CMDB & RPA

CMDBuild solution to support RPA journey

CMDBuild Day 2020

vittorio benintende

FCA model

Geographical coverage

POLAND

NA

ITALY

BRAZIL

RPA Expertise Centre
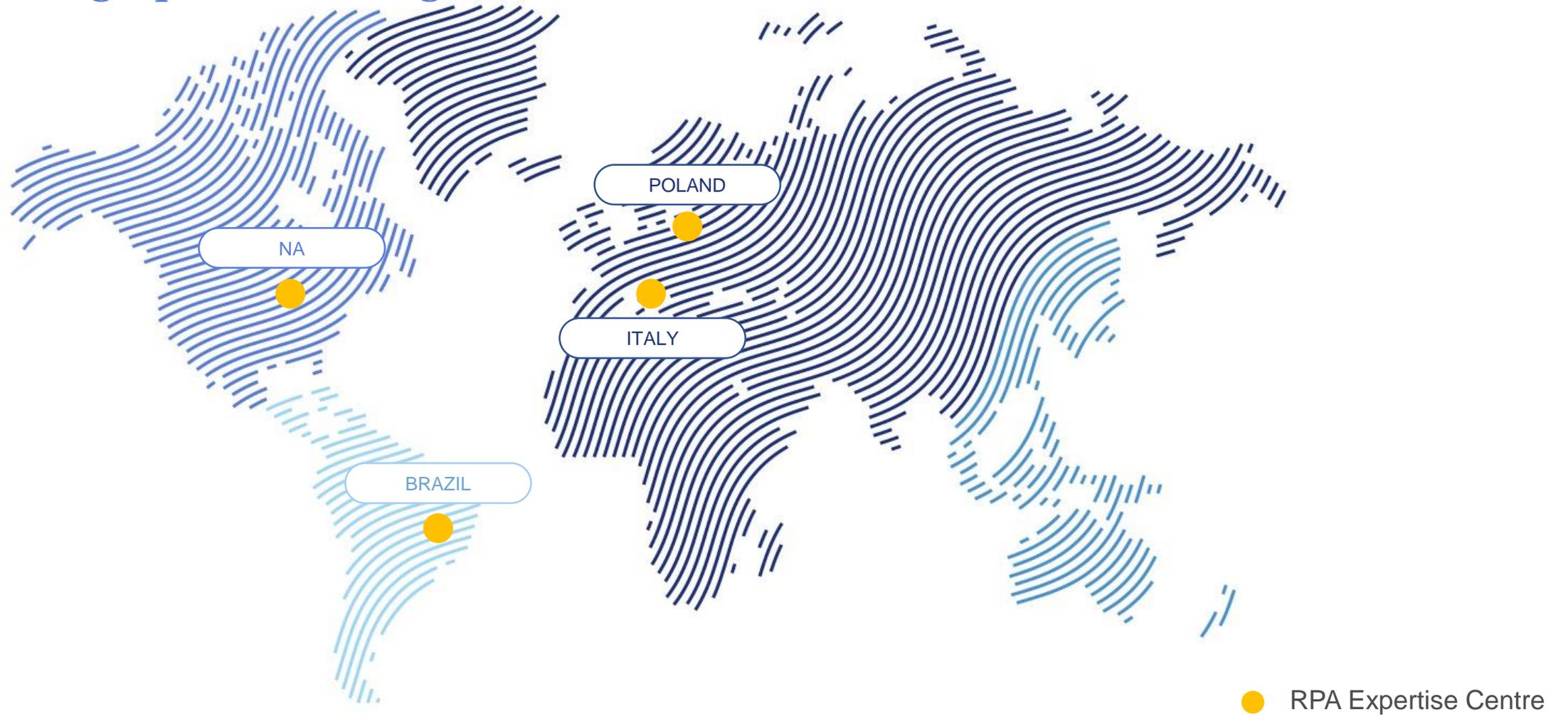
Context

RPA in EMEA and LATAM

In **Italy**, **Poland** and **Brazil**, the **RPA** is a **service** provided by a **join venture** between **two companies** in the FCA Group

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FCA Services

Mission

A **shared service center** that delivers business **support services** to customer organizations by:

- Deploying **common processes**, tools and best practices
- Generating **synergies** across multiples functions area
- Consolidating structures in **regional HUBs**
- Developing **competence** and **knowledge** on SSC core processes
- **Continuous improvement** and process's reengineering

FCA ITEM

Mission

FCA ITEM provides **ICT services** and methodologies to the companies of FCA and CNHi.

It **promotes** the **innovation** through: best practices, cutting-edge resources and ICT skills integrated with deep knowledge of business processes.

It also implement **application solutions** and **infrastructural services** for its customers.

Standardization

Workforce Scale

Overheads Economy

Shared Qualified Competences

Trustworthy Partnership

Flexibility

Value Proposition

ICT Common Services

ICT ITO

Security

ICT Engineering

SAP & Cross Applications

Treasury Applications

Context

Start of the journey

several **POCs** were launched on the processes to **evaluate** the **effectiveness** on the basis of **different** RPA **methodologies** and **platforms**

the establishment of the **CoE** began with the **acquisition** of **functional** and **technical skills**. The organizational and operational **model** was **defined** with the establishment of the **Operational Units**

in **2017**, **FCA Services** and **FCA ITEM** started together on the **introduction** of the **RPA** into the **FCA Group**

a **benchmark** on private companies is started to **verify** the success of the **methods** adopted for the establishment of a **Center of Excellence**

in late **2018**, the **offering** has been **extended** to other companies of the Group and a **multi layer architecture** was take in place to **support** RPA

What is RPA

Robotic Process Automation in a nutshell

Tireless
work for 24 hours a day and 7 days in a week

Rule Based
Take decisions based on predefined paths

AI Enabler
Allow AI to perform concrete actions

Capabilities

Robotic Process Automation is a set of **methodologies** and **technologies** that enable the automation of **repetitive activities** by means of software called "software robots" that interact with systems by **simulating human** behavior.

Benefits

Save Time
Can process multiple actions in a short amount of time

Save Money
Cheaper than human counterparts

Improve Quality
Doesn't make mistakes when carrying out processes

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RPA is not a project, RPA is a journey

" *RPA is not a project you can accomplish in three, six months or one year.*

RPA is a journey that involves almost all the business areas of the Company "

RPA & RDA
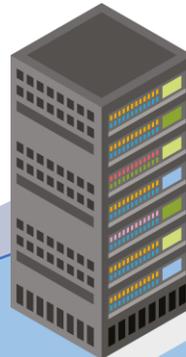
Unattended vs attended automation

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Robotic Process Automation	Robotic Desktop Automation
Unattended	Attended
Activity performed **in background** or on a **dedicated** host without human assistance	Activity performed **on a desktop** with human supervision. The automation is configured as an **assistant** of the user
Designed for **end-to-end** process	Designed for single **tasks**
Automation started by **events** or **scheduling**	Automation started by the **user**
Project based	**Task** based

The **automation** strategy generally referred to "RPA" can be classified in **two** main **families** on the basis of the fact that the **activities** are **carried out** on a dedicated **host** *(strictly RPA)* or on the **user's workstation** *(RDA)*.
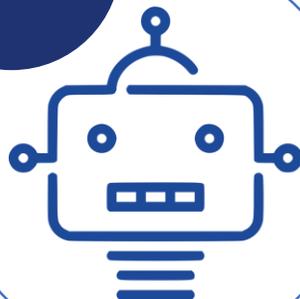
Digital Worker

Introducing a new «entity» in the work force

Software interfaces use reliable transmission protocols while digital workers use interfaces designed for users

User Interface

Software Interface

Employees act on their own in most cases
Digital workers always act on behalf of someone else

Digitalization and standardization are key factors to allow digital workers to acquire any input

Digital Worker

Identity
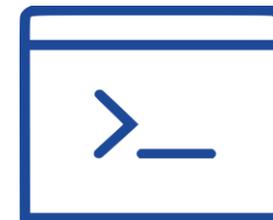
Data

Compatibility

Environment

Employee

Compatibility with systems depends on the capability of the digital workers to adapt their behavior

Policies

In many cases, it is possible to test the automation only on live data

Company policies are designed for humans not for digital workers

Why a CMDB?
and why CMDBuild?

1

Asset Collection & Demand Management

" *At the beginning of the journey it was clear the need to have a database to manage the RPA but there was nothing ready on the market.*

Then the decision to start from a blank page but not from scratch.

CMDBuild provided us the right tools to start in a flick of the switch. "

Data model

Almost anything in the db is a Configuration Item

Configuration Item

Environment
Unique Name
Resolver Group
Instance
Quality Control
Accountability
Responsibility
Properties

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Asset

CI Cluster

Use Case

Object

- **Application**:
  Web / ERP / CMS / Mainframe / Shared folder

- **Asset Server:**
  Domain Account / Transaction / Web page

- **Asset Client**:
  Setting / File / Customizing

- **Asset Rule:**
  Policy / Firewall rule / Security constraint

- **Application Account:**
  Any access given to an application

- **Host:**
  Any logical representation of a system

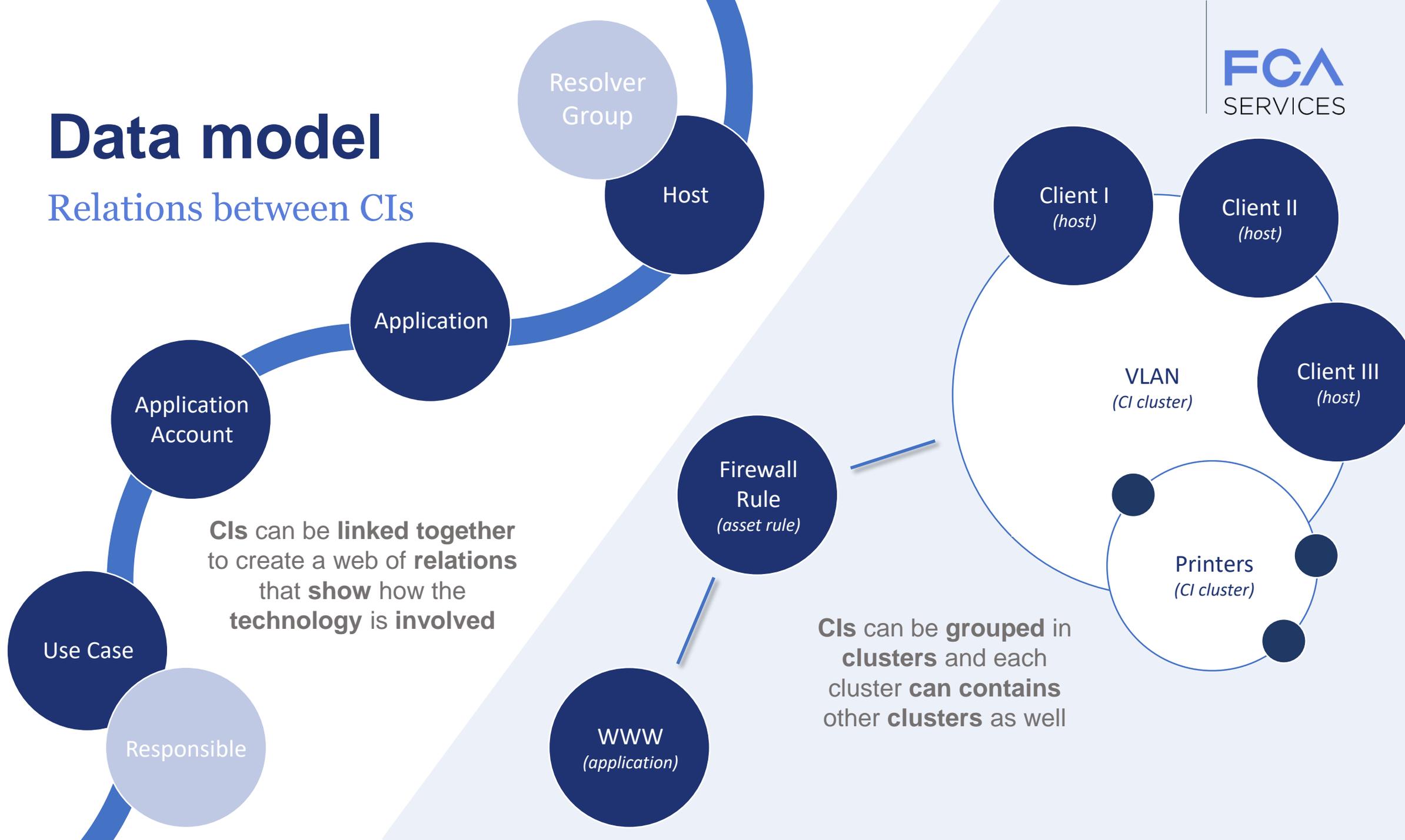**Configuration Items** can be **grouped** together forming other Configuration Items

Use Cases are a logical representation of an end to end **process** or a simple **task** activity

- **Solution:**
  Sequence of commands sent to the Digital Worker in order to perform a complex activity

- **Business Object:**
  Reusable command / Function / Subroutine

Data model

Relations between CIs

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Resolver Group

Host

Application

Application Account

Client I *(host)*

Client II *(host)*

Client III *(host)*

VLAN *(CI cluster)*

CIs can be **linked together** to create a web of **relations** that **show** how the **technology** is **involved**

Firewall Rule *(asset rule)*

Printers *(CI cluster)*

Use Case

Responsible

WWW *(application)*

CIs can be **grouped** in **clusters** and each cluster **can contains** other **clusters** as well

Why a CMDB?

...and why CMDBuild?

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1 Asset Collection & Demand Management

2 Change Management

Change management

and the impact analysis in RPA

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Change Management

Enhancement

New functionalities that **improve** the solution

Corrective

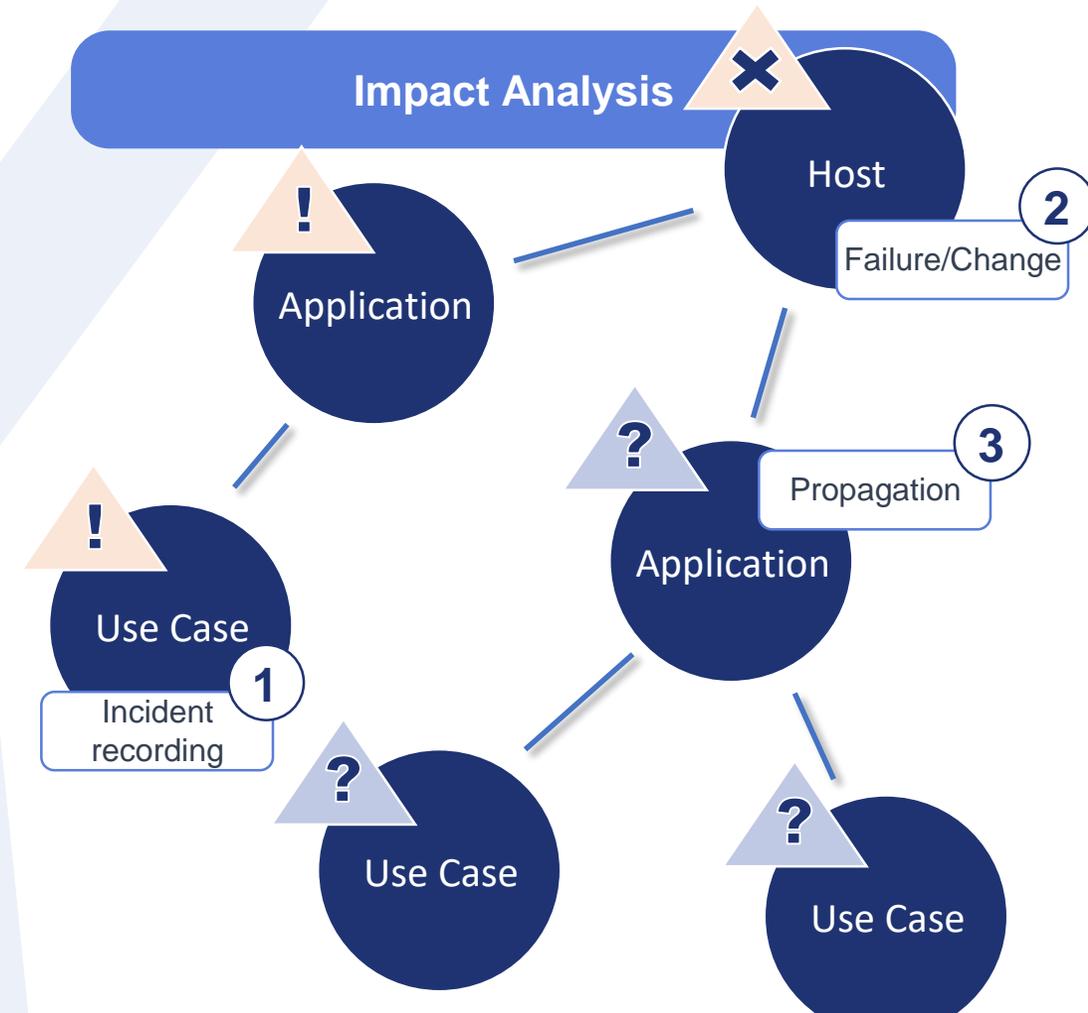**Bug fixing** and changes related to **problems** internal to the RPA

Adaptive

Changes needed to **maintain** the **functionalities** already implemented
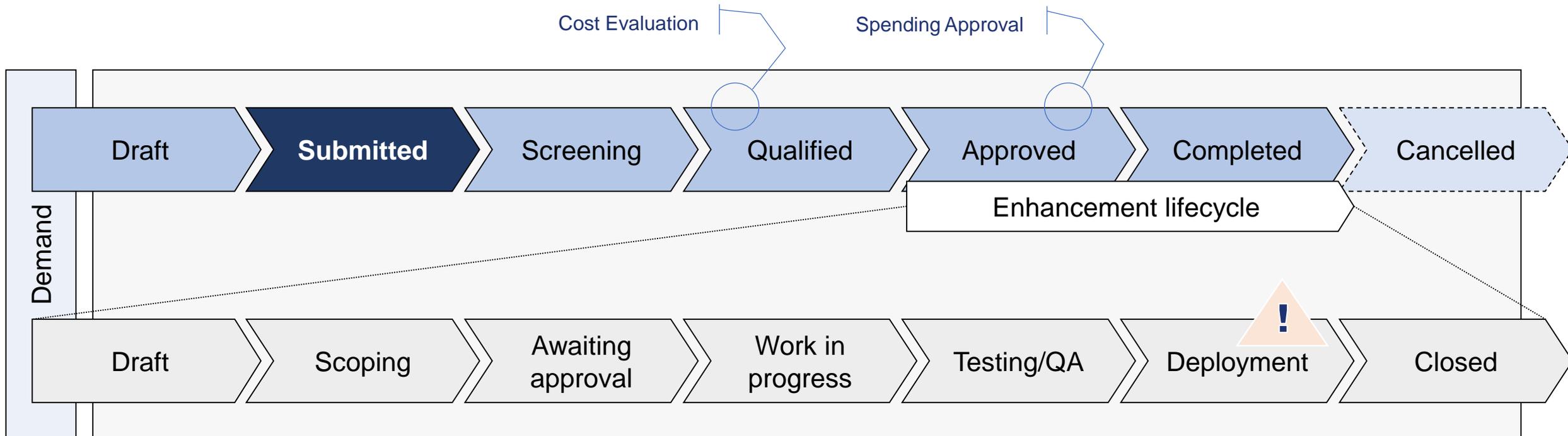
Preventive

Changes needed to **avoid** future **incidents**

Impact Analysis

Host

Failure/Change — 2

! Application

? Propagation — 3

Application

! Use Case

Incident recording — 1

? Use Case

? Use Case

Change management

External enhancements

Enhancements opened on an involved **third-party's application** should be assessed just after the *"submitted"* step of the demand and before the **cost assessment** is completed (*qualified*) so that the RPA Team can promptly evaluate the impact on any automated use cases with the separate **preventive** enhancement

Cost Evaluation

Spending Approval

Demand

| Draft | **Submitted** | Screening | Qualified | Approved | Completed | Cancelled |

Enhancement lifecycle

| Draft | Scoping | Awaiting approval | Work in progress | Testing/QA | Deployment ! | Closed |

Why a CMDB?

and why CMDBuild?

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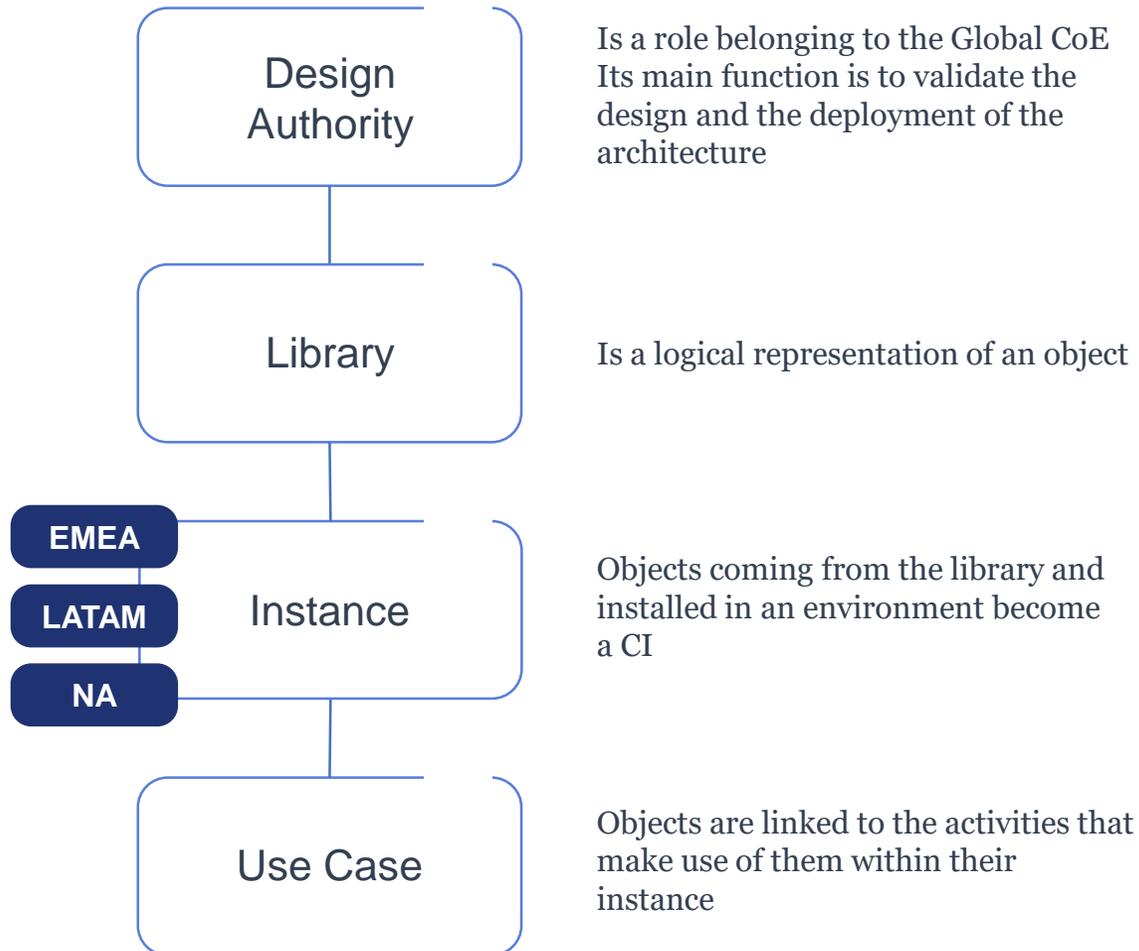**1** Asset Collection & Demand Management

2 Change Management

3 Library Maintenance
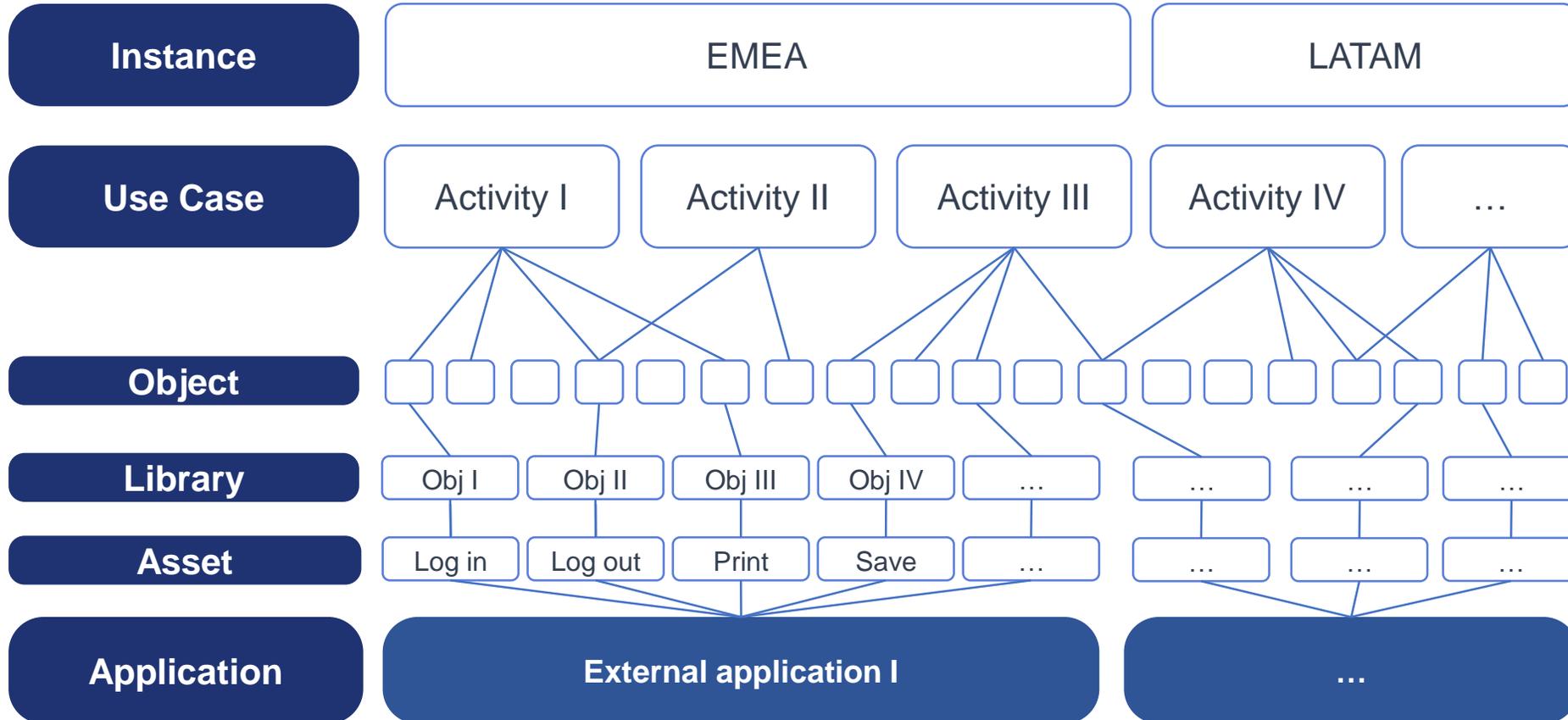
Design Authority

and the maintenance of the library

**Many development teams
and just one library**

Design Authority — Is a role belonging to the Global CoE
Its main function is to validate the
design and the deployment of the
architecture

Library — Is a logical representation of an object

EMEA
LATAM
NA

Instance — Objects coming from the library and
installed in an environment become
a CI

Use Case — Objects are linked to the activities that
make use of them within their
instance

> " *Design Authority
> maintains the
> development integrity of
> the solution and its
> constituent activities and
> objects.*
>
> *Moreover has a
> centralized view of the
> library to reflect the most
> up-to-date state of the
> available solutions and
> objects* "

Code reusability

A must-have for multi-instance development

Instance	EMEA / LATAM
Use Case	Activity I, Activity II, Activity III, Activity IV, …
Object	
Library	Obj I, Obj II, Obj III, Obj IV, …
Asset	Log in, Log out, Print, Save, …
Application	External application I / …

- The library is a set of objects developed upon a single functionality in an involved system.

- Use cases implement the objects needed for the execution of the activity

- There is just one repository of the library

- Any change to the library is validated by the Design Authority

Object declaration

How the DA validate the design

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Implementation Phase

Design	Build & Test	UAT	Deploy

Design

Document the current process at keystroke level

Acquire requirements for design.

Build & Test

Translate the instructions in a solution design to minimize development effort and maximize object reusability.

UAT

Deliver the release package and generate a test condition plan

Deploy

Deploy the solution in production.

New object

A **new object** is requested.

DA evaluate whether it is better to extend an existing object

Use only

The request is for **use** an already **existing object**.

Modify

The request is for **modify** an **existing object**

NRT are implemented in **all instances**

Extend

The request is for **extend** an **existing object**
NRT are needed just in the **involved instance**