

What's new in IBM App Connect

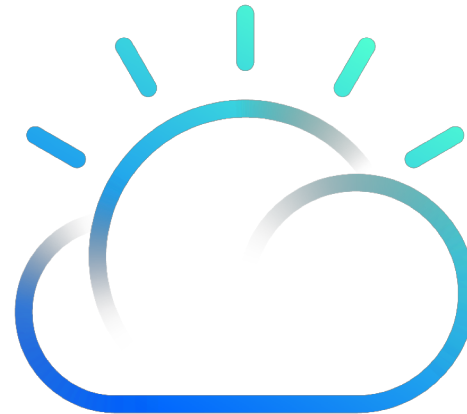
Ben Thompson

William Woodhead

IBM App Connect Enterprise, IBM UK Ltd.

6th November 2018

Session JE



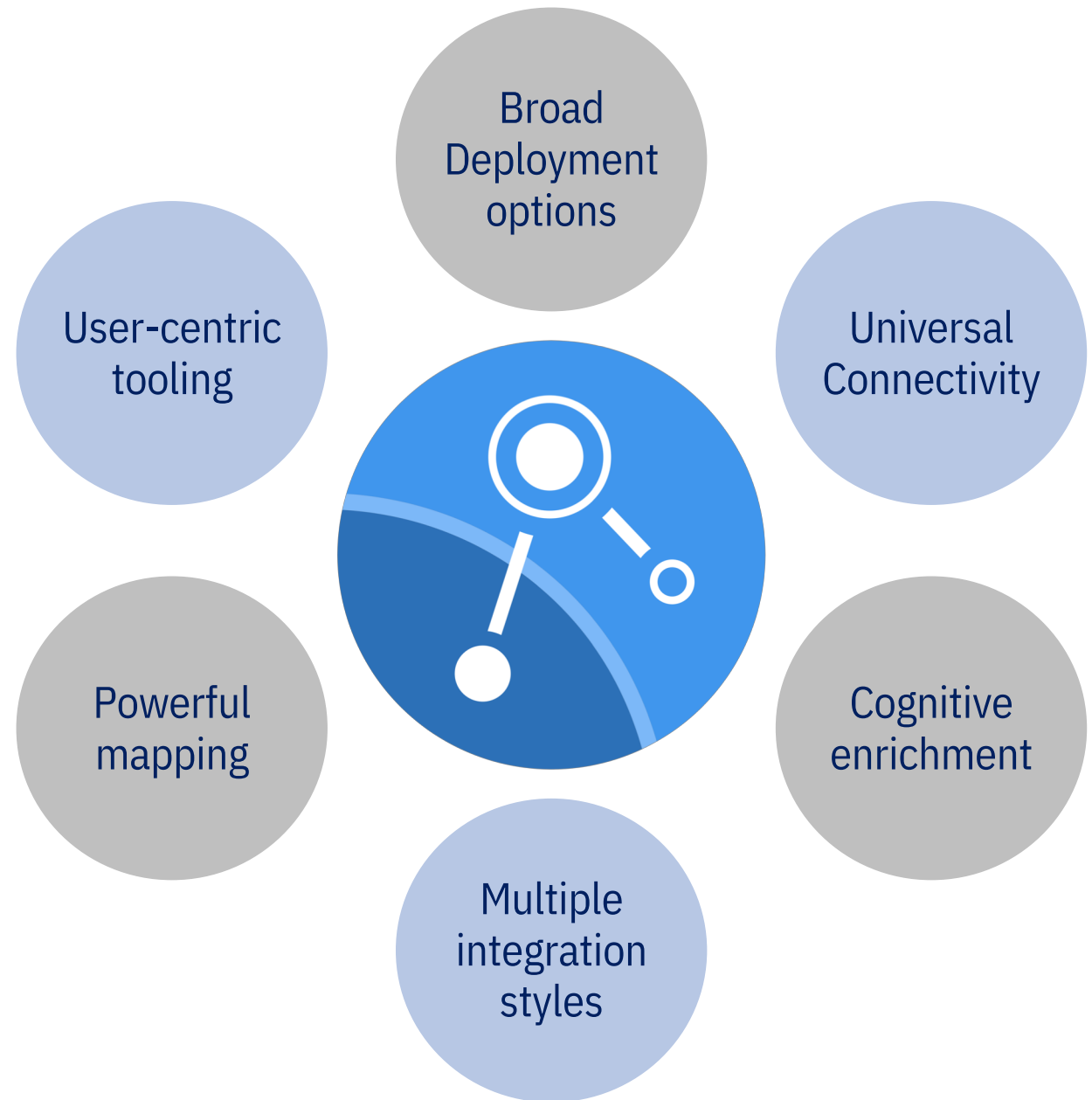
Agenda

- App Connect Overview
- App Connect Designer Updates
- App Connect Toolkit Updates
- Q&A

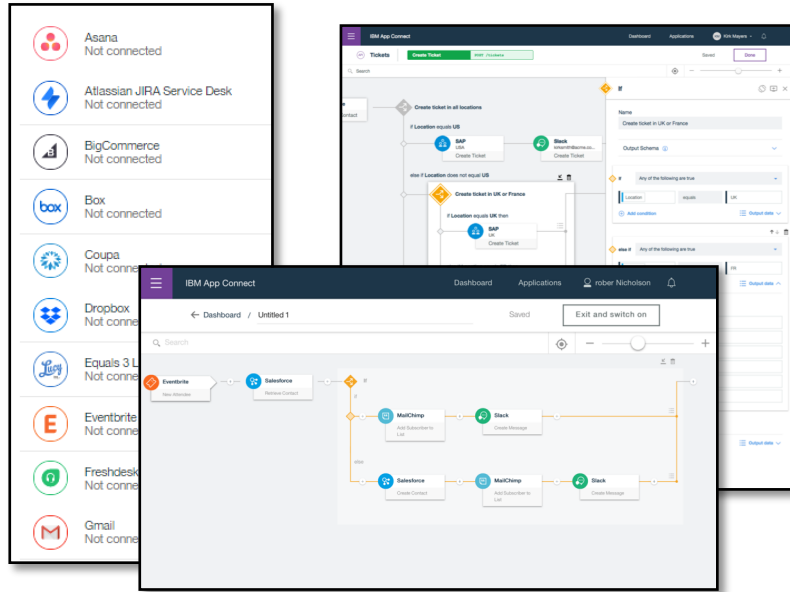
IBM App Connect Overview

One product

IBM App Connect is a single integration offering that supports a breadth of integration needs across a modern digital business

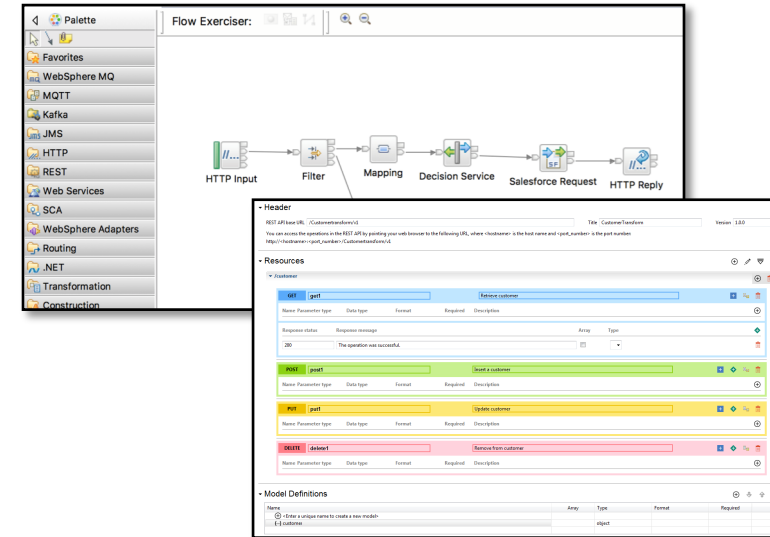


Two user experiences



App Connect Designer

- Award winning, browser-based design
- Configuration based, model-driven tooling for rapid outcomes
- Supports a broad range of use cases



App Connect Toolkit

- Powerful integration tooling
- Build and manage integrations for any requirement
- Utilize with Designer to enable greater collaboration

The web one
It let's you do integration with zero training

The eclipse one
for experts to build out the hard stuff

App Connect Designer Updates

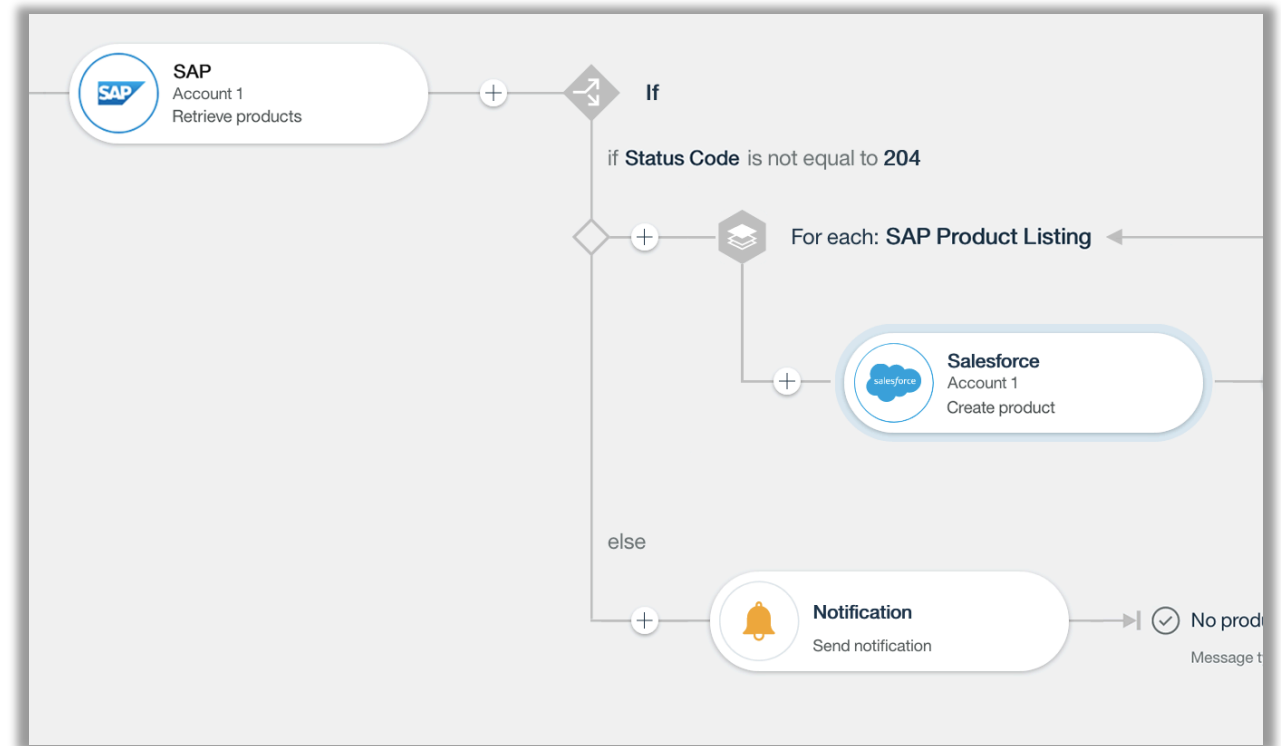
Huge investments through 2018 in our new tooling!

40+ releases each with multiple new features in each

Added 50+ new connectors

- Key business apps CRM, ERP, Marketing, Commerce, Databases, Big Data, Analytics and AI, Cloud Storage
- Salesforce, SAP, Microsoft, Oracle and more
- Technology - REST - HTTP/OpenAPI, SOAP, MQ, SFTP
- Data formats - JSON, CSV, XML

Native support to extend Enterprise functions via Callable flows



[What's new in App Connect Blogs](#)

Supports multiple integration patterns



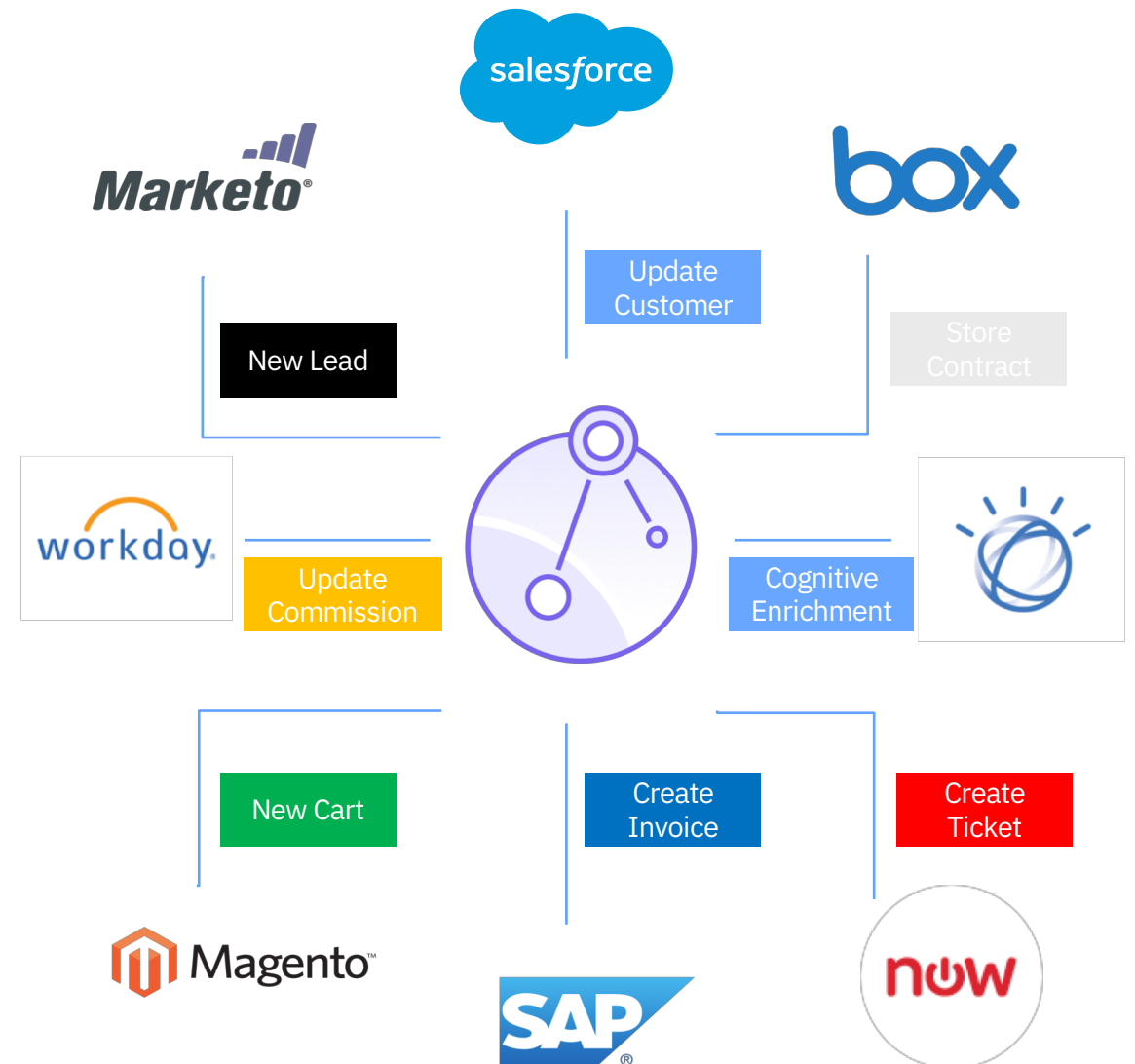
Smart Connectors

Built-in Optimization:

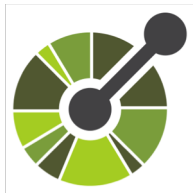
- Metadata and business object aware
- Configured to listen and trigger to change events
- Process data in batch/bulk when moving large volume of data
- Robust and resilient to failure with built-in fail-over and retry mechanism
- Secure connectivity for on premise apps via Secure Gateway service

Connector Innovation - Crawling

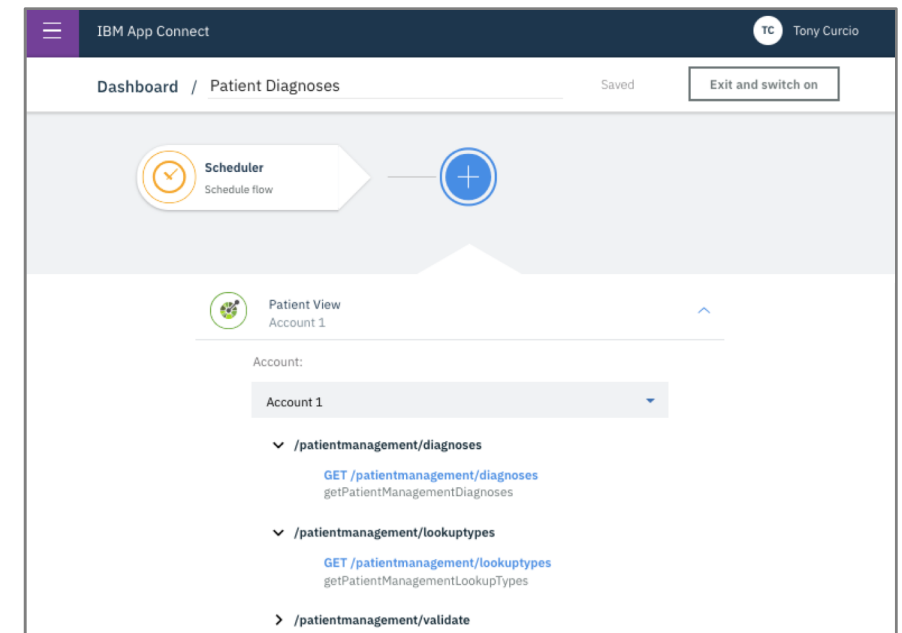
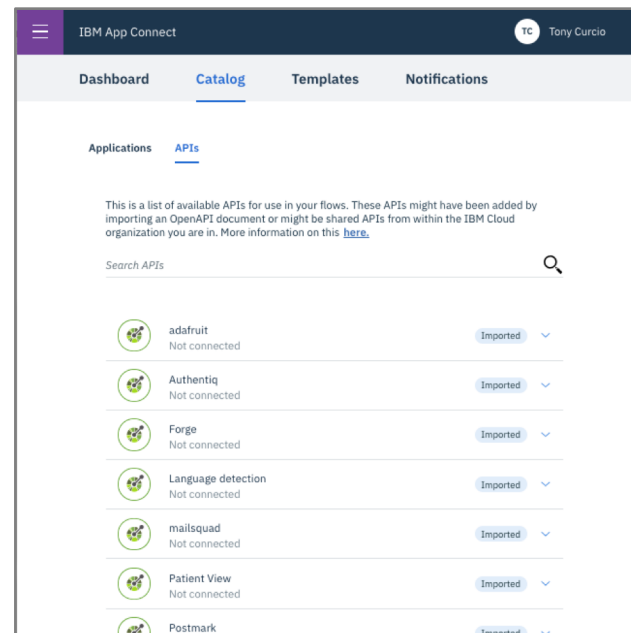
- Traverse and retrieve a hierarchy of objects from a connector starting at any given point.
- Well suited for apps like Sharepoint, Box, One Drive, and other content systems.
- Provides value for content stores, data lakes and other analytic solutions where large quantities of data need to be moved en masse



Expand reach of your connectivity



- Simplest means to register new endpoints ... supply an OpenAPI or WSDL file and give your “connector” a name and a description
- Onboard your org’s APIs, SaaS/Software (like [IBM Maximo](#)) or take advantage of online libraries like [apis.guru](#) to expand the org reach to 1000s of endpoints
- Once imported, these APIs can be easily added to any integration



Ability to combine app and data seamlessly

Mix and Match

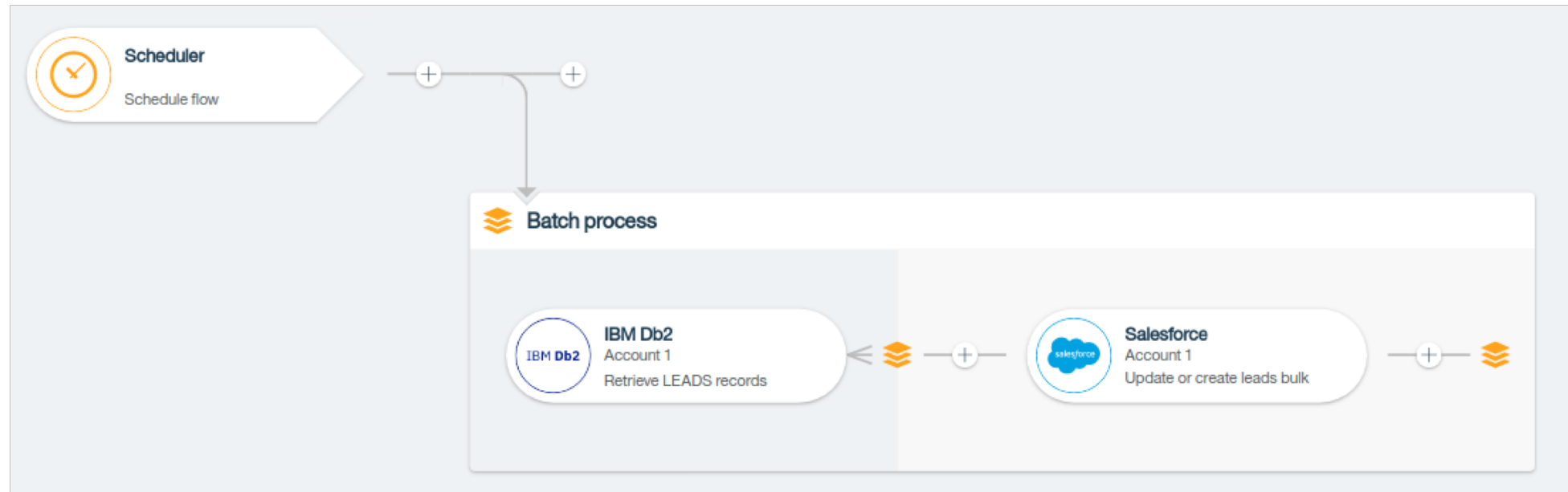
Flows can include elements of app and data integration patterns

Optimize in Each

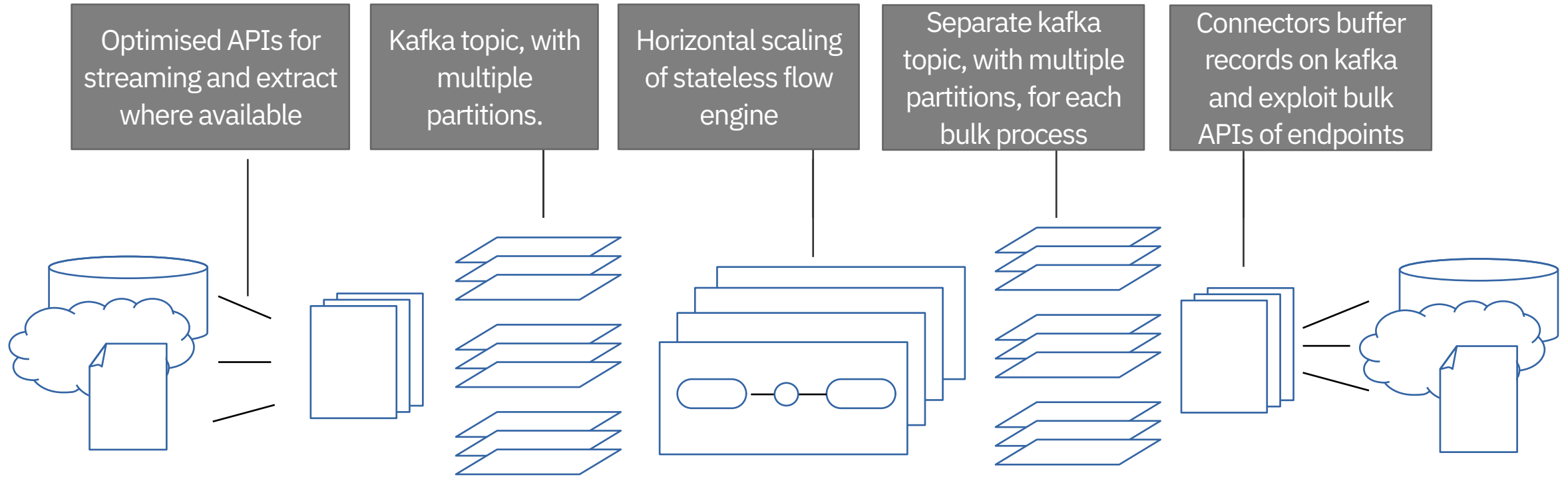
Engine understands the dynamics of performance and scale-out in each pattern

Solve Faster

flexibility allows users to solve more problems more quickly



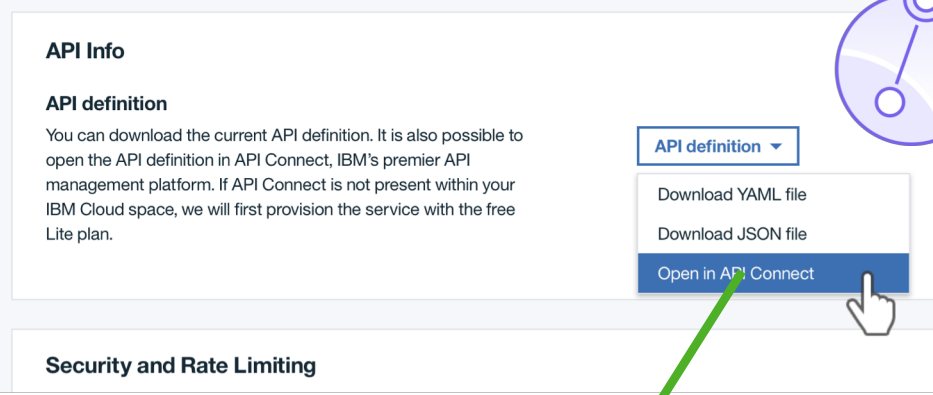
Batch extract and bulk load



High Throughput - Scalable - Predictable performance

Key Integration between App Connect and API Connect

Expose APIs in App Connect manage in API Connect



API Info


API definition

You can download the current API definition. It is also possible to open the API definition in API Connect, IBM's premier API management platform. If API Connect is not present within your IBM Cloud space, we will first provision the service with the free Lite plan.

API definition ▾

- Download YAML file
- Download JSON file
- Open in API Connect**

Security and Rate Limiting



Dashboard / leads

Define Manage Saved Running

To get started, scroll down to 'Sharing Outside of Bluemix Organization' and click on 'Create API Key'. Copy the 'API KEY' and then click on the 'API PORTAL LINK' link. You can explore your API in the portal and invoke it by clicking on 'Try it'.

API name leads-nrF61y	Route https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/103f39c058f0c4a60f0f90e63b4ae9669286b44326f0391a...
---------------------------------	---


Rate Limit
None

Security
API key

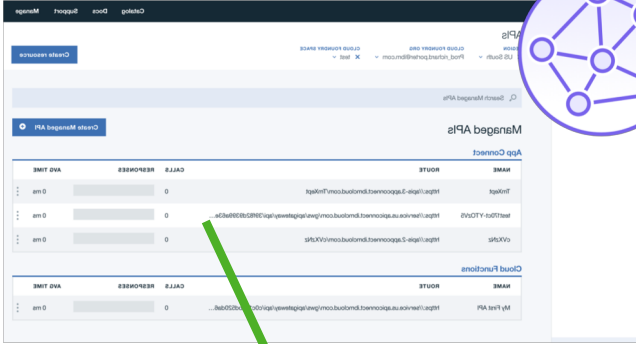
Sharing
Not shared with Bluemix organization
0 Keys
Not shared with other users
0 Keys

Analytics and Logging

Responses: 0, Avg Response Time: 0




Consume API in App Connect from API Connect catalog



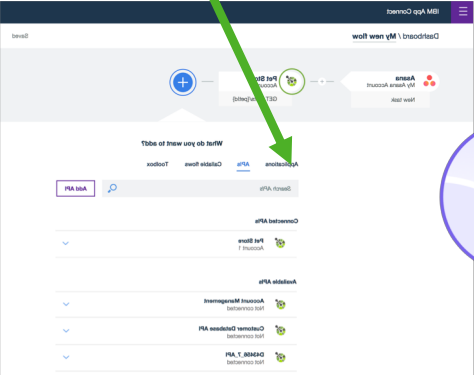
Managed APIs

API Name	Route	API Key
am-0	https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...	0
am-0	https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...	0
am-0	https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...	0



Cloud Functions


API Name	Route	API Key
am-0	https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...	0
am-0	https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...	0



API Catalog

APIs available for consumption:

- API Name: leads-nrF61y
- API Key: [Key]
- API URL: https://service.us.apiconnect.ibmcloud.com/gws/apigateway/api/ids/...



Creating truly hybrid integrations

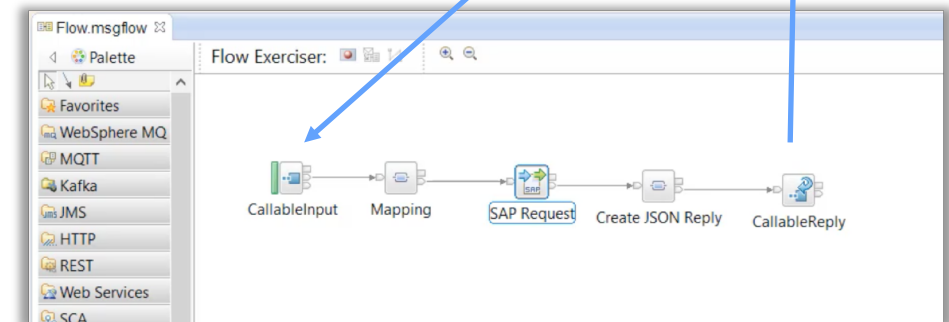
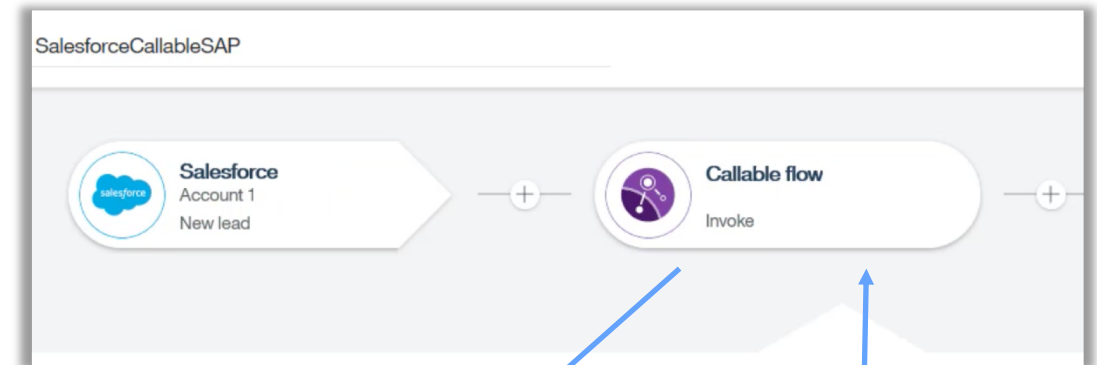
Callable flows - ability for a flow to call another flow directly, these flows can be running in cloud or locally

- Designer can call toolkit message flows and vice-versa
- Designer has native access to callable flows in UI

Why use callable flow?

- Create Hybrid flows:
 - run and manage your integrations efficiently
 - Split labor-intensive/complex flows
- Security:
 - Control who has access to what
- Re-usability:
 - A callable flow can be invoked by multiple different flows

- ✓ Speeds interaction between IT and other users
- ✓ Maintain security practices
- ✓ Integrations remain unchanged



CD/CI

Admin and platform APIs

- In partnership with customer, built APIs to drive the App Connect cloud service.
- Coverage includes:
 - Connector availability
 - Metadata exploration
 - Asset creation
 - Runtime execution
 - Log / message retrieval
 - Control execution of long running flows

Why we are different



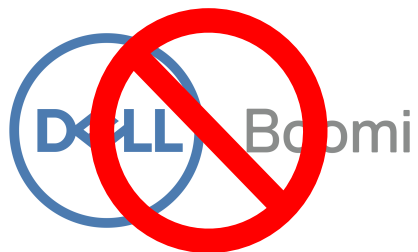
Connectors



Agile runtime



LOB tooling



Modernize Integration

Agile integration architecture

Using lightweight integration runtimes
to implement a container-based and
microservice-aligned integration
architecture



<https://www.ibm.com/cloud/agile-integration-architecture>

IBM App Connect
Server: IntegrationServer8

IntegrationServer8 Started

Content Properties Policies Statistics Resource Statistics

Search Add Integrations

- SDefaultApplication Application Started
- HTTPInputApplication Application Started
- LargeMessages Application Started
- TemperatureConverter Application Started
- Transformation_ESQL Application Started
- Transformation_Java Application Started

App
Connect
Enterprise

App Connect
Professional

IBM App Connect Ben Thompson

Dashboard Applications Templates Notifications

Search New

- CallableTimestamp Integration server 1 application Running
- CallableTimestampAlternate Integration server 1 application Running
- CustomerDatabaseV1 Integration server 1 application Running
- 1 flow using Gmail Gmail_Create_message Running
- 1 flow using Slack Slack_Create_message Running
- 1 flow using Google Sheets GoogleSheets_Create_spreadshee t Running

IBM Cloud Stack.com

Integration Development - App1/Flow1.msflow - IBM App Connect Enterprise Toolkit - C:\Users\BENJAMINThompson\IBM\ACET11\workspace2020_1

File Edit Flow View Palette Navigate Search Project Run Window Help

Application Development Patterns Explorer

Flow1.msflow

Flow Exerciser: HTTP Input -> HTTP Reply

Properties

Property	Value
Integration Server Properties	
Active User Exit List	
Default Queue Manager	
HTTP Listener port for HTTP-based message flow nodes	7900
HTTPS Listener port for HTTP-based message flow nodes	-1
Integration Server Name	IntegrationServer2020_1
JVM Debug Port	0
JVM Maximum Heap Size	268435456
JVM Minimum Heap Size	33554432
Listener port for the Administrative REST API	7600
Node Level Trace Enabled	true
Resource Statistics Reporting Enabled	false
Snapshot Statistics: Accounting Origin	none
Snapshot Statistics: Node Data Level	none
Snapshot Statistics: Output Format	usertrace
Snapshot Statistics: Publication Enabled	false
Snapshot Statistics: Thread Data Level	none
Trace	none

*Application: AppConnectTestB

*Endpoint: WRITE_TO_FILE

Populate the target fields in App Connect Enterprise Auto match fields

Local Environment Variables Edit properties

First Name

Last Name

Company

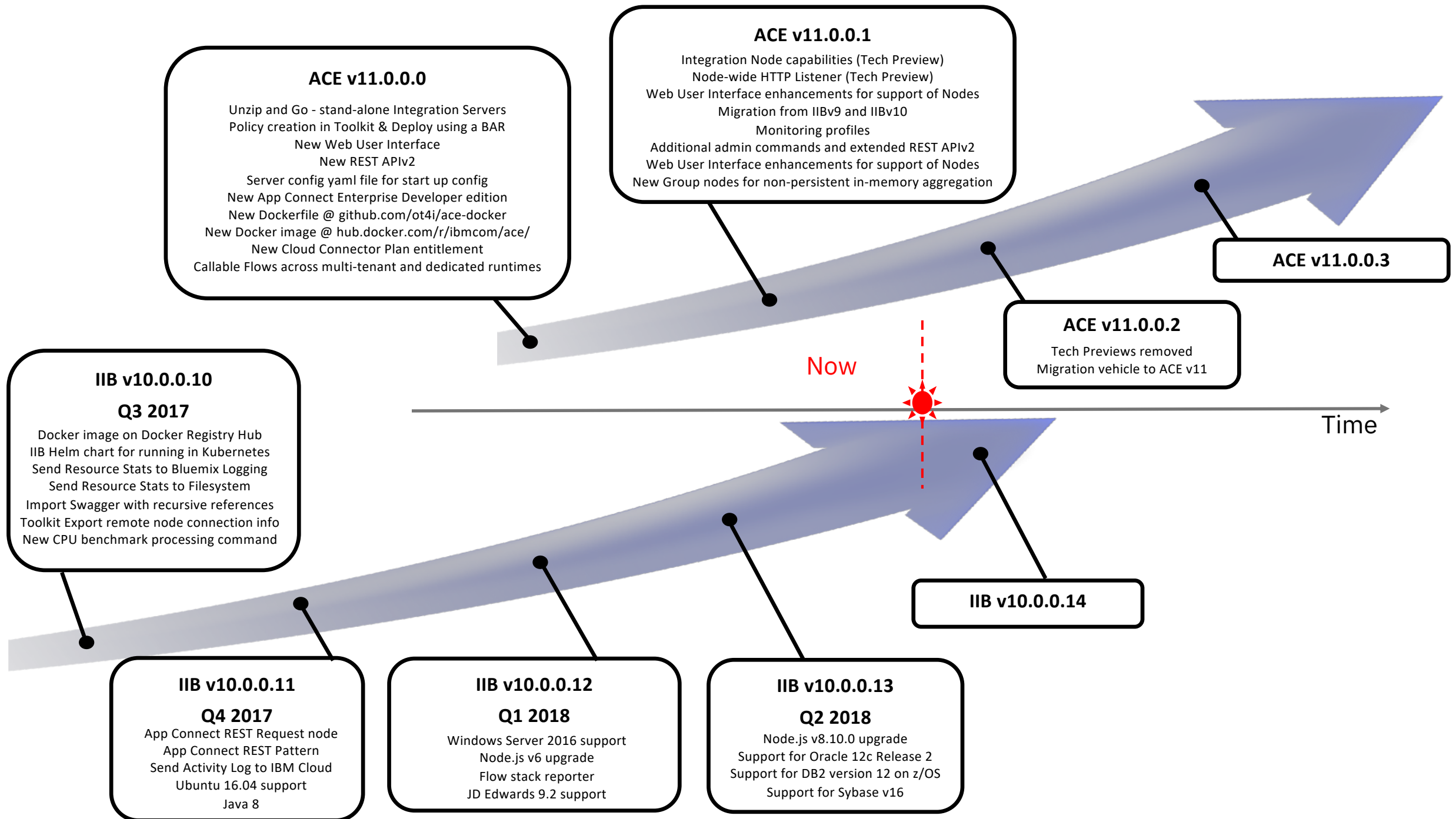
Email

IBM Integration Bus v10

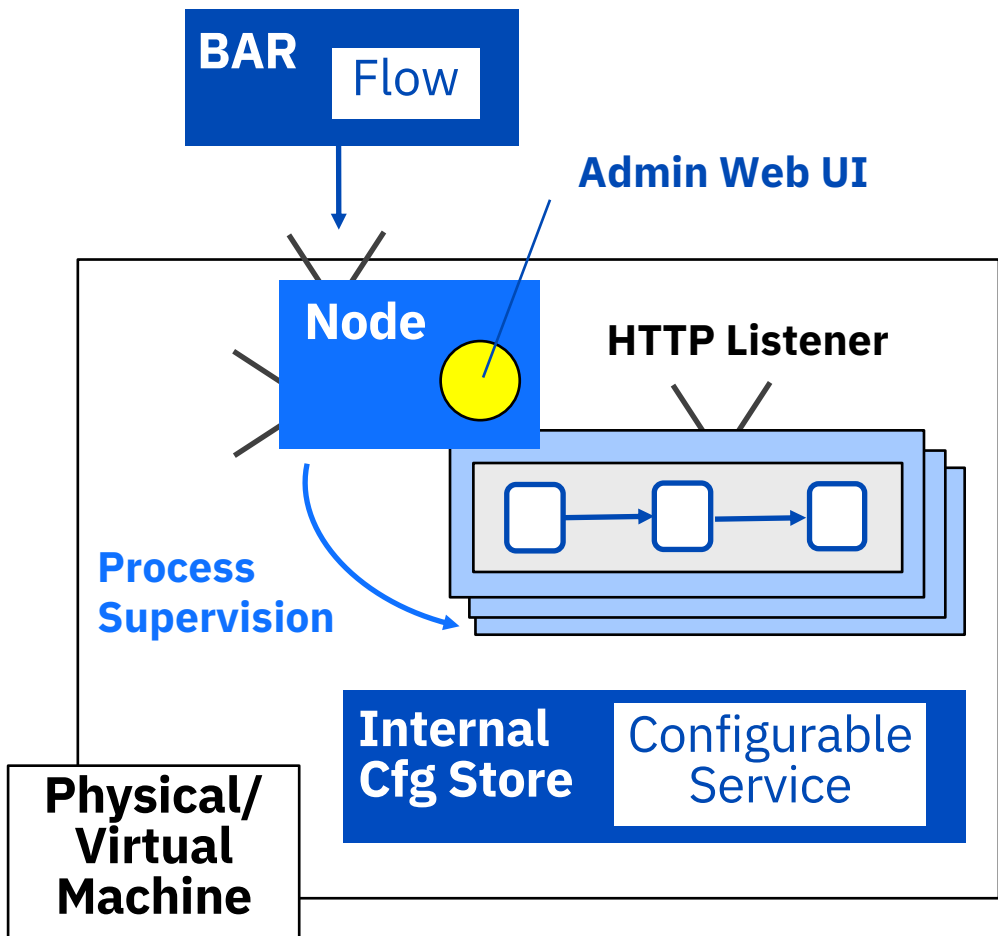
License	IIB Developer Edition	IIB Standard Edition	IIB Advanced Edition	AIS
Community Support	✓	✓	✓	✓
Paid IBM Support for production use	x	✓	✓	✓
More than 1 transaction per second	x	✓	✓	✓
More than one Integration Server per node	✓	x	✓	✓
Salesforce Request node	✓	x	x	✓
Entitlement to IBM App Connect Professional	x	x	x	✓

IBM App Connect Enterprise v11

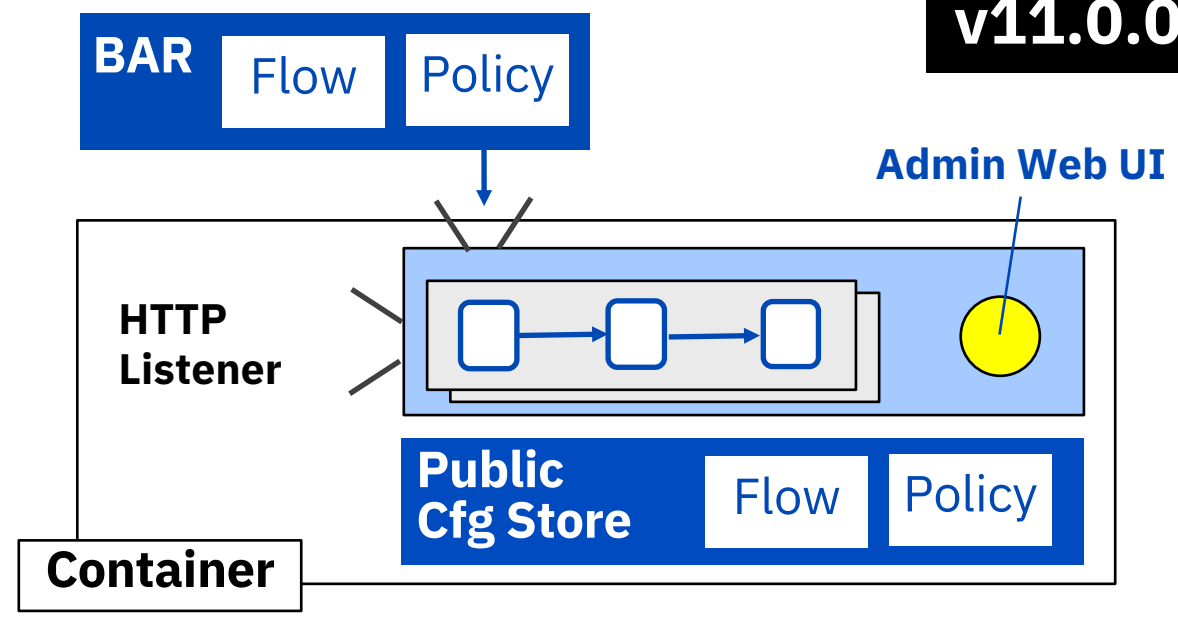
License	ACE Developer Edition	App Connect Standard	App Connect Enterprise	AIS
Community Support	✓	✓	✓	✓
Paid IBM Support for production use	x	✓	✓	✓
More than 1 transaction per second	x	✓	✓	✓
More than one Integration Server per node	✓	x	✓	✓
Salesforce request node	✓	✓	✓	✓
Entitlement to IBM App Connect Professional	x	x	✓	✓
Entitlement to IBM Cloud Connectors	x	x	✓	✓
Entitlement to IBM API Connect	x	x	x	✓



v10

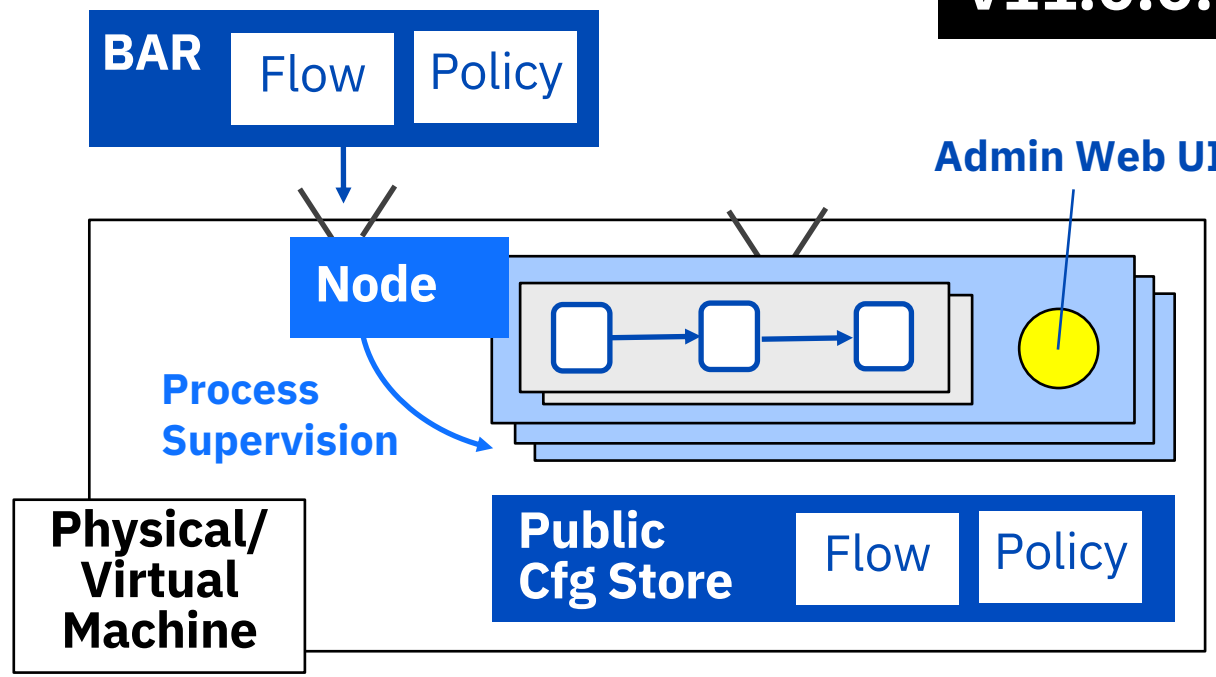


v11.0.0.0



UNZIP and GO!

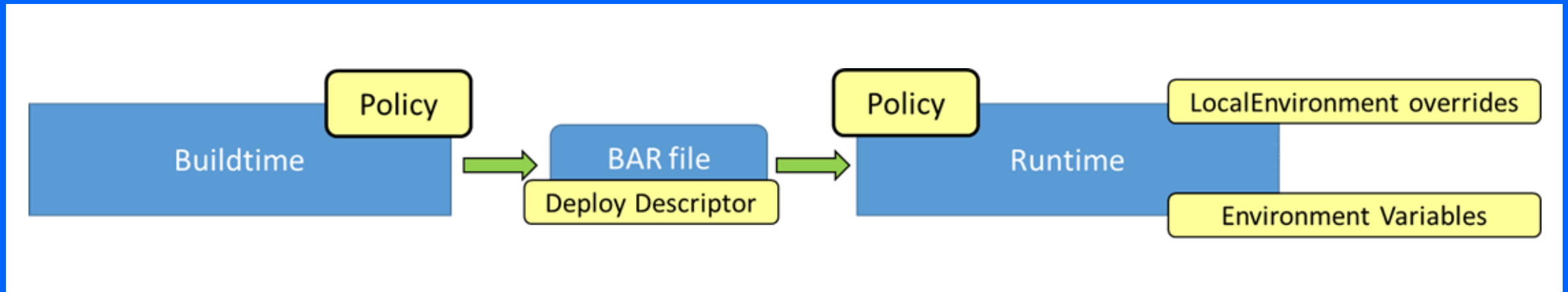
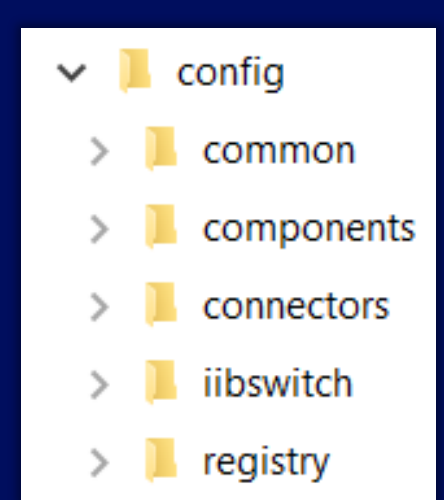
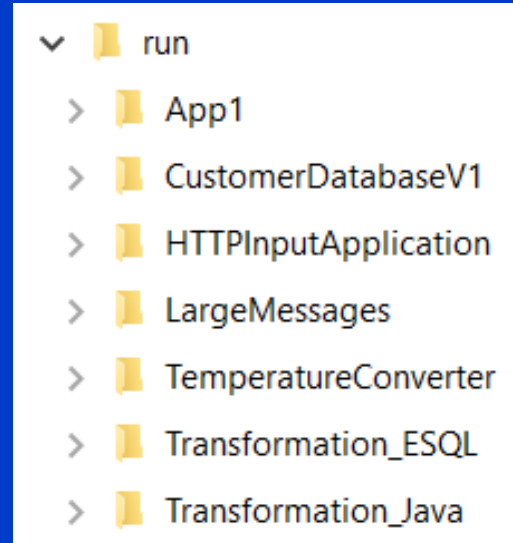
v11.0.0.1



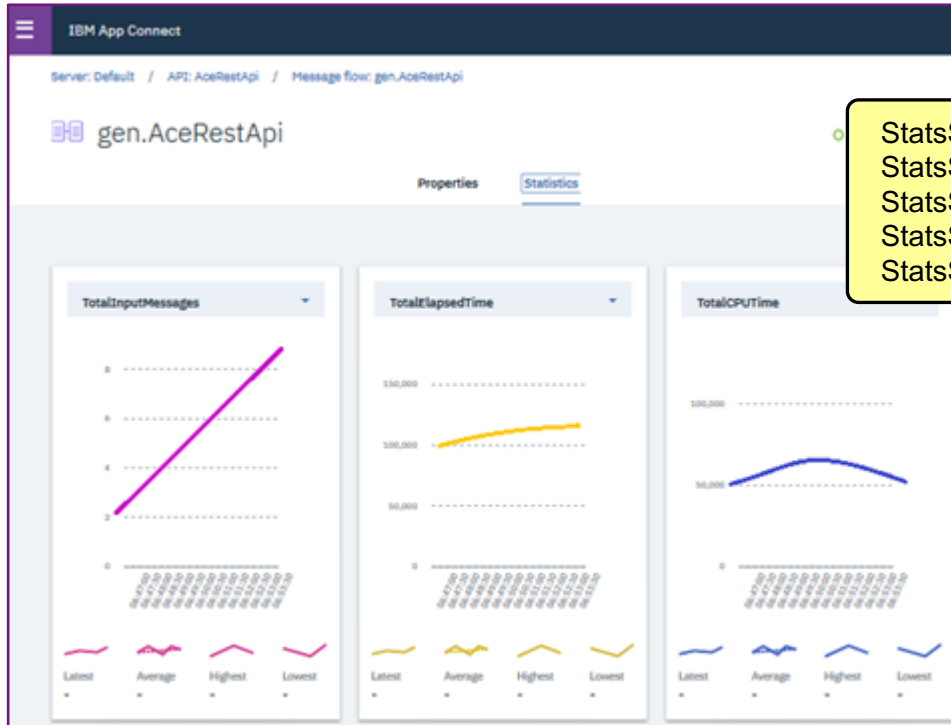
ACE v11 Work Directory

The Integration Server relies on three subfolders which live in its work directory:

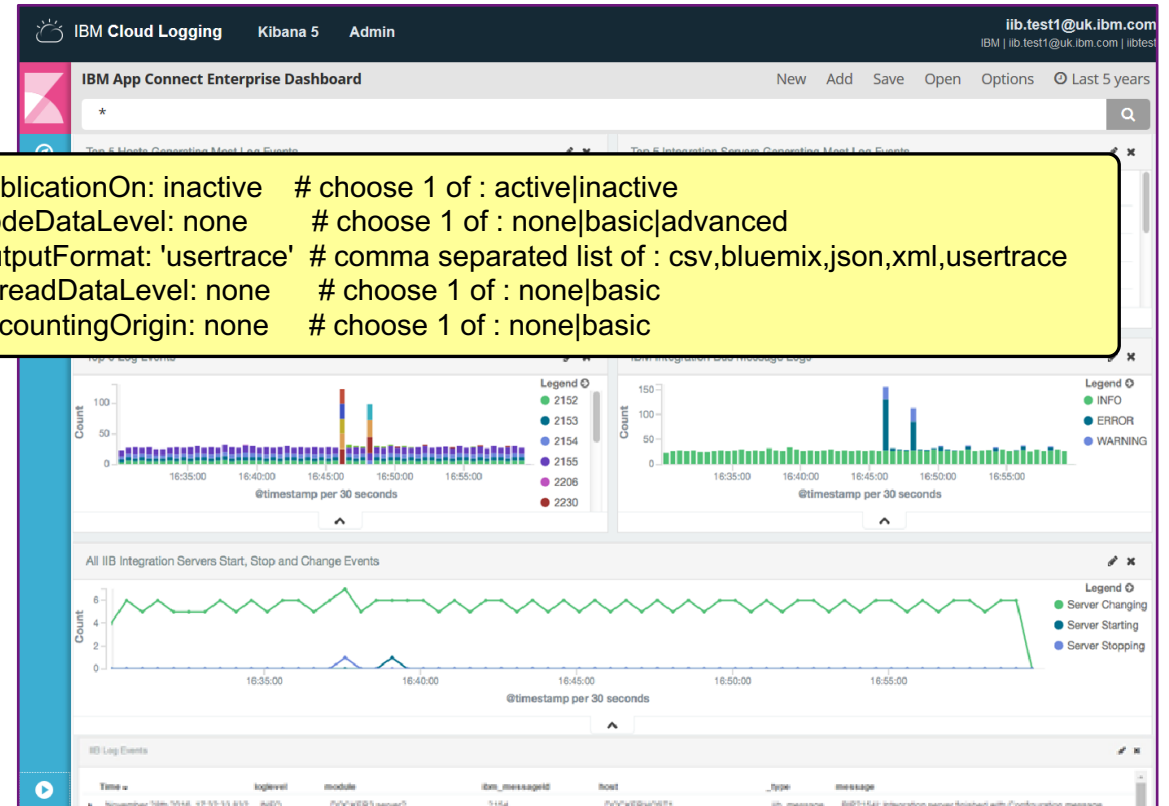
- The **run** directory contains the unzipped deployed content from BAR files
- The **overrides** directory provides ability to override directly in a particular runtime environment
- The **config** directory holds other configuration files (eg for loopback, switch, security config etc.)



Accounting Statistics, Resource Statistics and Event Logs



StatsSnapPublicationOn: inactive # choose 1 of : active|inactive
 StatsSnapNodeDataLevel: none # choose 1 of : none|basic|advanced
 StatsSnapOutputFormat: 'usertrace' # comma separated list of : csv,bluemix,json,xml,usertrace
 StatsSnapThreadDataLevel: none # choose 1 of : none|basic
 StatsSnapAccountingOrigin: none # choose 1 of : none|basic



```
Tail - C:\temp\acesis\log\integration_server.ACESIS.events.txt
2018-06-15 10:04:01.055445: [Thread 6708] (Msg 1/1) BIP1990I: Integration server 'ACESIS' starting initialization; version '11.0.0.0' (64-bit)
2018-06-15 10:04:31.278658: [Thread 6708] (Msg 1/1) BIP1991I: Integration server has finished initialization.
2018-06-15 10:04:31.294814: [Thread 4940] (Msg 1/1) BIP3132I: The HTTP Listener has started listening on port '7600' for 'http' connections.
2018-06-15 10:06:29.957310: [Thread 10012] (Msg 1/1) BIP2152I: Configuration message received.
2018-06-15 10:06:30.237802: [Thread 10012] (Msg 1/1) BIP2155I: About to 'Initialize' the deployed resource 'AceRestApi' of type 'RestAPI'.
2018-06-15 10:06:35.847336: [Thread 10012] (Msg 1/1) BIP2155I: About to 'Start' the deployed resource 'AceRestApi' of type 'RestAPI'.
2018-06-15 10:06:35.881628: [Thread 10012] (Msg 1/1) BIP3132I: The HTTP Listener has started listening on port '7800' for 'http' connections.
2018-06-15 10:06:35.885008: [Thread 10012] (Msg 1/1) BIP1996I: Listening on HTTP URL '/acerestapi/v1*'.
```

Monitoring Profiles

Application Development

- myPolicies
 - BARs
 - Policy
 - WS Policy Sets and Bindings
 - Other Resources
 - MonitoringProfile.monprofile.xml

Integration Servers

- localhost:7600
 - Transformation_Map
 - myPolicies
 - MonitoringProfile.monprofile
 - WLM1

HTTP Input Node Properties - HTTP Input

Description

Configure monitoring events.

Basic

Advanced

Input Message Parsing

Parser Options



Error Handling

Validation

Security

Monitoring

Events

En...	Event Source	Event Source Ad...	Event Name	Event Filter	
<input checked="" type="checkbox"/>	Transaction start	HTTP Input.tran...	HTTP Input.Tran...	true()	Add...
<input checked="" type="checkbox"/>	Transaction end	HTTP Input.tran...	HTTP Input.Tran...	true()	Edit...
<input checked="" type="checkbox"/>	Transaction roll...	HTTP Input.tran...	HTTP Input.Tran...	true()	Delete
					 

LoopbackMem.msgflow

Configure

Configure properties of selected built resource.

Workload Management

Consumer Policy Set

Details

Consumer Policy Set Bindings

Coordinated Transaction

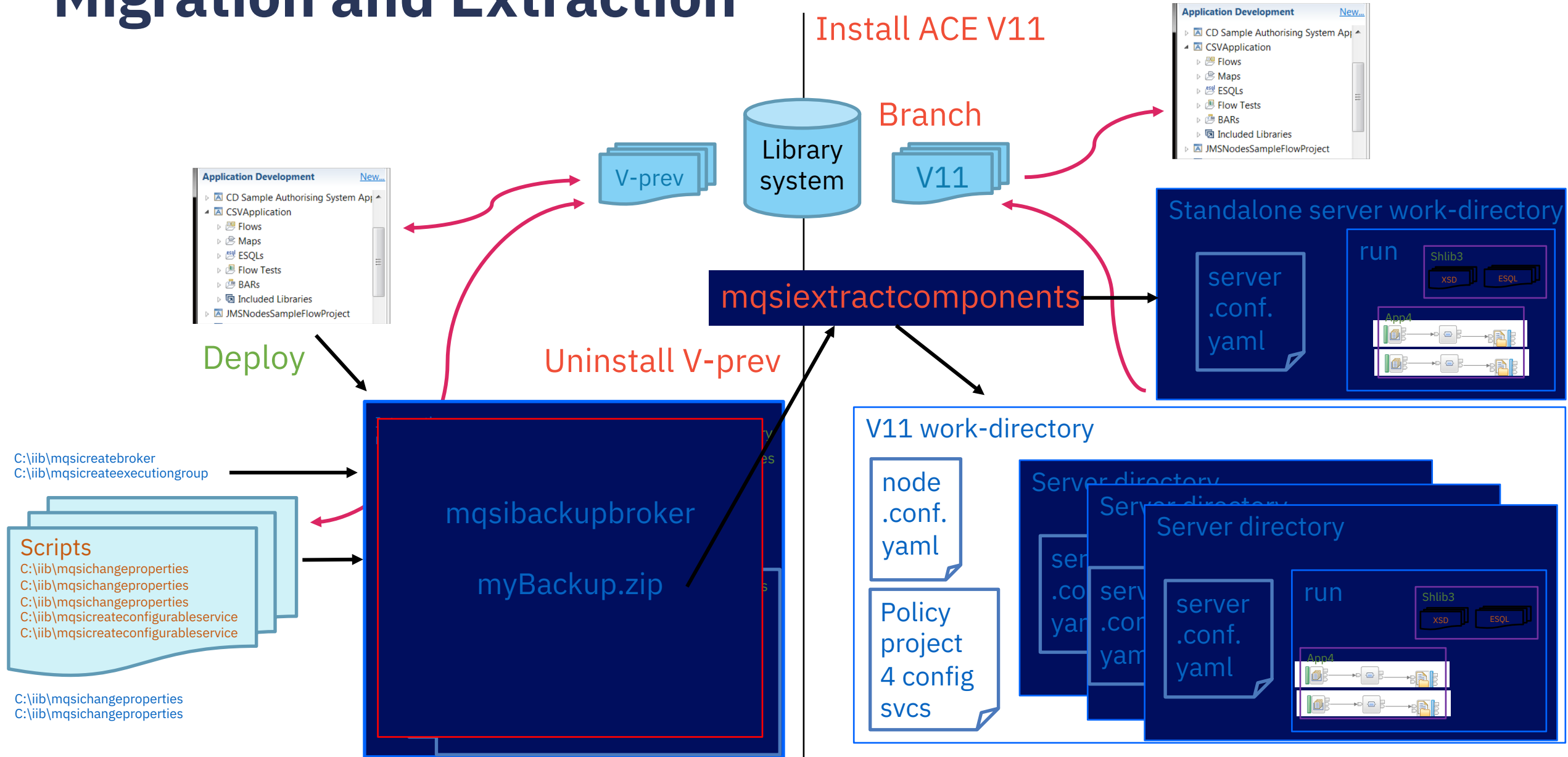
Monitoring Profile Name

Provider Policy Set

Provider Policy Set Bindings

Security Profile Name

Migration and Extraction



Improved Flow Exerciser and Unit Testing

- Response now indicates if the message came from an input node
- Node labels included in the response format
- Better identification of sequence information
- Correlation information for injection. Correlation between an input messages and its recorded messages
- It is now possible to identify a single message without its payload and then make a later request to get the payload for that specific message
- Better pagination options than in V10.
- The recorded message record can now be XML or JSON.
- Injection is now enabled at the Flow level instead of the server level. This means that other flows are not impacted by checking if they have injected data.
- There is now an /inject non crud action on message flows when injection mode is enabled. This makes it easy for an API to be flow-centric and removes the need to correctly identify lengthy query parameters.

The screenshot displays the Flow Exerciser interface for a flow named 'Flow1'. The flow diagram shows an 'HTTP Input' node connected to an 'HTTP Reply' node. A 'Recorded Message' window is open, showing a list of messages with '1' selected. The message content is displayed in XML format:

```
<message>
  <Properties>
  </Properties>
  <HTTPInputHeader>
  </HTTPInputHeader>
  <BLOB>
    <UnknownParserName/>
    <BLOB>7b48656c6c6f3a576f726c647d</BLOB>
  </BLOB>
</message>
```

Thank you



We want your feedback!

- Please submit your feedback online at
 - <http://conferences.gse.org.uk/2018/feedback/JE>
- Paper feedback forms are also available from the Chair person
- This session is JE



Backup

App Connect Professional (Studio) Roadmap Highlights

IBM Confidential

1H 2018

Enhancements

- GDPR deployment guidelines
- SAP Load balancing support
- ESX v6.5 certification

RFE Enhancements

- MQ Connector SSL/TLS1.2 support
- To be FIPS 140 compliant, enhancing the MQ Connector to support Ciphers (Delivered)
- OData connector support orderBy, filtering and compression

Salesforce Ecosystem

- Currency updates to support latest version of Salesforce SOAP API v41 from v33
- External ID support, pagination

Other connector updates

- JD Edwards, Zuora

2H 2018

- ACP Software customers to get entitlement to new Cloud Connectors*
- NetSuite , Workday connector enhancement
- Kubernetes Support
- Upgrade connector currency
 - NetSuite
 - Workday
 - MS Dynamics
 - Box
 - Salesforce Bulk API

1H 2019

Portfolio Convergence

- App Connect Designer runtime on premise
- Convergence of Integration Personas

Configuration

- Default node.conf.yaml or server.conf.yaml is copied into the work-directory
- For integration nodes registry settings are applied to node.conf.yaml
 - For example, whether admin security is enabled
- If extracting to a standalone server work-directory relevant node level settings are applied to the server.conf.yaml
 - For example the default queue manager name
- Resource manager settings are applied to server.conf.yaml
 - For example the jvmMaxHeapSize setting for ComIbmJVMMManager resource manager
 - Warnings are issued for any resource managers which are not supported by V11 where values are not set to the default
- Security credentials are copied across to node or standalone server
- ConnectorProviders and EISProviders configurable services are applied to node/server.conf.yaml