

Hybrid Integration Underpins Digital Transformation



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Agenda

- Digital Transformation
- What is 'Hybrid' Integration & the trends that drive it?
- Digital Transformation enabled through Hybrid Integration
- IBM Integration Products (very briefly)

Digital Transformation



Uber, the world's largest taxi company, owns no vehicles. **Facebook**, the world's most popular media owner, creates no content. **Alibaba**, the most valuable retailer, has no inventory. And **Airbnb**, the world's largest accommodation provider, owns no real estate. Something interesting is happening.

http://techcrunch.com/2015/03/03/in-the-age-of-disintermediation-the-battle-is-all-for-the-customer-interface/#.pgfhdr:o98A

Organizations are seeking a Strategy to securely unlock value from existing IT assets



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What is integration?..... Patterns we commonly see.



Trends driving the integration market







Integration being adopted in the line of business (LOB) **‡2** Increasing need to integrate across a hybrid environment

#3

Digital transformation, API Economy and the rise of Microservices

Hybrid User Roles



- Anyone can do it
- Zero code
- Cloud native
- Many preconfigured
 - 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

Integrating across a Hybrid Environment



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Hybrid Integration The foundation of digital transformation



Common use cases for hybrid integration within digital transformation



Enable new channels for revenue by monetizing existing data via the API economy Enable line of business to automate their own work across SaaS and existing systems of record Make a fundamental shift to a composable application architecture, and cloud-based partners, to enable innovation.

Digital Transformation Creates Multi-Modal IT

Digital

- Timeframe: Days/Weeks
- Scope: Strategic
- Sponsor: CMO
- Budget: \$
- Complexity: Low
- Buying behavior: Self service

Enterprise

- Timeframe: Months/Years
- Scope: Strategic
- Sponsor: CIO
- Budget: \$\$\$
- Complexity: High
- Buying behavior: Human engagement

Explore, adopt, adapt with rapid, iterative prototypes



Always on, always available Security, control, and governance

An Evolving Architecture for Digital Business



http://ibm.biz/HybridIntRefArch

The digital front door



http://ibm.biz/HybridIntRefArch

Digital Teams



http://ibm.biz/HybridIntRefArchv

Typically a Micro Service Architecture



What is microservices architecture?

Simplistically, microservices architecture is about breaking down large silo applications into more manageable fully decoupled pieces



A microservice is a granular decoupled component within a broader application

Why Microservices?

Small scoped, independent, scalable components

Scaling Elastic scalability Workload orchestration Agility Faster iteration cycles Bounded context (code and data) Resilience Reduced dependencies Fail fast

What that might look like in IBM technology? (simplistic representation – NOT a reference architecture!)



Microservices application

Microservices inter-communication

Aim is decoupling for robustness

Messaging where possible

- Lightweight messaging (e.g. AMQP, Apache Kafka)
- Publish/subscribe
- Eventual consistency

Direct calls where necessary Lightweight protocols (e.g. JSON/HTTP)

- Load balancing/scaling via service discovery
- Circuit breaker
- Caching



An Evolving Architecture for Digital Business



http://ibm.biz/HybridIntRefArch

Enterprises of different shapes



Mature large enterprise

Microservices are just one style of application Exposing services is an *integration and data* challenge



Green field online start-up

Much of landscape could be microservice based The landscape *is* as (micro)service oriented architecture

A glimpse into the complexities of a real integration architecture



Business Partners

The long tail of integrations



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IBM Hybrid Integration Platform



Fit-for-User Experiences

- Tooling optimized for key uses so simple stays simple
- Automator, Integrator, Developer



Shared Assets, Common Tooling

- Consume any asset (apis, data, flows,
 - ...) across experiences
- Emphasize "Golden Thread" scenarios



Centralized Ops, Distributed Runtimes

- Administer from single hub
- Run hosted on IBM cloud or BYO compute
- Push runtimes to other clouds or on-prem



Hybrid Enabled

- Run integrations near your apps and data
- Make secure, managed connections across boundaries
- Control and Enforce policies to secure your APIs

Mapping to IBM Products - Platform



Mapping to IBM Products – API & runtime



Mapping to IBM Products - Integration





IBM API Connect: Simplified & Comprehensive API foundation

What is API Connect?

An integrated creation, runtime, management, and security foundation for enterprise grade API's and Microservices to power modern digital applications

What does API Connect provide?

- ✓ Automated, visual and coding options for creating APIs
- Enterprise grade Microservices creation and management in Node.js and Java
- ✓ Access control over API's, API Products and API Plans
- ✓ Advanced API usage analytics and Developer Portal
- \checkmark Policy enforcement, security and control



What is App Connect?

Integration tooling optimized to make Cloud Integration simple. Business friendly 'citizen integration'—but connected to IT tools

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 App Connect

As easy as choosing your apps...



IBM App Connect – Triggers and Actions

And the events you care about ...

Select from preconfigured events and actions in your application



"App Aware" - The hard work is already done

Shows the triggers and actions for YOUR system

Actions

Convert Lead This is an example action you can do.

Create Object This is an example action you can do.

Delete Object This is an example action you can do.

Merge Object This is an example action you can do. Triggers

Nev This i

Wo This i

> Ne\ This i

She This i

Ne\ This i

v Worksheet s an example trigger you can do.	Row Remov This is an example			
rksheet Removed s an example trigger you can do.	New Colum This is an example	n trigger you can do.		
v Sheet s an example trigger you can do.	Column Removed This is an example trigger you can do.			
et Removed				
s an example trigger you can do.		New Campaign Triggers when a new Campaign is	New Lead Triggers when a new Lead is created	
V HOW s an example trigger you can do.		created		
		New Account	New Contact	
		Triggers when a new Account is created	Triggers when a new Contact is created	
		New Opportunity	New Contract	
		Triggers when a new Opportunity is created	Triggers when a new Contract is created	
		New Order	New Case	
		Triggers when a new Order is created	Triggers when a new Case is created	

Preliminary designs shown – final product experience and capability may differ

Retreve Contact

Create Contact

Update Contact

Delete Contact

This is an example action you can do.

IBM App Connect - Map your data

We automatically map everything we can

Add/change any fields that need to be modified

IBM	AppConnect		Applications Dashboard
	Twitter	Map your Data into Google Sheets Choose how you want data from Twitter to be used in your Googl	le Sheets Action
6	Trigger & Action	Spreadsheet Sheet Sheet Sheet 1	~
	Google Sheets	Name First Name Last Name	(+)
~	Accounts	User Name	+
~	Triggers & Actions	Message	+
	Map Data	Time #	(+)
		Fields from Twitter matching ** Coordinates Example 294882;1299348 Created At Example: Wed Jan 14 20 4157 +0000 2009	<u>(+)</u>
		Geography Example: USA First Name Example: Wanda Last Name Example: Wanda	
		List . User Name Example: @Zkwanda	
		Back	Save + Continue

0

IBM App Connect – Add simple transforms

Add any transforms you need

Uppercase, concatenate, trim blanks, reformat date, currency etc

IBM AppConnect			Applications	Dashboard
Twitter	Map your Data into Google S Choose how you want data from Twitter	heets to be used in your Google Sheets ,	Action	
Trigger & Action	Spreadsheet Social Engagement V	sheet Sheet 1	~	
Google Sheets	Name Uppercase Last N	ame	(+)	
✓ Accounts	User Name		+	
✓ Triggers & Actions	Message Body		+	
··· Map Data	Time (C		+	
	Functions matching "con" Convert Format		(+)	
	Back		Sa	ve + Continue

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Thank You



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