App Connect Update and Futures

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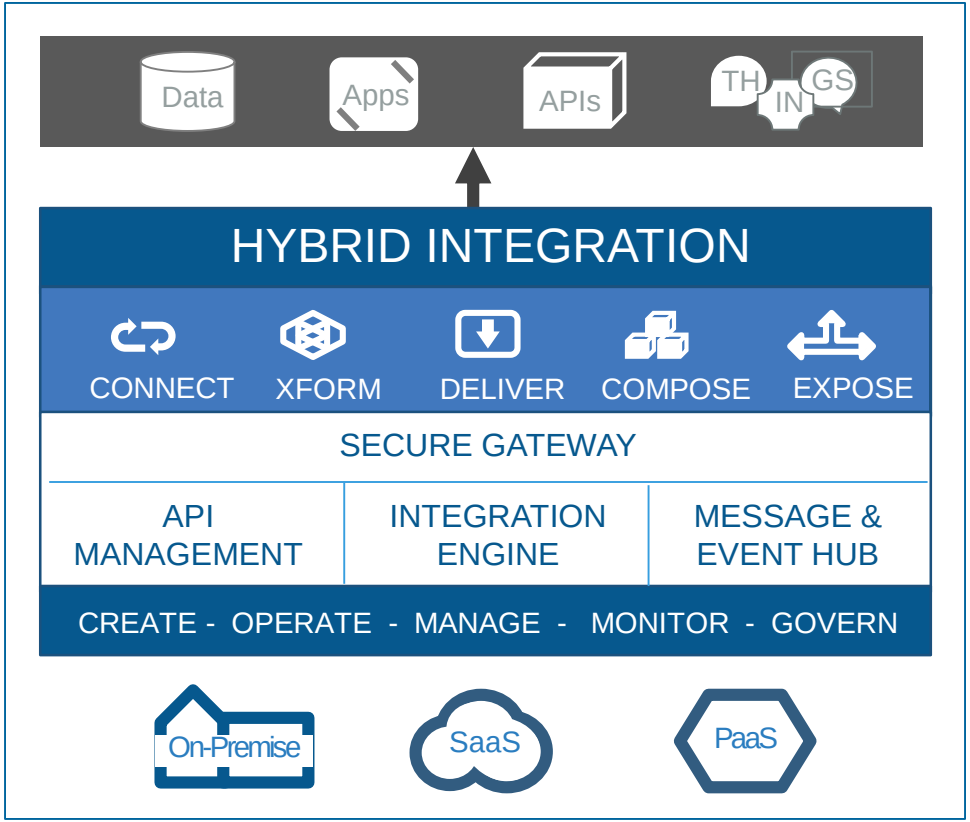
IBM Hybrid Integration

A cohesive & modular offering for any integration need

Connect Seamlessly
Hundreds of end points to apps and data in the cloud and on premise

Develop Rapidly
Intuitive & robust tooling to transform data to meet business needs

Scale Efficiently
Performance and scalability to meet the SLAs of your business apps

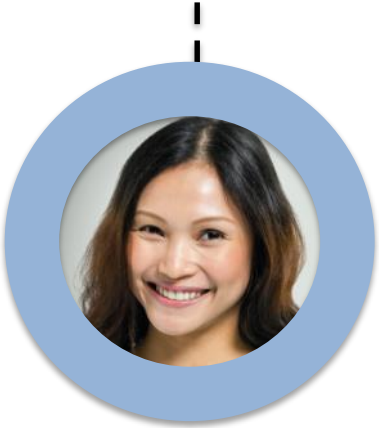


Equip a broader set of users

- Anyone can do it
- Zero code
- Cloud native
- Many pre-configured connectors

Business Users

- Technical person in a business environment
- Cloud native with on prem options
- Friendly modern style code
- Graphical options



Shadow IT

- Skilled integration practitioners
- Graphical assist, but full code environment
- Hybrid deployment
- Connect to anything

Central IT

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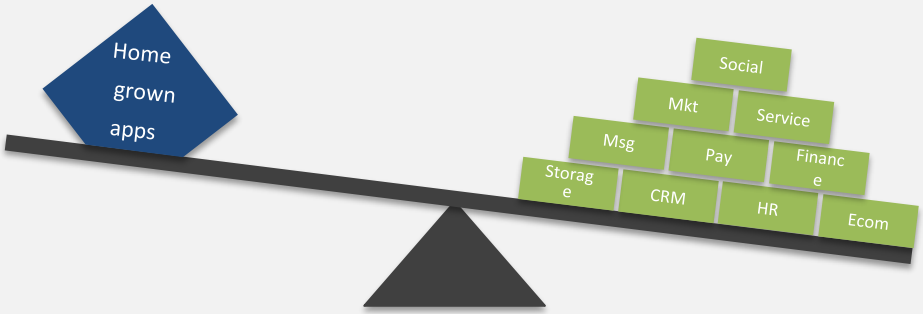
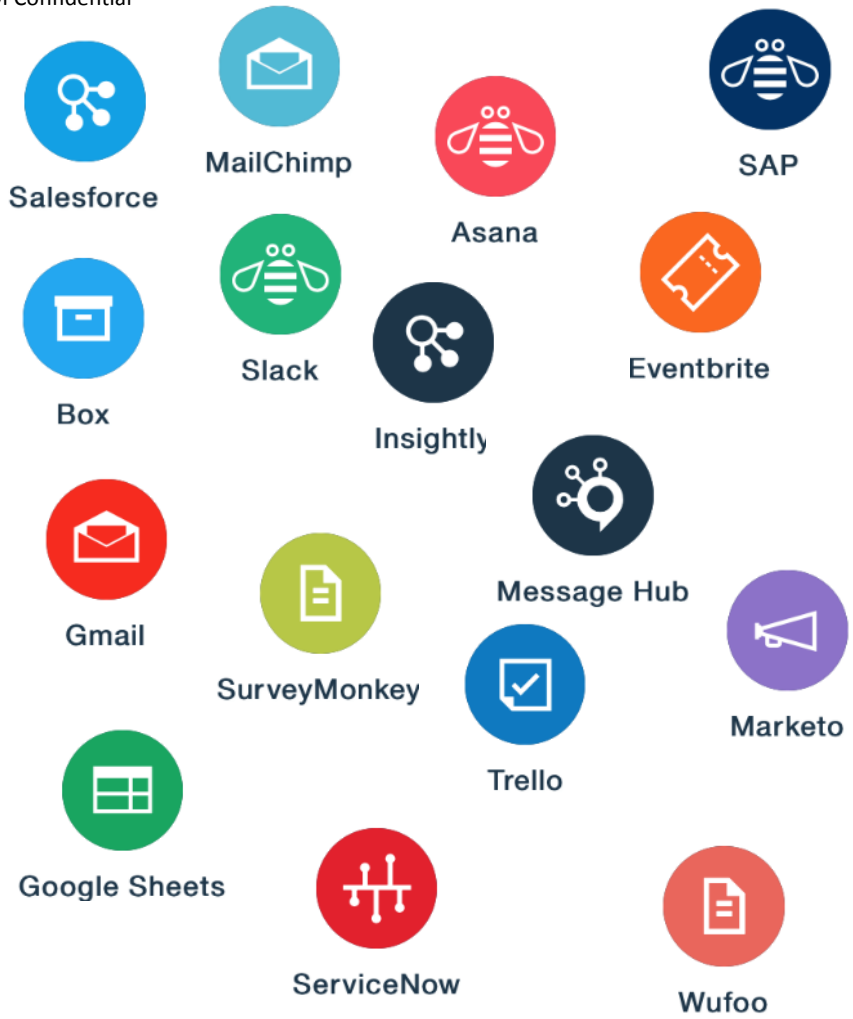
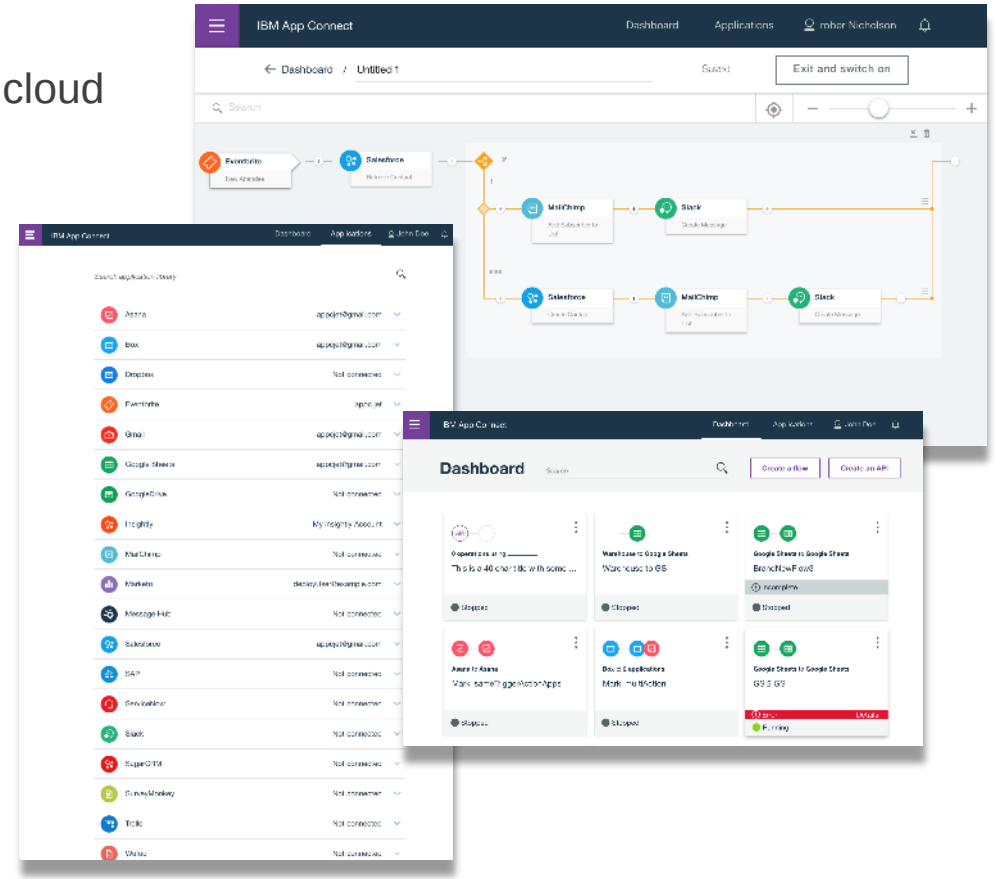
Cloud Connectivity is Key





App Connect in a nutshell

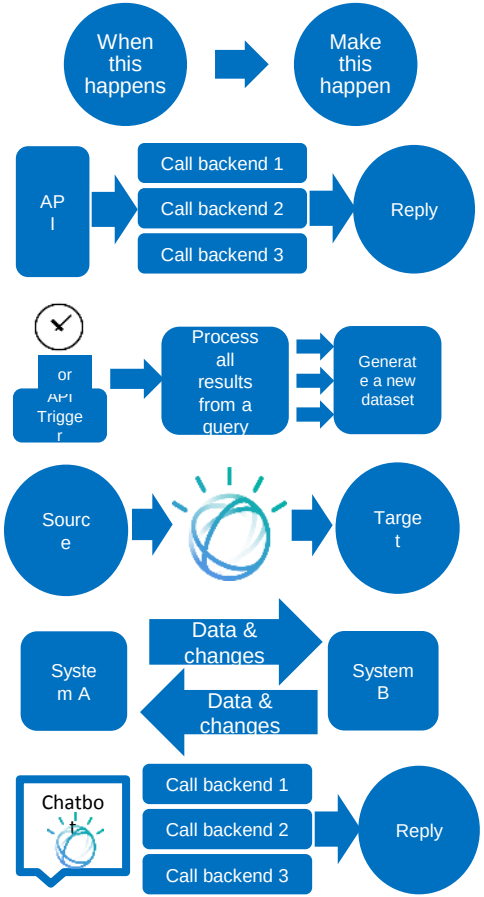
Business friendly integration that connects cloud & enterprise apps as flows and APIs



- Growing catalogue of app-aware smart connectors to connect your apps in minutes
- Automation of manual tasks: event driven flows
- Integration flow powered APIs
- Simple but powerful data mapping
- Secure on-prem and cloud connectivity.
- Easy to understand dashboard and error reporting.

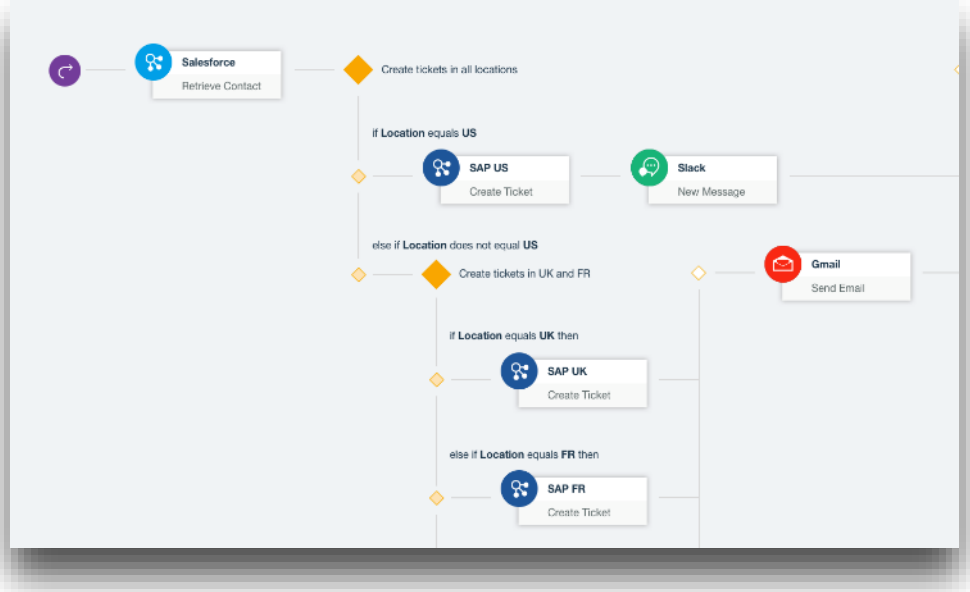
Wide range of Integration Patterns

- ✓ **Event-driven flows** – Create intelligent automation flows with complex events and actions that do your work for you.
- ✓ **APIs** – Your modern-age apps are powered by APIs exposing your backend systems and data. App Connect's unique model-driven approach allows you to build rich and powerful APIs, and it doesn't need you to be an API expert.
- ○ **Data Copy** – You have invested in a new application and need to bring it up to speed. Or are generating tons of new information that you need to sync with other applications in cloud or on-premise. *Coming Soon*
- ✓ **Cognitive Enrichment** – Make your integration flows smarter beyond automation. Use Watson and other AI services to enrich your data with cognitive insight without needing to be a data scientist and with a "No code" solution
- ○ **Data Sync** – Eliminate of out-of-date data by keeping your apps always in sync. Detect changes in real-time or schedule to trigger at regular intervals.
- ○ **Chatbots** – Empower your users with relevant information on-demand, without the overhead for them to learn and use any new tool. *Coming Soon*



Build Powerful flows

- Supports multiple integration patterns
  - Event-action flows
  - Integration flows for APIs
  - Data copy *coming soon*
- Event-action flows
  - Add multiple action nodes
  - Powerful mapper capability
  - Logic functions - smart conditional node, for-each
  - Technology connectors: HTTP, JSON parse
- Integration flows for APIs
  - jumpstart flows via a model-driven approach
  - register the flow operation directly to API Connect



Designer is our go-forward UI for all integration flow development across the Cloud Integration portfolio

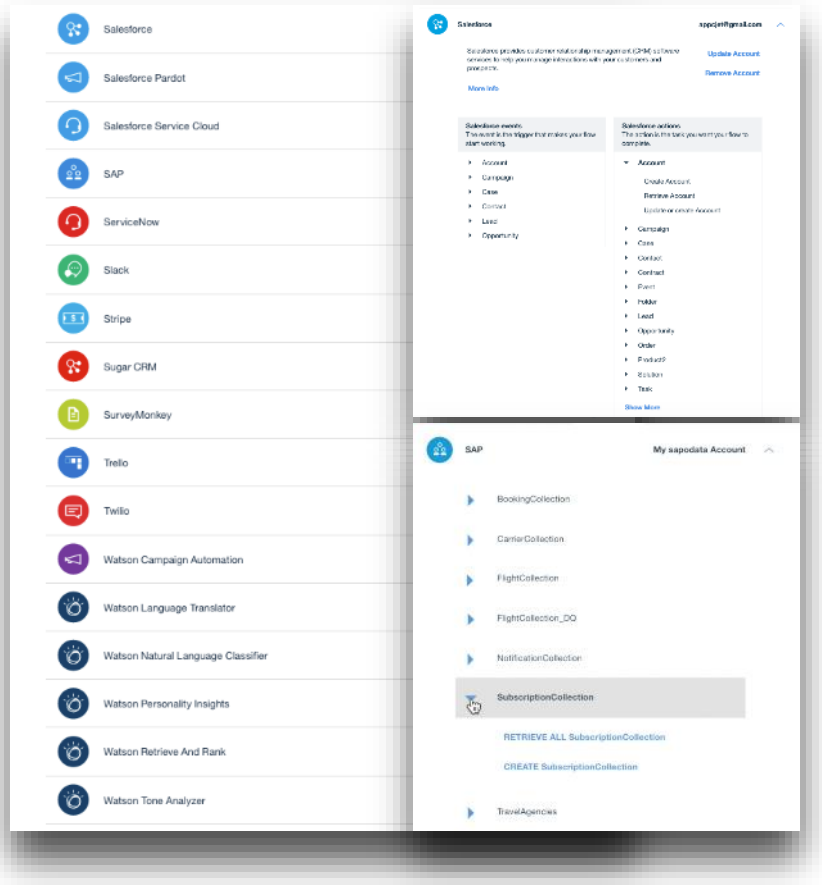
What's new?

Salesforce
Retrieve Contact
Create tickets in all locations
if Location equals US
SAP US
Create Ticket
Slack
New Message
else if Location does not equal US
Create tickets in UK and FR
Gmail
Send Email
if Location equals UK then
SAP UK
Create Ticket
else if Location equals FR then
SAP FR
Create Ticket

New connectors

- 50+ Smart Connectors for Cloud and On-premise apps
  - Covers a range of use cases across *cognitive, marketing, sales, support, business ops, e-commerce, finance, collaboration tools, project management, HR*
  - Supports create, update and custom events
  - Supports create, retrieve, upsert and custom actions
  - Two types of events platform: webhooks and polling

- Connectivity with
  - IBM Integration Bus
  - IBM Message Hub



Comprehensive support for Salesforce

New Salesforce Connectors

Sales Cloud, Marketing Cloud, Service Cloud, Pardot, Files, Libraries

Rich support for Salesforce APIs

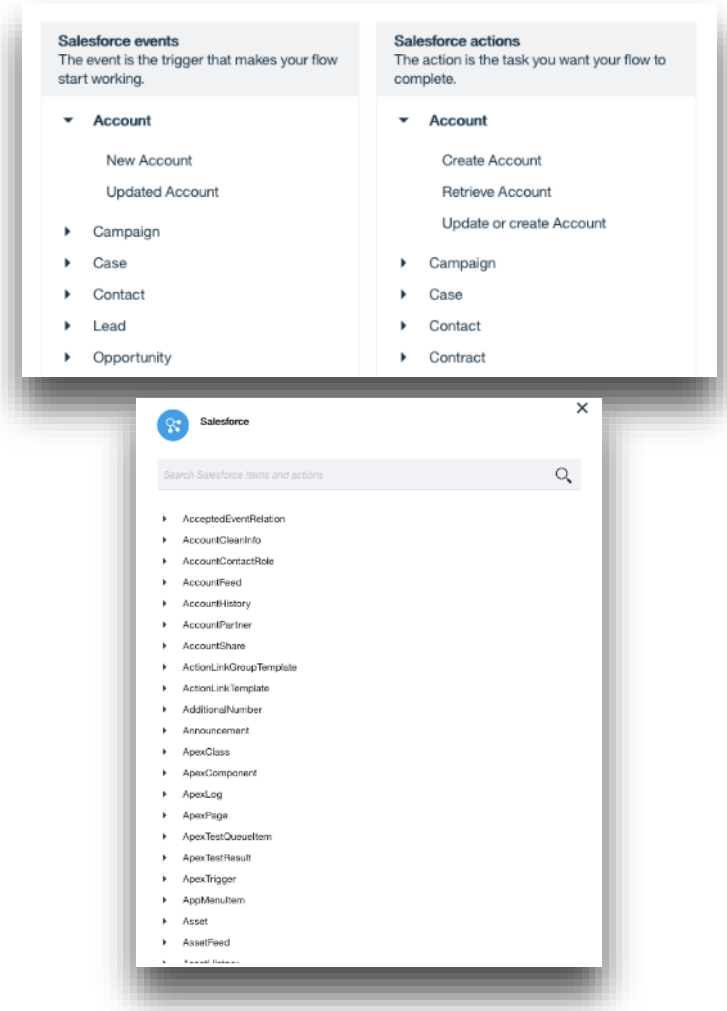
- Salesforce Streaming API
- Salesforce REST API
- Salesforce Bulk API *Coming Soon*

More events

- Support events for all objects (default and custom)
- Support new and updated events via Streaming API
- Support new, updated and new or update events via polling

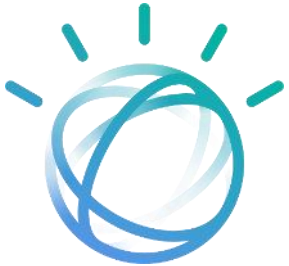
More Actions

- Support all objects (default and custom) via dynamic discovery
- Support for Create, Retrieve, Create or Update actions
- Support for bulk extract and bulk insert *Coming Soon*



Enhance integration with Augmented Intelligence

- Smarter automations with native support for IBM Watson
- Easy for business and technical users alike, no coding required



Tone Analyzer
Leverages cognitive linguistic analysis to identify a variety of tones including emotion, social propensities, and language styles from text.

Retrieve and Rank
Helps find the most relevant information from your data by using a combination of search and machine learning algorithms with training.

Natural Language Classifier
Applies cognitive computing techniques to return the best matching classes for a sentence or phrase based on your training.

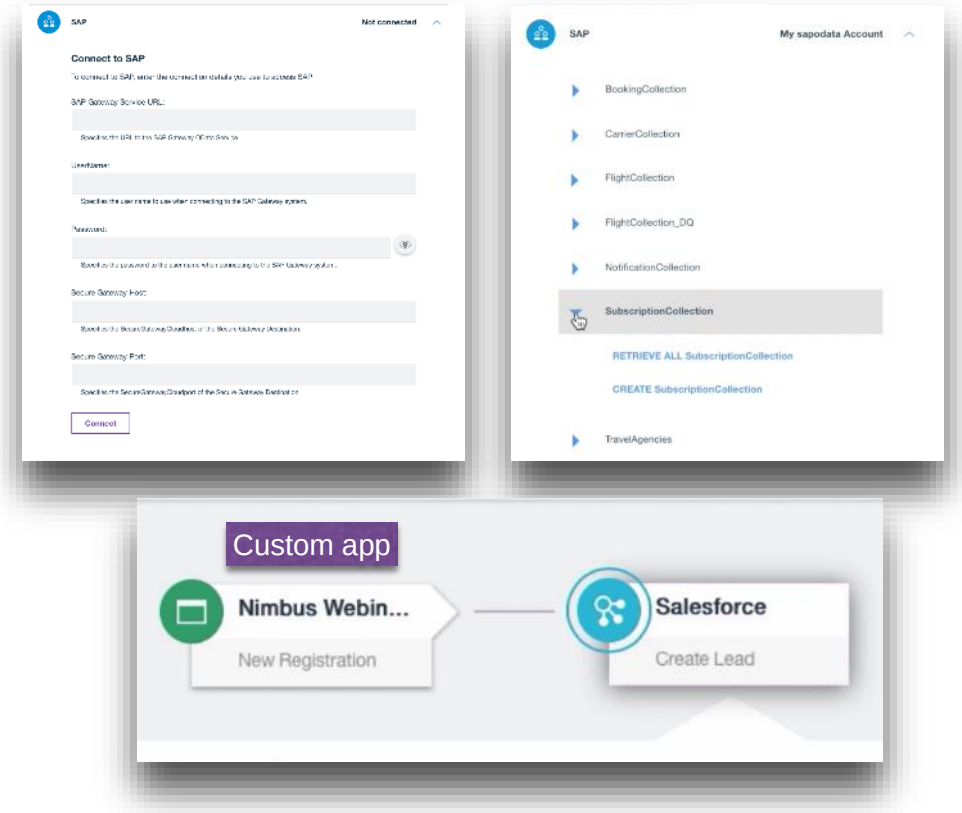
Personality Insights
Derives insights from transactional and social media data to identify psychological traits which determine behavioral traits and intent.

Language Translator
Identifies and translates languages in multiple domains, including conversations, news, and patents.

Coming soon!
Natural Language Understanding, Discovery Services, and more….

Connectivity to on premise

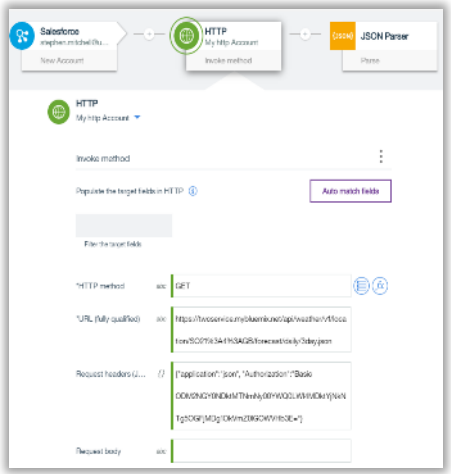
- Integrate securely with on-premise endpoints using Secure Gateway service
  - can be extended to connect with IBM DataPower Gateway
- SAP OData connectivity
  - support for OData v2.0
  - OData support consistent with SAP's industry strategy
  - basic HTTP auth support
- Custom apps
  - integrate with IIB
  - integrate with Node.js custom app

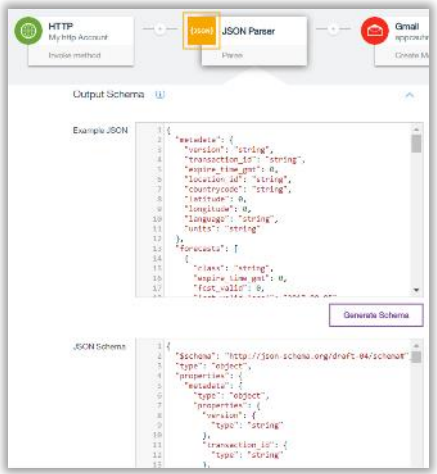


Connectivity with custom apps

Extend beyond the connectors provided

- Use the HTTP node to connect to any REST endpoint
- Supports GET, PUT, POST, DELETE, PATCH
- JSON parse helps to simplify with parsing and mapping JSON objects into other applications
- Use the HTTP node to call any API in your API catalog, invoking IIB or other integration flows



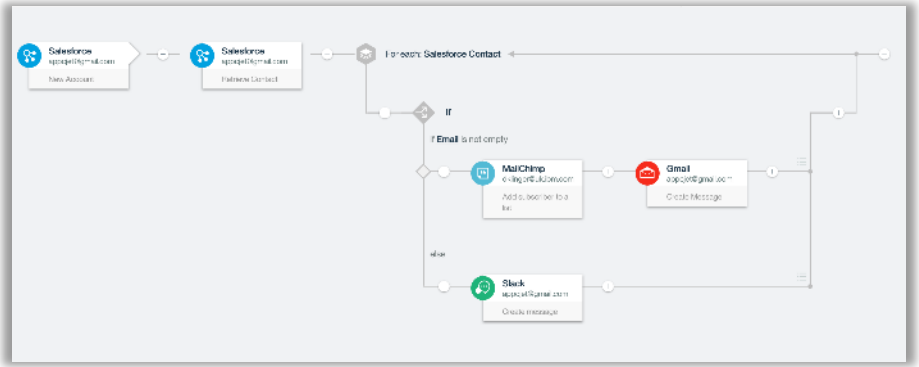


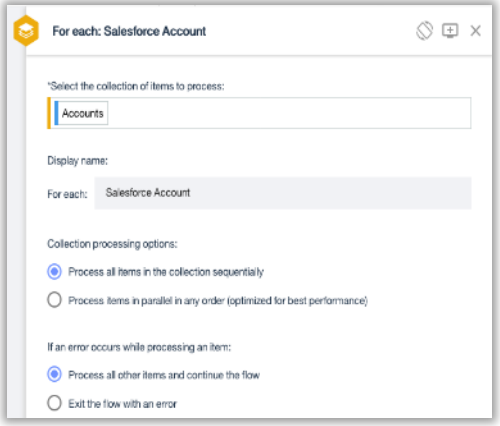
Custom apps

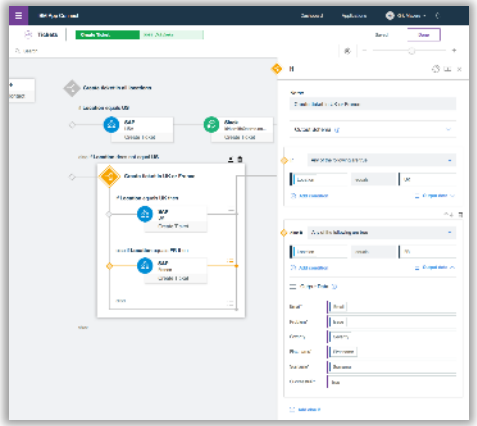
- Create events from your custom apps
- Integrate with IIB
- Integrate with Node.js custom app

Event-driven flows

- Create trigger-action flows to automate tasks
  - Create flows that use multiple instances of the same application (e.g. SAP UK, SAP US)
- Supports advanced capabilities for integration specialist use cases
  - support for logic functions - Conditional (IF node) logic function
  - Use retrieve all and for each to process multiple records by performing a repeated set of actions for each of the records.
- Data transformation made easy by smarter Mapping capabilities:
  - Auto-mapping
  - Mapping functions with sample data
  - Map from multiple data sources



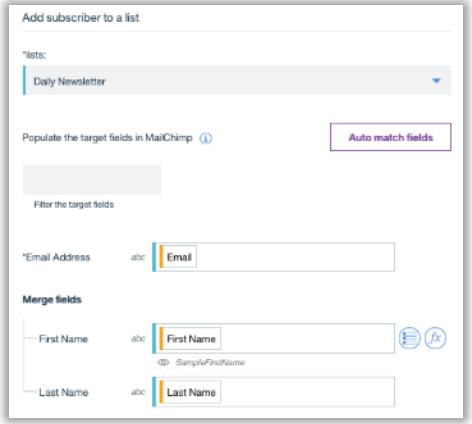




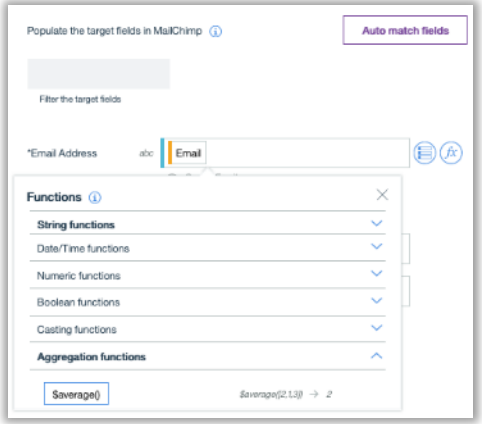
Mapper

- Native support for 50+ transformation functions for string, numbers, data/time, aggregation, array, encoding, etc.
- Extract and insert from flat or structured data formats via native mapping functions or JSONata language scripting
- Augment and lookup from multiple sources
- Sample data offers live preview of mapping results
- Prompts with smart tips for complex scenarios

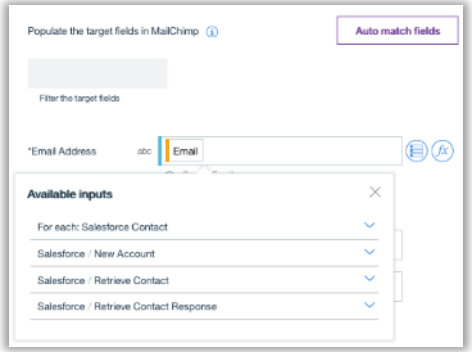
MS Excel like tooling and experience offering non-programmers to easily configure complex data transformation and mapping



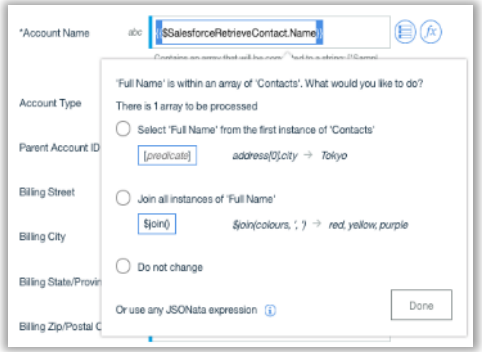
Excel like UX



Mapping Functions



Map from multiple sources



Tips for complex scenarios

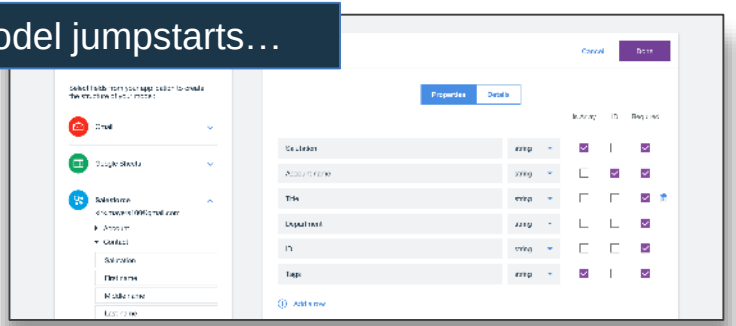
Integration flows for APIs

- Jumpstart building flows through a model-driven approach
  - define models using connector metadata
  - define operations (Create, Retrieve by ID) for your models implemented as flows
  - generate the proper metadata on the flow request / response endpoints to align

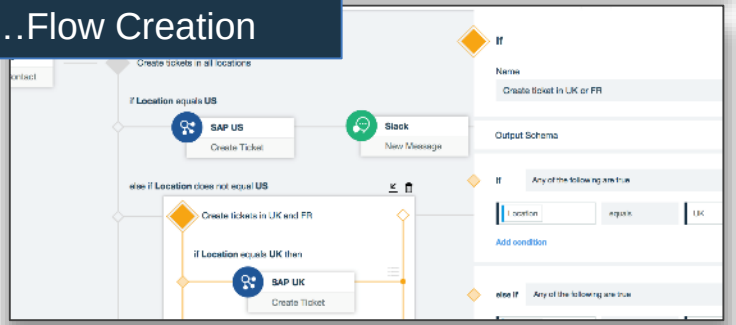
- Expose and manage as APIs
  - automatic Open API doc generation
  - register flows with embedded APIC catalog

non-developers can build integration flows and expose these as APIs without any expertise, and be confident that they adhere to open standards

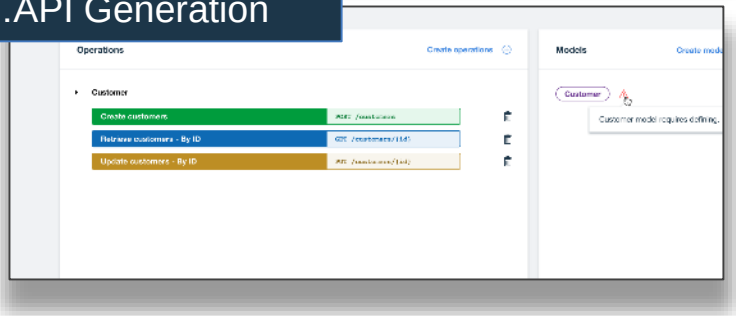
Model jumpstarts…



…Flow Creation



…API Generation

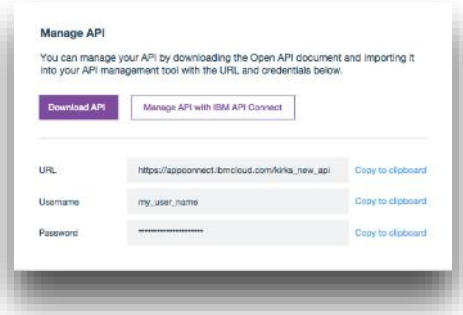


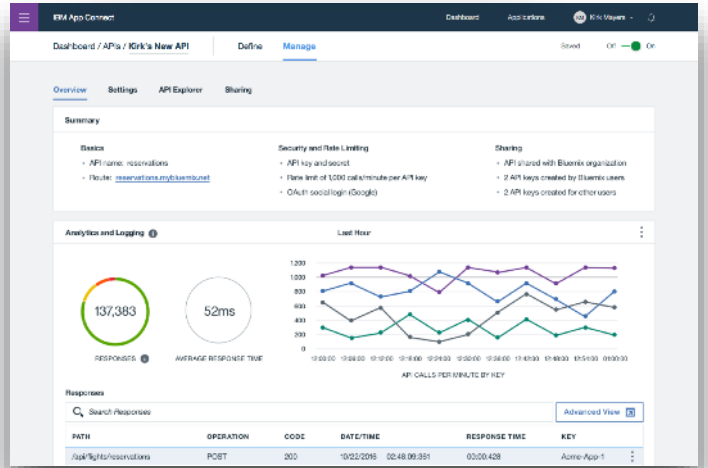
...then Manage APIs directly in App Connect

- Manage APIs via API Connect management capabilities built into Bluemix

- implement simple policies, analytics and security management functions
  - publish APIs to Bluemix catalog
  - upgrade to API Connect for more feature capabilities

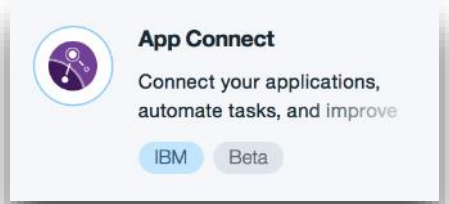
- Automated sync between flow metadata and model definition as changes to the model or flow occur

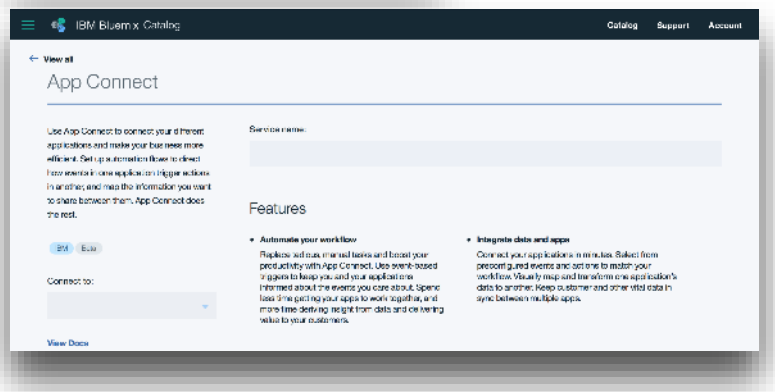




App Connect as a Bluemix Service

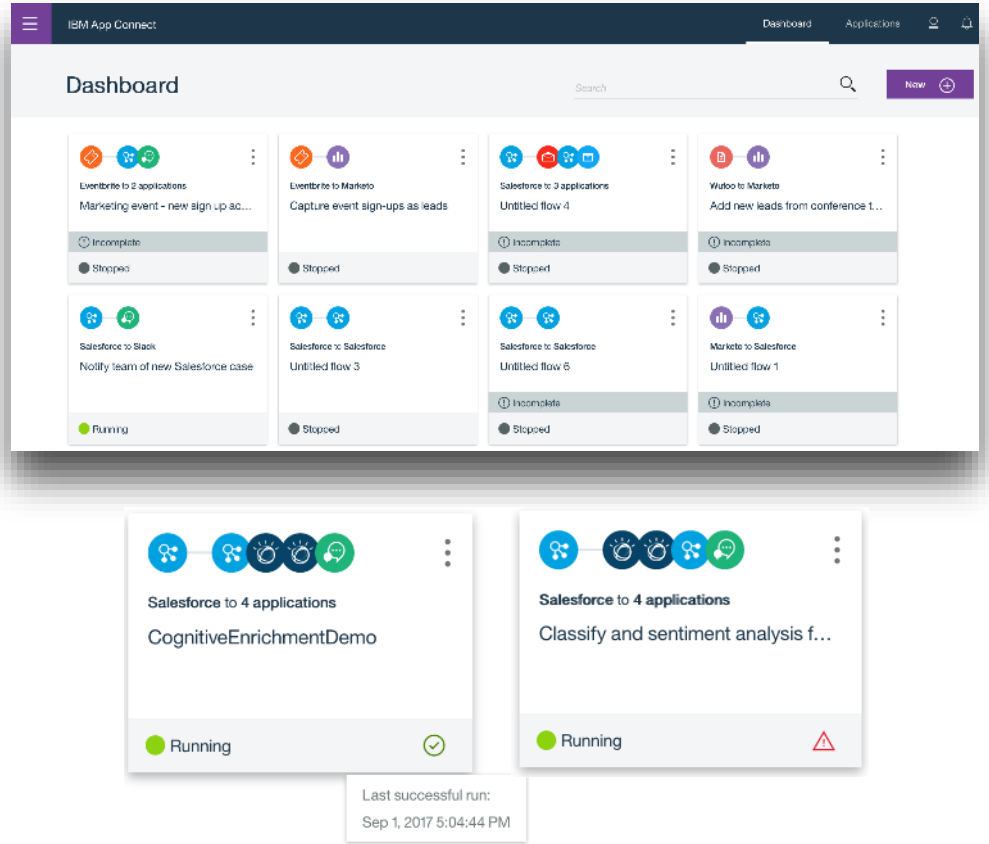
- Available as a Managed Service
- Provides user management experience with shared services
- Provides advanced monitoring capabilities with Kibana and Grafana services
- Offers synergy with other Bluemix services:
  - Integration with OpenWhisk via MessageHub
  - Synergy with Mobile Foundation





Combined Dashboard

- Single dashboard to monitor and manage Event flows and API flows
- Logging capabilities for users to be able to determine and trouble shoot errors flows
- See errors and successes of flows in near real-time
- ***Coming soon*** Import/export flows

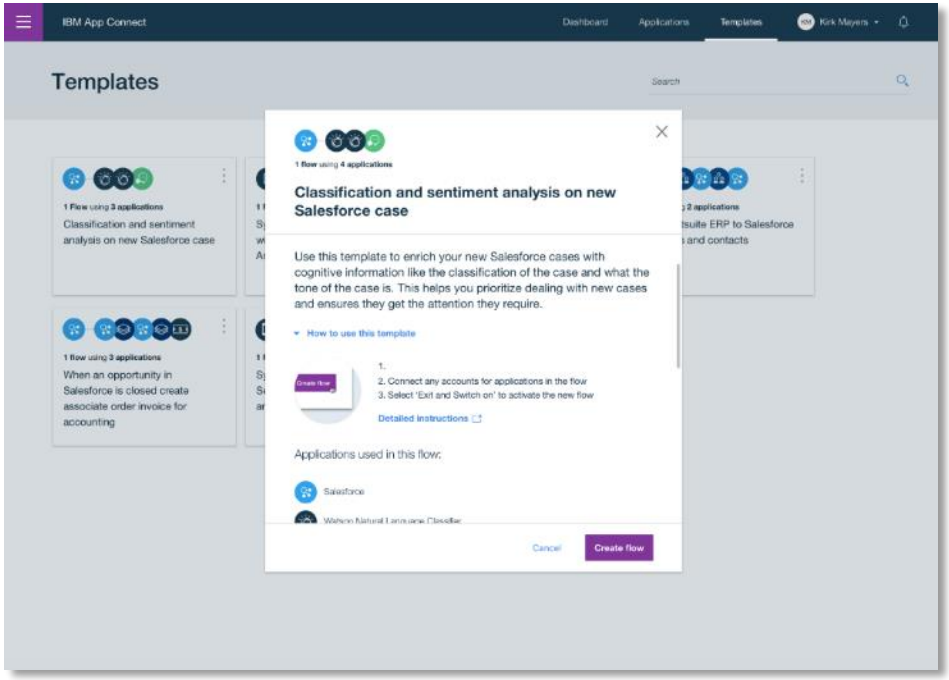


Coming soon

Salesforce
Retrieve Contact
Create tickets in all locations
if Location equals US
SAP US
Create Ticket
Slack
New Message
else if Location does not equal US
Create tickets in UK and FR
Gmail
Send Email
if Location equals UK then
SAP UK
Create Ticket
else if Location equals FR then
SAP FR
Create Ticket

Templates are coming soon!

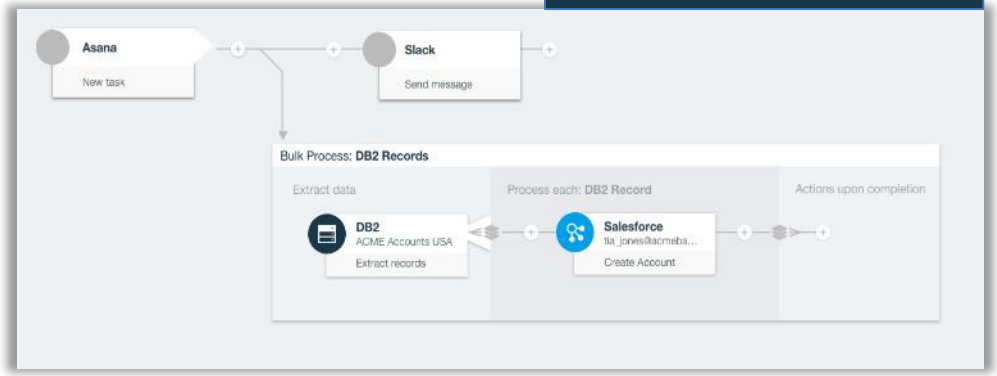
- Accelerate flow creation with pre-built flows
- Covering a number of cognitive, marketing, sales, support, business ops, e-commerce, finance use cases
- Including key connectors such as Salesforce, SAP, Netsuite, Watson, MS Dynamics, Marketo etc.
- Easy to use templates catalog embedded within App Connect



Data Copy flows

- Smart connectors support bulk extract and insert scenarios
  - Connectors support Bulk APIs provided by the endpoint
  - Connectors smartly handle batching to optimize resource usage
- Perform on-demand or scheduled jobs
  - Run your flows on demand via API trigger or manual invocation or scheduled jobs
  - Add batch processing to any event-action flow to trigger on specific events from apps

Coming Soon



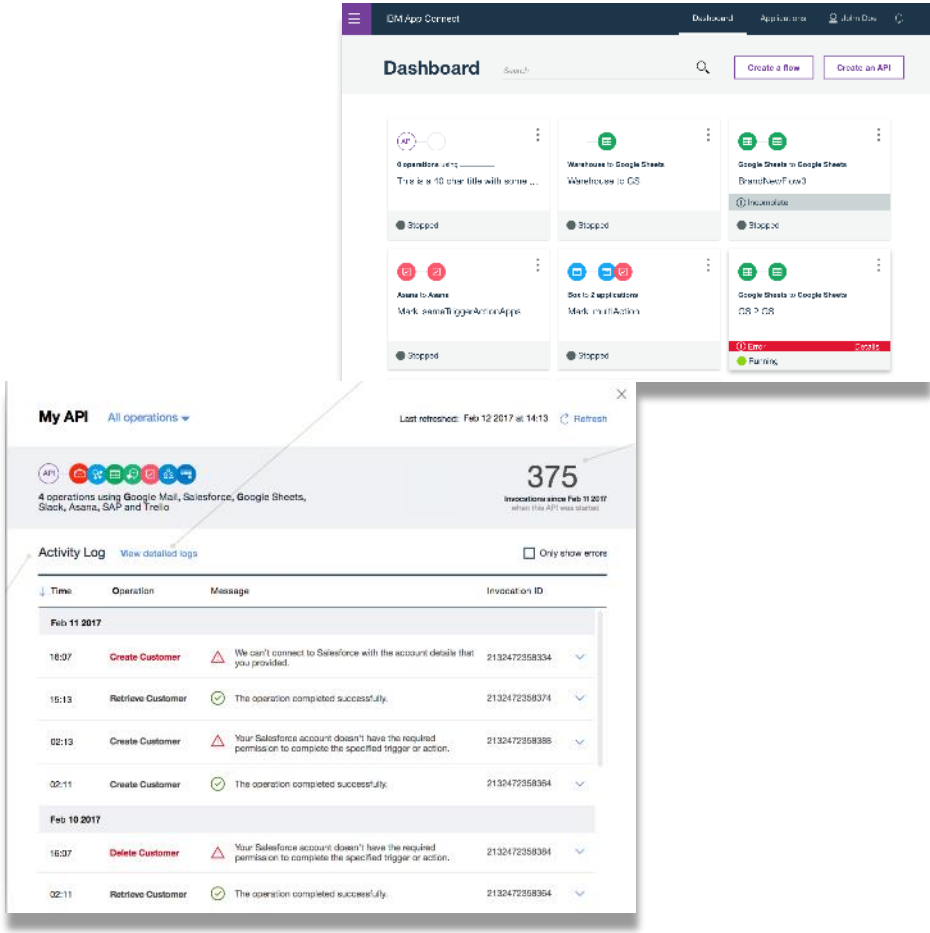
Handle large volumes of data at lightning speed with a scalable architecture that supports parallel processing and concurrency to provide high throughput

Dashboard

- Single dashboard to monitor and manage all types of flows
- Logging capabilities for users to be able to determine and trouble shoot errors
- Initial Metrics today:
  - Number of flow runs
  - Number of errors flow run
  - Last run

Roadmap Items

- Logs also pushed into Bluemix Logging service
  - Enabling common logging with other services in Kibana
- Metrics also pushed into Bluemix metering service – common grafana dashboards

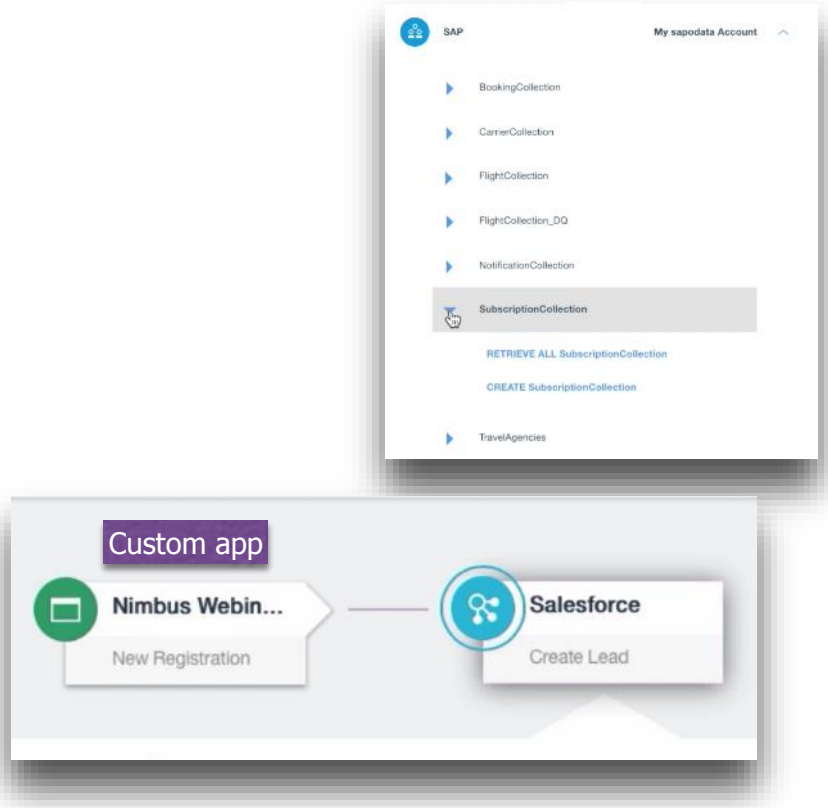


Hybrid connectivity

- Connectivity to hybrid endpoints uses the Secure Gateway service.
  - Standalone client or integrated into Datapower Gateway.
- SAP OData connectivity
  - Support for OData v2.0
  - OData support consistent with SAP's industry strategy
- IIB on prem or IIB Cloud service can be used to create an Event connector for App Connect.

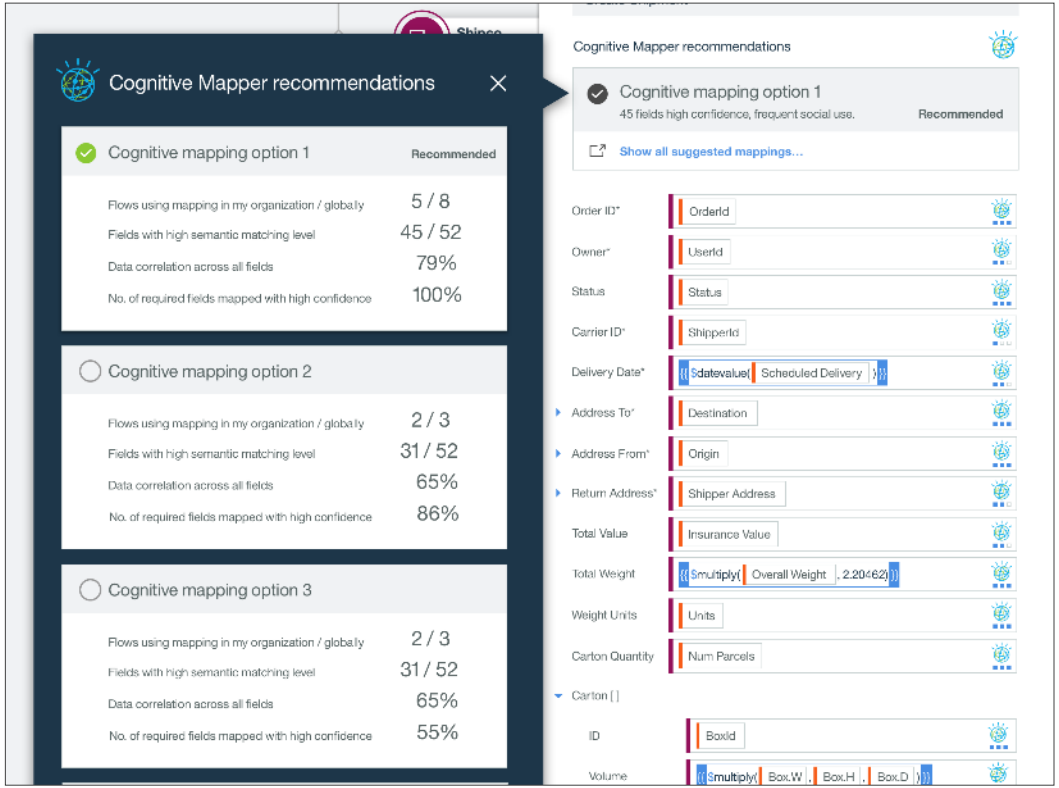
Roadmap Items

- Federated connectors
  - Deployed on-prem or in other clouds keeps credentials local to the data.
- Federated flows
  - Allow the data flow to remain local.



Key Roadmap Item – Cognitive Mapping

- Leverages several dimensions of learning, primarily:
  - data discovery/domain/classification features included in DataWorks and Information Analyzer
  - metadata/semantic knowledge of source and target systems
  - “social learning” that happens as prior users interact with source and target systems and make assertions
- Builds a new Watson Cognitive library that focuses on the ability to interpret this information and then asserts data mapping along with required transformations to complete the mapping



Application Integration Convergence

1. Offerings Converge

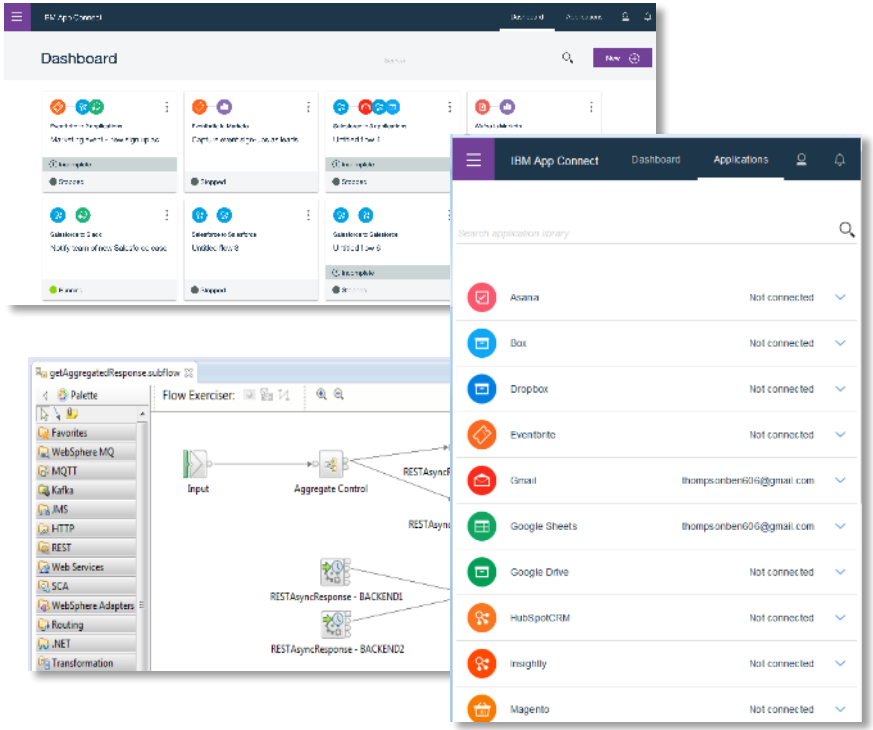
ONE joined cloud service (Bluemix tile) and ONE software install which can run all the types of *'integration asset'* that we care about

2. Integration asset/flow Converge

Allow IIB bar files and flows to interact at run time with App Connect flows and integrations

3. Authoring converge

Authoring convergence is about having an authoring experience that is capable of creating more than one type of integration asset



Key Tenets - Hybrid Integration Platform - 2017

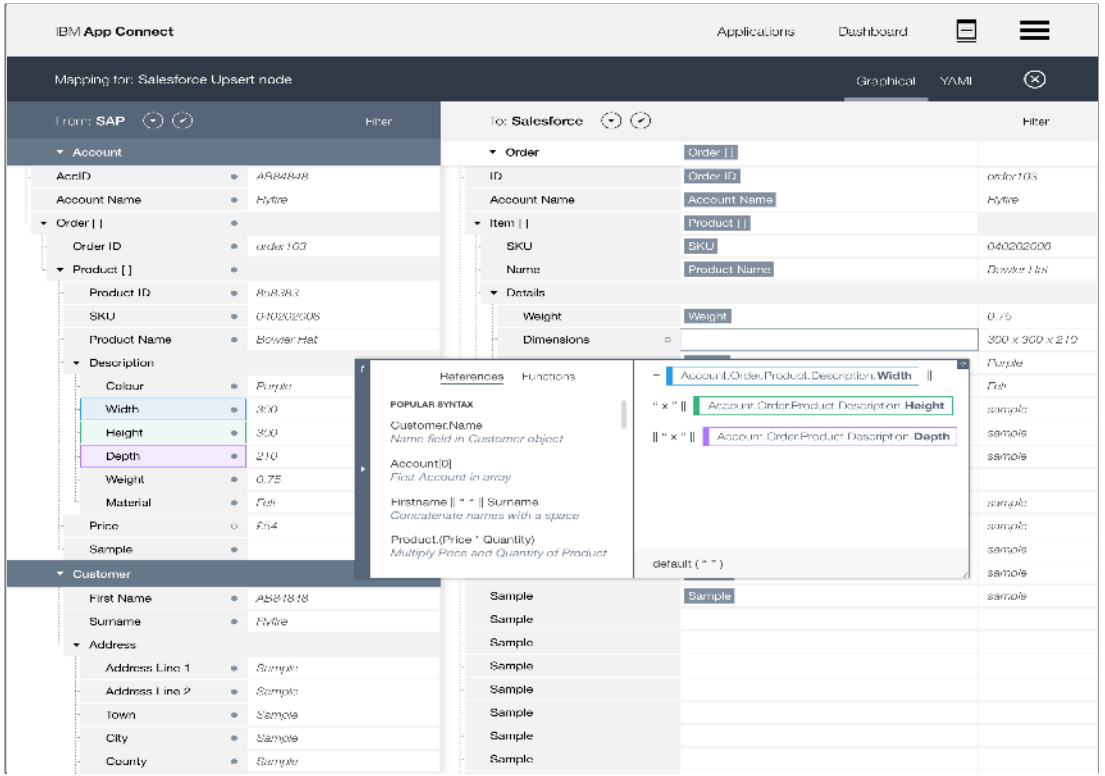
#	Components of the HIP have:	As of YE2017
1	Consistent deployment options/platforms	• All pillars support Docker & OVA
2	Targeted user experiences for each key persona plus friction free interaction between personas	• IIB push button exposure of API's in APIC • App Connect push button exposure of API's in APIC • API Connect includes assembly editor UI for DataPower
3	Consistent, browser based, responsive & modern look and feel	• API Connect, App Connect and DataPower share common UI components.
4	Synchronized versioning & release schedule for SW maint.	• As part of API Enterprise, DataPower versions sync'd
5	Integration testing: simultaneously released versions are compatible	• DataPower included in API Connect Enterprise; tested as 1 product
6	Consistent management / upgrade approaches / interfaces	• All products put logs into Logmet using Product Insights.

Key Tenets - Hybrid Integration Platform - 2018

#	Components of the HIP have:	2018 Roadmap
1	Consistent deployment options/platforms	• Simplified/consolidated approach to docker deployment for cross portfolio use scenarios
2	Targeted user experiences for each key persona plus friction free interaction between personas	• Single launch experience for the hybrid integration platform recognizing user authorizations across modules
3	Consistent, browser based, responsive & modern look and feel	• Expand the 2017 App/API Connect Designer to Integration Bus
4	Synchronized versioning & release schedule for SW maint.	• Joined up schedule for consistent major/minor version releases across all modules
5	Integration testing: simultaneously released versions are compatible	• Expand consistency of testing to include common prereq's to avoid third party conflicts
6	Consistent management / upgrade approaches / interfaces	• Consolidated administration and monitoring interfaces and dashboards

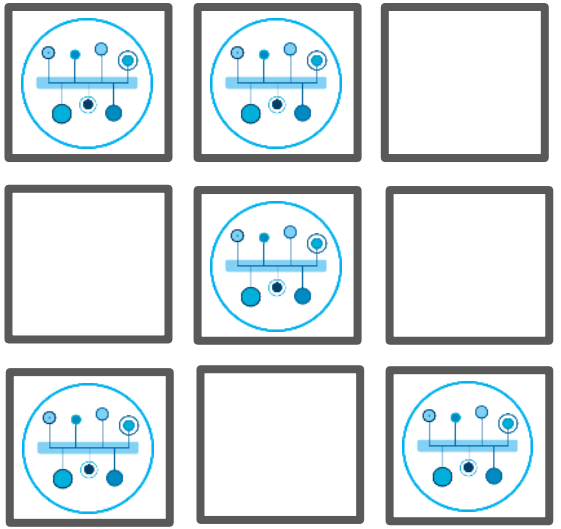
Next Generation Mapping

- Increases developer productivity through a series of tooling improvements, including:
  - Filter fields and expressions through metadata search as well as “mapped/unmapped” fields.
  - In line source data display to allow users to better understand the information at hand
  - Design time transformation computation to validate expressions are being configured as expected.
  - Expression power and simplicity through JSONata (see next slide)



Microservice deployable integration packages

- Continued evolution of the integration engine to support encapsulated runtimes along with user built flow artifacts.
- Allows integration components to participate in serverless deploys with technologies like OpenWhisk.
- Single runtime – Leverages the App Connect investments in nodeJS runtime artifacts along with unique integration features derived from Integration Bus.



Any-cloud

- Deploy IBM Hybrid Integration to all major clouds
- Leverage “native deployment” options so that IBM technologies are well behaved
- Common admin/monitoring across multiple cloud deployment
- Aligned pricing models with consumption based metrics

thankyou