

RED HAT FORUMS

An application architecture based on OCP for a Digital Transformation in the Telco

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Spindox: Company Profile



- Product & Service Design (Design Thinking, IxD, ID, UI, UX)



- Marketing, Digital Marketing & Communication (Social Media Management, Brand Design, Event Production, Web Analytics, SEO)



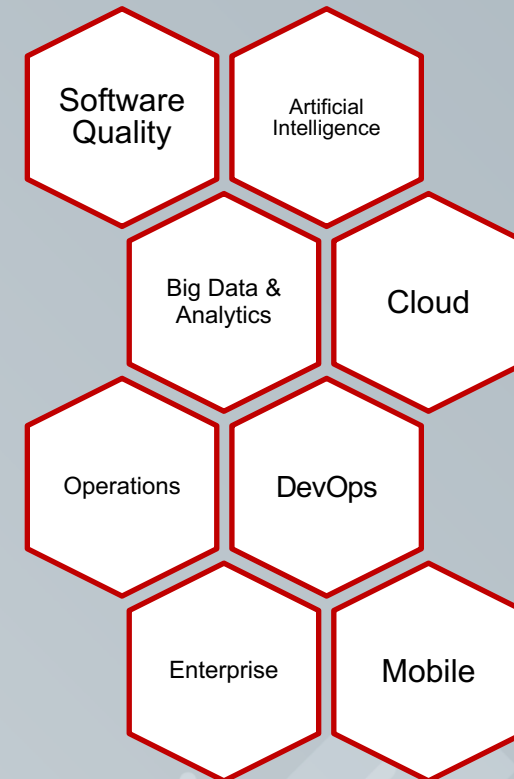
- Business DX Driver (Business Consulting, IT Governance & Project Office, Cyber Security, Business Transformation, DX Advisory)



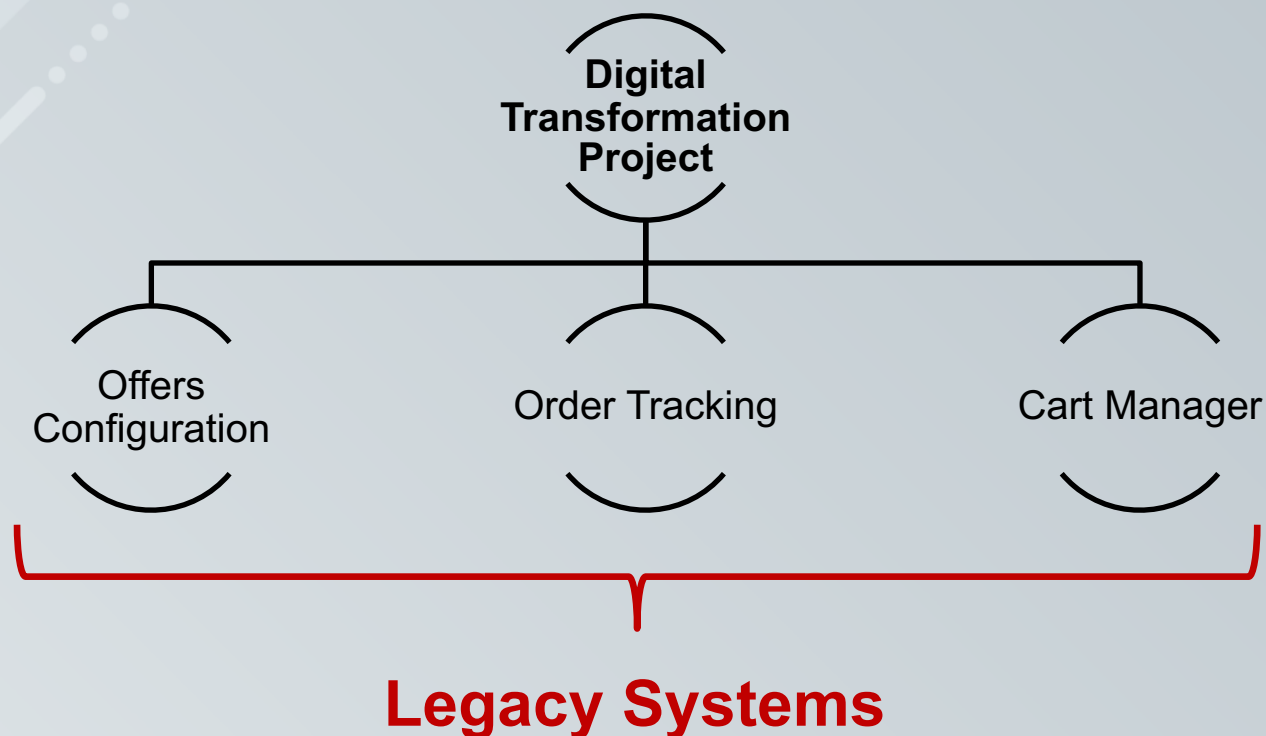
- The Innovation Initiative of Spindox, providing transformation drive with a hacking-culture approach (Trend Research, Design & Dev Prototypes, Innovative Ideas to the market based on prototyping or the Solution available)



- Based in FBK (Trento), aims to improve R&D capacity, Access to European and local funds, Scouting for new Tech Partners for innovative arguments like AI, IOT, Blockchain, etc.



Digital Transformation Project



We implemented 3 systems as a part of the Digital Transformation process of a Telco Company.

They are composed of different application modules based on the same Software Architecture.

The Architecture is event-driven and data-centric. The aim is to provide a common interface for the access to the business data from all the digital channels.



CART MANAGER



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Cart Manager: context and needs

Cart Manager system has the aim of offering the following capabilities:



Multichannel features

Possibility to start the purchase phase in a channel and then to continue to a different one.



Shopping Cart Enrichment

Thanks to the interaction with the catalog



Multiple Management

Of commercial offers, products and services in one shopping cart.



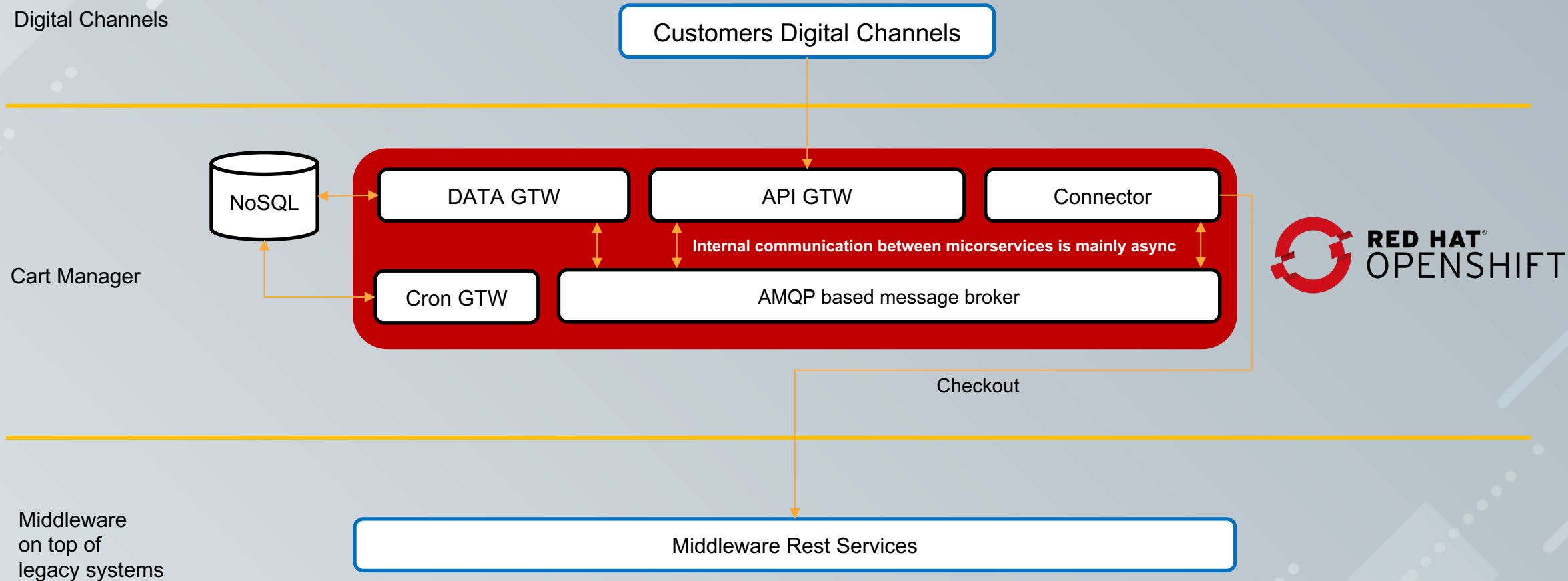
Cart Validation Management

Thanks to the application of business rules, internally configured.



Architecture

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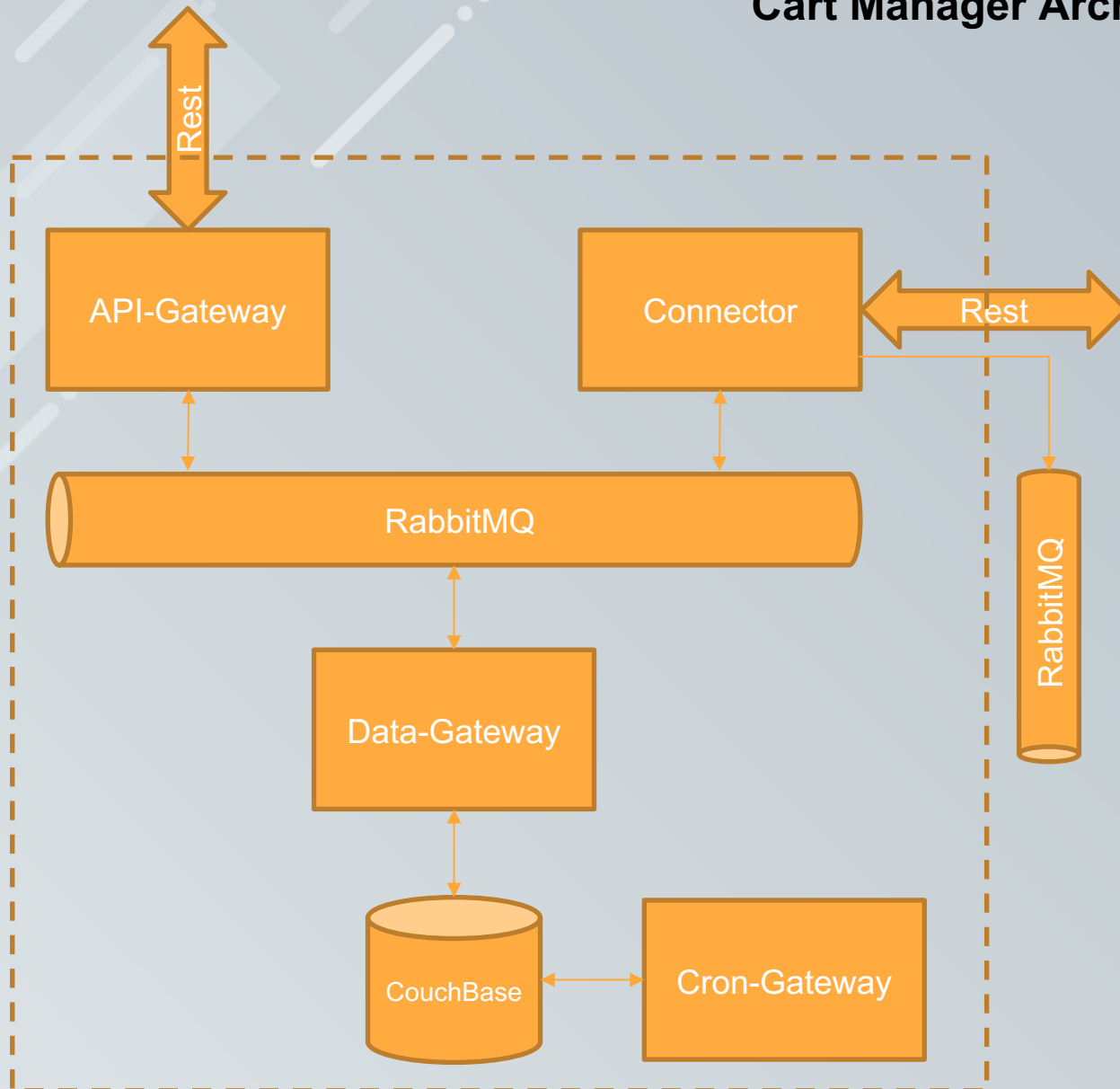
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Cart Manager Architecture (1/2)

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Cart Manager is a framework that encapsulates all the operations useful for the Shopping Cart and its items and makes them available through **RESTful APIs**.

It is composed by 4 microservices:

- Api-Gateway
- Data-Gateway
- Cron-Gateway
- Connector

They are implemented in Java using Spring Boot. Each of them has its own functionality and they interact through a message broker based on a **RabbitMQ** cluster.

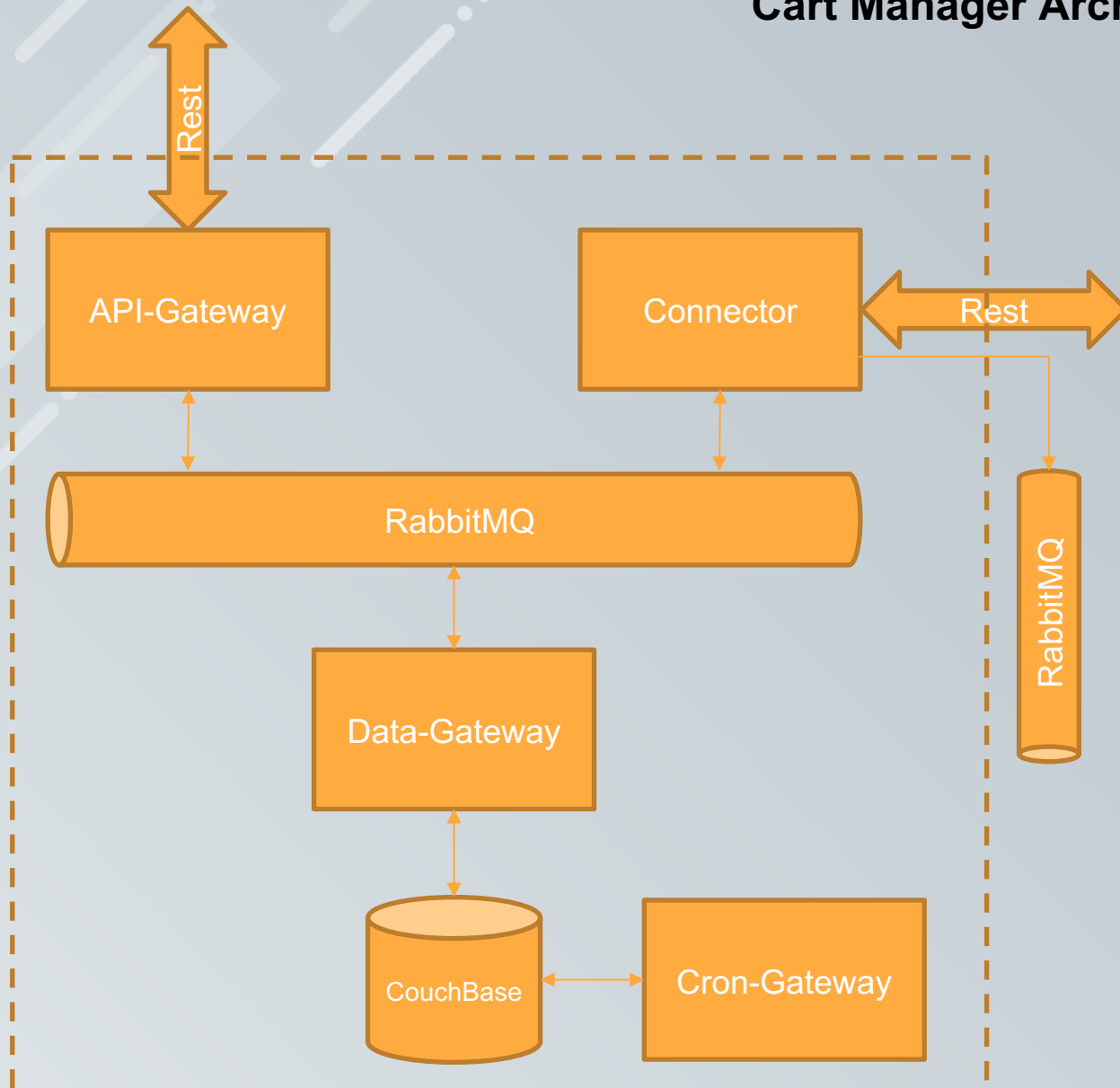


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Api-gateway

Exposes REST APIs to external services.

The communication to the data-gateway, owner of the database management, and the Connector, responsible of the Shopping cart checkout, happens through RabbitMQ.

Data-gateway

It works as an interface to Couchbase Server, a NoSQL DB, to retrieve and store all the information related to the Shopping Cart Items.

Connector

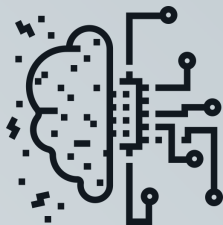
Manages the checkout and pre-ordering operations, performing the validation of the cart, and the sending of its details to the other systems, responsible for finalizing the purchase.

Cron-gateway

Dedicated to the deletion of old shopping carts from the database.

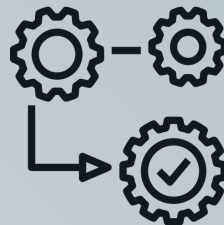


Why OCP?



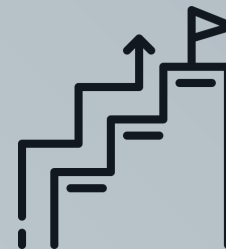
Self-service platform

Allows developers to create applications using Source-to-Image (S2I). System administrators can define resource quotas and limits for users and projects to control the use of system resources.



Automation

OpenShift provides application life-cycle management features to automatically rebuild and redeploy containers when container images change. Scale out and fail over applications based on scheduling and policy. Combine composite applications built from independent components or services.



Scalability and High Availability

OpenShift provides a distributed application platform including elasticity to handle increased traffic on demand. It provides high availability so that applications can survive events such as the loss of a physical machine.



BENEFITS

Enterprise-grade, container-based platform with no vendor lock-in

Acceleration of application development

Innovation and faster time-to-market

Enable DevOps and department-wide collaboration

Enhanced Security

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