

Tech Talk

Integration Patterns for Finance and Operations applications

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TechTalk Series

- ✓ Session 1: Dynamics 365 Integration – General Guidance – **Completed**, see QR code for the link
- ✓ Session 2: Integration patterns for Dataverse – **Completed**,
- *Session 3: Integration patterns for F&O*
- Session 4 – Complex and mixed scenarios – Planned for 4th Dec



Agenda

- Intro
- Synchronous integrations
- Data management Framework
- Events Framework
- Synapse Link
- On-premises integration options
- Exposed/specialized services
- Q/A



Intro

Integration components - Overview



Event Grid



Service Bus



Web Jobs



Data flow



Azure Function



Data Factory



Logic Apps



API management



Power Automate

Inventory
Visibility

MES
Integration

Demand
planning*

Sensor Data
Intelligence

Pricing
service*

Connected
Field Service

Finance and Operations Apps

PunchOut
e-Procurement

Electronic
Reporting

Invoice
capture

Data entities

Data Management
Framework

OData

Custom classes
External endpoints

Custom services

Dual Write

Business Events
Data Events

Virtual Table

Synapse Link

Office 365

Dataverse

OData/Web API

TDS Endpoint

Plug-in (Synch)

WebHook

Plug-in (Asynch)

Microsoft Teams

Near real-time

Asynchronous

Synchronous

Entra ID (AAD) Authentication

RESTful services

JSON message format



Outbound

Inbound

*Preview

Integration components - Overview

Inventory
Visibility

MES
Integration

Sensor Data
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Finance and Operations Apps

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Outbound

Inbound

*Preview

Synchronous integrations

OData & Custom Services

Synchronous endpoints

OData and Custom services

OData



Characteristics

- RESTful web services
- Based on data entities (with IsPublic = Yes). Many out of the box.
- Available operations CRUD-A (POST, GET, PATCH, DELETE) & custom actions (POST)
- Underlying integration technology for modern clients (e.g. mobile, web, Excel, Power BI).
- Only the HTTPS protocol is allowed.

Custom Services



Characteristics

- SOAP (strongly typed WSDL contract) and RESTful JSON available
- Not based on data entities.
- They expose X++ methods as service operations, data contract classes for composite types.
- Deployed via service groups, endpoints
- Only the HTTPS protocol is allowed.

Metadata service



Characteristics

- Read-only, RESTful
- Labels:
`https://[baseURI]/Metadata/Labels(Id='@SYS333000',Language='en-us')`
- Data entities `https://[baseURI]/Metadata/DataEntities`

Common remarks



Latency and performance

- Synchronous endpoints are designed for low latency and low/medium volume.
- OData and Custom service have shared [service protection limits](#).



Security

- Standard security stack applies. No direct DB access



Synchronous endpoints

Security stack

Authentication

- Microsoft Entra ID (Azure Active Directory) with OAuth 2.0 standard.
- Authentication mode:
 - [Service to service calls using client credentials](#) (application-based authentication).
 - [Authorization Code Grant flow](#) (user-based authorization)

Authorization

- Dynamics 365 endpoints authorization leverage Role Based Access Control (RBAC)
 - Privilege/Duty mapping
 - Use Table Protection Framework (TPF) to further restrict access.

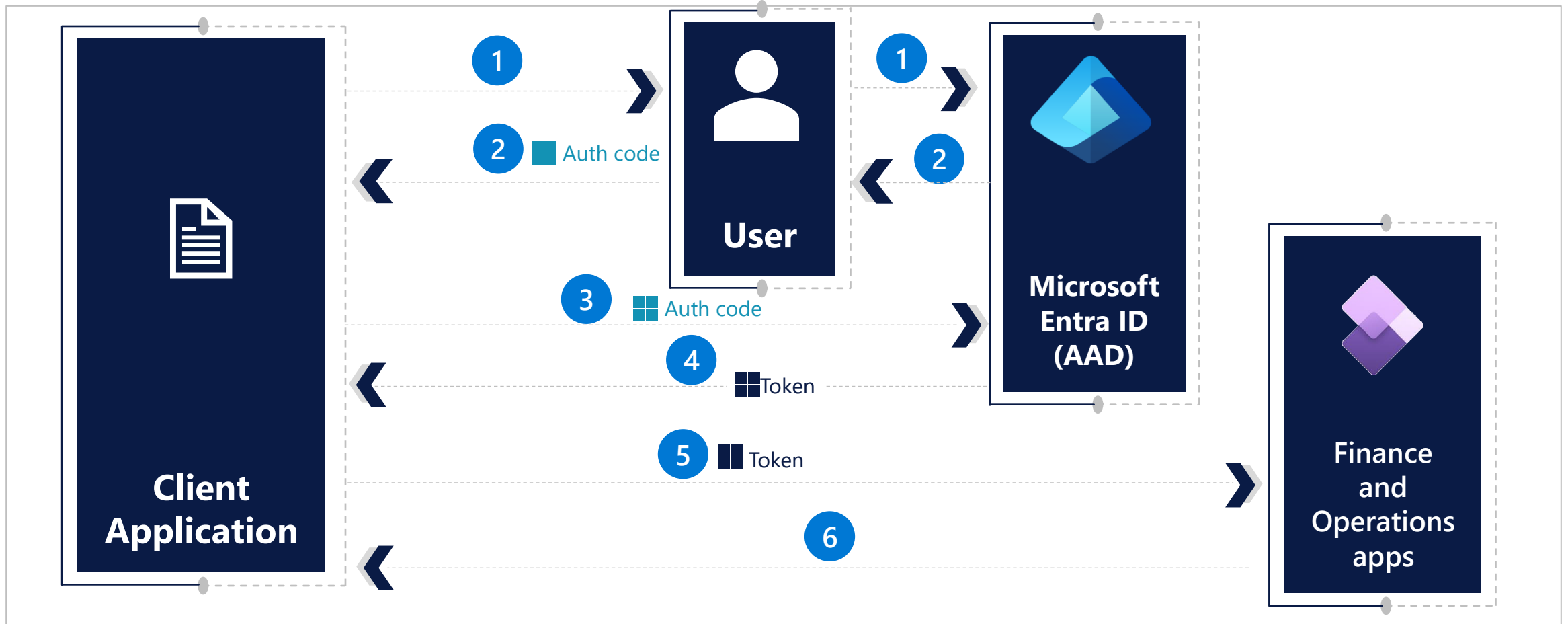
Authentication process – Application based



OAuth 2.0 – Open Authorization standard

All requests are made over https

Authentication process – User authorization code



1. Authentication and consent
2. Client receives the **Authorization token**
3. Client requests access to resource with the authorization code

4. Client receives the **Access Token**
5. Client requests data with the access token
6. Client receives data

Demo OData



DEMO - Authentication

Home > Dynamics 365 Solutions Architecture | App registrations >

Register an application

Name

The user-facing display name for this application (this can be changed later).

Supported account types

Who can use this application or access this API?

☒ Accounts in this organizational directory only (Dynamics 365 Solutions Architecture only - Single tenant)

☐ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant)

☐ Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

☐ Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Select a platform

e.g. https://example.com/auth

Register an app you're working on here. Integrate gallery apps and other apps from outside your organization by adding from [Enterprise applications](#).

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

Applications must be registered in Microsoft Entra ID (Azure AD).

Permissions:

- Dynamics AX Custom Service
- Dynamics AX data
- Dynamics AX online as organization users

Set the correct expiration date

Make sure that you copy the key, because you won't see it again!

DEMO - Authentication

Integration TechTalk / Authentication


GET https://login.microsoftonline.com/{{tenant_id}}/oauth2/token Send

Params Auth Headers (9) Body Pre-req. Tests Settings Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Response



Click Send to get a response

Request:

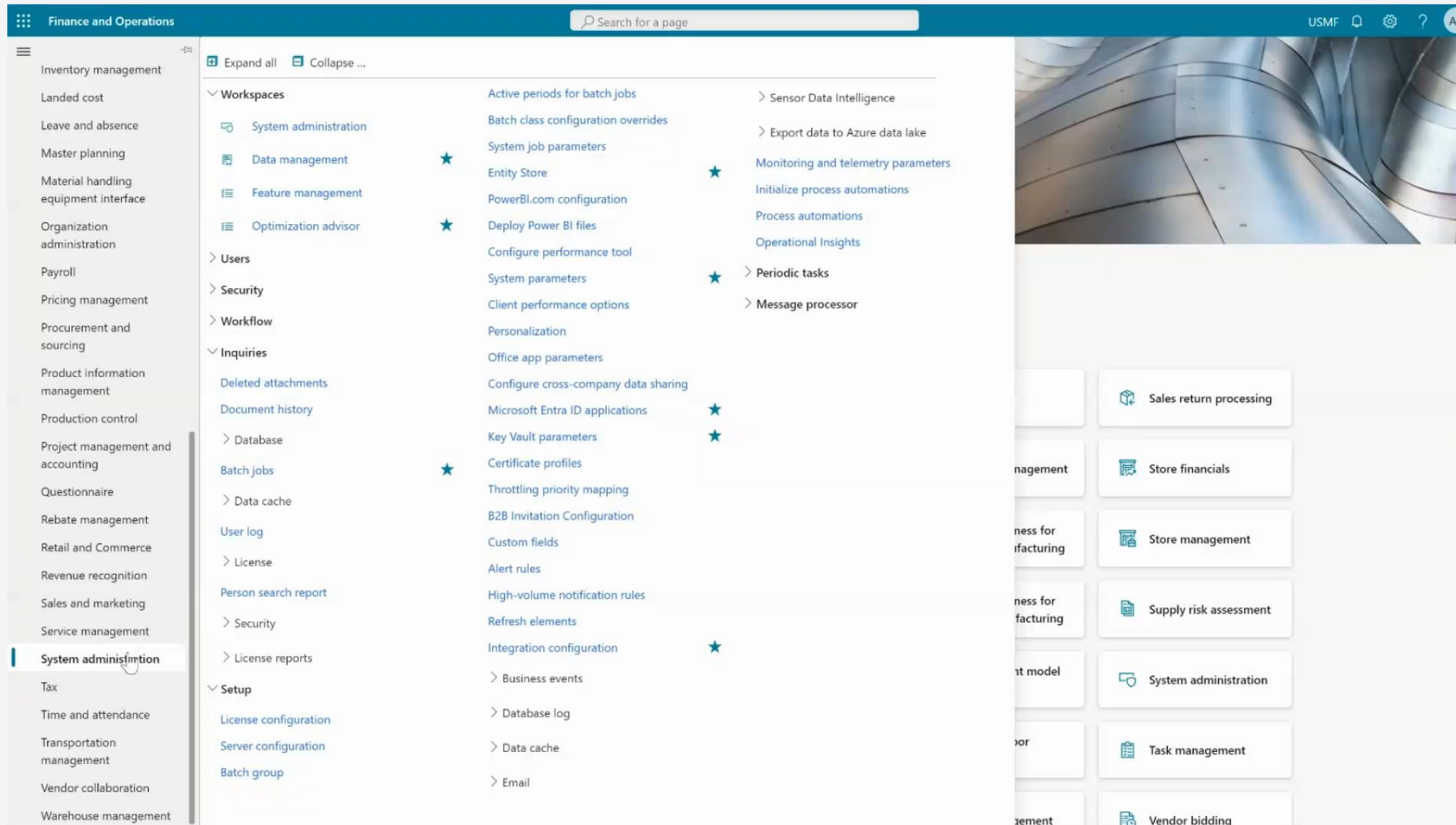
- HTTPS request towards the authentication tenant (e.g. https://login.microsoftonline.com/{{tenant_id}}/oauth2/token).
- Body parameters:
 - Client Id
 - Client Secret
 - Destination environment (Resource)

Response

- Access Token
- Expiration time (*DateTimeOffset* data type).

Suggestion: cache the access token until the expiration time to reuse it and avoid the authentication overhead.

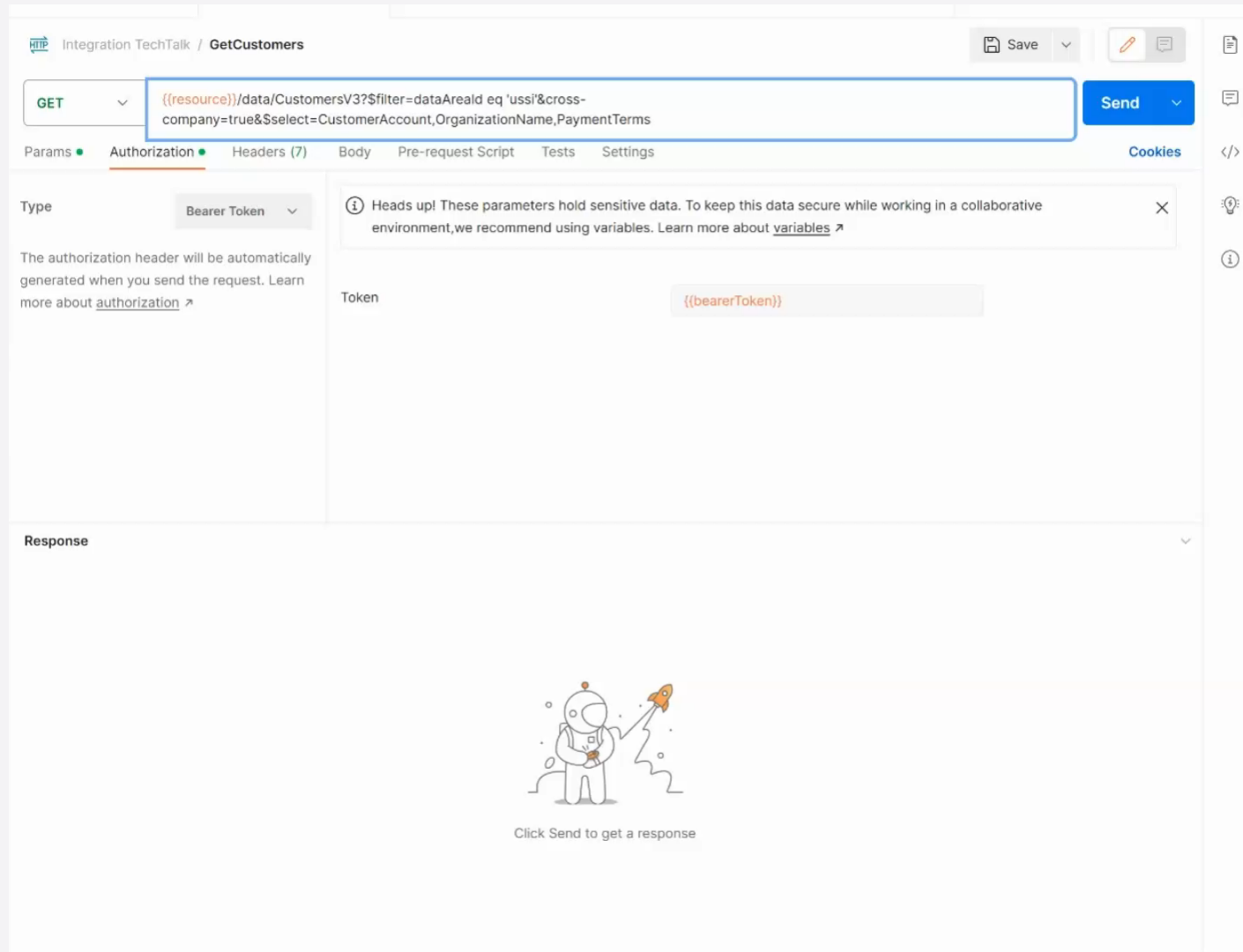
DEMO - Authorization



To authorize the application, you must associate the ClientID with a user in Dynamics 365:

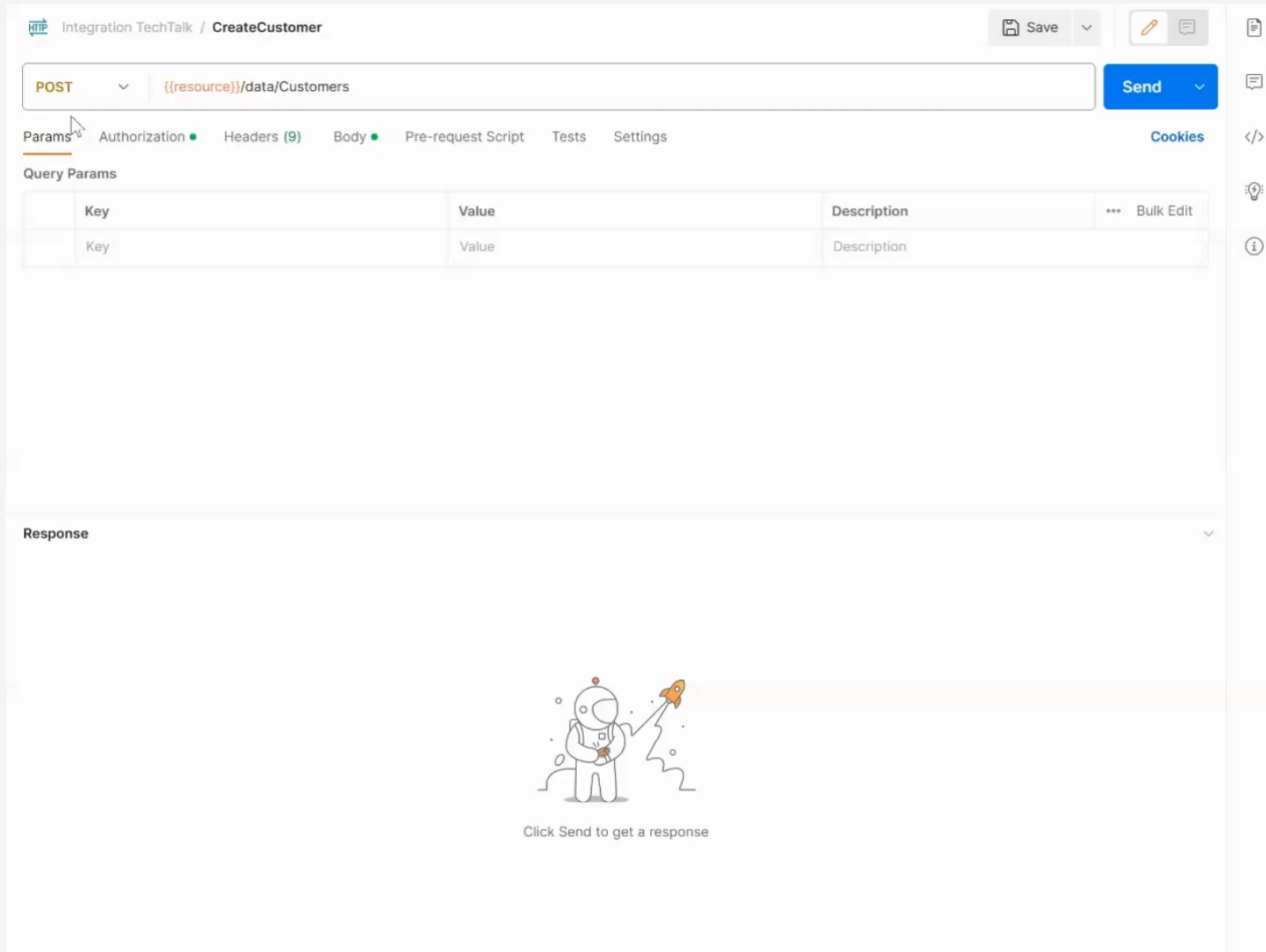
- Navigate to **System administration** → **Setup** → **Microsoft Entra ID applications**
- Add a new record entering Client ID and the associated user

DEMO – Get Customers (Postman)



Use an https GET to fetch data from the OData entity's endpoint.
The authorization token must be passed during the communication.
Dynamics 365 supports many OData parameters
Leverage filters and field list selection to minimize the payload and speed up the data exchange.

DEMO – Create customer (Postman)



Use an https POST to send records to Dynamics 365 finance and operations applications.
The authorization token must be passed during the communication.

OData Tips

- OData can include actions and trigger business logics.
- OData can explicitly use Enums under **Microsoft.Dynamics.DataEntities** namespace (e.g. *{Base URL}/data/Currencies?\'\$filter=ReferenceCurrencyForTriangulation eq Microsoft.Dynamics.DataEntities.NoYes\'No\'*).
- Run multiple requests in a single transaction using the **SaveChangesOptions.BatchWithSingleChangeset** parameter.
- You can write records posting only properties that are set explicitly using the **SaveChangesOptions.PostOnlySetProperties** parameters.
- OData does not support array fields in entities.

Consuming web services

External web services can be easily consumed by adding a reference in the code. You can create the reference directly in X++ or building a dedicated .NET class.

Pros

- Easy for developers to add and expose service endpoints to use with integration platforms.

Cons

- Requires ALM for coding and deployment of references into finance and operations apps.
- Risk of hardcoding connection strings and credentials in related code. Maintenance workloads and risks when the service is updated.

Tip

Use the standard Dynamics 365 functionality create and reference Key Vault parameters. The functionality allows to retrieve certificates and secrets without storing them in D365 or exposing them in the code.

Setup: **System administration** → **Setup** → **Key Vault parameters**.

[Set up the Azure Key Vault client - Finance | Dynamics 365 | Microsoft Learn](#)



Business & Data events

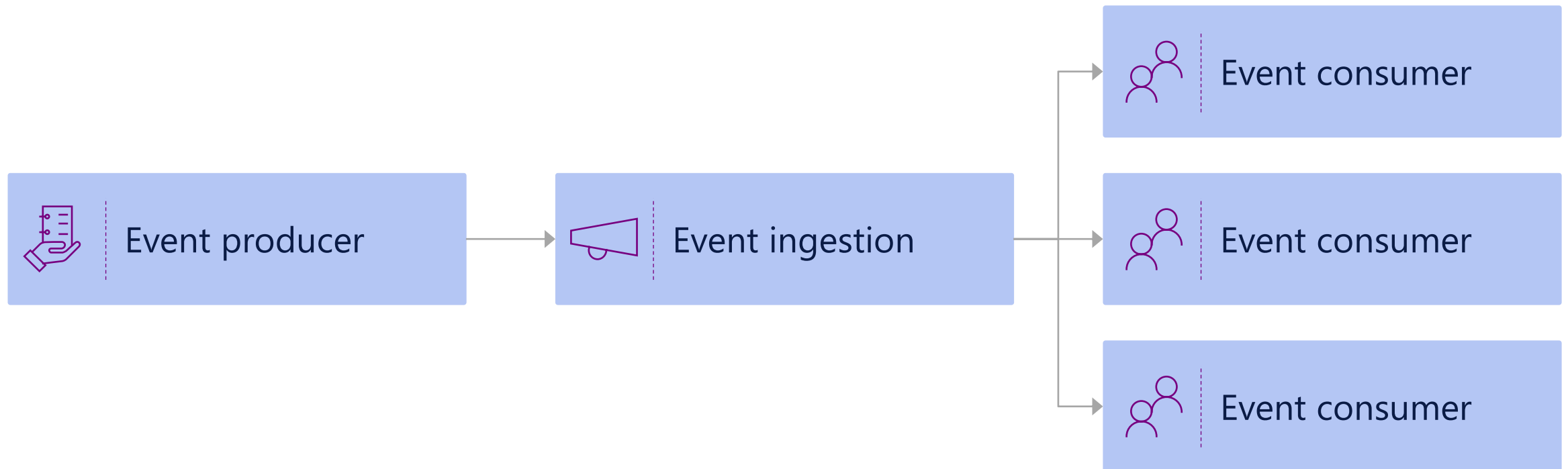
Event-driven architecture

Events produced in near real-time so that consumers can respond to events as soon as they occur.

Event producers and consumers are decoupled.

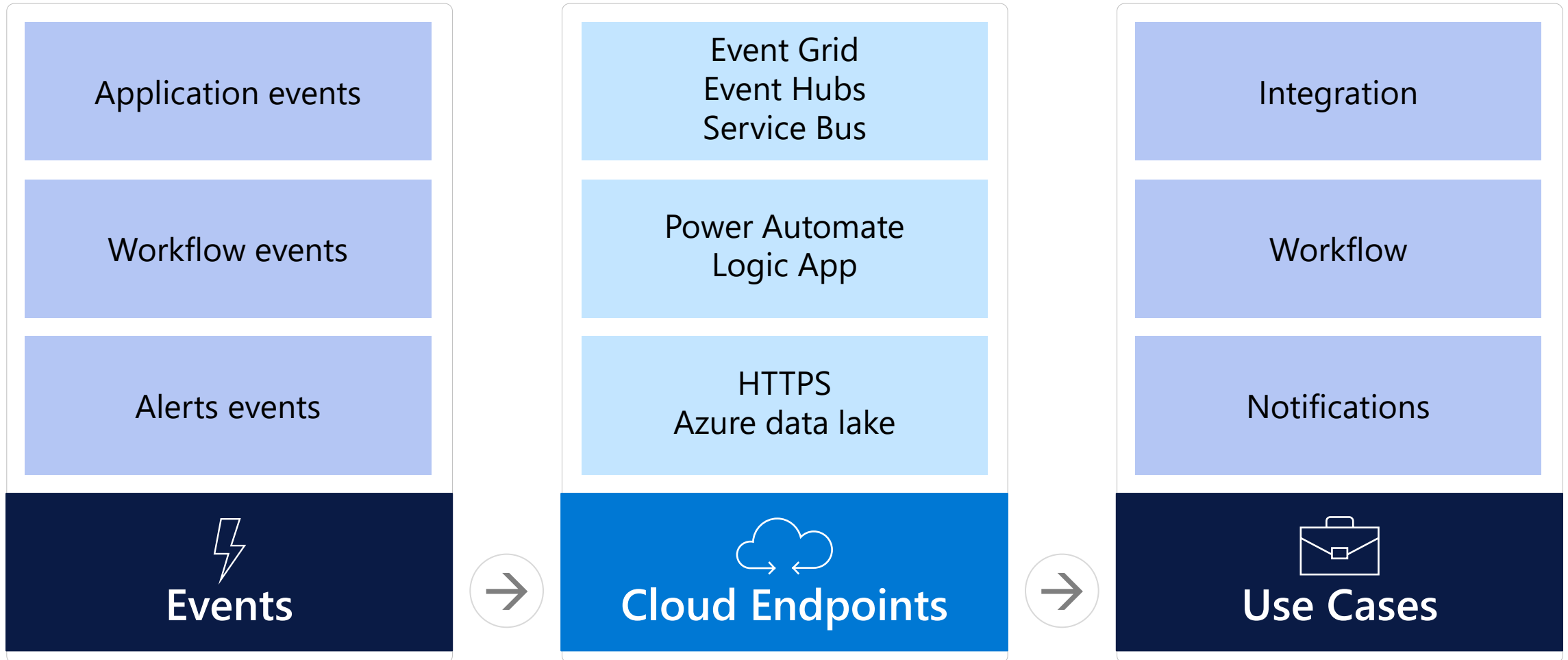
There's no point-to point-integration. It's easy to add new consumers to the system.

Highly scalable and distributed.



Business events

Business events to enable business process integrations between F&SCM and external systems in a decoupled fashion



- Small and nimble messages that have just enough information about the event
- Primarily defined at the level of a process step
- Several process events OOB

- App driven construct
- Configurable
- Customizable

Business events – Out-of-the box



APPLICATION EVENTS

Application events are emitted once specific business processes are completed in Procure to Pay, Quote to Cash etc.



BATCH EVENTS

Batch events are emitted as soon as the status of batch job changes i.e., Running, completed, error or cancelled.



WORKFLOW EVENTS

Workflow events on every workflow Configuration in Finance and Operations App. This can be used to trigger workflow notification and approval with external system such Power Automate



ALERT AS BUSINESS EVENTS

Finance and Operations alerts can be Sent externally using the business event and can be used for notification using Power Automate

Business event – Developer experience



Derive from Business Events Base

The Business Events Catalog looks for all classes deriving from the base class



Add Contract deriving from Business Events Contract

This will add a new business events contract



Refresh catalog via DbSync

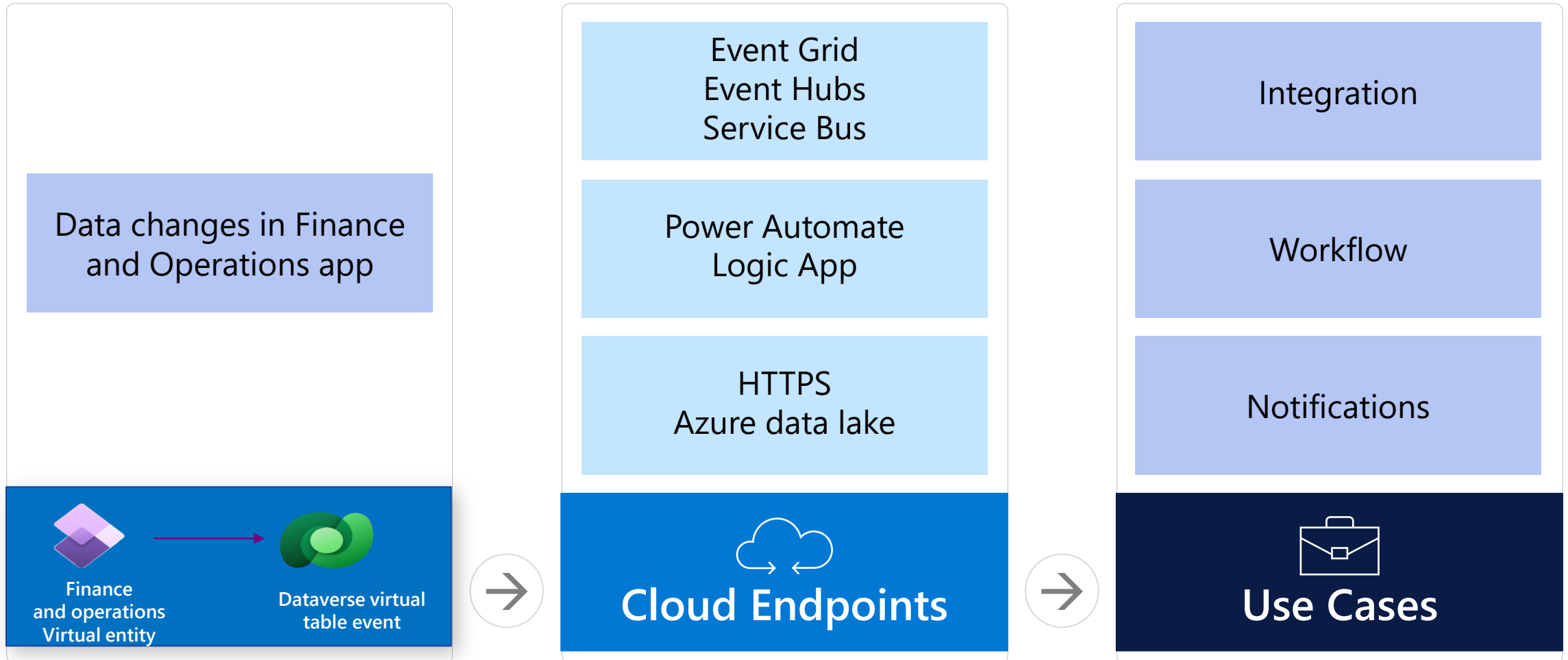
We decided to not refresh the catalog at all times. Generic workflows and Alerts are exceptions which refresh the catalog based on CUD events...



Configure the event

Data events

Data events to enable data change-based integrations between F&SCM and external systems in a decoupled fashion



- Payload of the data event contains the corresponding entity record.
- Data entities enabled for Open Data Protocol (OData) can emit data events.
- Power platform integration needs to be enabled.

Data events – Performance & Limitations



Performance

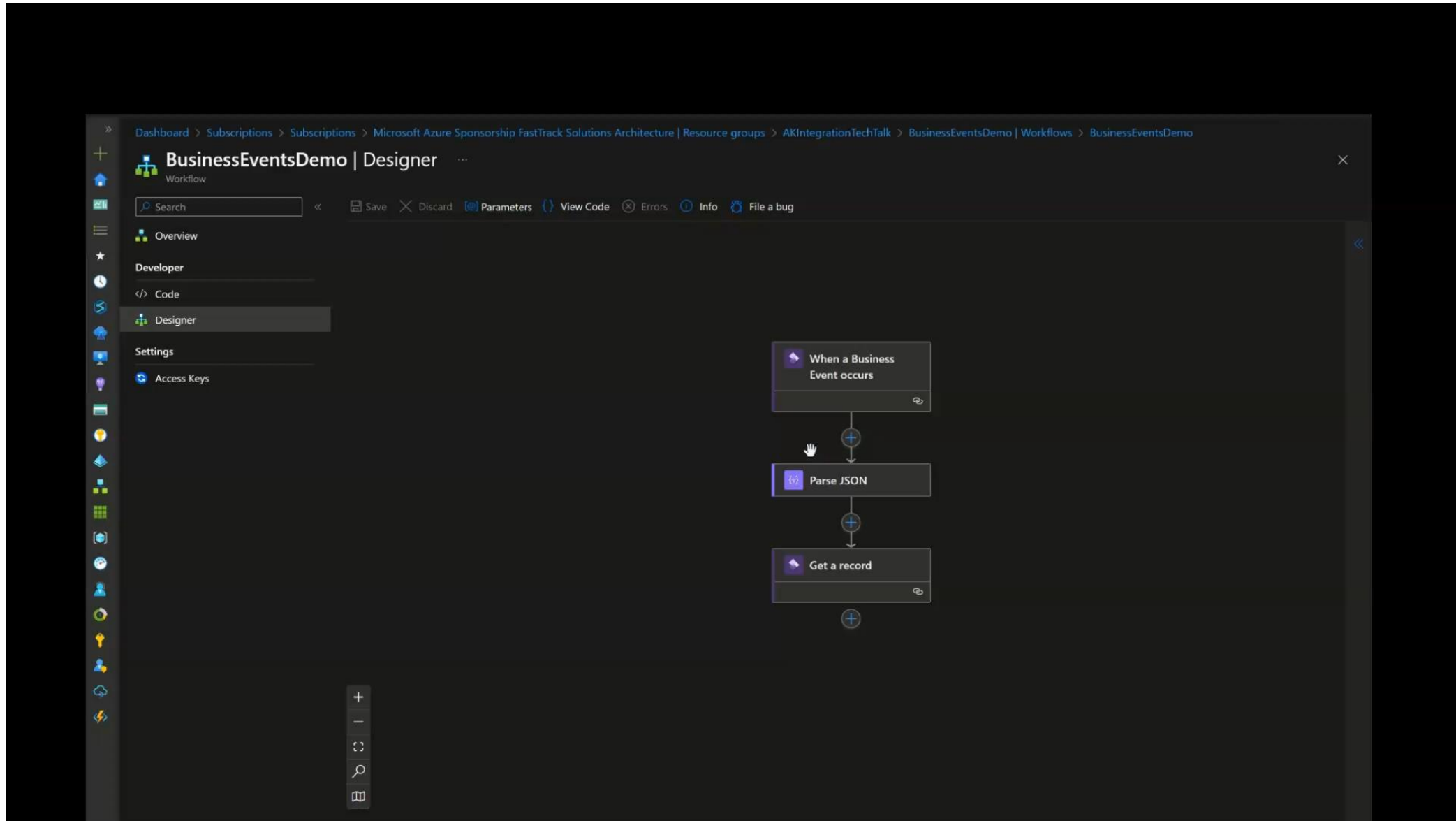
- Use of Data events and Dual write on same entity has performance impact.
- Supports a burst rate of 5,000 events per five-minute period, up to 50,000 events per hour, across all entities.
- Data events for update operations are inherently more expensive to process than data events for create and delete operations.



Limitation

Data events are not supported for updates to virtual fields

Demo – Business events





DMF Integration API's

Dataverse and Dynamics 365 F&O apps exposed endpoints




Endpoint	Apps	Direction	Latency	Operations	Batching available	Volume	Error handling	Best Suited for
OData	FO	Inbound	Synchronous	CRUDA	N	Low/Medium	No	Low to medium volume, a real-time, system to system integration
Web API	DV	Inbound	Synchronous Asynchronous	CRUDA	Y	Low/High	Extensible	OData v4 RESTful endpoint for any programming language that supports HTTP requests and authentication using OAuth 2.0.
Custom Service	FO	Inbound/Outbound	Synchronous	CRUDA	Y	Low/Medium	No	Low to medium volume, a real-time, system to system integration
Package API	FO	Inbound/Outbound	Asynchronous	CRU	Y	High	Yes	High volume asynchronous import/ export
Recurring Integration	FO	Inbound/Outbound	Asynchronous	CRU	Y	High	Yes	High volume asynchronous import/ export
Business/Data Events	FO DV	Outbound	Asynchronous	R	N	High	Yes	High volume status event notifications to subscribers, workflows, and outbound integrations
Synapse Link	FO DV	Outbound	Asynchronous	R	Y	High	Log	High volume data integration for Analytics
Virtual table	FO DV	Inbound/Outbound	Synchronous	CRUD	N	N/A	No	Integration of data residing in external systems without data replication.
SQL/TDS endpoint	DV	Outbound	Synchronous	R	N	Low/Medium	No	Read only access, respects Dataverse security. Should be used for analytics with PBI.
Plug-in	DV	Outbound	Synchronous Asynchronous	CRUD	Y	Low/Medium Medium/High	Yes	Event handler that executes in response to a specific event raised during processing of a Dataverse data operation. When running in sync mode, it executes as part of database transaction.
Webhook	DV	Outbound	Synchronous & Asynchronous	CUD	N	Low/Medium	Yes	Sends POST requests with JSON payload to an external service.

Legend

Operations: C- Create, R- Read, U-Update, A-Action
Batching available: Use endpoint on a set of records

Volume: Low – 0 to thousands, Medium – thousands to tens of thousand, High – hundreds of thousands to millions.
Error handling: No – errors are raised but not saved, Yes – errors are captured and saved, Log – errors are logged, Extensible – can use 3rd party tools internal extension tools for handling errors.

Comparing recurring integration and Package API

 Decision factor	 Recurring integrations API	 Data management framework's package API
Scheduling	Scheduling in Finance and Operations apps	Scheduling outside Finance and Operations apps
Format	Files and data packages	Only data packages
Supported protocols	SOAP and REST	REST
Service type	Custom service	Open Data Protocol (OData) action

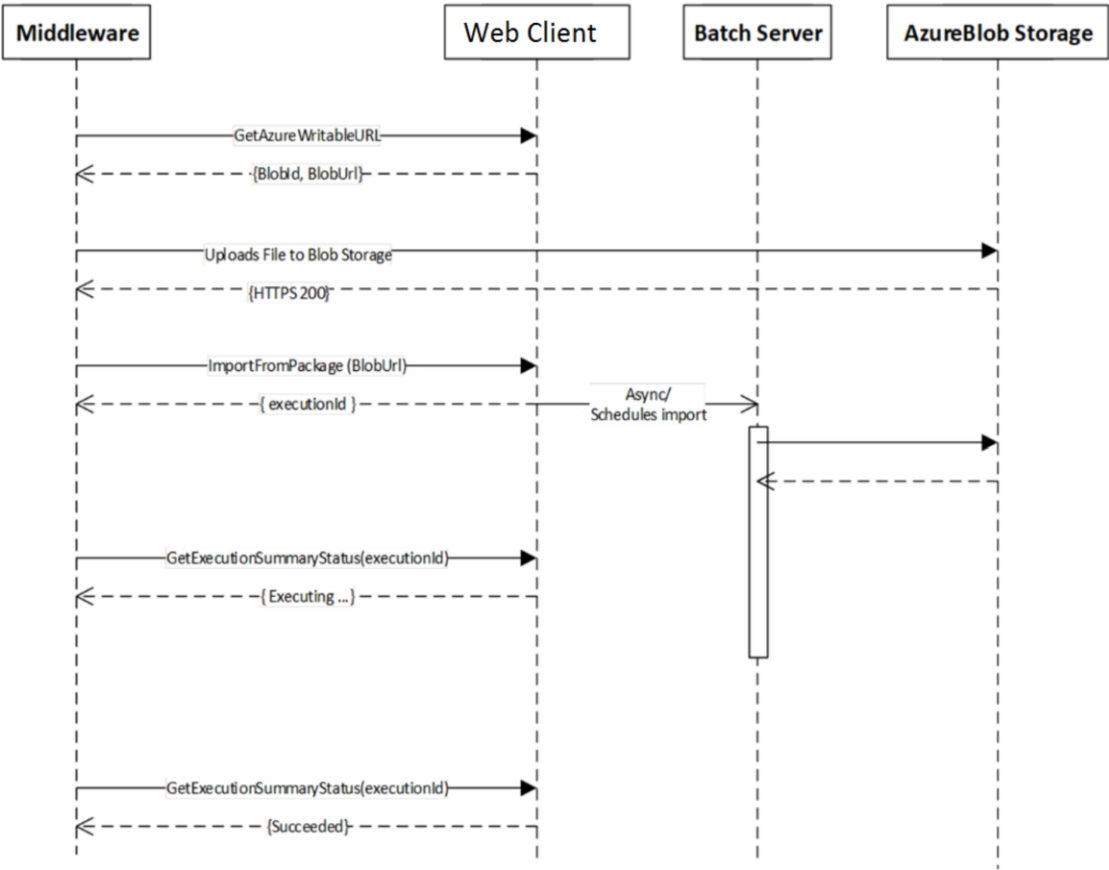
DMF Package API's

- **GetAzureWriteUrl** API is used to get a writable blob URL
- **ImportFromPackage** API is used to initiate an import from the data package that is uploaded to the Blob storage.

Input	Description
packageUrl	The URL of the data package in the Blob storage that is associated with a finance and operations app.
definitionGroupId	The name of the data project for import.
executionId	The ID to use for the job. This is called as Job ID in the UI. If an empty ID is assigned, a new execution ID will be created.
execute	Set this parameter to True to run the target step. Otherwise, set it to False .
overwrite	This parameter must always be set to False when a composite entity is used in a package. Otherwise, set it to True .
legalEntityId	The legal entity for the data import.

- **GetExecutionSummaryStatus** API to determine the status of DMF execution.

Import API



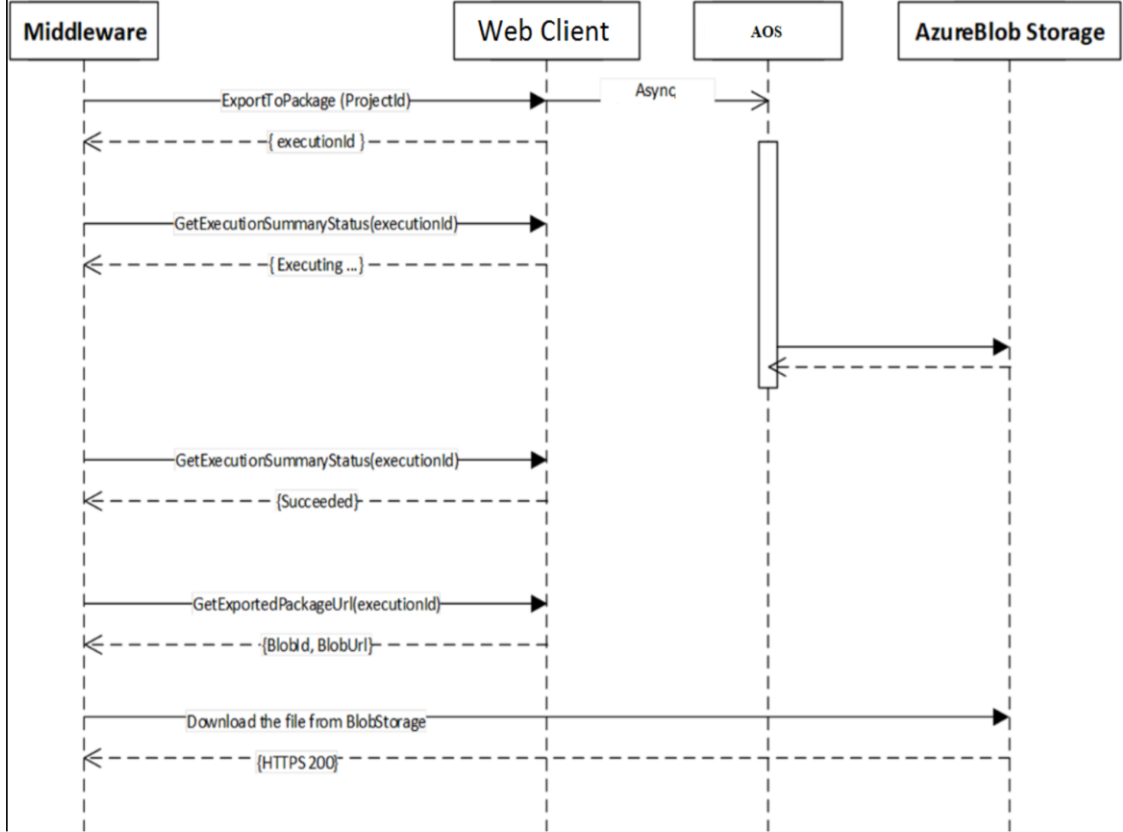
DMF Package API's

- ExportToPackage** API is used to initiate an export of a data package.

Input	Description
definitionGroupld	The name of the data project for export.
packageName	he name of the exported data package.
executionld	The ID to use for the job. This is called as Job ID in the UI. If an empty ID is assigned, a new execution ID will be created.
reExecute	Set this parameter to True to run the target step. Otherwise, set it to False .
legalEntityld	The legal entity for the data import.

- GetExportedPackageUrl** API is used to get the URL of the data package that was exported by a call to **ExportToPackage**.
- GetExecutionSummaryStatus** API to determine the status of DMF execution.

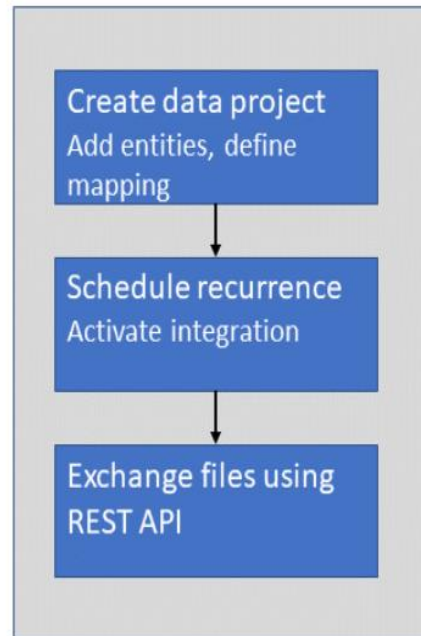
Export API



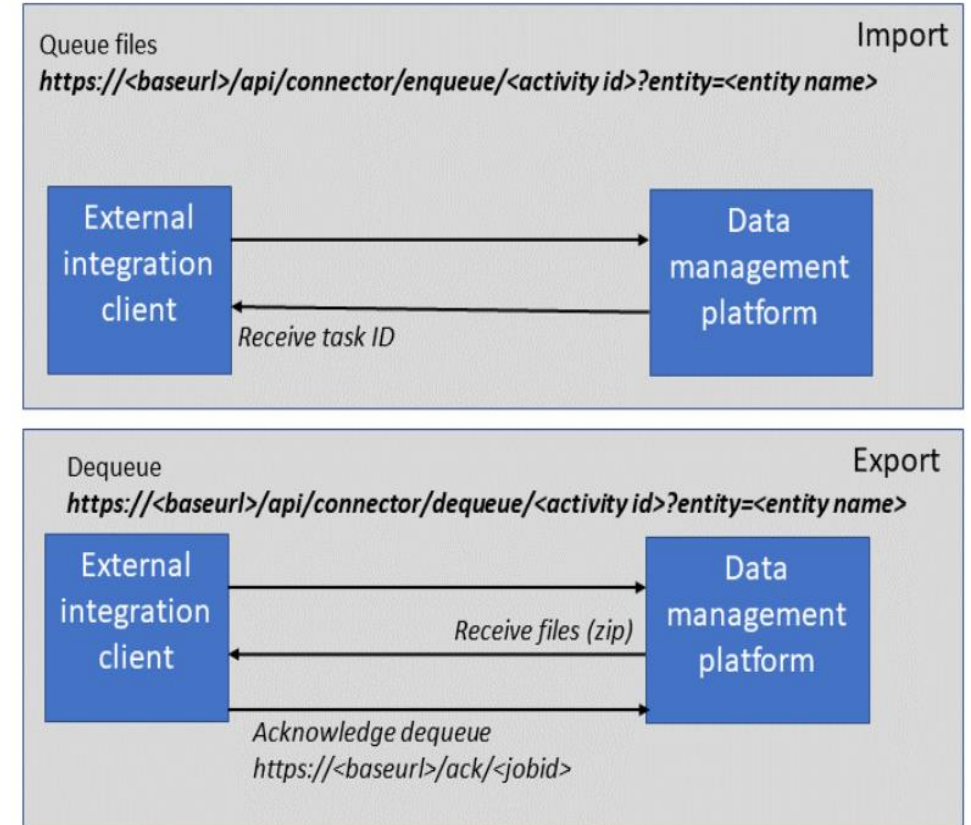
Recurring API's

- This feature is not supported with Dynamics 365 Finance + Operations (on-premises).
- Activity ID from **Manage scheduled data jobs** page, in the **ID** field, copy the globally unique identifier (GUID).

1. Set up integration



2. Send and receive files



Recurring Integrations

Parallel package import

- DMF parameters > Compatibility options > Data project and job compatibility option
- When this option is enabled, all package imports through the Rest API and recurring imports will create Package API projects on the fly for the specific import job
- More DMF compatibility options : [Data import/export framework parameters](#)

Data import/export framework parameters

General

Entity settings

Bring your own database

Compatibility options

Compatibility options

The XML file format settings can be used to change the casing of XML schema when using XML-Attribute or XML-Element format types for an entity.

Flat file compatibility options

Enable header for fixed width file

Validate file format with file extension

☐ No

☐ No

XML file format compatibility

Entity names in non-upper case

Attribute names in non-upper case

Attribute names in non-upper case

Enable enum symbols

☐ No

☐ No

☐ No

☐ No

Data project and job compatibility

Ensure unique execution ID

Run data package export API synchronously

Enhanced parallel package import

☐ No

☐ No

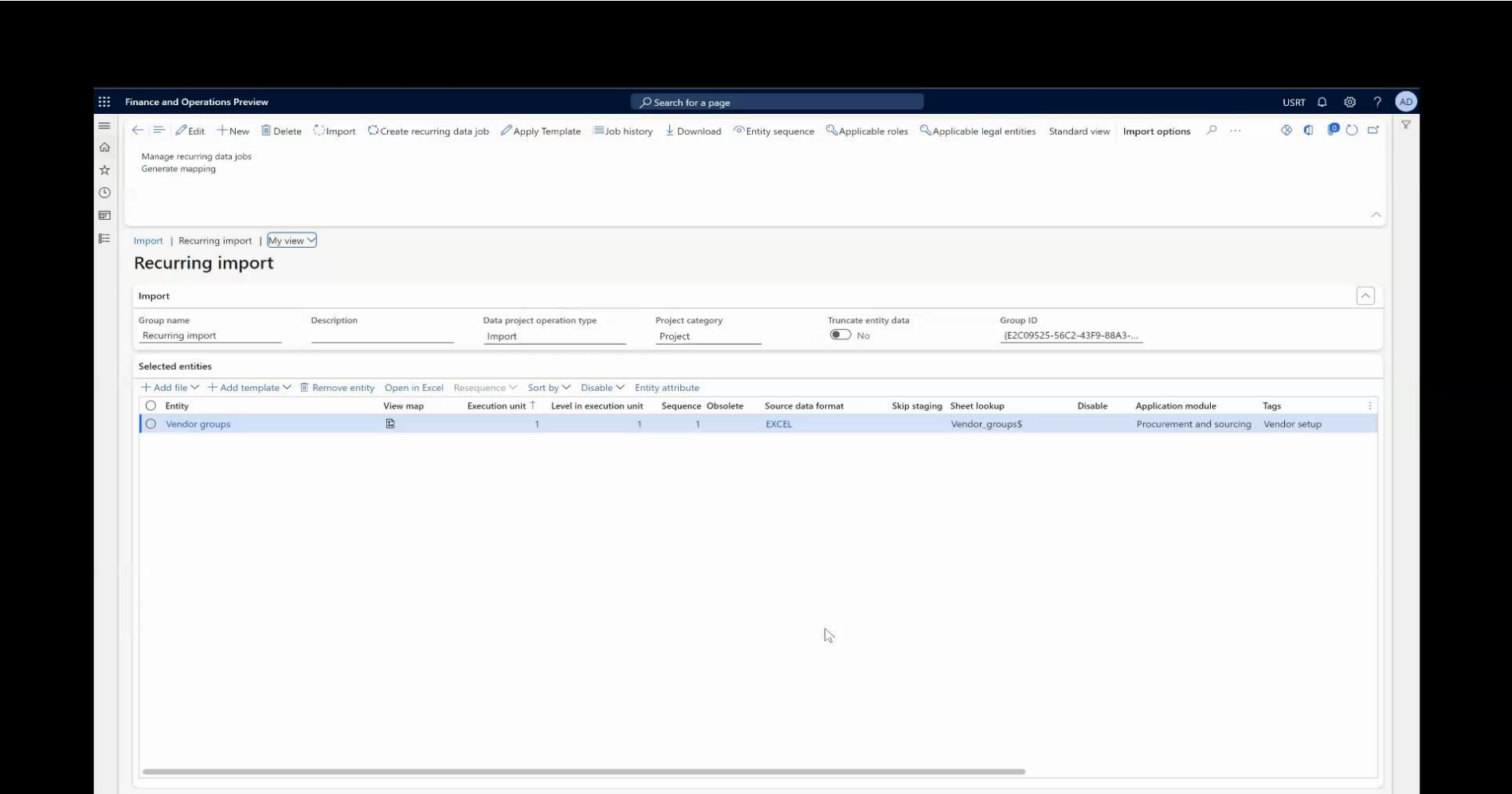
☐ No

Recurring integrations compatibility

Skip reprocessing in process recurring integrations

☐ No

Demo – DMF Integration API's





Azure Synapse Link and Dynamics 365 FO applications

Azure Synapse Link and Finance and Operations applications

What is it?

Azure Synapse Link for Dataverse is a service that's designed for enterprise big data analytics. It provides scalable high availability together with disaster recovery capabilities. Data is stored in the Common Data Model format, which provides semantic consistency across apps and deployments.

Microsoft Azure Synapse Link for Dataverse lets you choose data from finance and operations apps. Use Azure Synapse Link to continuously export data from finance and operations apps into Azure Synapse Analytics and Azure Data Lake Storage Gen2.

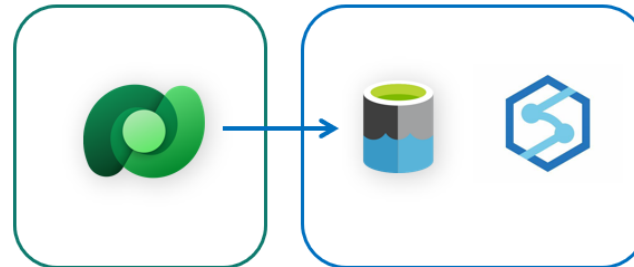
Latency

- Near real-time data replication, PaaS with BYOL. Service Level Objective (**not SLA!**) of 15 mins.
- SaaS available (preview)!
- Materialize F&O Entities
- Built for potential ACID with Delta format

Security

- You can limit access to your storage account to requests from specified IP addresses, IP ranges, subnets in an Azure Virtual Network (VNet), or resource instances of some Azure services.

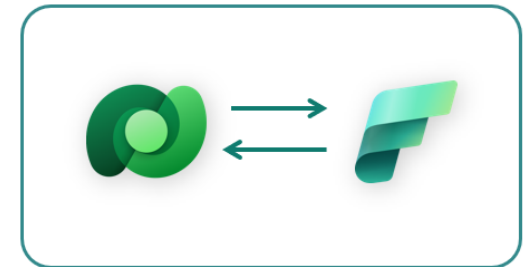
Synapse Link for Dataverse



Continuous export to Data lake enables easier integration for IT admins and Data engineers

- Export data and build your own pipelines
- System configures and automates

Link to Microsoft Fabric



No copy, No ETL, two-way integration enables Low code users to do more with data

- Data stays in Dataverse – secure access in Fabric
- No need to bring storage - uses DV storage

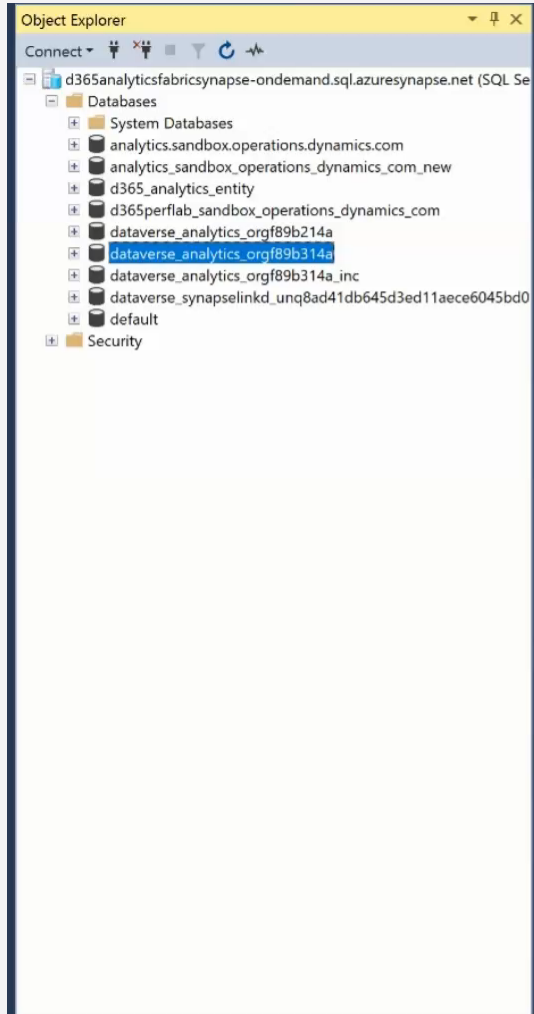
!Not suitable for real time or very near-time latency integrations!

Azure Synapse Link and Finance and Operations applications

Criteria	(PaaS) Synapse link BYOL (CSV)	(PaaS) Synapse link BYOL (Delta)	(SaaS)Direct link to Microsoft Fabric
Ease of Administration	Customer managed PaaS resources- Storage account & Synapse	Customer managed PaaS resources- Storage account & Synapse	Managed by Microsoft
	Service Principal	Service Principal	
Security	Firewall support on storage account	Firewall support on storage account and synapse workspace	Managed by Microsoft
Query Performance	Data format : CSV No read-write contention Incremental update in each csv High read cost	Data format : Delta No read-write contention as Delta supports ACID (atomicity, consistency, isolation, and durability) Low cost and better-read performance	
End to end data freshness	Data freshness (Configurable) – 15 Min – 24 hrs	Data freshness (Configurable) – 15 Min – 24 hrs Data ready for reports	Data freshness ~1 hour Data ready for reports
Data write and storage costs	Data Lake storage + Transaction	Data Lake storage + Transaction + Delta lake conversion/maintenance	DV capacity (entitlement+ add-on)
Compute cost	Query cost + Data conversion + Maintenance of the pipeline as PaaS solutions	Query cost + Maintenance of the pipeline as PaaS solutions (Simpler PaaS)	Fabric capacity cost

Don't miss the dedicated TechTalk series: [Synapse Link for Dataverse: Transitioning from Export to Azure Data Lake to Synapse Link](#) !!!

Azure Synapse Link and Finance and Operations applications



On premises integrations

Main options

On premises integrations

Primary options



The outbound IP address from the AOS will be an IP address from the listed ranges based on the Azure region of your deployment. The specific outbound IP address may vary across outbound requests, even from within the same session.

See [Self-service deployment FAQ - Finance & Operations | Dynamics 365 | Microsoft Learn](#) for the full list

Geography	Azure region	IP prefixes ¹
Asia Pacific	East Asia	52.229.231.64/26
Asia Pacific	Southeast Asia	20.44.247.0/26
Australia	Australia East	20.40.190.0/26
Australia	Australia Southeast	20.40.165.192/26
Azure Government	US Gov Texas ²	52.243.163.224/28
Azure Government	US Gov Virginia	52.227.253.160/28
Brazil	Brazil South	191.234.130.0/26
Canada	Canada Central	20.151.60.0/26
Canada	Canada East	52.155.27.128/26
China	China East 2	52.131.245.128/26
China	China North 2	52.130.157.64/26
Europe	North Europe	52.155.160.192/26
Europe	West Europe	20.61.88.128/26 51.105.159.192/26
France	France Central	51.138.205.48/28

On premises integrations

Primary options

On-Premises data gateway

Connectivity –acts as a bridge. It provides secure data transfer between on-premises data and several Microsoft cloud services including Power Apps, Power Automate and Azure Logic Apps. Read and write supported

Limits - 2-MB payload limit for write operations.
2-MB request limit and an 8-MB compressed data response limit for read operations.

[Official documentation](#)

Azure Relay

Behavior – takes existing WCF web services and makes them securely accessible to solutions that are outside the corporate perimeter without requiring changes to the network. They they delegate listening for incoming sessions to the cloud-hosted relay service.

Building – Azure Relay requires coding as the on-premises relay service must be built by experienced developers.

[Official documentation](#)

API Management

Value – APIs are used to abstract and modernize legacy backends and make them accessible from cloud services and modern applications.

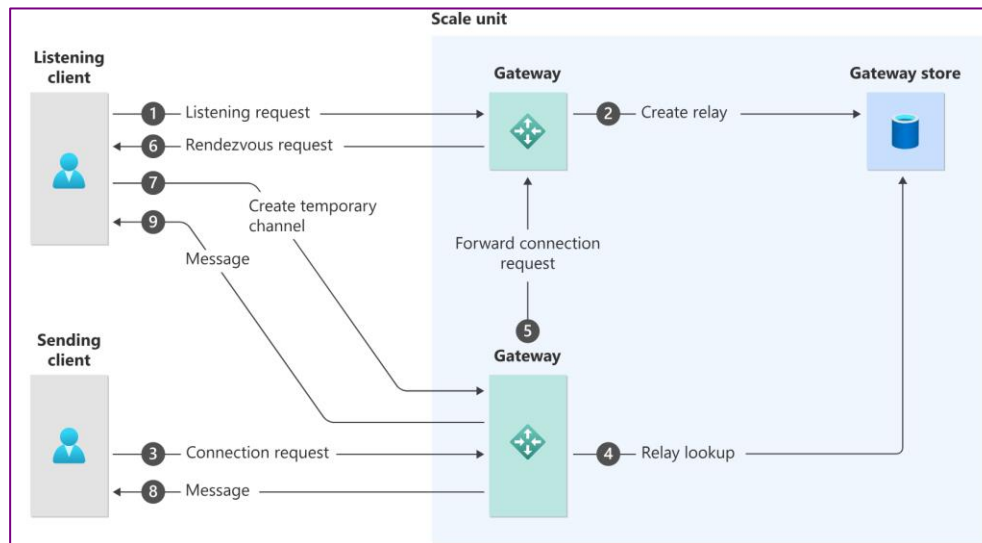
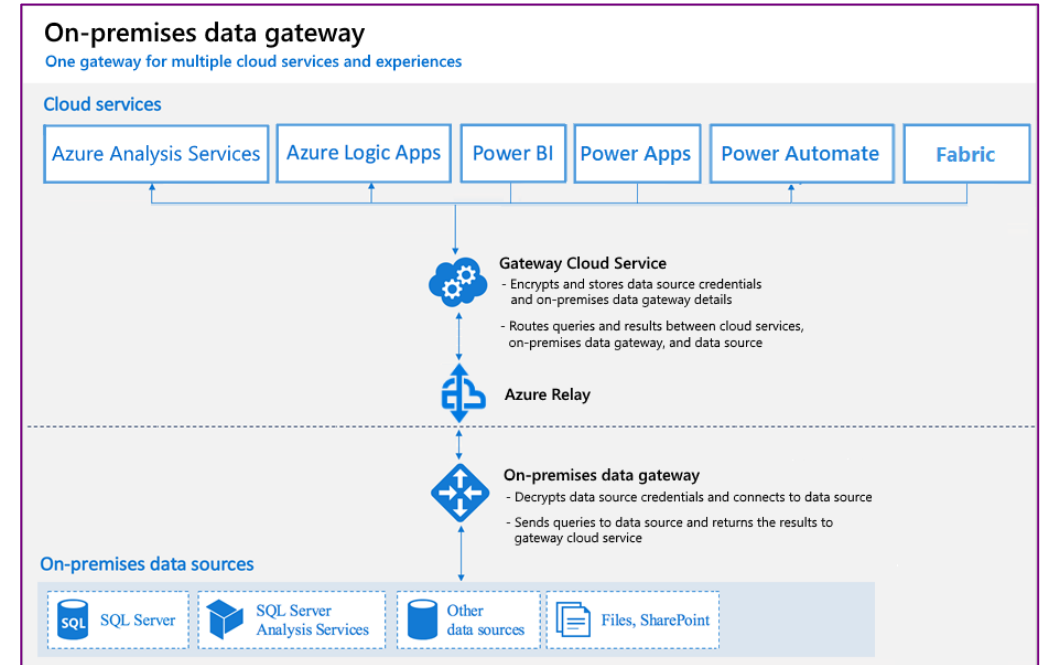
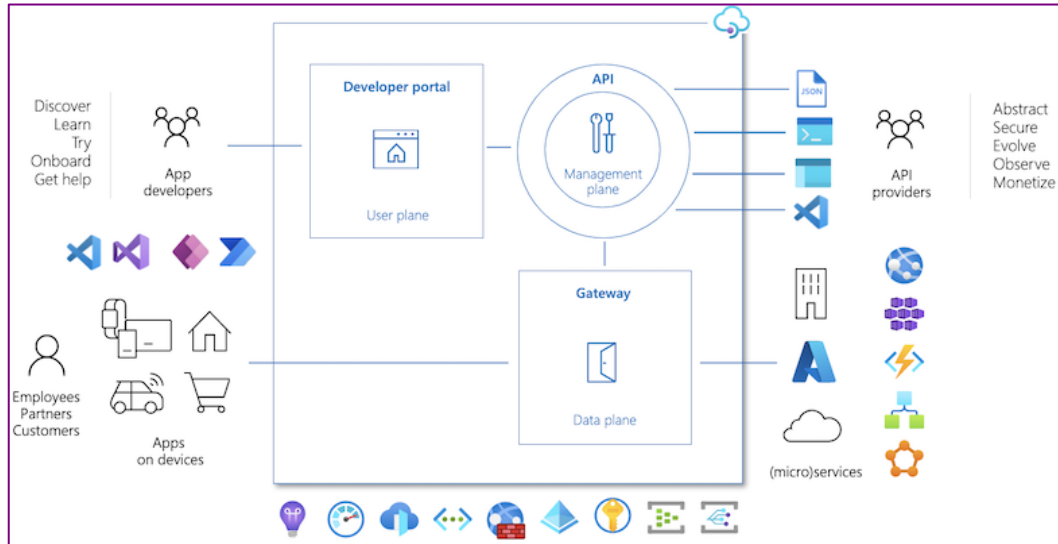
Hybrid management – it exposes a containerized version of the API Management gateway component to the same environments where APIs sit

Integrated – with Azure Key Vault, Azure Monitor, Application Insights, Virtual networks, private endpoints, and Application Gateway, Microsoft Entra ID...

[Official documentation](#)

On premises integrations

Primary options



Enterprise hybrid solution can integrate many tools and leverage the best of each one ...



Exposed services

Exposed services/integrations

Inventory Visibility

MES integration

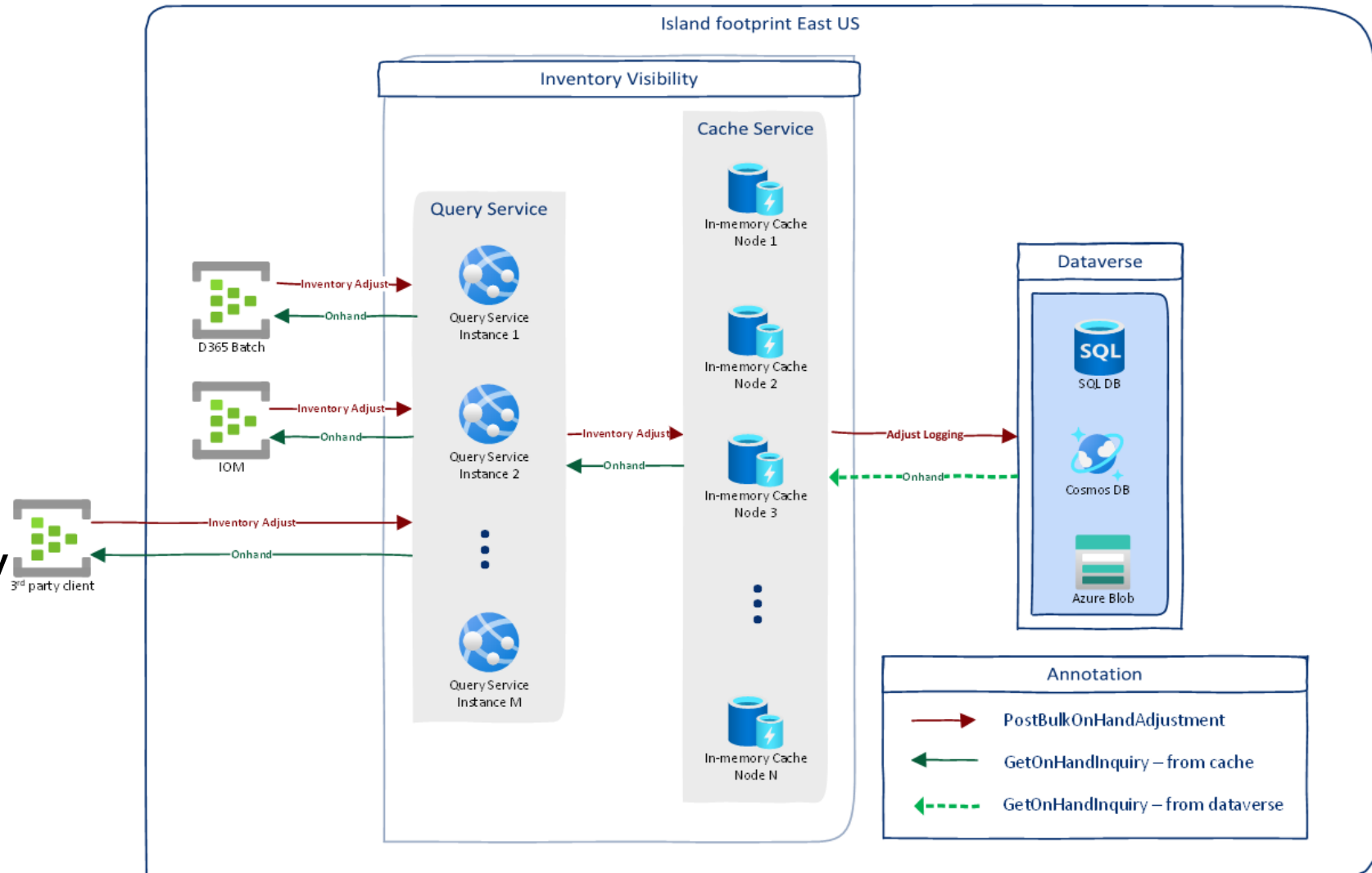
Sensor Data
Intelligence*

Pricing Service*

*Currently in preview

Inventory visibility

The Inventory Visibility service provides an independent and highly scalable microservice that enables real-time on-hand inventory visibility tracking across all your data sources and channels.

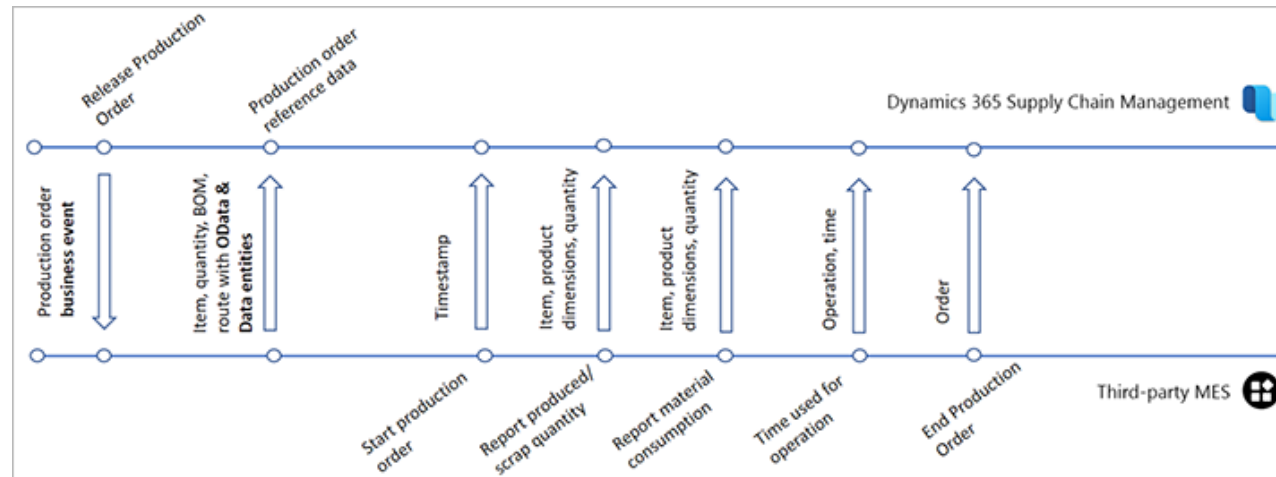


MES Integration

MES integration solution makes it faster, easier, and cheaper for Supply Chain Management users to integrate with third-party MESs.

MES integration offers:

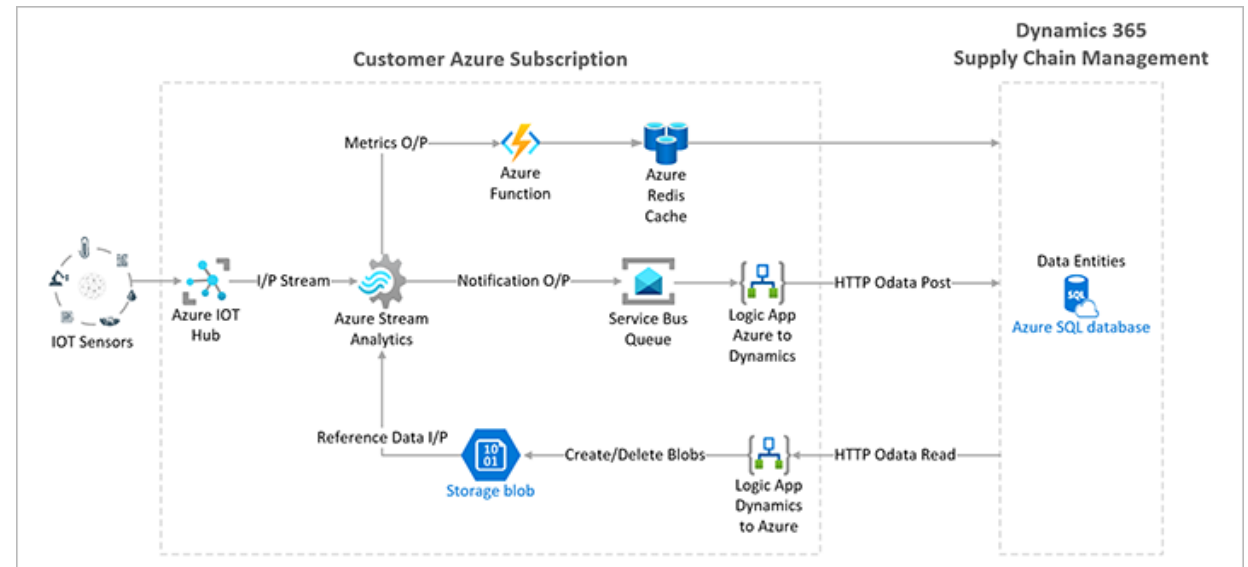
- Business events and interfaces that support **key manufacturing execution processes**
- A centralized dashboard where you can track the event processing history, and troubleshoot and fix processes that fail



Sensor Data Intelligence*

Sensor Data Intelligence for Microsoft Dynamics 365 Supply Chain Management enables organizations to drive business processes in Supply Chain Management, based on Internet of Things (IoT) signals from machines and equipment on the production floor. Tasks enabled:

- Set up the solution by using a simple onboarding wizard
- Collect details from machines and equipment to update maintenance asset counter values
- **Deploy components on your own subscription**
- Configure, scale, and extend the solution as business logic that runs on Azure components

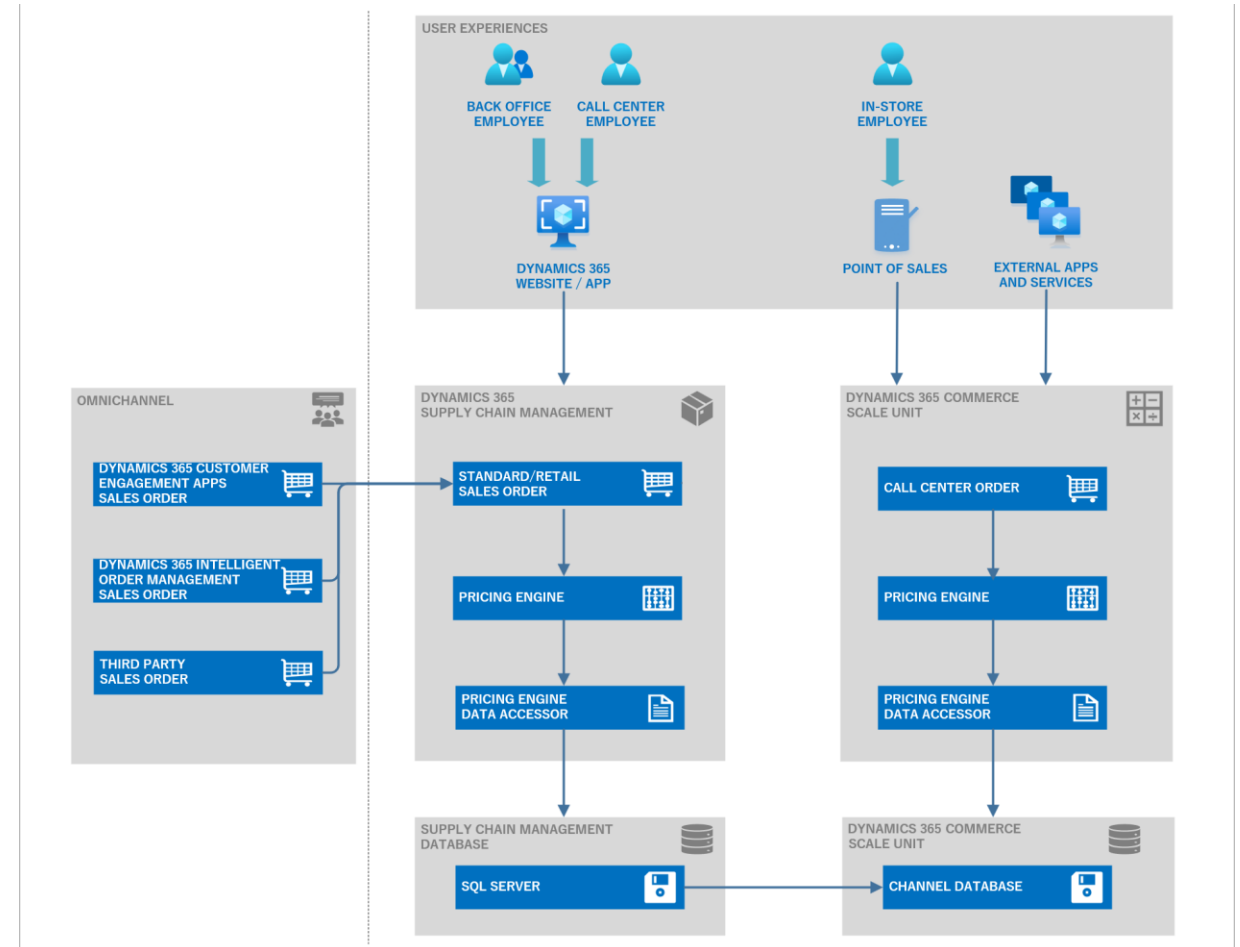


*Currently in preview

Pricing service*

D365 Supply Chain Management uses the [Commerce Scale Unit \(CSU\) Core](#) to help traditional B2B companies embrace omnichannel pricing. The CSU Core function provides the following capabilities:

- Offer, manage, and calculate pricing, and provide transparent pricing across channels.
- Quickly determine prices while you also consider a range of commercial aspects, such as general base prices, sales trade agreements, etc.
- Create pricing data models that are based on price attributes.
- Manage complex price structures and sophisticated pricing rules.
- Simulate prices, and show price calculations.
- Use enhanced discount budget controls to help avoid margin leakage from fund consumption.
- Use the [CSU-based pricing API](#) for Dynamics 365 Commerce to enable pricing calculations to be retrieved by a native Commerce point of sale (POS) system and/or **consumed by external applications** to support different pricing scenarios



Resources



Dataverse Integration Resources

Integration guidance

- ✓ [Integration between finance and operations apps and third-party services](#)
- ✓ [Choose a pattern for integration](#)
- ✓ [Identify data integration patterns and scenarios in finance and operations apps](#)
- ✓ [Dynamics 365 solution architecture best practices for integration](#)

Technical Talks

- ✓ [Dynamics 365 Integration General Guidance](#)
- ✓ [Synapse Link for Dataverse: Transitioning from Export to Azure Data Lake to Synapse Link](#)
- ✓ [Business Events Overview](#)

Patterns

- ✓ [Service endpoints overview](#)
- ✓ [Open Data Protocol \(OData\) - Finance & Operations](#)
- ✓ [Custom service development - Finance & Operations](#)
- ✓ [Recurring integrations](#)
- ✓ [Consume external web services](#)
- ✓ [Data management package REST API](#)

Hybrid solutions tools

- ✓ [What is an on-premises data gateway? | Microsoft Learn](#)
- ✓ [What is Azure Relay? - Azure Relay | Microsoft Learn](#)
- ✓ [Azure API Management - Overview and key concepts | Microsoft Learn](#)



QUESTIONS

Q&A



Is there any best-practice scenario to update data in F&O from outside but not via OData connector with its list of Entities ?

There are many ways to update data and guidance is based on many factors i.e., Volume, frequency etc. These options are discussed in session 1 of this series as well as explained here :

[Integration between finance and operations apps and third-party services](#)



Is CSU needed for accessing pricing via CE / Sales via Dual write ?

Not required but you can use the API's as per your requirement. In Supply Chain Management version 10.0.34 and later, an improved approach to pricing for sales quotations and sales orders is available. In this approach, Supply Chain Management becomes the price master, and no price-related calculations are done in Sales. For details about how to set up and enable this new approach, see [Enable and configure extra efficiency in quote-to-cash with Dynamics 365 Sales](#). For more information about this feature, see [Sync on-demand with the Supply Chain Management pricing engine](#).

Q&A

Is there a way to do OData batch request without using C# and such as in Logic App http connector ?



It is possible to send batch request using HTTP connector or any other client. The batch request MUST contain a Content-Type header specifying a content type of multipart/mixed and a boundary specification must be defined in the Batch Request Body section. Batch requests SHOULD contain the applicable OData-Version header as well. You can mimic the requests sent via Dynamics office add-in connector using Fiddler or get more details here : [OData batch requests](#)

When does a data events triggers ?



Data events are events that are based on changes to data in finance and operations apps. Create, update, and delete (CRUD) events can be enabled for each entity. All standard and custom entities in finance and operations apps that are enabled for Open Data Protocol (OData) can emit data events. If the data changes to any of the underlying data sources for an entity, it emits an event open for consumption containing the entity record.

Dankie Faleminderit **Shukran** Chnorakaloutioun Hvala Blagodaria
Děkuji **Tak** Dank u Tänan Kiitos **Merci** Danke Ευχαριστώ A dank
Mahalo ἰτι. **Dhanyavād** Köszönöm Takk Terima kasih **Grazie** Grazzi

Thank you!

감사합니다 Paldies Choukrane Ačiū Благодарам ありがとうございます
谢谢 Баярлалаа **Dziękuję** Obrigado Mulțumesc **Спасибо** Ngiyabonga
Ďakujem **Tack** Nandri Kop khun Teşekkür ederim Дякую Хвала Diolch

