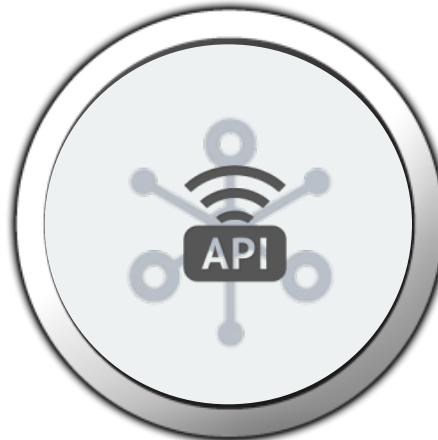


Agenda

- Exploring the Trends driving the integration market
 - #1 Integration across the Hybrid Environment
 - #2 Integration outside of Central I.T.
 - #3 Digital Transformation and the API Economy
- An Architecture for the Digital Business
- Hybrid Integration Use Case Introduction
- Building out the Hybrid Integration Use Case
- IBM Integration Portfolio

Trends driving the integration market

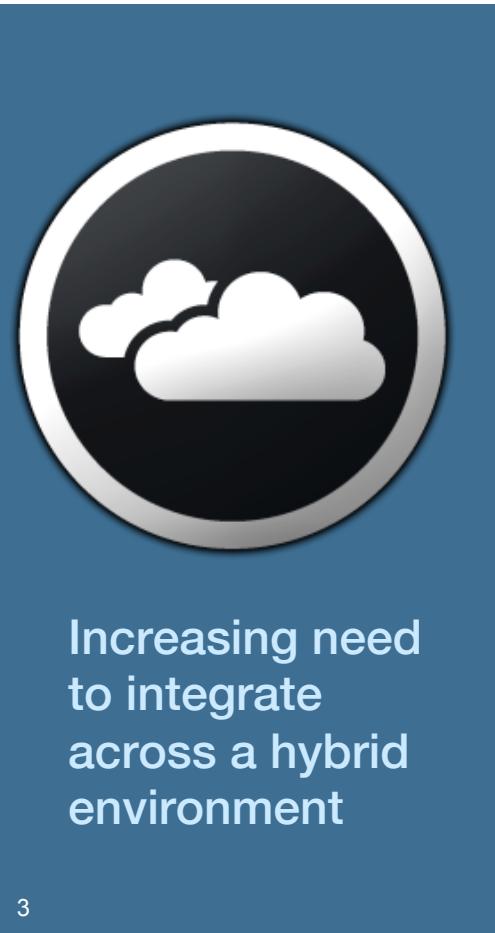


#1 Increasing need
to integrate
across a hybrid
environment

#2 Integration
being adopted
in the line of
business

#3 Digital transformation,
API Economy and the
rise of Microservices

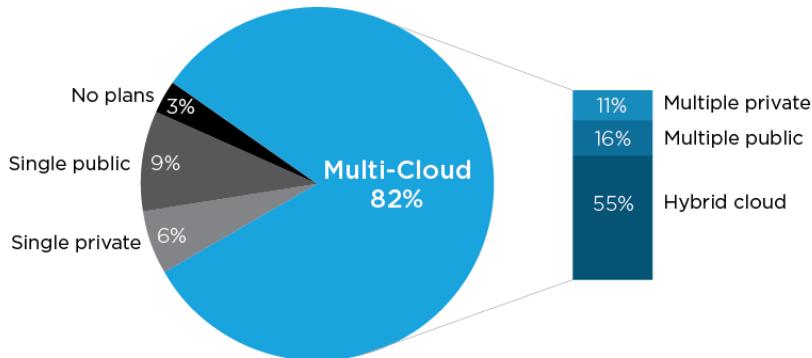
Trend #1—Hybrid



As organizations' data and applications become more decentralized, integration is gaining focus to the point of being a boardroom topic.

Respondents with 1000+ Employees

**82% of enterprises
have a multi-cloud strategy**



Source: RightScale 2016 State of the Cloud Report

IBM Connect to Cloud – Supporting Hybrid Use Cases



Create new apps

- Java, Node and Swift Runtimes
- Mobile and Web Application Services
- Blockchain DevOps Services



Connect existing apps and data

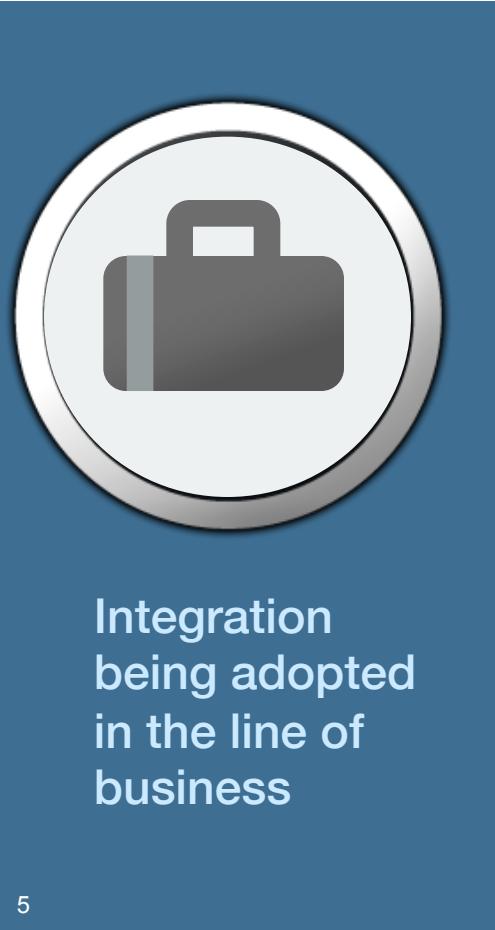
- API, App and Message Connect and DataWorks Services
- WebSphere Connect, WebSphere Blockchain Connect
- zOS Connect for IMS, CICS, WebSphere, MQ & DB2



Optimize any app

- “on Cloud” managed environments
- Docker Container and VM support
- Cloud Orchestration and Brokerage

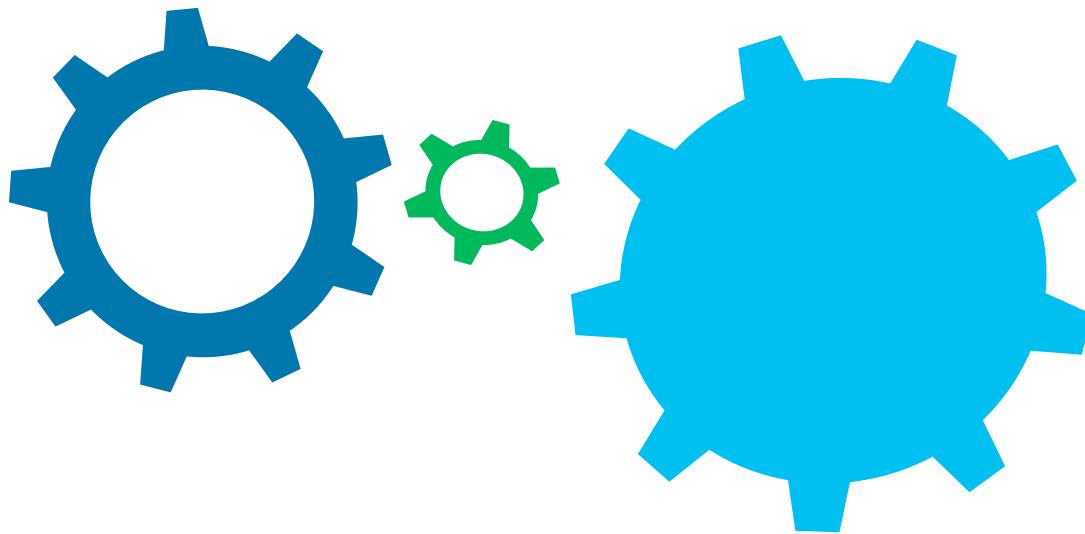
Trend #2—Integration needs outside IT



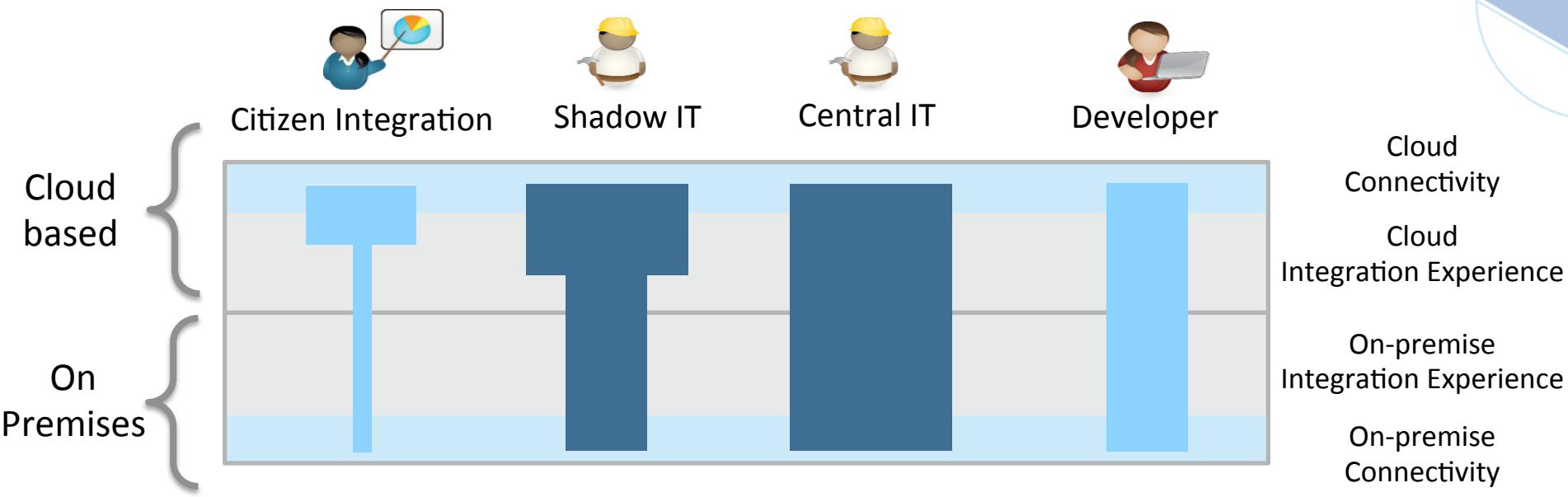
Integration
being adopted
in the line of
business

By 2017, in large organizations, at least 65% of new integration flows will be developed outside the control of IT departments.

-Gartner



Personas in support of Hybrid Integration



- **Anyone can do it**
- Zero code
- Cloud native
- Many pre-configured connectors
- **Technical person in a business environment**
- Cloud native with on prem options
- Friendly modern style code
- Graphical options
- **Skilled integration practitioners**
- Graphical assist, but full code environment.
- Hybrid deployment
- Connect to anything
- **Skilled Frontend/microservices Developers**
- Leverage APIs surfaced by Shadow/ Central I.T
- API orchestration

Integration Personas high level product alignment



Citizen Integration



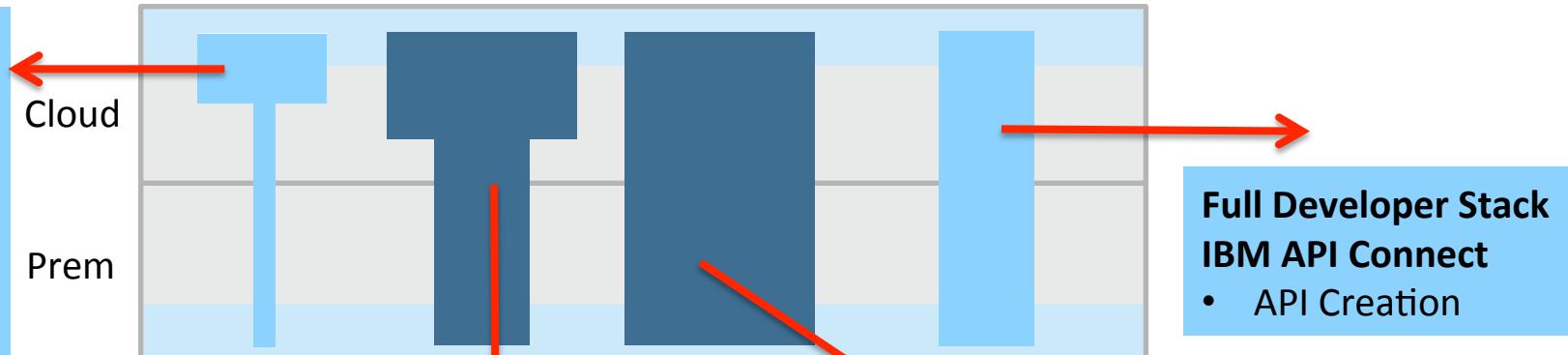
Shadow IT



Central IT



Developer



Cast Iron 7.5.1

IBM API Connect

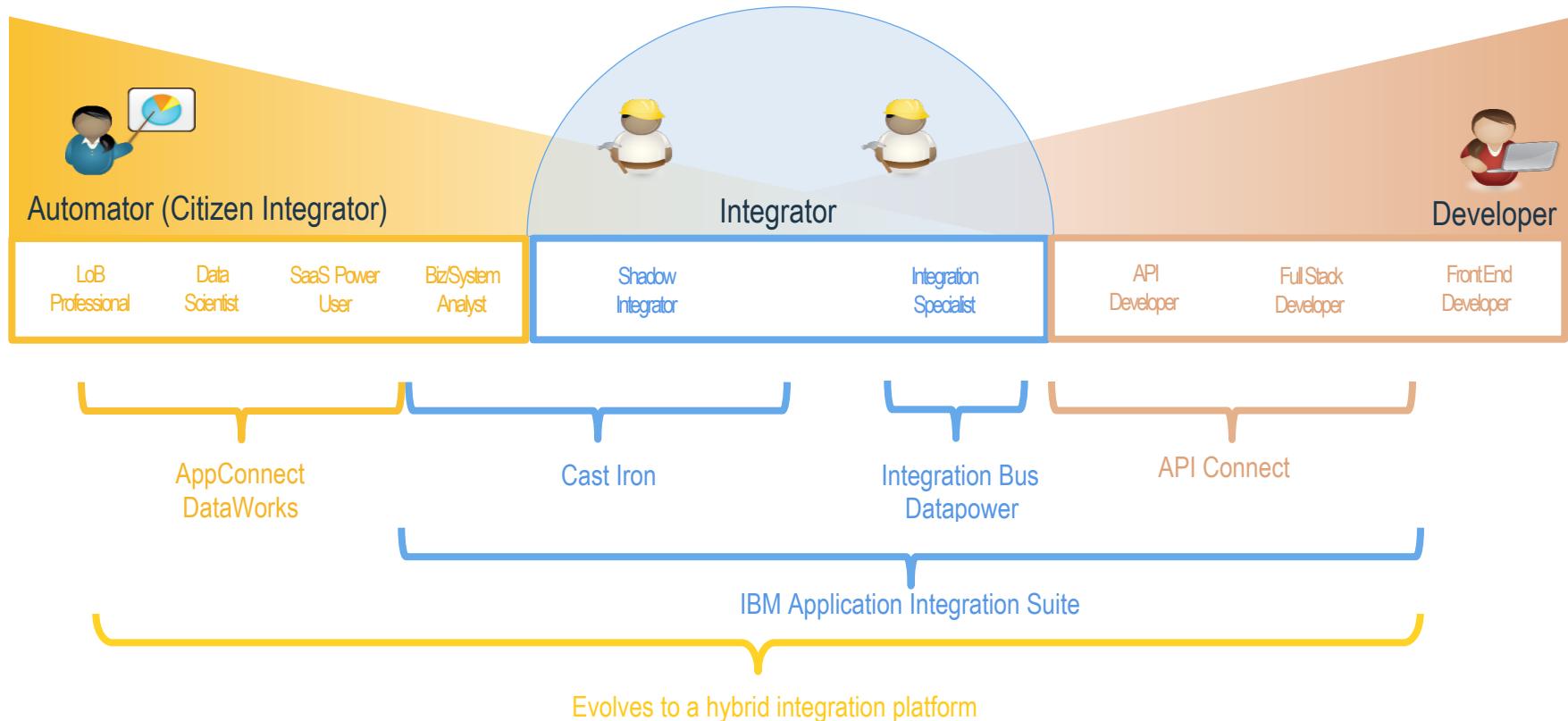
- API Management/Creation

IBM Application Integration Suite

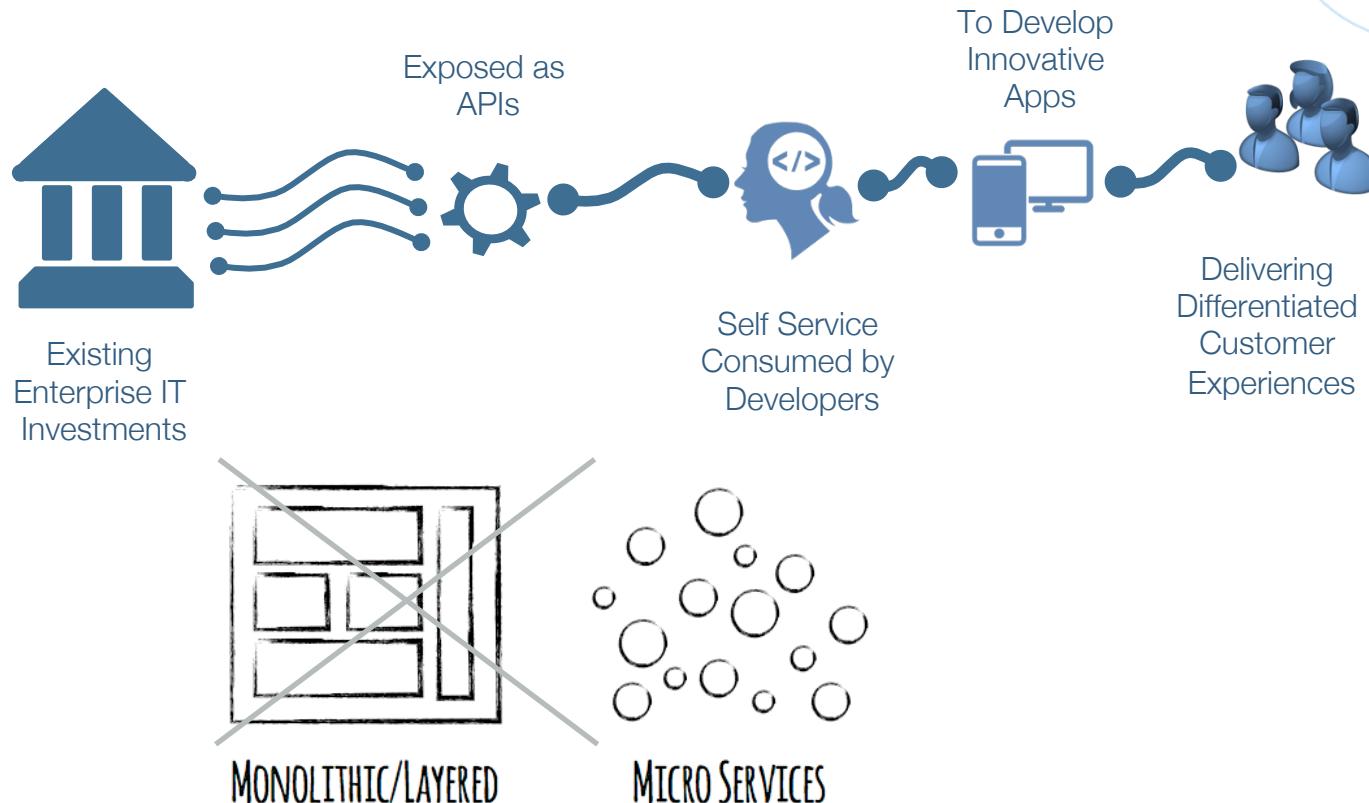
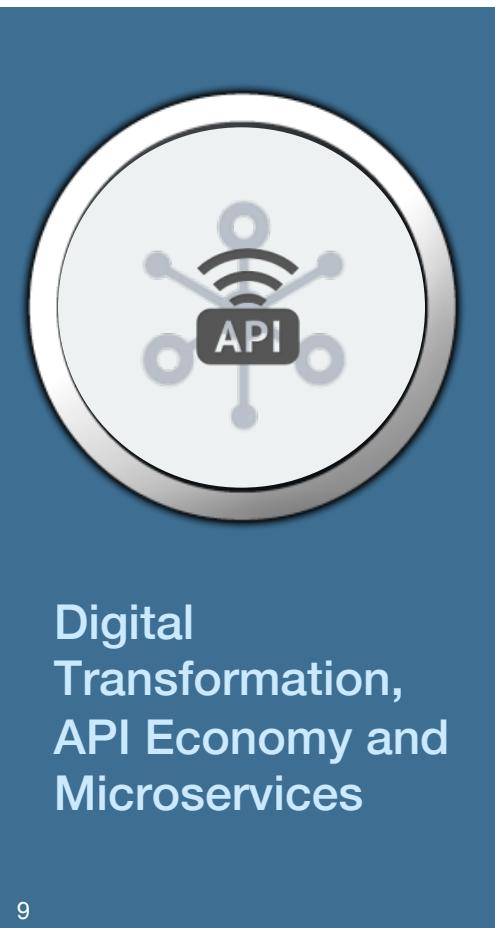
- IBM Integration Bus (ESB)
- Cloud Integration
- **IBM API Connect**
 - API Management/Creation

DataPower Gateways

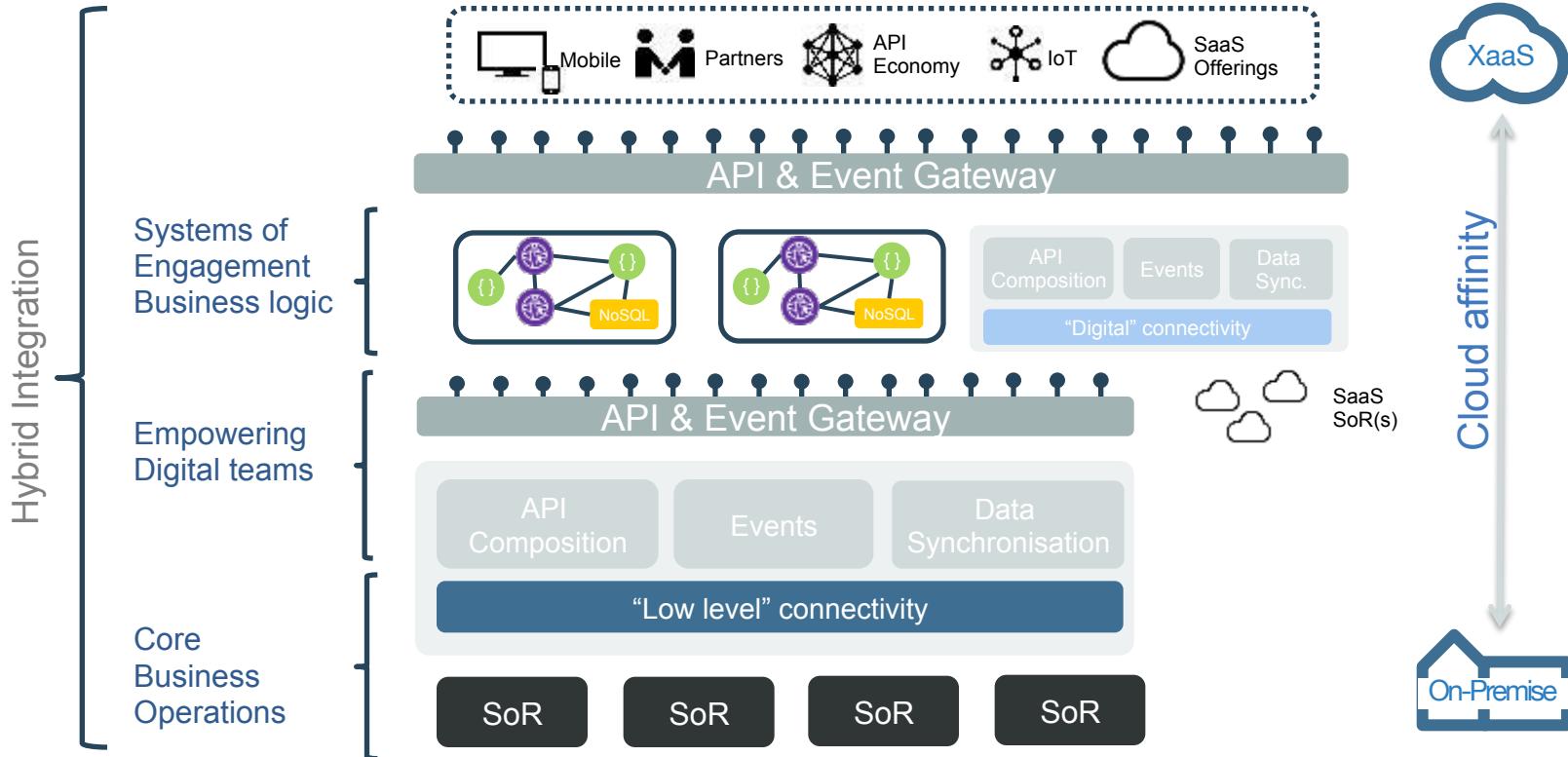
Summary - IBM Integration Capability by Persona

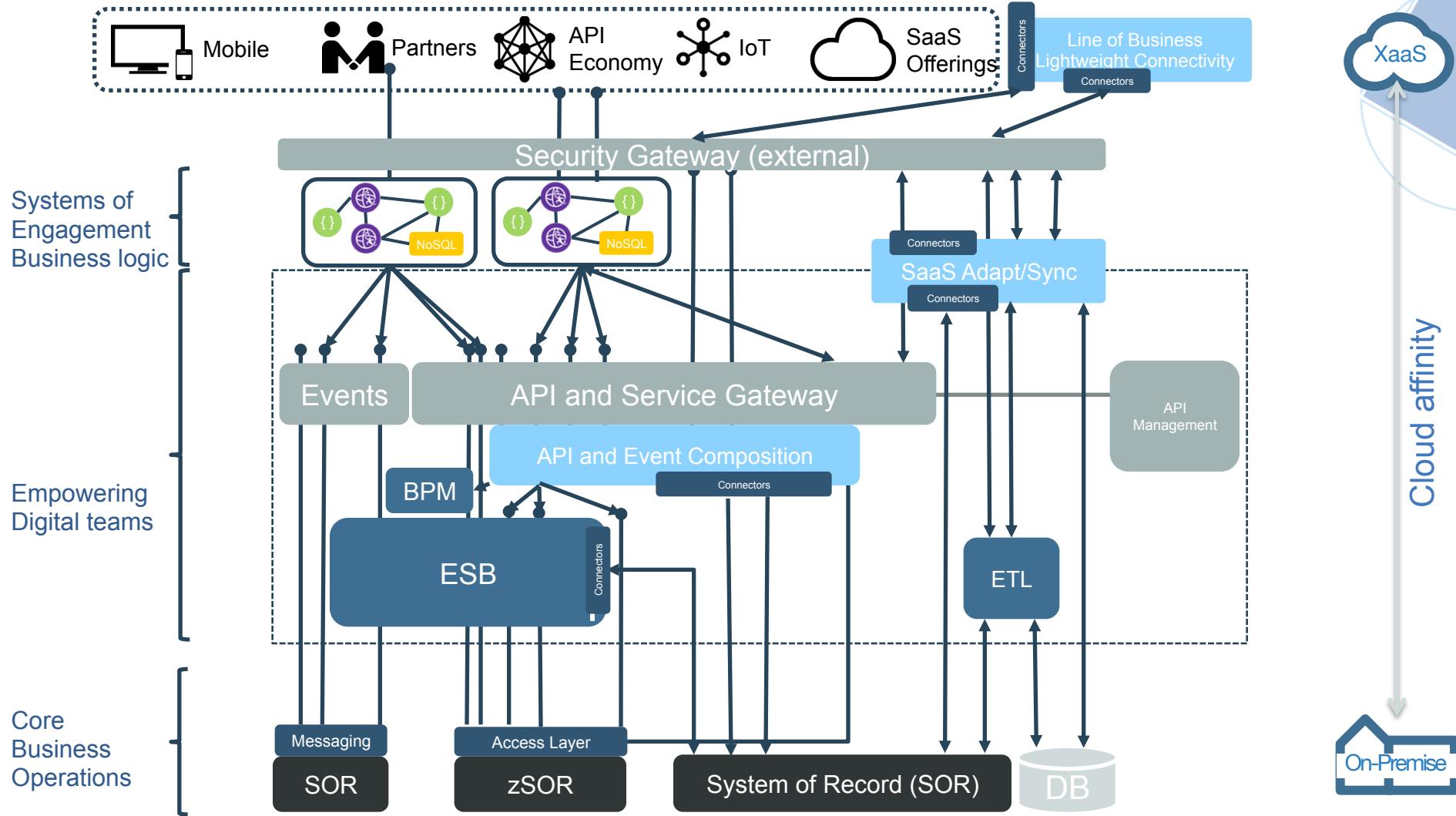


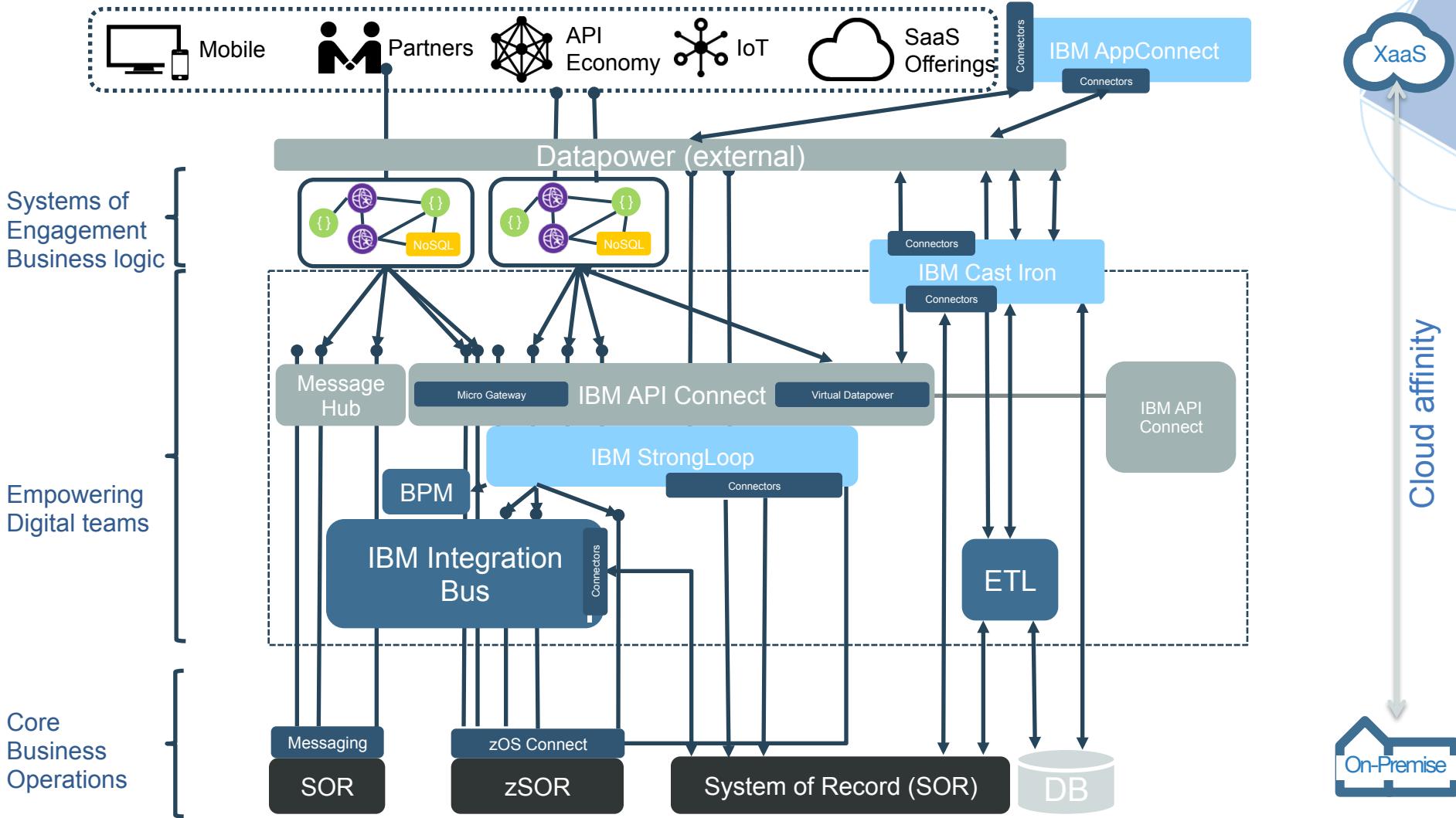
Trend #3—Digital Transformation

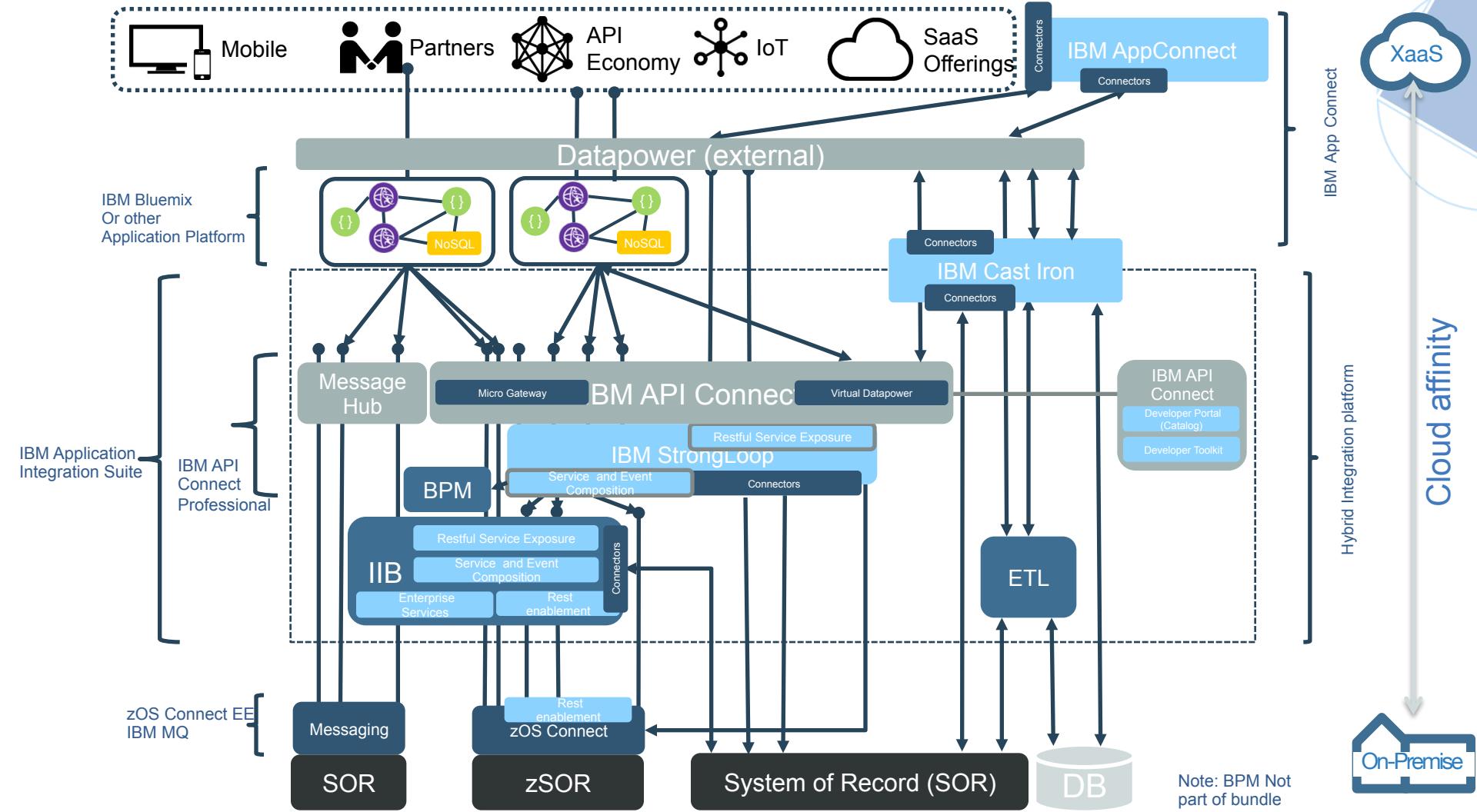


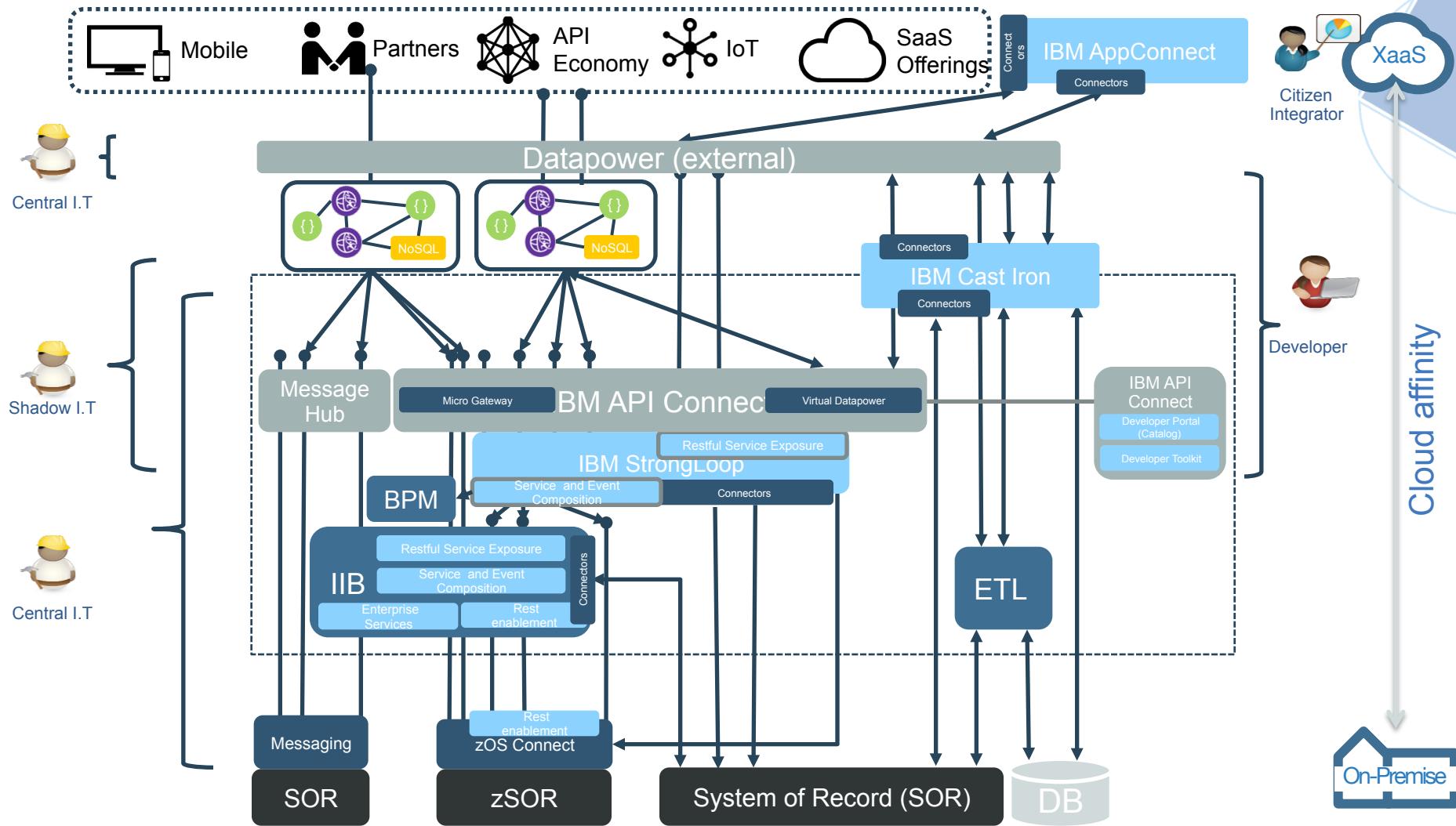
An Architecture for Digital Business











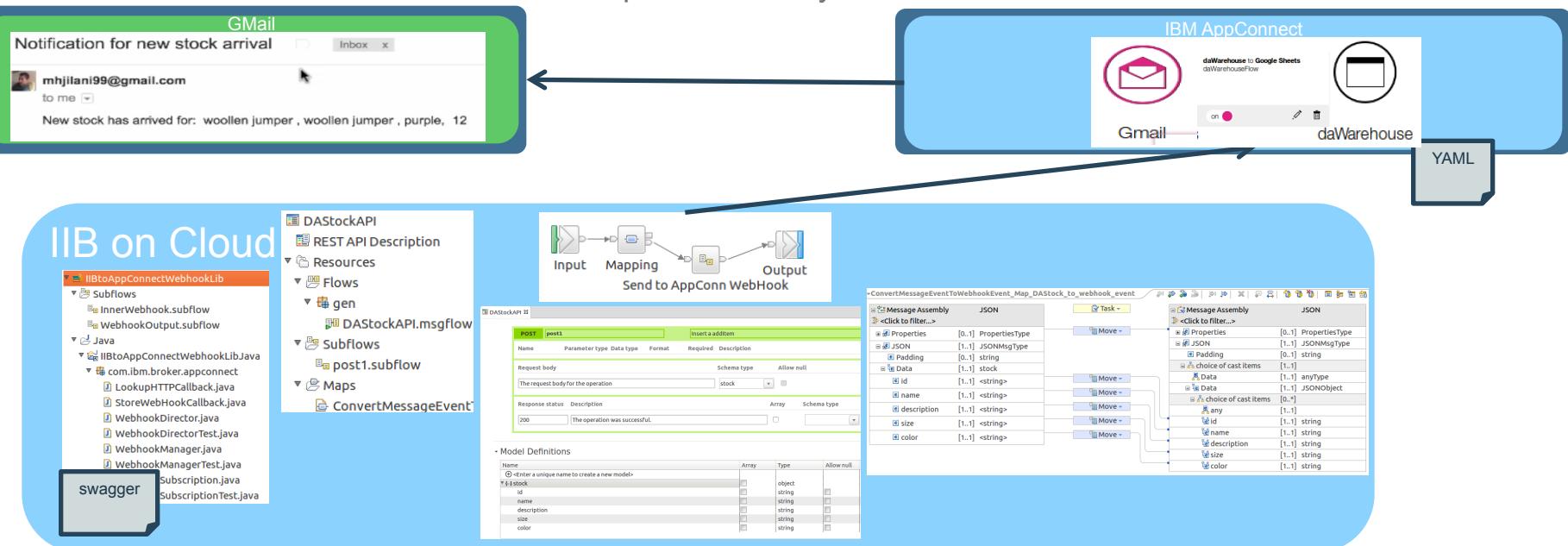


Hybrid Integration Use Case Introduction

InterConnect 2016
outthink limits

Typical Cloud to On-premise Integration Demo

A typical integration demo. The type you will see all over the web from our competitors and from IBM ourselves. Showcasing tooling and ignoring security, gateways, access to on-prem data, Socialization of interfaces to the developer community etc etc etc.



Rapid Demo Part 1: IIB artifact build

Rapid Demo Part 2: IBM AppConn configuration

3rd Party
Cloud 1

3rd Party
Cloud 2



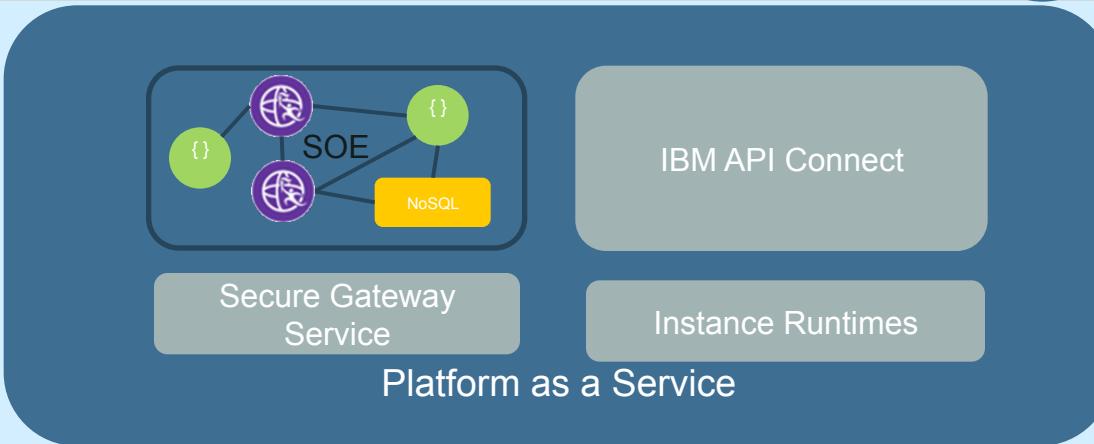
Reality of Cloud to On-premise Integration Landscape



Citizen
Integrator



Public Cloud
Dedicated

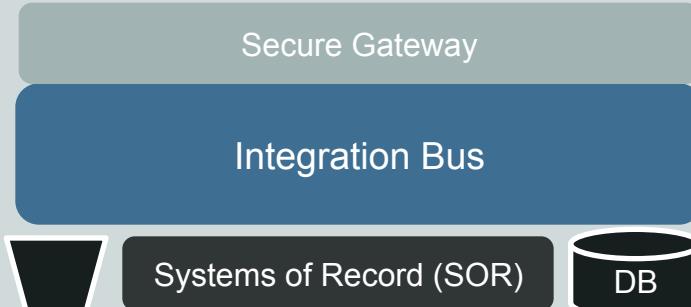


Developer



Shadow I.T

On-premise



Central I.T

3rd Party
Cloud SaaS



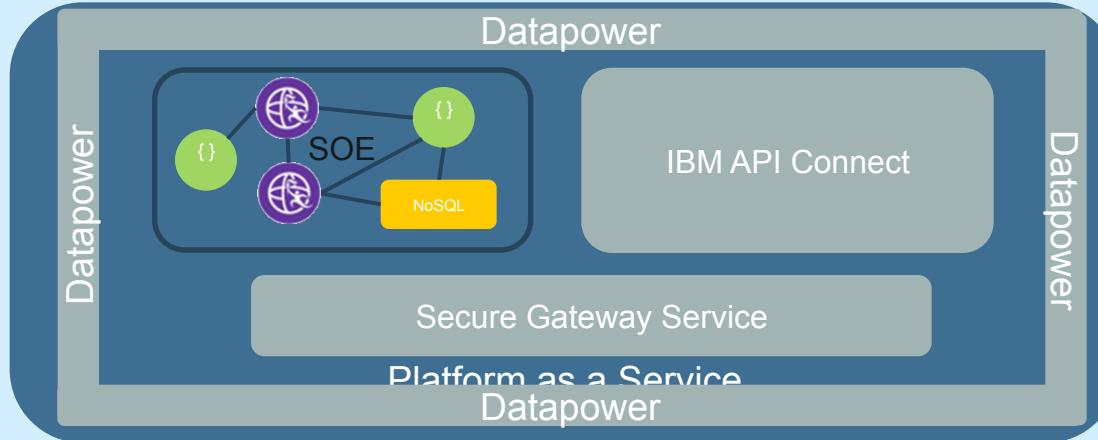
IBM view of Cloud to On-premise Integration Landscape

IBM Cloud
SaaS



Citizen
Integrator

IBM Bluemix



Developer



Shadow I.T

On-premise

IBM Secure Gateway Client

IBM Integration Bus



Systems of Record (SOR)



DB



Central I.T

GoogleSheets

daMemberList

POLICYNUM	POLICYTYPE	FIRSTNAME	LASTNAME	STREETNUM	STREETNAME	CITY
12345678	HOME	DAVID	ARNOLD	14	MUSTON	SYDNEY
32445678	HOME	Pete	Jessup	33	Park Avenue	Melbourne

IBM AppConnect

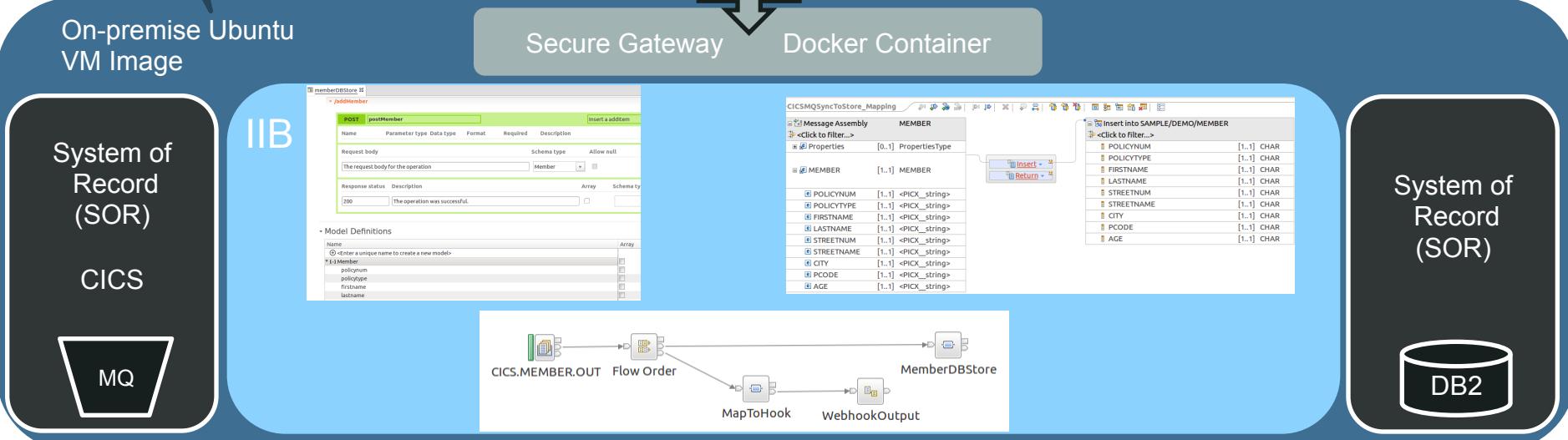
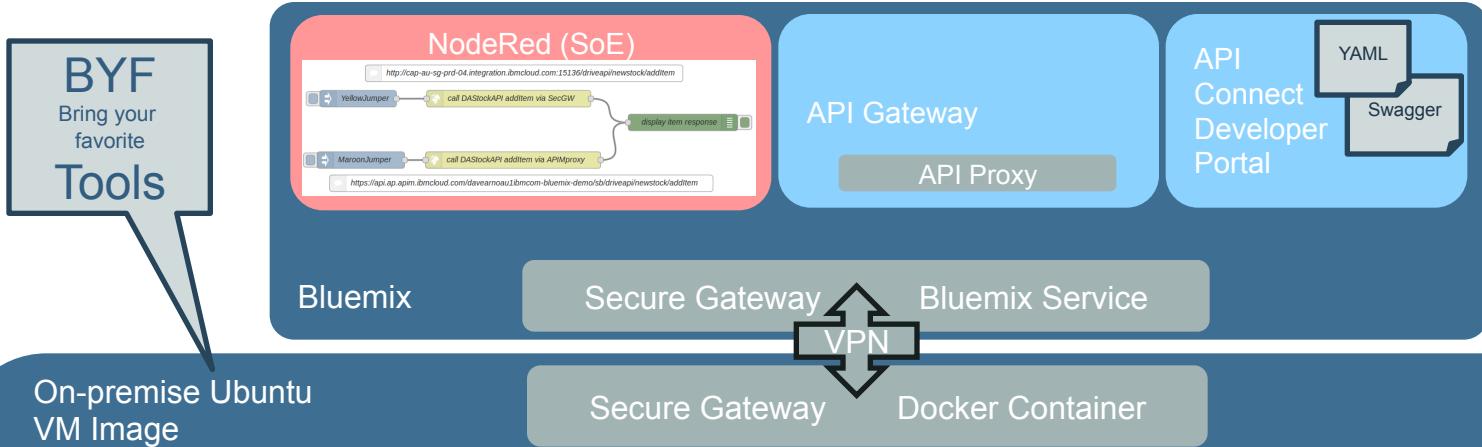
Google Sheets

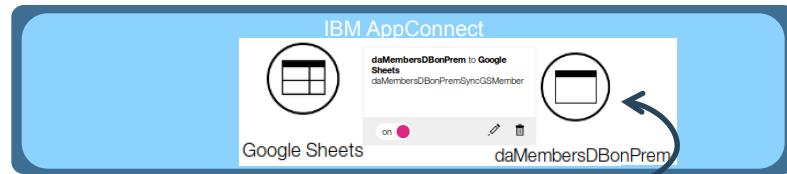
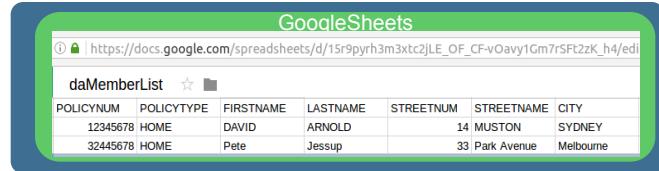
daMembersDBonPrem to Google Sheets

daMemberDBonPremSyncGSMember

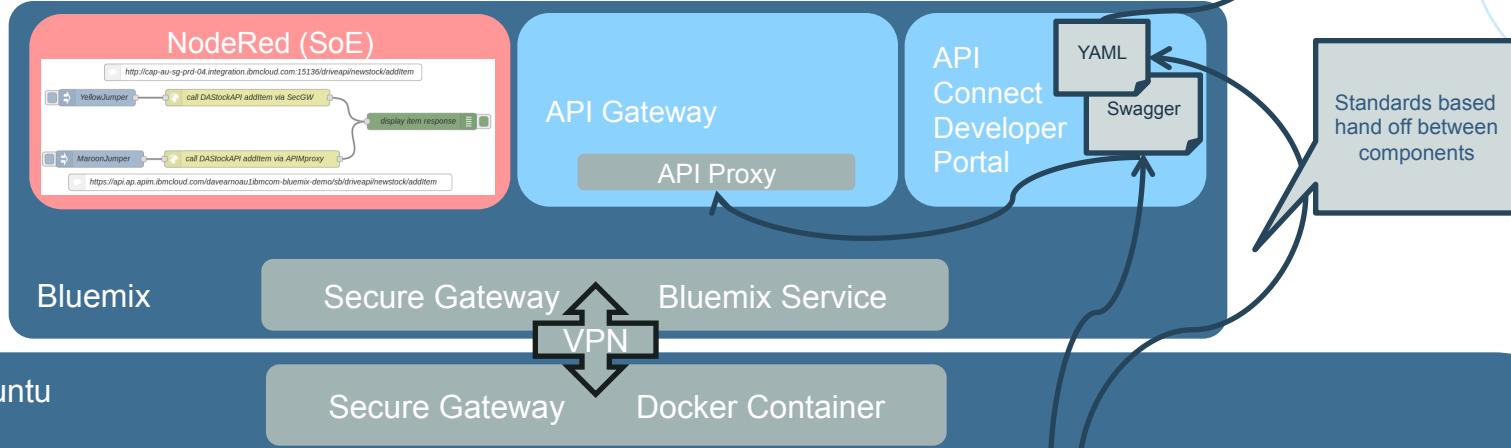
on

daMembersDBonPrem





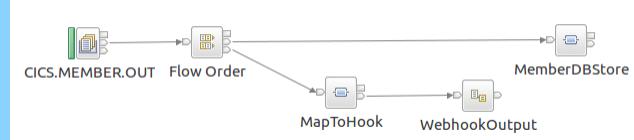
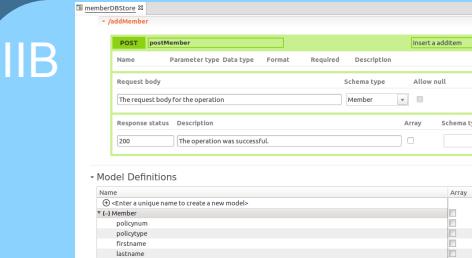
BYF
Bring your
favorite
Tools



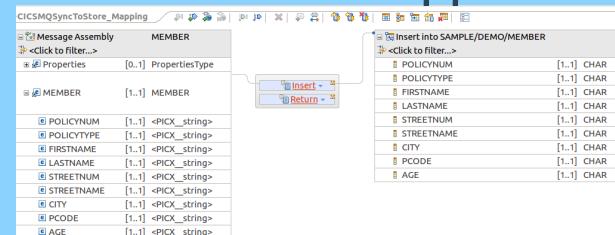
On-premise Ubuntu VM Image

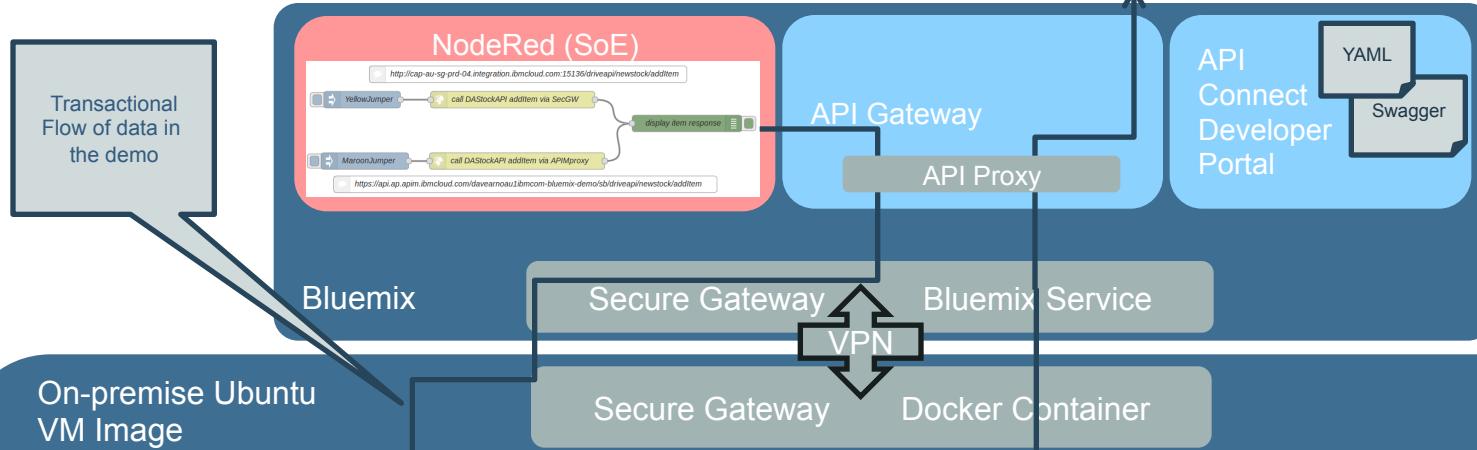
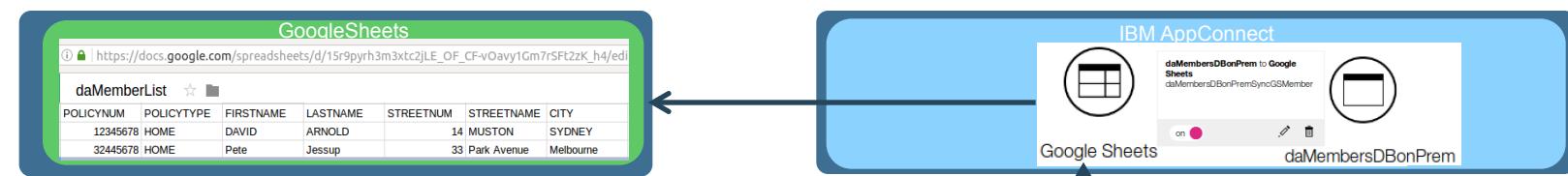
System of Record (SOR)

CICS

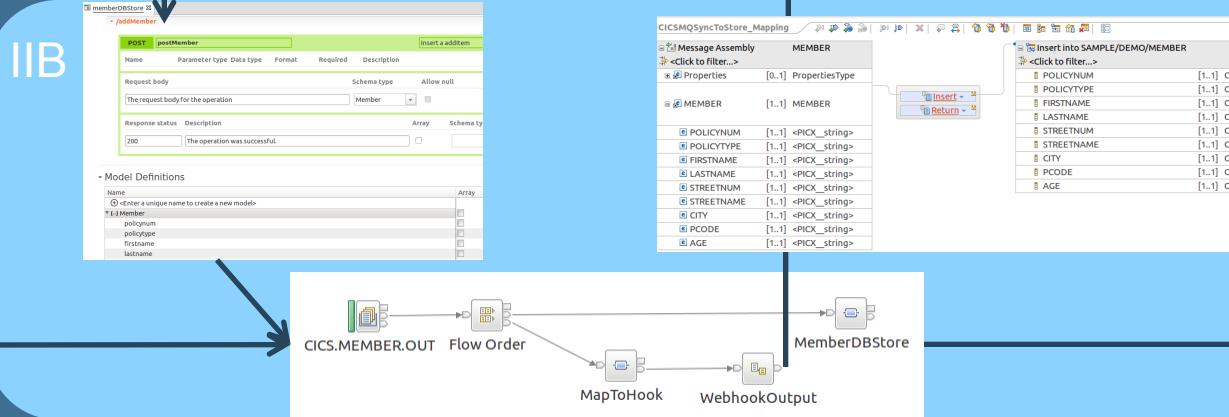


System of Record (SOR)





On-premise Ubuntu VM Image

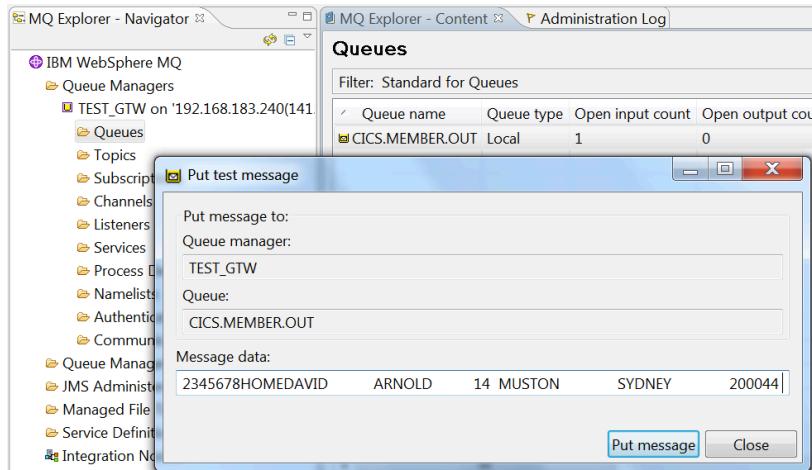


Building out the end to end Hybrid Integration Use Case

InterConnect 2016
outthink limits

#ibminterconnect





1.OnPremSetUp

2.ModellingCICSdata

3.BuildMQtoDB2BaseIntegration

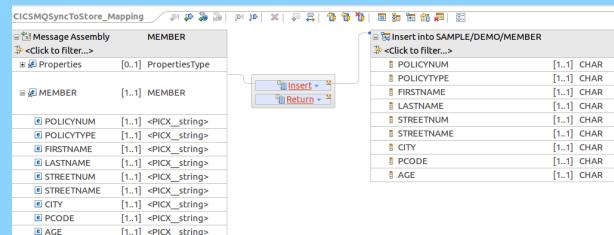
On-premise Ubuntu
VM Image

System of
Record
(SOR)

CICS



IIB



MemberDBStore

System of
Record
(SOR)



REST Easy

POST ▾ http://localhost:7800/meml Send

+ Headers

- Data

Select one of the options below to include data with the request.

Custom

Enter the data and its corresponding MIME type below.

MIME type

```
{
  "lastname": "Arnold",
  "streetnum": "100",
  "streetname": "Usecase Street",
  "city": "Demoville",
  "pcode": "2000",
  "age": "44"
}
```

On-premise Ubuntu VM Image

System of Record (SOR)

CICS



IIB

memberDBStore 25
+ postMember

POST postMember Insert a addition

Name Parameter type Data type Format Required Description

Request body Schema type Member Allow null

The request body for the operation

Response status Description Array Schema

200 The operation was successful.

+ Model Definitions

Name Enter a unique name to create a new model.

* Member

- polycity
- polycode
- firstname
- lastname

CICSMQSyncToStore_Mapping

Message Assembly MEMBER

Properties [0..1] PropertiesType

MEMBER [1..1] MEMBER

POLYNUML [1..1] PICXX_string

POLICYTYPE [1..1] PICXX_string

FIRSTNAME [1..1] PICXX_string

LASTNAME [1..1] PICXX_string

STREETNUM [1..1] PICXX_string

STREETNAME [1..1] PICXX_string

CITY [1..1] PICXX_string

PCODE [1..1] PICXX_string

AGE [1..1] PICXX_string

+ Click to filter...>

Insert Return

+ Click to filter...>

Insert into SAMPLE/DEMO/MEMBER

POLYNUML [1..1] CHAR

POLICYTYPE [1..1] CHAR

FIRSTNAME [1..1] CHAR

LASTNAME [1..1] CHAR

STREETNUM [1..1] CHAR

STREETNAME [1..1] CHAR

CITY [1..1] CHAR

PCODE [1..1] CHAR

AGE [1..1] CHAR



MemberDBStore

System of Record (SOR)



4. Build Member API By Hand

5. Test Member API to MQ

6. Test Member API to DB2

POST <http://cap-au-sg-prd-03.integ> Send

+ Headers

- Data

Select one of the options below to include data with the request.

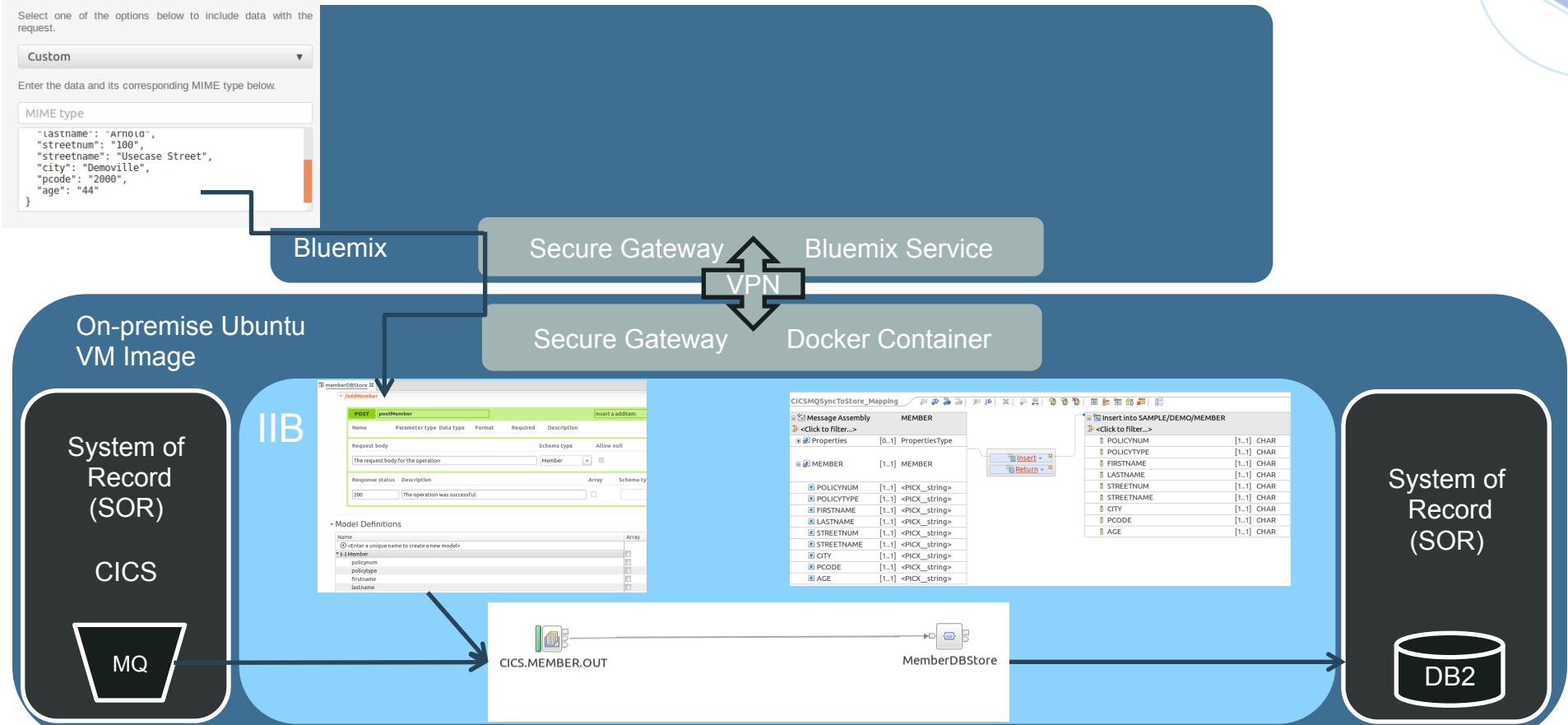
Custom

Enter the data and its corresponding MIME type below.

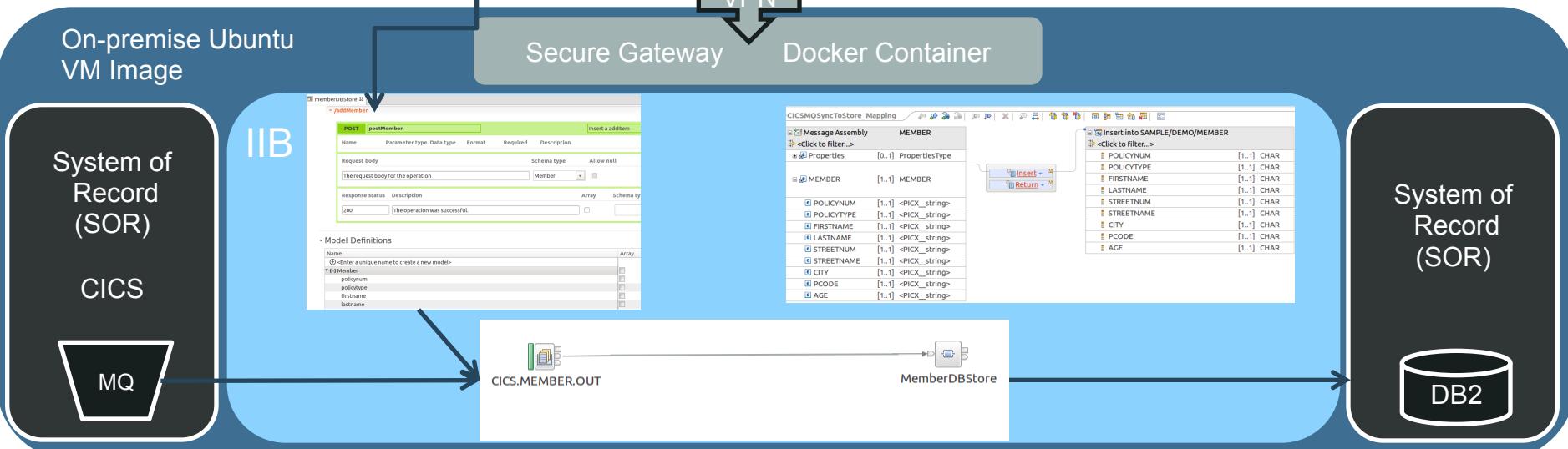
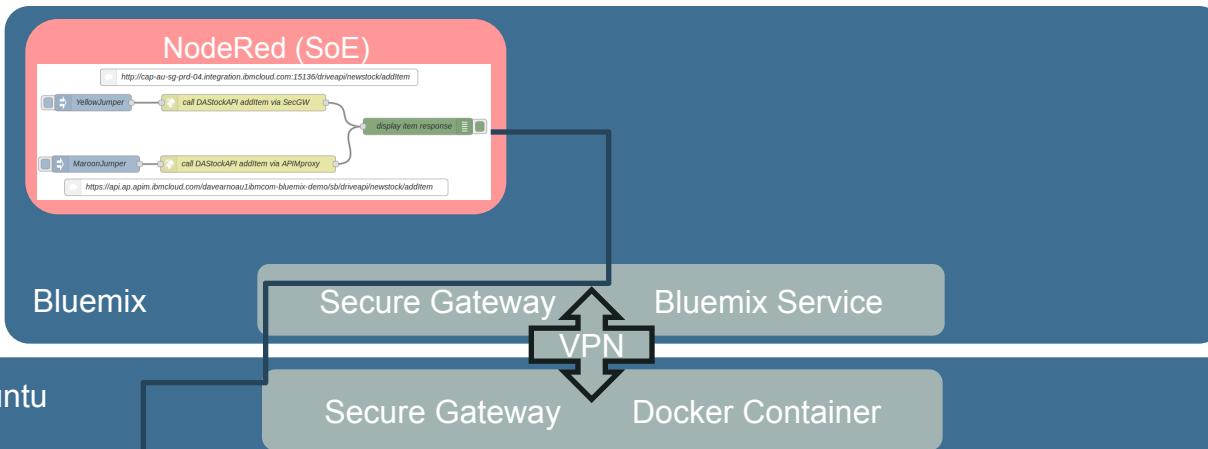
MIME type

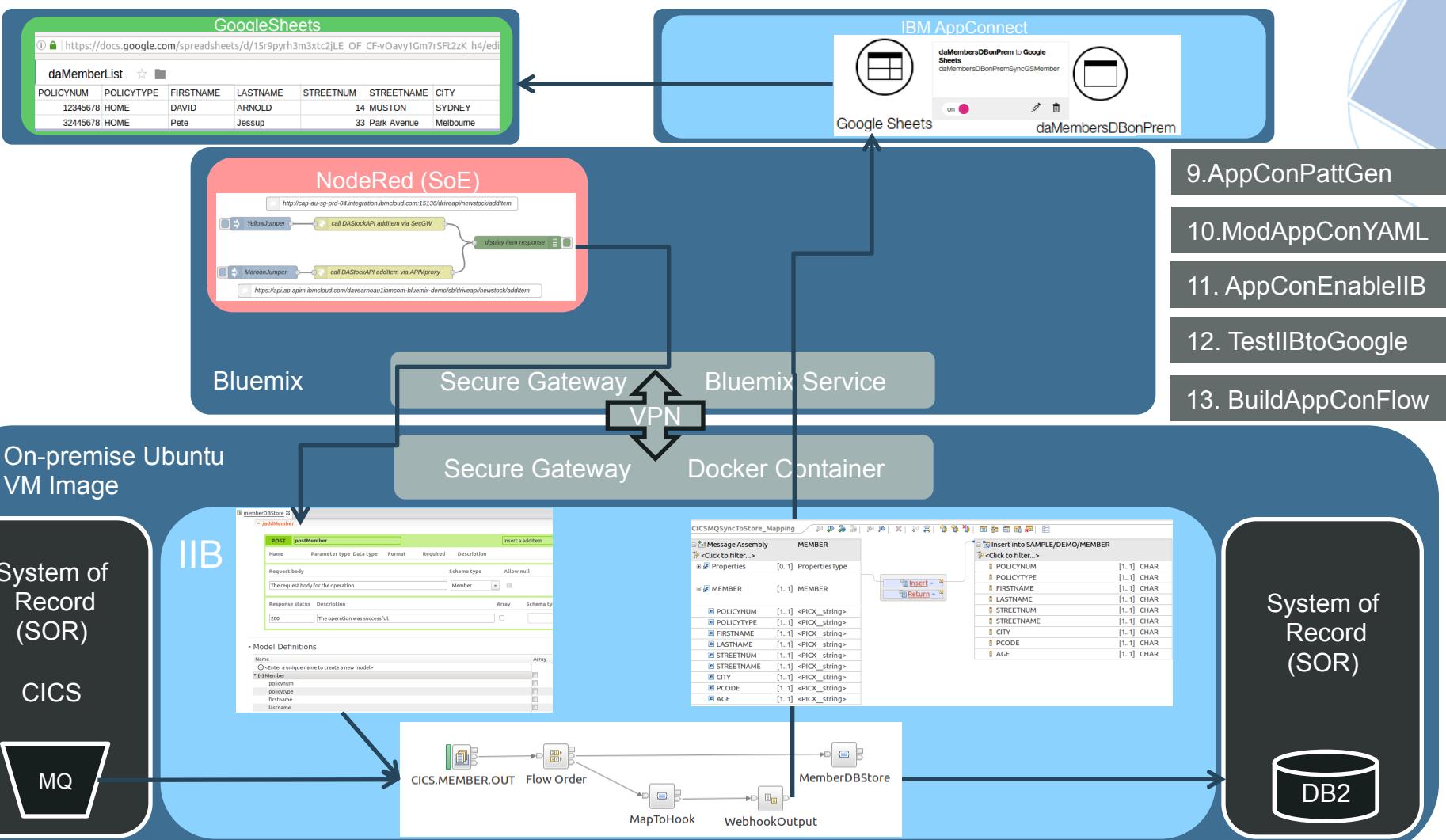
```
{
  "lastname": "Arnold",
  "streetnum": "100",
  "streetname": "Usecase Street",
  "city": "Demoville",
  "PCODE": "2000",
  "age": "44"
}
```

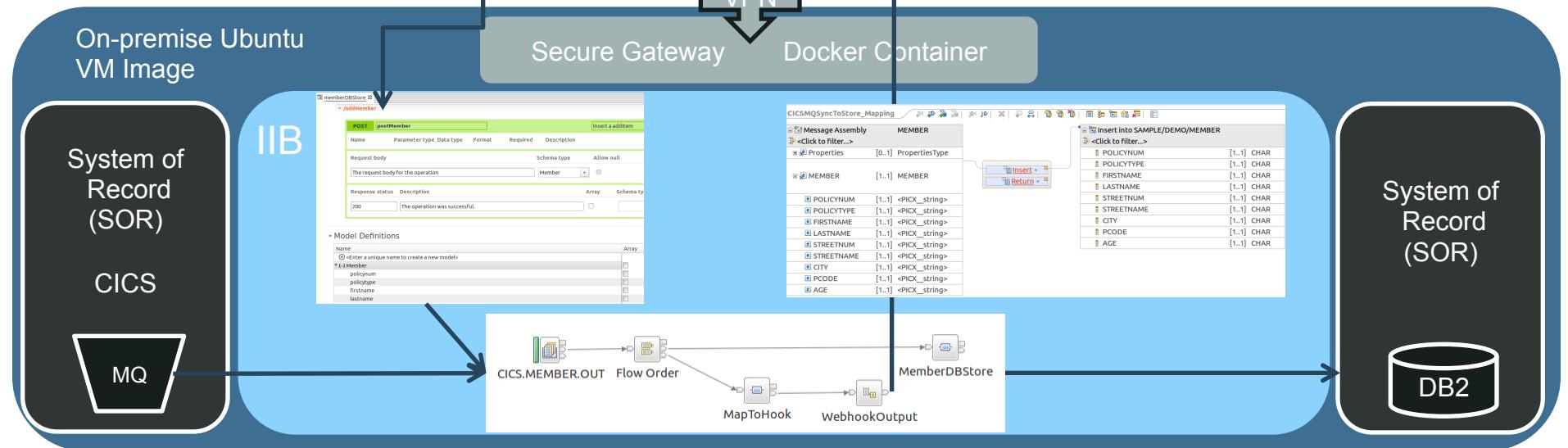
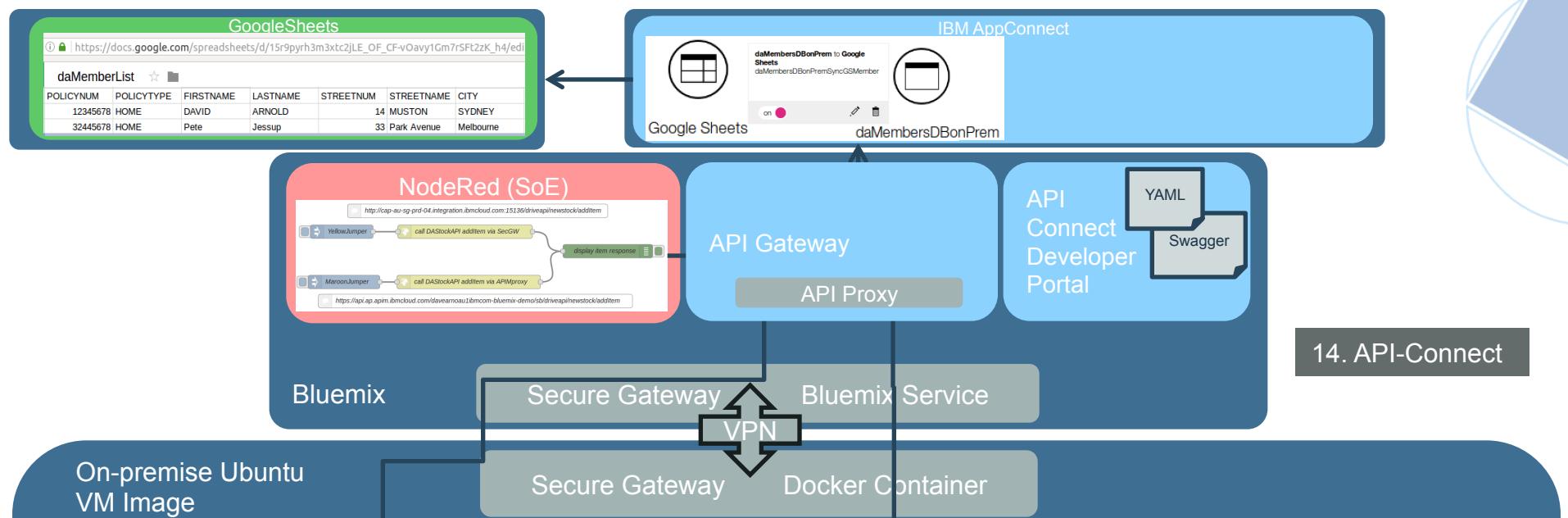
7. Create and Test Secure GW in Bluemix

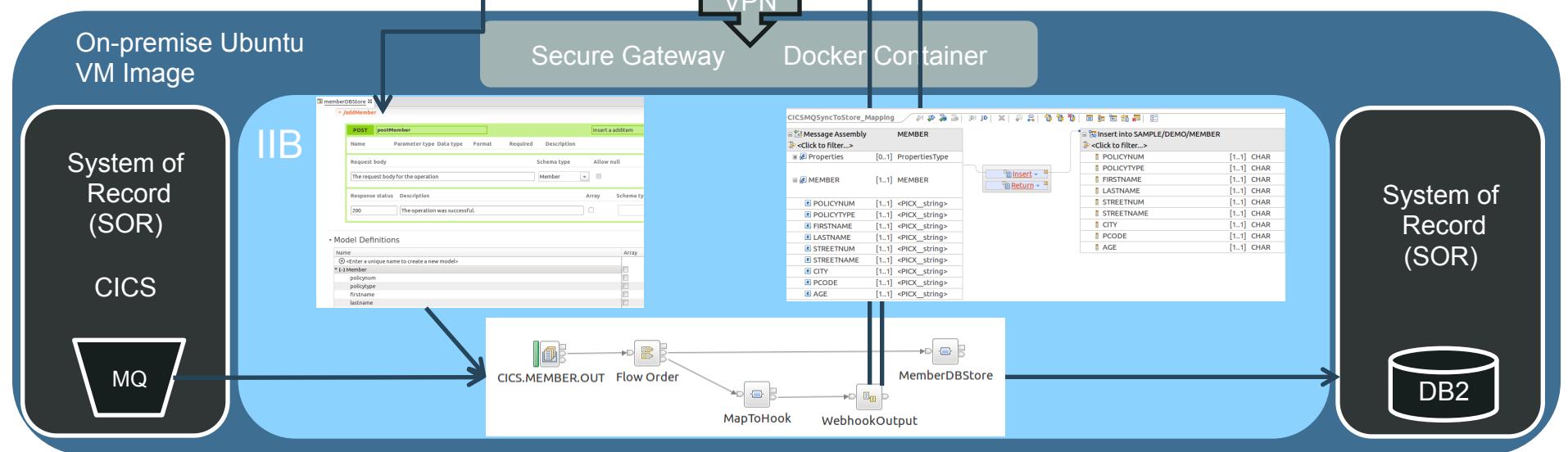
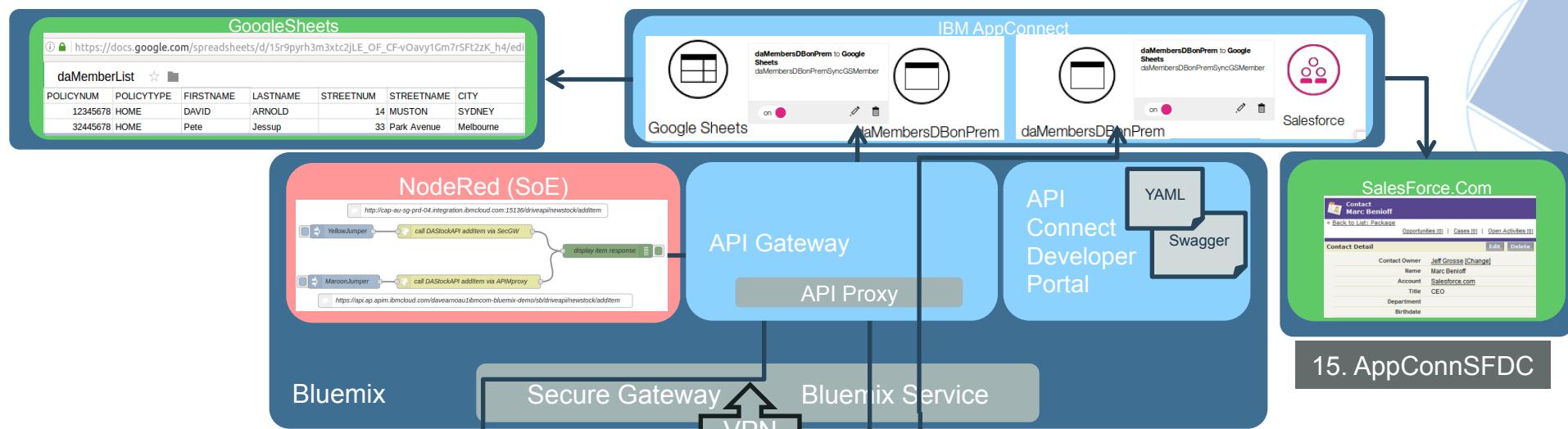


8. Build and Test NodeRed App



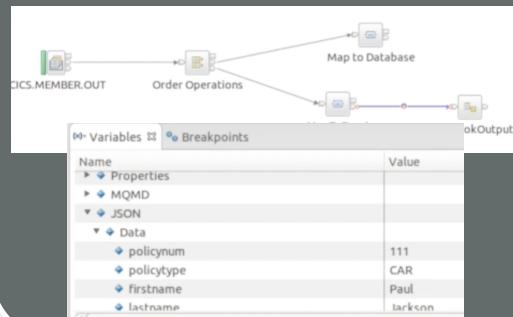




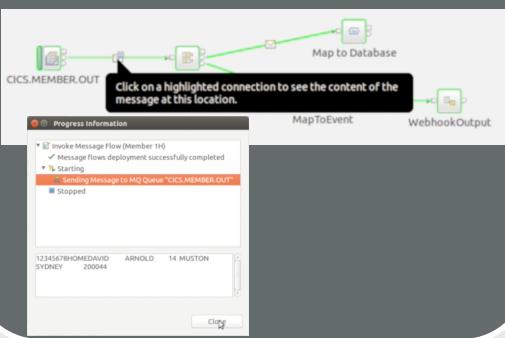


IBM Integration Bus Built in Test tools

Debugger



Flow Exerciser

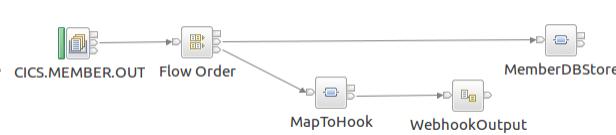
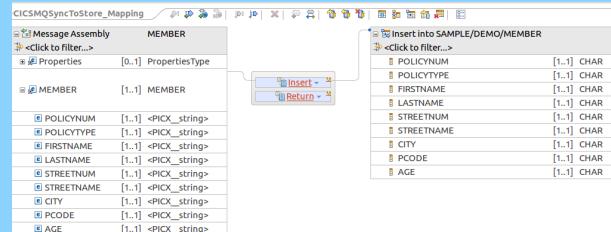
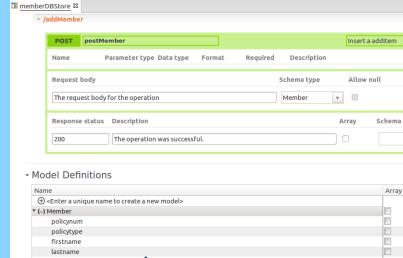


On-premise
Ubuntu
VM Image

IIB

System of
Record
(SOR)

CICS



16. IIB Debug

System of
Record
(SOR)



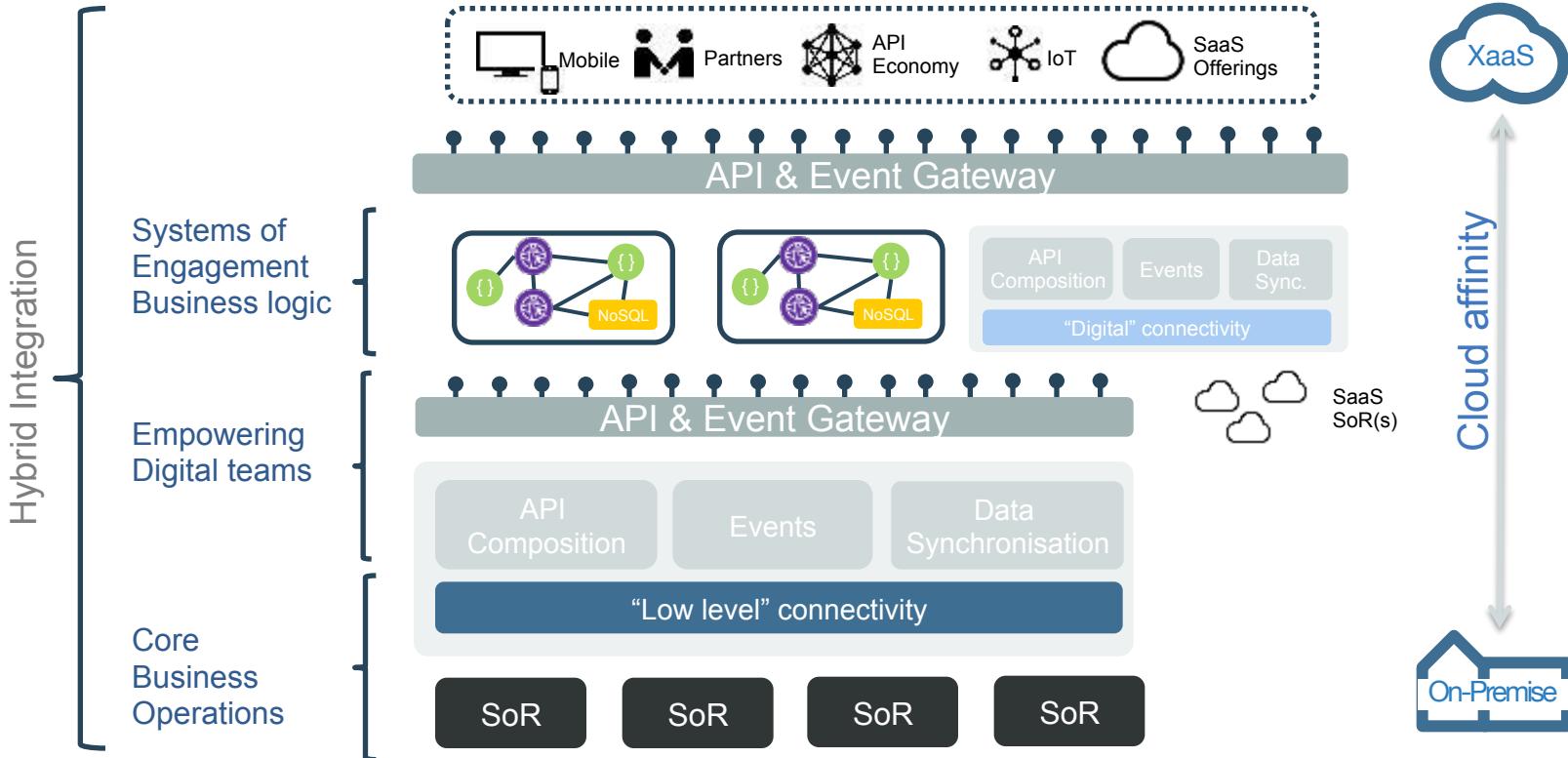
Product Portfolio Overview

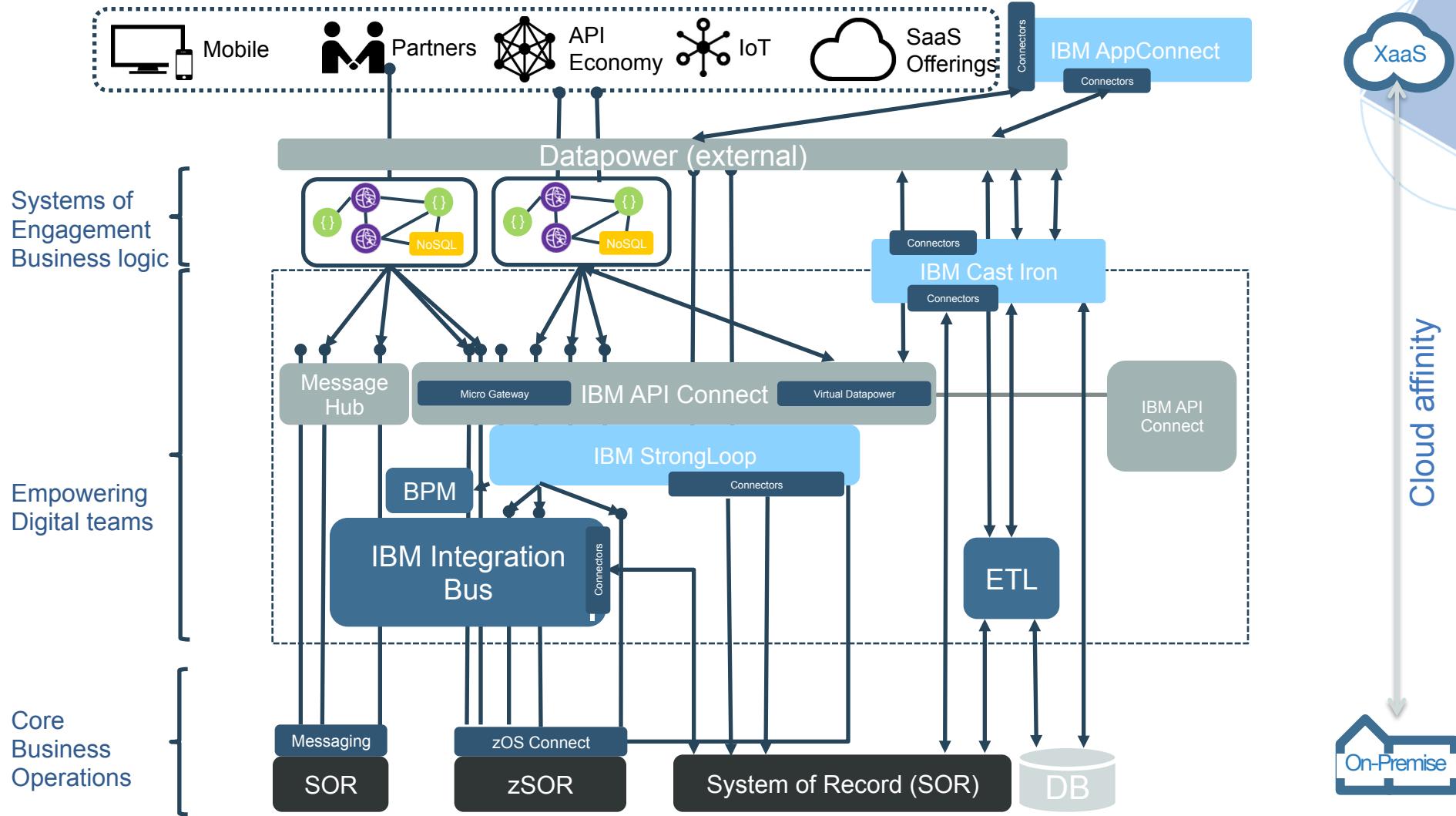
InterConnect 2016
outthink limits

#ibminterconnect

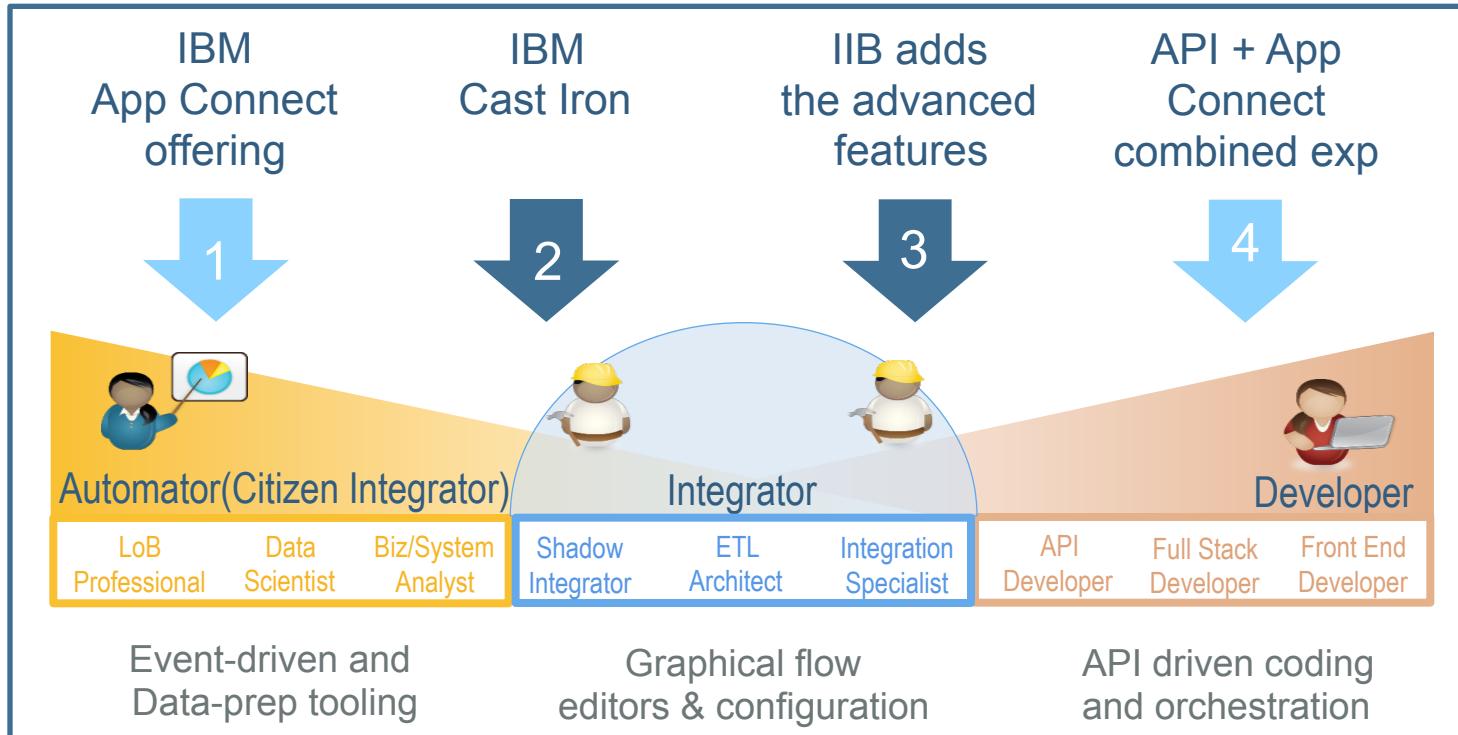


An Architecture for Digital Business





Integration persona alignment



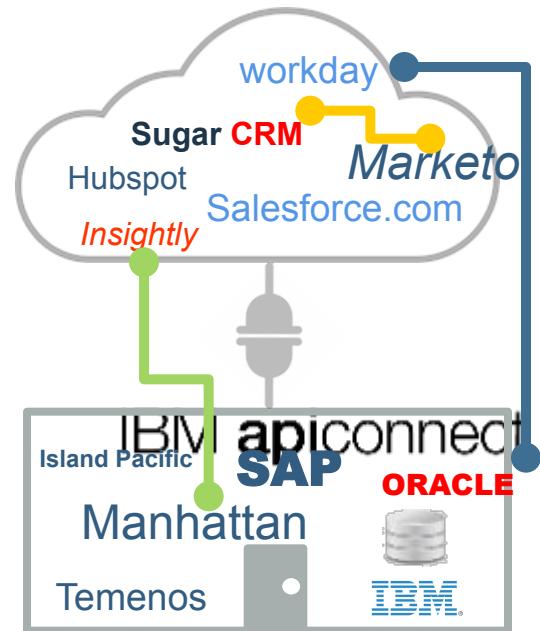
Citizen Integrator: IBM App Connect

What is App Connect?

Integration tooling optimized to make Cloud Integration simple.
Business friendly ‘citizen integration’—but connected to IT tools
Delivered as SaaS

What does App Connect provide?

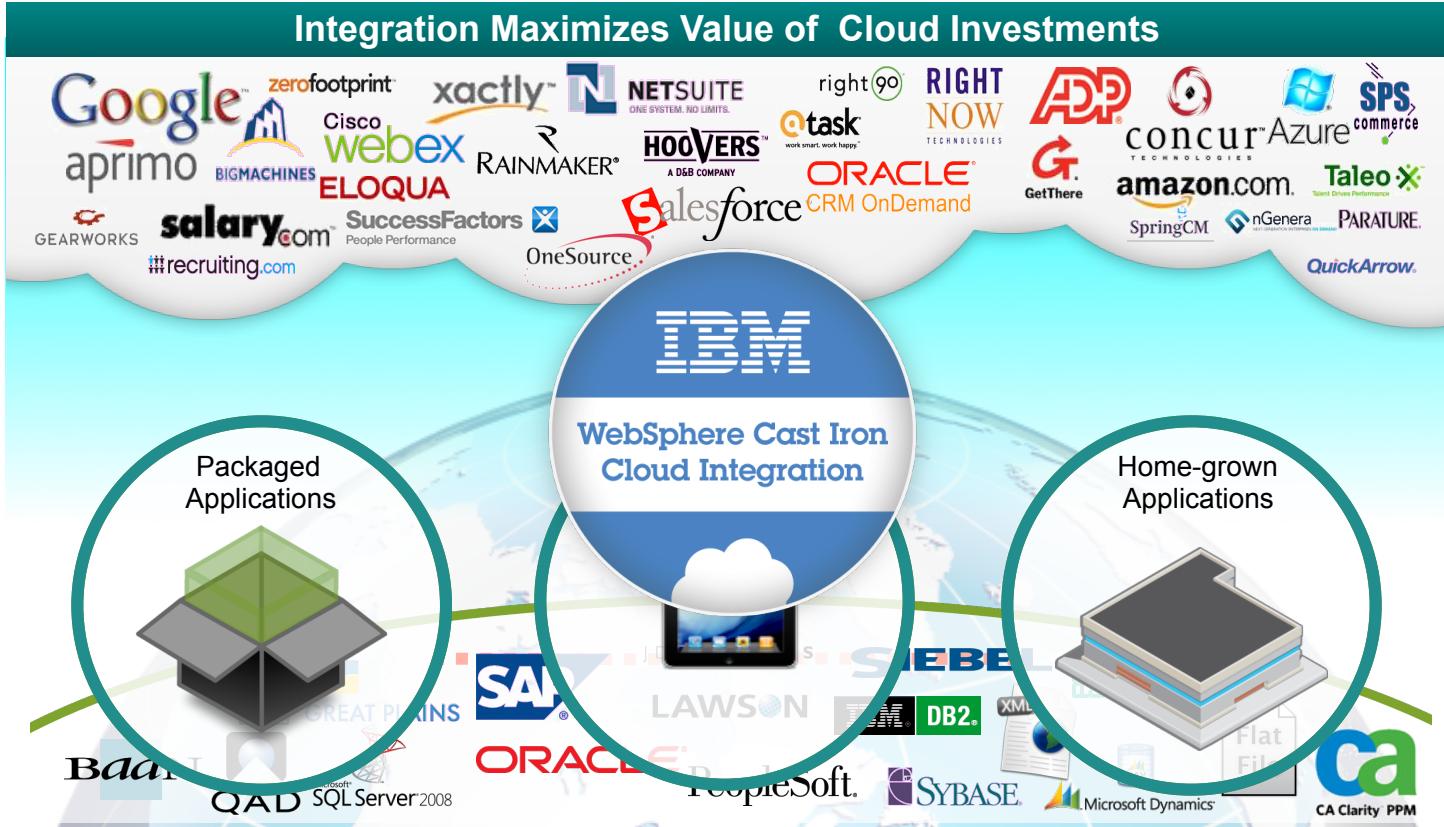
- ✓ “App awareness” allows you to connect your apps in minutes
- ✓ Automation of manual tasks – notifications, events & updates
- ✓ Connect your applications wherever they are... cloud or local
- ✓ Keep customer and other data in sync between multiple apps
- ✓ Build new connections quickly – your tech team can make connecting to legacy apps as easy as modern ones



IBM Cast Iron for Cloud/SaaS adaption

New Adapters:

- Salesforce Analytics
- MS Dynamics CRM on-premise
- Silverpop
- LDAP/MS Directory
- Box.com
- DocuSign
- Eloqua
- Office 365
- Coupa
- MS Dynamix AX
- MS Dynamics GP
- MS Dynamics NAV
- SAP Cloud for Customer
- InfoSphere MDM
- ServiceNow
- QuickBooks
- Dropbox
- Google Drive



<https://www.youtube.com/watch?v=cSyB2KPCo68>

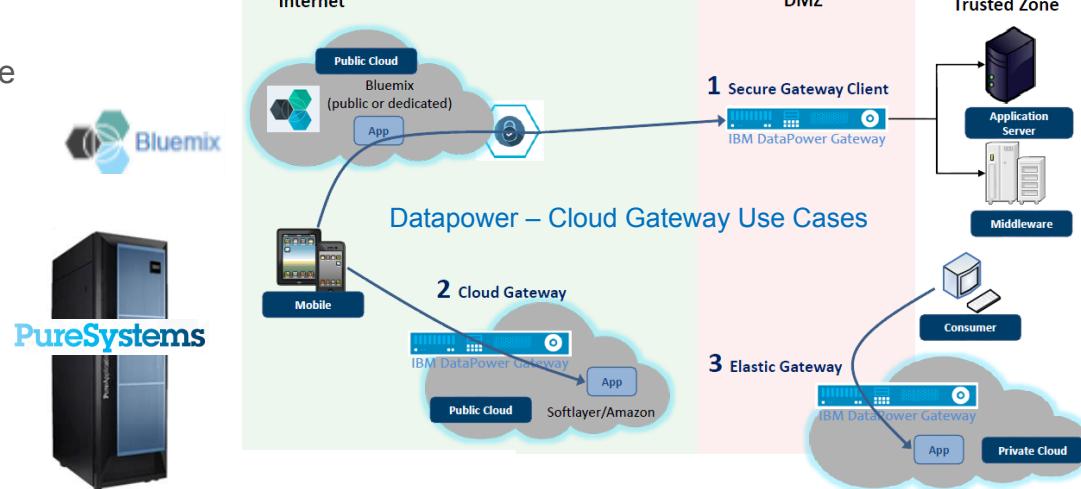
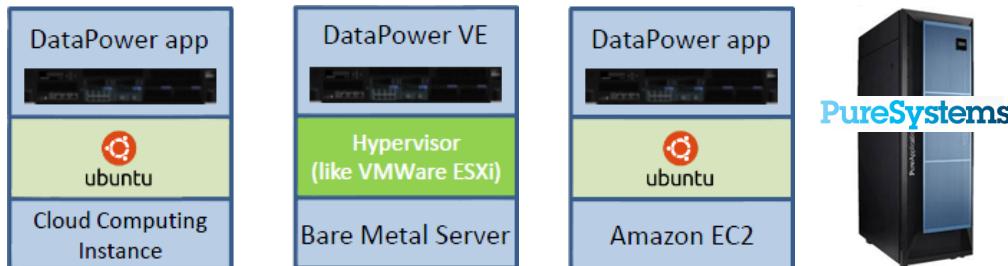
Cloud Ready / Enabled Integration - Datapower

IaaS

- DataPower Virtual Edition supports SoftLayer bare metal instances
 - Similar deployment and licensing model to on-premise virtual environments
- DataPower Patterns for IBM PureApplication Service on Softlayer
- DataPower Virtual Edition on
 - SoftLayer Cloud Layer Computing Instance (CCI)
 - Amazon Elastic Compute Cloud (EC2)
- Licensing
 - Perpetual BYOL model
 - Monthly licensing options available

PaaS

- Baked into IBM Bluemix



Cloud Ready / Enabled Integration – IBM Integration Bus (IIB)

IaaS - IBM and 3rd Party Public cloud deployment ready

- BYOL, BYOSL and rental pricing available
- Azure for example will provision an IIB “image”
- Chef - Open source technology for Install/Config of IIB and MQ, creates qmgrs and integration nodes
- IBM PureApplication System - Automated provisioning of machines as well as deployment of middleware
- IBM UrbanCode Deploy - Orchestrates and automates the deployment of applications, middleware configurations, across the DevOps pipeline.
- Docker Container for IIB from Docker Hub

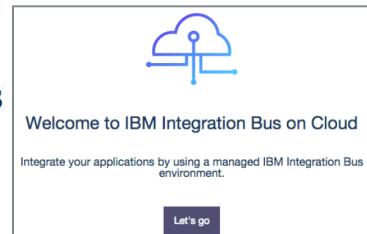
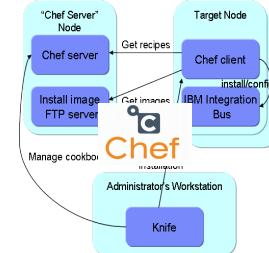
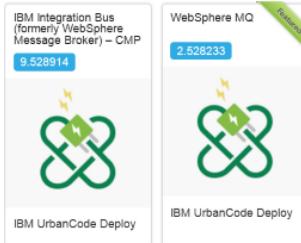
PaaS

- Full function IIB Docker Container in the IBM Bluemix Container Service

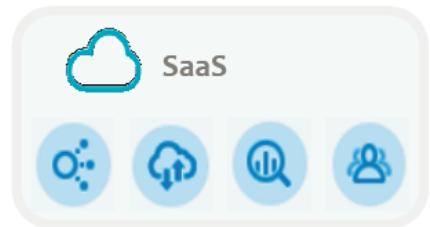
MaaS (“Middleware as a Service”)

- Integration Platform as a Service – IIB in the Cloud pay as you go managed service.

SOFTLAYER®



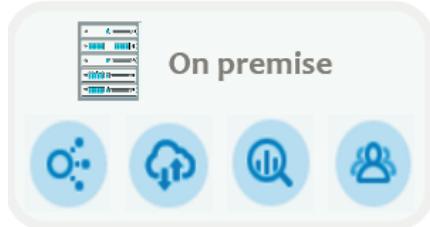
Cloud Ready / Cloud Native – IBM API Connect



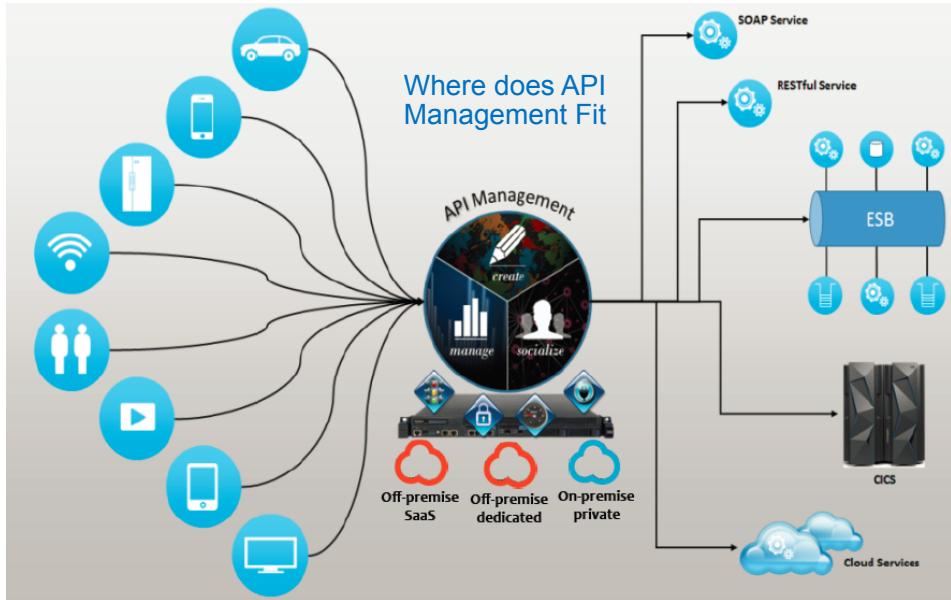
1 | On Cloud
Maximize on cloud economics and agility. Offered as SaaS on SoftLayer and also available through Bluemix



2 | Dedicated
With Bluemix Dedicated API Management, everything is dedicated and connected to you — agility of public cloud, yet feels like home



3 | On premise
Behind your firewall for most sensitive workloads & complete control



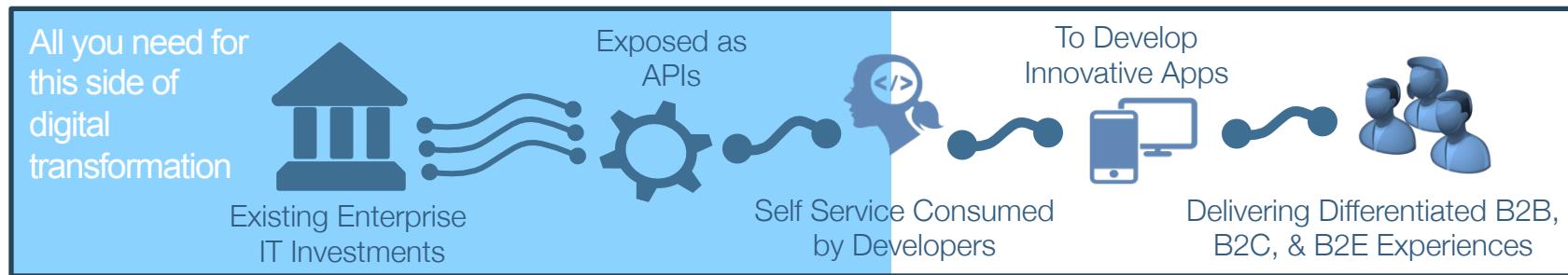
IBM Application Integration Suite

What is Application Integration Suite?

A new offering that combines Integration Bus, API Connect, Cast Iron, and a new IIB Salesforce Connector to accelerate a customer's Digital Transformation agenda

What does Application Integration Suite provide?

- ✓ Build business logic with the highest levels of productivity via application & cloud integration features
- ✓ Integrated tooling to easily publish new integration flows as APIs
- ✓ Secure connectivity to hundreds of cloud and on-premise applications and endpoints



Cloud Ready / Enabled Messaging IBM MQ v9

MQTT Telemetry Transport for IoT. Bridge MQ and MQTT pub/sub



MQ Light API for MQ



- AMQP listener allows MQLight to participate in MQ pub/sub

IBM Pure Applications MQ Pattern

- In Support of Infrastructure as a Service Cloud deployments

IBM MQ V9 (V8, V7.5 and v7.1 still in support)

- Original “base” IBM MQ reliable messaging. Packaged to include MQ AMS + MQ MFT but base license entitlement only.
- IBM MQ AMS (Advanced Message Security) - Separate license
 - Adds encryption and decryption of messages as they are PUT and GET to queues to the base MQ Entitlement
- IBM MQ MFT (Managed File Transfer) Service - Separate license
- IBM MQ Advanced
 - Single Licensed part number for IBM MQ + IBM MQ AMS + IBM MQ MFT

IBM MQ Appliance

- MQ v8/v9 rendered as firmware in a Datapower form-factor

IBM MessageHub on Bluemix based on Kafka technology

Evolving products into a Hybrid Integration Platform

A modular platform for integrating Apps, Data, APIs

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

