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# Agile Integration

The Three Pillars That Solve Your Integration Problems  
In An Agile Way

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# What to expect...

- Integration is getting harder. Why?
- The Agile Integration concept explained
- Red Hat Technologies for Agile Integration
- Reference Architecture
- Customer success stories

**Everybody has an integration problem.**



**Or a problem with integration.**

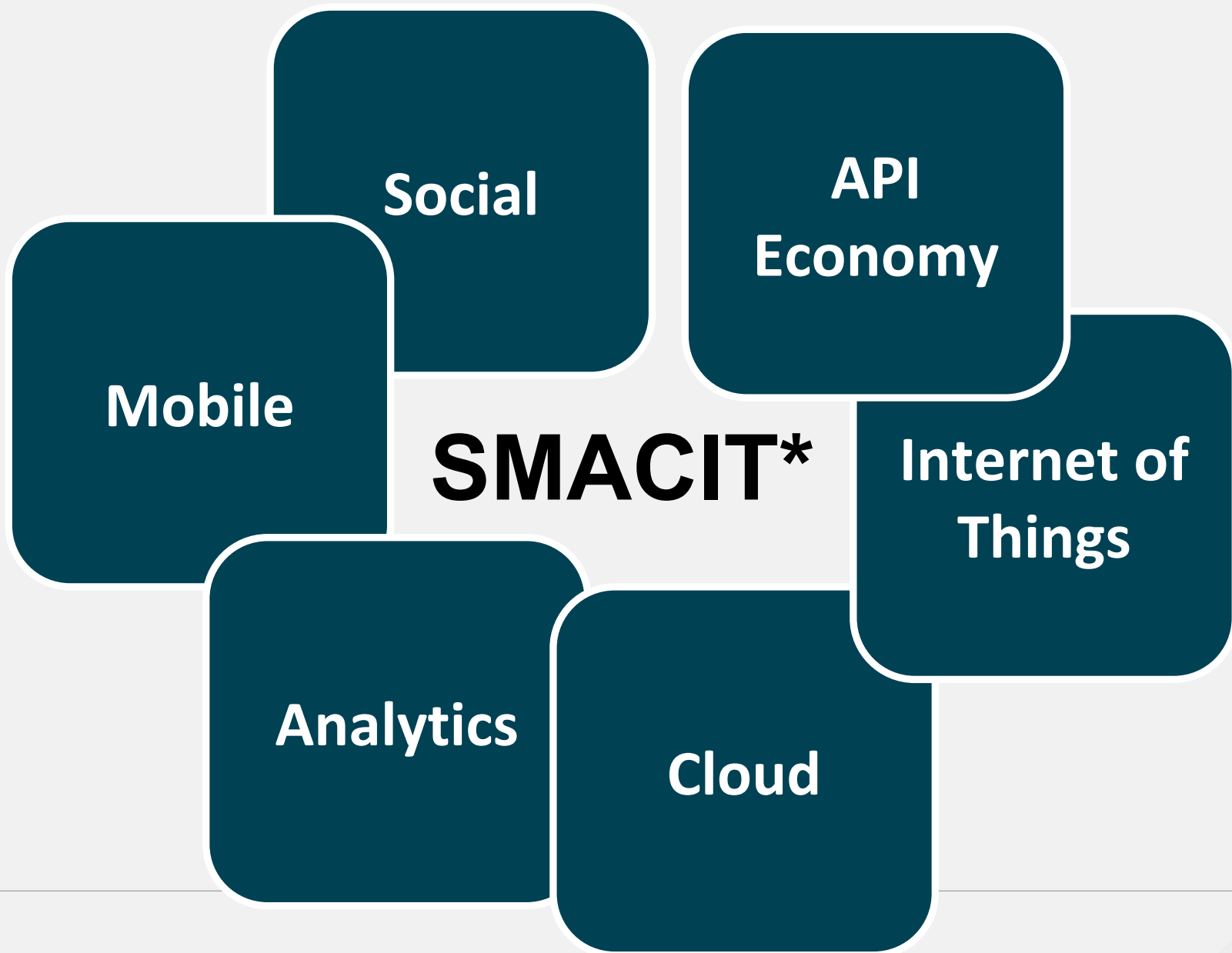
Understanding customers

Integrating digital and physical

# NORDSTROM

Leveraging social media

Multichannel integration

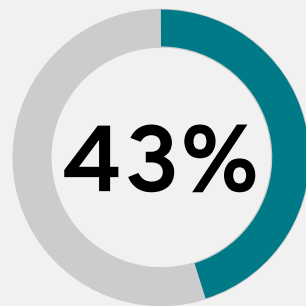


## A Related Observation...

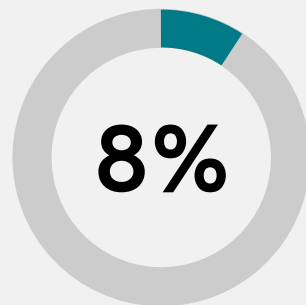
- Atomization of channels
  - E.g., Retail Sector, Banking Sector
- Impossible to control all
- Change of approach to channel management
- Better to ***enable channels***  
...in a ***secure and controlled*** way

# Atomization of Channels: Increasing (Digital) Touchpoints

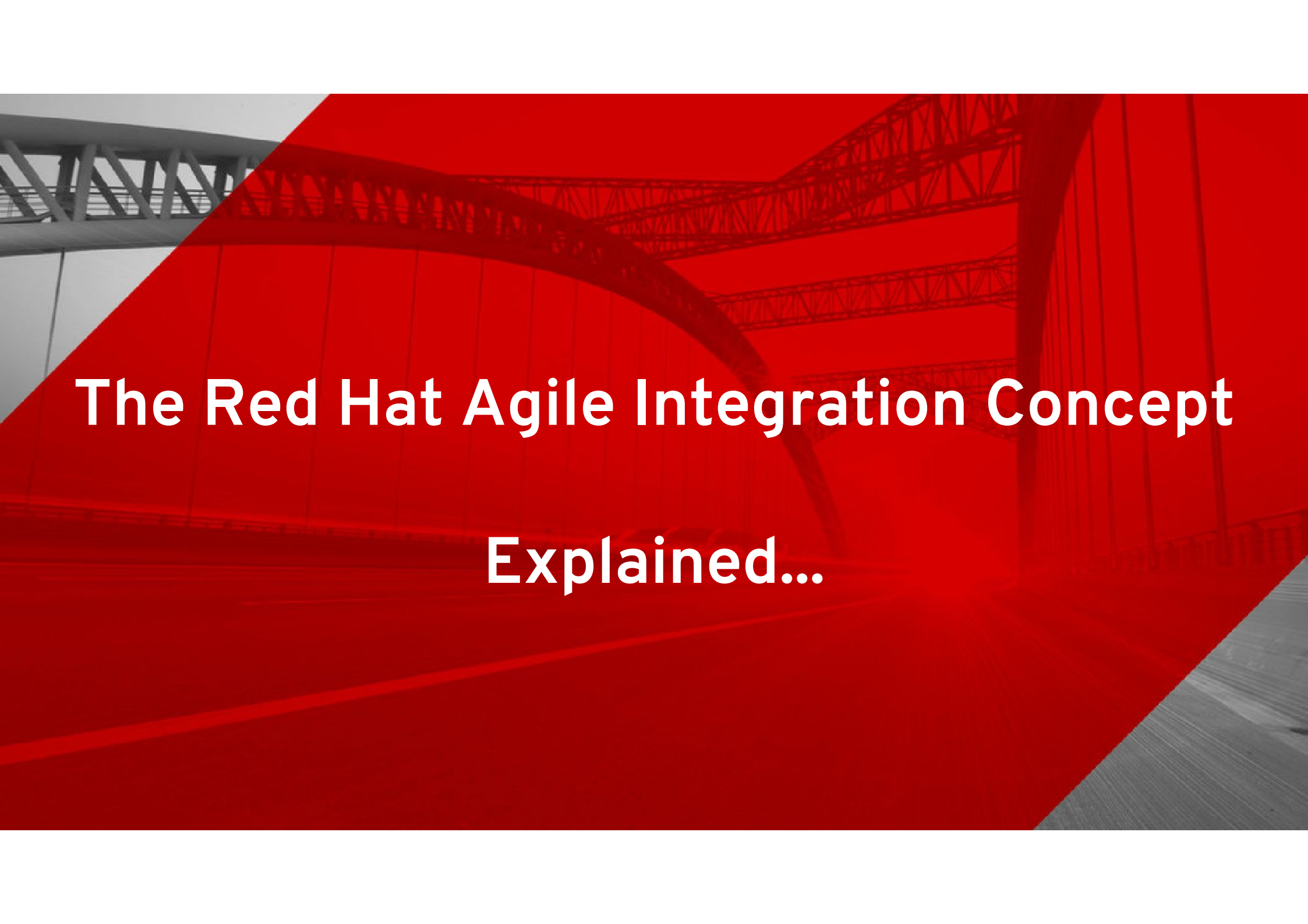
Trend to many more independently developed, siloed, customer-facing apps



have **10 or more** digital touchpoints



have **100 or more** digital touchpoints



# The Red Hat Agile Integration Concept

## Explained...



A person in a blue martial arts gi is captured in a dynamic pose, performing a high kick against a concrete wall. The person is wearing a black headband and blue gloves. The background is a clear blue sky with a bright sun flare on the right side. The word "Agility" is overlaid in large white text.

# Agility

a·gil·i·ty\*

/ə'jilədē/

*noun*

“ability to move quickly and easily.”

“The most critical business capability today”

Src: [https://www.bcgperspectives.com/content/articles/it\\_strategy\\_it\\_transformation\\_it\\_enabled\\_business\\_agility/](https://www.bcgperspectives.com/content/articles/it_strategy_it_transformation_it_enabled_business_agility/)

# Bring Agility Into Integration

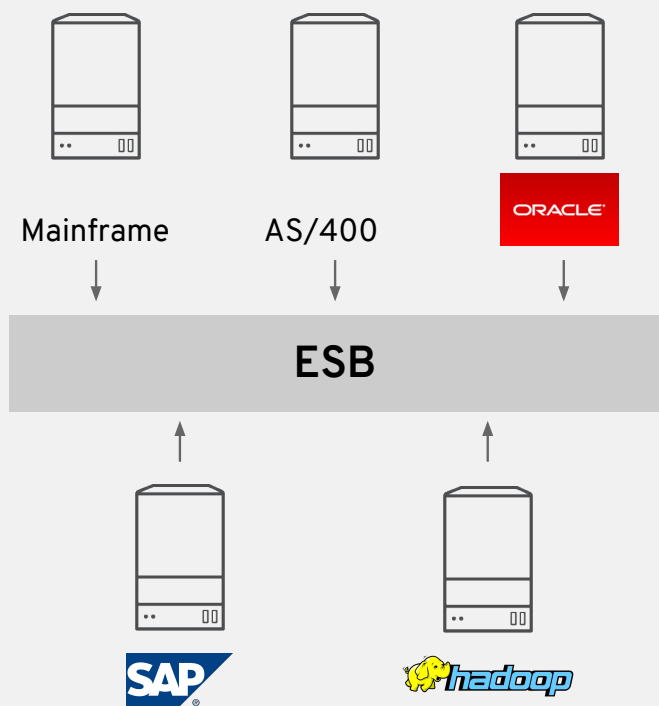
Make your platform agile...not just your software

Leveraging methods and tools  
that allow **agile and effective integration**  
of services, apps, APIs and data  
is a foundation for **competitive advantage**

# Typical Business Objectives Enabled by Integration

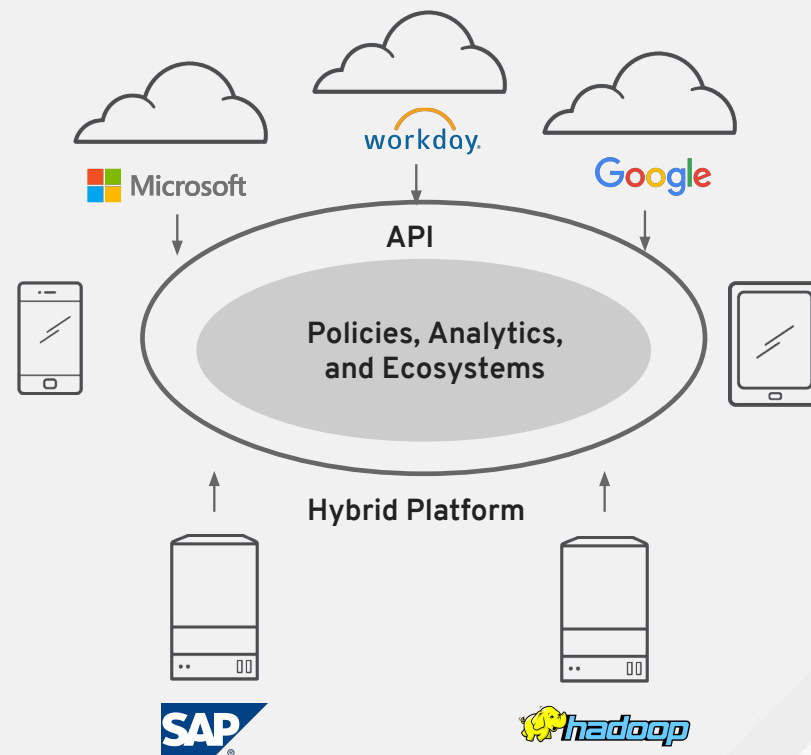
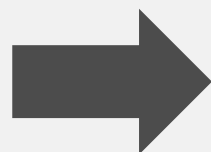
<b>Increase Internal Agility</b>	<b>Build consistent Omni-channel Experience</b>	<b>Leverage Existing Data/Services Better</b>
<b>Build Customer Or Partner Ecosystems</b>	<b>Integrate With Cloud Native/Mobile/IoT Apps</b>	<b>Enable SaaS Integrations Across Hybrid Environments</b>

# The Need for a Change in Integration Approaches



Centralized Hub

**Demand for  
More Agility**



Loosely Coupled



ANSIBLE

# The Agile Integration Concept by Red Hat

## DISTRIBUTED INTEGRATION

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- LIGHTWEIGHT
- PATTERN BASED
- EVENT ORIENTED
- COMMUNITY SOURCED

### FLEXIBILITY

**RED HAT® JBOSS®  
FUZE**

## CONTAINERS

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- CLOUD NATIVE SOLUTIONS
- LEAN ARTIFACTS,  
INDIVIDUALLY DEPLOYABLE
- CONTAINER BASED  
SCALING AND HIGH  
AVAILABILITY

### SCALABILITY

 **RED HAT®  
OPENSIFT**

## APIs

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- WELL DEFINED, REUSABLE,  
AND WELL MANAGED  
END-POINTS
- ECOSYSTEM LEVERAGE

### RE-USABILITY

**RED HAT® 3SCALE®  
API MANAGEMENT**

**RED HAT® JBOSS®  
BRMS**


**RED HAT® JBOSS®  
BPM SUITE**

**RED HAT® JBOSS®  
DATA GRID**

...



Src: Andersen & Ross (2016). "Transforming the LEGO Group for the Digital Economy." MIT.



# Red Hat Technologies for Agile Integration

# Red Hat Technologies for Agile Integration

DISTRIBUTED  
INTEGRATION

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RED HAT® JBOSS®  
FUZE

CONTAINERS

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 RED HAT®  
OPENSIFT

APIs

---

RED HAT® 3SCALE®  
API MANAGEMENT



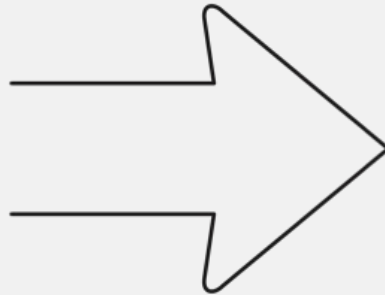
# Red Hat JBoss Fuse + AMQ

Distributed Integration Logic + Event-based Messaging for massive scale

Lightweight  
Integration

Reusable Pattern  
Toolkit

Rich Transformation,  
Routing, Messaging

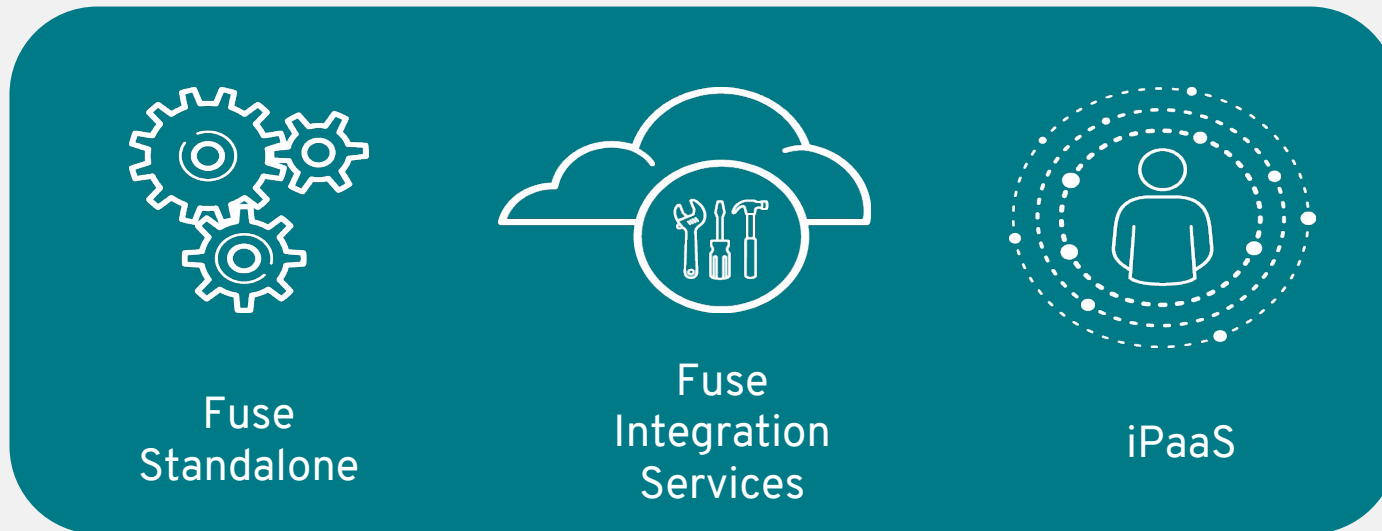


Move away from the monolith

Wrap & leverage legacy

Create APIs

# Fuse Variants



1. ***Fuse Standalone***
  - based on EAP, including AMQ and CXF
2. ***Fuse Integration Services***
  - Fuse optimized for OpenShift PaaS
3. ***Fuse iPaaS***
  - Fuse cloud-hosted via OpenShift Online, including rich integration toolchain (targeting citizen-level integrators)



### Status



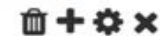
- > DescriptionURLEntities
- Email
- FavouritesCount
- FollowRequestSent
- FollowersCount
- FriendsCount
- GeoEnabled
- Id
- Lang
- ListedCount
- Location
- MiniProfileImageURL
- MiniProfileImageURLHttps
- Name**
- OriginalProfileImageURL

### Contact



- Description
- Email
- > EmailBouncedDate
- EmailBouncedReason
- Fax
- FirstName**
- HomePhone
- IsEmailBounced
- Jigsaw
- JigsawContactId
- Languages\_c
- > LastCURequestDate
- > LastCUUpdateDate
- LastName**
- LeadSource

### Data Transformation



#### Action

Action

Separate

Separator:

Space

#### Targets

Target

FirstName

Transformation

Index: 1

Target

LastName

Transformation

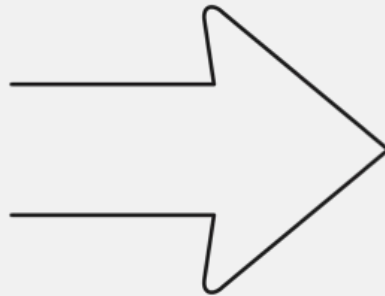
# Red Hat OpenShift Container Platform

Container-based PaaS and DevOps

Deploy & manage  
container apps

Seamless across  
Hybrid Clouds

Automated and  
scalable



Shift to a containerized, DevOps  
deployment model

Consistency across  
environments

Key Microservices enabler

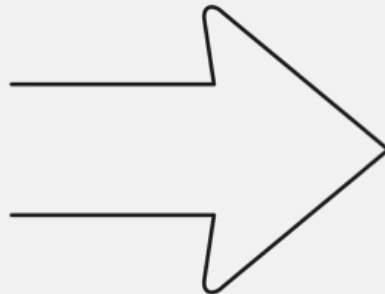
# Red Hat 3scale API Management

API Security, Control and Visibility

API visibility & control  
enterprise wide

Security, rate limits,  
analytics, developer  
portal

Manage internal and  
external APIs



Transform internal IT into “API  
First” approach

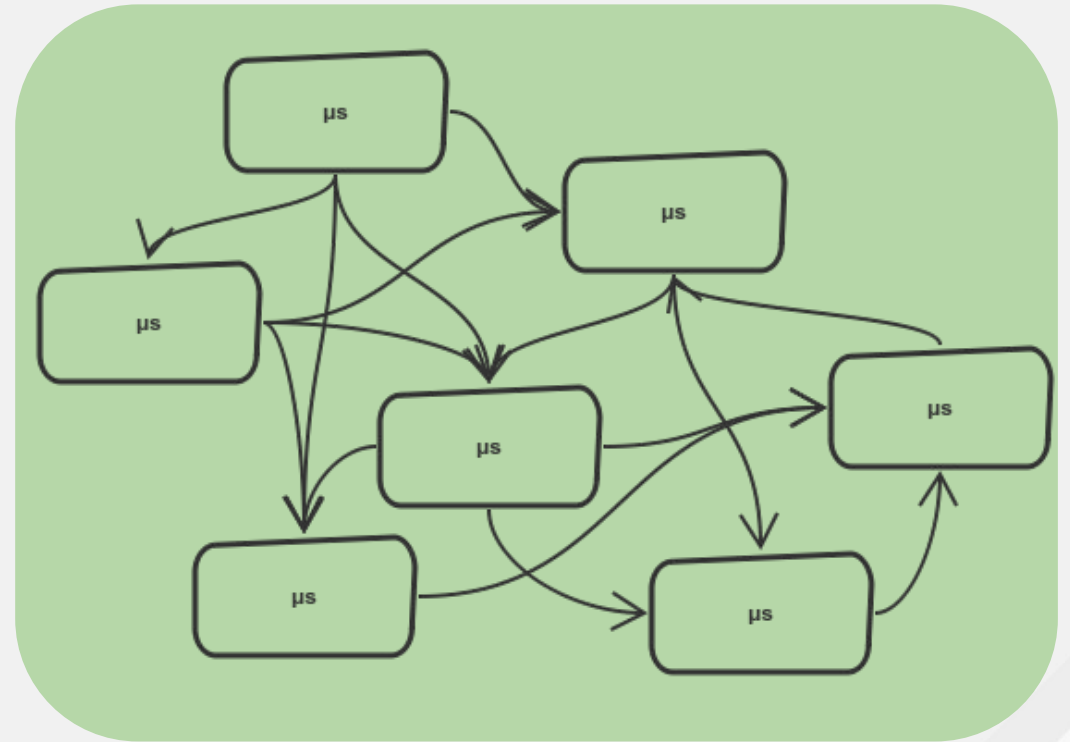
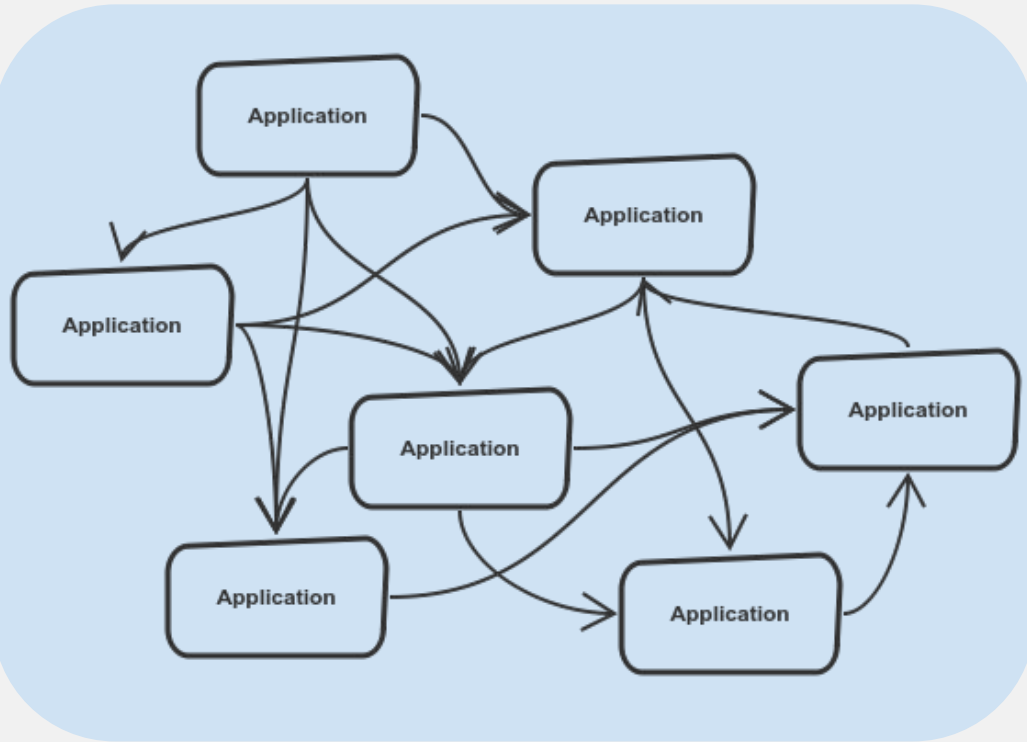
Empower teams to deliver their  
own APIs

Provide global visibility and a  
uniform approach



# **Agile Integration Reference Architecture**

# Déjà vu ?



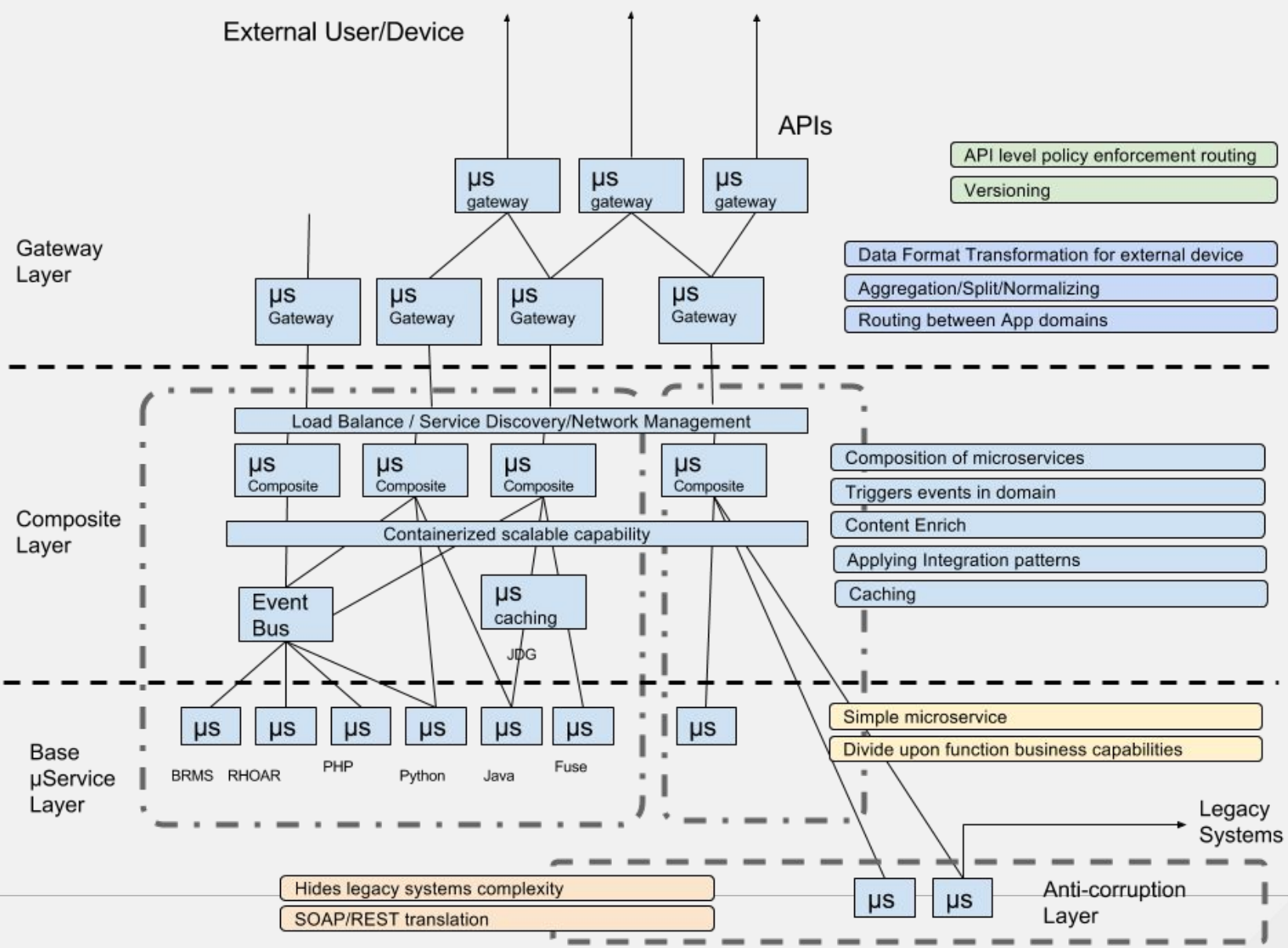
# Reference Architecture: Agile Integration

## Core Principles:

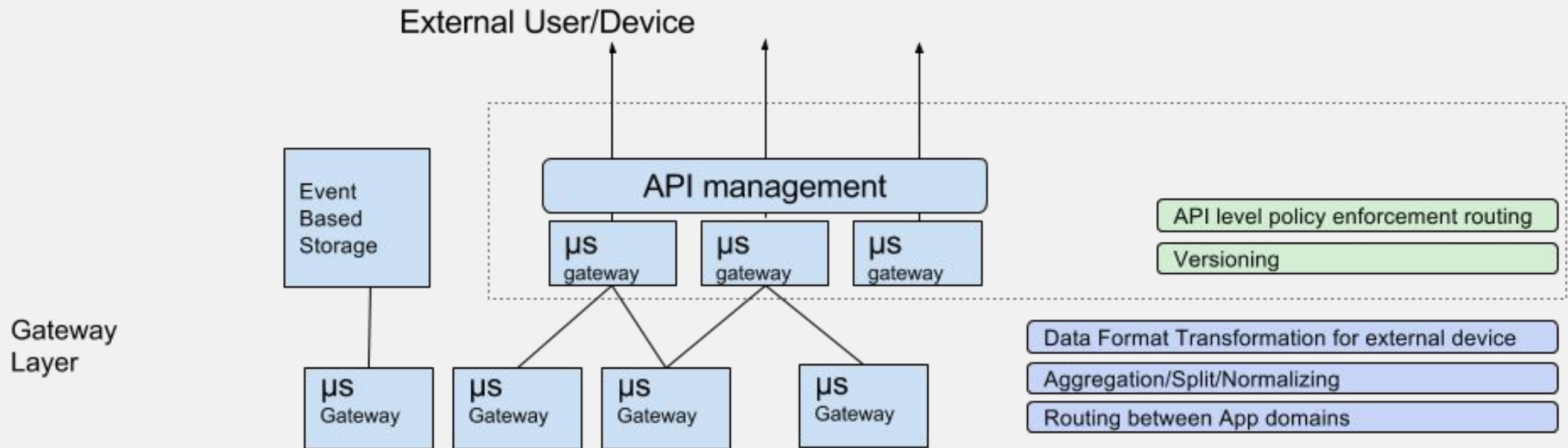
- Microservice-based architecture  
(independently deployed in containers for scalability and DevOps)
- Three layers of abstraction
- Legacy integration
- Dump pipes -- smart endpoints
- Loose-coupling via API-based integration
- Stateless integration layer
- Leveraging API Management on various levels



1 {  
2 {  
3 {



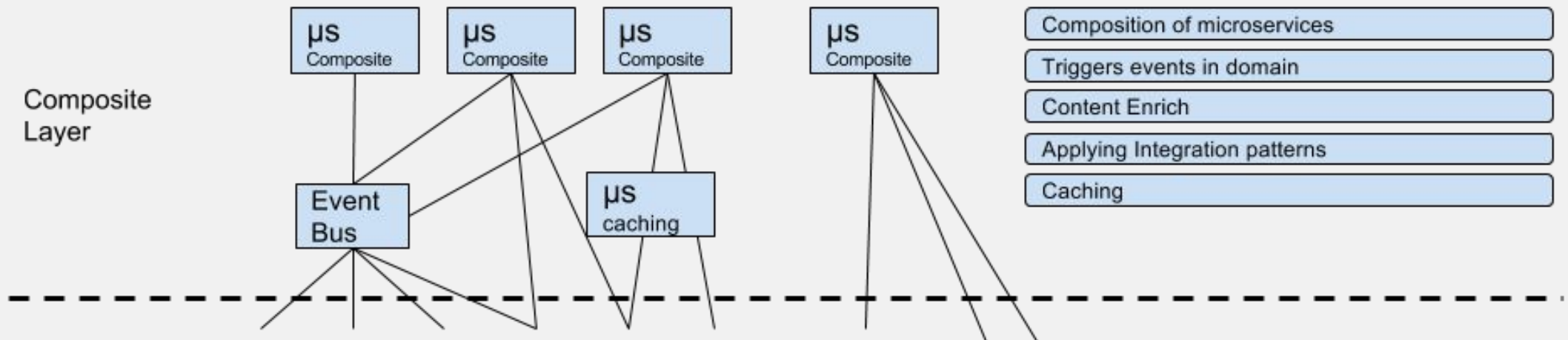
# (1) Gateway Layer



## Separation-of-Concerns !!

1. Access control
2. Transformation

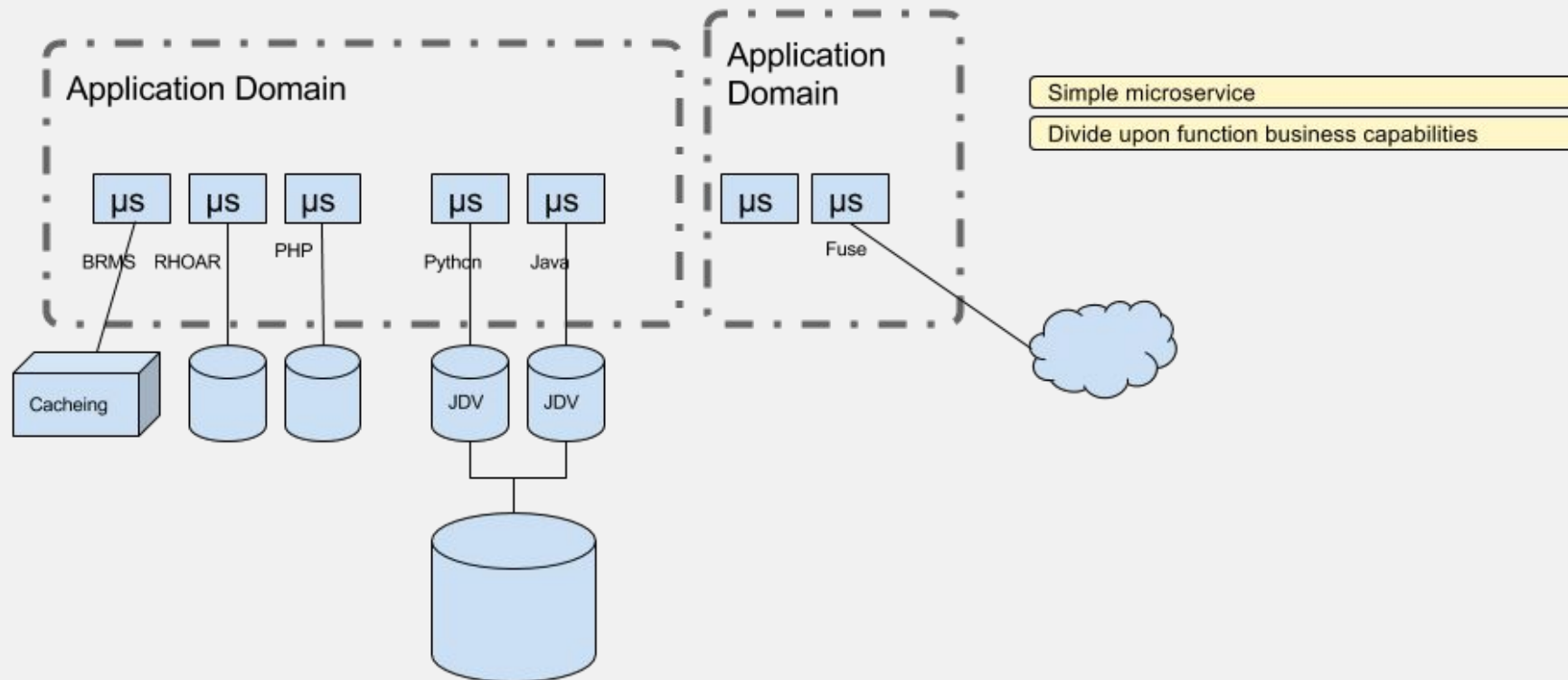
## (2) Composite Layer



### **Composition of microservices to provide business functions**

⇒ Aggregations, splits, content transformation, event-based comms, caching, *pattern-based integration*, etc.

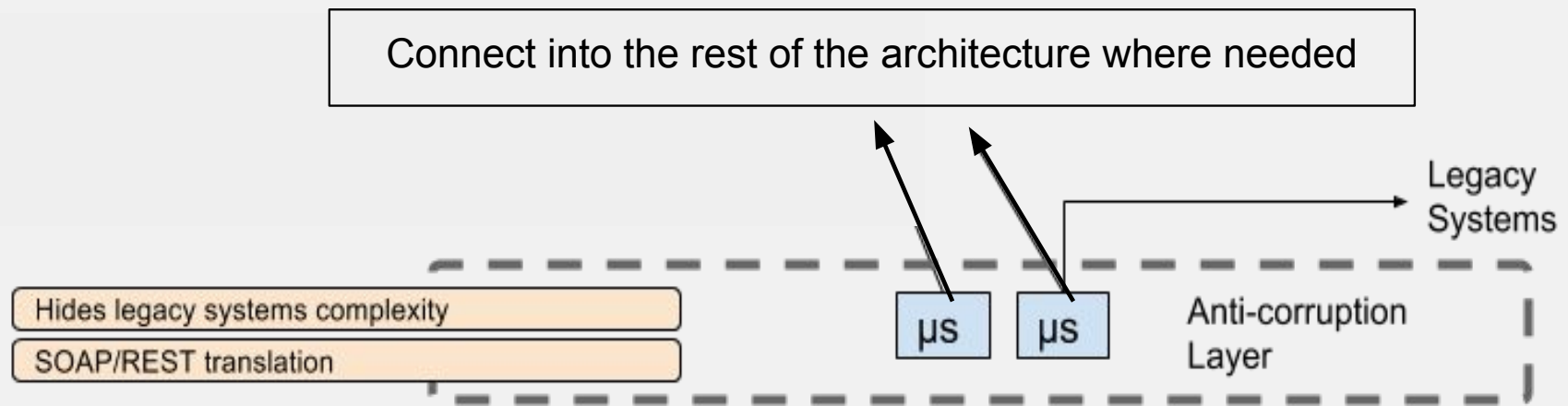
### (3) Base Layer



#### The microservices themselves

Organised into application domains (based on bounded context)

### (3) Base Layer + Legacy Integration

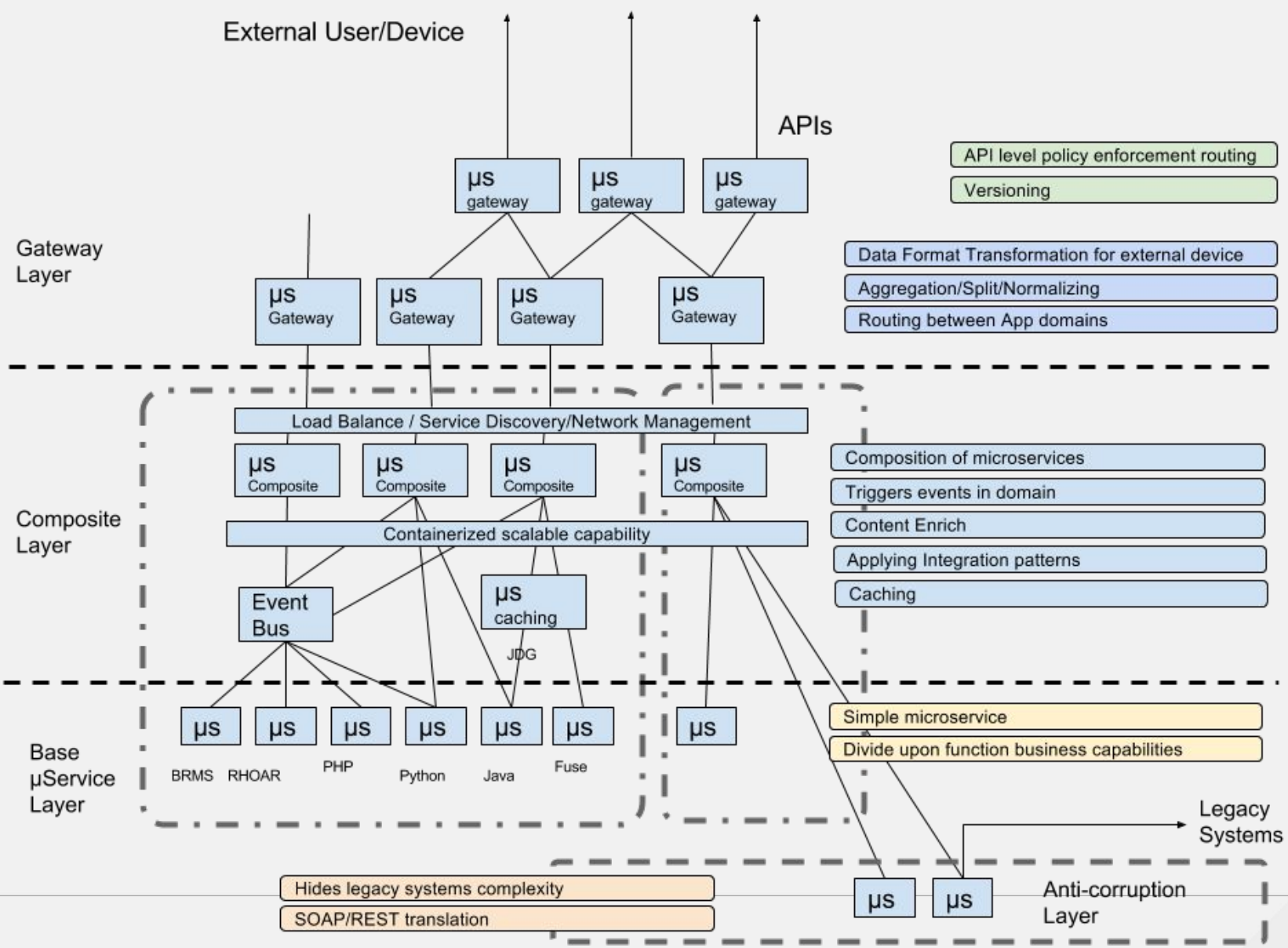


#### Anti-corruption Layer

Legacy interface, transformations, “protection wall”

(Think **Gartner’s Bi-Modal IT**)

1 {  
2 {  
3 {



The image features a grayscale background of a bridge's steel truss structure. A large, semi-transparent red overlay covers most of the frame, creating a strong visual contrast. The text 'Customer Success Stories' is centered in white, bold font within this red area.

# Customer Success Stories



**Increase  
Internal Agility**

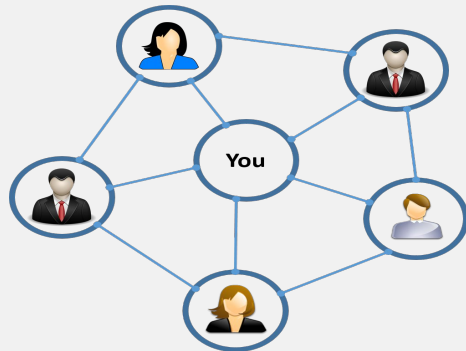
**Build consistent  
Omni-channel  
Experience**

**Leverage Existing  
Data/Services Better**



**OXFORD**  
UNIVERSITY PRESS





**Build Customer Or  
Partner Ecosystems**

**Integrate With Cloud  
Native/Mobile/IoT  
Apps**

**Integrate SaaS  
Offerings Across  
Hybrid Environments**



A photograph of a suspension bridge, likely the Golden Gate Bridge, with a prominent red overlay. The bridge's steel truss structure and suspension cables are visible. The text "Wrap-up" is centered in white. 

# Wrap-up

# Take-aways

Everybody has an integration problem. Or a problem with integration.

Customer challenges and advancing IT requires more agile (distributed) integration approaches.

Three pillars make up the Red Hat Agile Integration concept.

The key technologies behind the concept are Red Hat JBoss Fuse, OpenShift Container Platform, and 3scale API Management.

Six typical key customer challenges can be addressed with Agile Integration.

# More about Agile Integration: Whitepaper



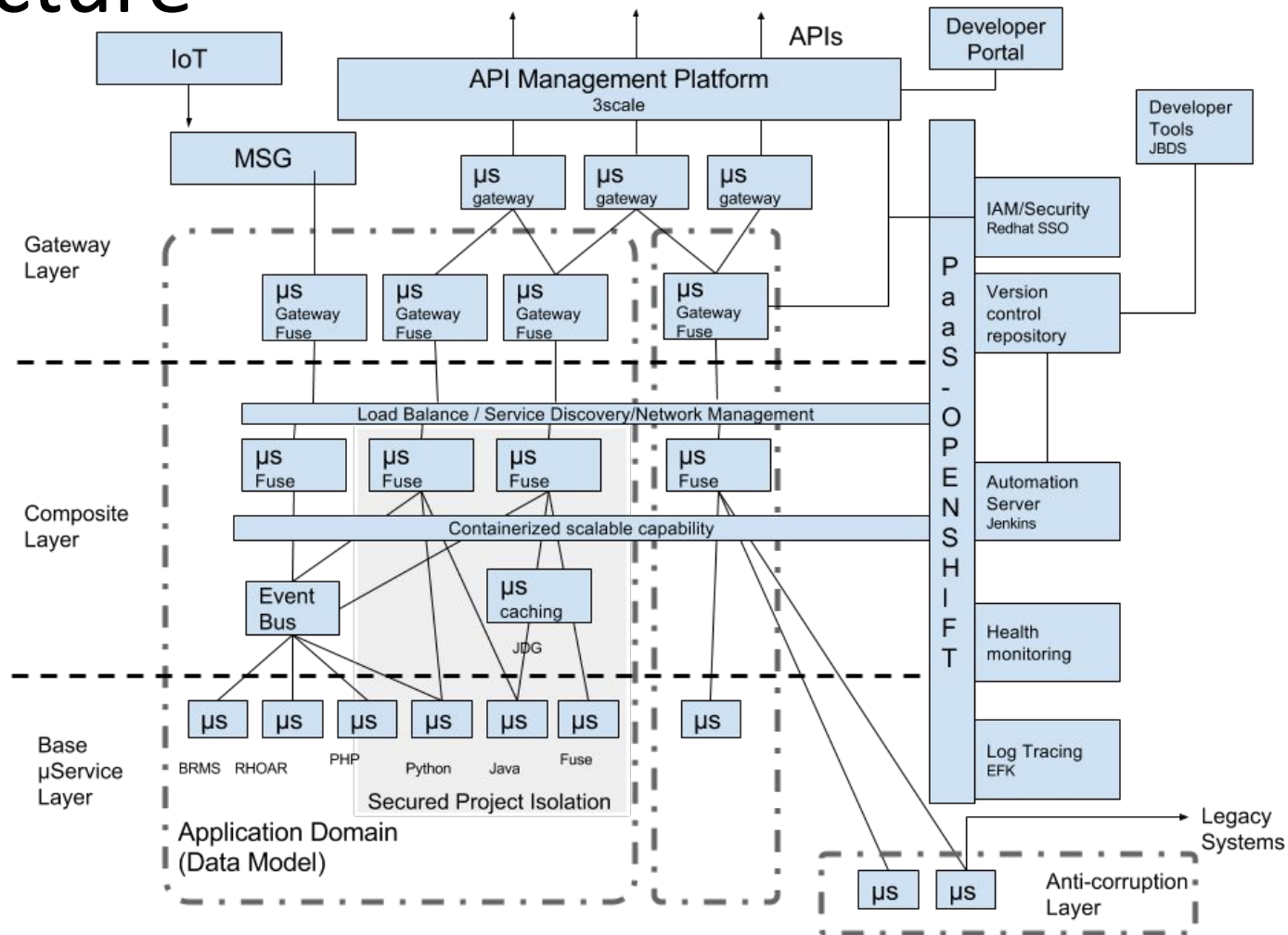
WHITEPAPER

## **DIGITAL INNOVATION THROUGH AGILE INTEGRATION**

What is agile integration and why is it needed?

[www.redhat.com/en/resources/innovation-through-agile-integration-whitepaper](http://www.redhat.com/en/resources/innovation-through-agile-integration-whitepaper)

# Reference Architecture Agile Integration



Src: <https://developers.redhat.com/blog/2017/07/27/reference-architecture-for-agile-integration/>

*-- The End --*



# Agile Integration

The Three Pillars That Solve Your Integration Problems  
In An Agile Way

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