eCITES – Base Solution

EPIX Integration – May 2021

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Automated System for Customs Data

Content

Features	Technologies	eCITES base solution	EPIX
Technical documentation	How it works	Current status and next steps	System demonstration

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Features
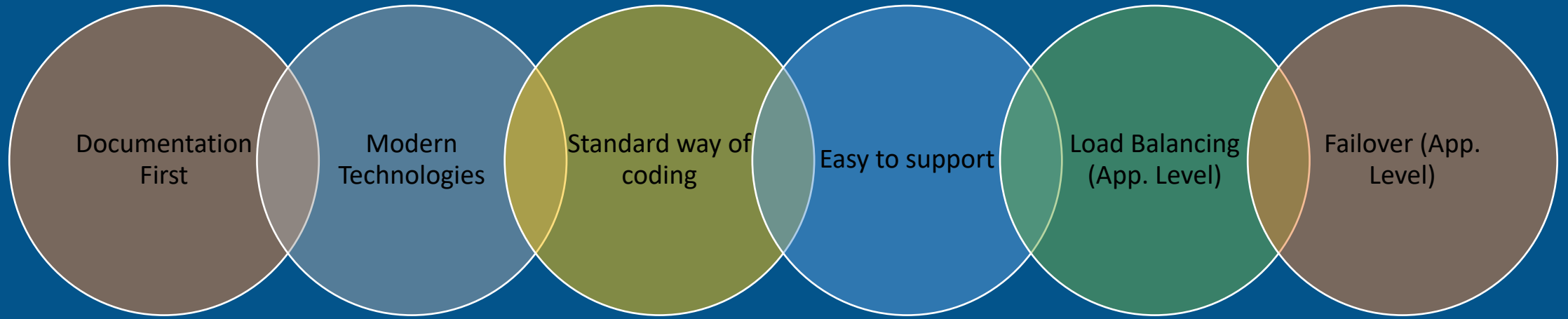
Documentation First

Modern Technologies

Standard way of coding

Easy to support

Load Balancing (App. Level)

Failover (App. Level)

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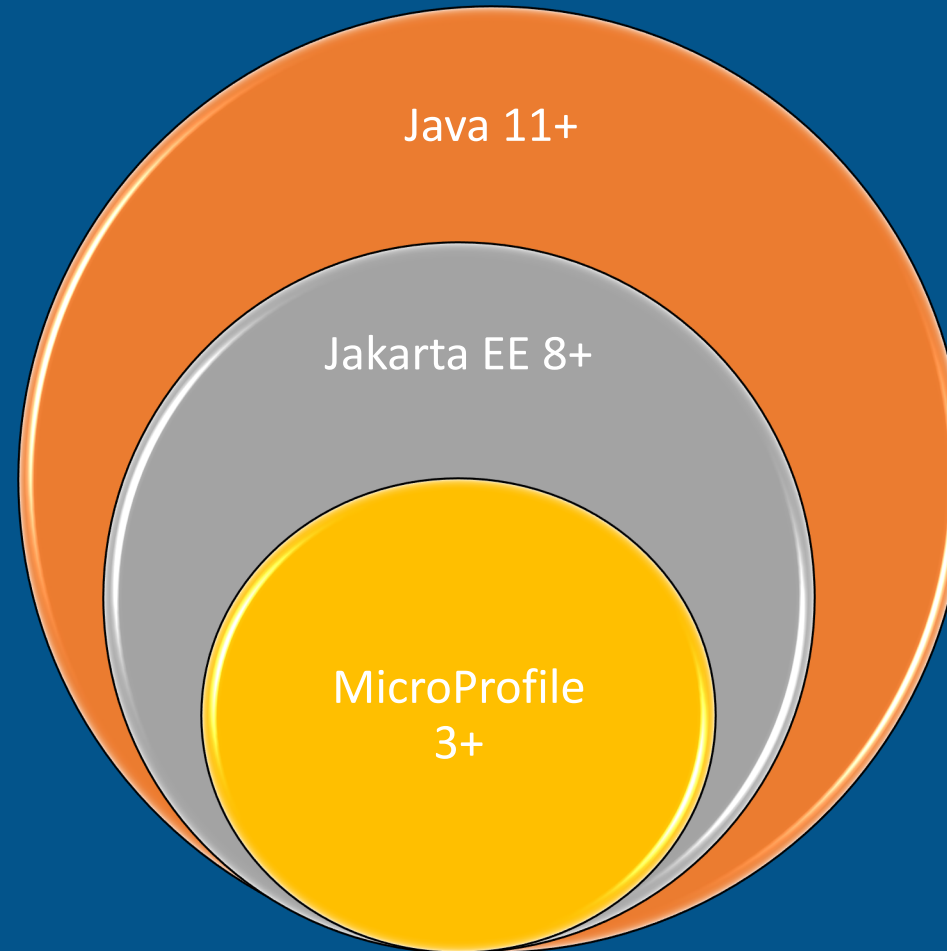
Technologies

Language	Build Tool	Source Management	Application Servers	User Interface

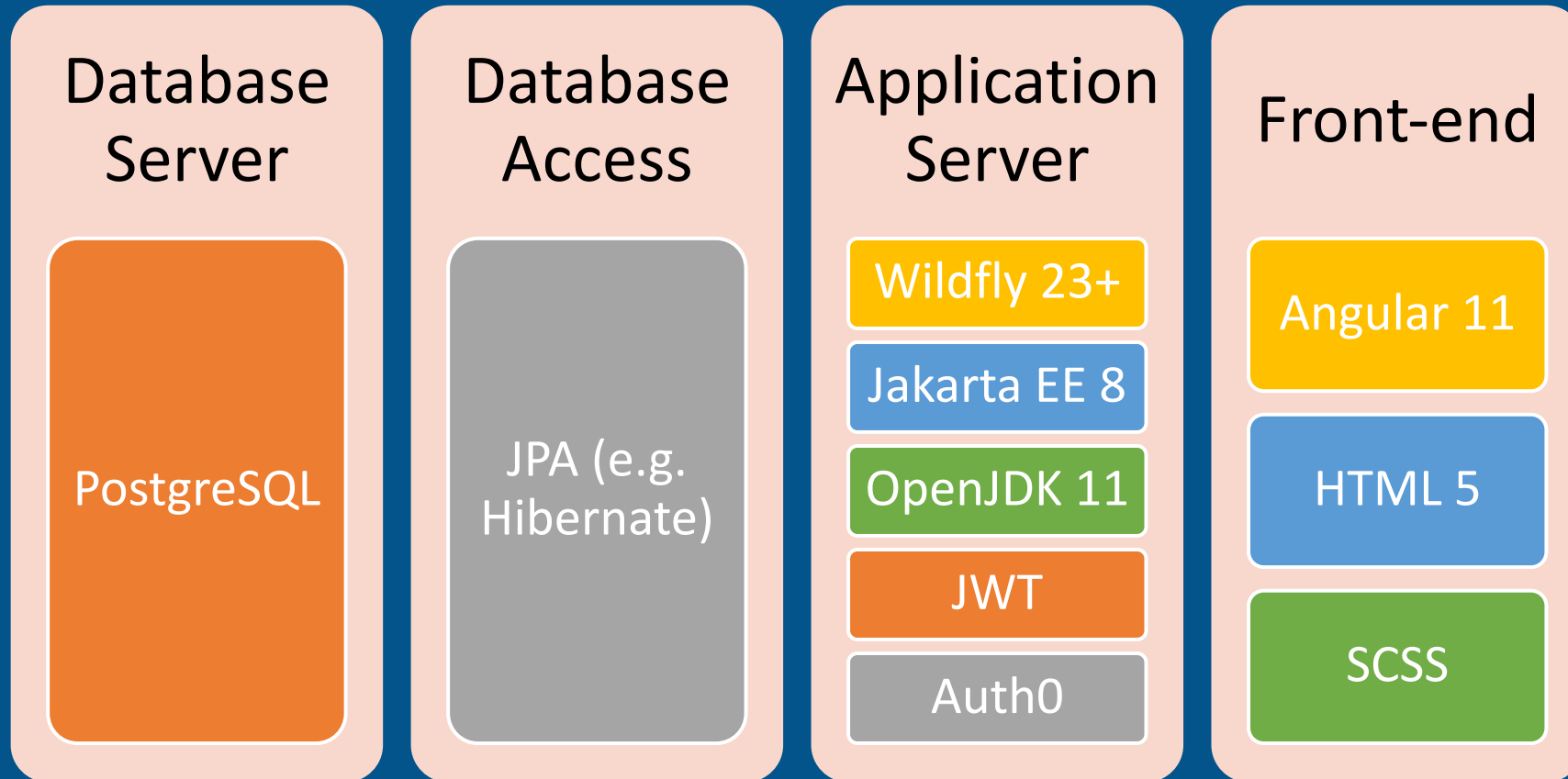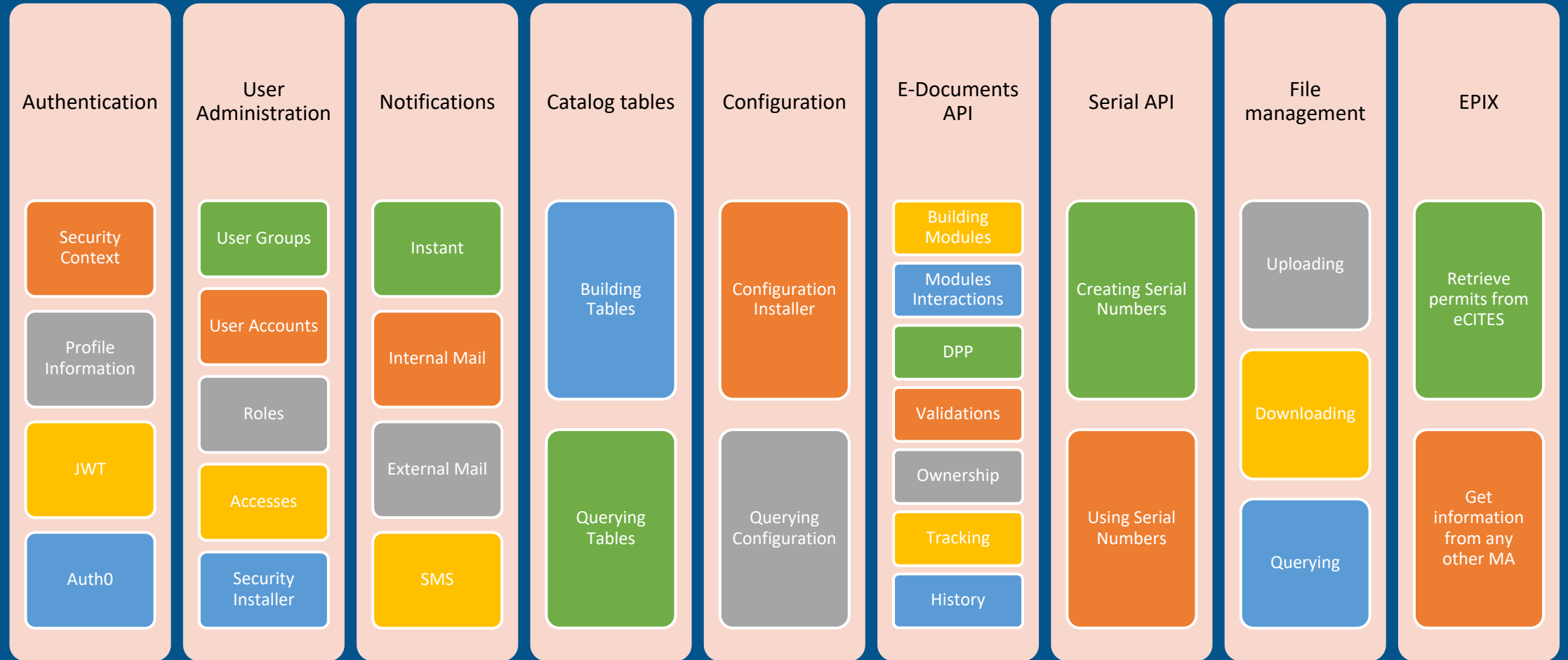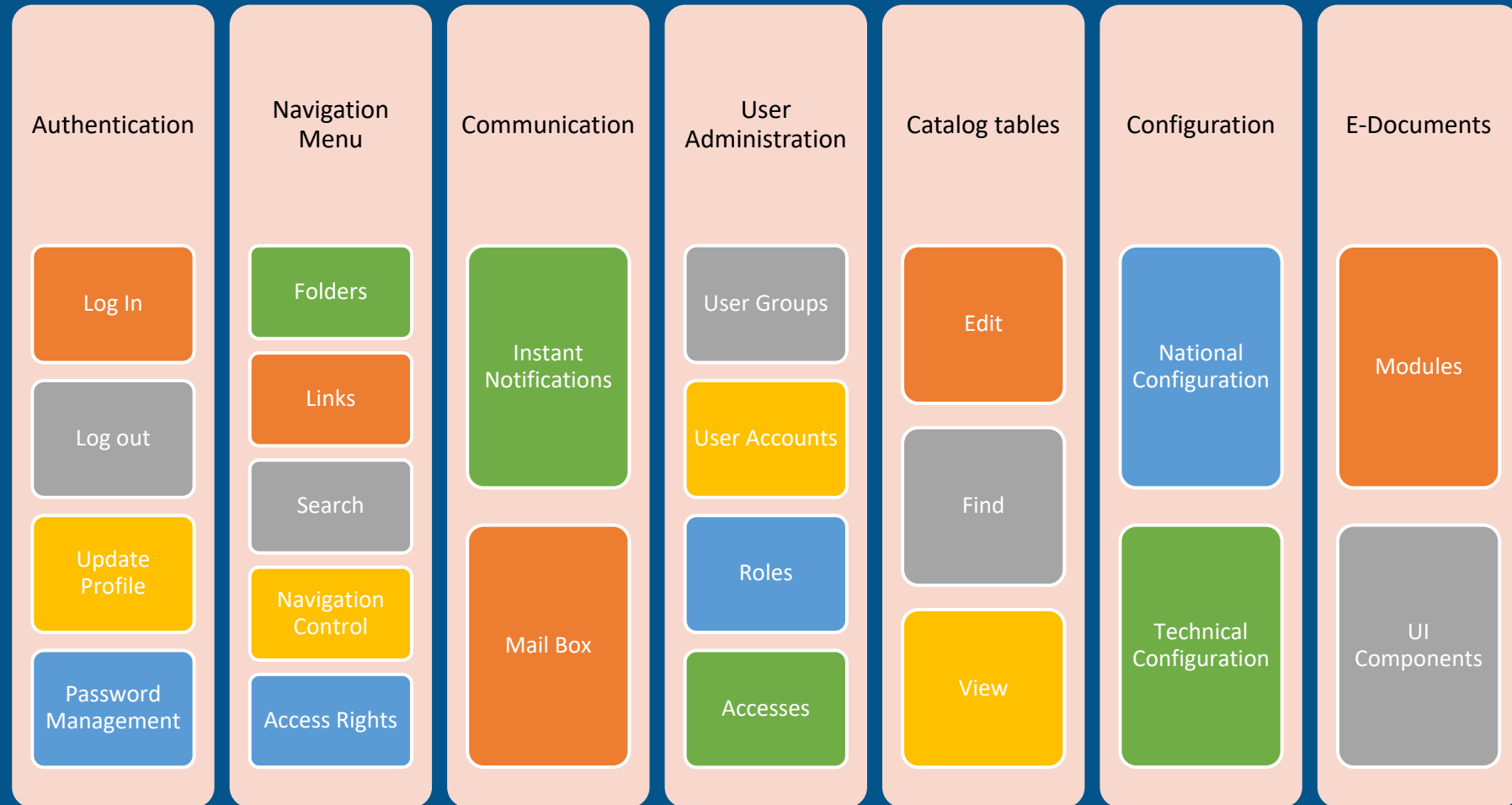| Java 11+ | OpenJDK 11+ | Maven 3.6+ | Git as source repository (powered by GitLab) | Wildfly 23 | SSO | Redis and cache distributed lock manager | Angular | Angular Material | Jasper tool |

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eCITES Framework *Front-end Core (Angular)*

Authentication	Navigation Menu	Communication	User Administration	Catalog tables	Configuration	E-Documents
Log In	Folders	Instant Notifications	User Groups	Edit	National Configuration	Modules
Log out	Links		User Accounts	Find		
Update Profile	Search		Roles		Technical Configuration	
Password Management	Navigation Control	Mail Box	Accesses	View		UI Components
	Access Rights					

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Architecture
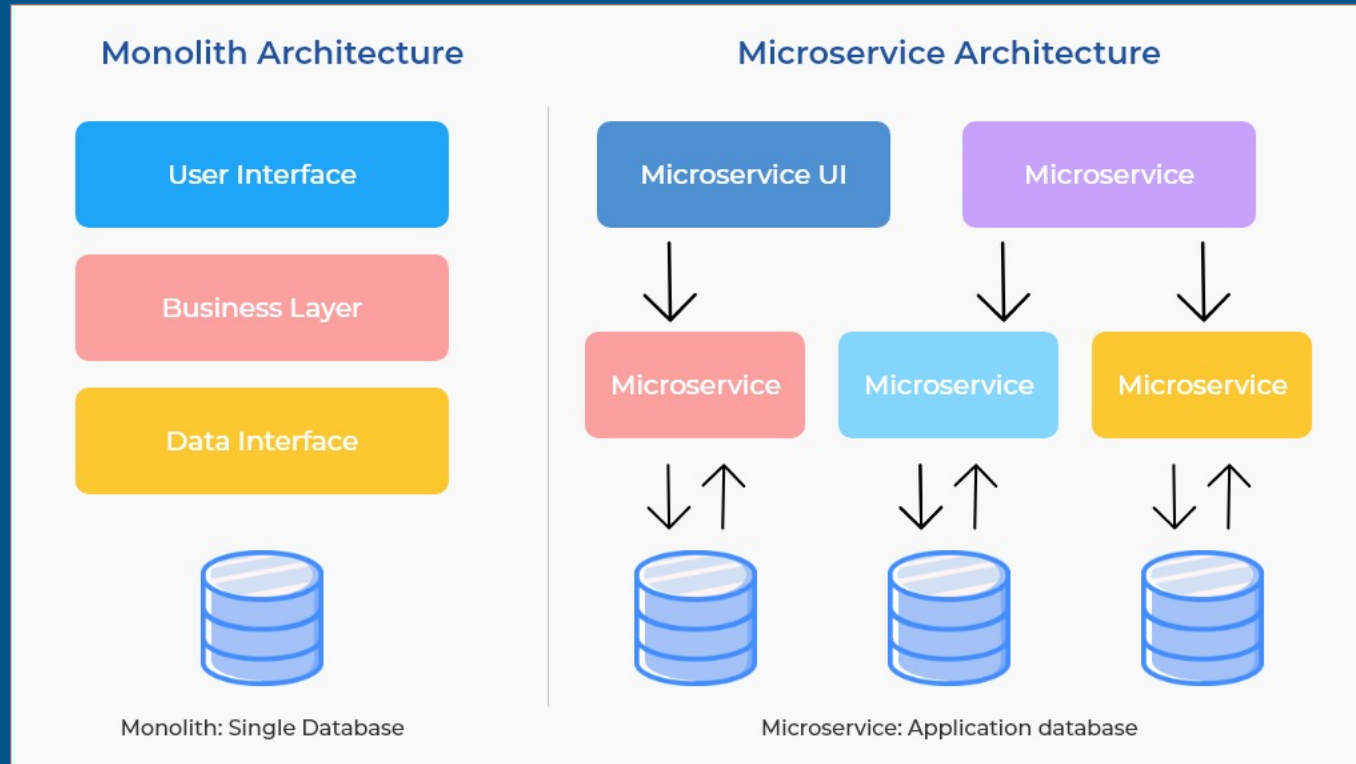
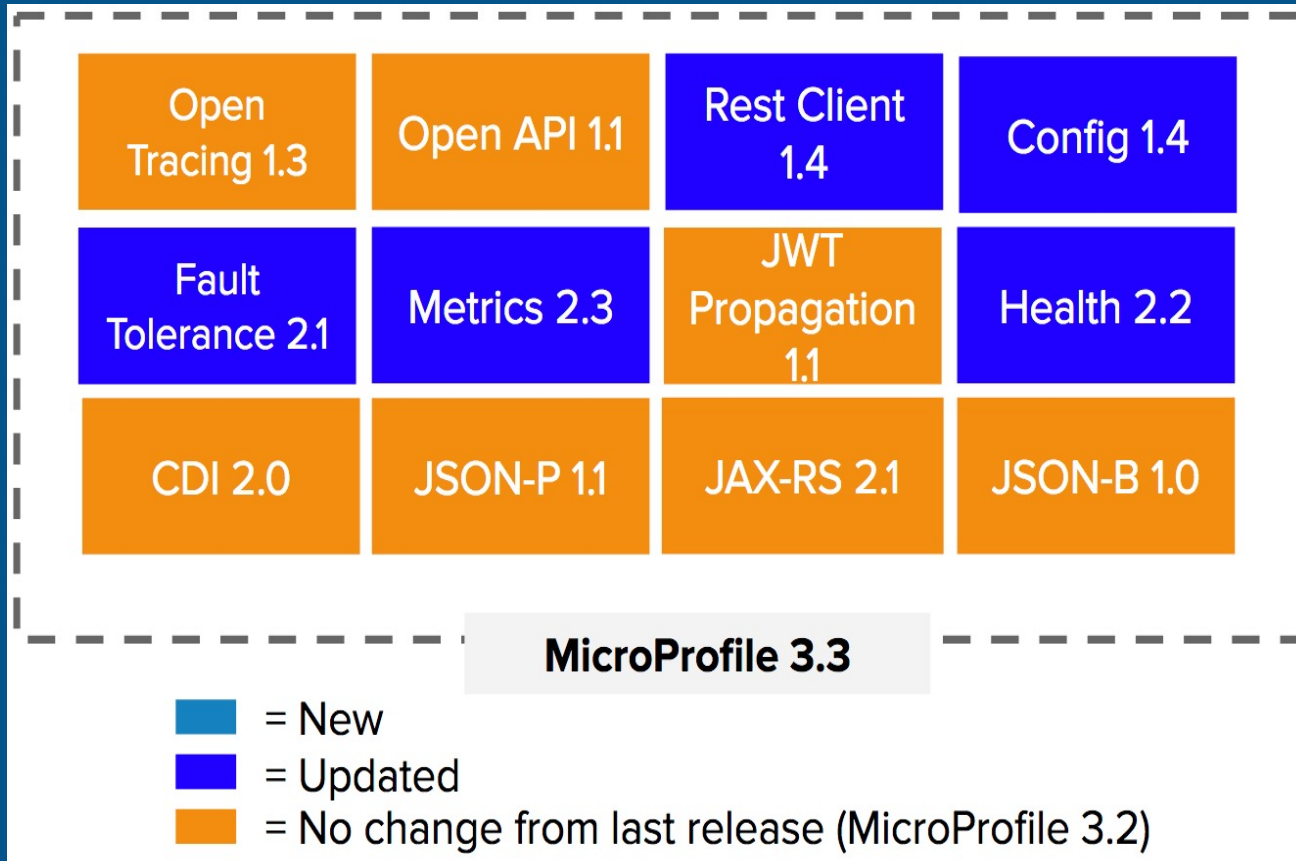"*the microservice architectural style is an approach to developing a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API.*"
Martin Fowler

Architecture

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.

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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.

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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.

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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.

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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.
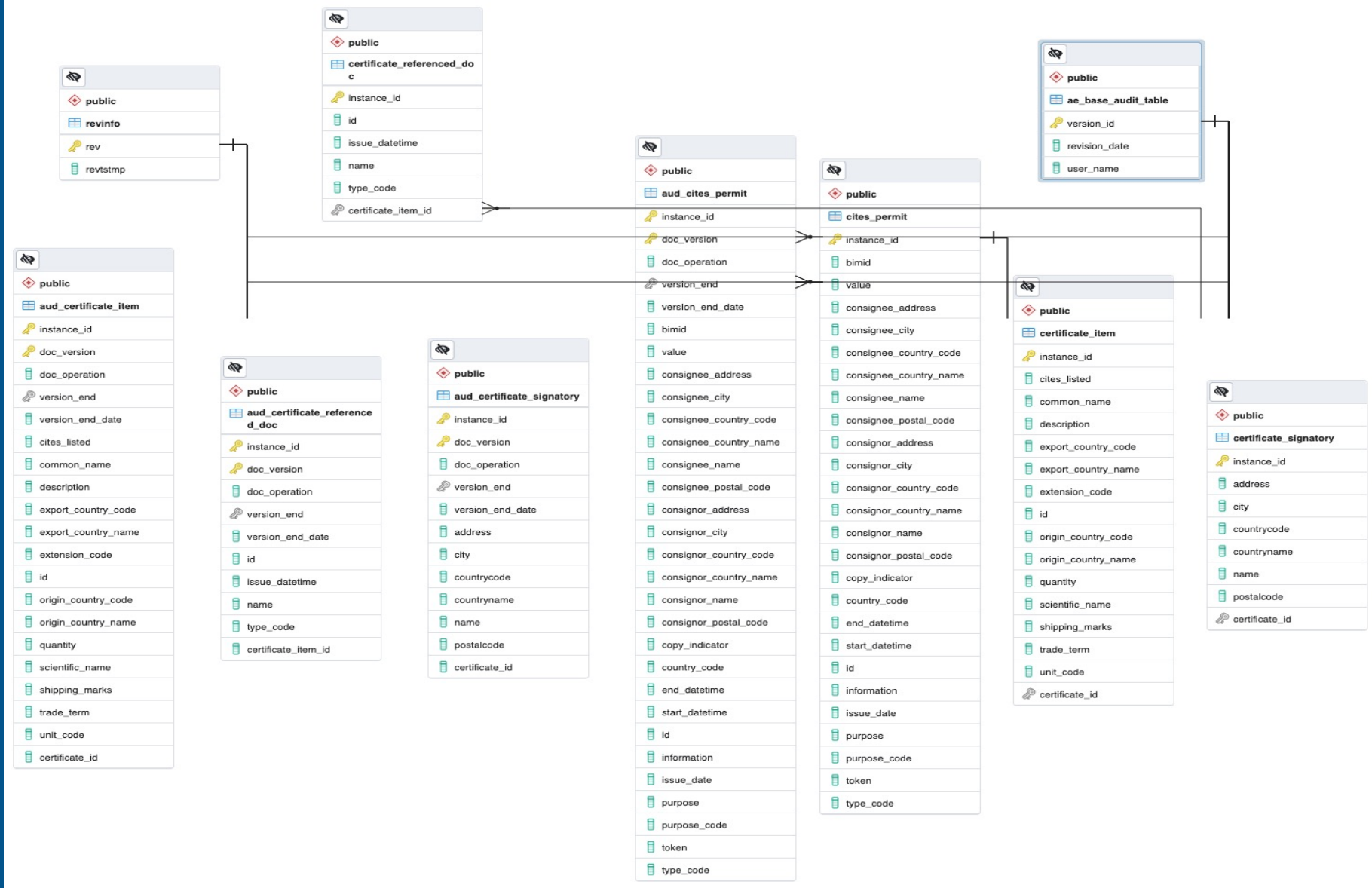
- It is deployed as a war file.

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.

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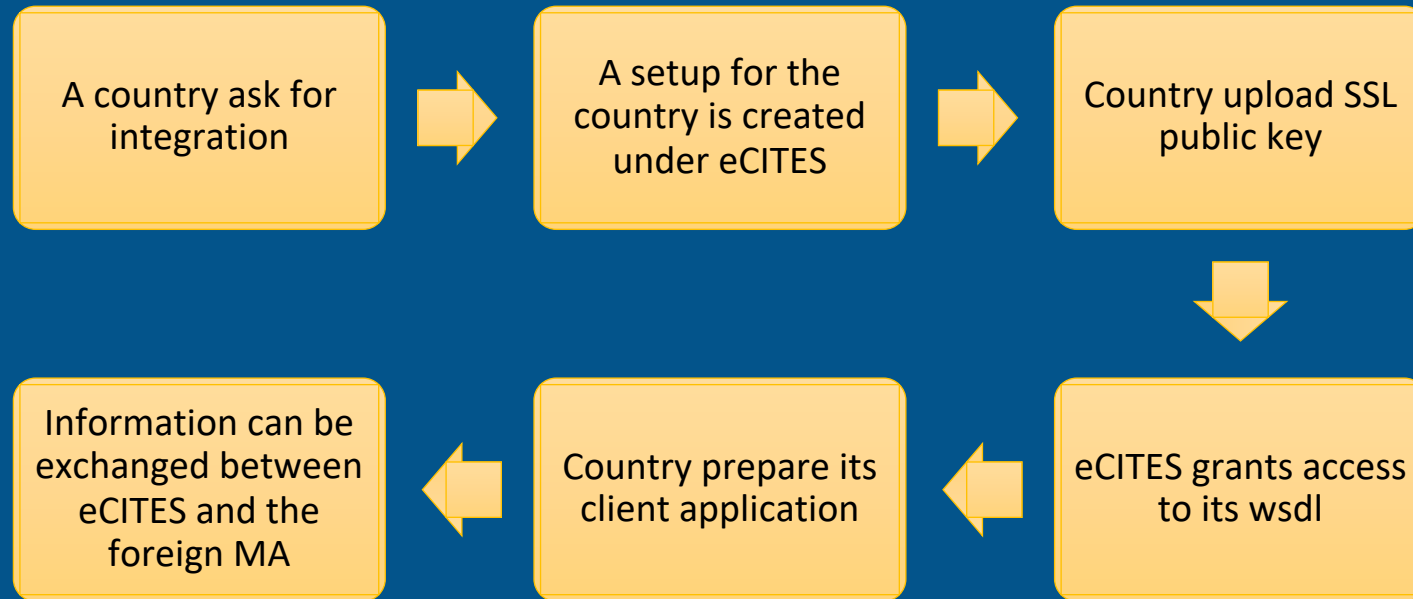Automated System for Customs Data

EPIX integration – 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.

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EPIX integration – ERD

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EPIX integration – Current status

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

- Technical documentation is partially finished. It will be released in web-based format.

- Client integration is in progress
  - Visualization of permits received from foreign Mas
  - Direct link between an import/export permit and the external CITES permit.
  - Dashboard with trade statistics

- Unitary tests (performance and security), and integrational tests with Swiss Management Authority.

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EPIX integration – Next steps

- The EPIX client component will be ready for testing by the end of June.

- Integration tests with Swiss Management Authority will start on May 24th

- The first release is expected in July 2021.

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System
demonstration

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Thank You