



caWorld® '17

DEVOPS: APIS & MICROSERVICES

# New Business Models in Travel and How Modern Architectures Support Them

Joan Barceló,

IT Dev. Manager

Ávoris – Reinventing Travel - [avoristravel.com](http://avoristravel.com)

 @joan\_barcelo

DO1T40T



# Abstract

Joan  
Barceló

Ávoris  
IT. Dev. Manager

During the last 3 years the Travel Agencies and Tourism industry has radically changed and transformed to compete in the new economy, the digitalization is pushing the legacy IT systems and architecture.

In these presentation we will learn how Ávoris, with more than 700 travel agencies, 2.2 million passengers and even an airline, has transformed the way IT supports the business by the adoption of Agile Mindset, continuous integration, cloud and microservices, using CAAPIM to pave the way and push the digital transformation

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1 **ÁVORIS – REINVENTING TRAVEL**

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3 **IMPACT ON IT SYSTEMS**

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# ÁVORIS – REINVENTING TRAVEL





# Barceló

G R U P O

## 2016 GRUPO BARCELÓ

25,231 employees

2,816 Million Euros turnover

Net Sales: 1,975 Million Euros

Net Worth: 125 Million Euros

EBITDA : 332 Million Euros



- 85 years of experience
- Leaders in the Spanish market
- +230 hotels and +50.000 rooms in 21 countries
- +700 travel agencies in 4 continents



# Barceló

G R U P O

**Barceló**  
HOTEL GROUP

**Avoris**  
REINVENTING TRAVEL

**ROYAL HIDEAWAY**  
LUXURY HOTELS & RESORTS

**Barceló**  
HOTELS & RESORTS

**Occidental**  
HOTELS & RESORTS

**allegro**  
HOTELS

**CATAI**

QUEL **ONEA**

**viva**  
tours

**Jolidey:**

Jotel **click**

**Special**  
tours

**turavia**

**LePlan**  
Especialistas en Aviones

**LeSki**  
Xpertravel

**LeMusik**  
Según la música

**evelop!**

**plane**  
air broker

**orbest!**

**B** the travel brand

**vaivai** viajes

**iberojet**

**WÄY**

**BCD** travel

**2000** viajes  
by BCD travel

**BCO Congresos**

**PlanBI**\*

# Our Brands

## DISTRIBUTION

B the travel brand

vaivai viajes

iberojet

WAY  
by B the travel brand

B the travel brand  
Xperience

B the travel brand & CATAI

VOAJES  
EL PAIS

BCD travel

2000  
viajes  
BCD travel

BCD meetings  
& events

Bco  
Congresos  
Barceló

## PRODUCT

QUELÓNEA

CATAI  
viajemos

Jolidey

viva  
tours

Jotel click

Special  
tours

LeSki

LeMusik  
Sigue la música

LePlan  
Especialidades en destinos

## AIR TRAVEL

evelop!

orbest!

by plane  
air broker

## DESTINATION SERVICES

turavia

B Destination  
services

## GIFT BOXES

PlanB!

Avoris  
REINVENTING TRAVEL



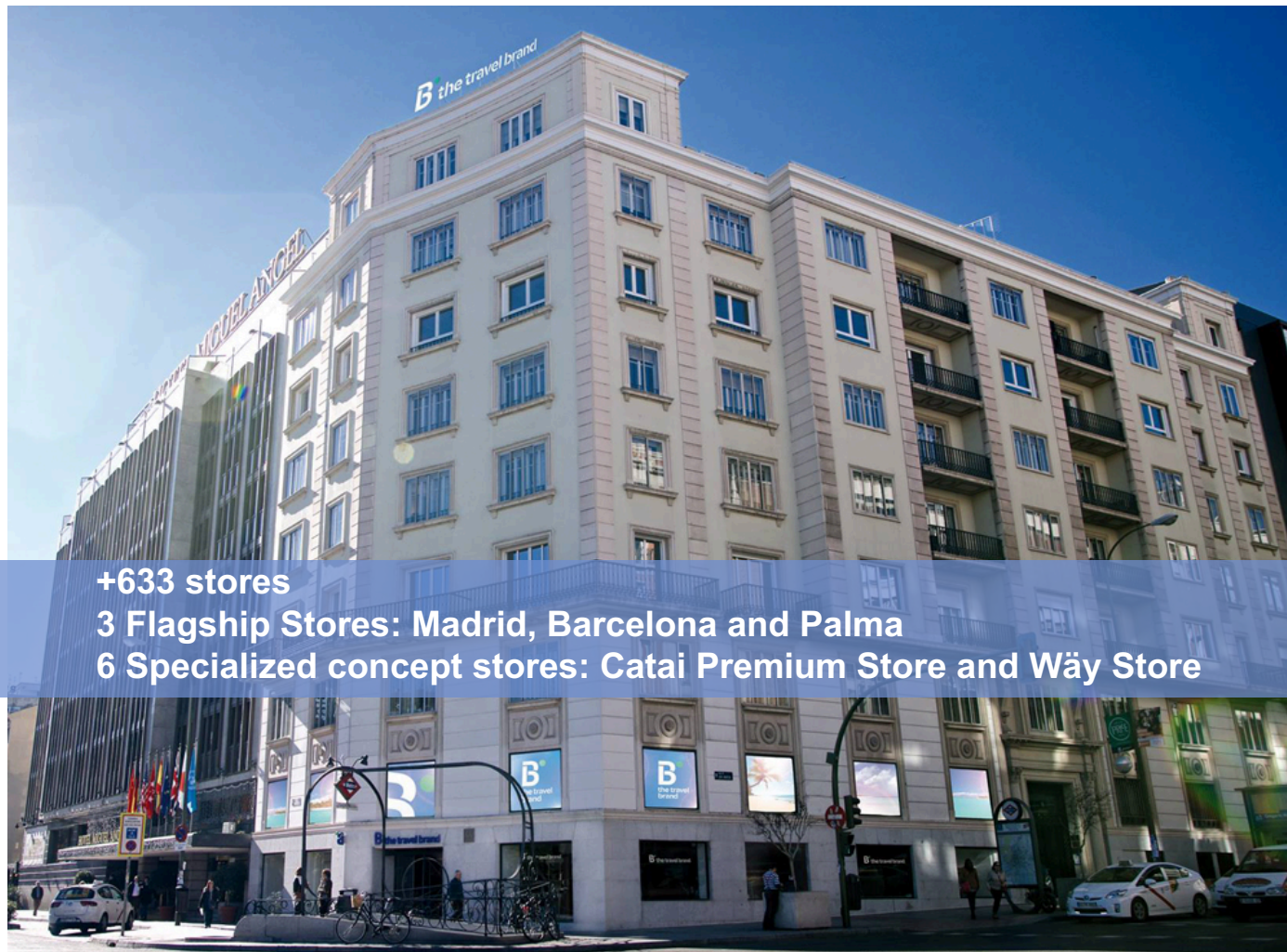
Leisure  
Travel

B<sup>•</sup>  
the travel  
brand

vaivai viajes

B<sup>•</sup> the travel  
brand & CATAI

Avoris  
REINVENTING TRAVEL



## Corporate & Business Travel

BCD•travel

BCD• meetings  
& events

viajes  
**2000**  
by BCD•travel

**Avoris**  
REINVENTING TRAVEL



**DMC for European Champions League. Incoming Services for teams like: Real Madrid, Benfica, PSV, Ajax, Olympique, Arsenal....**

**We support major International Congresses such as Mobile World and several in the Pharma Industry (Pfizer, GSK, Sanofi, Aventis, Novartis, Roche...)**



## Congresses

**Bco Congresses**  
Barceló  
GRUPO

**Avoris**  
REINVENTING TRAVEL



Air  
Travel

evelop!

plane  
air broker

orbest!

Avoris  
REINVENTING TRAVEL



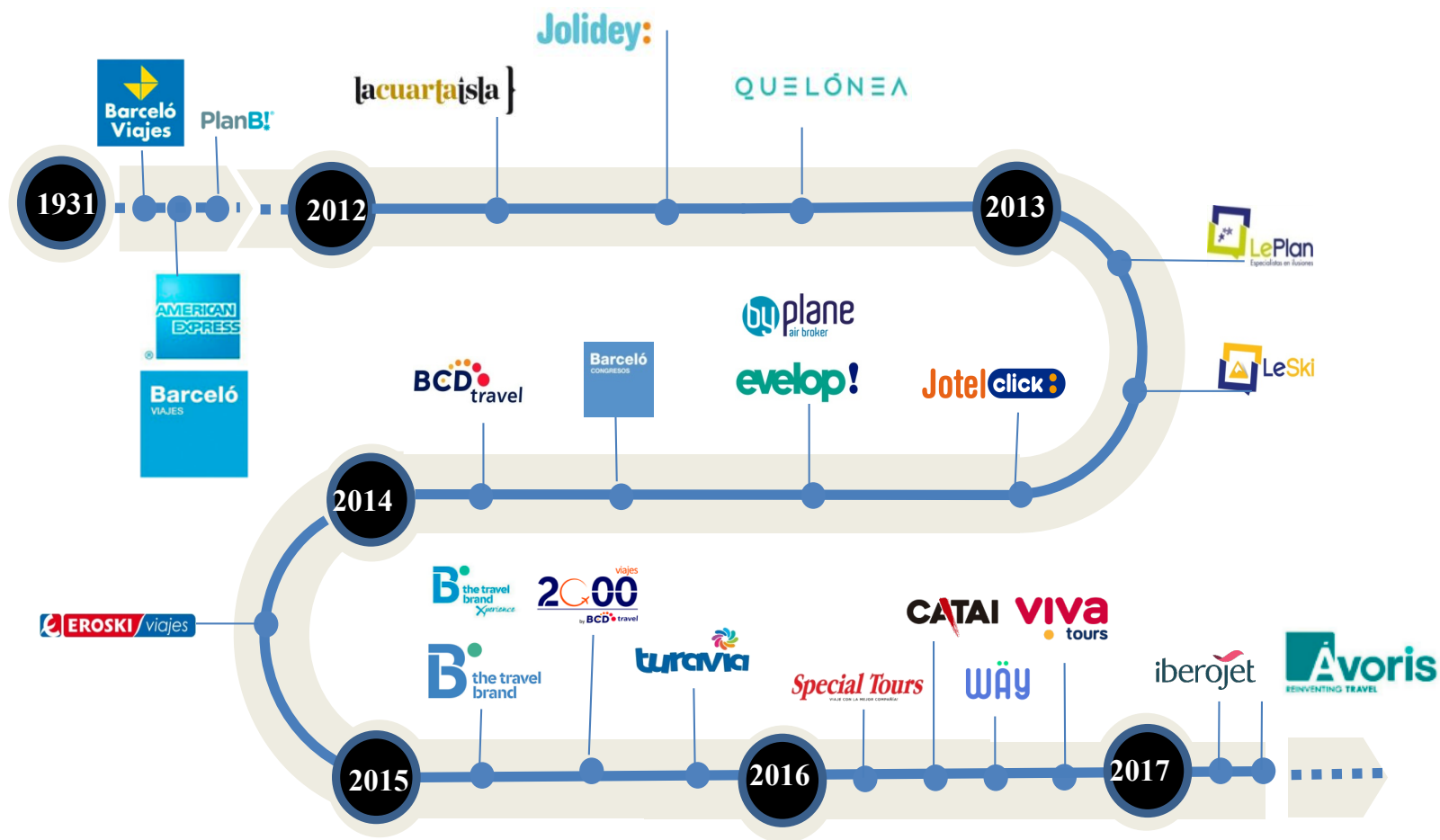
3 long-haul airplanes: 2 Airbus A330-300 and 1 Airbus A330-200

2 mid-range Airbus A320

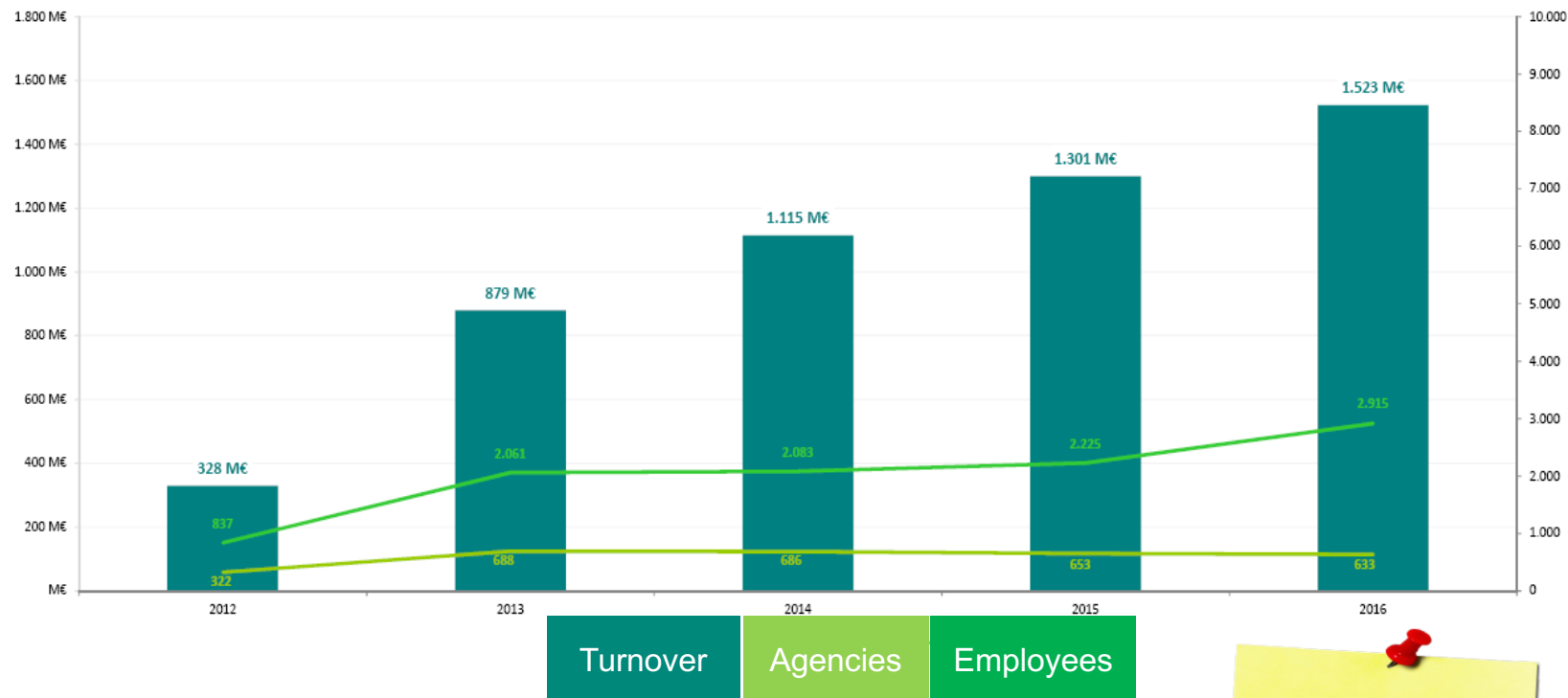


# EVOLUTION OF THE COMPANY

# Our Journey 1931 - 2017



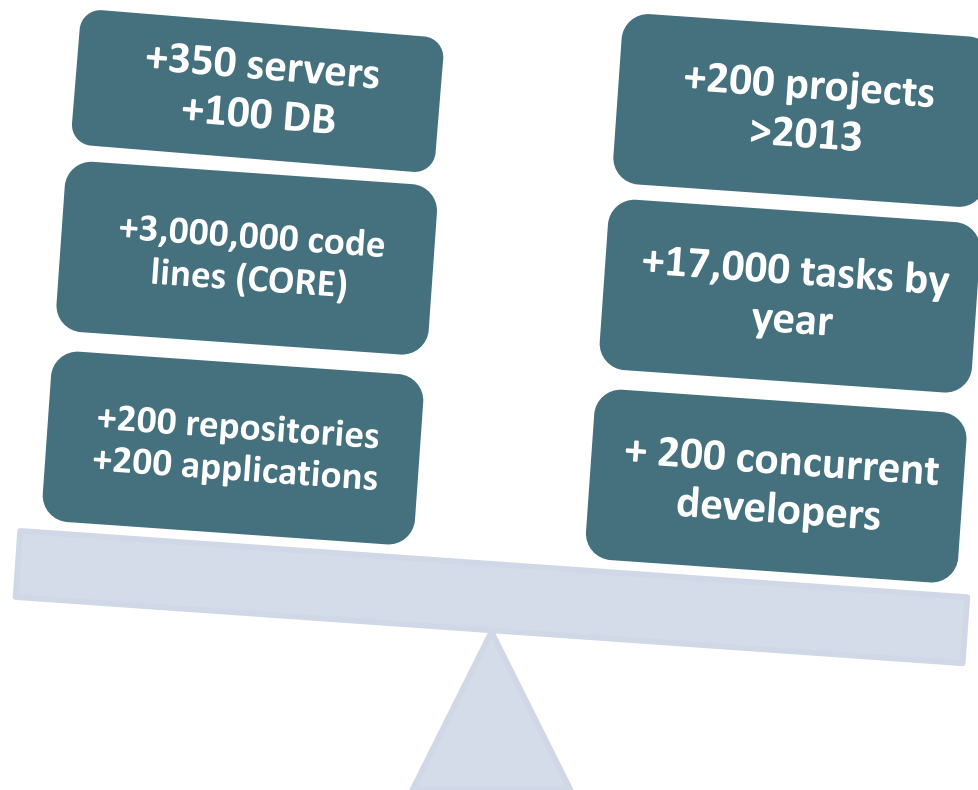
# Our Journey 2012 - 2017



**2.2 Million  
Travellers**

# IMPACT ON THE IT SYSTEMS

AS - IS  
2015



+ 1,500  
SW tickets  
by month

+ 60 builds  
by day

+ 1,500  
commits by  
month

AS - IS  
2015

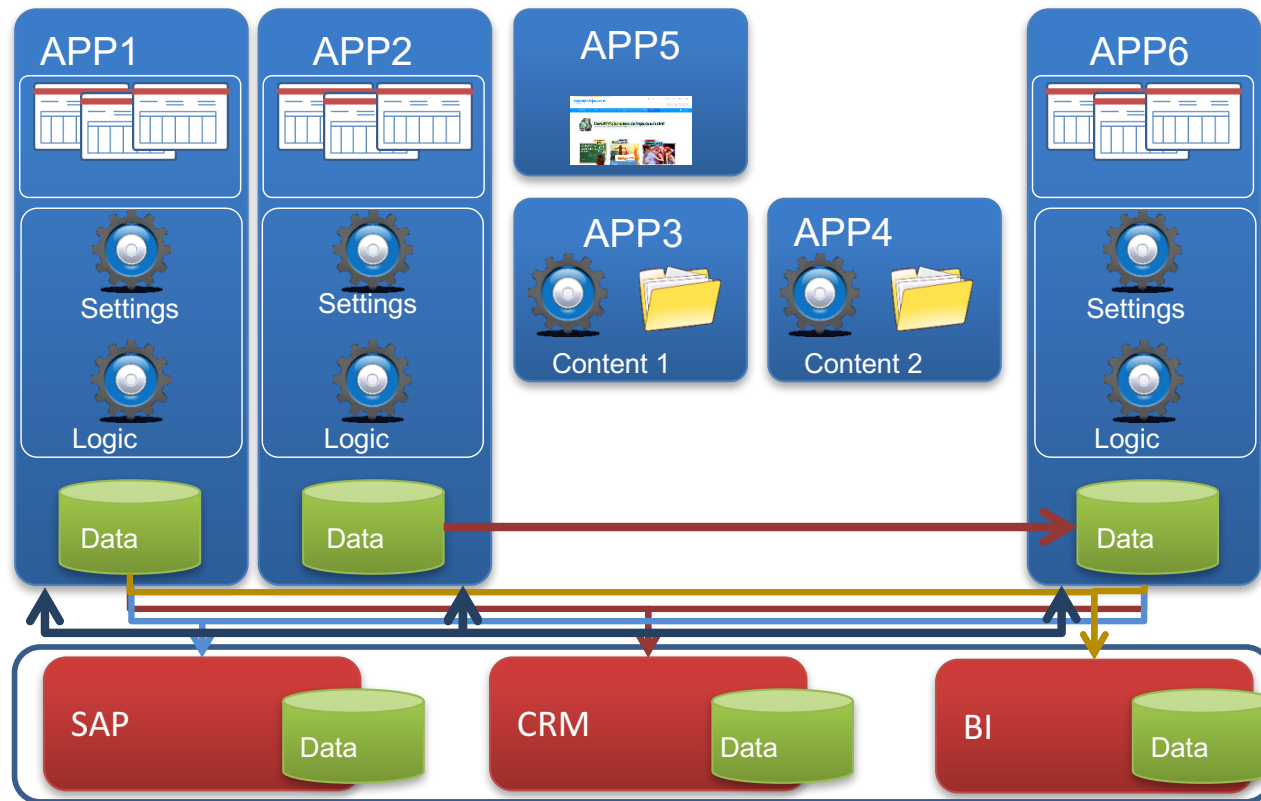


B2B / B2C

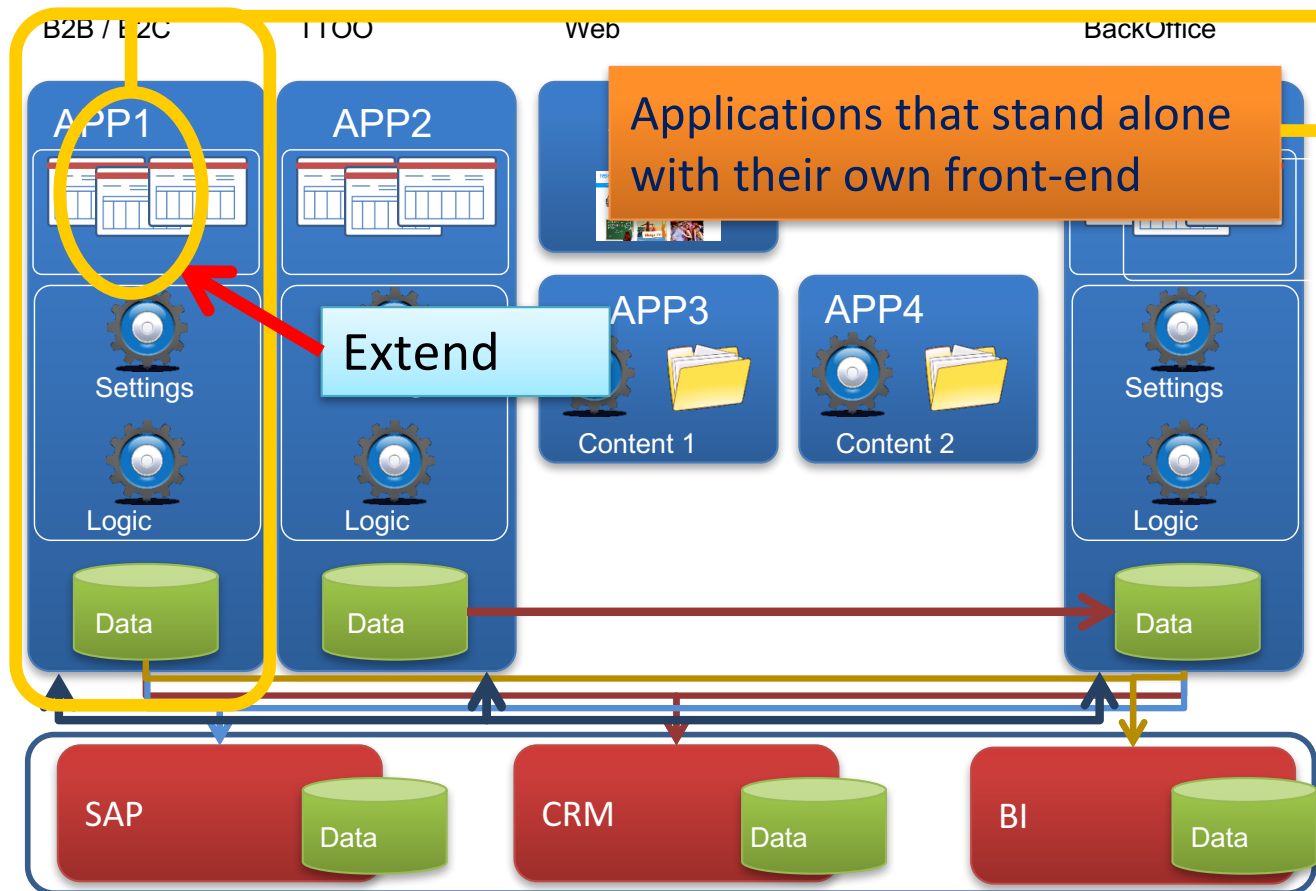
TTOO

Web

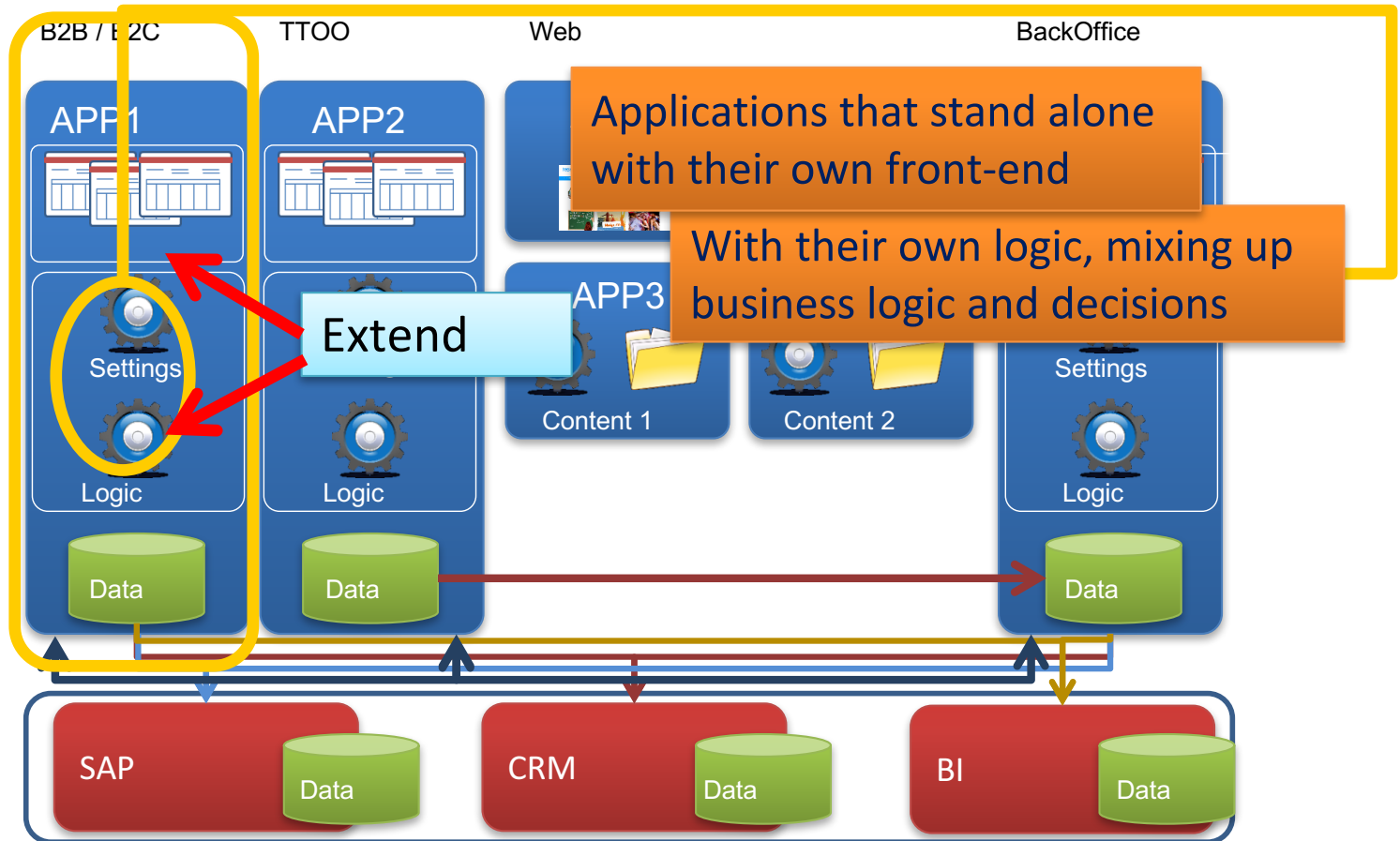
BackOffice



AS - IS  
2015

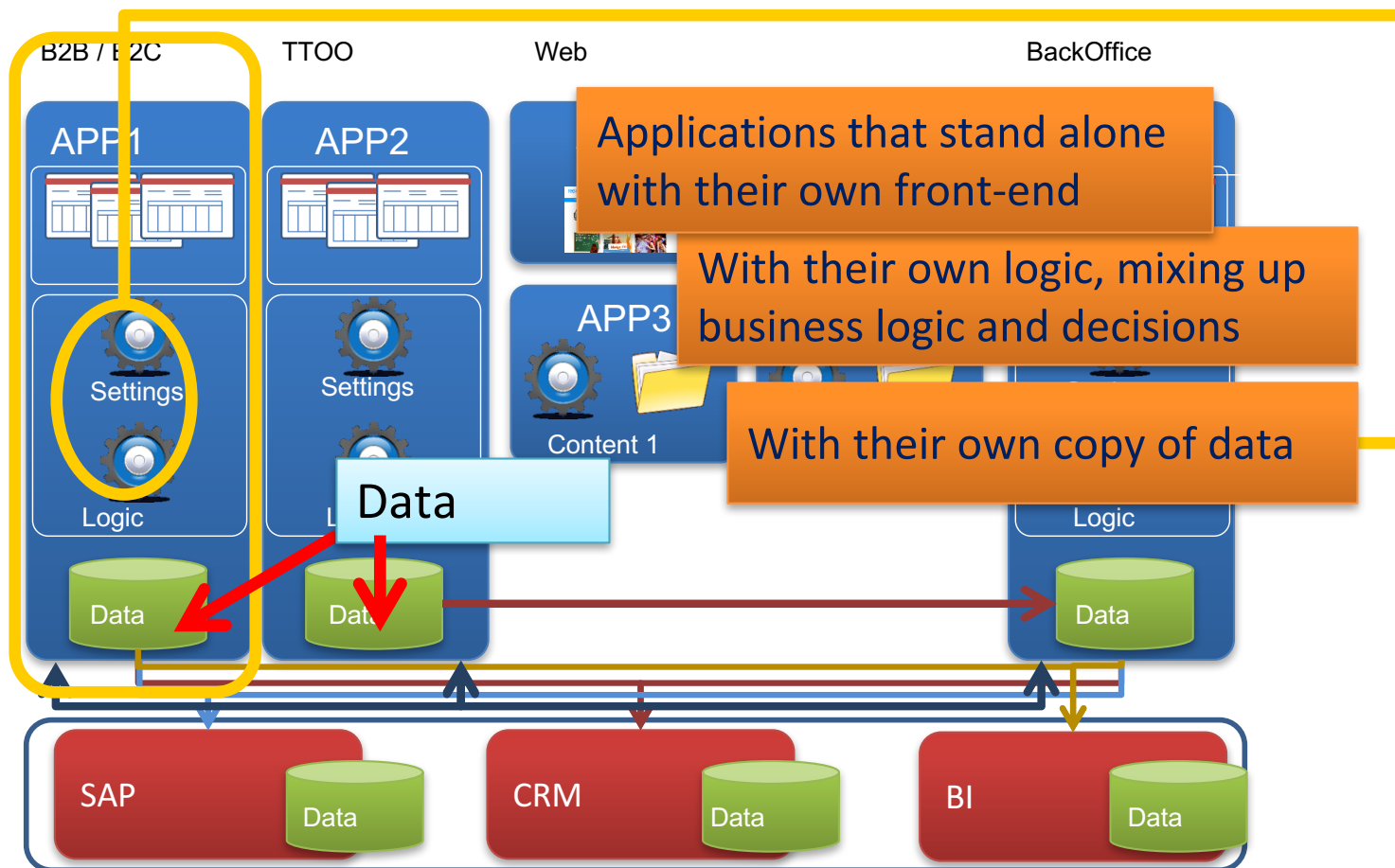


AS - IS  
2015

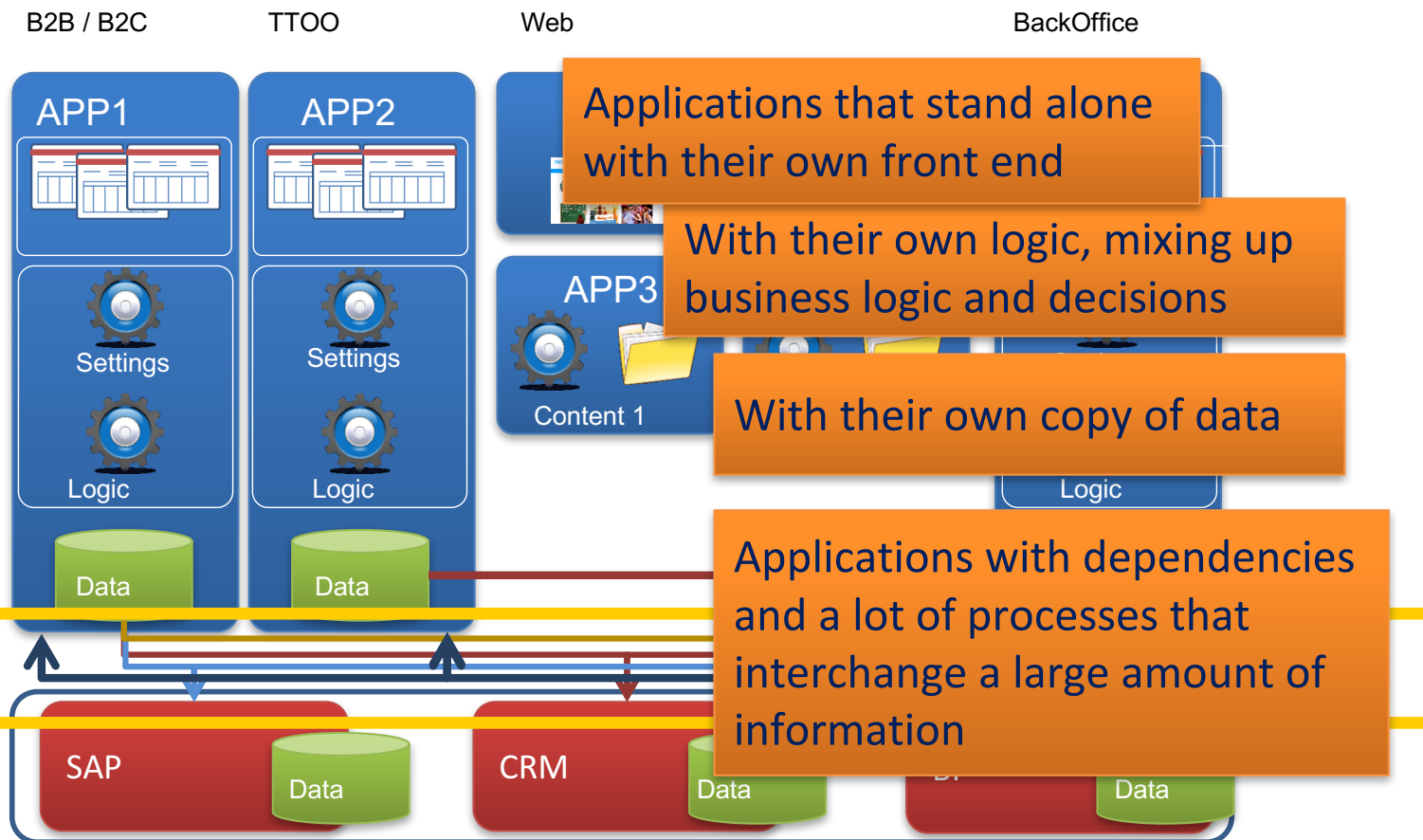




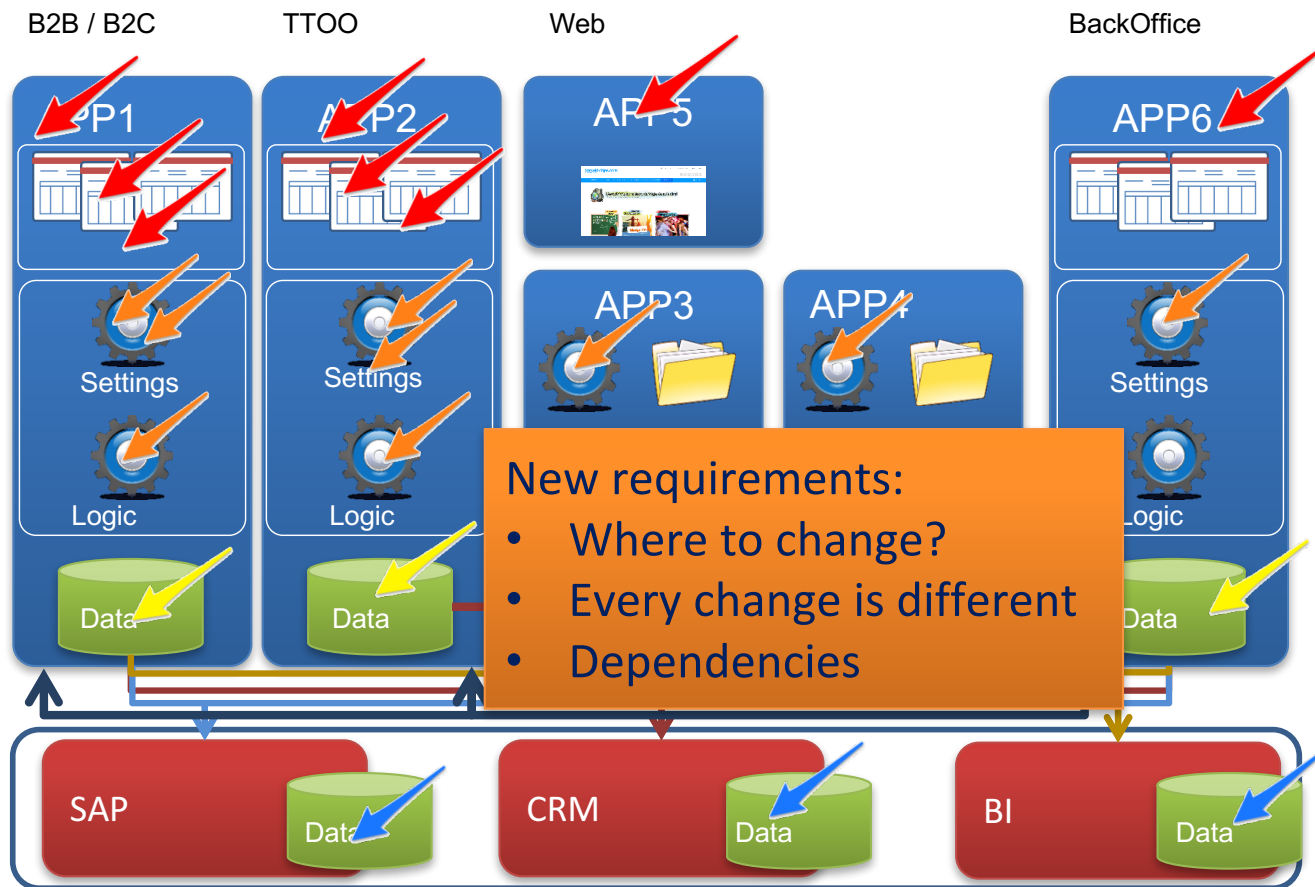
AS - IS  
2015



# AS - IS



AS - IS  
2015



AS - IS  
2015

## Technology LIMITS the development of new business opportunities

### TECHNICAL drawbacks

- Monolithic applications with a lot of internal dependencies
- Separated applications
- Applications and duplicated logic
- Dispersed, unrelated and duplicated data
- Different appearance of every front-end
- Maintenance very complex and expensive
- Difficulty in localizing and tracking issues



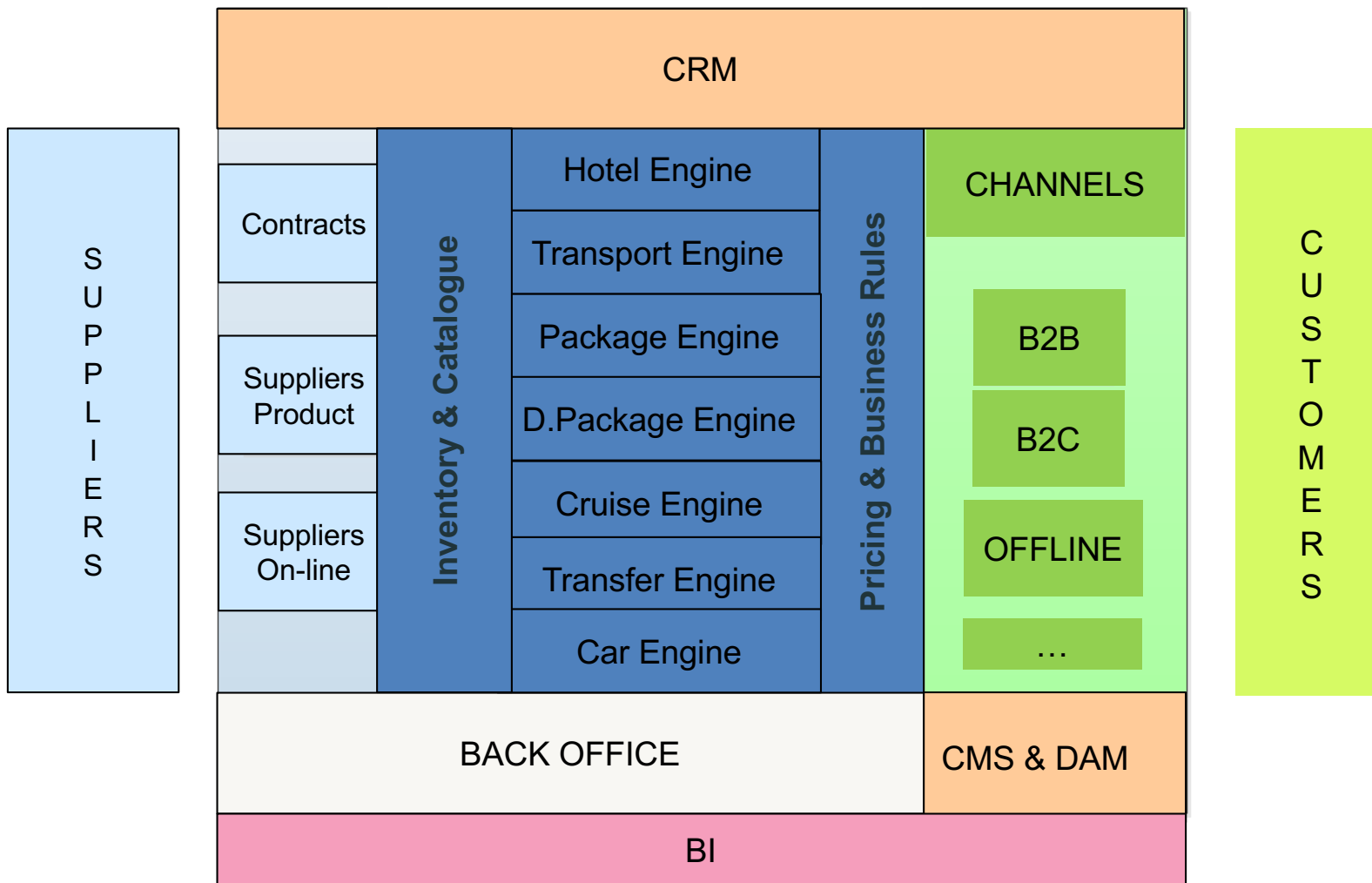
### BUSINESS Drawbacks

- Difficulty in business adaptation
- Long time-to-market
- Difficulty in applying common rules and policies
- The vision of the clients is partial and ununified
- Difficulty in customer tracking
- Complexity to understand the behavior in every channel

**Economic IMPACT on opportunity and effort made!**

# TRANSFORMATION PROPOSAL

# Simplified IT Business Model



## MODEL TRANSFORMATION

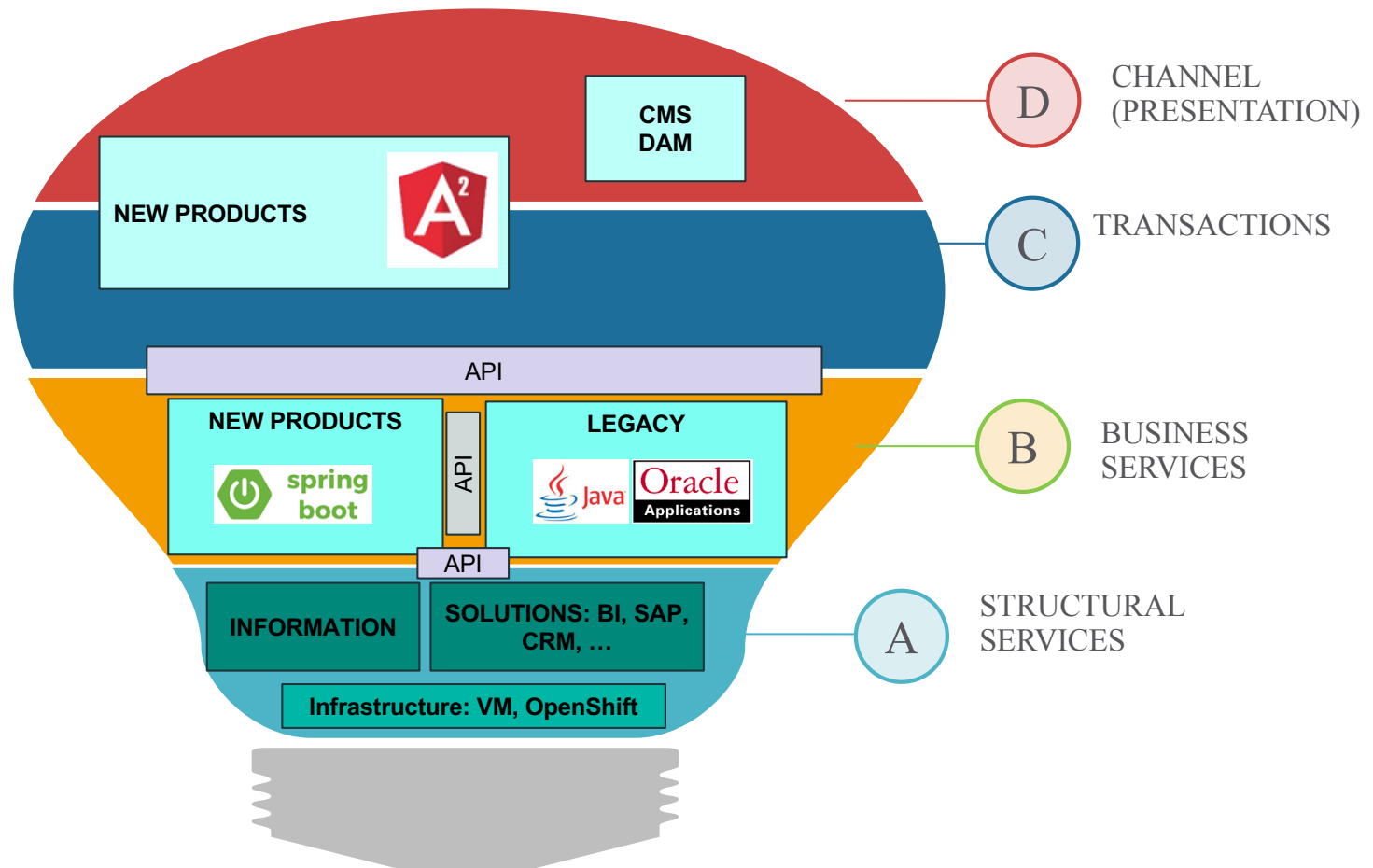
- From monolithic applications to microservices
- From synchronizations to unique data
- From linked web pages to Single Page Application (SPA)
- From Static Content to Content Management System (CMS) and Digital Asset Management (DAM)



## TECHNOLOGY

- SPA Angular4
- Microservices SpringBoot
- API Management CA API Management
- Monitoring with ELK (Elasticsearch, Logstash, Kibana) + Grafana
- Infrastructure Redhat Openshift (Docker + Kubernetes)

# Simplify IT Architecture





## MODEL TRANSFORMATION

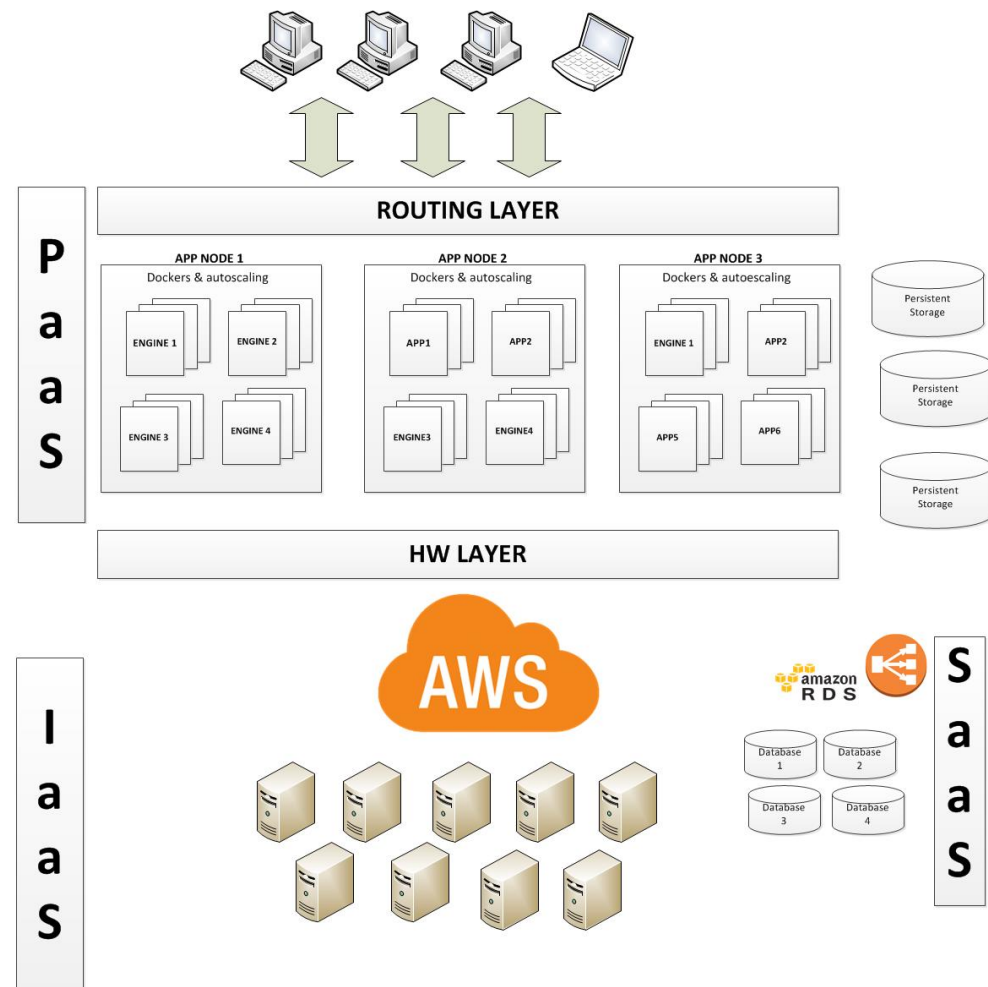
- From on premise to cloud on Amazon Web Services (aws)
- From virtual servers to containers (docker) with autoscaling
- From software installation to create & deliver the applications with continuous deployment



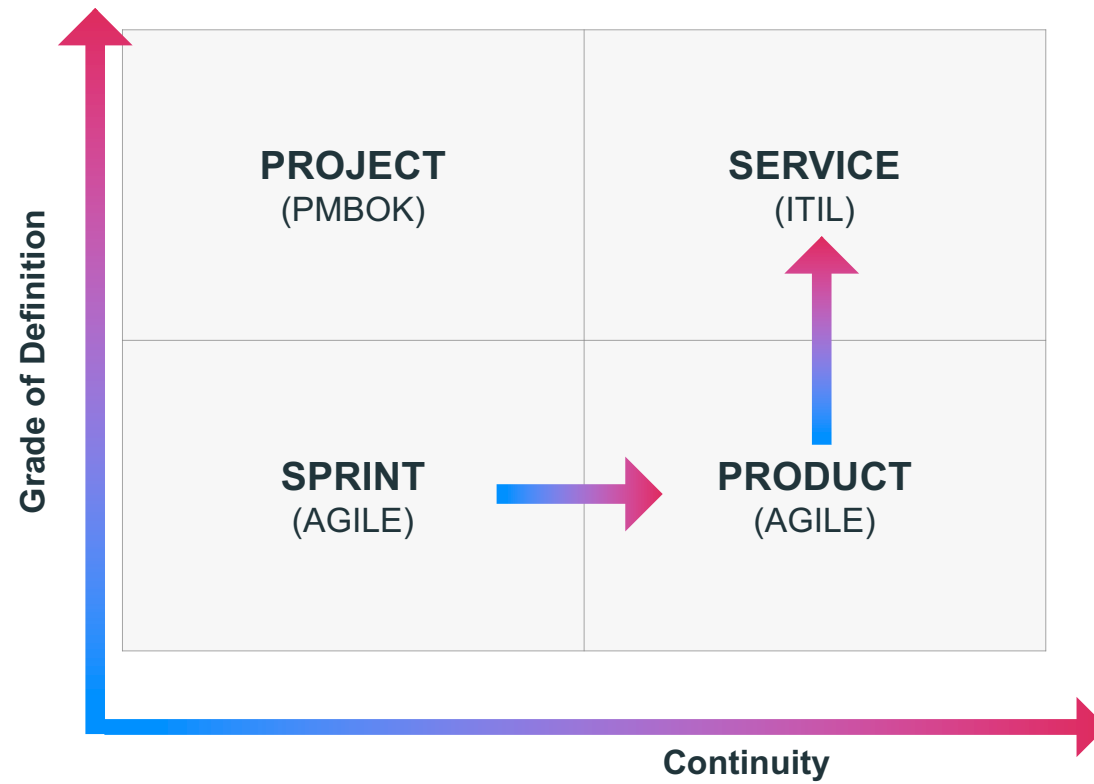
## MODELS APPLIED:

- PaaS (Platform as a service): Red Hat Openshift Container Platform
- IaaS (Infrastructure as a service): AWS
- SaaS (Software as a service): AWS

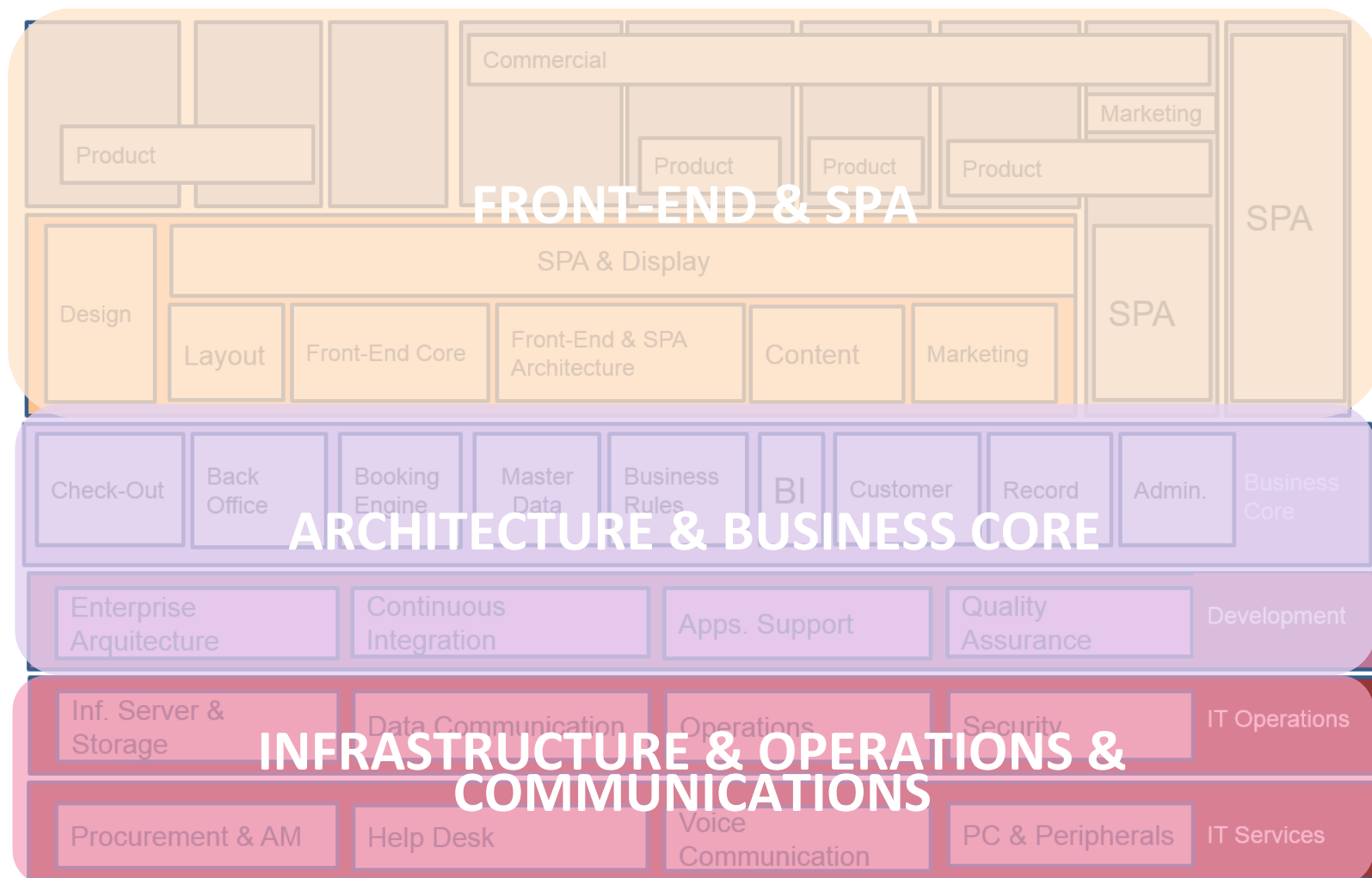
# Transform IT Infrastructure



# Project vs Agility



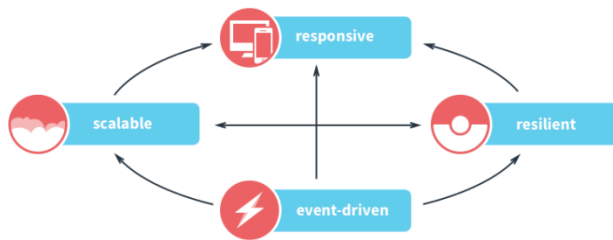
# App Teams vs Product Teams



## Principles

## ARCHITECTURE

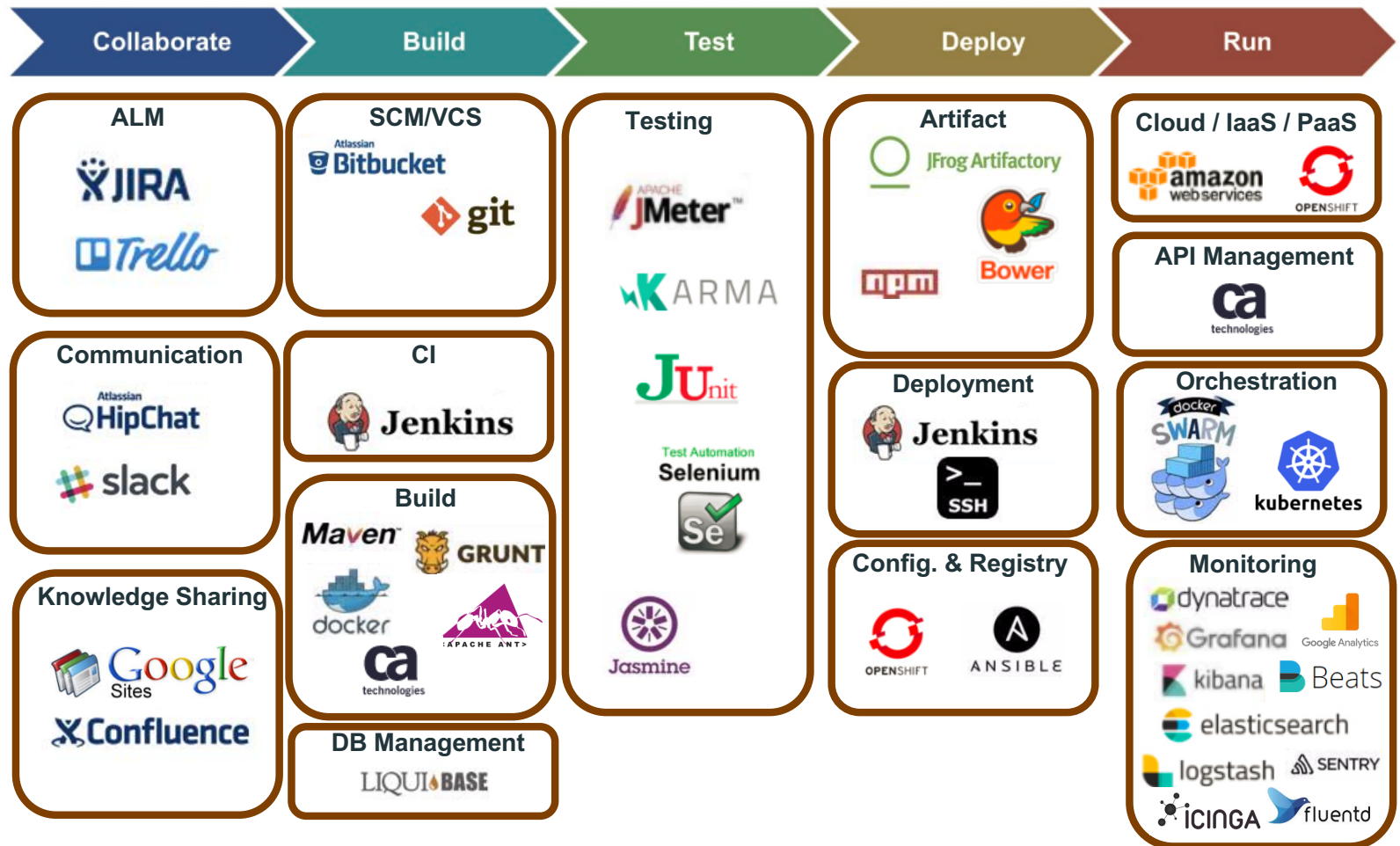
- Reactive manifesto
- Domain driven design
- Event sourcing
- Unique data
- Internationalization



## INFRASTRUCTURE

- Vertical & horizontal autoscaling
- Global & restricted Software versioning
- Hardware independence
- Supplier independence
- Tailor made environments
- Complete disaster recovery
- Reduction of maintenance windows
- Complete monitoring

# Devops Landscape



# ACHIEVEMENTS 2017

AS – IS  
2017



PRODUCT  
TEAMS

Product Manager  
Architect  
Technical Leads  
Developers  
Quality Assurance



UNIFIED  
DEMAND  
MANAGEMENT

Digital Transf. Director  
IT Business Partner  
IT Committee  
PPM  
Business Talks



INFRASTRUCTURE &  
ARCHITECTURE  
UP & RUNNING

OpenShift  
API Manager  
BRMS / BPM  
Archetypes  
Tech Talks

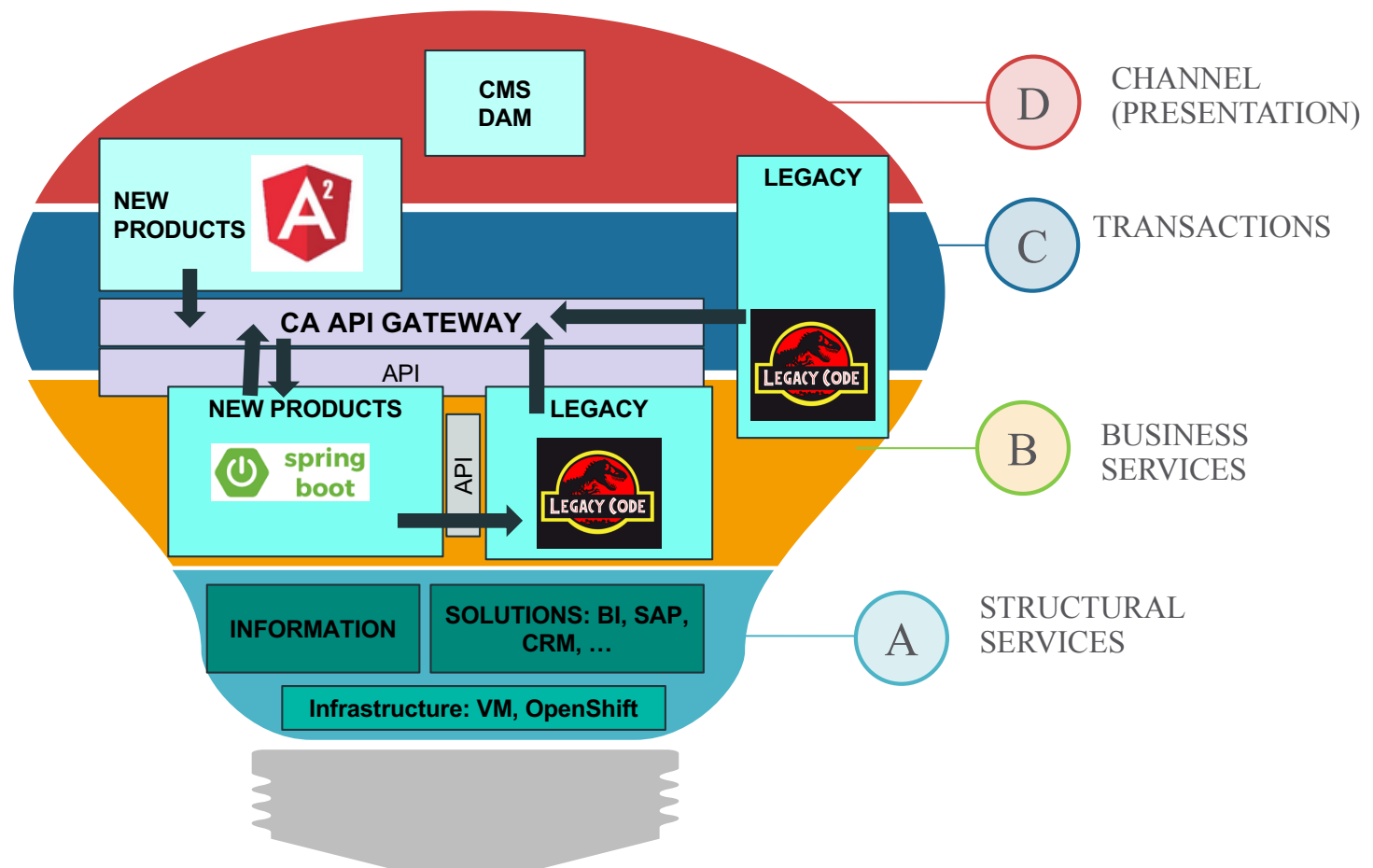


CORE  
SOFTWARE  
RELEASED

Log-in  
Monitoring & Tracing  
Cache  
Apps Config.  
Audit



# Architecture 2017



AS - IS  
2017

Descubre las mejores ofertas

### Viajes Caribe

DESTINO  
Punta Cana / Playa Bávaro

ORIGEN  
Madrid

FECHA  
06/10/2017

HABITACIONES  
2 adultos en 1 habitación

Selecciona un precio

OCTUBRE 790 €

NOVIEMBRE 740 €

DICIEMBRE 700 €

ENERO 1.017 €

FEBRERO 1.095 €

MARZO 1.010 €

DICIEMBRE 2017							ENERO 2018						
LU	MA	MI	JU	VI	SÁ	DO	LU	MA	MI	JU	VI	SÁ	DO
					1.648 €	1.474 €	1.226 €					1.017 €	
4	5	6	7	8	9	10	8	9	10	11	12	13	14
1.620 €	740 €	1.648 €	1.648 €	1.620 €	700 €	1.655 €	1.017 €				1.017 €	1.017 €	
11	12	13	14	15	16	17	15	16	17	18	19	20	21
1.655 €	700 €						1.017 €	1.017 €			1.017 €	1.017 €	
18	19	20	21	22	23	24	22	23	24	25	26	27	28
	1.144 €			1.472 €			1.017 €	1.017 €			1.017 €		
25	26	27	28	29	30	31	29	30	31				
	1.905 €			1.470 €			1.141 €						

★ Mejor precio encontrado

Punta Cana / Playa Bávaro  
9 días y 7 noches

Desde 700 € →

Desde 750 € →

Desde 1.020 € →

La Habana  
9 días y 7 noches

Desde 777 € →

Varadero  
9 días y 7 noches

Desde 822 € →

Bayahibe  
9 días y 7 noches

Desde 1.009 € →



NEW PRODUCTS  
UP & RUNNING

**Avoris**  
REINVENTING TRAVEL

AS – IS  
2017


Gran Viaje: Rutas del Rajasthan | DURACIÓN: 11 día/s, 10 noche/s

INFORMACIÓN GENERAL ITINERARIO OPCIONES


## Itinerario

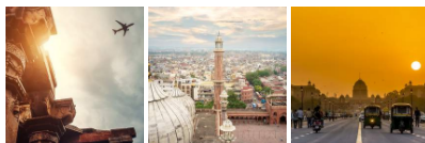
### Día 1: España-Delhi. Llegada a Delhi. ¡Por fin en la exótica e inolvidable India!

Después de un largo vuelo, finalmente estás en la capital de uno de los países más increíbles, asombrosos y pintorescos del mundo. La India te recibe con los brazos abiertos, deseando que explores sus ciudades, que visites sus templos y que saborees sus picantes y sabrosos platos.

 RÉGIMEN  
Comidas En El Avión

 TRANSPORTE  
Vuelo

 ALOJAMIENTO  
Hotel




### Día 2: Delhi. Explorando cada rincón de la capital del país

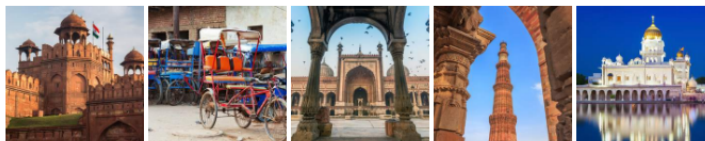
Hoy visitaremos tres lugares imprescindibles de la ciudad antigua, como son el Fuerte Rojo, la mezquita Jama Masjid y el Raj Ghat, el monumento memorial de Mahatma Gandhi. Después, un paseo en Rickshaw por la zona de Chandni Chowk, viendo sus tiendas, mercados y bazares. Tras almorzar en un restaurante local, visitaremos los lugares más emblemáticos de Nueva Delhi: el Qutub Minar, la Puerta de la India, el Palacio Presidencial, el Parlamento y el Templo de los Sikhs.

 RÉGIMEN  
Desayuno, Comida, Cena.

 TRANSPORTE  
Autocar

 ACTIVIDADES  
Visita A Nueva Delhi  
Visita Al Viejo Delhi  
Paseo En Rickshaw

 ALOJAMIENTO  
Hotel



NEW PRODUCTS  
UP & RUNNING

Descripción Experiencias Itinerario Más Información

as sendas  
magia de  
n



AS – IS  
2017

ORIGEN  
Madrid

Caribe

Riviera Maya

Punta Cana

Cancún

Maldivas



NEW BRANDS  
UP & RUNNING

iberojet

Circuitos, Grandes Viajes y Caribe

Destinos

DESTINO  
Punta Cana / Playa

ORIGEN  
Madrid

DURACIÓN  
7 noches

FECHA  
Selecciona una fe...

HABITACIONES  
2 adultos en 1 ha...

BUSCAR

**Avoris**  
REINVENTING TRAVEL

40

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ca World '17

IT  
AWARDS  
2017



Best Strategy of  
Digital  
Transformation



SAP Migration to AWS



Innovation  
Migration to  
Cloud & PaaS



# Questions?

Creating business agility and new customer experiences with  
APIs and Microservices – A Q&A with Ávoris

<https://www.ca.com/en/blog-api/creating-business-agility-new-customer-experiences-apis-microservices-qa-avoris.html>

Thank you.

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# DevOps: APIs and Microservices



For more information on API Management, please visit:

<http://ca.com/api>