Hybrid Integration: Maximize Your Opportunities in a Digital World

Hursley Summit 2017

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Hybrid Integration

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Digital is a fact of life

Case Study: Online Estate Agency

- **Higher speed, lower cost**
- Social recommendations
- Viewings, valuations and support online
- Instant digital brochures and virtual tours
- Lead capture via social media
- Full end-to-end services with partners (conveyancers, lenders, insurers, removals, etc.)

- Traditional players are looking to **Hybrid models** – where full service is a value add upgrade from online

Steps in a Digital Transformation

1. Ensure profitability of existing business

- Modernize existing IT infrastructure and improve TCO
- Shift savings budget to building digital business model

2. Build a new digital business model in parallel

- Quick experiments with mobile and interactive apps
- Use all possible information sources to target prospects
- Need a flexible, adaptable and extensible technology platform

3. Optimize the mix of traditional and digital for maximum impact

- Ensure optimized systems and new systems are integrated
- Information flows seamlessly through the system in real time

Hybrid Integration Reference Architecture
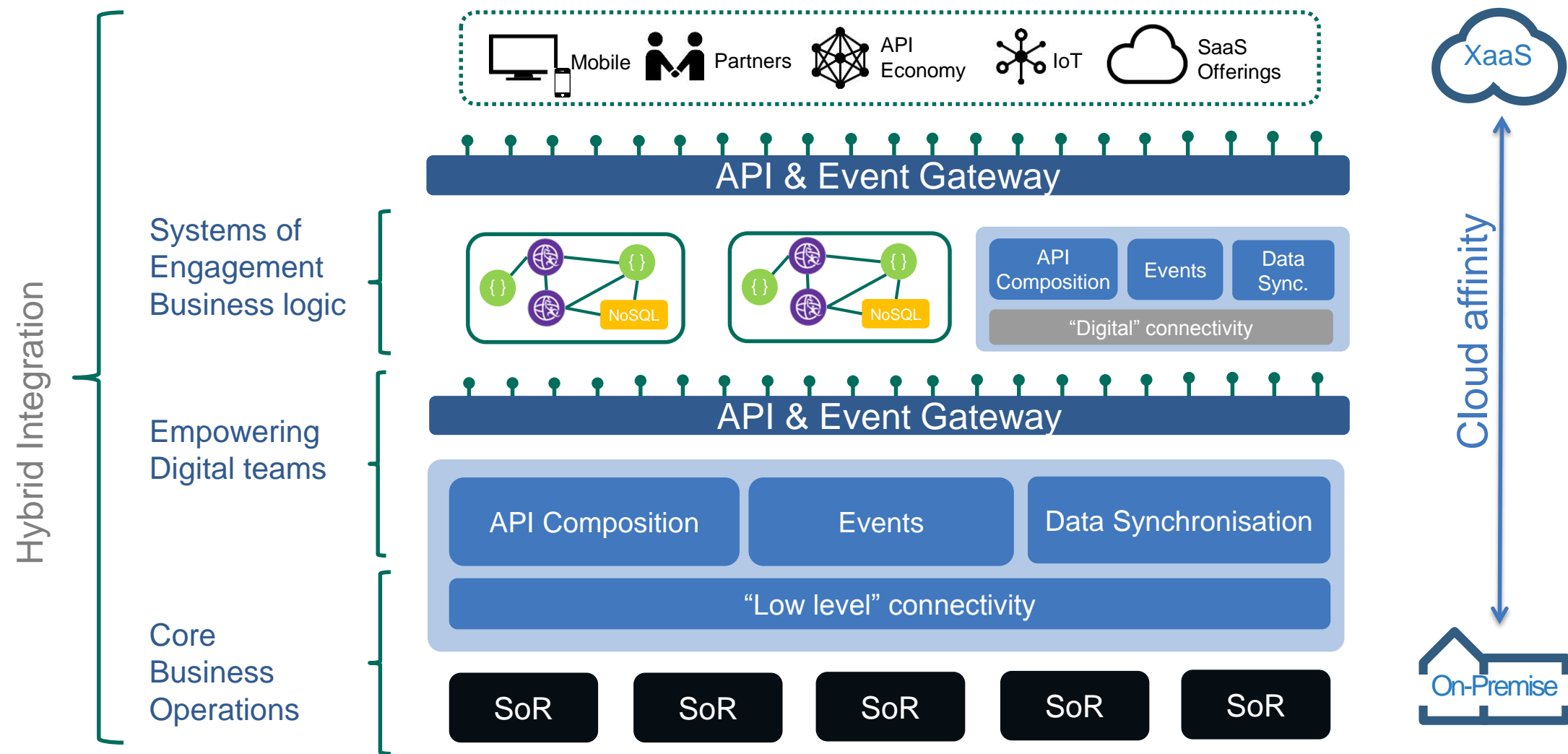
developerWorks article
http://ibm.biz/HybridIntRefArch

Integration blog
https://developer.ibm.com/integration/blog

Redbooks

An Architectural and
Practical Guide to IBM
Hybrid Integration Platform

How does Integration help?

|		
1	Adopt new business applications quickly	Hybrid Connectivity
2	Build engaging customer experiences	Lightweight Integration
3	Empower individuals regardless of skill level	LOB User Communities
4	Apply the right data at the point of highest impact	New Integration Patterns

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Hybrid Connectivity

1 Adopt new business applications quickly

Salesforce

MailChimp

Asana

SAP

Box

Slack

Insightly

Eventbrite

Gmail

SurveyMonkey

Message Hub

Marketo

Google Sheets

Trello

ServiceNow

Wufoo
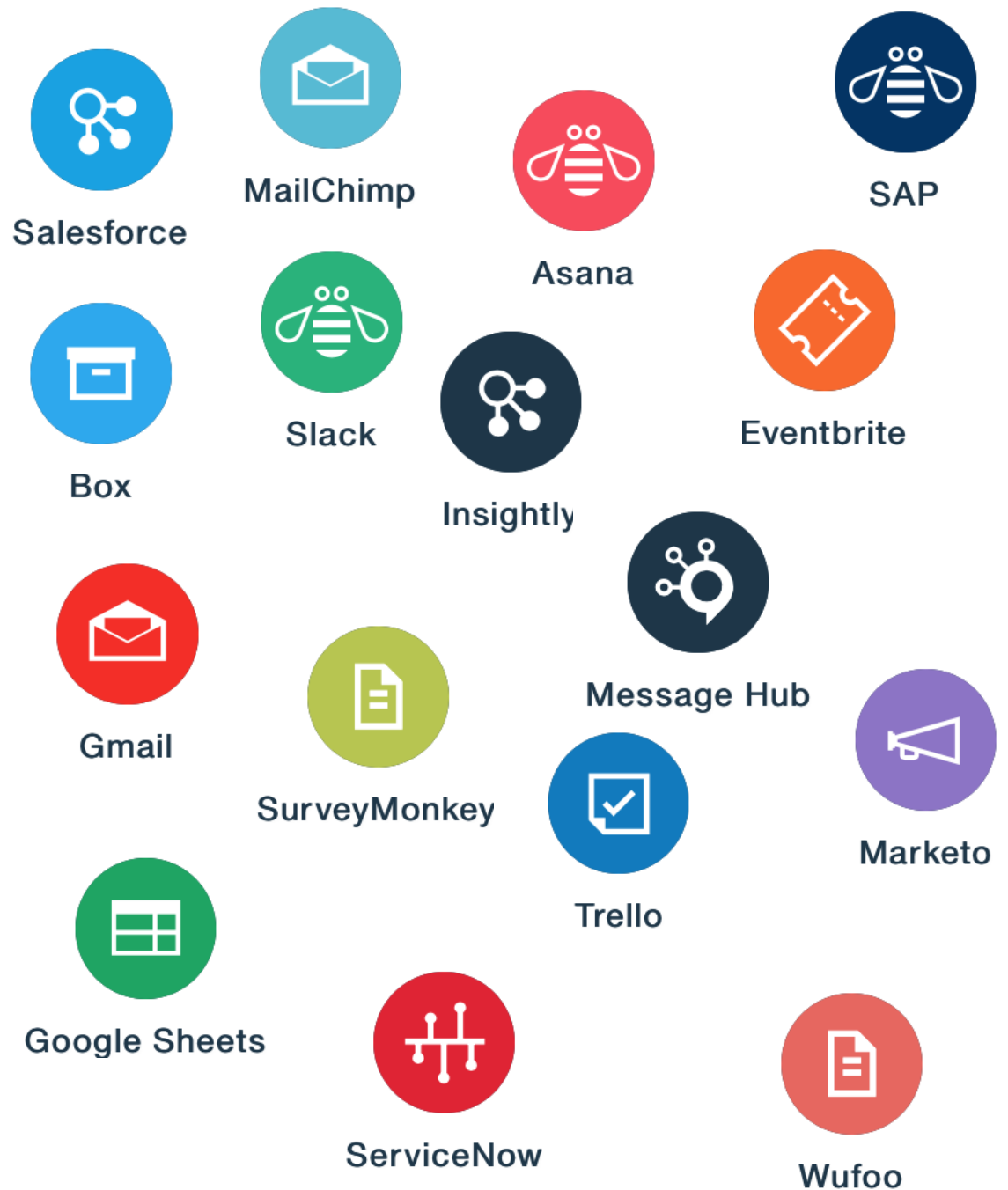
Adopt new business applications quickly

The application landscape is shifting to the cloud
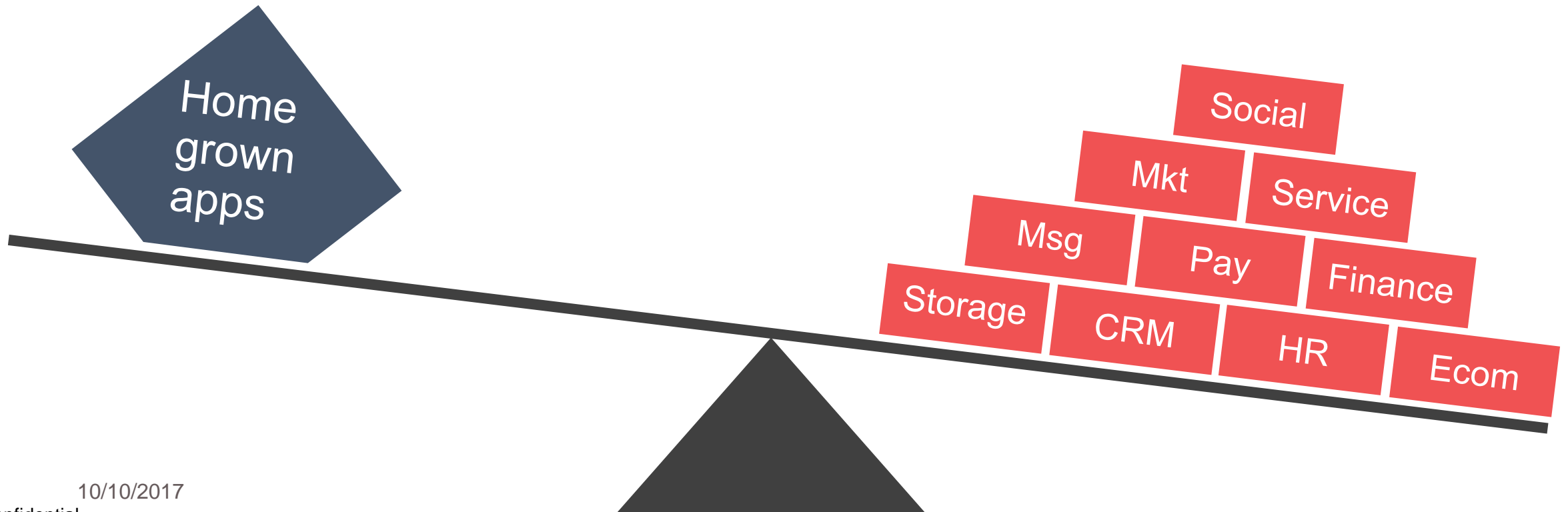
Adopt new business applications quickly

MATURITY

Connectors understand the end point to manage scaling, fault recovery, limits, etc…

Pre-built connectors for a broad range of systems and applications (ERP, industry, legacy, etc…)

Basic protocol connectivity (rest/file/msg/DB)

Broad Connector Support

Smart Connectors for Cloud & On-premise apps
- Business-friendly metadata
- Smart Event generation.
- CRUD Actions & data sync/move scenarios.
- Dynamic discovery of custom objects
- Smart error handling and reporting.

Connect to and use by IBM solutions
- IBM Integration Bus
- IBM Message Hub
- Watson Services
- Openwhisk
- Digital Business Assistant

Salesforce   MailChimp   Asana   SAP

Box   Slack   Insightly   Eventbrite

Gmail   SurveyMonkey   Message Hub   Marketo

Google Sheets   Trello   ServiceNow   Wufoo
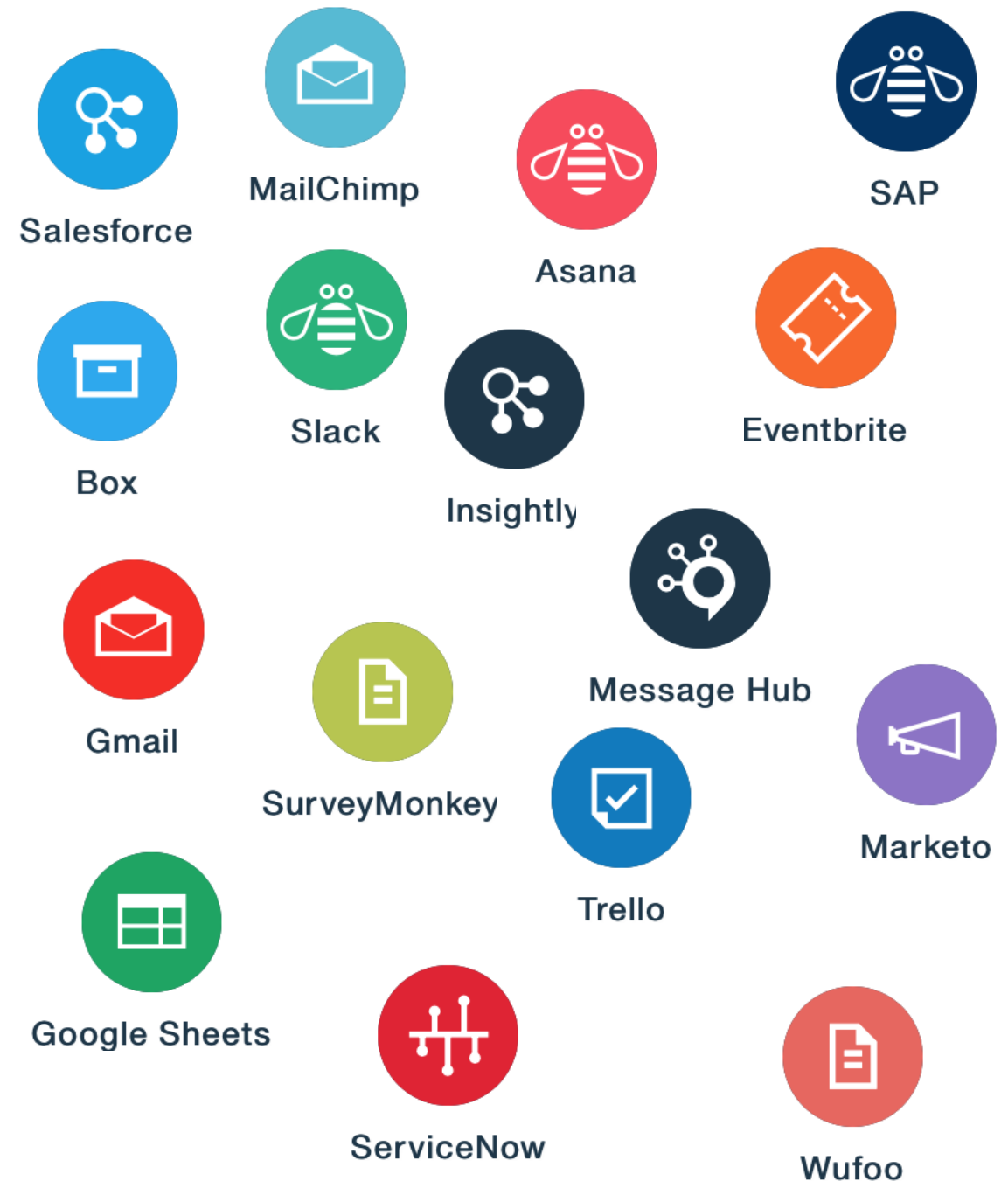
# IBM Cloud Integration for Salesforce

New integrations enable customers to unlock data across multiple clouds and enterprises, making that data easily accessible with the Salesforce platform.

- Direct support for Salesforce message events

- Odata 4.0 support for multi-cloud integration

- Simplified API based integration

- Expanded no-code integration for Business Professionals

HYBRID CLOUD

Private

Public

Dedicated
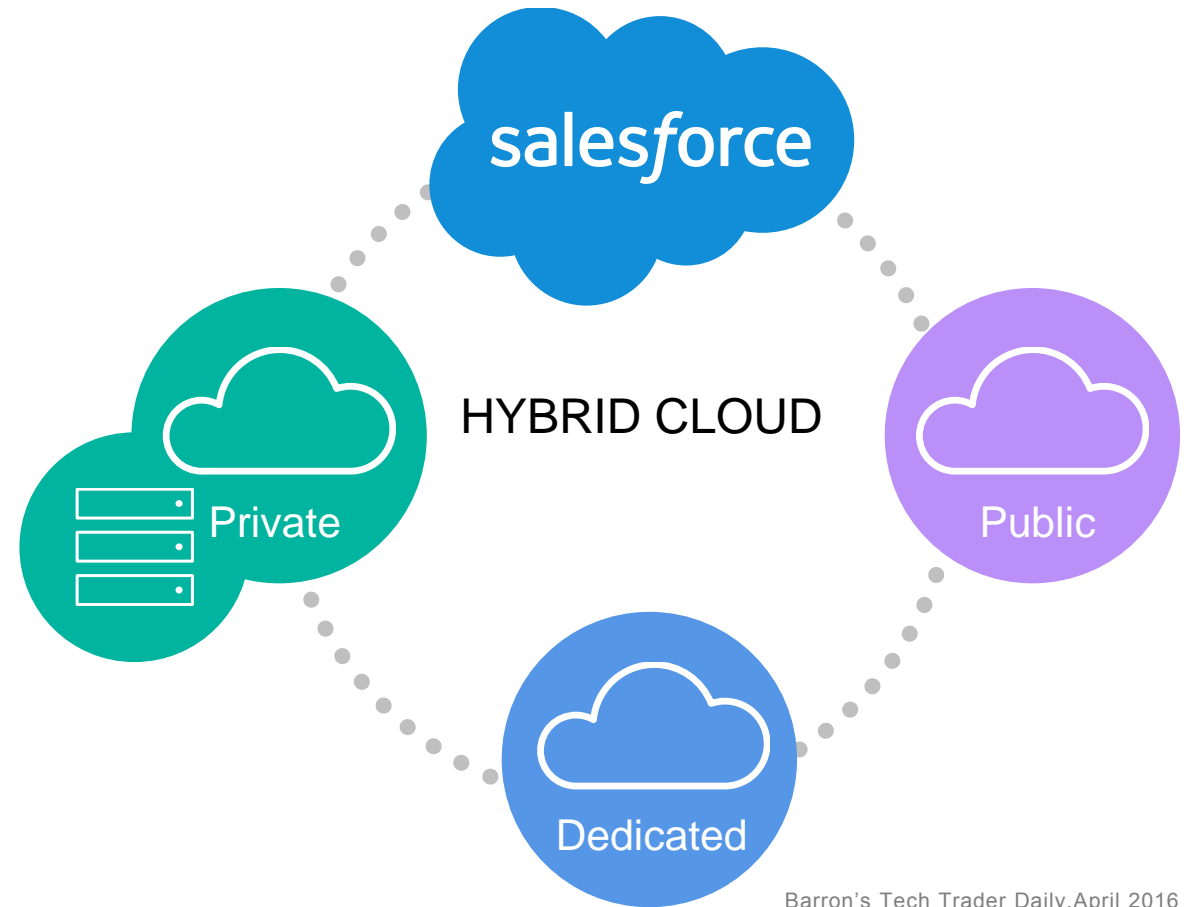
Barron's Tech Trader Daily, April 2016

Connecting Blockchain to the Enterprise

- Organizations are looking for ways to easily adopt a shared digital ledger

- **Hyperledger Composer** Provides a simple way to build business applications in blockchain.

- **Hyperledger Composer** provides OpenAPI (swagger) interfaces that can be used to integrate with existing business applications.
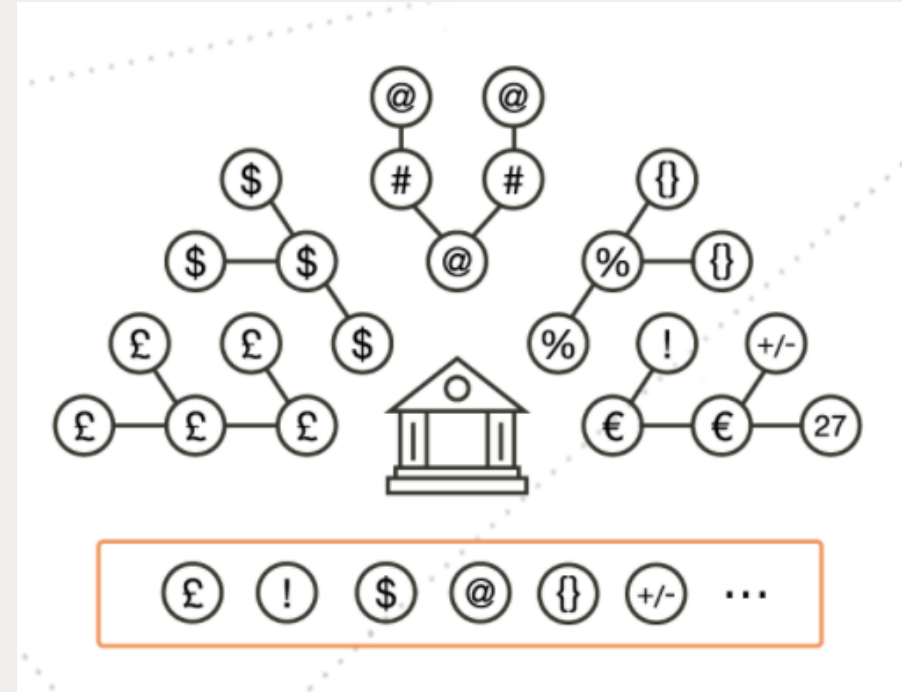
Looking ahead

Even more SaaS adoption	SaaS growth trend continues as barriers to cloud are entirely removed
Shift to "event driven" connectivity	As a way to optimize real-time architectures
Information Governance for SaaS	SaaS assets need to be governed as first class artifacts of the enterprise.

Lightweight Integration

2 Build engaging customer experiences

Unlock enterprise investments for competitive advantage

Exposed as
APIs

To Develop new
Innovative Apps
and Services

Unlock Existing
Enterprise IT
Investments

Self Service
Consumed by
Developers

Delivering
Differentiated
B2C, B2B, B2E
Experiences
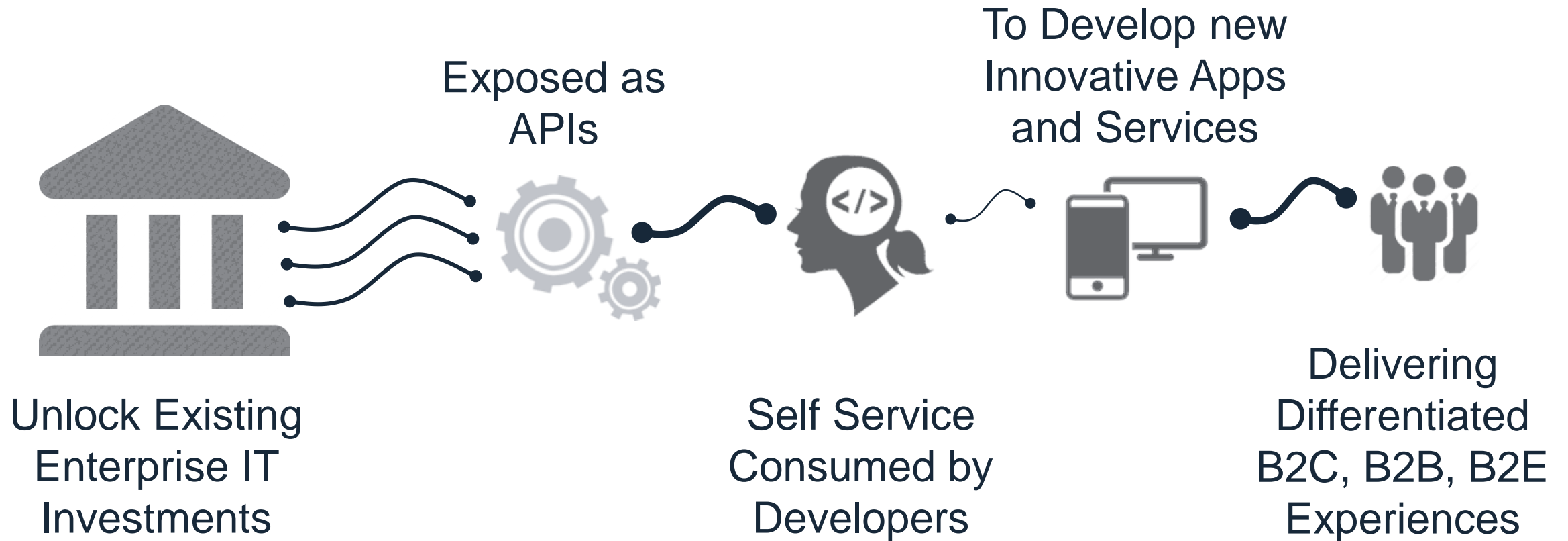
Microservice deployable integration packages

- 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.
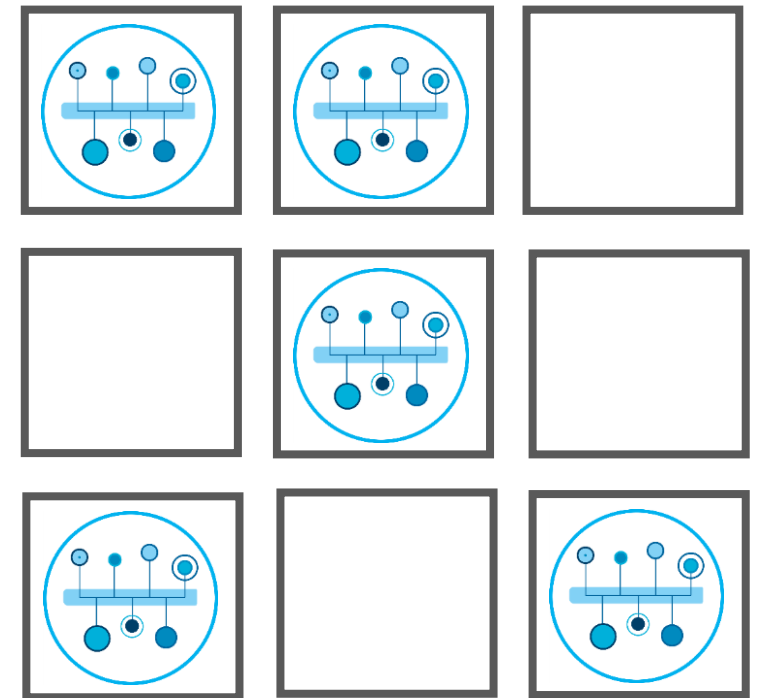
Articles: http://ibm.biz/12-factor-integration and http://ibm.biz/lightweight-integration

Managed Event Streams

API Management for Event Streams

As the world becomes more event driven...

Managed Event Streams takes real time data from existing applications, IoT initiatives and cognitive systems and makes these events available to apps, partners and developers, powering a new context aware digital experience

Discoverable   Decoupled   Consumable   Delivered   Monitored

Ship Data

Ship Info

Ship tracking aggregator

node

Ship name	Hursley
Departure location	Soton
Departure time	10.13
Arrival location	NY
Estimated arrival time	16.29

Managed Events

Java

Kafka

Gas Transportation

MQ

Luggage Transportation

Catering

Managed Event Streams

API Management for Event Streams

As the world becomes more event driven…

Managed Event Streams takes real time data from existing applications, IoT initiatives and cognitive systems and makes these events available to apps, partners and developers, powering a new context aware digital experience

New leads sent from website to dealers

IOT data sent from vehicles to dealer

Discoverable   Decoupled   Consumable   Delivered   Monitored

Managed Event Streams

API Management for Event Streams

Partners

Event stream consumers

Micro services

Event Stream Server

Kafka

Developer Portal
(built on Drupal)

Analytics

Administration
Portal

Kafka
WebHooks

Hosted on IBM Cloud

Blockchain

IOT

IBM MQ

IBM IIB
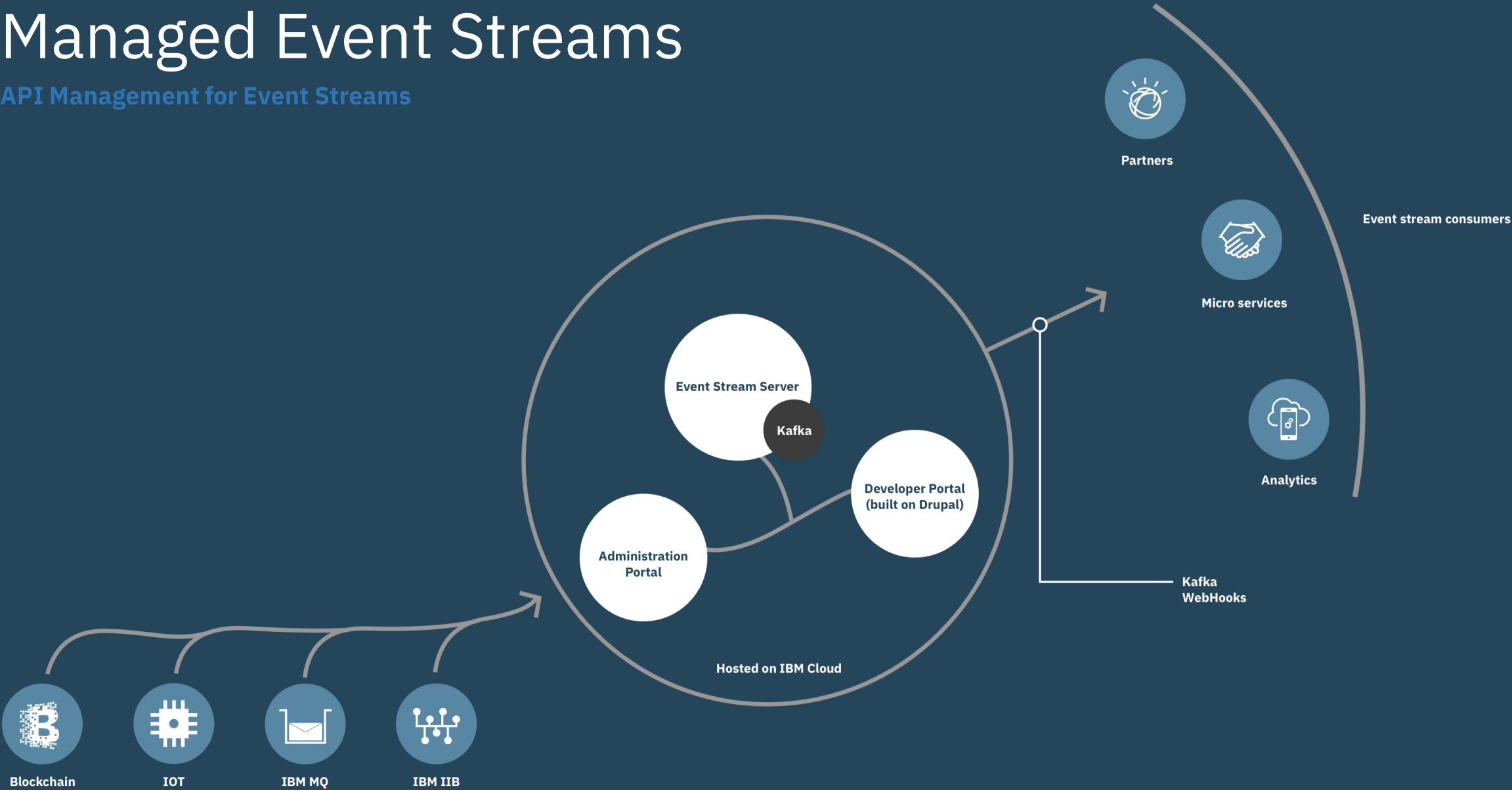
Bluemix at the core of our strategy.

Extend integration flows with rich capabilities baked into the platform.

Hybrid Integration Platform on Bluemix.
IIB + App connect + APIs + MQ tightly integrated.

Cognitive Services
Built cognitive capability into integration flows.

Log, Metric and Event management.
Consolidated, dashboards – On-prem and Cloud.

Identity and Access Management
Users, orgs, spaces and fine grain access management built in.

Dev-ops Pipeline
Deploy Integration flows as if they were code.

Dedicated and Local deployment
Choose the degree of isolation you need.

Connectivity
Secure Gateway Service, VPN Service.

IBM Bluemix™

MQ Runs Exactly How and Where You Need It

Cloud

Message Hub

IBM Bluemix
(including Softlayer)

Azure

Microsoft Azure

AWS

amazon web services

Google
...

docker

openstack

kubernetes

vmware

...

Private cloud

On-premises

z/OS

Linux

Windows

for Business

HPUX

AIX

Solaris

...

Distributed platforms

IBM MQ Appliance
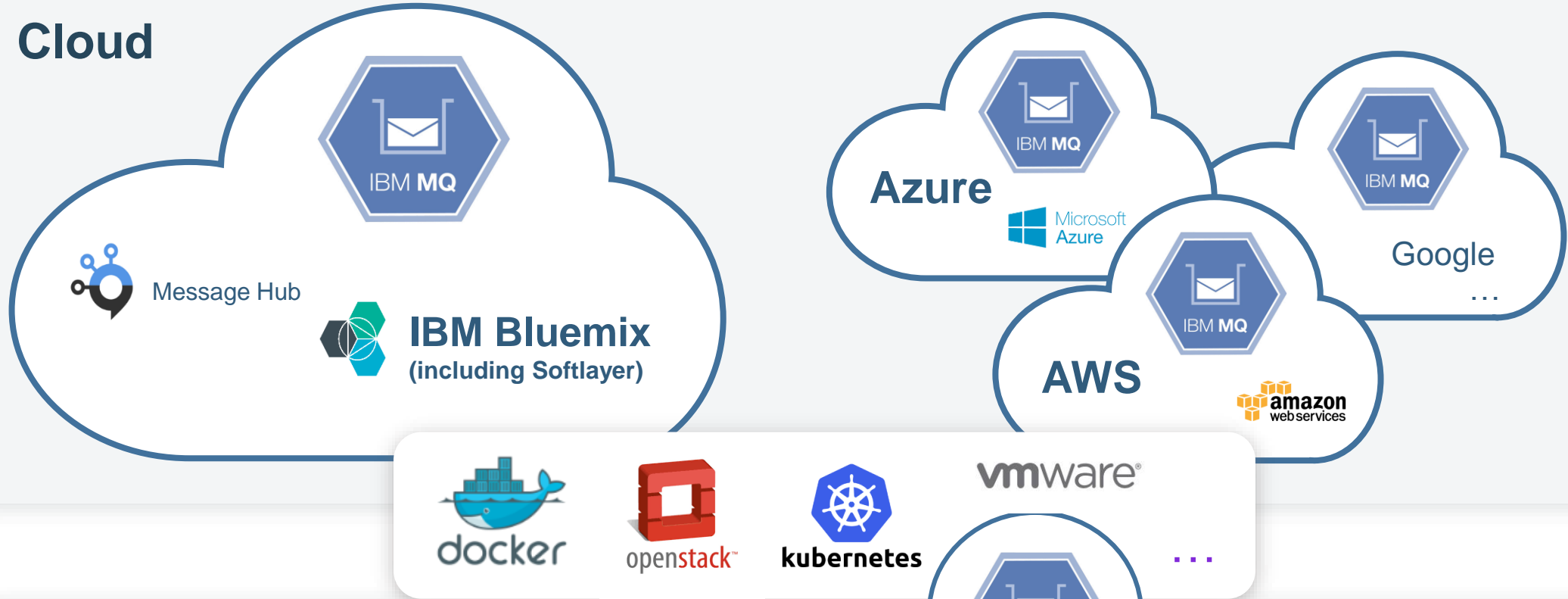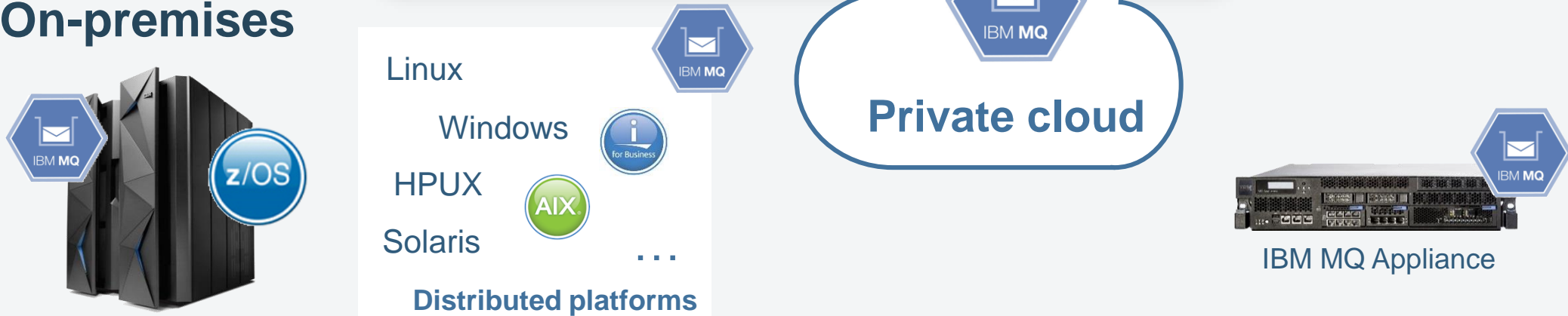
Hybrid User Communities

3 Empower individuals regardless of skill level

Expansion of Integration user community
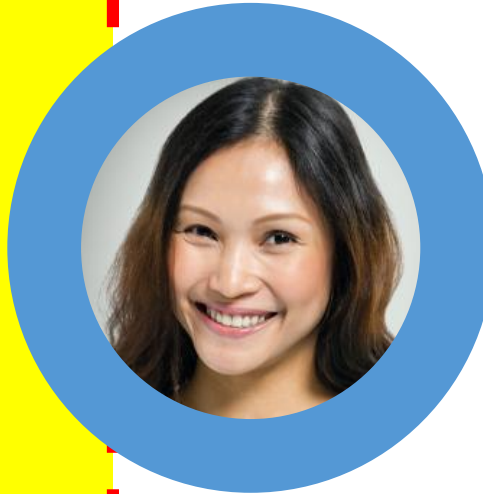
Business Users

NO CODE !!!!

Use integration tooling to automate my work day

Shadow IT

Speed the dev of new systems of engagement

Central IT

Unlock the systems of record for new business models

Engage the line of business : IBM **App Connect**

Radically simple integration tooling that connects cloud & on-premise apps

- Browser based UI for business professionals

- Automation of manual tasks – notifications, events & updates

- "App awareness" allows you to connect your apps in minutes

- Connect your applications wherever they are… cloud or local

Event-action flows

- Use event-action flows to automate tasks
- Multiple actions in the same flow allow for handling more complex use cases
- Data transformation made easy by smarter mapping capabilities
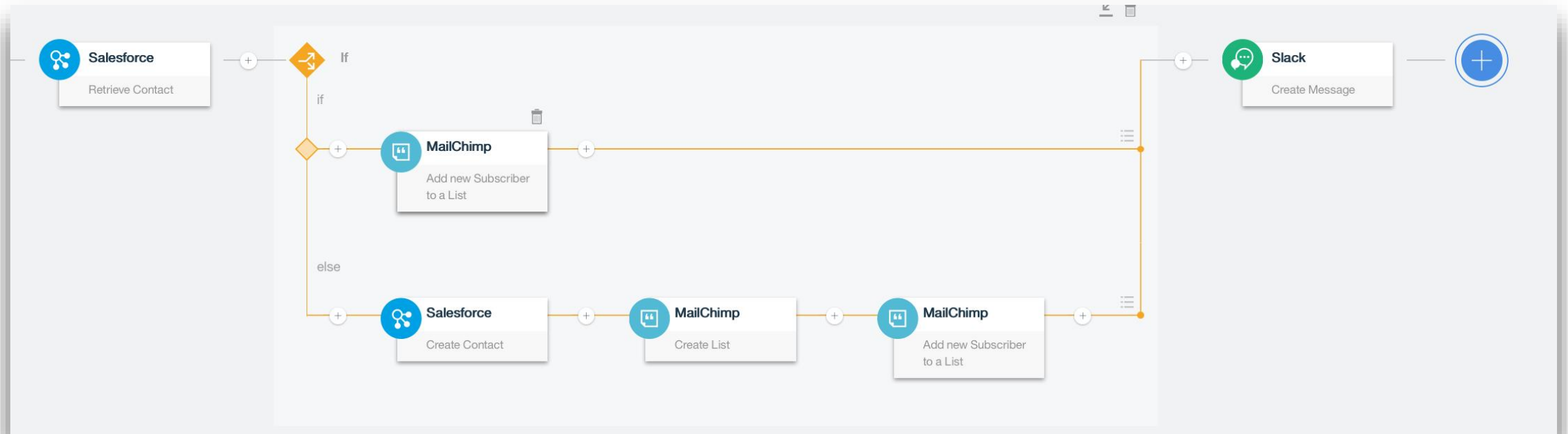
Key Roadmap Item – Cognitive Mapping

- 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

Hybrid Integration Platform Convergence

- **Friction Free** experience when personas collaborate

- **Progressive disclosure** of advanced features - Blur the boundaries between personas

- **Consistent capability** across managed service and software

- **Straightforward pricing structure** with free, PAYG, and annual subscription plans

- **Simple and efficient** for customers to acquire and manage
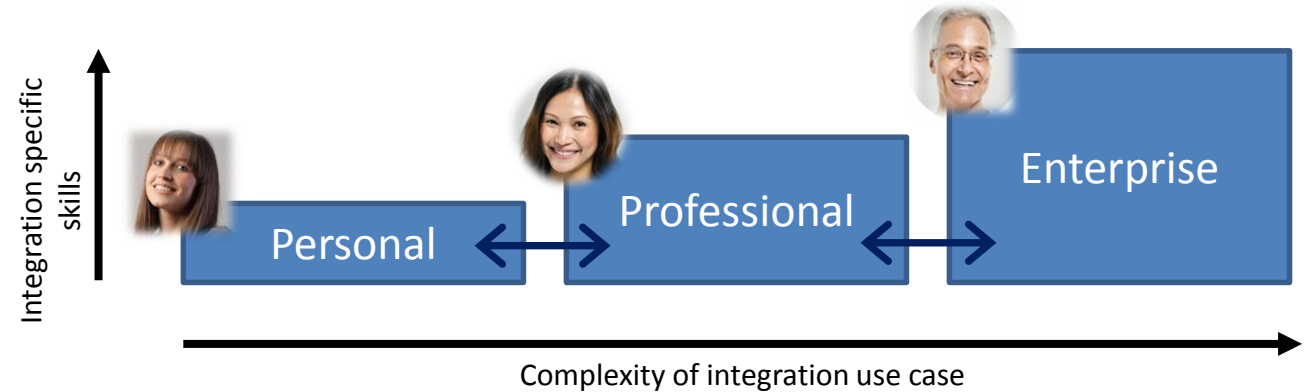
New Integration Patterns

4 Apply the right data at the point of highest impact

If **data** is the fuel, **apis** are the pipeline

API Economy is reshaping how the enterprise can transform their business.

Challenged by the speed at which value from core systems can be shared.

Build Powerful flows

Supports multiple integration patterns

   1 Event-action flows

   2 Integration flows for APIs

Event-action flows

- add multiple Action nodes
- smart Mapper capability
- logic functions - smart conditional node

Integration flows for APIs

- jumpstart flows via a model-driven approach
- register the flow operation directly to API Connect
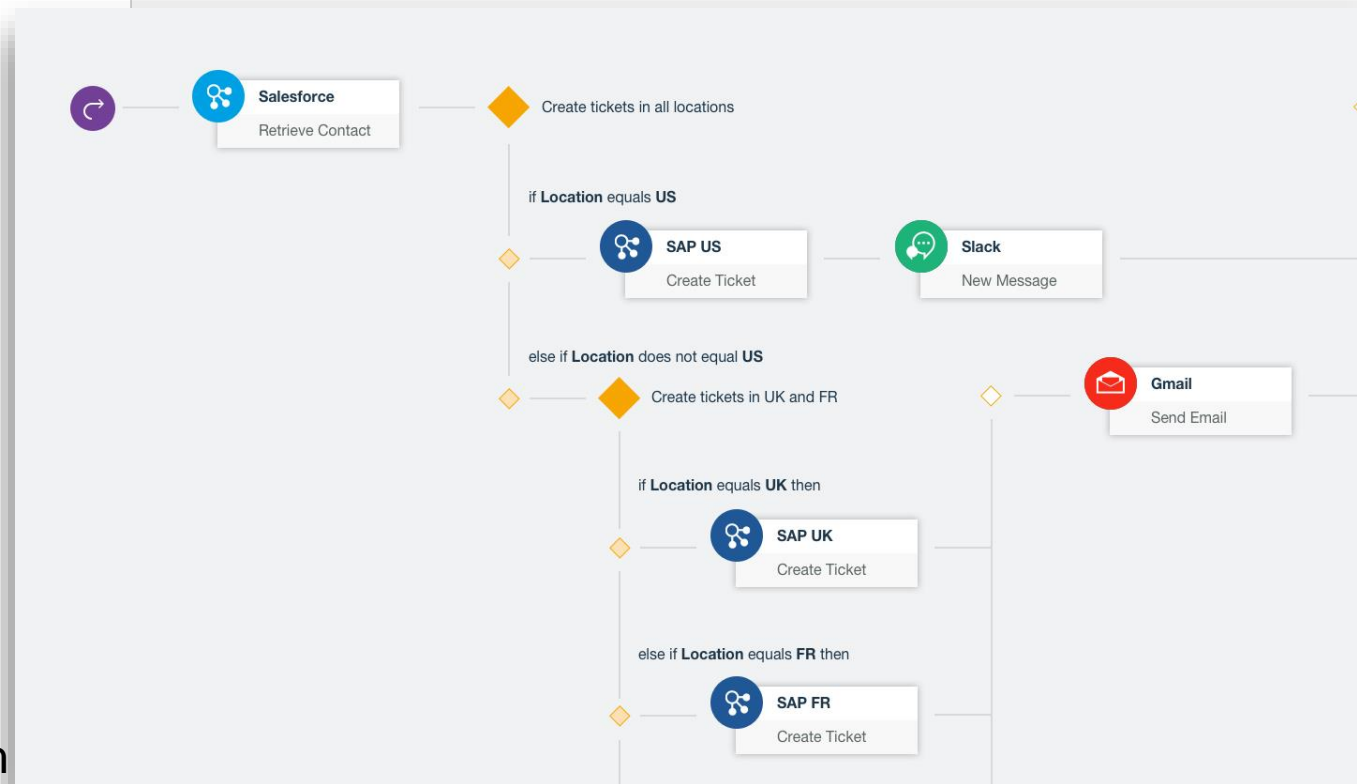
Designer is our go-forward UI for all integration flow development across the Cloud Integration portfolio

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

Cognitive Integration Nodes

- Provides a graphical and configuration based approach to infusing integration flows with Watson services to build new cognitive solutions

- Combines the power of Watson with the application reach of our integration platform, and information transformation functions.

Language	Speech	Data Insights
AlchemyLanguage	Speech to Text	AlchemyData News
Conversation	Text to Speech	Discovery
Document Conversion		Tradeoff Analytics
Language Translator	Vision	
Natural Language Classifier	Visual Recognition	
Personality Insights		
Retrieve and Rank		
Tone Analyzer		
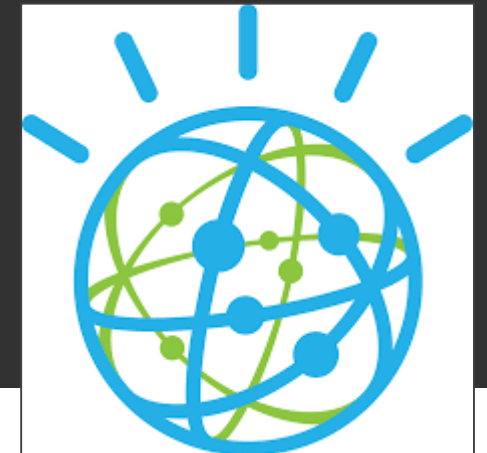
Common Information Governance

- Extend IBM Information Governance capabilities to include both API Management and Application Integration

- Allows customers to have better visibility into:
  - Where the data is
  - Whether it's available through an API or other
  - How good it is
  - Where did it come from

- Provides insight into how their data is used across the enterprise, and for what business purposes.
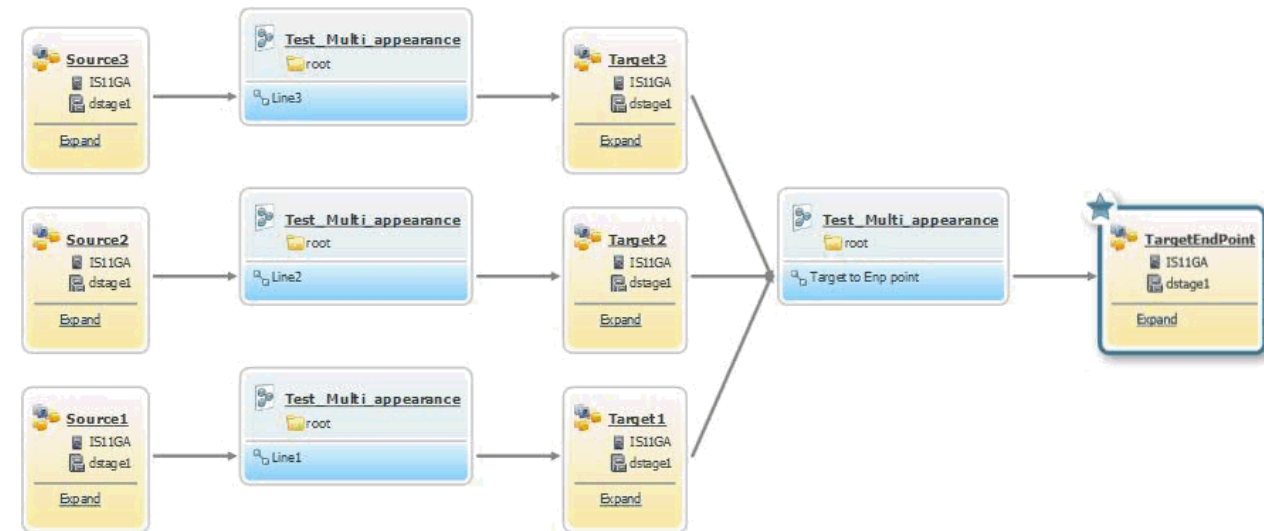
The 4 integration imperatives

1	Adopt new business applications quickly	Hybrid Connectivity
2	Build engaging customer experiences	Lightweight Integration
3	Empower individuals regardless of skill level	LOB User Communities
4	Apply the right data at the point of highest impact	New Integration Patterns

Thank You

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Summit

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