Den stora teknikkdagen

Integration in M3 cloud

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Date 240125

Where we are now

What we want to do to get even better

Common mistakes we se in cloud

Agenda

01

Integration in cloud

Basic description of the integration landscape

- Infor OS
- M3

02

Where are we now?

How we work with to improve our services, future focus areas

- Statistics
- Monitoring
- What we deliver

03

Common mistakes in Cloud

Things to think of when building integration in cloud, based on our experience

04

Roadmaps and plans ahead

What has been delivered the last year and what are our plans

- Integrations
- Platform

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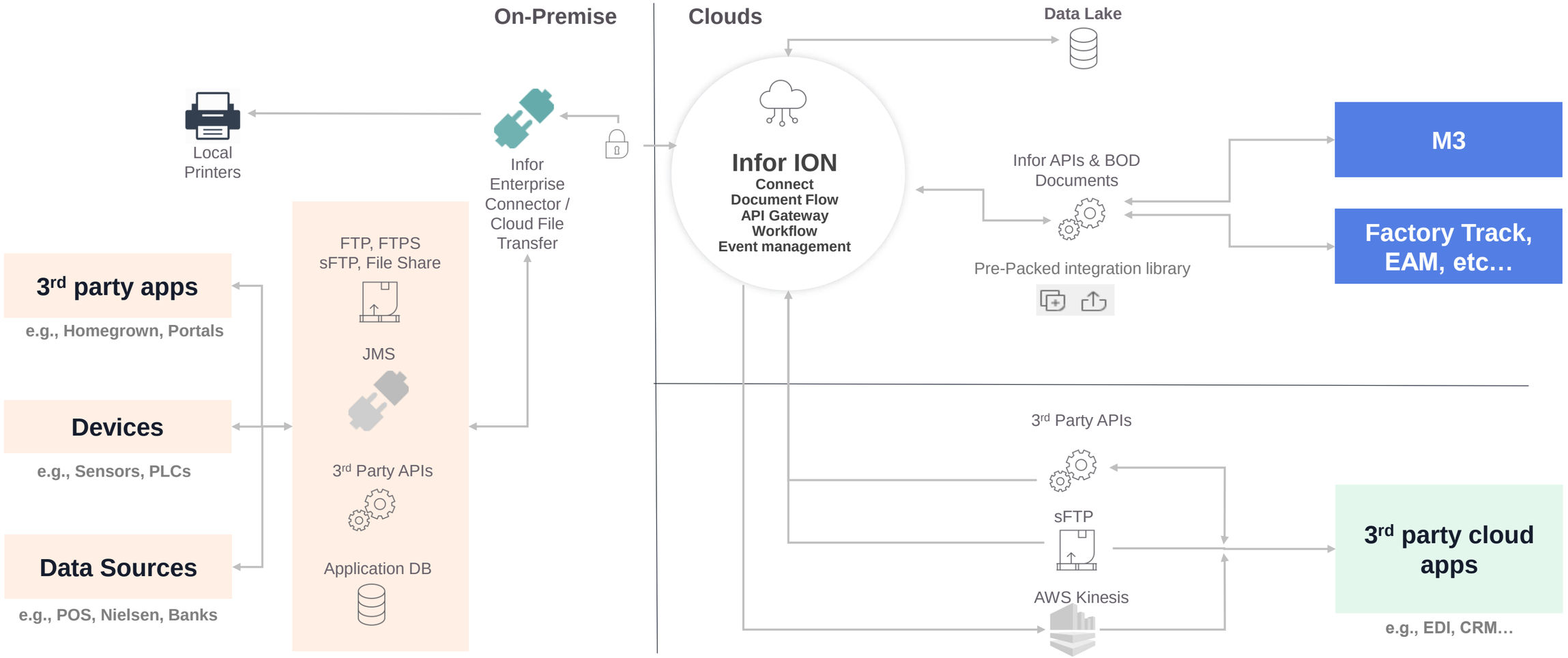
Accelerating innovation for the enterprise

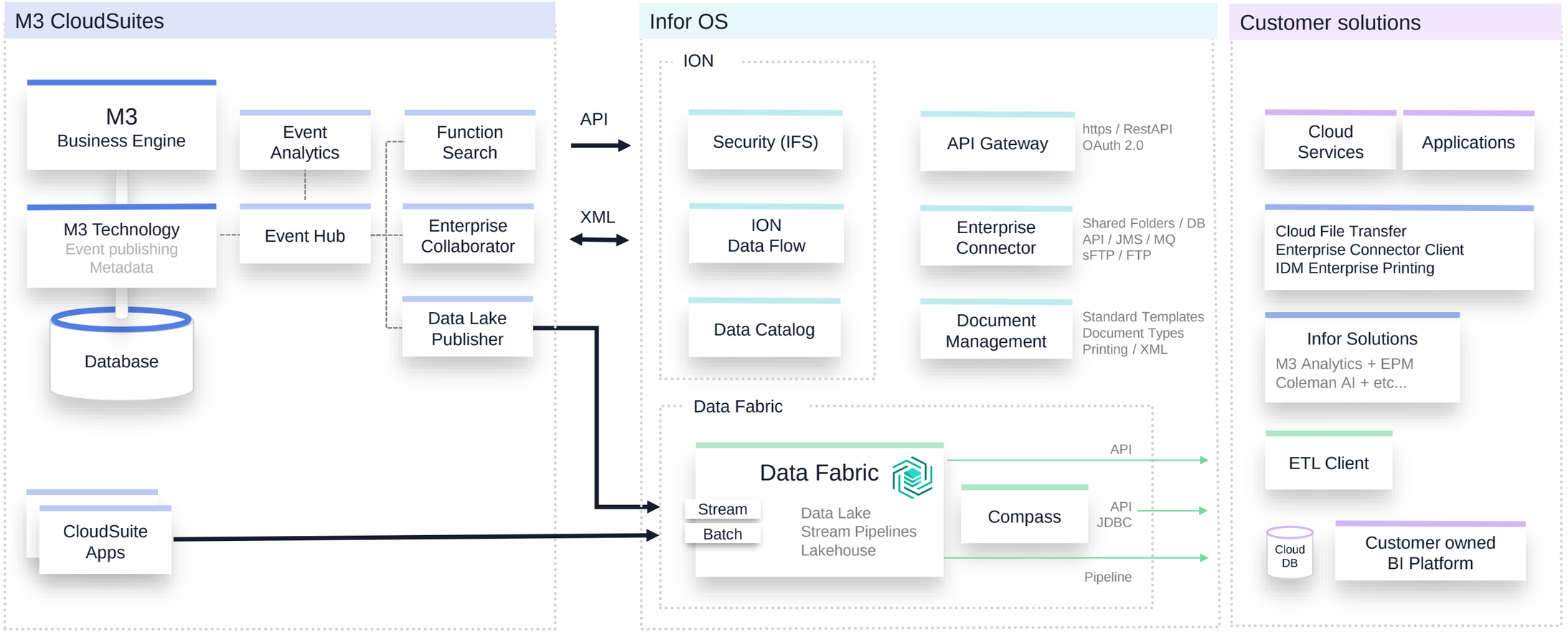
Connect	Transform
Automate	Extend

Infor ION: Connectors

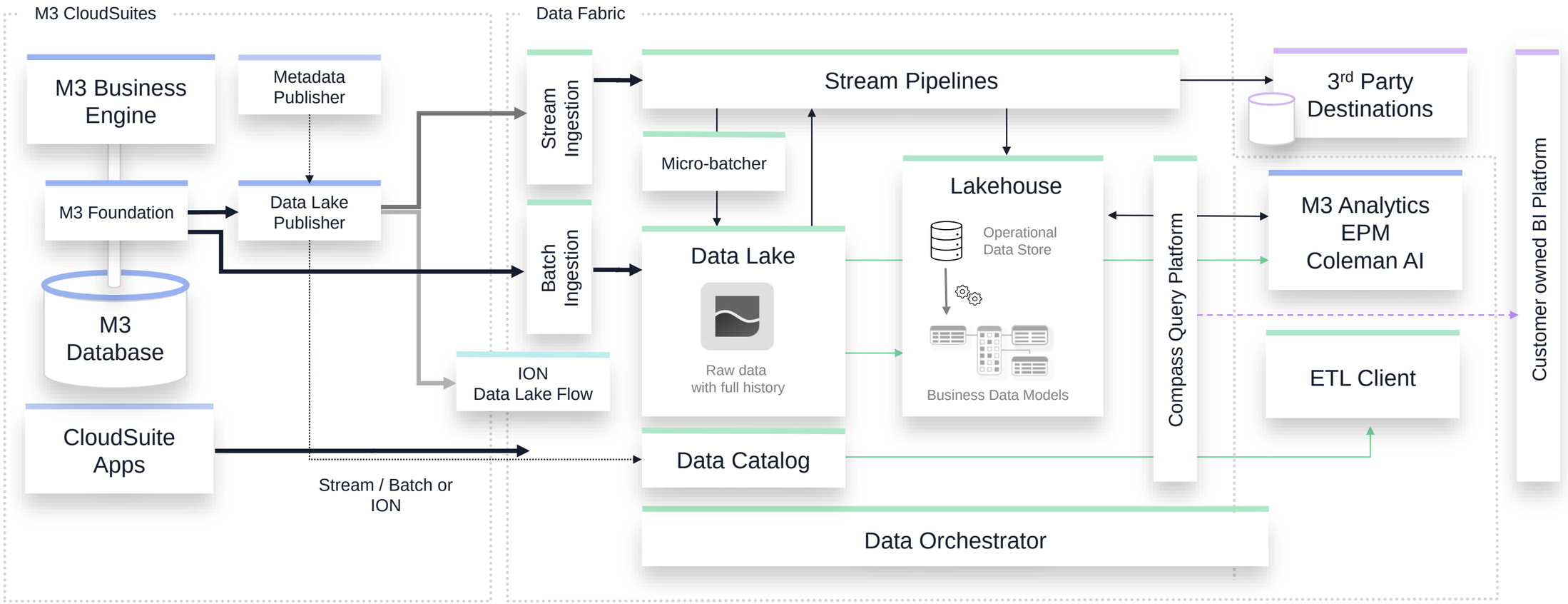


M3 Integration Architecture

Update | Build | Publish



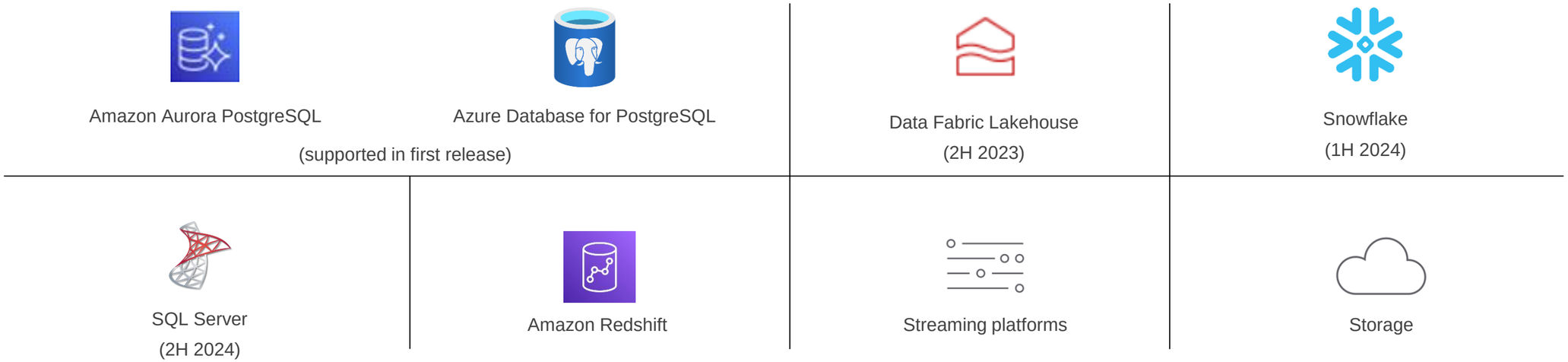
M3 and Data Fabric 2023



Streaming destinations

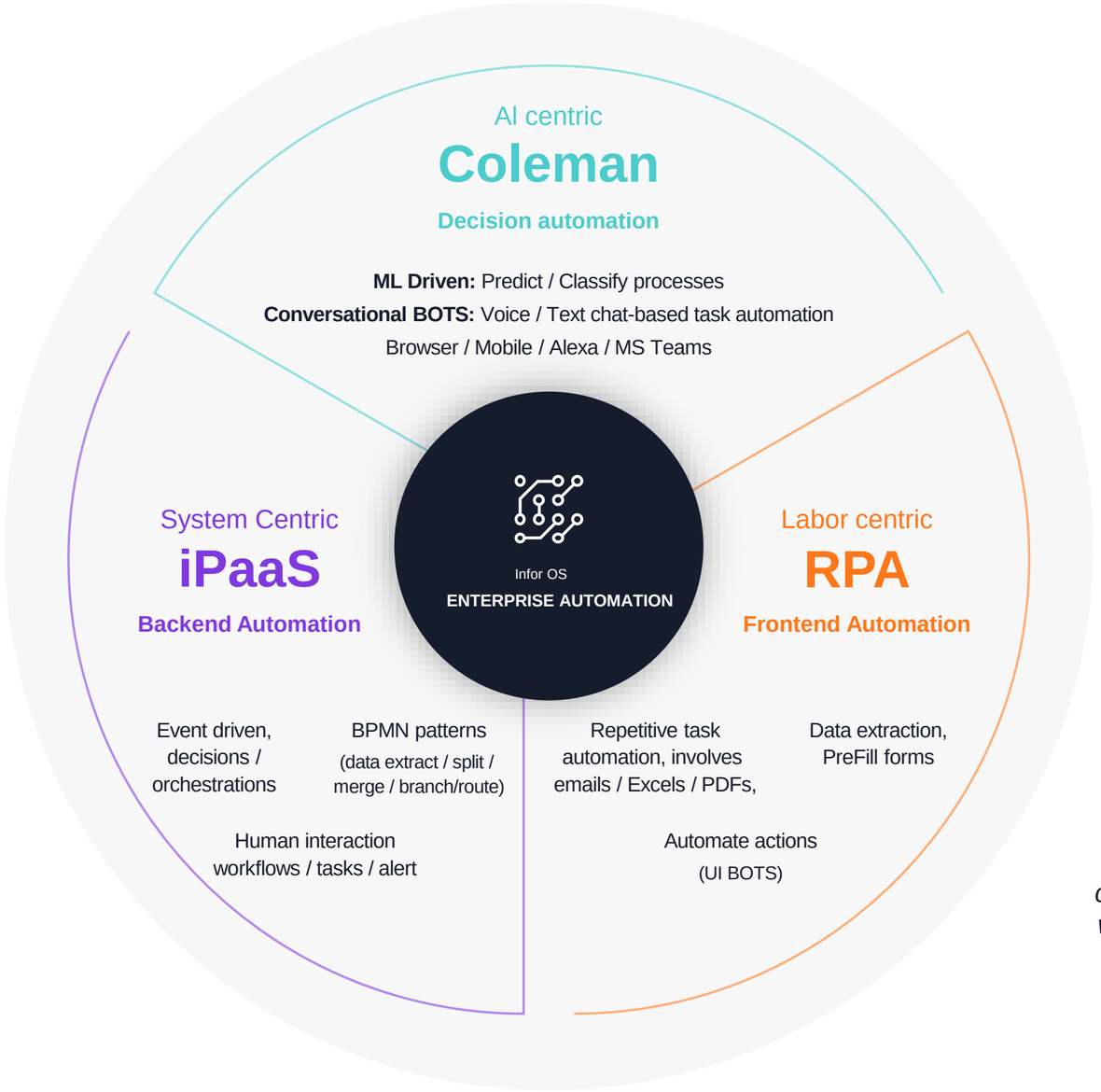
Pipelines enables fast data delivery to various technologies, relational databases, analytics warehouses, streaming platforms and storage locations.

The Destinations component is used for defining and managing the connection to these locations where Stream Pipelines can offload data in real-time processing.



Infor Enterprise Automation

Infor continues to expand automation capabilities that work together through a common low code Infor OS platform that is pre-wired with Infor CloudSuites for rapid time to value.



Infor RPA & IDP

Give customers the ability to accelerate digital transformation and foster a creative culture of continuously automating processes without having a ton of prerequisites or costs to get started with a single idea.

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BaaS

Backend as a Service

Infor BaaS is a dedicated API lifecycle platform to build standalone serverless cloud-native microservices and expose them as REST APIs in the Infor OS API Gateway. The Infor BaaS framework lets the API developers focus on building their business logic as APIs while freeing them from the complexity of managing the underlying cloud infrastructure and deployment.

API

- Expose as Rest API’s
- Orchestrate

Microservice

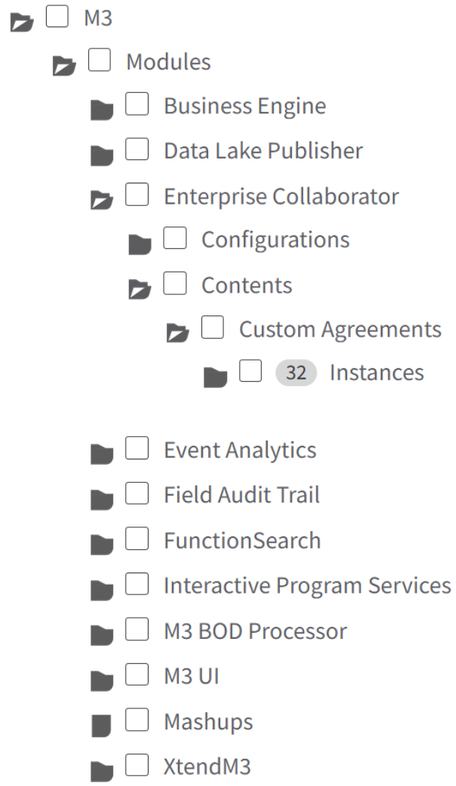
- JDK for Java & Typescripts
- Build business logic

SaaS

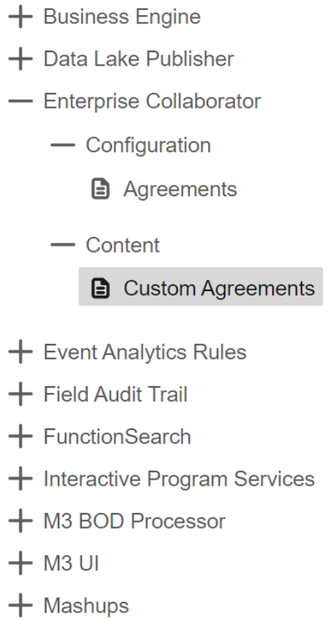
- GA in October
- Add on
- Service

Configuration Management

- **Configuration Management** is used to copy custom content and configurations between a customer's tenants using "local packages".
  - **DEV → TST, TST → PRD**
- For **IEC** you can export and import
  - Configuration for agreements: active status + values for control properties.
  - Content for custom agreements.



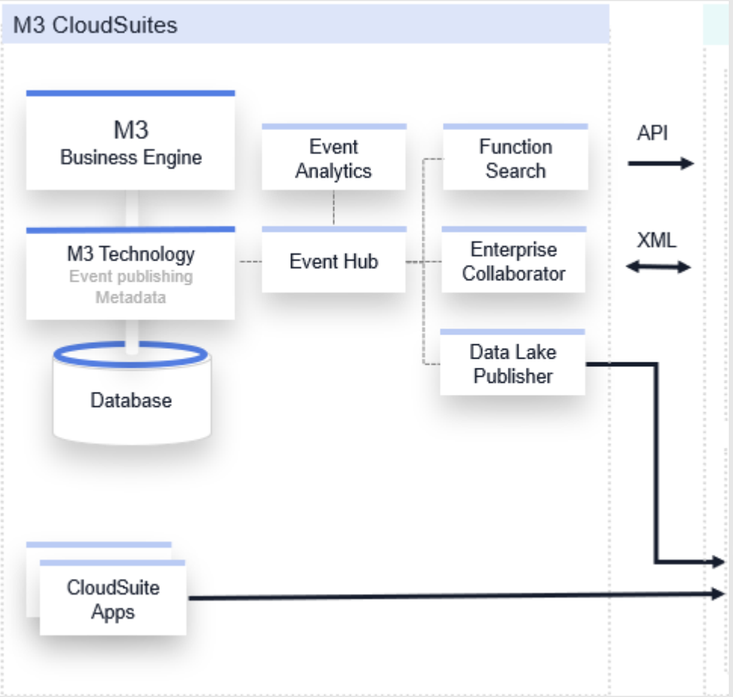
Manual selection in Cloud Self-Service Portal



Tagging in M3

How we work continuously to improve our services

Back to M3 - Where are we now?



A day in M3’s life

7M+
IEC Messages/day

0,6M
IEC messages for one tenant/day

30K
Average EH messages published/s (Frankfurt)

300K+
Peak load events published/S

50K+
Events published/s for one tenant

4x
Transaction Growth over last 12 Months

385M
API Calls Per Day

80+%
M3 API Calls through MEC

20M
XtendM3 Executions Per Day

M3 Integration in cloud

Current state and future focus

Prioritized cloud maturity development done and key features that many customers have asked for has been delivered. But there are still a lot to do to satisfy all needs.

Usability

- **Usability**
- Portal adoption
- Improved search
- Integration between Infor applications
- Visibility

Performance

- **Performance**
- Increased throughput
- Resources consumption

Development

- **Development tooling**
- Statistics
- API Used
- Usage

Features and Components

Infor OS Health and Notification Service

Health and Notification Service comprises of several key components .
Together, these components form a comprehensive system for monitoring, reporting, and notifying system issues

Rule Engine

- Rule Engine is a powerful component that allows the implementation of customized business rules and logic
- Enables Infor Applications to define specific conditions and criterial that trigger automated notifications
- Allows customization at the customer level to alter the rules based on their needs

Administration

- The Administration component provides the necessary tools and interfaces for managing the Health and Notification Service at both the customer and user levels
- It allows customers to configure and customize the service according to their specific needs
- Users can manage their notification preferences and access relevant information through the administration interfaces.

Notifications

- The Notification Templates component offers pre-defined or customizable templates for different types of notifications
- These templates ensure consistency and efficiency in delivering notifications to customer
- They can be tailored to match the branding and messaging requirements of the organization, providing a personalized and professional touch to the notifications.

How to become better

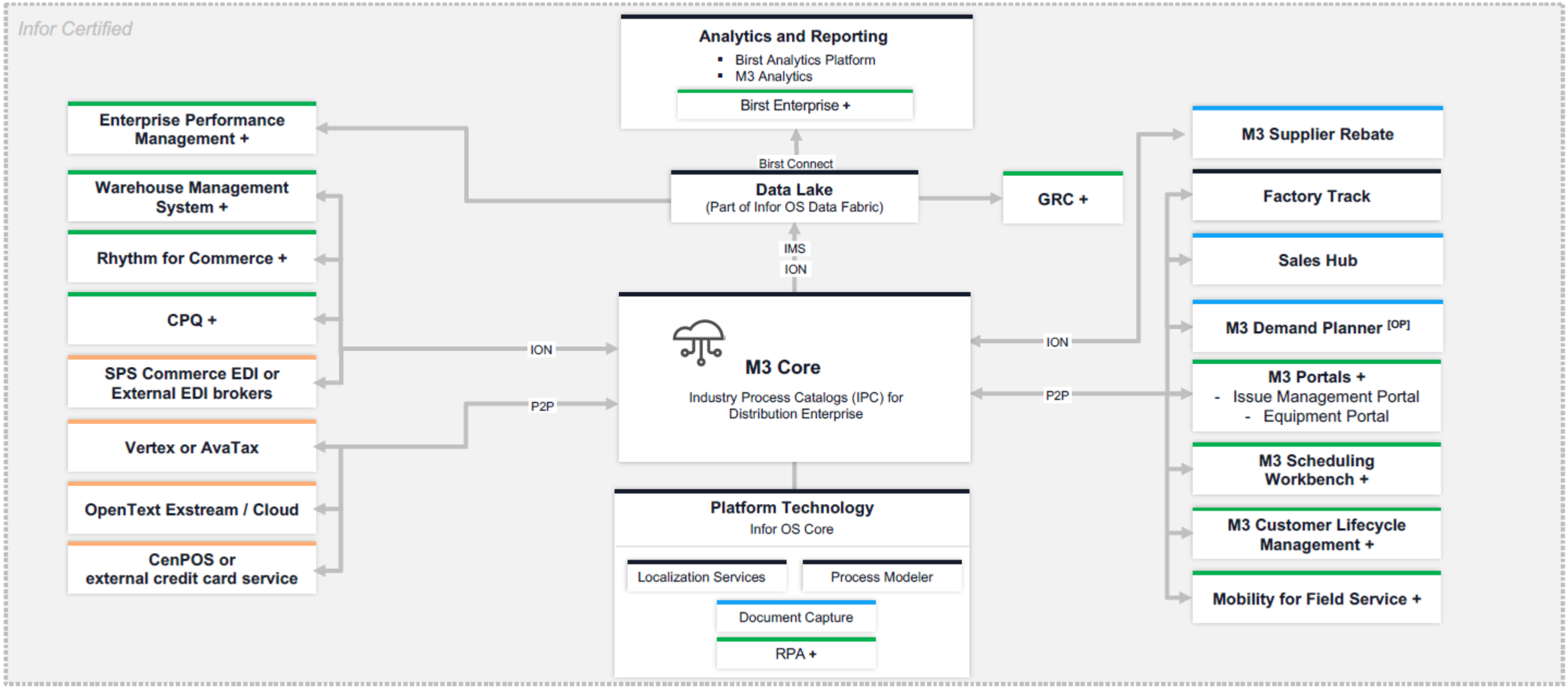
What we are doing

- Based on feedback from production we are continuously updating applications and backend to improve and cover new use cases.
- Examples
  - Moving to Dynamo DB
  - Moving to IMS from IO Box
  - Improving and replacing APIs in our standard BOD’s
  - Creating best practice information

What can you as a customer do

- Customer should continuously review and potentially improve, follow our KB’s, release information and best practices
- Examples
  - Integration KB
  - Release information
  - Best practices
  - Listen to our best practice sessions

Infor CloudSuite Distribution Enterprise incl. Add-ons



Food and Beverage CloudSuite Architecture

Food and Beverage Cloud (Core & Core Plus) & Add-ons

	F&B Cloud	F&B Cloud Add-Ons
F&B Core	M3 Core with Industry Content, Localizations, and Analytics Graphical Lot Tracker Factory Track Industry Process Catalogs with Process Modeler Platform Technology Infor OS	Supply Chain Planning (S&OP) M3 Planning Workbench Production Scheduling Enterprise Performance Management (EPM) M3 Portals: Issue Management Portal Customer Lifecycle Management Mobility for Field Service Rhythm for Commerce Manufacturing Execution System (MES*) Birst Enterprise Governance, Risk, and Compliance
F&B Core Plus	PLM for Process M3 Demand Planner M3 Scheduling Workbench Document Capture	

Infor's pre-integrated architecture provides a best practice solution for Food and Beverage

* Infor MES should not be positioned for Protein subvertical

Example: Infor M3 <-> WMS

BOD	Verb	Direction	Purpose / Comments
AdvanceShipNotice	Process	M3 > WMS	Sends information about expected receipts (incoming goods).
AdvanceShipNotice	Sync	WMS > M3	Performs the ASN Close function.
BillToPartyMaster	Sync	M3 > WMS	Generated with the CustomerPartyMaster BOD.
CustomerPartyMaster	Sync	M3 > WMS	Sends data of new and changed customers from M3 to WMS.
InventoryAdjustment	Sync	WMS > M3	Updates stock in M3 based on adjustments (plus or minus) for in the warehouse.
InventoryHold	Sync	WMS > M3	Puts inventory on hold and makes the same unavailable in M3 for orders.
InventoryHold	Process	M3 > WMS	Used to Add or Release a Hold in WMS
ItemMaster	Sync	M3 > WMS	Sends data of new and changed items from M3 to WMS.
ReceiveDelivery	Sync	WMS > M3	Reports goods receipts of incoming goods.
ShipFromPartyMaster	Sync	M3 > WMS	Generated with the SupplierPartyMaster BOD.
Shipment	Process	M3 > WMS	Sends pick list from M3 to WMS.
Shipment	Sync	WMS > M3	Reports picking/dispatch of goods.
ShipToPartyMaster	Sync	M3 > WMS	Generated with the CustomerPartyMaster BOD.
SupplierPartyMaster	Sync	M3 > WMS	Sends data of new and changed suppliers from M3 to WMS.
PurchaseOrder	Sync	M3 > WMS	Sends data of new and changed purchase order header and detail.

Where to find Information

All integration guides can be found at docs.infor.com M3 Integrations Library

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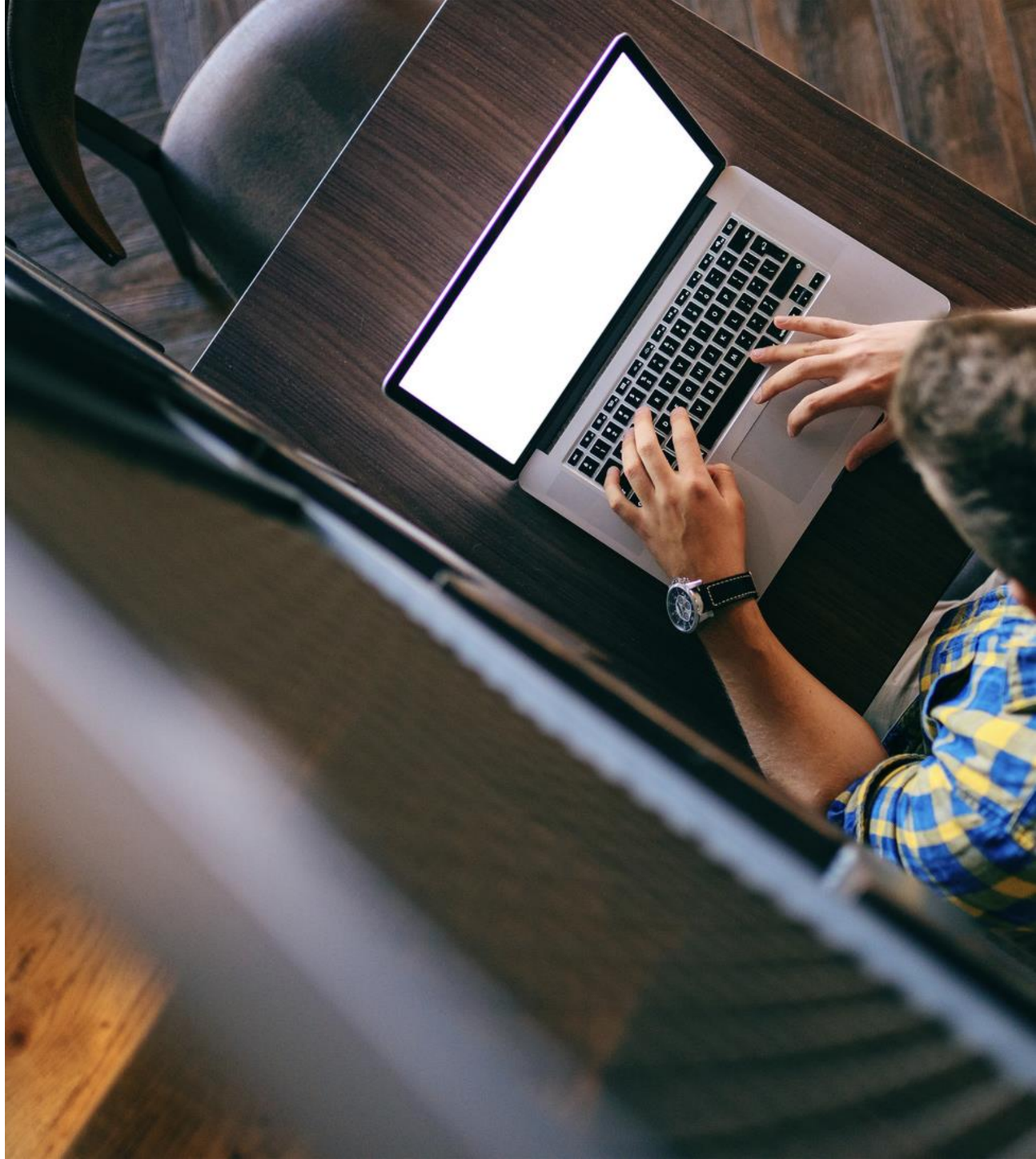
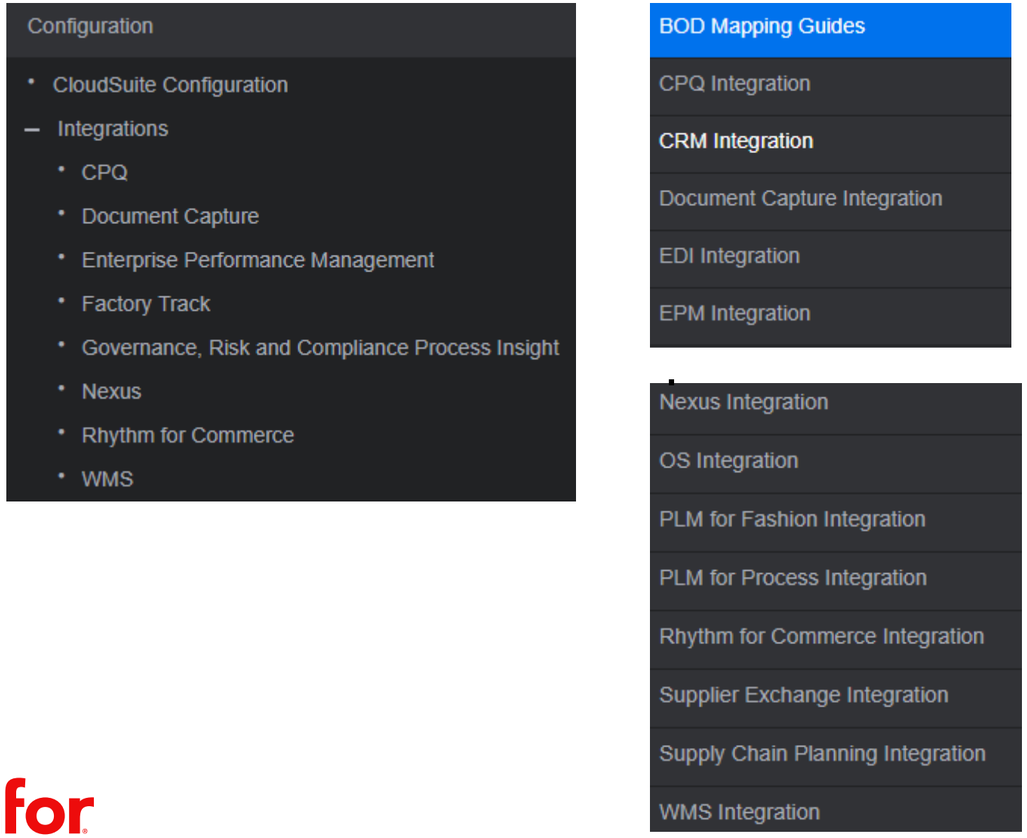
Visit our best practice KB 2017962, M3 Integration and Infor OS content. This KB includes EDI documentation KB2023035 and other useful information



Infor M3 Integrations and BOD support

Document Library for CSDE and M3 Integration



- 430+ M3 BODs that can be used in any integration
- Infor supported content
- Continuously investment to enrich new and existing BODs

Common mistakes from reality

Common mistakes/possible improvments

API

- Use V2 not V1
- Using the old API transactions where there are new
- Insufficient retry logic in the client
- Not following our KB’s and implementing easy optimizations
- *Not respecting limitations*

Asynchronous

- To many translations in CRS881, using direct API calls
- Sending large batch messages instead of trickle feeding
- Not using HashMaps in mappings
- Running API interactive when batch mode is available
- Using ”Old” API transaction when there are more efficient available
- Not respecting limitations

Limits to consider

- ION Size limit, depending on license (5 – 50 MB)
- IEC Limits
  - One message can use Max 10% of HEAP and CPU in IEC, after October we kill message that exceeds
  - If HEAP usage in IEC are above 90 %, we will throttle and allow for lover number of parallelization
  - IEC have a one-hour process limit per mapping
  - IEC Inbound approximately 1 MB
- Event based API calls
  - No limits today but there will be at least throttling, be careful! Nothing will break but you might build up ques if you make mistakes
- XtendM3 Limitation
  - Hard execution timeout of 2 minutes

Simple changes with possible large impact

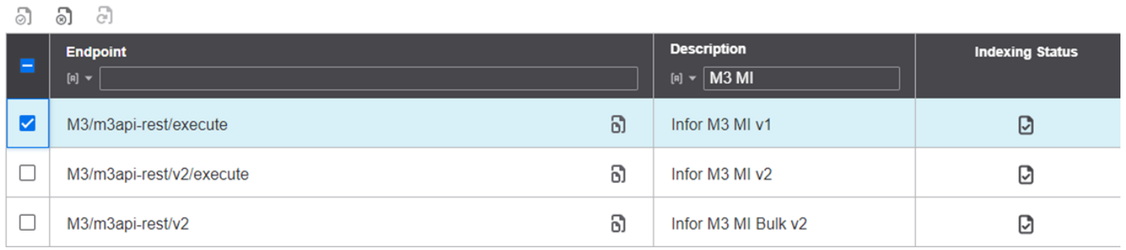
- Control response with
  - maxrecs, returncols
  - number of filters (NFTR)
    Start from the key input and only list what matches the input to the API
- EXPORTMI
  - Use index and filter
- Select more specific requests if available
  - Example: OIS100MI.GetOrderHead instead of OIS100MI.GetHead
    More examples will be published in KB 2313562
- Use the possibility to execute in batch when possible
  - Example: OIS100MI.Confirm or MHS850MI KB 2127960
- Review the enhancements we have made in BODs KB 2232142

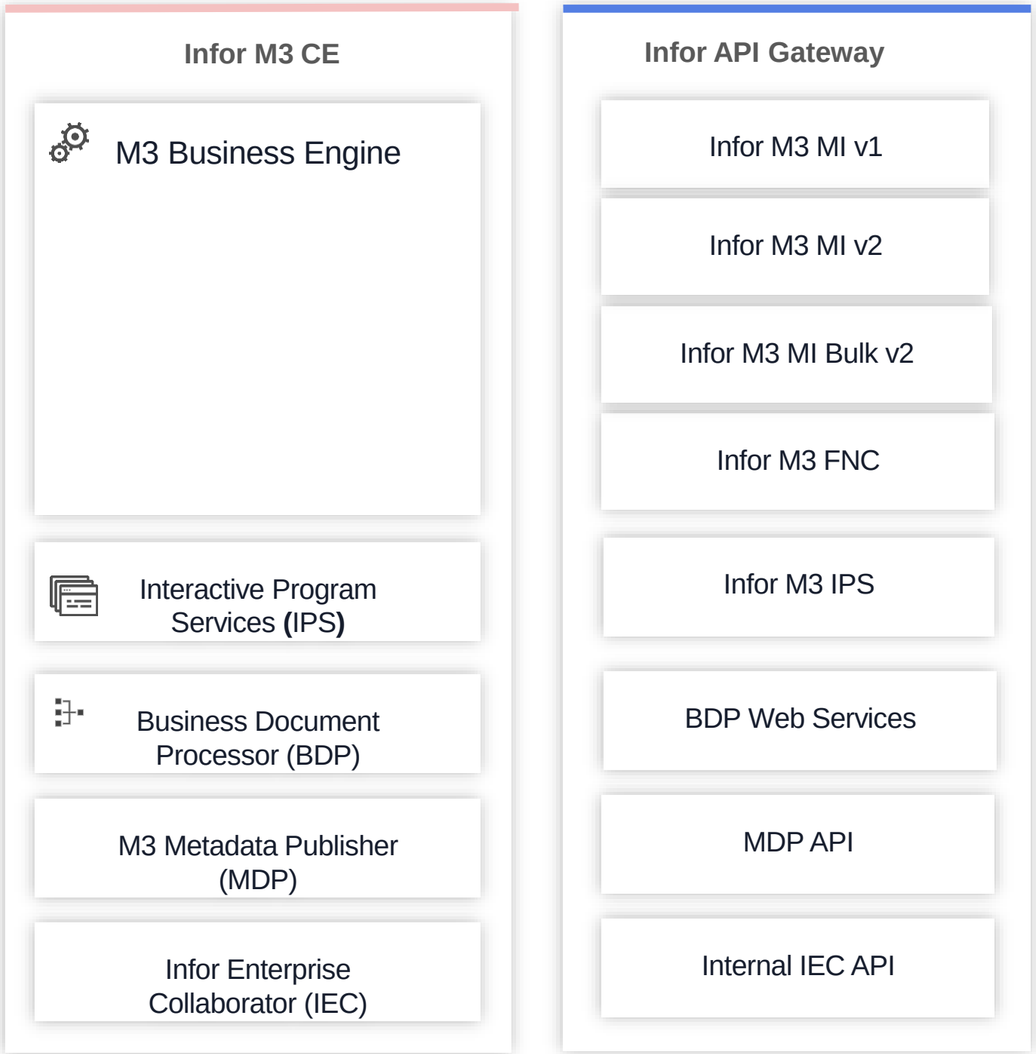
Infor M3 API Suite

- OpenAPI Specification available in API Gateway
- v2 is more optimized than v1
- Certain streaming functionality is limited in v1, higher risk for timeouts
- Goal to deprecate v1 as new versions get introduced
- All new examples and content from Infor is using v2

Recommendation

- Disable the API Gateway metadata for v1 to improve usability in ION



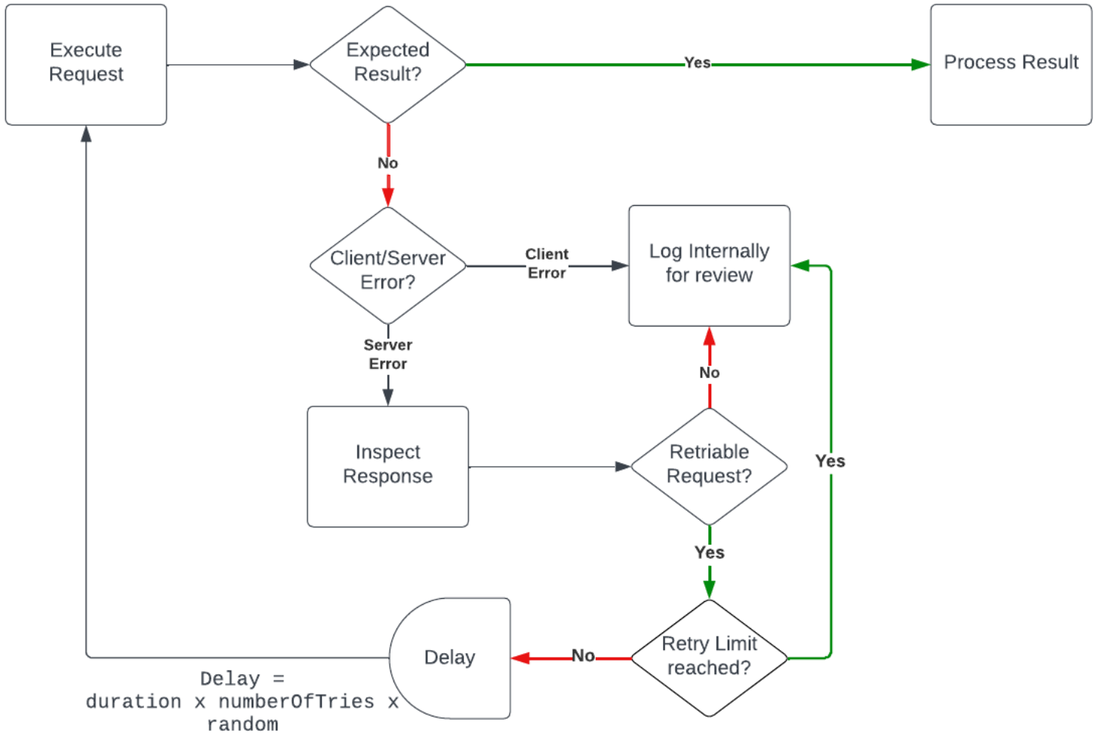


Retries & Error Management

Recommendation

- M3 APIs status codes and error responses are described in API Foundation Guide
  - Important to inspect M3 API response body

- Setup retry strategy in client for status code 5xx
  - Exponential backoff with jitter and max attempts
  - Use optional information in response body

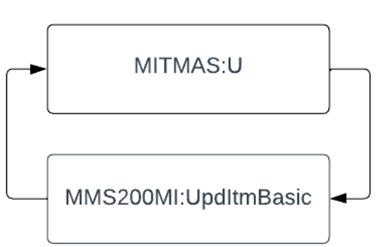


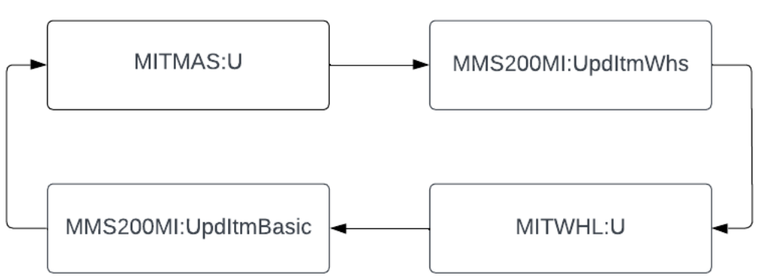
Event Based API Calls

Common Pitfalls

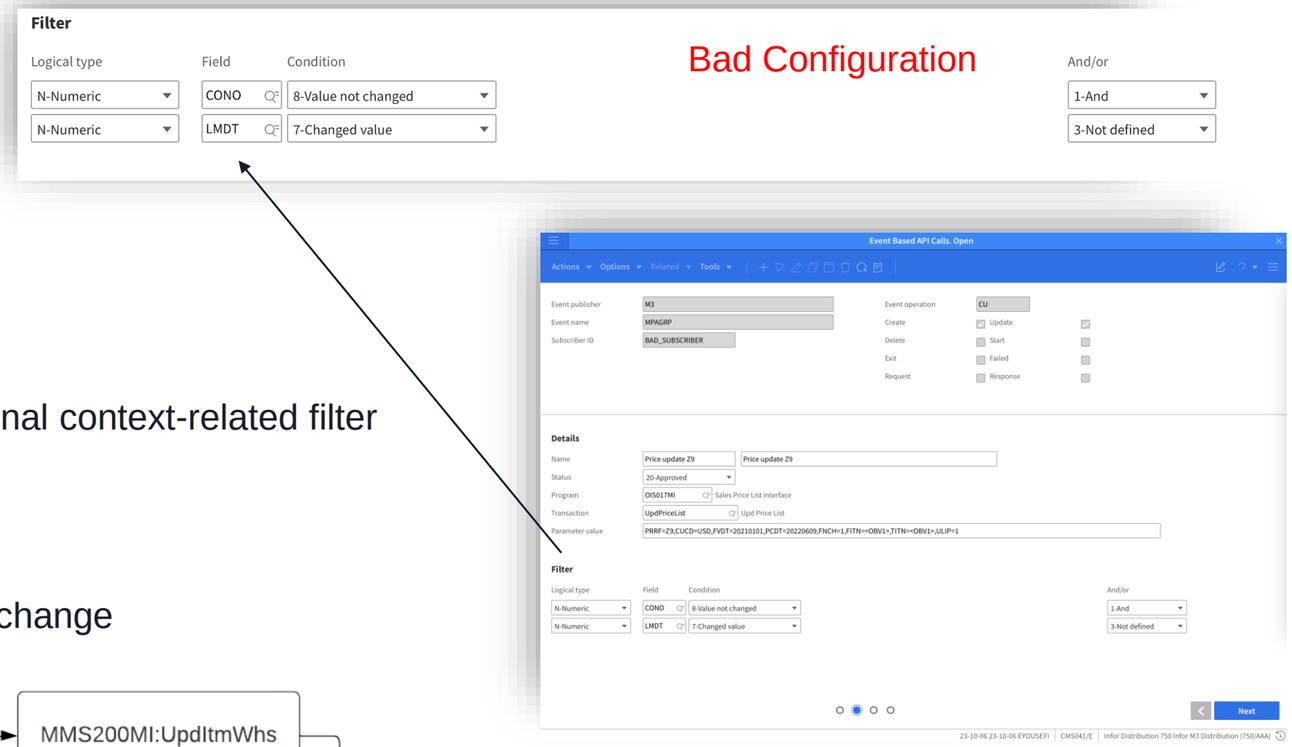
- Over-permissive filters
  - Avoid unnecessary matching condition
  - Be as specific as possible for the required integration
  - Instead of loosening the filters when needed, add additional context-related filter

- Circular Event Executions
  - Cross reference all subscriptions and triggers with each change





Bad Configuration



Questions and Answers

Q&A

Infor M3 Connect

Thank you

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