openFWPA: Open Framework for the Public Administration, Principality of Asturias (Spain)

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Introduction

e-Government

Use of **information and communication technologies** (ICT) in **administrative processes in the public sector**.

Transformation of paper based processes in electronical processes.

Ideally: **single point of contact** that allows the provision of public services taking advance of the interactivity, quickness, efficiency and customisation provided by the new technologies.

What advantages does it have?

- **<u>Social</u>**: Better quality of life

  – Availability: 24x7 Service

  – Time Spare: Travels and waits are avoided

  – Access Simplicity: It is not neccessary to get to the office. Services can be accessed from anywhere in the world.

  – Removal of barriers due to geographical distance and discapacity

- **<u>Economical</u>**: Better productivity

  – More efficiency and transparency

  – Less administrative and management load

- **<u>Ecological</u>**: Less ecological impact

  – Reduction in the quantity of paper used

  – Reduction in travels

Free Software in e-Government

- **Freedom of choice**: It does not depend or is determined by a single software provider
- **Security and privacy guarantees on systems and data**: Allows for a complete inspection of the computerized system
- **Perdurability of the information**: It guarantees access to the documents now and in the future, on any computer architecture
- **Development of local industry**: Investment in technological development helps to improve local businesses and employment
- **Code share and reuse**: It is not neccesary to keep developing the same once and again by different organizations
- **Cooperative development**: Improvement of the quality and reduction of development and maintenance costs
- **Encouragement of Standards**: Compliance with the Electronic Administration Legislation
- **No discrimination**: Free Software gives a better support to the citizens' technological diversity
- **Consistency with other administracions**: Every time more organizations use, install or develop Free Software

Asturias

- Single-province Autonomous Community in the north of Spain (Europe)

- Total Surface: 10.603,57 km2 (2,1% of Spain)

- Population: 1.070.215 (2,38% of Spain)

- High geographical dispersion rate (100 inhabitants per square km)

- Mountainous and coastal region

- One third of the territory is a protected natural area

openFWPA

- Direct descendant of the J2EE development framework of the Principality of Asturias (FWPA)

- Initiative promoted by the Directorate-General for Computer Science and the Directorate-General for Modernization of the Government of the Principality of Asturias (Spain)

- Development Framework for electronic administration and e-government systems based on the J2EE technology

- It consists of more than 100.000 lines of code developed by the Principality of Asturias

- With a Stability and Solidity for which the tens of systems in production that work on it are indicators.

- Key element in the success of the e-Government model implemented by the Principality of Asturias, which has allowed it to be a point of reference at national level

Essential Conceptual Points

- **Multichannel Access**: Gestiones presenciales, interacción a través de web o el uso telefonía móvil.

- **Service Continuity**: Procedures can be started through any of the supported channels and continued in a different one.

- **Accesibility**: Anyone should be able to use the system under the same conditions, irrespective of their situation.

- **Service simplification and integration**: Services that are useful, easy and quick, minimizing the number of iterations needed..

- **Colaboración entre administraciones**: Establecer acuerdos de colaboración en de las propias administraciones y entre diferentes organismos.

- **Interoperability**: Systems must interact among them so that they can allow a full access to the available information.

Principality of Asturias

eEspaña 2007 and 2008 (Fundación Orange)

Asturias is a referent in eAdministration
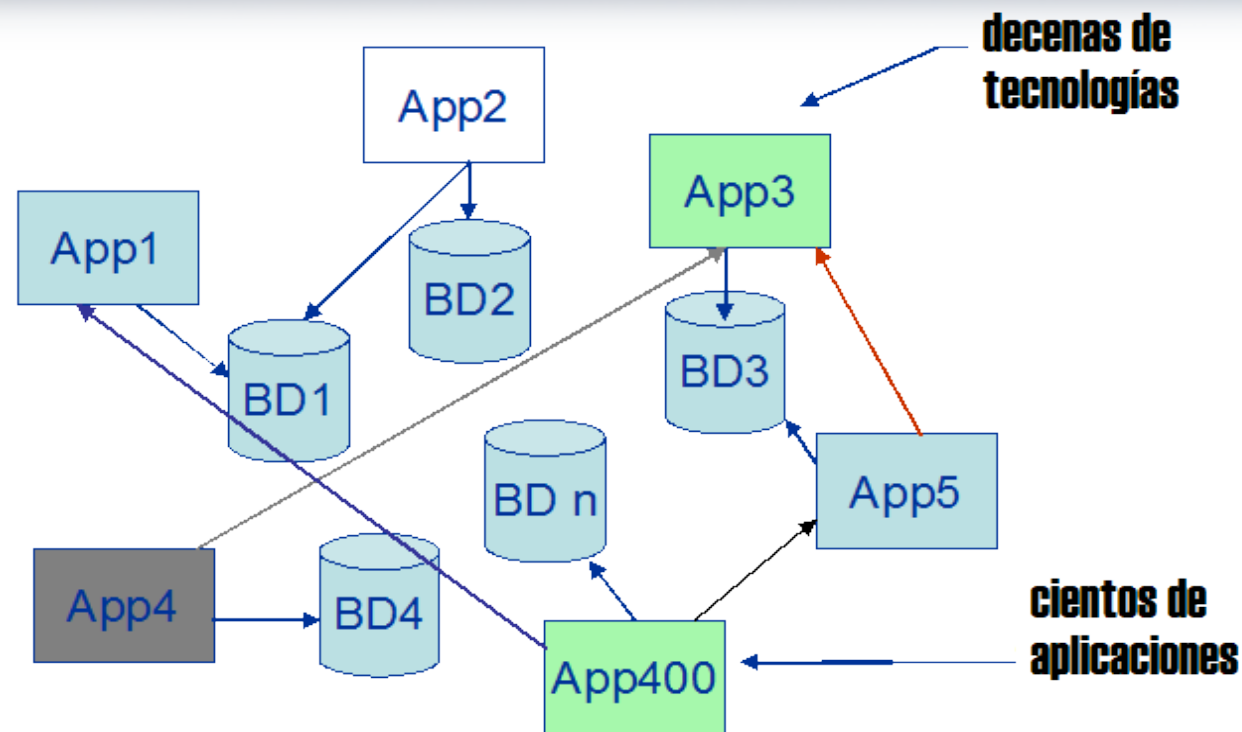
ICT Accesibility Certification from **AENOR**

Biko2 report (2008)

Excelence Mode in Usability

openFWPA

Diversity of tecnologies: problem

In 2004, the Principality of Asturias had more than 800 servers, with almost 500 applications developed in more than 20 different development environments.

J2EE Architecture

- Components can be **reused**.

- **Independence** of the underlying architecture.

- Limited **Costs**.

- Reasonable **Learning** curve.

- Availability of **developer profiles**.

- **Simplification** of management, development and maintenance of the system.

- Support of **Free Software**.

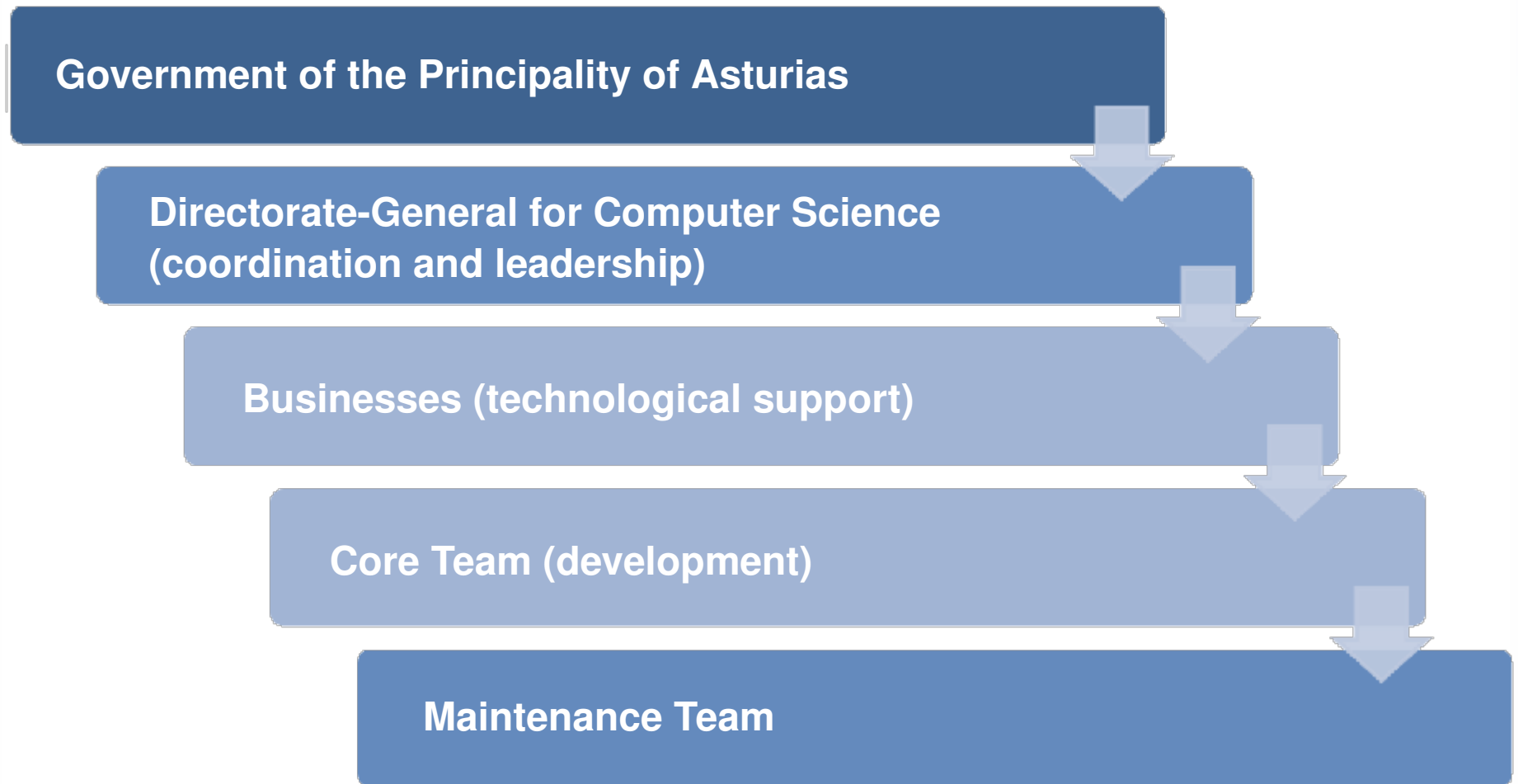# Advantages of having a Framework

- **Reuse**: Same components (menues, authentication, operation) must only be configured, not developed

- **Homogeneization**: Applications have the same structure and elements. They are developed, maintained and managed the same way.

- **Quality**: Objective quality criteria based in metrics

- **Security**: Security integrated in applications

- **Standardization**: Componentized implementation based in standards.
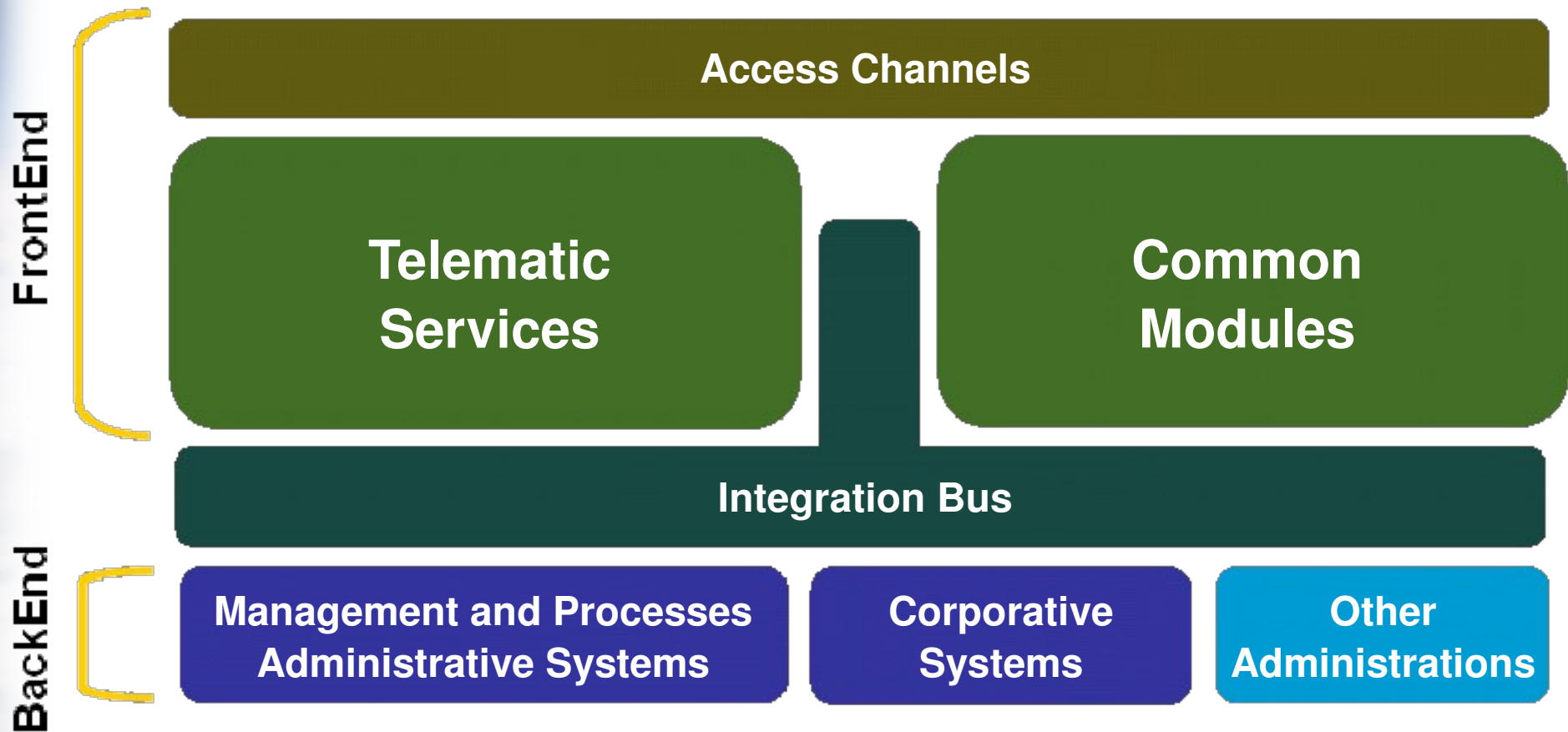
Core Development Team

- Team created specifically to develop and give support on openFWPA

- Totally composed by professionals who belong to the Cluster TIC businesses asociation from fhr Principality of Asturias

  - 73 businesses

  - 2700 professionals

  - 300 millions of €

- Helps and gives support to the different development teams

Project management

Government of the Principality of Asturias

Directorate-General for Computer Science (coordination and leadership)

Businesses (technological support)

Core Team (development)

Maintenance Team

New architecture

Components used in openFWPA

- **J2EE** – Java Enterprise Edition
- **Struts** – Web Applications based in the MVC model
- **Apache Commons** – Reusable Java Components
- **Log4j** – Run-time configurable log recording system
- **Xerces** – XML Parser
- **JUnit** – Library for managing unit tests
- **Spring** – MVC Framework that allow injection of dependencies
- **Maven2** – Tool to manage Java projects
- **Ant** – Tool to compile and build projects
- **Eclipse** – Integrated Development Environment (IDE)
- **JMeter** – Web Applications Benchmarking
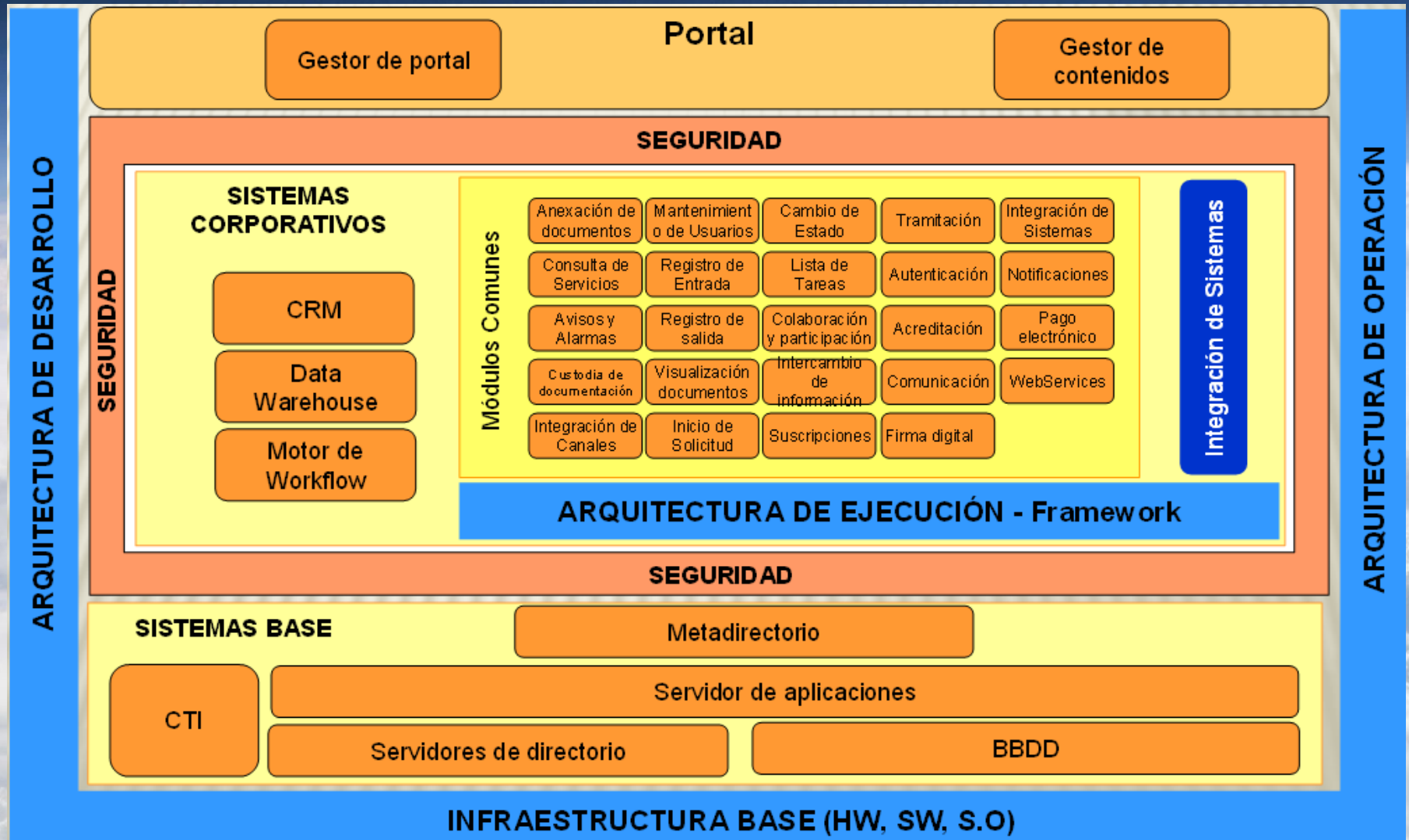- **Jasper** – Report Generation Engine (PDF)
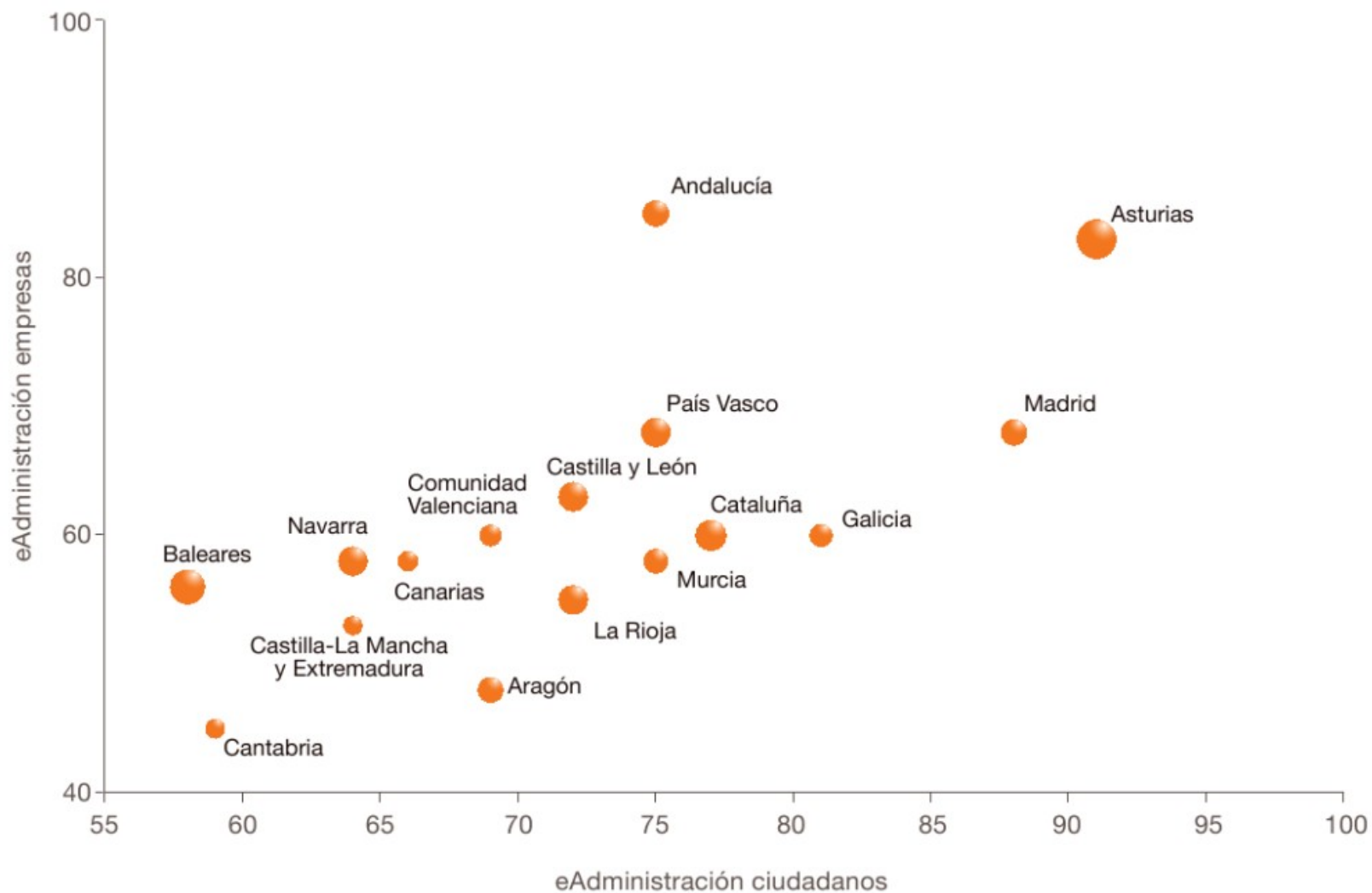
Overall vision of the Framework
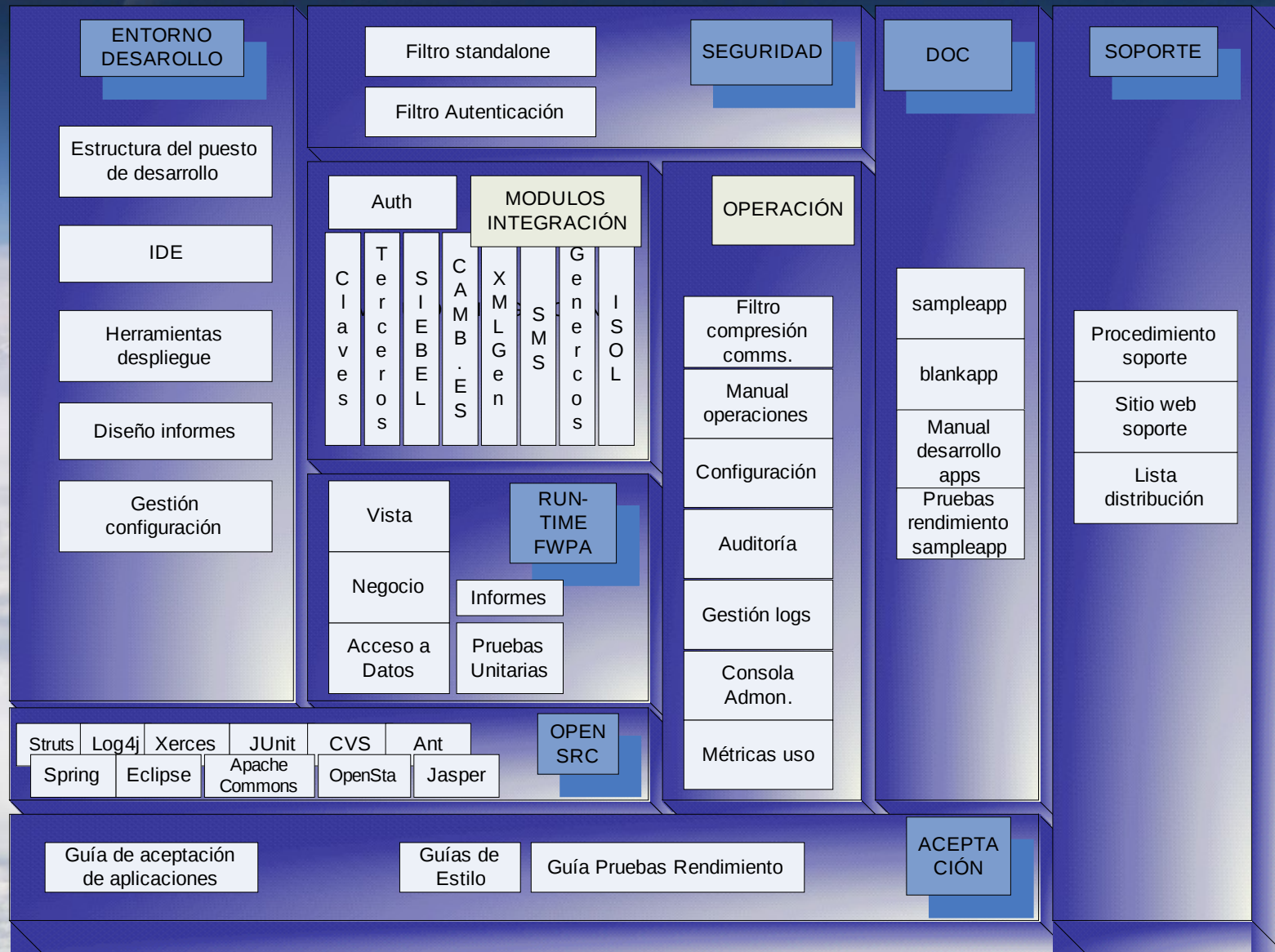
Results

# System architecture

eEspaña 2008 report

eEspaña 2007 and 2008 reports

According to the eEspaña 2007 and eEspaña 2008 reports analyzing 26 services by Fundación Orange, based in the eEurope methodology, Asturias keeps leading the classification, and has experimented in 2008 an increase of 18% in citizen oriented services and 12% in services for businesses

Disponibility of services (eEspaña) 26 services				
	2007		2008	
	Asturias	España	Asturias	España
Disponibility of services targeted at **citizens** (16 services out of 26)	73,44	54,96	**91%**	69%
Disponibility of services targeted at **businesses** (10 services out of 26)	82,5	47,76	**93%**	64%

Activity of electronic services

% Evolución del canal WEB en los últimos 3 años

■ 2007   ■ 2008   ■ 2009
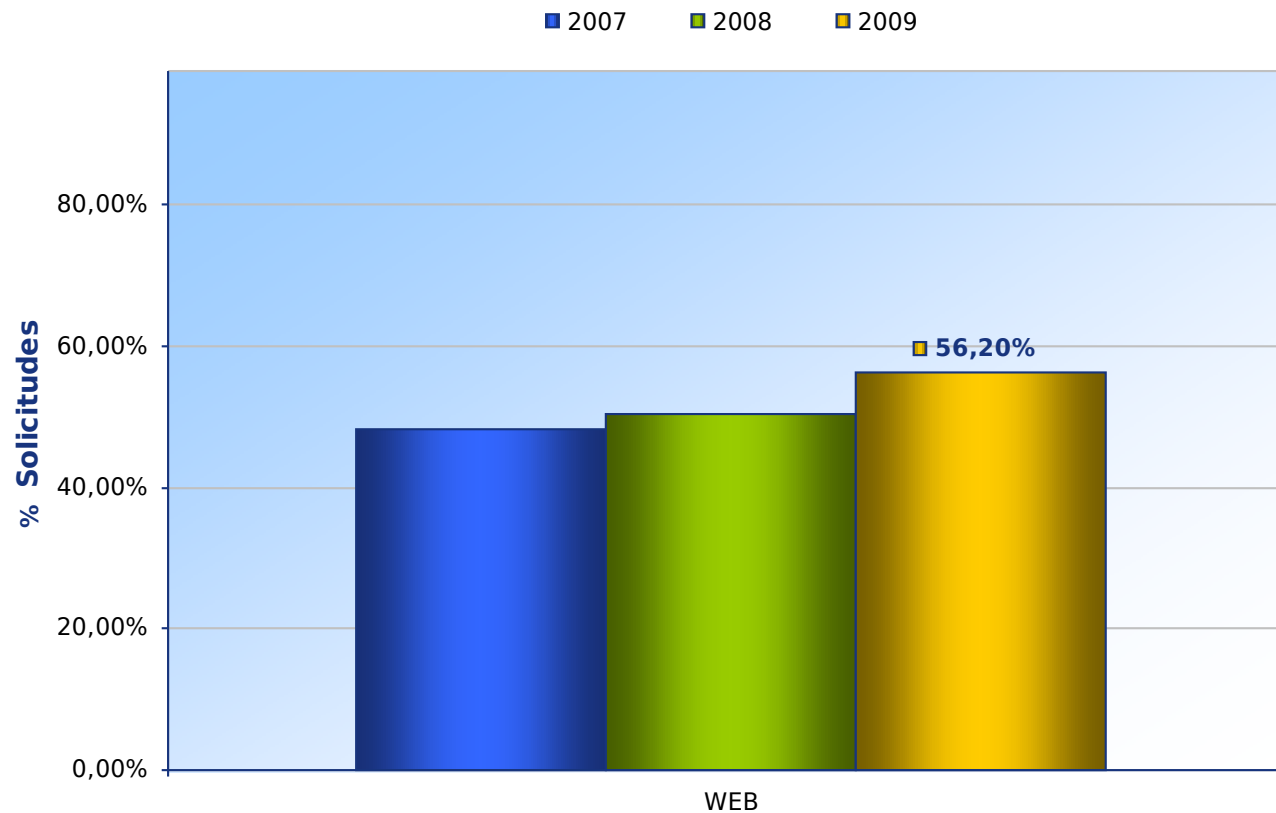
An increase in the Web channel
and decrease in presential can be observed

Development in ICT Businesses

Evolution of employment and business size (measured in millions of euros) of the ICT business sector in Asturias between 2000 and 2006

Year	Business size (millions of euros)	Employment
2000	450,08	3318
2001	482,18	3474
2002	454,75	3329
2003	488,6	3536
2004	550,24	4256
2005	667,73	4092
2006	702,15	4900
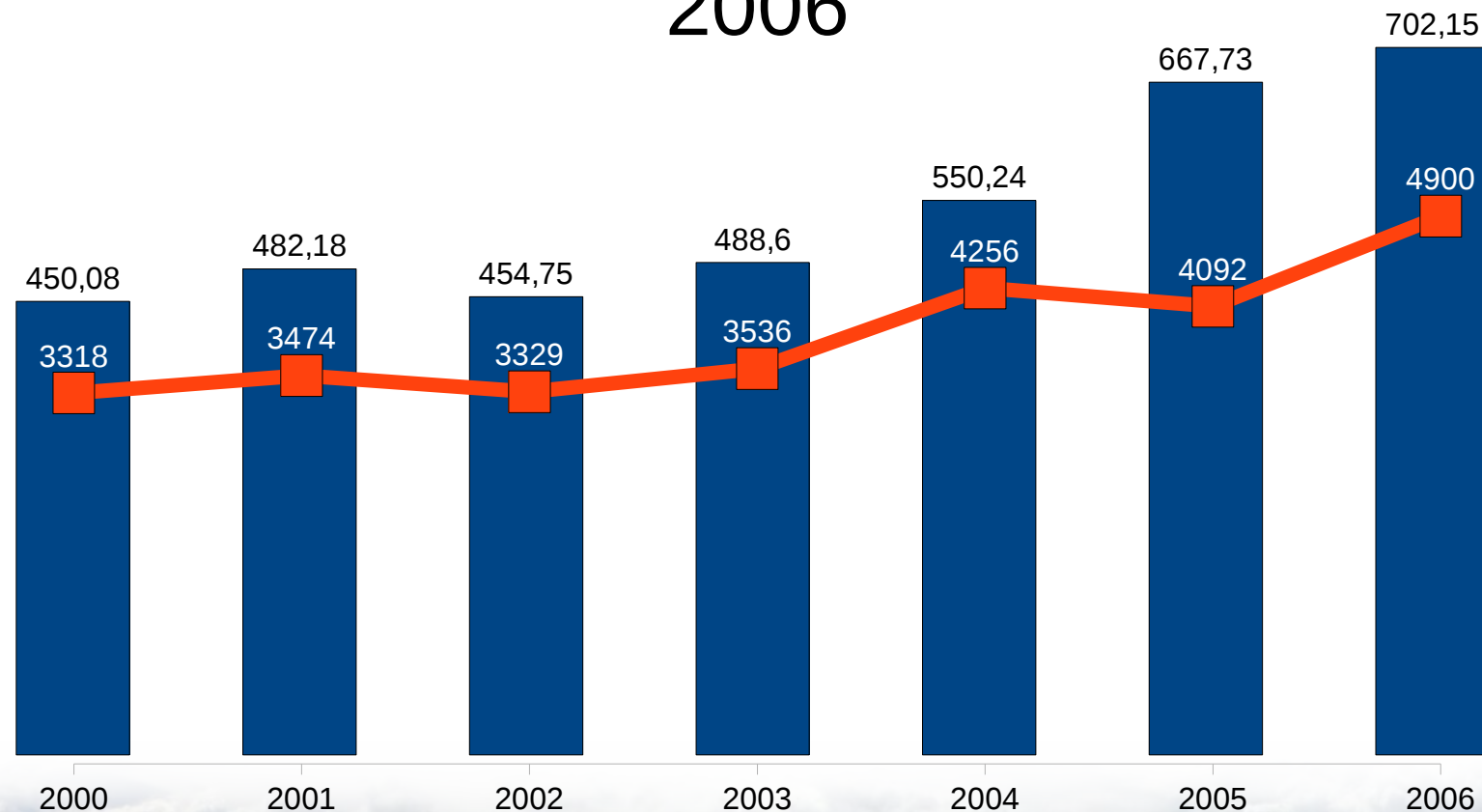
Free Software

Reasons for releasing it as Free Soft

- **Increase the number of businesses** that master the technology: reduction of costs and better protection of the investment

- **Increase the number of users**: expanding this technology to other administrations, businesses, organizations, etc. also favours the reduction of costs and protection of the investment

- **Increase the activity in R&D**: by sharing with other partners the necessary efforts

- **Better position for defining standards** applicable to the Public Administration: by sharing the effort needed to push the developed technology and knowledge to the relevant discussion forums

Released under a dual license

LGPL 3.0: GNU Lesses General Public License

- Popular. Used by many other projects.

- Its legal implications are well and widely known.

- Legal text fits well with the legislation of different countries.

- Can be combined with privative applications. The license does not affect other components that are not derivatives from the work.

- Compatible with the licenses of every of the components on which it depends.

- Copyleft: if someone modifies OpenFWPA and distribute their changes, the have to do it under the same license.

EUPL 1.1: European Union Public License

- Sinergy with different administrations and organizations in the European Union.

Morfeo Project

- Give to businesses, universities, other administrations, Free Software Community, etc. the opportunity to get involved in the development of openFWPA.

- Alignment with Morfeo Project's goals:

  - Open Standards

  - Free Software

  - Collaboration with other entities

Steps for releasing the Project

Designed as a Product (not as a Project)

Based in Free Software / Open Source Components

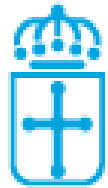**Published as Free Software / Open Source**

| openFWPA | Common Modules | All Applications |

Next Steps

- Freeing Common Modules and the rest of the system (Authentication, Messaging, etc.)

- Developing an specific training programme to create community:

    - Current training programmes are focused in online or in-person courses targetted at the Principality of Asturias (administration and local businesses).

    - Develop self-learning mechanisms for people outside the Principality of Asturias.

- Create a more complete documentation set.

- Internationalize both the code and the documentation.

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