ASYCUDA
Automated System for Customs Data

eCITES
POWERED BY ASYCUDA

Mr José Luis Ardila Giraldo, October 2022
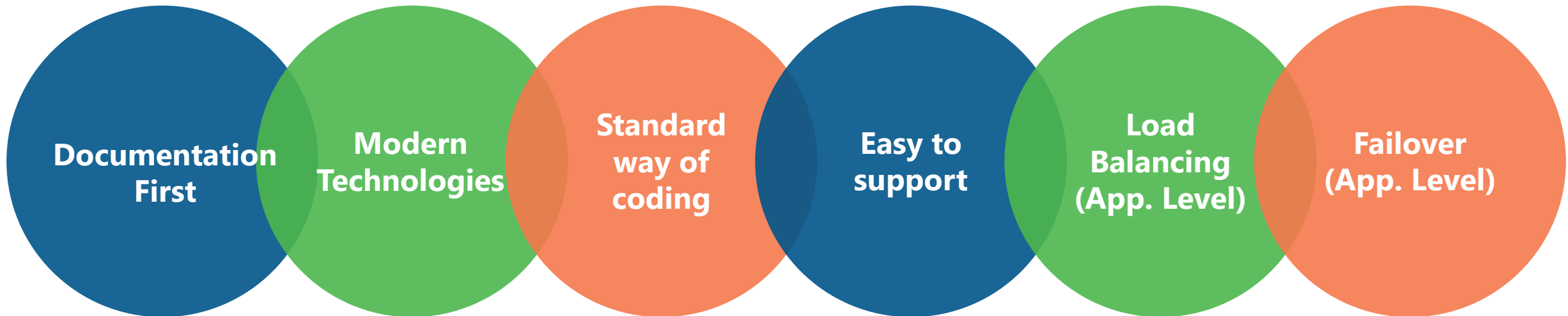
EPIX Integration

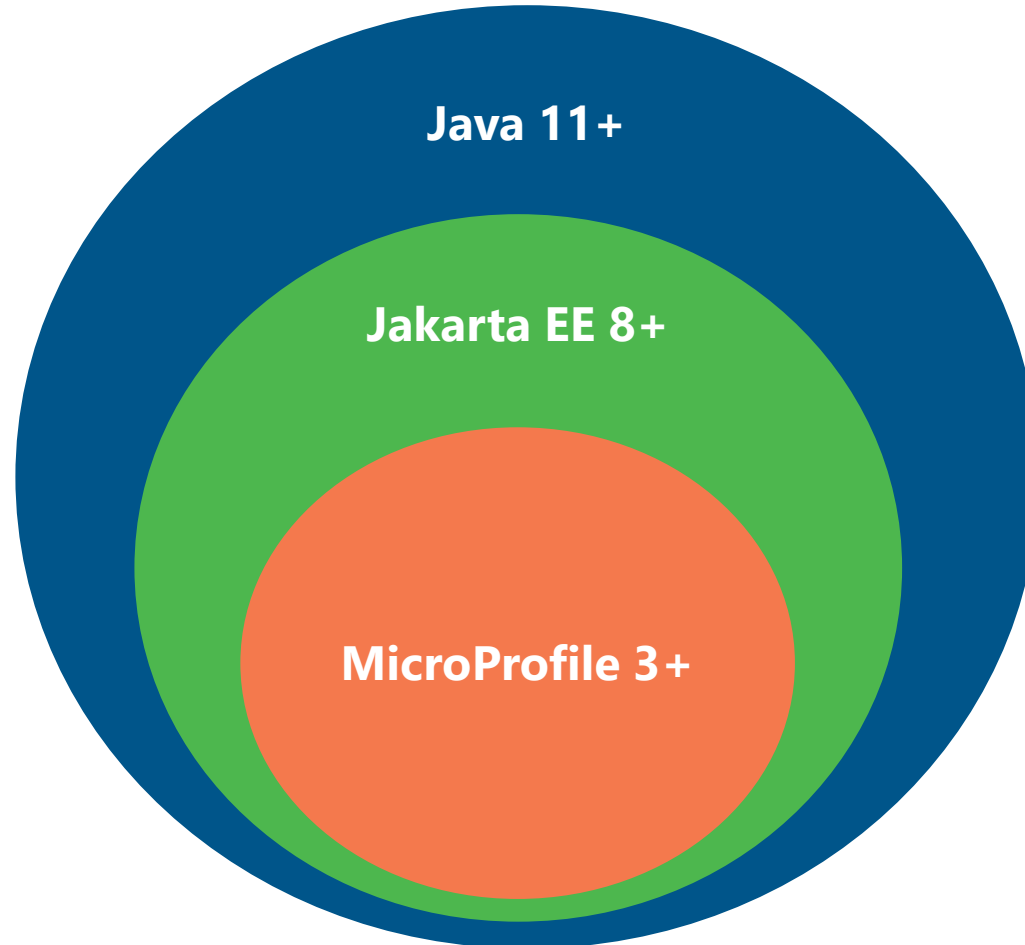**eCITES – Base Solution**

eCITES

Features

Documentation First

Modern Technologies

Standard way of coding

Easy to support

Load Balancing (App. Level)

Failover (App. Level)

Documentation & Specification

Mainly based on:

Java

JAKARTA EE

MICROPROFILE
OPTIMIZING ENTERPRISE JAVA

Java 11+

Jakarta EE 8+

MicroProfile 3+

Technologies

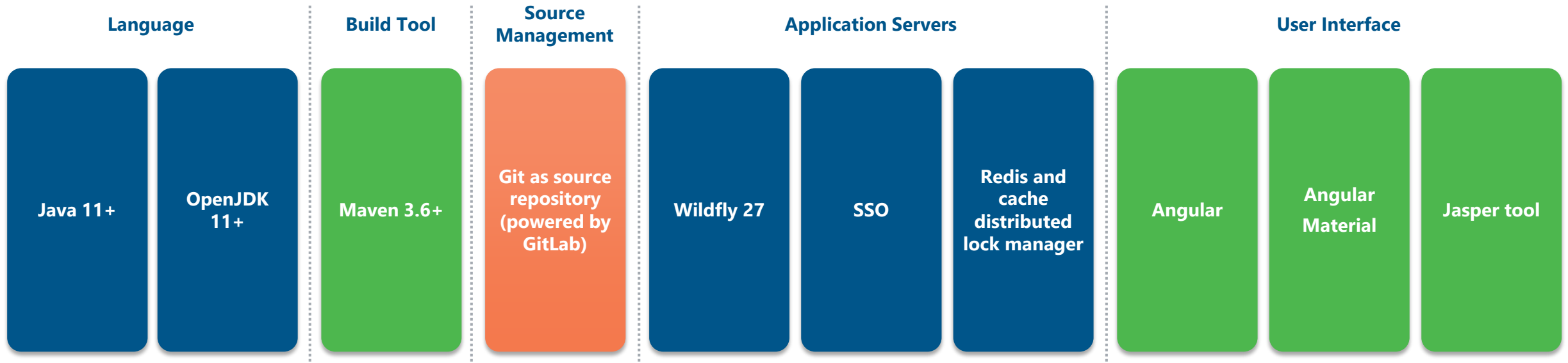| Language		Build Tool	Source Management	Application Servers			User Interface		
Java 11+	OpenJDK 11+	Maven 3.6+	Git as source repository (powered by GitLab)	Wildfly 27	SSO	Redis and cache distributed lock manager	Angular	Angular Material	Jasper tool

Technologies

Database Server

PostgreSQL

Database Access

JPA
(e.g. Hibernate)

Application Server
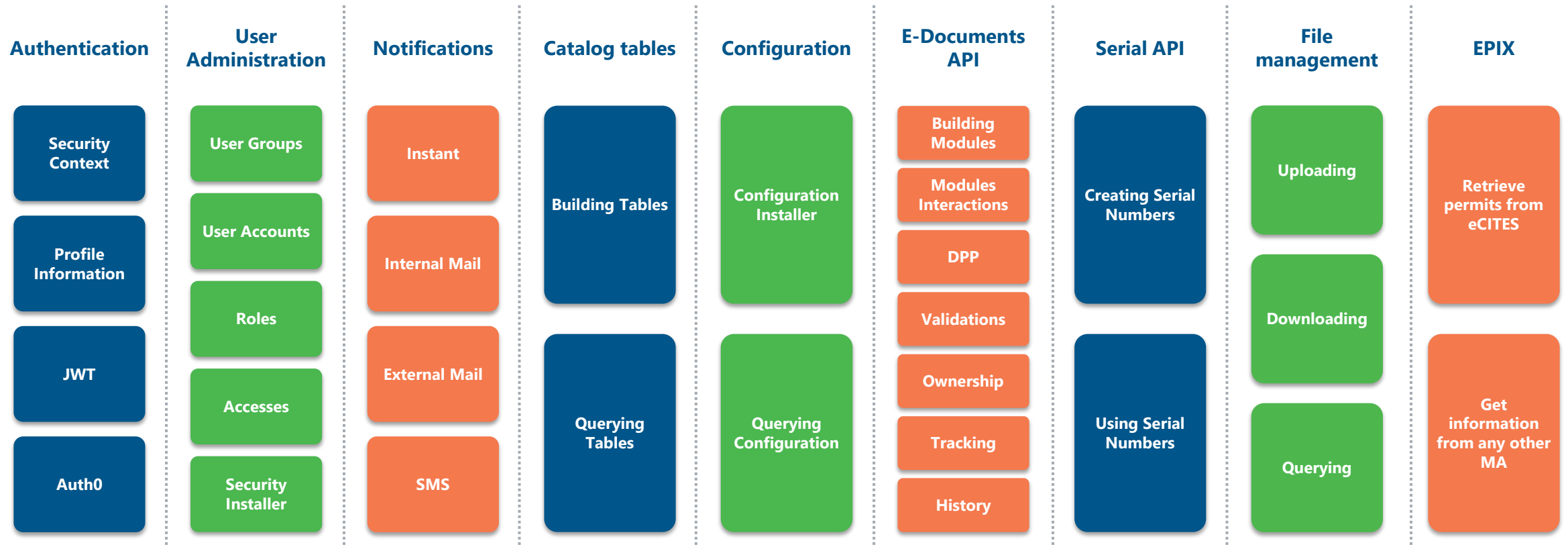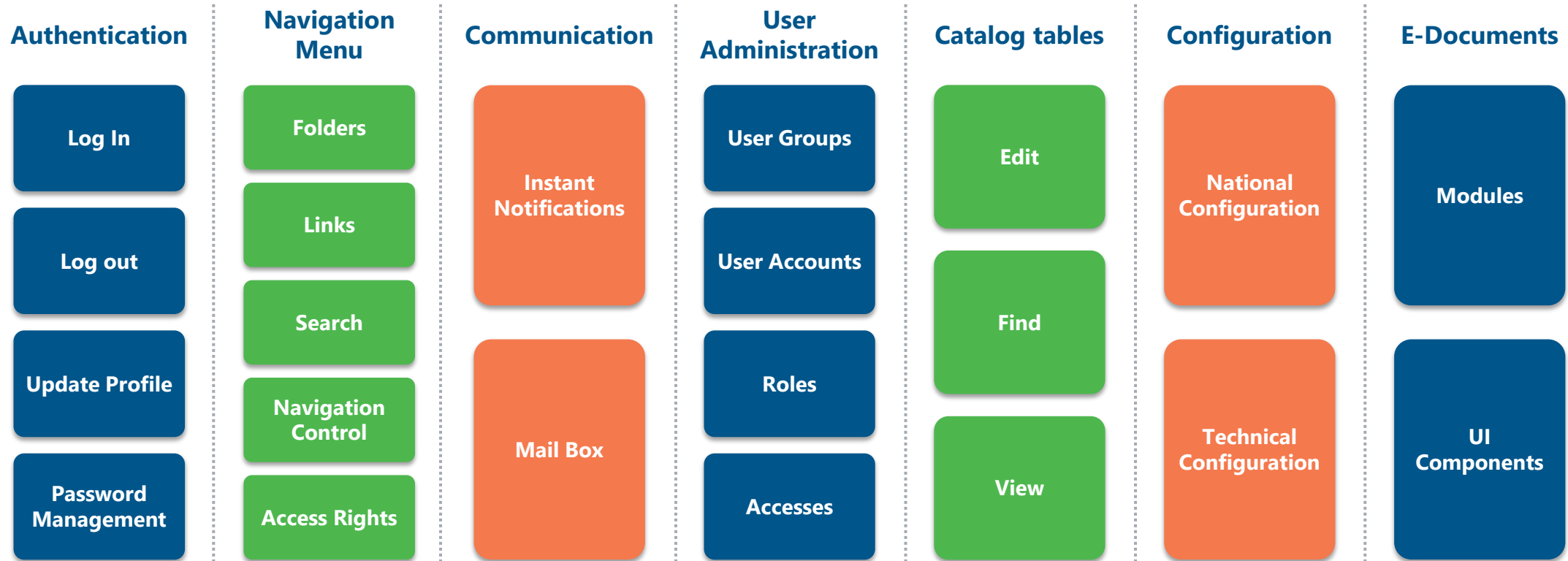
WildFly 27+

Java EE 8

OpenJDK 11

JWT

Auth0

Front-end

Angular 8

HTML 5

SCSS

eCITES Back-end Core (Java EE)

Authentication	User Administration	Notifications	Catalog tables	Configuration	E-Documents API	Serial API	File management	EPIX
Security Context	User Groups	Instant	Building Tables	Configuration Installer	Building Modules	Creating Serial Numbers	Uploading	Retrieve permits from eCITES
Profile Information	User Accounts	Internal Mail			Modules Interactions		Downloading	
JWT	Roles	External Mail			DPP			
Auth0	Accesses	SMS	Querying Tables	Querying Configuration	Validations	Using Serial Numbers	Querying	Get information from any other MA
	Security Installer				Ownership			
					Tracking			
					History			

eCITES Framework Front-end Core (Angular)

Authentication

- Log In
- Log out
- Update Profile
- Password Management

Navigation Menu

- Folders
- Links
- Search
- Navigation Control
- Access Rights

Communication

- Instant Notifications
- Mail Box

User Administration

- User Groups
- User Accounts
- Roles
- Accesses

Catalog tables

- Edit
- Find
- View

Configuration

- National Configuration
- Technical Configuration

E-Documents

- Modules
- UI Components

Back-end

SSO (WAR)
Core Framework (WAR)
Admin Framework (WAR)
Cites module (WAR)
Accounting module (WAR)
Module # (WAR)

Front-end

SSO

Web Client
- **Core Framework**
  - **Module #1**
  - **Module #2**
  - **Module #3**
  - **Module #4**
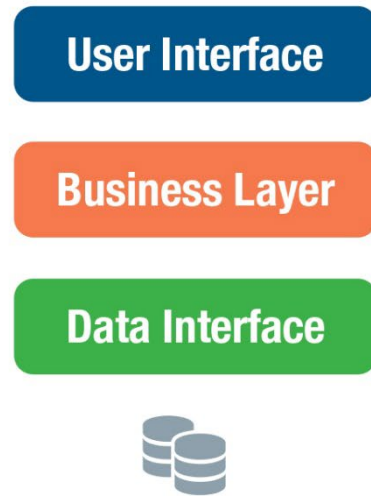
"The microservice architectural style is an approach to developing a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API."

Martin Fowler

Architecture

MicroProfile 3.3

Open Tracing 1.3	Open API 1.1	Rest Client 1.4	Config 1.4
Fault tolerance 2.1	Metrics 2.3	JWT Propagation 1.1	Health 2.2
CDI 2.0	JSON-P 1.1	JAX-RS 2.1	JSON-B 1.0

■ **Updated**
■ **No change from last release (MicroProfile 3.2)**

Eclipse MicroProfile aims to deliver a growing set of APIs for Java applications composed of multiple microservices. The project has been gaining a lot of attention recently, with a growing list of corporate supporters that also includes Oracle and IBM. There are many servers and frameworks providing the API and that means you can choose the best tool to run your microservices while keeping the same familiar API and behavior.

eCITES Admin Module

▶ This module is responsible for User Administration, Authentication, and Authorization

▶ It is deployed as a war file

eCITES Catalog Module

▸ **Refers to the management of catalog's table (reference table)**

▸ **It handles services to query and modify catalog's table and guarantee time constraints between records**

▸ **Developers will define the domain model of the table and the module will provide the API expected functionality**

▸ **It is deployed as a war file**

eCITES Core Module

▸ Manage eDocuments' life cycle and their specifications

▸ Defines status, operations and workflow

▸ Manage internal notifications as part of eDocs interactions

▸ It is deployed as a war file

eCITES Permitting Module

▸ This module is the core of the eCITES permitting system

▸ It controls the workflow of any permit and/or certificate created by a trader, notify users about pending tasks, change the status of a document depending on operations performed on the system, and present information based on user roles

▸ It is deployed as a war file

eCITES Accounting Module

▶ **This module handle the payment process defined by the MA. It supports both types: manual (over the counter), and online (payment gateway)**

▶ **Also includes a prepayment account functionality**

▶ **Allows payment of multiple permits/certificates at once**
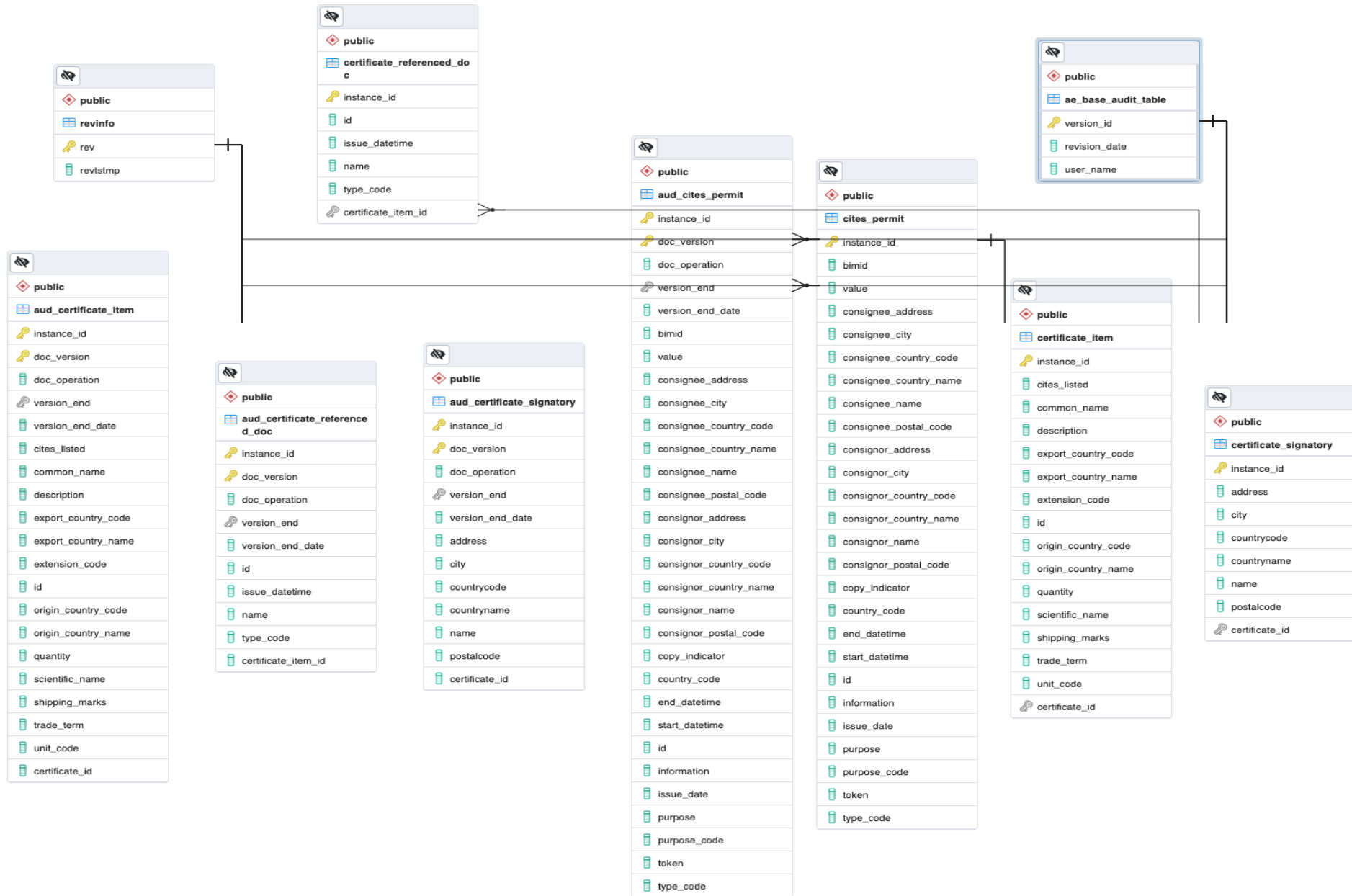
▶ **It is deployed as a war file**

Common's module

- ▶ Set of commons libraries that is used by the kernel such as: logging, validation, search definitions, etc.
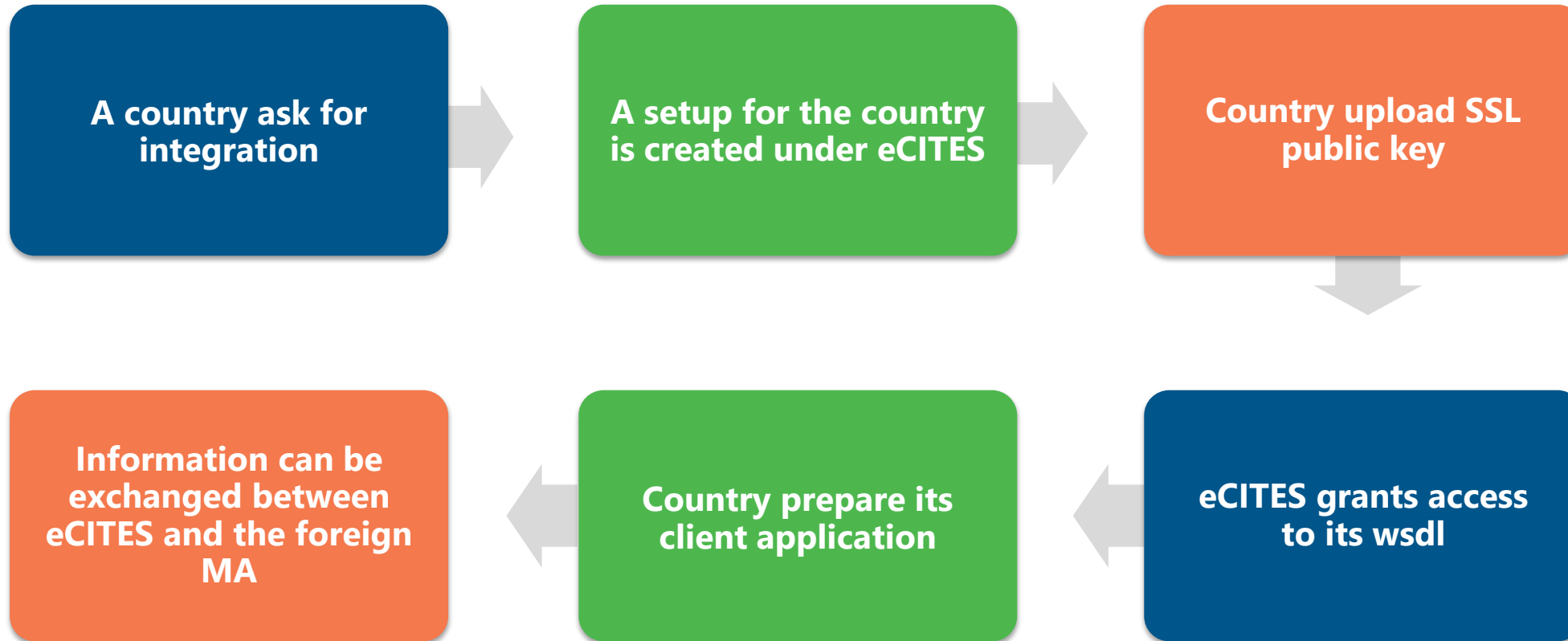
- ▶ It is deployed as a jar file

Technical Specification

▶ Based on SOAP protocol

▶ XML Schema based on the ePermit Core Component Data Model V2.0 of UN/CEFACT

▶ It is built on top of Jakarta EE specification

▶ It is an independent module that can be plugged in any Java compatible AS

▶ An extension for RESTful web services is available in case this technology would be adopted in the future

▶ The configuration is based on microprofile specification

How it works?

A country ask for integration

A setup for the country is created under eCITES

Country upload SSL public key

Information can be exchanged between eCITES and the foreign MA

Country prepare its client application

eCITES grants access to its wsdl

Current status

▸ The backend is fully operational and integrated with eCITES permitting management module

▸ Technical documentation is in progress. It will be released in web-based format as well

▸ Client integration is in progress

▸ Dashboard with usability and historical data

▸ Unitary tests (performance and security) are being conducted by the UNCTAD team

▶ The EPIX client component will be ready for testing before the CoP19

▶ Integration tests with Swiss Management Authority would start in November, according to the team availability

eCITES
POWERED BY ASYCUDA

THANK YOU!

QUESTIONS & ANSWERS

CITES

UNITED NATIONS UNCTAD ASYCUDA Automated System for Customs Data

- CITES Secretariat, Palais des Nations CH-1211, Geneva 10, Switzerland
- @cites
- info@cites.org
- cites.org

- Palais des Nations CH-1211 Geneva 10, Switzerland
- @asycudaprogram
- ecites@asycuda.org
- asycuda.org