




A simplified IT infrastructure

12, 13 y 14 October 2009
Rome

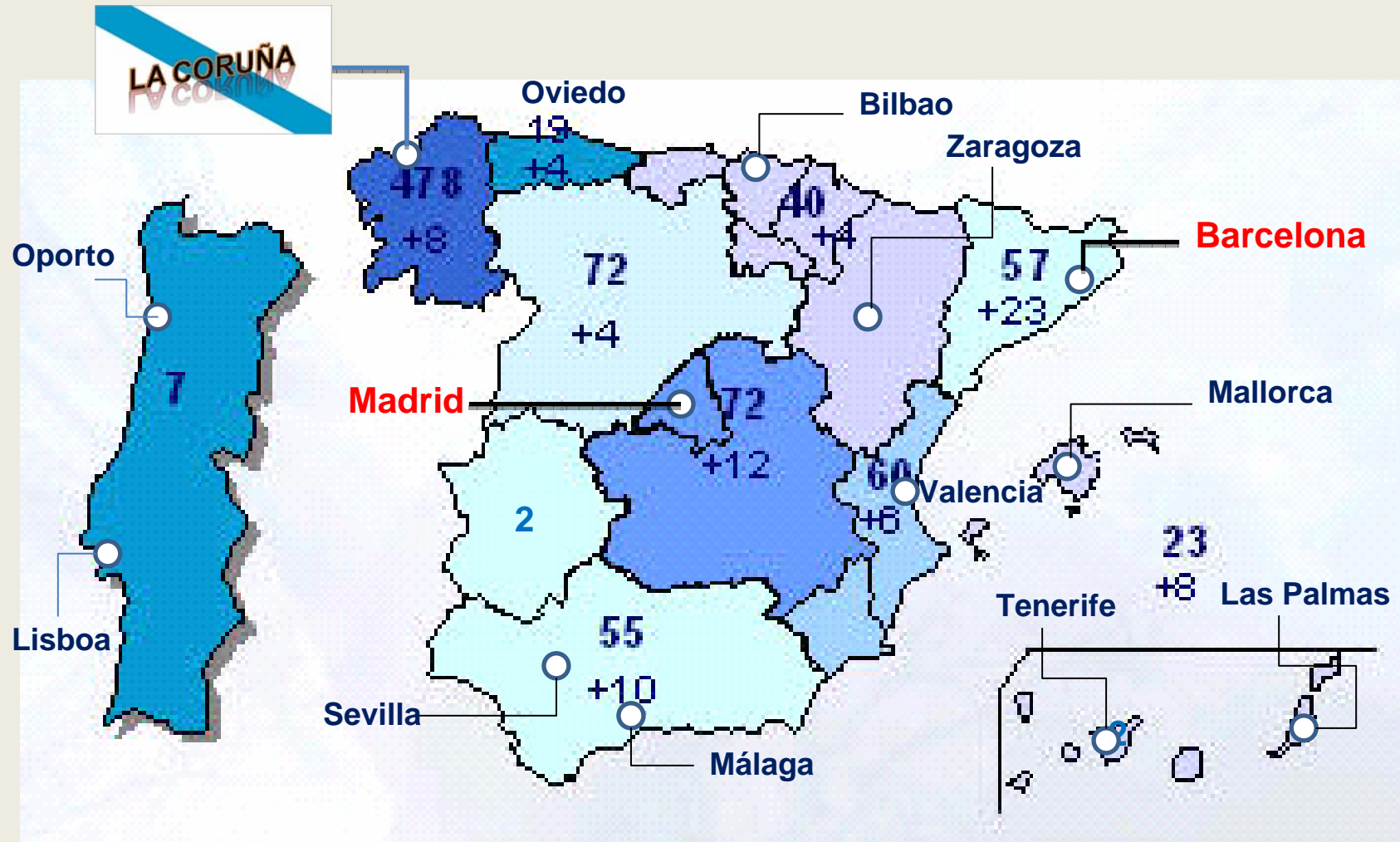
Fifth Savings Bank in Spain...

Caixa Galicia achieved in 2007 a profit greater than 401M with a 12.4% growth

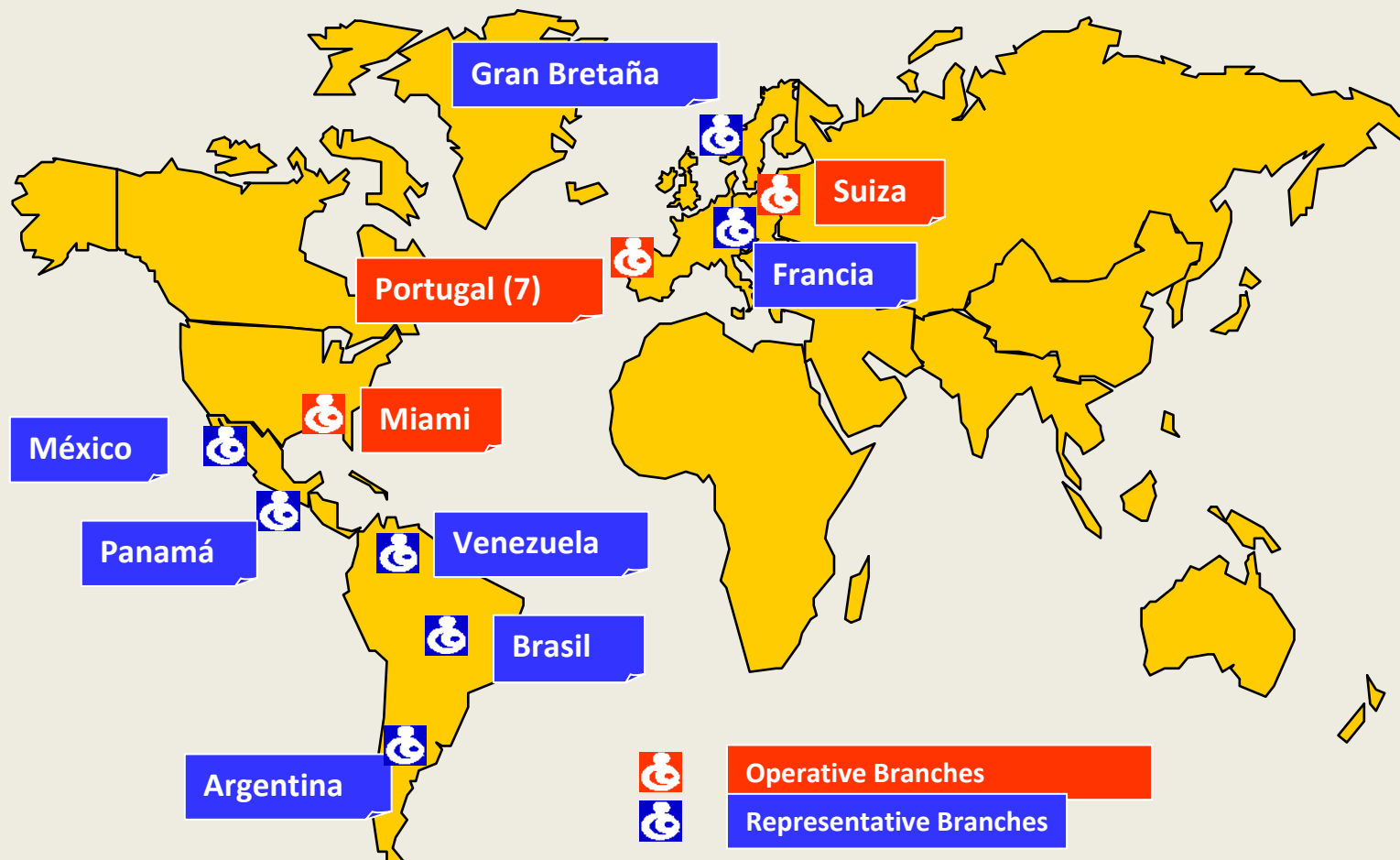
- 
- **Business revenue** was **76.300M€** (22.3%+)
 - **Passive revenue** was **41.000M€** (20%+)
 - It grew **126.000 customers** for a total amount of 2.000.000
 - **4.677 employees** and 80 new **brances** for a total of 900
 - **Unpaid index** was **0.71%** (one of the best in Spain). Growing a little bit in 2008
 - **International presence:** Portugal, Switzerland, Panama, Brazil, USA (special focus in Miami).
 - **25% increase in budget for “Obra Social”** for a total amount of 112M€
 - **570.000 customers at electronic banking**, 5% users thru Mobile banking

Presence at Iberia

Caixa Galicia has a network of 900 branches spreaded along Spain and Portugal



All IT processes are managed from A CORUÑA



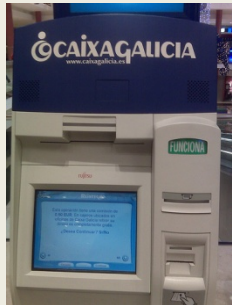
First banking institution managing a Swiss branch from outside Switzerland

Business & Infrastructure



caix|activa
→

caixa gestión



- 897 Branches
- +5.000 Terminals
- 1.030 ATMs
- +15.000 POSs
- +1.700 POSs (INDITEX)
- Working in 4 countries
- Represented in 13 countries
- 3 Different Banking Applications:

Spain

Portugal

✓ **International:**

EEUU (Miami)

Switzerland

Panama



➤ Two CPDs

➤ +300 Servers



➤ 2 Mainframe IBM System z

➤ 2 I-Series (AS/400)

➤ 4 P-Series (3 P6 y 1 P5)



➤ EIS

➤ One SAN with 300 TB

➤ FICON and FC Directors

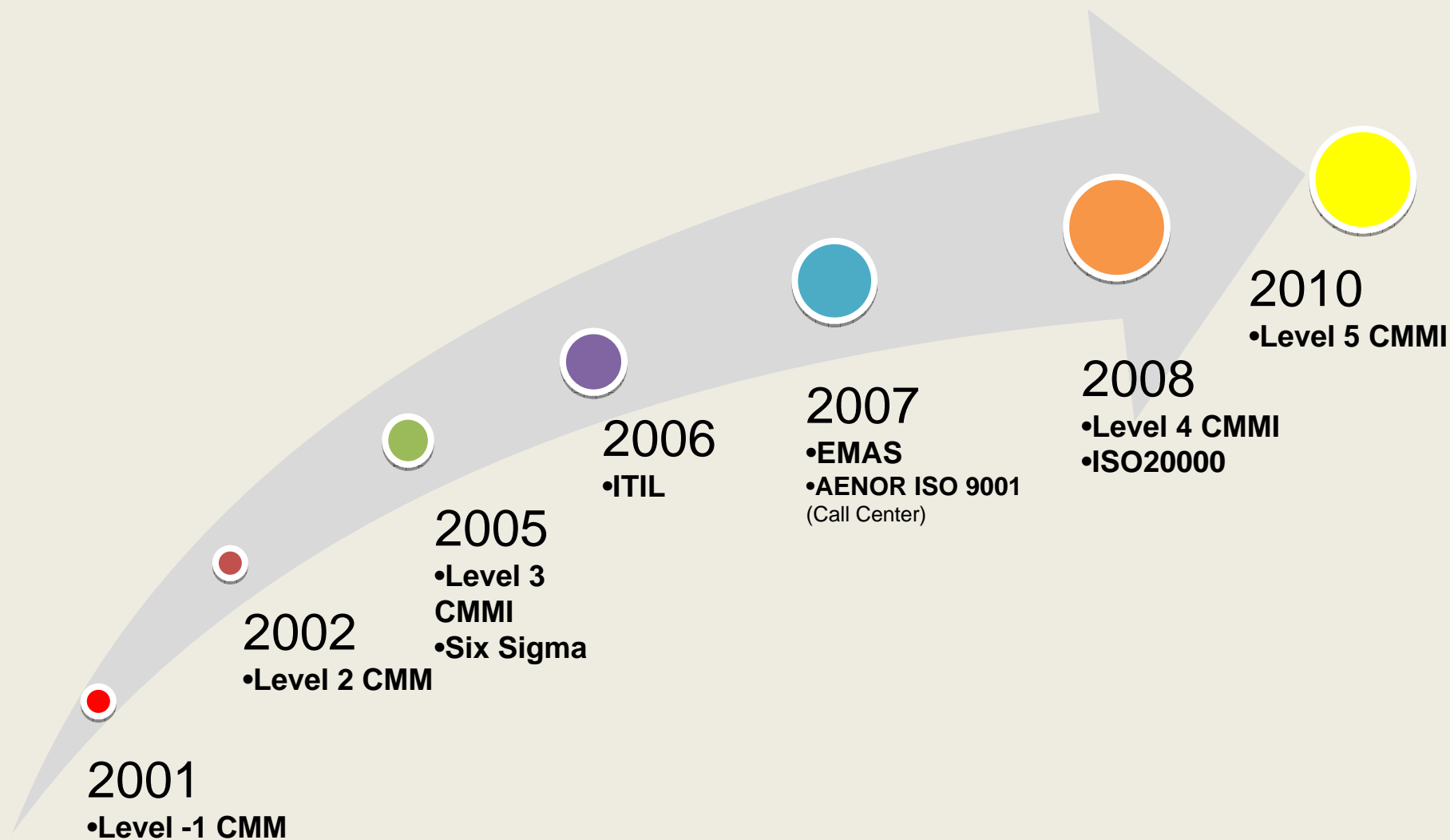


➤ DWDMs

➤ Robotics IBM 3494 with VTS



History of Qualities Certifications



IT Starting and Evolution in a Spanish Financial Institution

- **Banking Sector focused to Enterprises.**

- **High Competency**

Banco Bilbao, de Vizcaya, de La Coruña, Santander, Central, Hispano, Noroeste, Gredos, del Norte, del Sur, Crédito e Inversiones, Industrial del Mediterráneo, etc.

- **SAVING BANKS**

- Territory Constraints
- Interest Rate fixed by BDE
- Very High Margins
- Business Constraints fixed by law
- Investment average marked by law
- Savings Book Manual Update

- Many accounts with low revenue
- Huge queues in Branches
- Interests maths and payments lasted almost 1 year
- In small villages (5000 inhabitants) there are up to ¡8 branches!
- Customers are won because of a better service

- **COMPUTING**

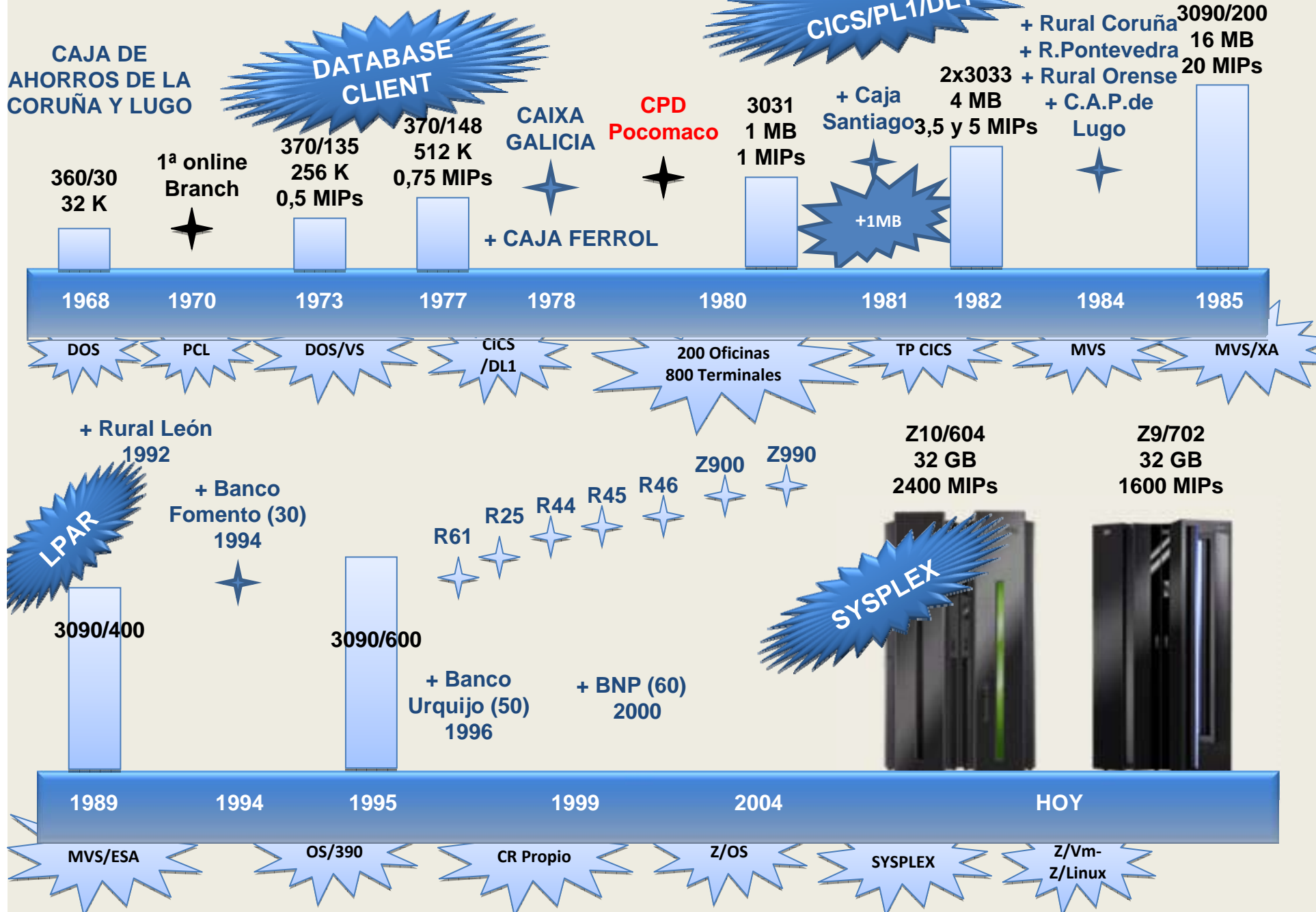
Varies on Entity's sizing



- **SPECIALIZATION**

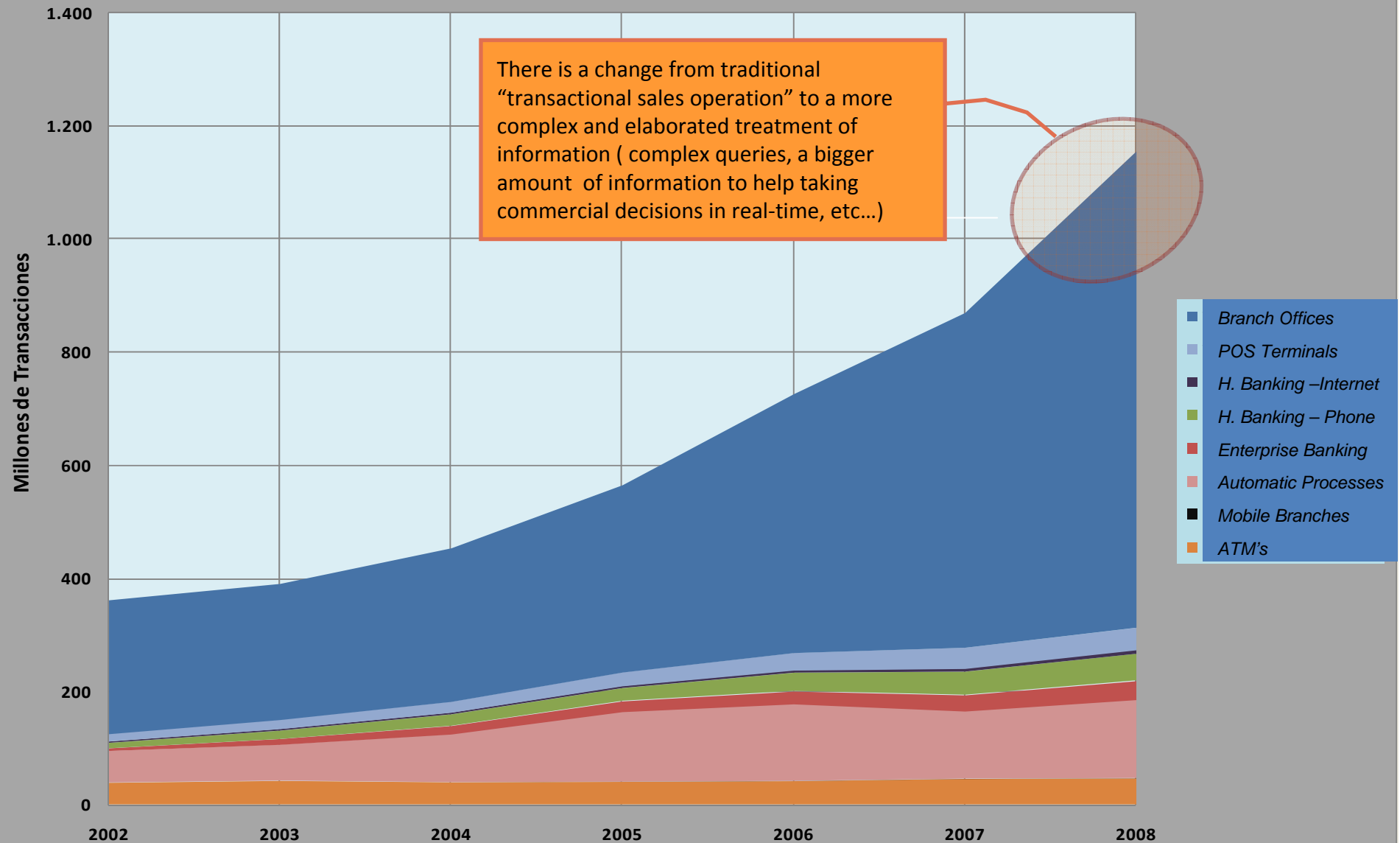
In Spanish Banking Sector there are specific services not deployed in most of other countries

Mainframe at Caixa Galicia...



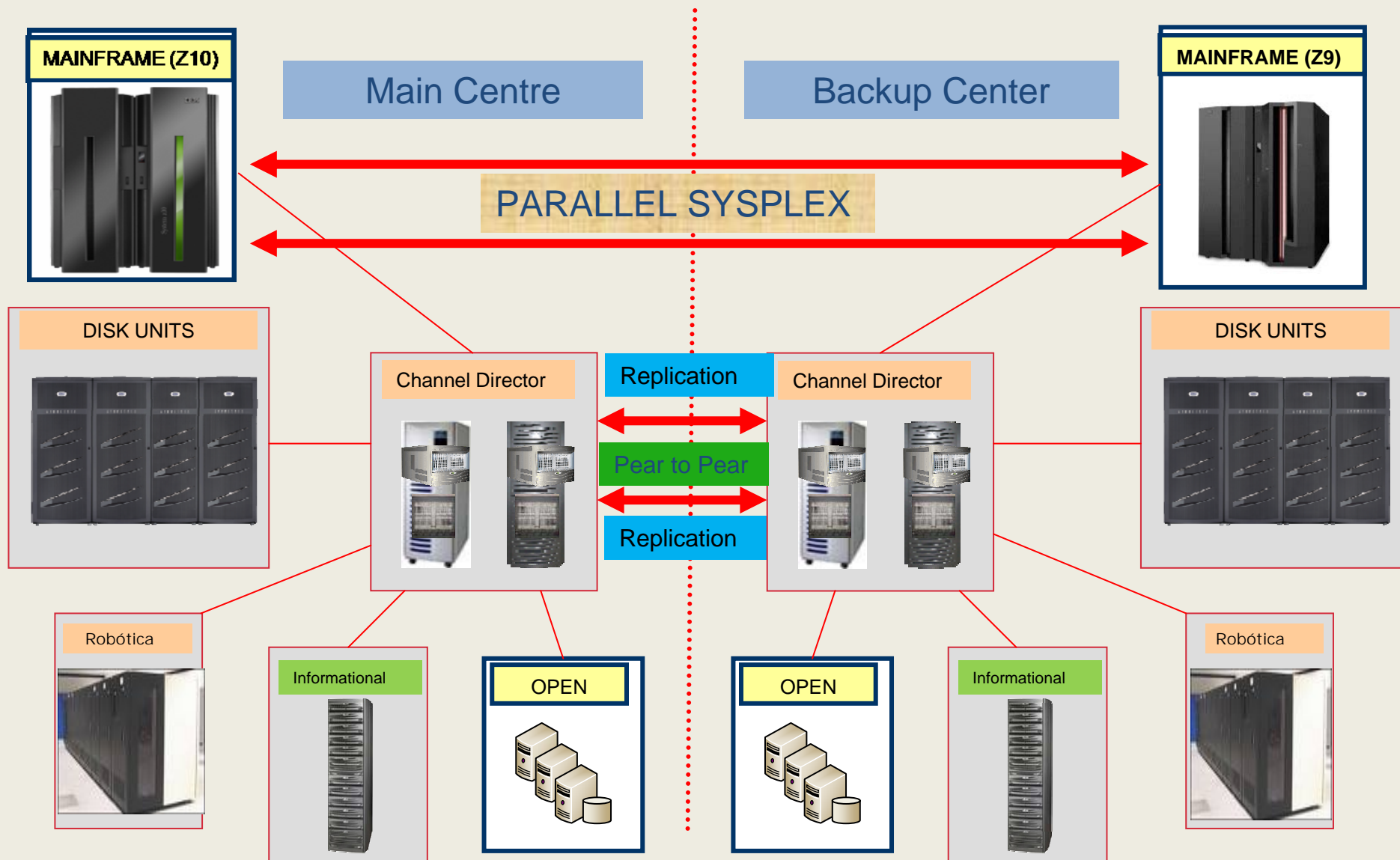
Operative Balance

Evolution of number of transactions* by channel** – overall view



***Transaction:** Any single task of our transactional subsystem (OLTP>CICS); It represents a basic unit of TI work.

Basic Infrastructure at CAIXA GALICIA – GPDS and SAN



Technological Components

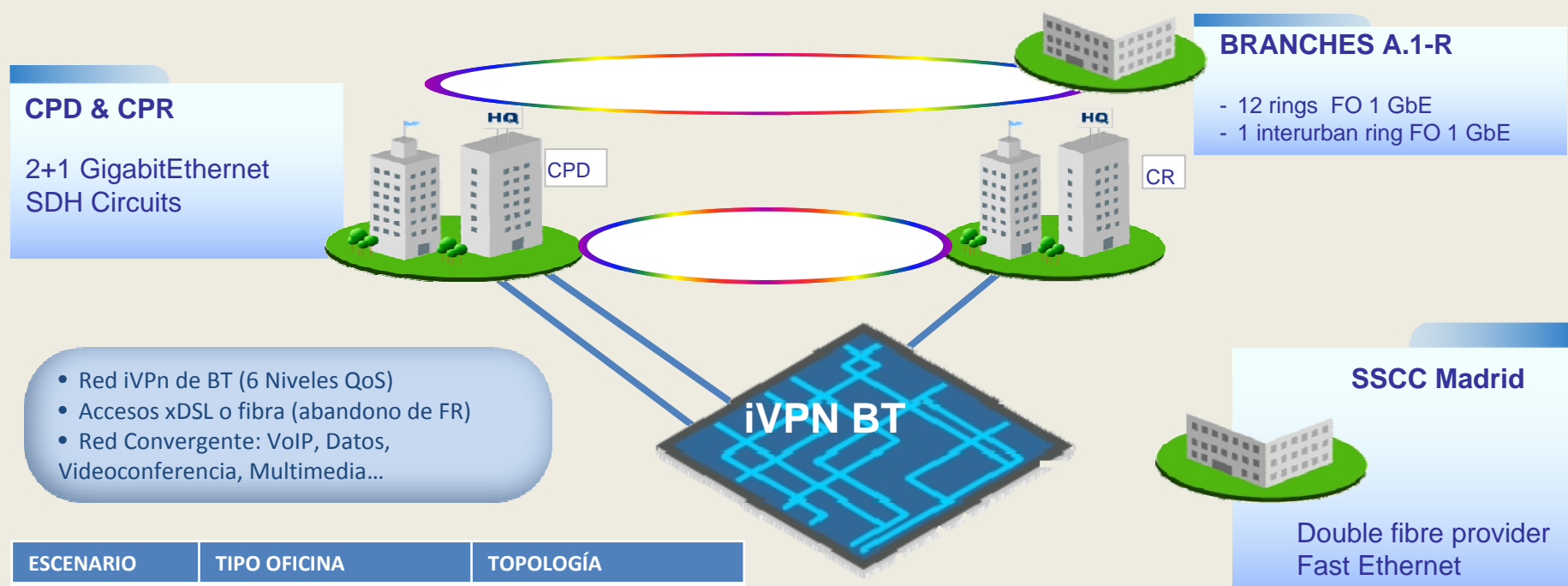


- IBM System z
- IBM System i
- IBM System p
- Intel/AMD
- FICON and FC Directors
- DASDs, Tapes, Cartridges, etc.
- Robotics, VTS/VTL
- Networks
- Interconnected Centers



- z/OS 1.9
- CICS/TS 3.2
- DB2 8
- TWS 8.2 (8.3)
- CICS TRANS. GATEWAY 7.1
- MQSERIES 6.0
- OMEGAMON 4.1
- z/VM 5.4
- i/OS 5.4.1
- AIX 6.1
- Windows, Linux, VMWARE, XEN
- SQLServer, Oracle, Essbase
- WAS, Jboss
- PL/I, Cobol, VB, .Net, Java
- SUSE 10

Convergent IP Network Caixa Galicia 2010-2014 iVPN BT

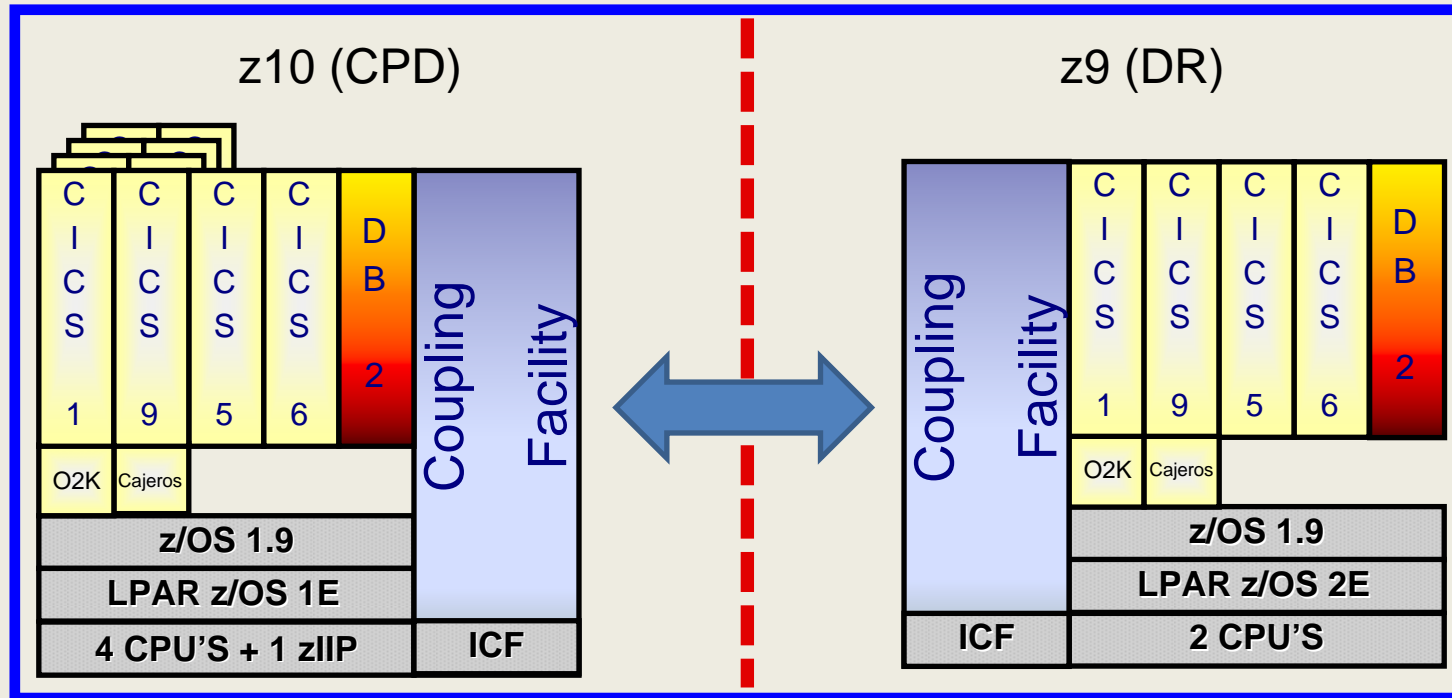


- Red iVPn de BT (6 Niveles QoS)
- Accesos xDSL o fibra (abandono de FR)
- Red Convergente: VoIP, Datos, Videoconferencia, Multimedia...

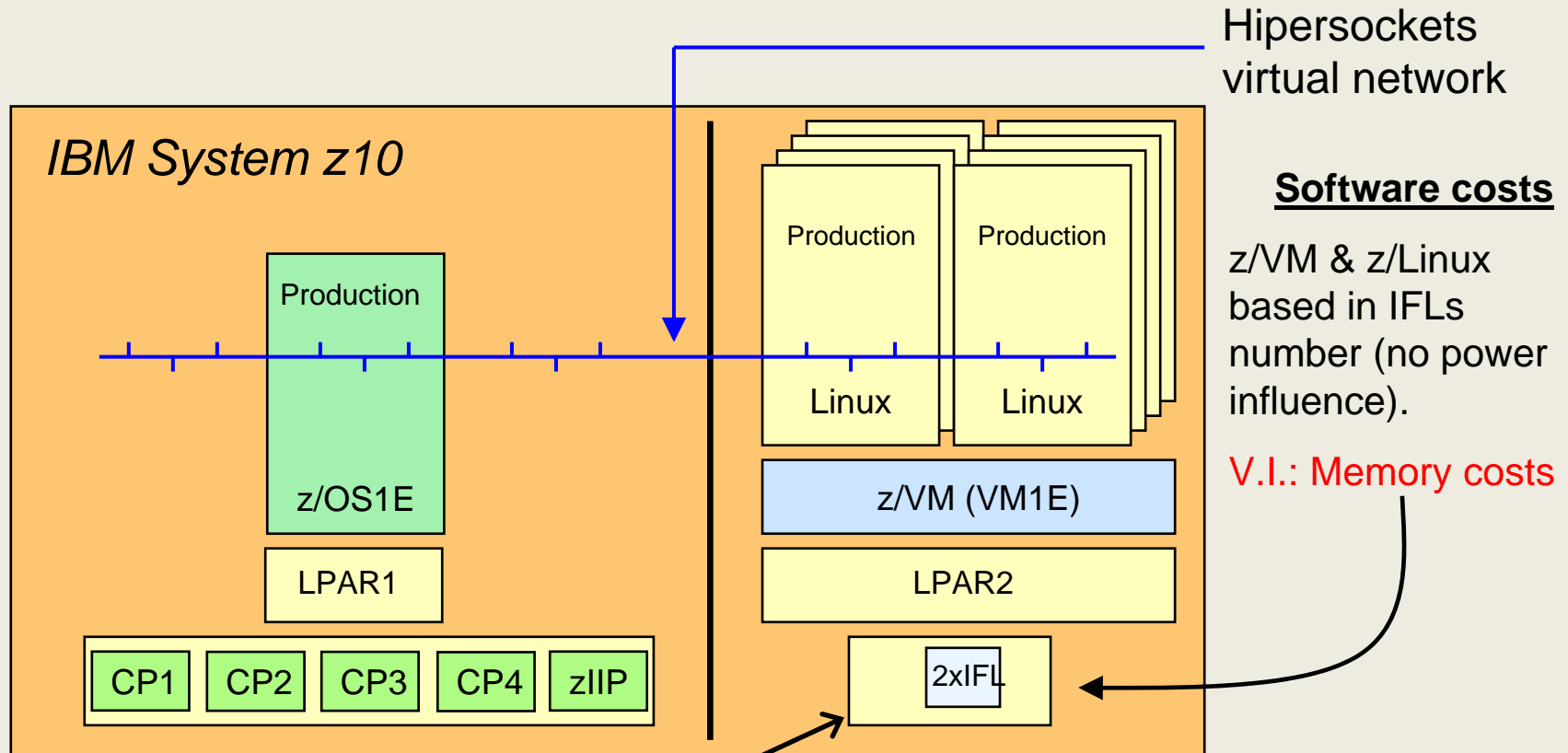
ESCENARIO	TIPO OFICINA	TOPOLOGÍA
Escenario A.1	Urbanas Galicia	Anillo Fibra Oscura iluminado a 1 Gbps desde GBICs Catalyst
Escenario A.2	Direcciones Territoriales	10 Mbps iVPN + SHDSL
Escenario A.3	Más de 14 usuarios	2 Mbps iVPN + SHDSL
Escenario B.1	Entre 3 y 14 usuarios	ADSL 4 Mbps + SHDSL/RDSI
Escenario B.2	Hasta 3 usuarios	ADSL 4 Mbps + RDSI
Oficinas Internacionales		MPLS 512 Kbps-1 Mbps

Sysplex Architecture CISS – DB2

IBM System z

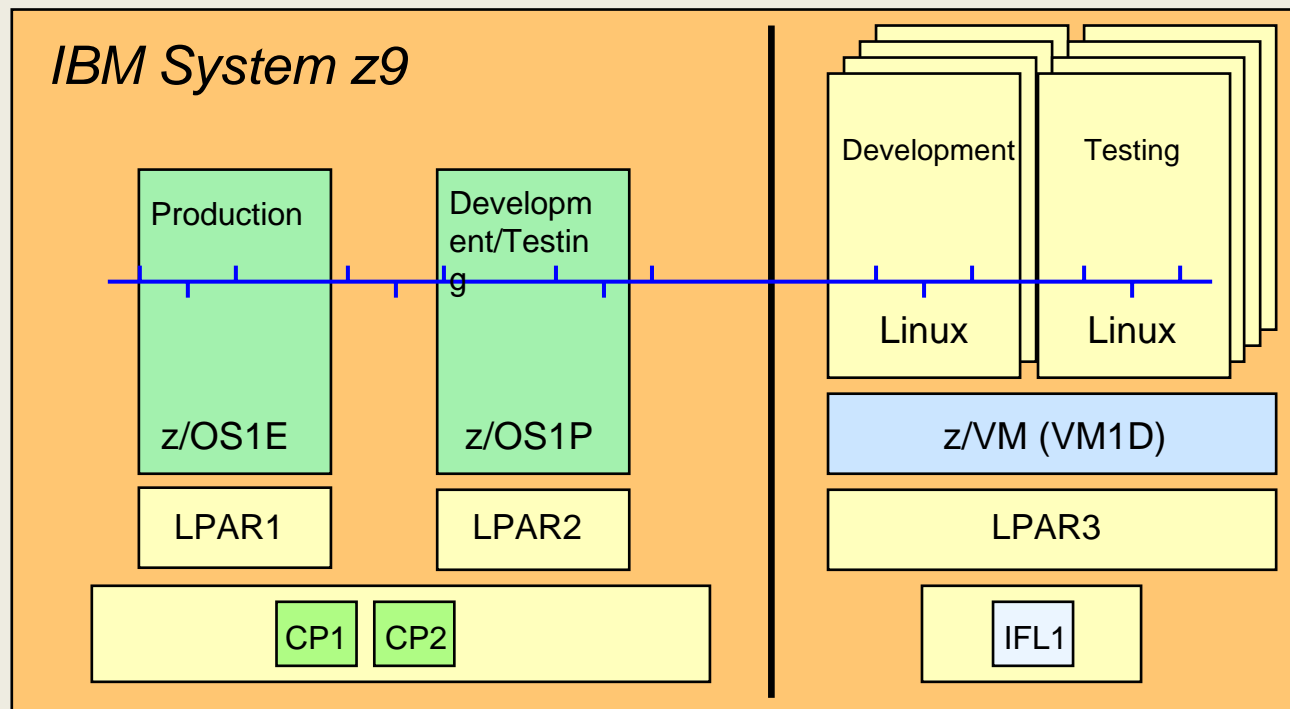


Production System Z10 - 604



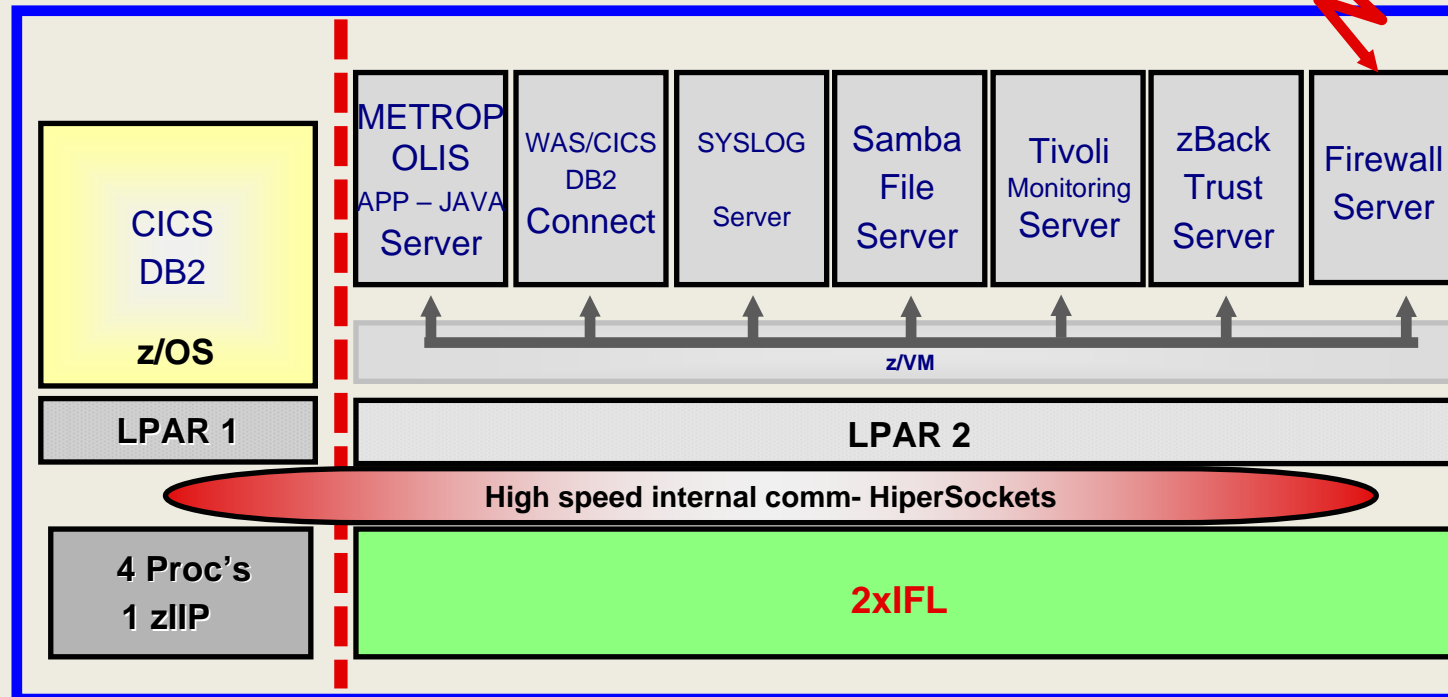
IFL has no influence over z/OS costs

Production + Development/Testing System Z9 -702



Consolidation with Linux and System Z

IBM System z



▪ Integrated Solution

- f* Linux as access point for DB2, CICS
- f* Tests with and without z/VM
- f* High Speed Communication



zBACKTRUST (I)



Characteristics

Electronic Signature XAdES (TS 101 903 V1.3.2), BES, EPES, T, C, X, XL, A.

Signature Validation and extension

Certificates Validation

Compatible with cryptographic processor **IBM 4764**

Two ways of using the product

- Thru a Web Service Web implementing DSS protocol from OASIS
- API developed in JAVA

Developed for two environments

- zLinux
- zOS

Compatible with several middleware products:

- WebSphere
- Weblogic
- Tomcat





zBACKTRUST (II)



Advantages



Business processes are totally independent of Security Services



Guarantees system's growth with new functionalities, without impacting the development of other applications.



Guarantees interoperability between applications, as it is based on standards.



Minimum Costs for applications development and maintenance



Guarantees **Certificates acceptance** of any European Certificates provider



Allows **new regulations compliance**:

- Electronic Invoice (Regulation PRE/2971/2007)
- Electronic Administration (Law 11/2007)
- Automated IT exchanges (Law 56/2007 – Directive 1999/93/CE)



Metrópolis Project



Characteristics



- ❖ Framework
- ❖ JAVA Technology
- ❖ WAS
- ❖ Data on DB2 for zOS
- ❖ SOA
- ❖ Calls to CICS transactions via CTG
- ❖ Currently on WAS/zLinux. Evaluating porting to WAS/zOS

Renewal of Mainframe's people at Caixa Galicia



**Average age of
Systems Engineers
staff is 32 years old
and 34 years for
Mainframe people.**



