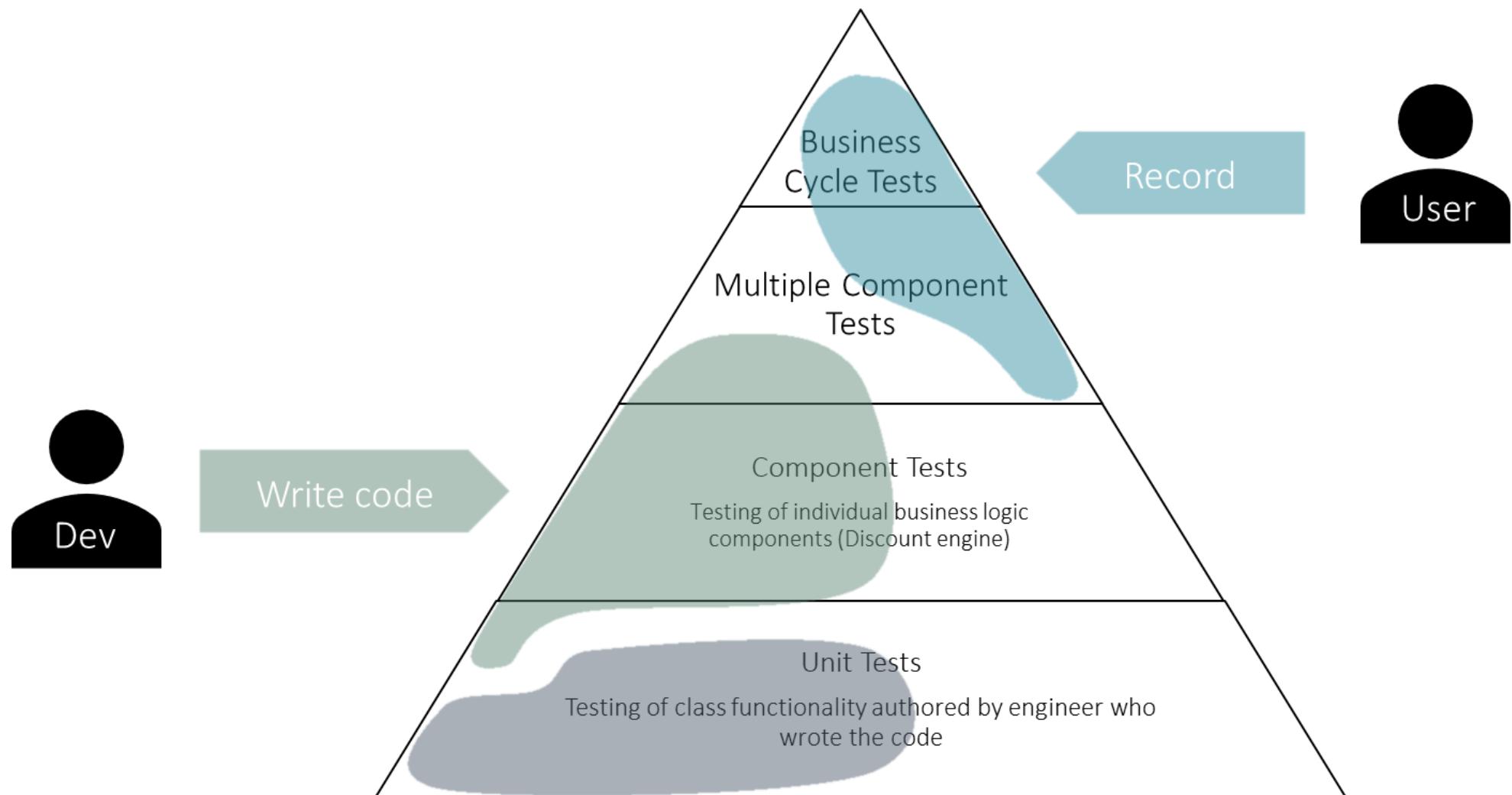
A detailed view of the first row is shown on the right, titled "Ability to confirm accepted purchase ...". It includes the "Enable date" (9/10/2019), "Module" (Procurement and sourcing), and a "Description" section which states: "This feature will allow to confirm purchase orders in batch that are accepted with no change via vendor collaboration. A new menu item will be available in the procurement and sourcing module for batch scheduling, and a parameter in procurement and sourcing parameters /vendor collaboration has to allow the run in batch." There is also a "Comments" section and buttons for "Schedule" and "Enable now".

Evergreen: notifying users of new functionality

The screenshot shows the Dynamics 365 Finance and Operations interface. The top navigation bar includes 'Dynamics 365', 'Finance and Operations', and a breadcrumb path 'Accounts receivable > Orders > All sales orders'. The main content area displays a list of 'ALL SALES ORDERS' with columns for 'Sales order', 'Customer account', 'Customer name', and 'Order type'. A modal dialog box is overlaid on the page, titled 'Try out the new views menu'. It contains the text 'You can switch to other views of this page, or you can create your own views.' and a 'Got it!' button.

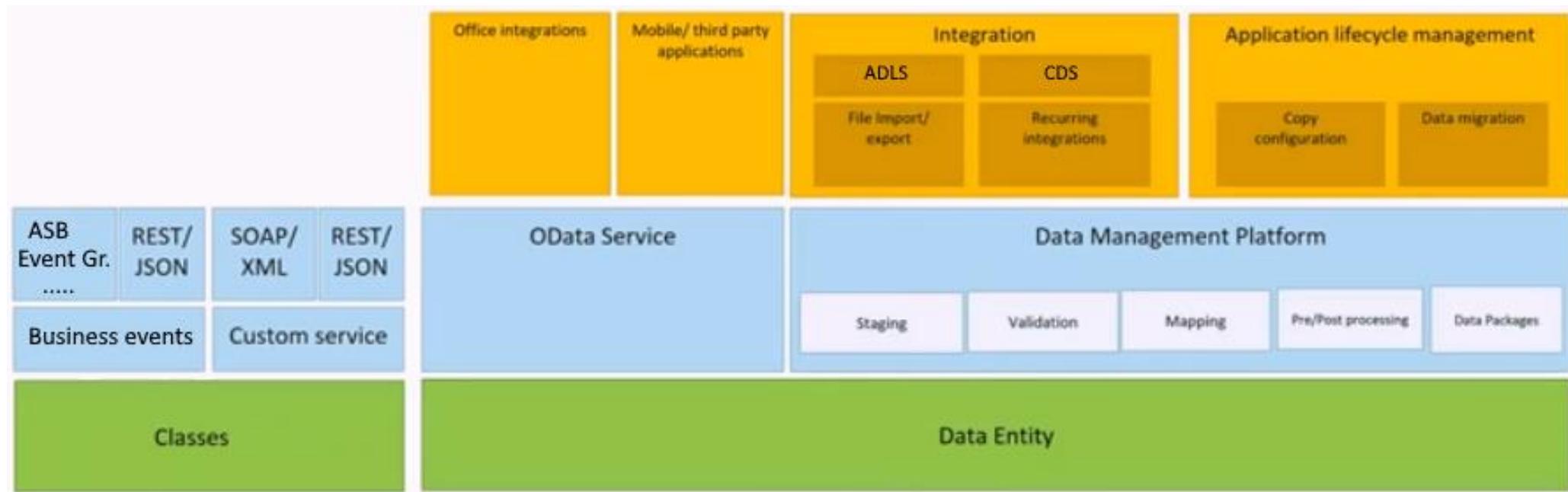
Sales order	Customer account	Customer name	Order type
000728	US-022	Contoso Retail Virginia	Sales order
000729	US-001	Contoso Retail San Diego	Sales order
000730	US-027	Birch Company	Sales order
000731	US-018	Contoso Retail Detroit	Sales order
000732	US-015	Contoso Retail Chicago	Sales order
000733	US-012	Contoso Retail New York	Sales order
000734	US-020	Orchid Shopping	Sales order
000735	US-028	Contoso Retail Miami	Sales order
000747	US-003	Forest Wholesales	Sales order
000748	US-003	Forest Wholesales	Sales order

Evergreen: automatic testing



Integration platform and tools

Dynamics 365 — Integration framework



Integration patterns

- Many possibilities
- How to choose the right one

OData

- Standard, JSON + REST based protocol
- Endpoints:

[Your organization's root URL]/data/Customers	List all the customers
[Your organization's root URL]/data/Customers?\$top=3	List the first three records
[Your organization's root URL]/data/Customers?\$select=FirstName,LastName	List all the customers, but show only the first name and last name properties
[Your organization's root URL]/data/Customers?\$format=json	List all the customers in a JSON format that can be used to interact with JavaScript clients
[Your organization's root URL]/Metadata/DataEntities	List all data entities

Data management platform

Single data management stack that enables various tools, such as:

- Data export-import
- Data templates
- Copy into legal entity

The screenshot displays the Data management platform's user interface. On the left, a sidebar titled "Data management" contains sections for "Import / Export" and "Data projects". The "Import / Export" section includes icons for Import, Export, Templates, Configure data source, Configure Entity export to database, Framework parameters, Set up roles for data projects, and Copy into legal entity. The "Data projects" section is titled "All projects" and lists categories: Import projects, Export projects, Copy into legal entity projects, Configuration, Integration, and Other. To the right, a main panel shows a table of data projects. The table has columns for "Data project name", "Project type", and "Project category". A single row is selected, showing "GFM" under "Data project name", "Import" under "Project type", and "Other" under "Project category". Buttons for "Run project", "Load project", "Delete", and "Download" are also visible.

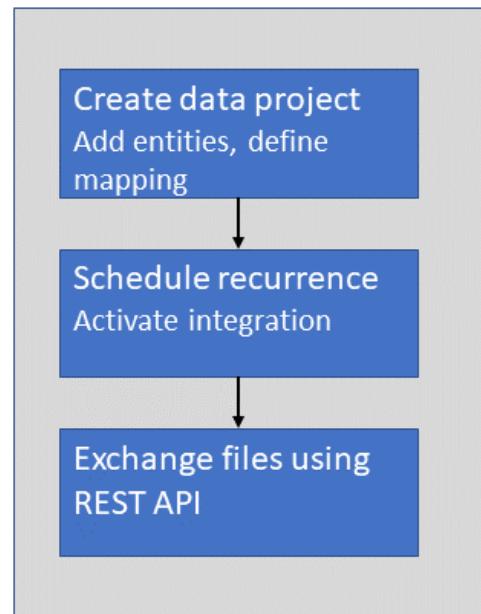
Filter	Run project	Load project	Delete	Download
✓ Data project name	Project type	Project category		
GFM	Import	Other		
Copy into LE	Copy into legal entity	Project		

Data management workspace: Demo

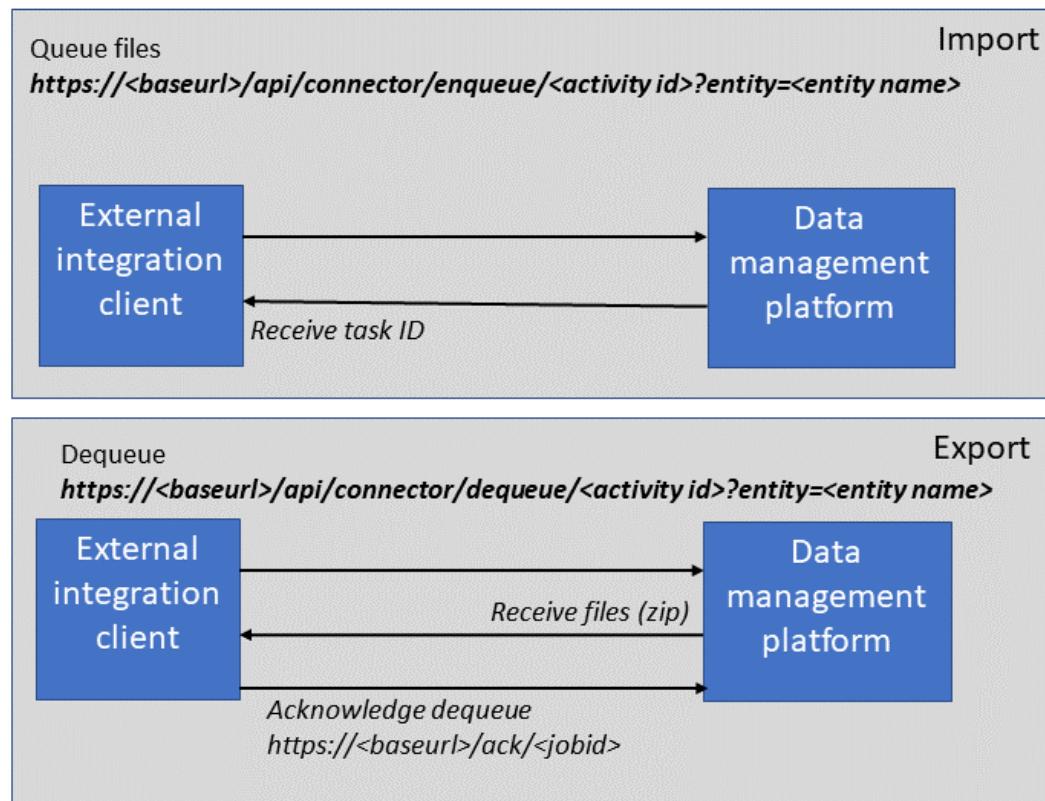
- Create an export project, run it, download export file, create import job, entity sequencing...
- Create template + data package
- <https://docs.microsoft.com/en-us/dynamics365/fin-ops-core/dev-itpro/data-entities/data-entities-data-packages>

Recurring integrations: Architecture

1. Set up integration



2. Send and receive files



GitHub - microsoft/Recurring-Int... x +

← → ⌂ ⌄ 🔒 github.com/microsoft/Recurring-Integrations-Scheduler

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Code Issues 4 Pull requests 0 Wiki Security Insights

Watch 45 Star 72 Fork 32

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Sign up

Recurring Integrations Scheduler is a solution that can be used in file-based integration scenarios for Dynamics 365 for Finance and Operations.

dynamics integration d365 d365fo quartzax operations finance scheduler-service recurring-integrations-scheduler

80 commits 1 branch 0 packages 13 releases 5 contributors View license

Branch: master New pull request Find file Clone or download ▾

 TomekMelissa	Removed ADAL	...	Latest commit e09a20f on Oct 11
	.github	Create issue_template.md	2 years ago
	Common	Removed ADAL	last month
	Job Download	Removed ADAL	last month

Lunch

Global Electronic reporting (GER)

Dynamics 365 Finance

Elevate Financial Performance – Reporting & Analytics



Financial Reporter



Row



Columns

Workspaces



Power BI

Dashboards, Reports, Mash-ups



Reporting Trees
Organizational Hierarchy



SQL Server
Analysis Server



Office
Interoperability

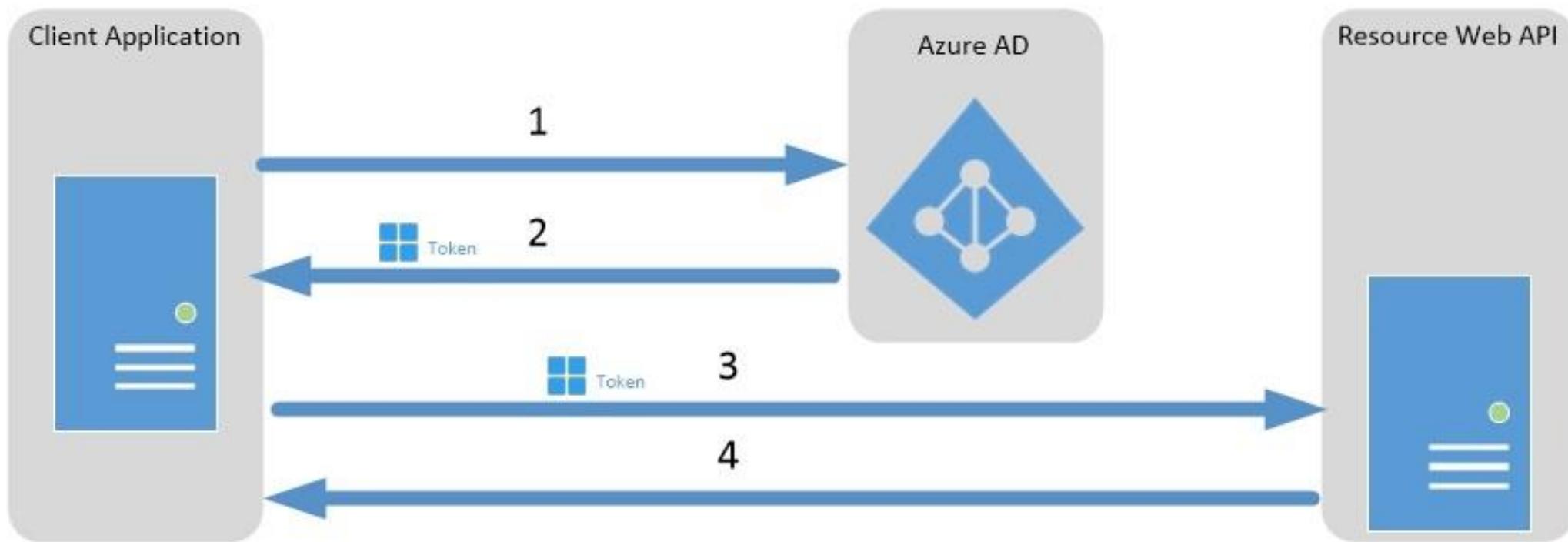
Dynamics 365 for Finance - Electronic reporting (ER)

- A single shared tool for electronic reporting.
- Supports the creation of a custom format that is based on an original format.
- Capabilities for automatically upgrading the customized format when the original format is changed due to localization/customization requirements.
- The standard tool to support localization requirements in electronic reporting.
- It supports versioning.
- It supports the distribution of formats through Microsoft Dynamics Lifecycle Services (LCS).
- Two types of components: Data Model (Data Structure) and Format (Scheme of the reporting)

DEMO

Web Services

Any integrations: OAuth 2.0



```
public class OAuthHelper
{
    /// <summary>
    /// The header to use for OAuth authentication.
    /// </summary>
    public const string OAuthHeader = "Authorization";

    /// <summary>
    /// Retrieves an authentication header from the service.
    /// </summary>
    /// <returns>The authentication header for the Web API call.</returns>
    1 reference | 0 changes | 0 authors, 0 changes
    public static string GetAuthenticationHeader(string aadTenant, string aadClientAppId, string aadClientAppSecret, string aadResource)
    {
        AuthenticationContext authenticationContext = new AuthenticationContext(aadTenant, false);
        AuthenticationResult authenticationResult;

        if (string.IsNullOrEmpty(aadClientAppSecret))
        {
            Console.WriteLine("Please fill AAD application secret in ClientConfiguration if you choose authentication by the application.");
            throw new Exception("Failed OAuth by empty application secret.");
        }

        try
        {
            // OAuth through application by application id and application secret.
            var credential = new ClientCredential(aadClientAppId, aadClientAppSecret);
            authenticationResult = authenticationContext.AcquireTokenAsync(aadResource, credential).Result;
        }
        catch (Exception ex)
        {
            Console.WriteLine(string.Format("Failed to authenticate with AAD by application with exception {0} and the stack trace {1}", ex.ToString(), ex.StackTrace));
            throw new Exception("Failed to authenticate with AAD by application.");
        }

        // Create and get JWT token
        return authenticationResult.CreateAuthorizationHeader();
    }
}
```

```
{  
    static string uriString = "https://test00305c6f1179c256e68aos.cloudax.dynamics.com/"; // "https://usnconeboxax1aos.cloud.onebox.dynamics.com/";  
  
    static string activeDirectoryTenant = "https://login.windows.net/microsoft.com"; // "https://login.windows-ppe.net/TAEOfficial.ccsctp.net", // Some samples: http  
    static string activeDirectoryClientAppId = "889fd079-cc68-4e24-b02a-474c766a63a7";  
    static string activeDirectoryClientAppSecret = "1d-Grj5Z_.w:5AL06X5tZ22YFTPEJl6N";
```

0 references | 0 changes | 0 authors, 0 changes

```
static void Main(string[] args)
```

```
{  
    GetSalesOrders();
```

```
}
```

1 reference | 0 changes | 0 authors, 0 changes

```
private static void GetSalesOrders()
```

```
{  
    var oauthHeader = OAuthHelper.GetAuthenticationHeader(activeDirectoryTenant,
```

```
                activeDirectoryClientAppId,
```

```
                activeDirectoryClientAppSecret,
```

```
                uriString.TrimEnd('/'));
```

```
    var endpointAddress = new System.ServiceModel.EndpointAddress(uriString + "soap/services/IFCDMOSalesOrderServices");
```

```
    var binding = GetBinding();
```

```
    var client = new ServiceReference.FCDMOSalesOrderAPIClient(binding, endpointAddress);
```

```
    var channel = client.InnerChannel;
```

```
    using (OperationContextScope operationContextScope = new OperationContextScope(channel))
```

```
{  
    HttpRequestMessageProperty requestMessage = new HttpRequestMessageProperty();
```

```
    requestMessage.Headers[OAuthHelper.OAuthHeader] = oauthHeader;
```

```
    OperationContext.Current.OutgoingMessageProperties[HttpRequestMessageProperty.Name] = requestMessage;
```

```
    ////////////////////////////////  
    // This is the important bit - all the rest is just boilerplate  
    ////////////////////////////////
```

```
    var retVal = ((ServiceReference.IFCDMOSalesOrderAPI)channel).getSalesOrders(new ServiceReference.getSalesOrders(null, "1901-01-01")).result;
```

```
    foreach (var salesOrder in retVal)
```

```
{  
    Console.WriteLine($"Sales order: {salesOrder.SalesId}");
```

```
    Console.WriteLine($"      Name: {salesOrder.SalesName}");
```

```
    Console.WriteLine($"      Dlv date: {salesOrder.DlvDate}");
```

```
    Console.WriteLine($"      Cust acct: {salesOrder.CustAccount}");
```

```
    Console.WriteLine($"      Inv acct: {salesOrder.InvoiceAccount}");
```

```
    Console.WriteLine($"      Sales lines: ");
```

Business Events

Business Events

What is a business event?

Examples

- When a **Sales Order is Confirmed** a Pick Ticket needs to be generated in Warehousing system
- When a **Packing Slip is Posted** ecommerce needs to be updated with estimated ship date
- When **PO is Confirmed** a payment needs to take place in other system

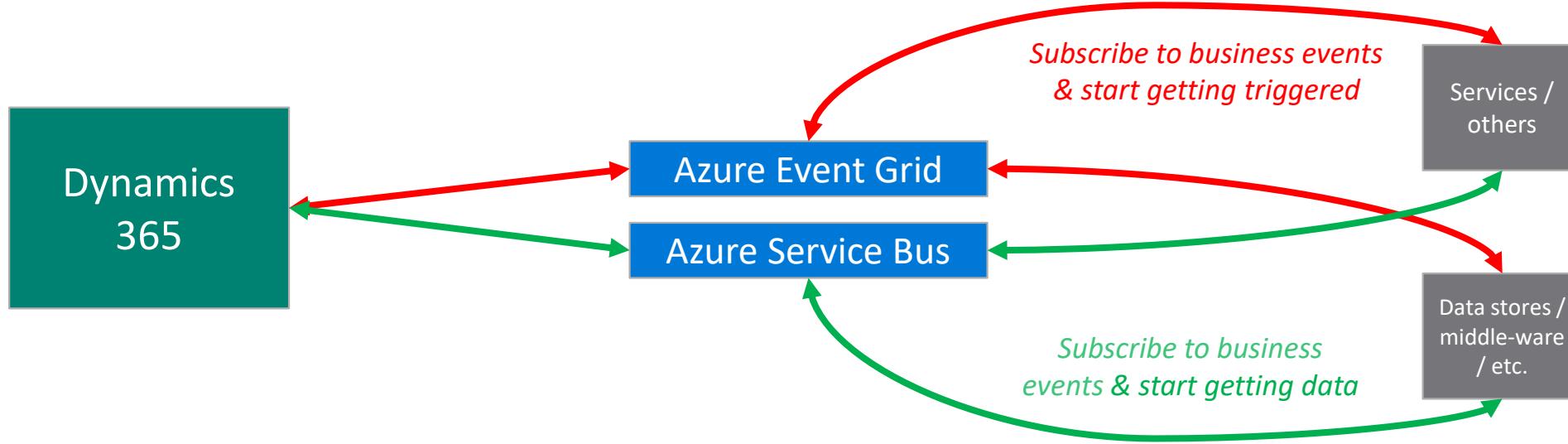
Business process integration
between F&O and other
systems

Fire and forget
pattern

Consumed
externally

Small and nimble
messages

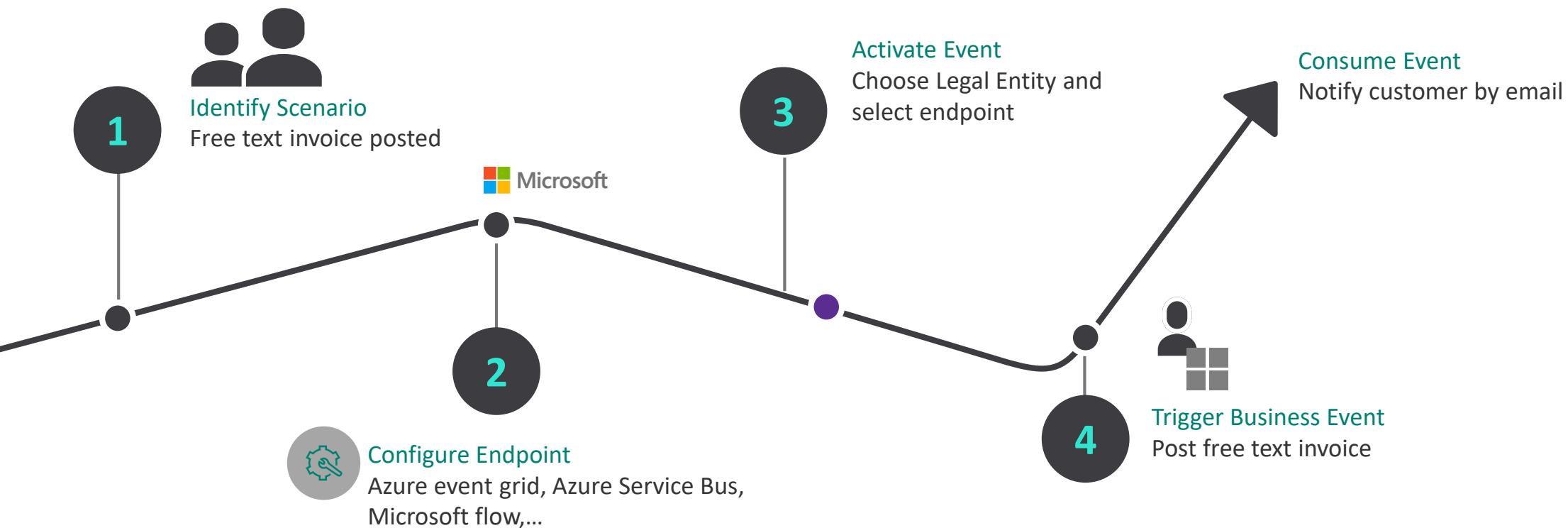
Real time



Business events must **not** be considered a mechanism for **exporting data**. By definition, business events are lightweight and nimble. They aren't intended to carry large payloads to fulfill data export scenarios.

Business Events

End to end process



Business Events

Catalog

- Lists all available business events in the instance
- Business event categories
 - Application
 - Alert
 - Workflow
- The business event catalog is built during database synchronization (explicit update can be done via Manage > Rebuild business events catalog.)
- Shows BE fields and can download Sample payload

MANAGE OPTIONS

Business events - Preview

[Business event catalog](#) [Endpoints](#) [Active events](#) [Inactive events](#) [Errors](#)

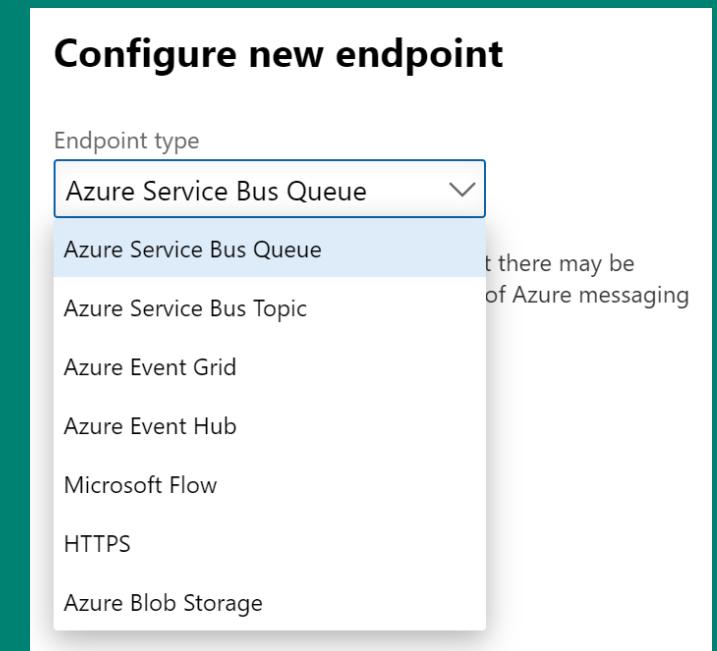
[+ Activate](#)

Category	Business event ID ↑	Name
Accounts receivable	CollectionLetterSentBusinessEvent	Collection letter created
Accounts receivable	CollectionStatusUpdatedBusinessEvent	Collection status updated
Account	Collection letter created	Collection letter created
Account	Accounts receivable	Collection letter created
Account	This business event is triggered when a user creates a collection letter for a customer as part of the Quote to Cash pro	Collection letter created
Account		Collection letter created
Purchase order	Fields passed to event	Fields passed to event
Purchase order	Download schema	Fields passed to event
Field name	Field label	
CustAccount	Customer account	
CollectionLetterNumber	Collection letter number	
CollectionLetterDate	Collection letter date	
CollectionLetterDueDate	Collection letter due date	
CollectionLetterAmount	Collection letter amount	
CollectionLetterCode	Collection letter code	
LegalEntity	Legal entity	
EventId	Business Event instance ID	
EventTime	Event time	
MajorVersion	Major version	
MinorVersion	Minor version	

Business Events

Endpoints

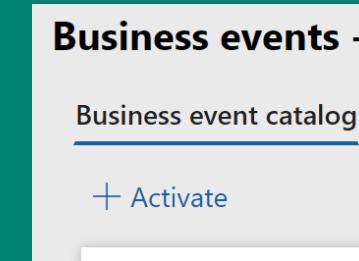
- Endpoints play the role of middleware that should receive and deliver Business Events
- Bring your own endpoints, part of customer domain (customer Azure subscription)
- Supported endpoints :
 - [Azure endpoints](#),
 - [Microsoft Flow](#)
 - [Http/https](#)
- Endpoints list can be extended via customization



Business Events

Activation

- Activate Business event to enable outbound processing
- Business events can be activated either in specific legal entities or in all legal entities (leave blank field)
- Endpoint is assigned when business event is activated.
- Business events can be deactivated when processing needs to be paused (maintenance, activities in the integration landscape).

A screenshot of a configuration dialog box titled "Configure new business event". It has two input fields: "Legal entity" with a dropdown arrow and "Endpoint name" with a red border and a red asterisk (*) indicating it is a required field.

Logic Apps

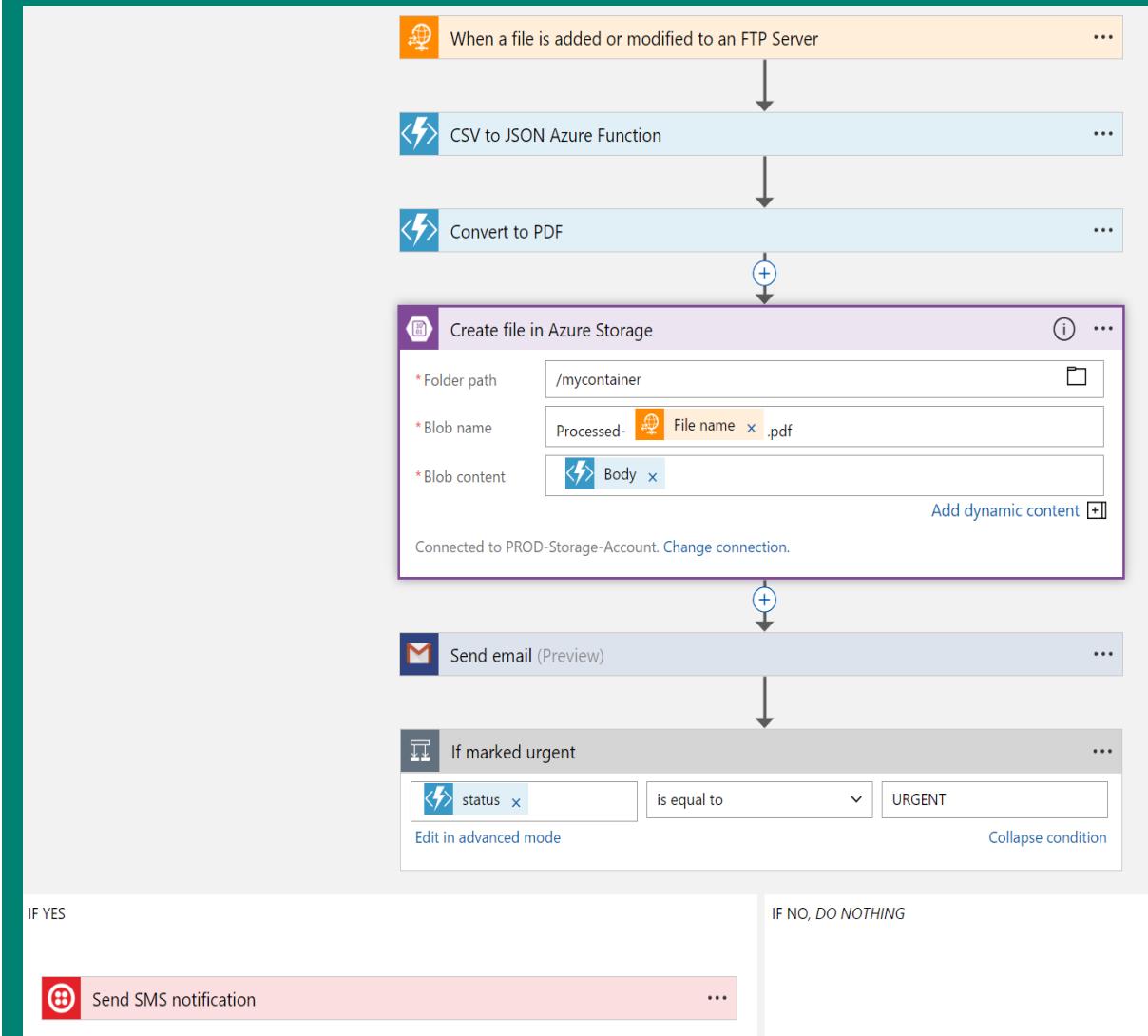
What is it?

Visually design workflows in the cloud

Express logic through powerful control flow

Connect disparate functions and APIs

Declarative definition to work with CI/CD



Logic Apps

- Developer focused
- Visual Studio development environment
- Source control / release management
- Ideal for Azure developers
- Full access to 'code-view'

Power Automate (Flow)

- Citizen developer focused
- Web + mobile development environment
- Connecting to business applications
- Ideal for SharePoint, Dynamics, and Office users
- Can be exported as Logic App

Azure Service Bus

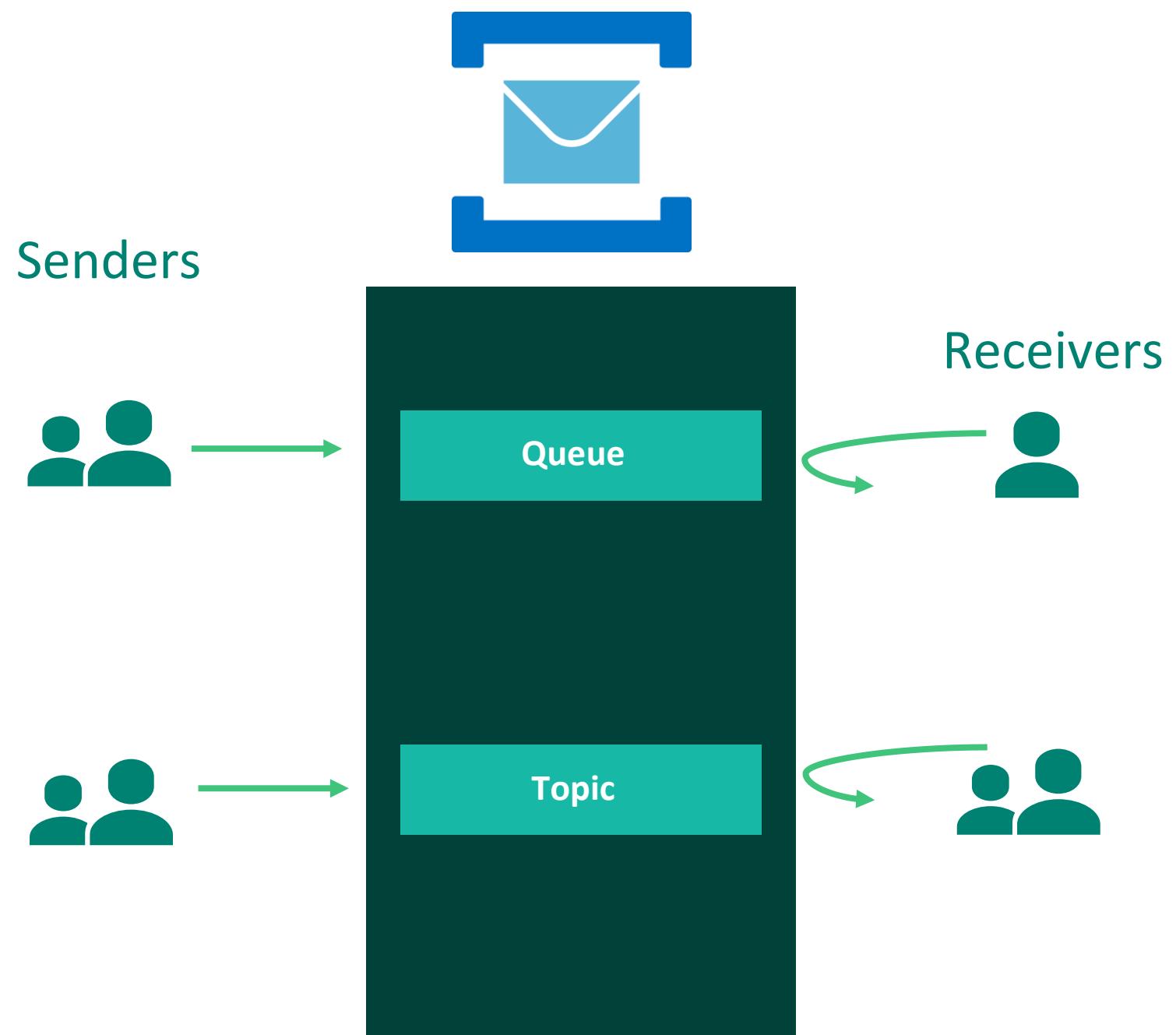
What is it?

Reliable asynchronous message delivery that requires polling

Advanced messaging features like FIFO, batching/sessions, transactions, dead-lettering, temporal control, routing and filtering, and duplicate detection

At least once delivery

Optional in-order delivery



Other concepts



Azure Key Vault



Azure AD App Registration



SAS policy

Practice time

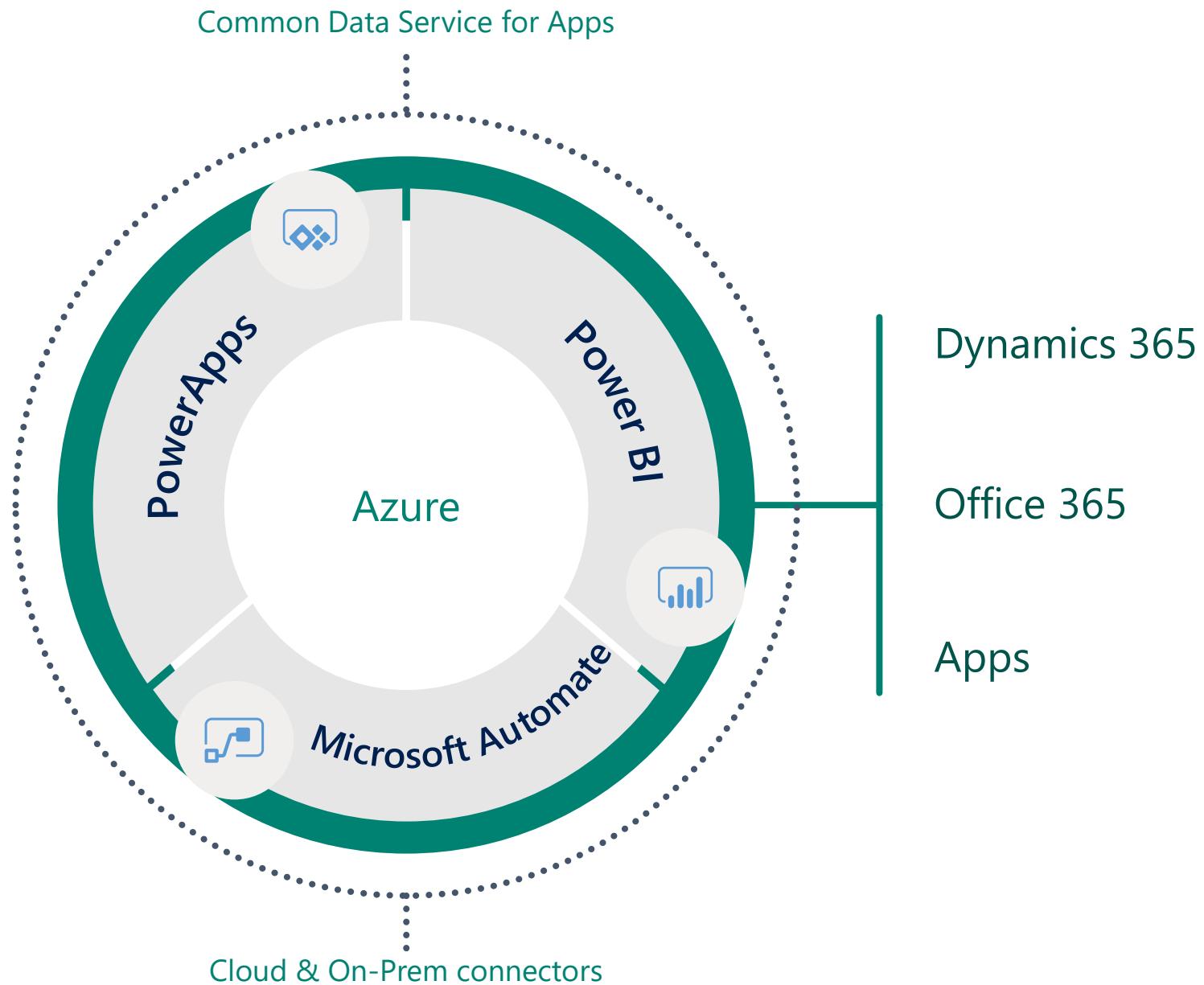
Go to

<https://github.com/julietsvq/DynamicsInterfaces>

to start working with Business Events now!

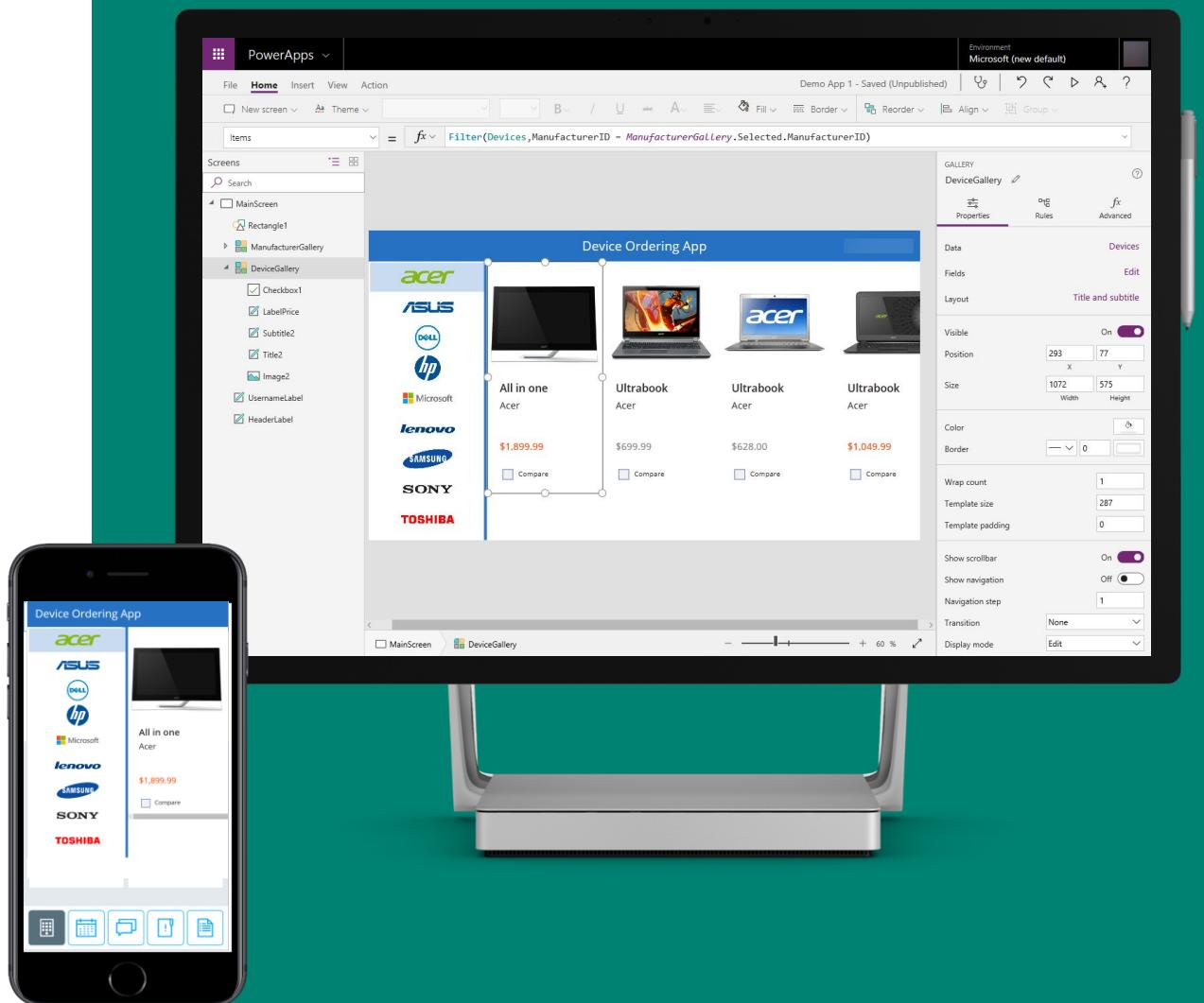


Power Apps



PowerApps

Low-code / no-code
visual environment



The Common Data Services and Dual Write



Adobe



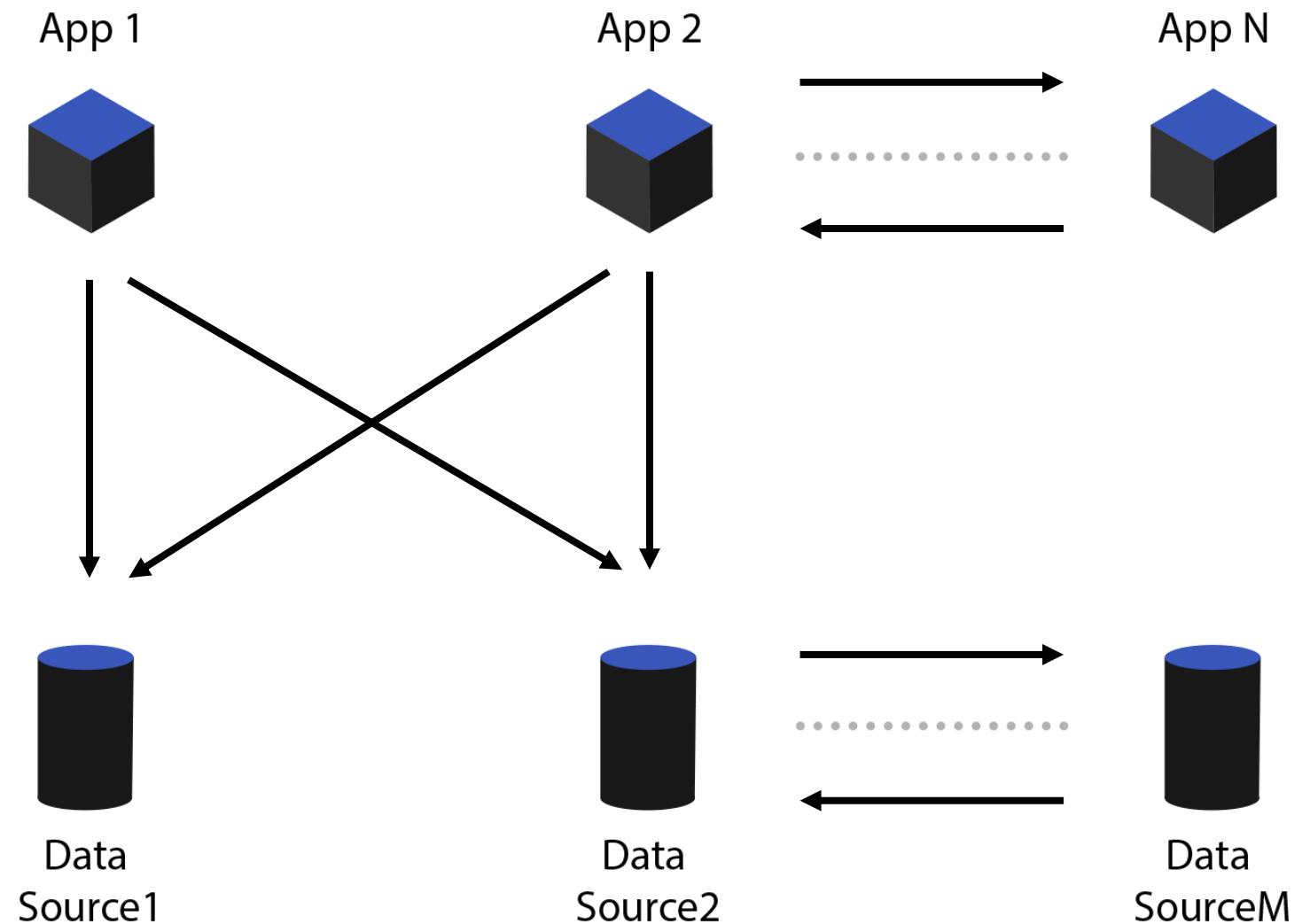
Microsoft



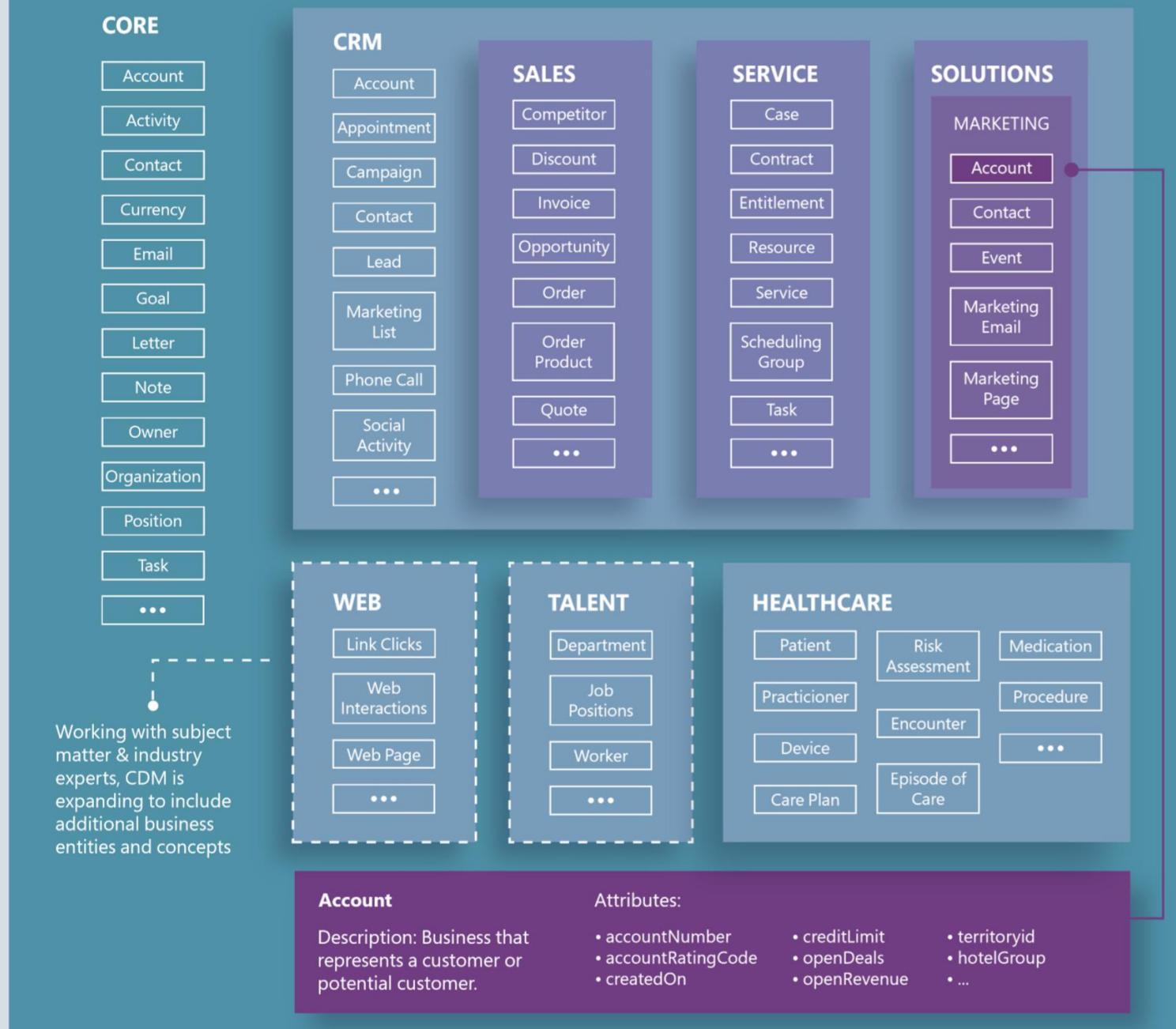
Announcing the Open Data Initiative

Deliver unparalleled business insight from your behavioral, transactional, financial, and operational data with the Open Data Initiative — a jointly-developed vision by Adobe, Microsoft, and SAP.





CDM SCHEMA



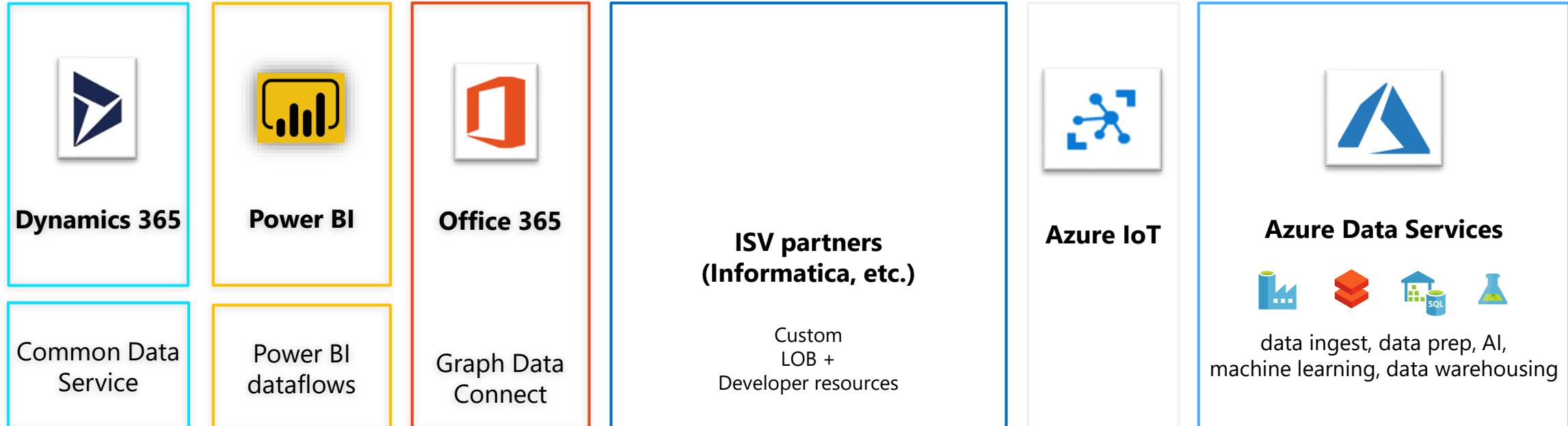
Common Data Models enable low friction collaboration today

Decision Makers, Business analysts

No code, low code

Data scientists, Data engineers

Low to high code



CDM folders

Azure Data Lake Storage

Transactional business data



...



Profiles based on observational data

Dynamics 365 for Finance & Operations and CDS

Dual Write

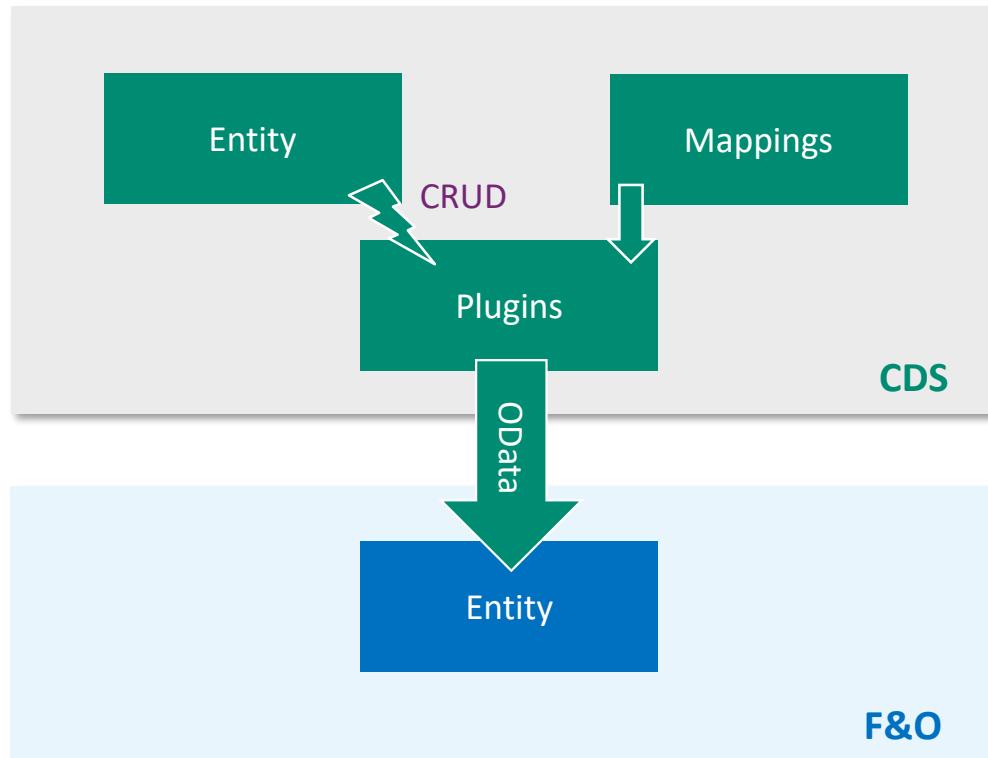
Any create/update operation in Dynamics 365 Finance and Operations (F&O) results in writes to CDS/Dynamics 365 for Sales/Customer Engagement and vice-versa

- Near real time
- Bi-directional
- Master data and Business documents

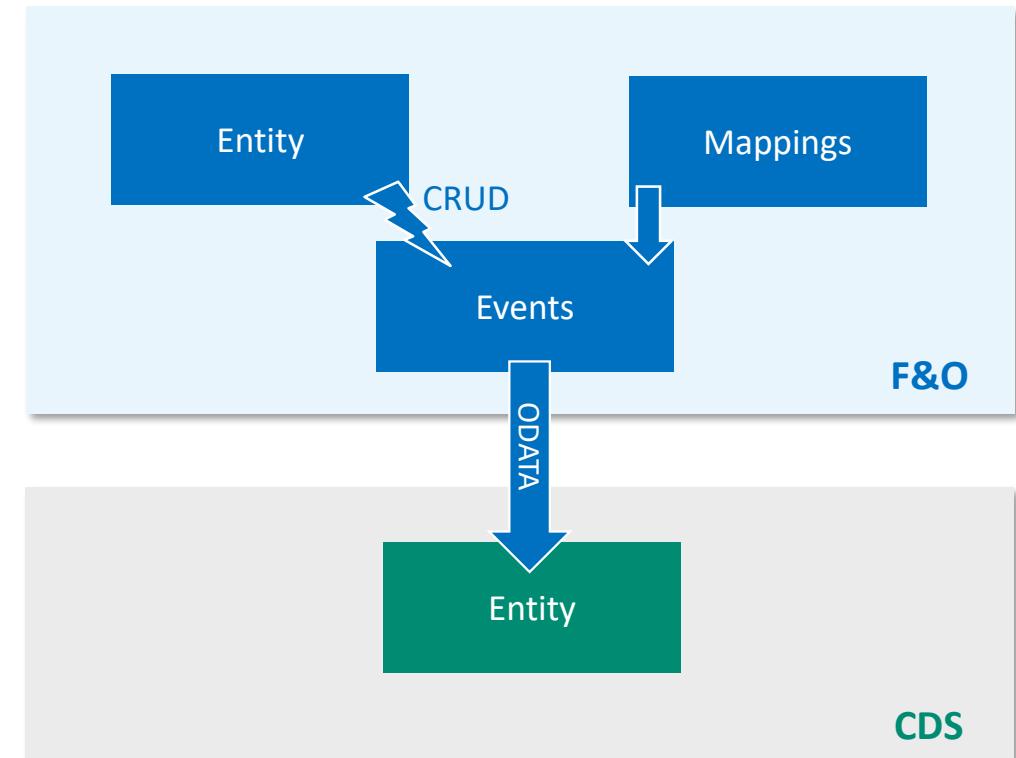
Dynamics 365 for Finance & Operations and CDS

Dual Write Architecture

CDS → F&O



F&O → CDS



Dynamics 365 for Finance & Operations and CDS

Dual Write – Preview Features



Near-real time and
bi-directional



Embedded experience in
Dynamics 365 Finance
and Operations



Low friction setup
experience



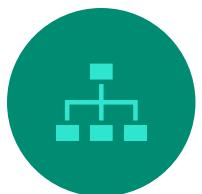
Simple and intuitive user
interface to enable and
administer



Ability to filter and
transform data



Out of the box entity
maps



Add standard and
custom entity



Ability to customize
entity and field
mappings



Consolidated view of
activities and errors

Dynamics 365 for Finance & Operations and CDS

Dual Write – What's coming next?

- Synchronize initial data
- Resilient to errors Ex: Planned/Unplanned maintenance
- Alerts and Notifications
- More OOB mappings
- Support for Business Documents
- Multiple Legal entity support
- One click experience to enable Dual write from LCS for new environments