

# SP Front Office

IP Key LA workshop at INDECOPI, Lima, Peru

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## What is SP FrontOffice?

SP FrontOffice is a web-based suite of tools that allows clients of the **National Offices** to:

- ✓ easily submit their **trade mark** applications **online** (TM eFiling module)
- ✓ easily submit their **design** applications **online** (Design eFiling module)
- ✓ easily submit their **pre/post registration** procedures **online** (eServices module)

**GUESS  
WHAT?**

*It is office adaptable and  
IPO managed!*



## How is it implemented?

The EUIPO and the EUIPN (European Union Intellectual Property Network) have developed a generic version of the SP FrontOffice. IP offices can implement their own version of the software by following these steps:

1. License agreement is signed between the EUIPO and the IP office.
2. The IP office gets access to the source code of the generic version as well as the documentation.
3. The IP office decides which e-Forms to implement.
4. The IP office **customizes** their own version of the SP FrontOffice and installs at their own premises.

## How many offices implemented so far?

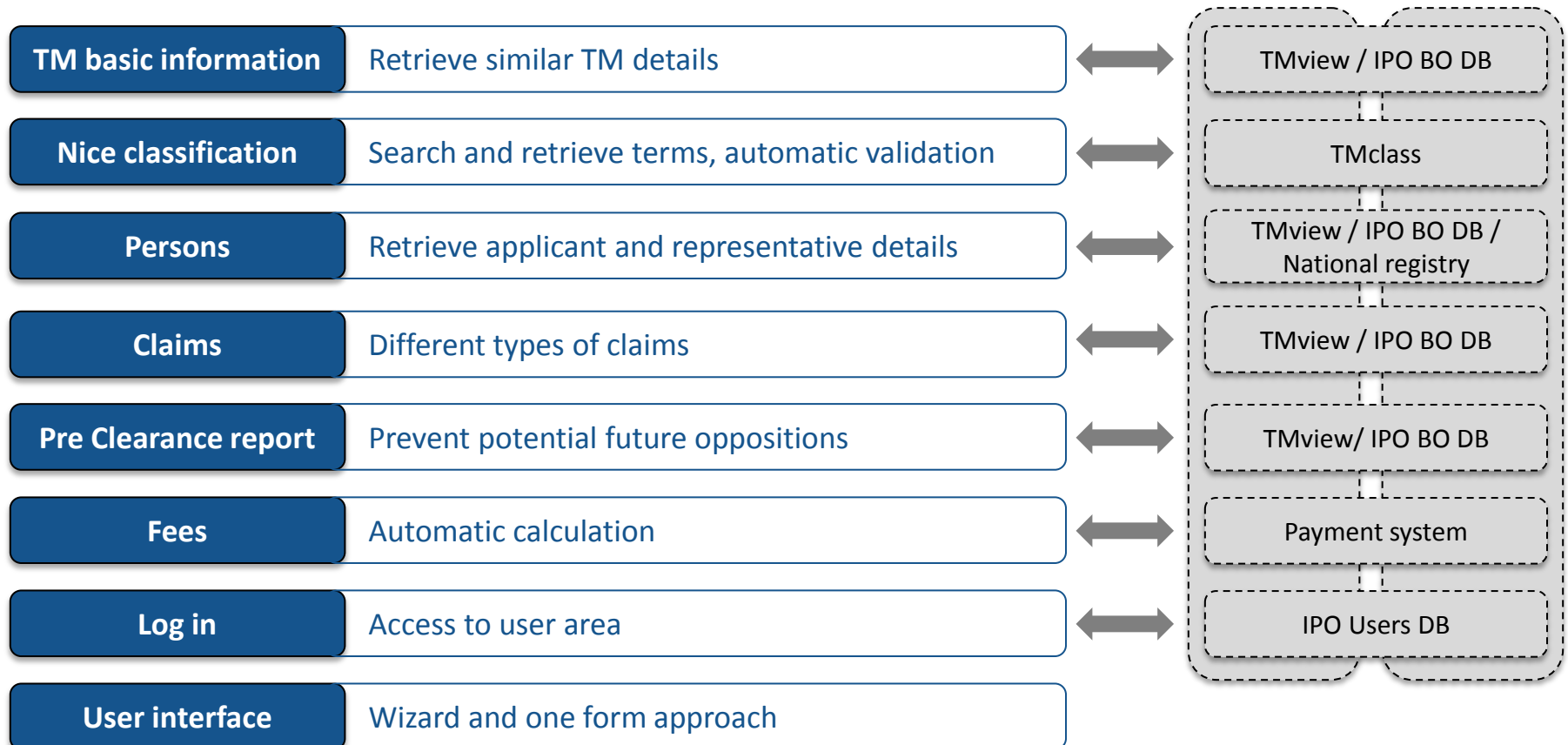
Most of the EU offices have implemented at least one of the modules of the SP FrontOffices suite, including the EUIPO itself.

- ✓ TM eFiling: 19 national offices in the EU
  - ✓ Design eFiling: 15 national offices in the EU
  - ✓ eServices: 17 national offices in the EU
- In addition, a non/EU IP offices has already implemented the tool as well:  
The Philippines IP office!

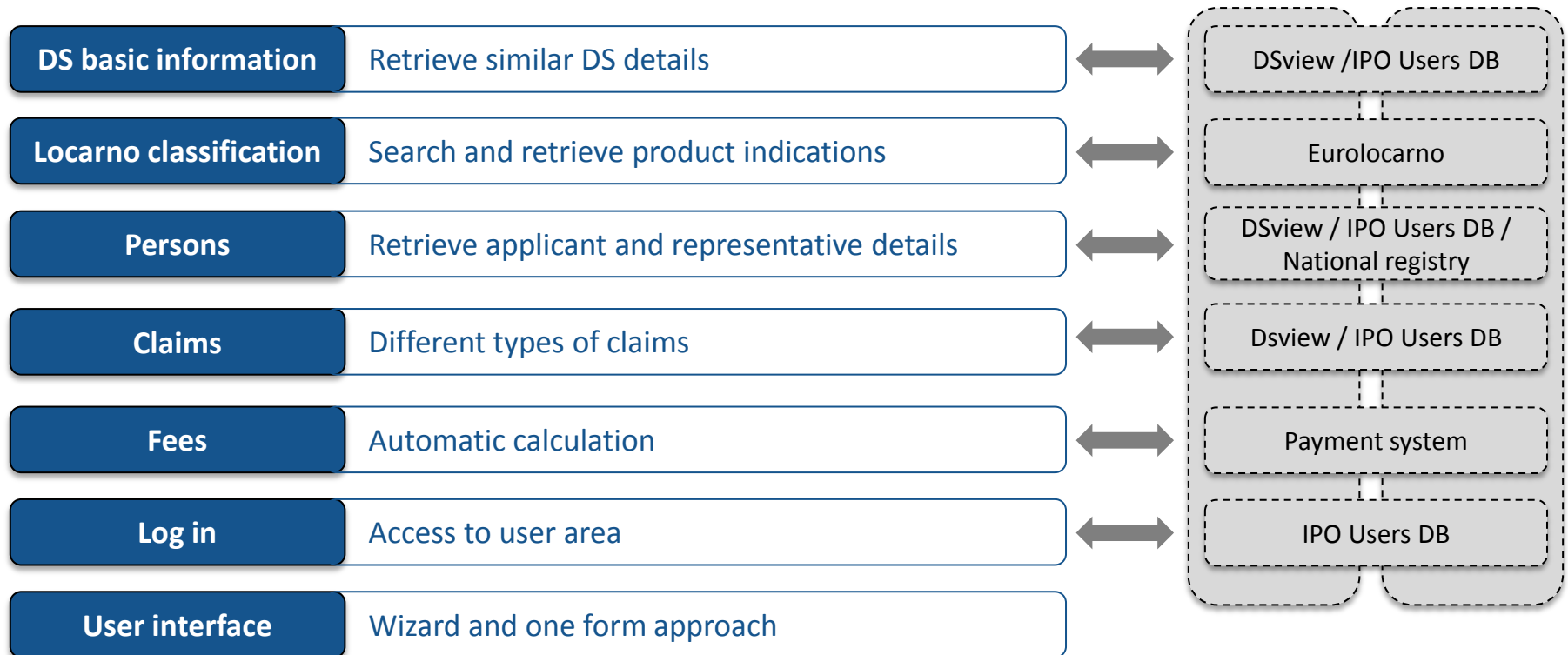
*Some examples of FO live at IPOs:*

- EUIPO: [TM e-filing](#) (wizard form), [TM e-filing](#) (advanced form), [DS e-filing](#)
- Spain: [DS e-filing](#), [renewal](#), [change](#), [transfer](#)
- Philippines: [TM e-filing](#)

## Functionalities and integrations



## Functionalities and integrations



## Types of e-Services

### Trade marks

Renewal

Change owner details

Change Representative/Correspondent

Transfer of rights

Invalidity

Rights in rem

License

Generic

Opposition

Revocation

Objection

Withdrawal / Surrender

Limitation of Goods & Services

### Designs

Renewal

Change owner details

Change Representative/Correspondent

Transfer of rights

Invalidity

Rights in rem

License

Generic

## All the SP Modules must be implemented?

The SP FrontOffice allows the implementation of the specific eForms required by the IP Office. Therefore, it is not required to implement the whole suit.

Then... how is the tool customized?

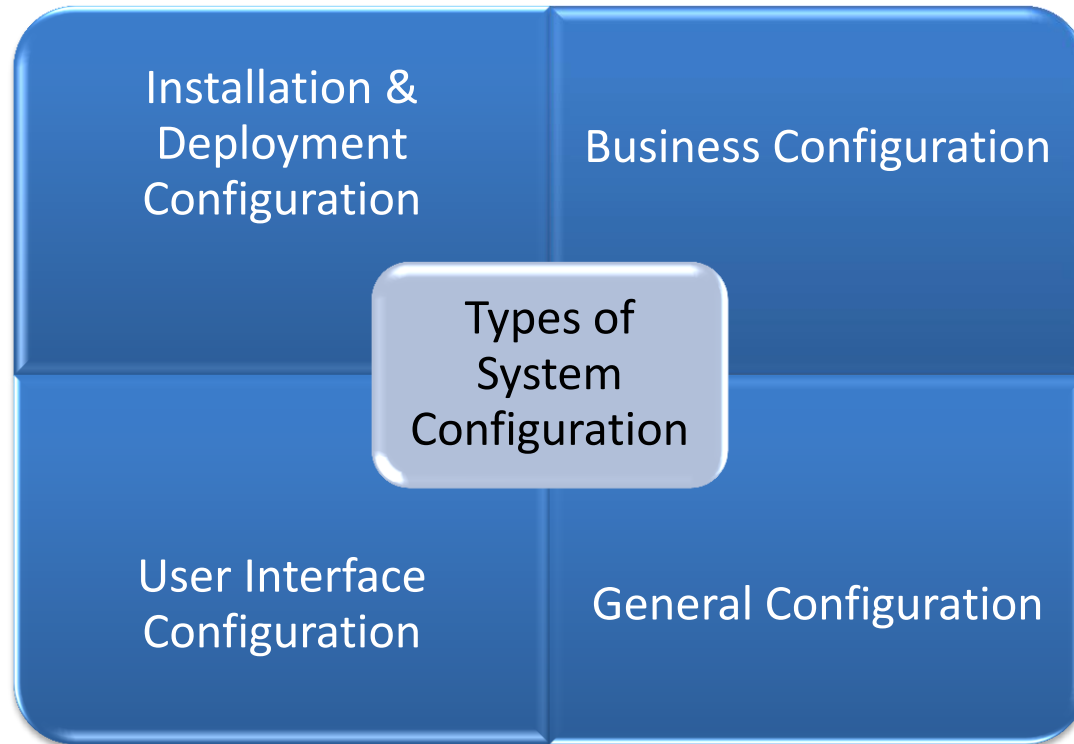
1. The Office analyses their needs and decides which eForms must be implemented.
  - The **FrontOffice questionnaire** can help to define these needs.
2. The Business experts of the Office define and document the business requirements for each eForm.
  - This is done filling the **Information Model** documents which are the best way to gather the requirements and pass them to the IT team.



# Front Office configuration

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## Types of configuration



## Installation & deployment configuration settings

- ✓ Also referred to as *system settings*: settings via which an administrator can configure the various installation and deployment aspects of the application
- ✓ Configuration is achieved through XML and properties files residing in externalized locations
  - ✓ Files specific to the servers used
  - ✓ Additional properties files specific to Software Package
- ✓ Changes of these settings require a restart of the affected component(s)
- ✓ Information is documented in the Launch Plan (SP-FO-1.0.0-LPN-FULL-EN.docx)
- ✓ Examples:
  - ✓ Logging (what to log, where to log)
  - ✓ JNDI names for communication between server nodes
  - ✓ Connection to DB and Document Repository
  - ✓ URLs of services exposed by the legacy systems
  - ✓ Server optimization settings (memory, etc.)

## User Interface configuration settings

- ✓ Settings that can modify the Look & Feel of the system
- ✓ Accomplished through the use of CSS files and properties files
  - ✓ Standard web resource files: HTML, CSS, images, fonts, etc.
  - ✓ Additional properties files specific to Software Package
- ✓ In most cases modifications of those parameters will require a restart of the affected component(s)
- ✓ Examples:
  - ✓ Localised labels and messages
  - ✓ Modification of fonts, logos, etc.
  - ✓ Modification of colours and stylesheets



Most of the configuration in this area is standard User Interface development (CSS, logo, etc.)

## Business configuration settings

- ✓ Settings that can modify business-wise the behaviour of the application
- ✓ Accomplished through the use of XML files and Business Rules
- ✓ In most cases modifications of those parameters will require a restart of the affected component(s)
- ✓ Example:
  - ✓ Form pages, sections and fields (show/hide, optional/mandatory, etc.)
  - ✓ Content of lists (countries, languages, etc.)
  - ✓ Data validation (business rules)
  - ✓ Fees management (fee amounts, algorithm for calculating fees)
  - ✓ Receipt (format and content)
  - ✓ Etc.

## General configuration settings

- ✓ Settings that are used for configuring other aspects of the application not directly related to business, Look & Feel or installation settings aforementioned
- ✓ Accomplished through XML files and parameters stored in the database
- ✓ Depending on the parameters touched changes are applied either on-the-fly or might require a restart of the affected component(s)
- ✓ Examples:
  - ✓ Enabling/disabling invocations to external services
  - ✓ File upload options (formats, number of attachments, maximum size, etc.)
  - ✓ User permissions (rights assigned to roles)
  - ✓ Number of search results displayed
  - ✓ Maximum number of allowed applicants, representatives, designs, etc.
  - ✓ Etc.

# Front Office architecture overview

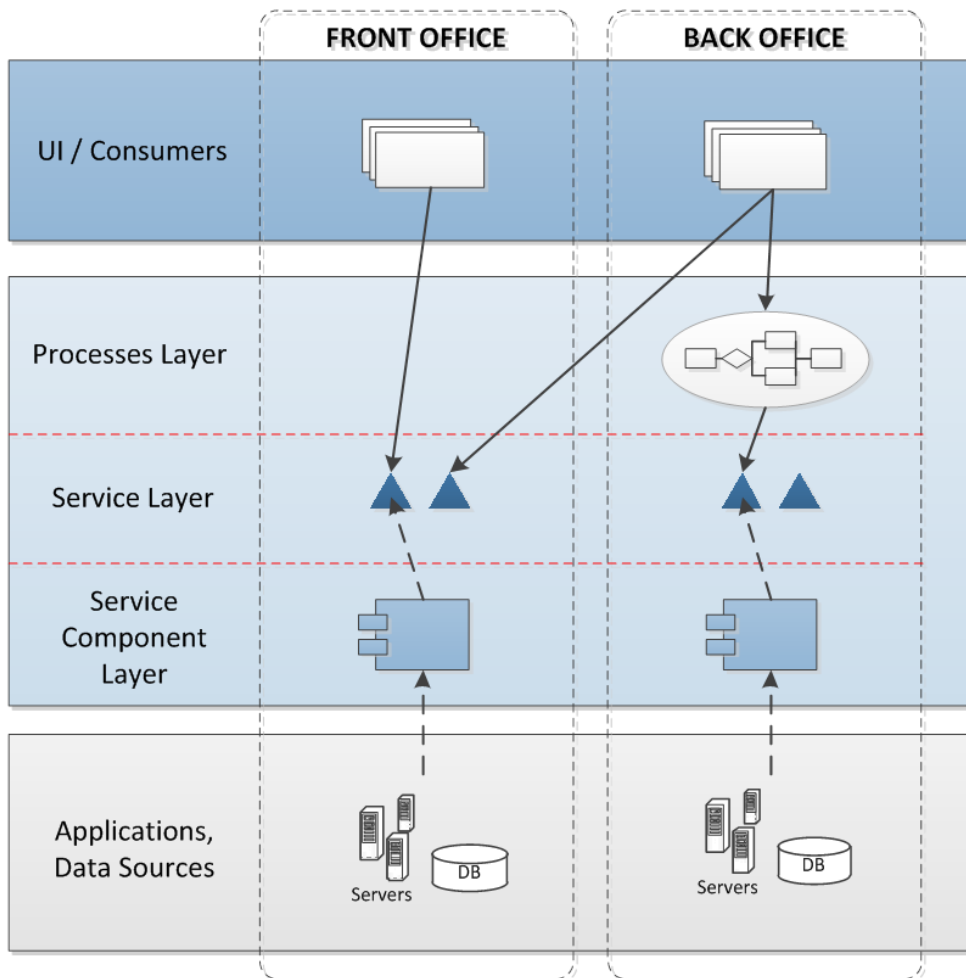
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## Reference architecture

### Presentation Tier

### Service Tier

### Information Tier





## Reference architecture

### Presentation Tier

- ✓ Includes the consumer applications that implement the interface toward users (UI)
- ✓ Standard MVC Web Application that control the interaction with the user and consumes “services” from the underlying layer

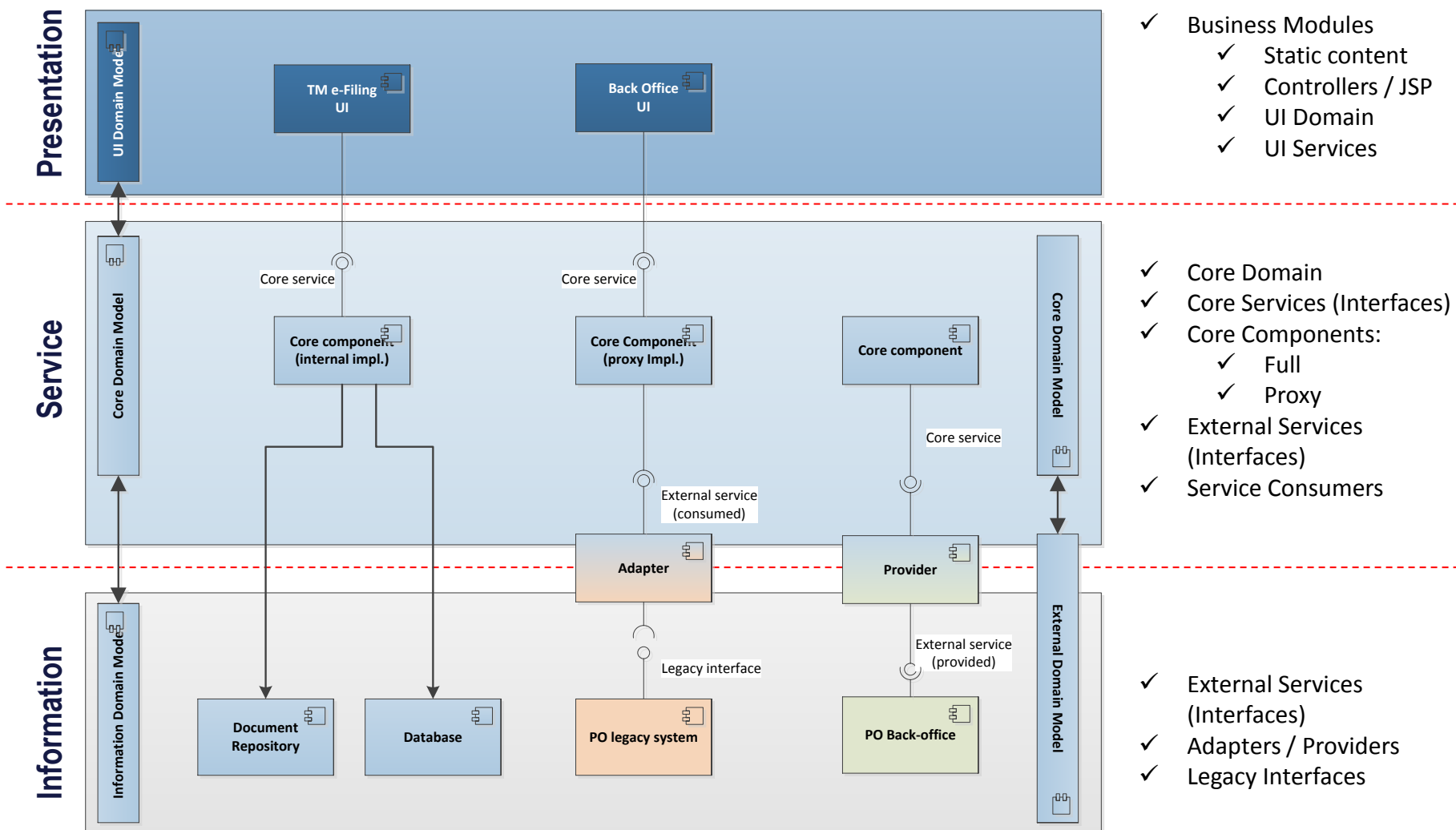
### Service Tier

- ✓ Encapsulates the company business logic and business rules into standardized services (service layer)
- ✓ Includes the *service components* implementing the services interfaces (service component layer)
- ✓ For the Back Office also includes long-running processes orchestrating the services (process layer)

### Information Tier

- ✓ Includes the data sources and the applications (custom, COTS, legacy) available in the participating office context.

# Logical model

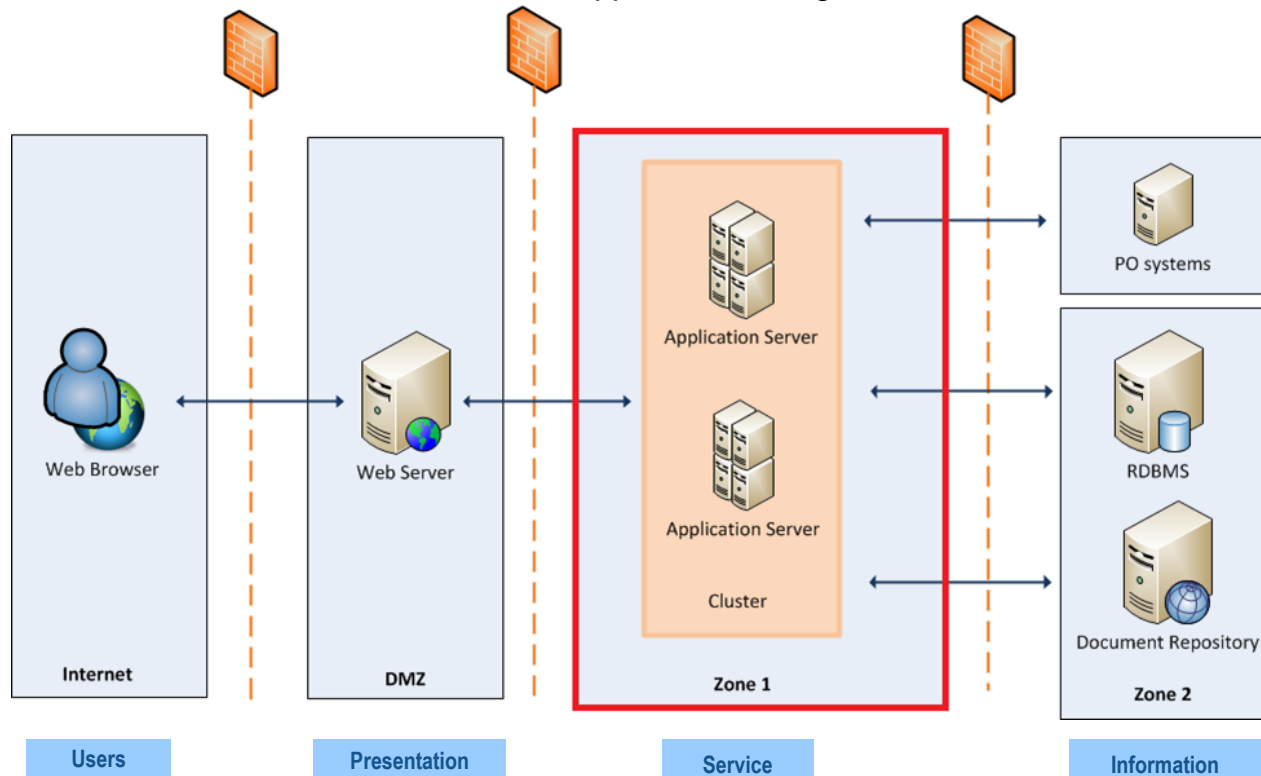


*This view is illustrative, it does not show the actual UI modules, Core Components and Adapters implemented or used by each SP project*

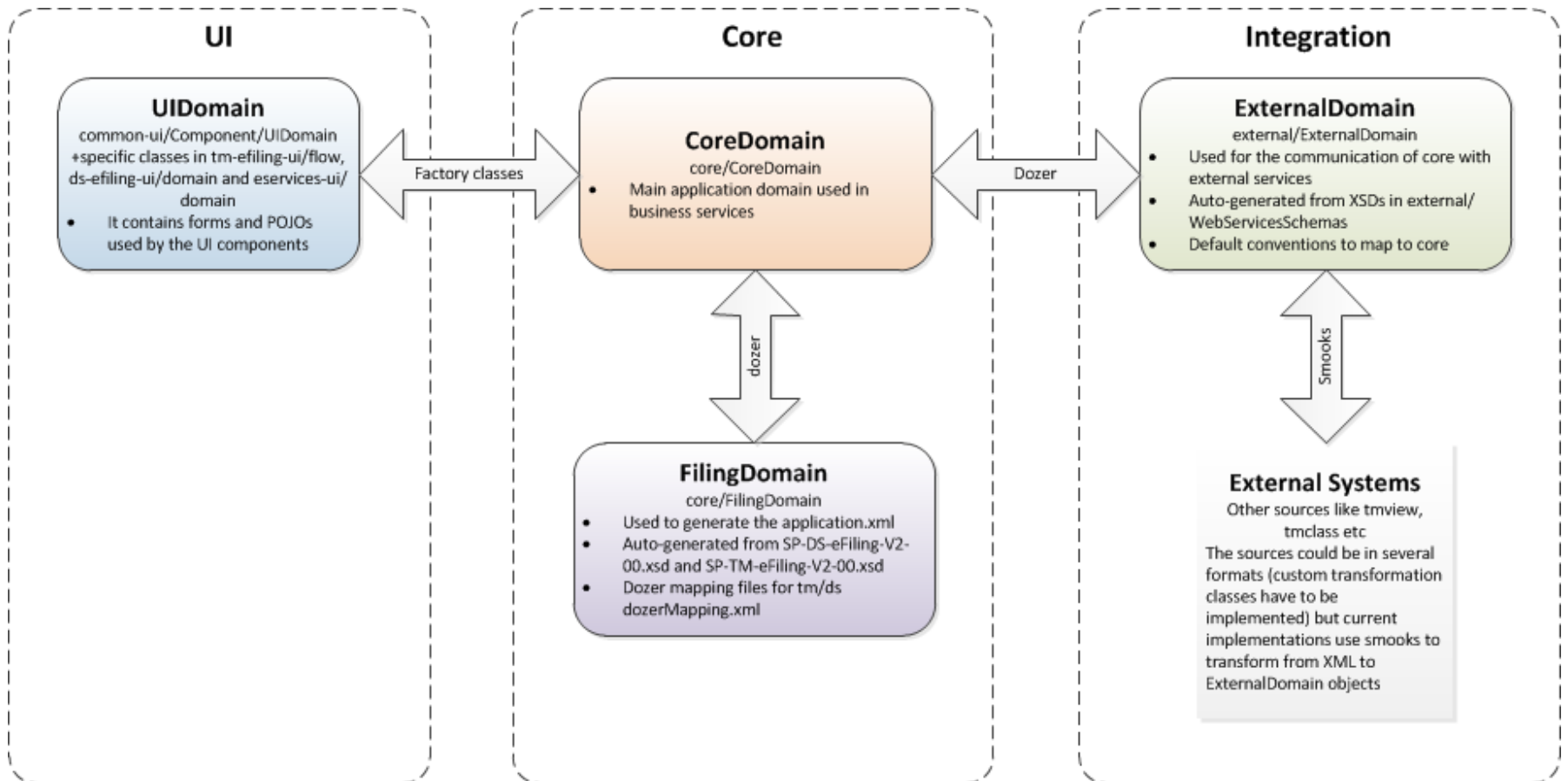
## Front Office – Deployment View

Front Office software artefacts deployed to single server instance

- ✓ Low complexity
- ✓ Minimum servers required
- ✓ High availability only requires that a single server is clustered
- ✓ A single log file can be monitored which will provide a complete view of the system
- ✓ Reduction in *over the wire* network traffic due to applications being contained within the same container



## Front Office – Transformation between domains



# Development

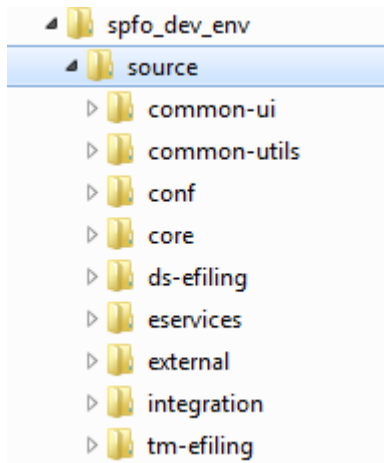
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## Development: Tools

Technology	Description	Additional Info
Java	Java SE Development Kit 7 (7u60+) Java EE 6	<a href="http://www.oracle.com/technetwork/java/index.html">http://www.oracle.com/technetwork/java/index.html</a>
Maven	A software project management and comprehension tool. Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information.	<a href="http://maven.apache.org/">http://maven.apache.org/</a>
Gradle	A tool for software project build, Gradle is used in the context of Software Package Front Office to manage deployment of the built artefacts to the various servers.	<a href="http://gradle.org/">http://gradle.org/</a>

- ✓ IDEs: Eclipse, IntelliJ IDEA, etc.
- ✓ Frameworks: JQuery, Spring (MVC, Core, Web Flow, Security), Hibernate, Drools
- ✓ Other tools: Anypoint Studio (or Eclipse plug-in), SoapUI
- ✓ Source Control: Subversion

## Development: Modules and components



### Modules

- ✓ Map to high level source code structure in SVN
- ✓ Group components according to either:
  - ✓ Functional areas (presentation tier)
  - ✓ Layers (service tier)
  - ✓ Others (installation/documentation)

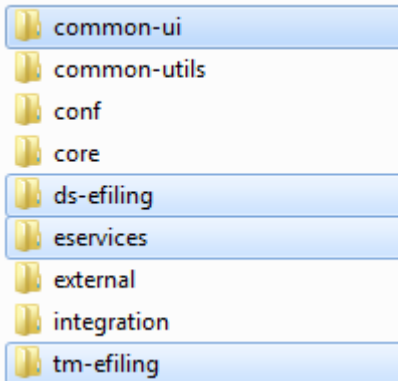
### Components

- ✓ Map to functional elements/areas (UI)
- ✓ Define second level elements in the source code structure
- ✓ Group business/technical services

### Naming conventions

- ✓ UI layer components: take name from its functional areas
- ✓ Core layer components: named after each functional element
- ✓ External layer: functional element, plus “Consumer”
- ✓ Integration layer components: functional element, plus either “Provider” or “Adapter” (consumed by SP)

## Development: Presentation Tier



### **tm-efiling, ds-efiling and eservices**

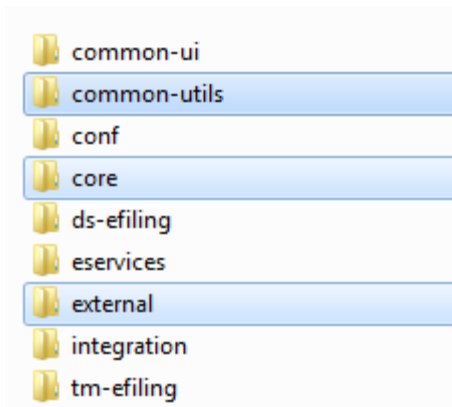
- ✓ Code and resources of the Presentation Tier modules
- ✓ Artefacts are built and deployed as WAR files
- ✓ Static resources are deployed to Apache HTTP Server
- ✓ WAR files are deployed to Apache Tomcat Server

### **common-ui**

- ✓ Provides common, reusable UI components
- ✓ Includes the UI Domain and UI Services
- ✓ Artefacts are built as JAR files
- ✓ Utilised by tm-efiling, ds-efiling and eservices



## Development: Service Tier – Core (1/2)



### **core**

- ✓ Code and resources of the Service Tier components
- ✓ Artefacts are built and deployed as either EAR or JAR files
- ✓ EAR/JAR files are deployed to JBoss Application Server

### **external**

- ✓ Code and resources of web service end points (WSDL/XSD) and corresponding Java interfaces
- ✓ Includes the components used to perform web services calls (service consumers)
- ✓ Artefacts are deployed as part of the core components

### **common-utils**

- ✓ Provides utility classes utilized by the core module
- ✓ Artefacts are built and deployed as JAR files

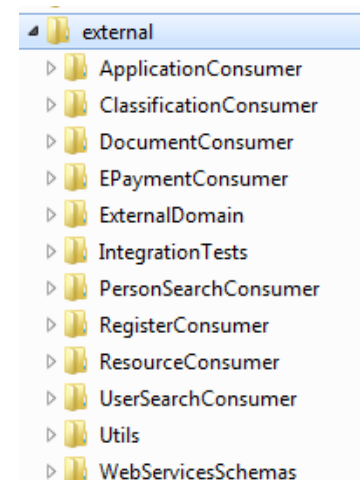
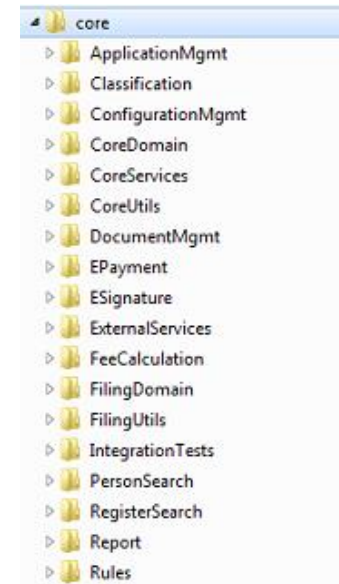
## Development: Service Tier – Core (2/2)

### core

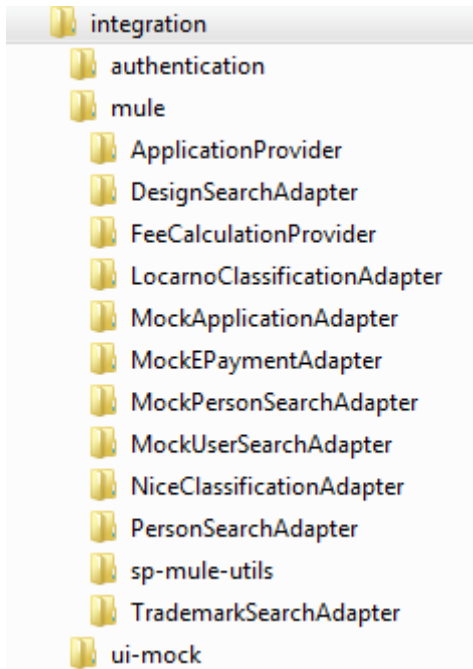
- ✓ CoreDomain and CoreServices provide generic business interfaces
- ✓ Components such as PersonSearch and Fee Calculation provide specific implementations of the core services interfaces. These implementations can be customised or created as required by Participating Offices
- ✓ FilingDomain defines the filing form objects corresponding to the Application XML (TM and DS schemas)

### external

- ✓ WebServicesSchemas provides the definition of the external Web Services (WSDL and XSD)
- ✓ ExternalDomain and ExternalServices provide the Java interfaces corresponding to the WS
- ✓ Components such as PersonSearchConsumer manage the web services call logic. They are used by core components that are proxies to external legacy systems



## Development: Service Tier – Integration



### integration

- ✓ Code and resources of the Integration Layer within the Service Tier
- ✓ Provides integration modules for:
  - ✓ Consumed services (xxxAdapter)
  - ✓ Provided services (xxxProvider)
- ✓ Artefacts are built and deployed as Zip files
- ✓ Zip files are deployed to MuleESB server
- ✓ Integration with tmdn.org external services such as TMClass and TMview are provided out of the box
- ✓ Mock components require specific implementations



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Thank you