

Assisting doctors to save lives with Alfresco & Xedoc

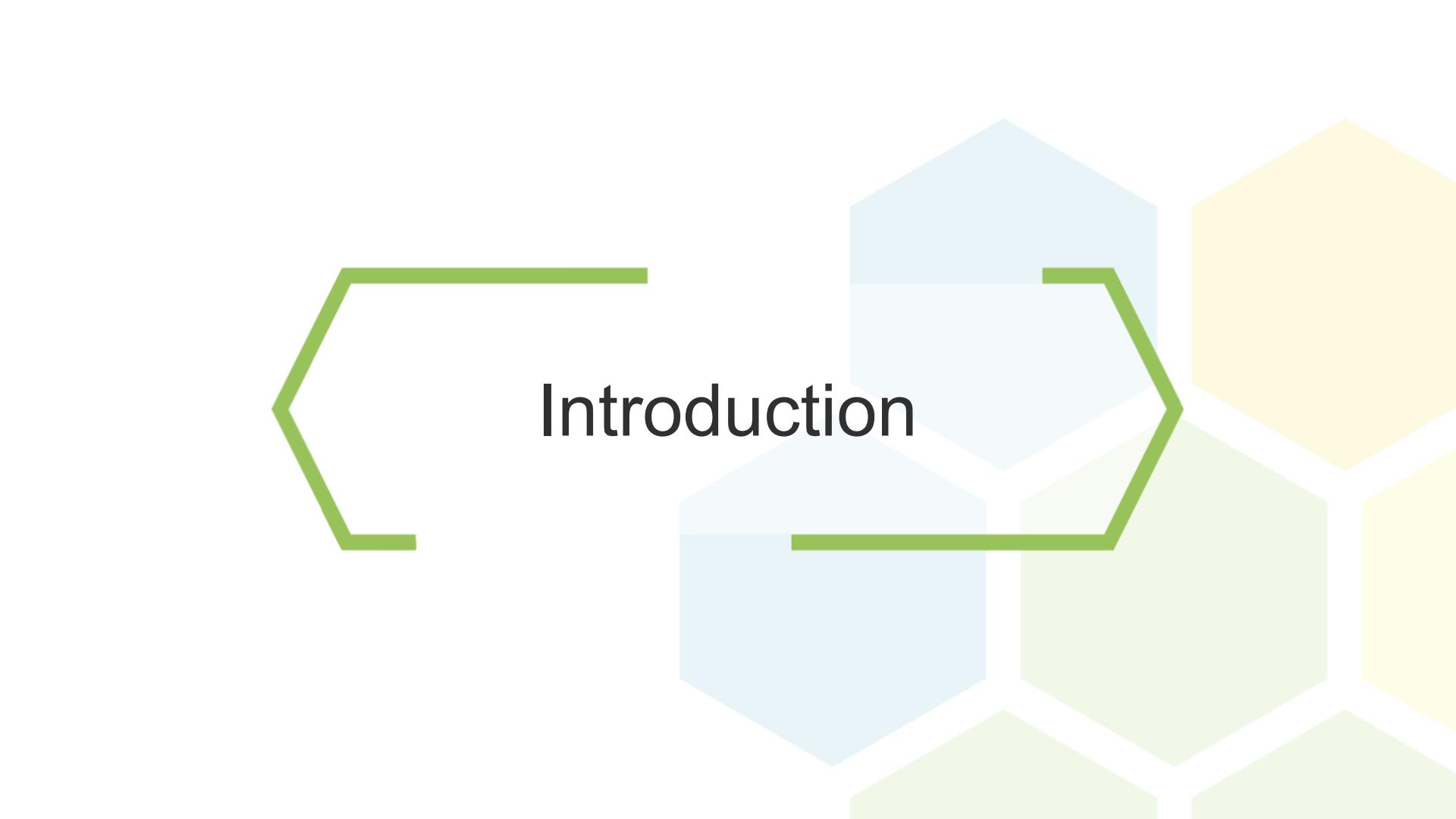
Victor Fariña
CEO @QueresTic



Disclaimer

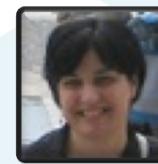


Non technical track



Introduction

Team



20 people



> 10 years



Half of the Company are certified

Alfresco Partners since version 1.4 (2006)

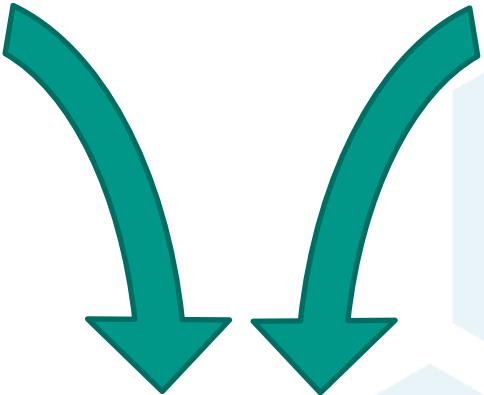


> 15 years



Queres

eHealth®



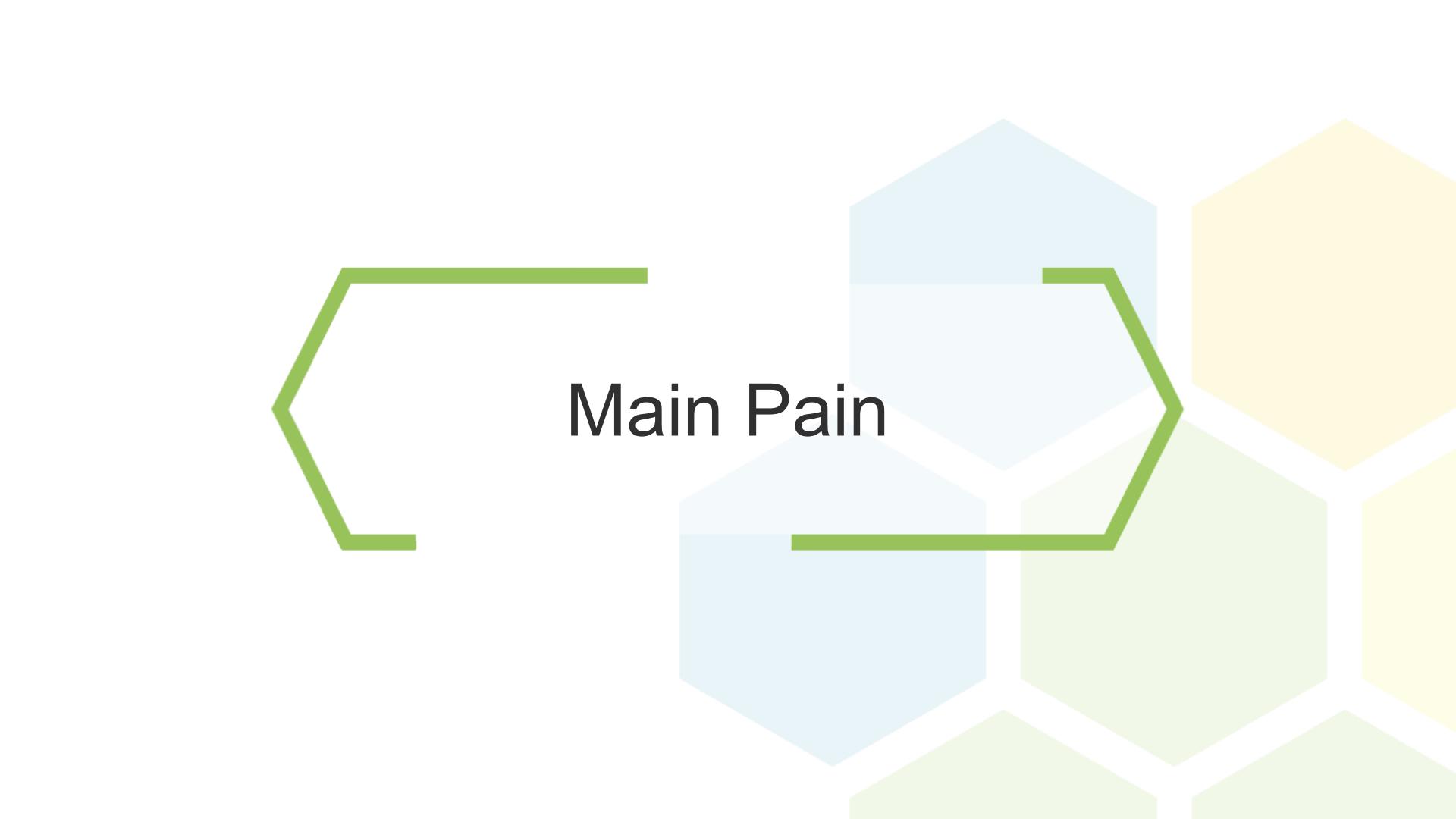
XEDOC



SERVIZO
GALEGO
de SAÚDE



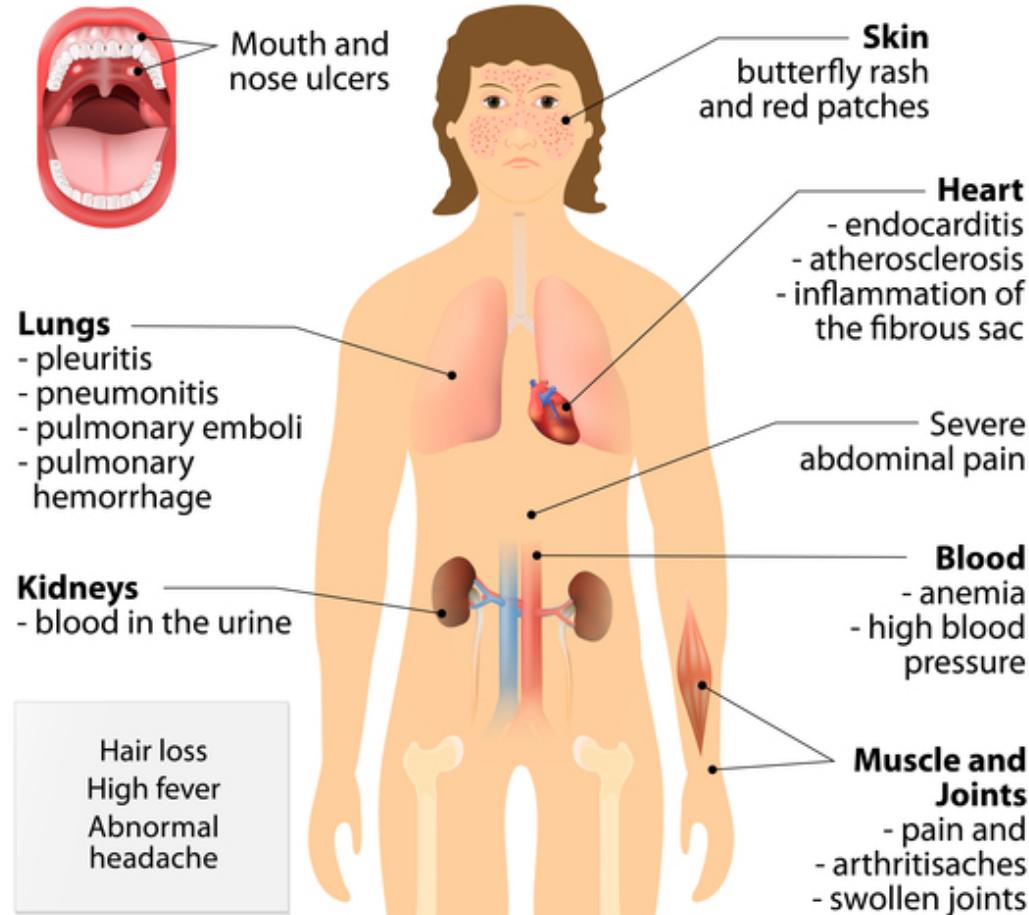
Unión Europea
Fondo Europeo
de Desarrollo Regional
"Una manera de hacer Europa"

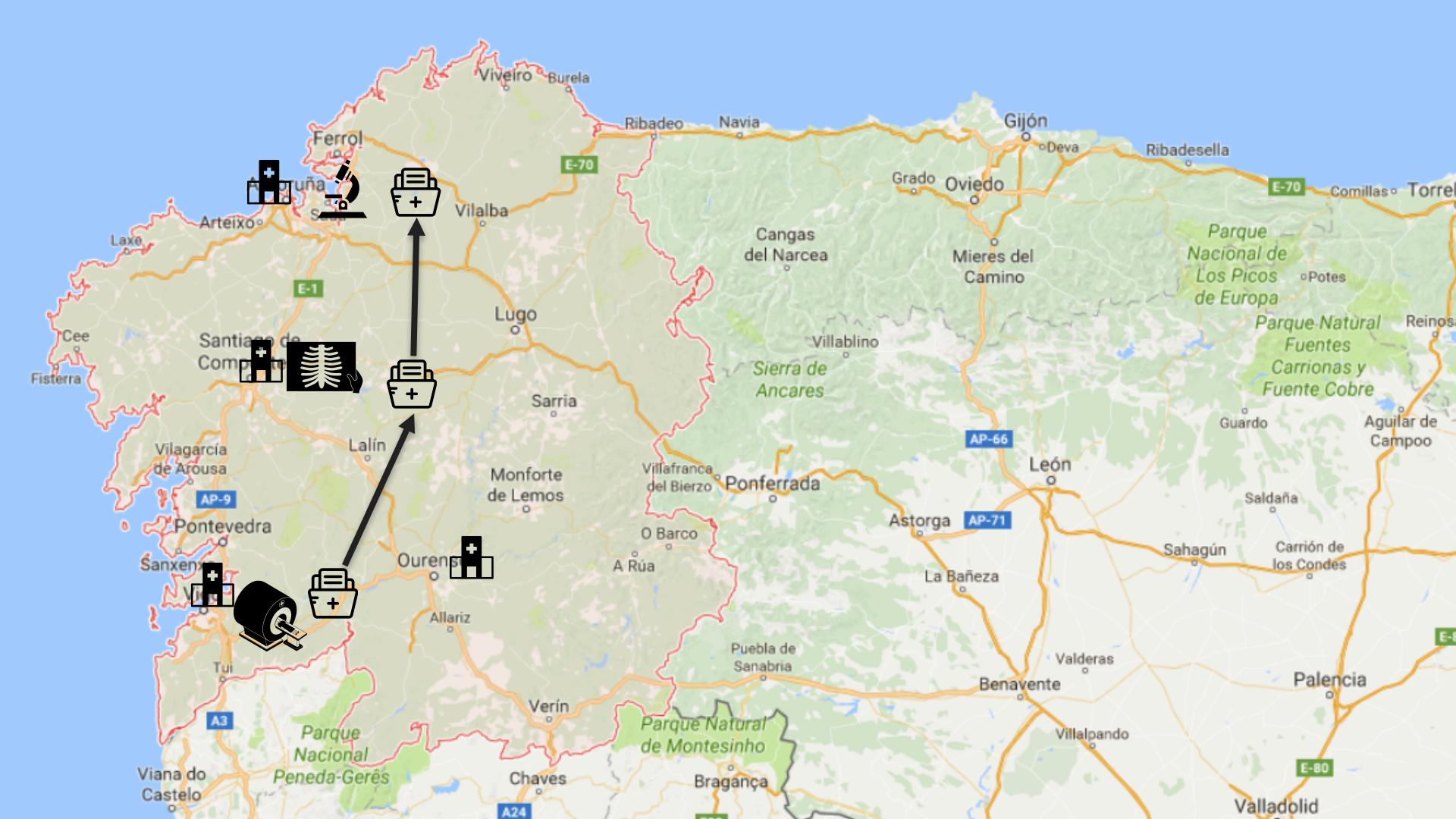


Main Pain

Systemic lupus erythematosus

Peter





8 years of tests



2004



20k patient affected

Jueves, 20 de Mayo de 2004
Actualizado a las 20:13 (CET) - Internet time @842 by Swatch®
LOS SINDICATOS RESPONSABILIZAN A LA XUNTA
El fuego destruye 20.000 historias médicas en dos naves de Pontevedra

AGENCIAS

PONTEVEDRA.- Unos 20.000 historiales médicos del Hospital Montecelo de Pontevedra ardieron a causa de un incendio, que devastó dos naves de la parroquia de Alba. La mayor parte de ellos se había informatizado. Aunque todavía no se han calculado con exactitud, los daños materiales pueden ser "cuantiosísimos". La oposición y los sindicatos imputan la responsabilidad a la Consellería de Sanidade.

NOTICIAS RELACIONADAS

Según el inspector jefe de la Policía Nacional de Pontevedra, José Luis Otero, el incendio se inició ayer, alrededor de las 21.30 horas, en la nave de empresa Alfer Metal, de construcción de pantalanes, y afectó también a la fábrica colindante, del Servicio Galego de Saúde (Sergas), en la que se custodiaban miles de historiales médicos en papel.

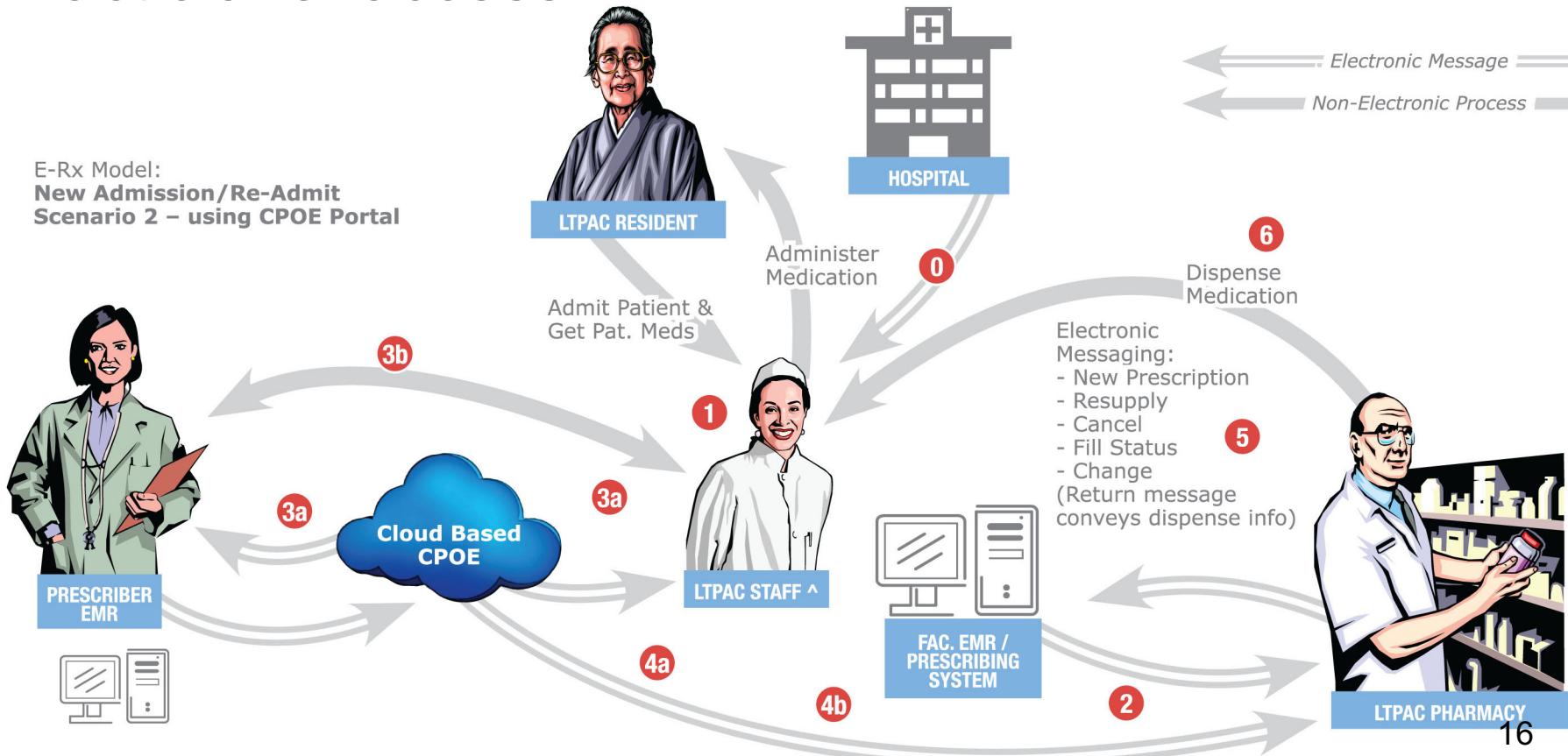
Aunque Otero apuntó que las dos naves quedaron "totalmente calcinadas" y que en ellas se perdió "todo el material", fuentes sanitarias aseguraron que la mayor parte de los informes clínicos que se quemaron en el archivo se han podido salvar gracias a que el Complejo Hospitalario los había informatizado.

El fuego fue descubierto por una empleada del archivo que divisó una columna de humo de la nave colindante, correspondiente a la empresa Alfer Metal, donde posteriormente se produjo una explosión, cuando ya no quedaba nadie en su interior. Todos los empleados que quedaban en el archivo también pudieron salir de la nave antes de propagarse las llamas.

Las causas del fuego se desconocen por el momento, indicó que "en

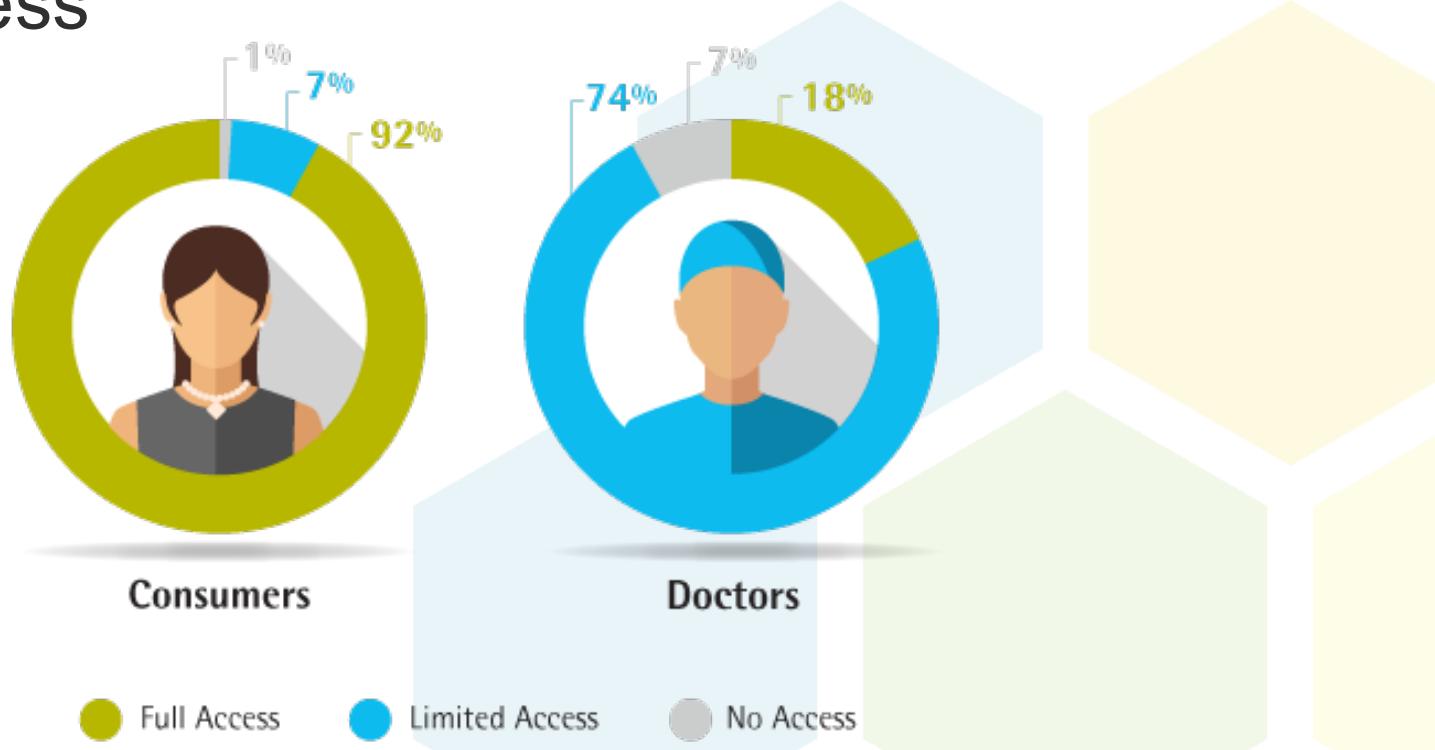
Practitioner access

E-Rx Model:
**New Admission/Re-Admit
Scenario 2 – using CPOE Portal**



Level of access a patient
should have to EHR

Patient access



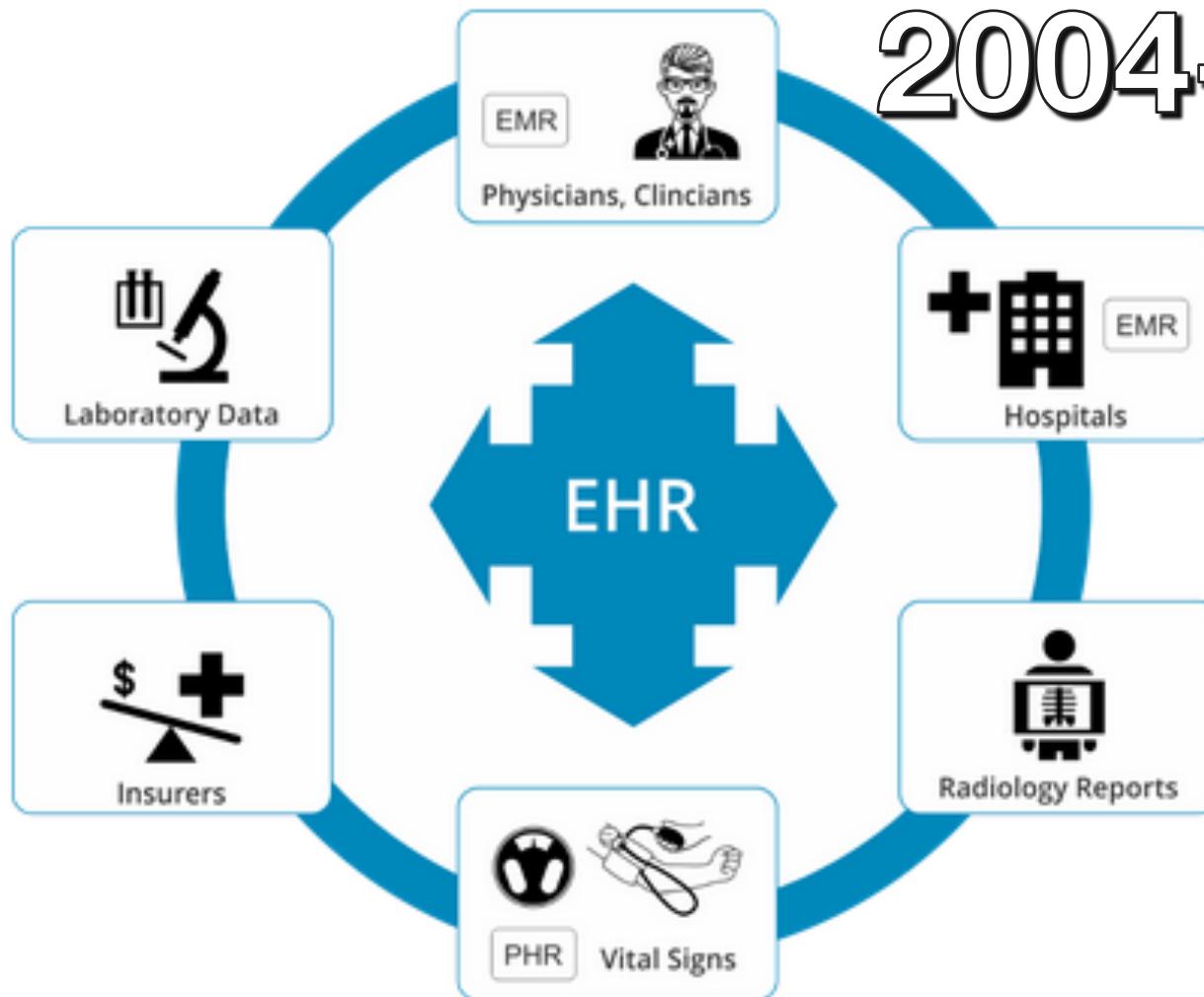
Source: Accenture 2016

A photograph showing a group of approximately ten people on a boat, viewed from behind, looking towards a dense thicket of green bushes. A jaguar is perched on a branch within the bushes, its body partially obscured by leaves. A red circle highlights the jaguar's head and upper body. The people are dressed in outdoor gear like jackets and hats.

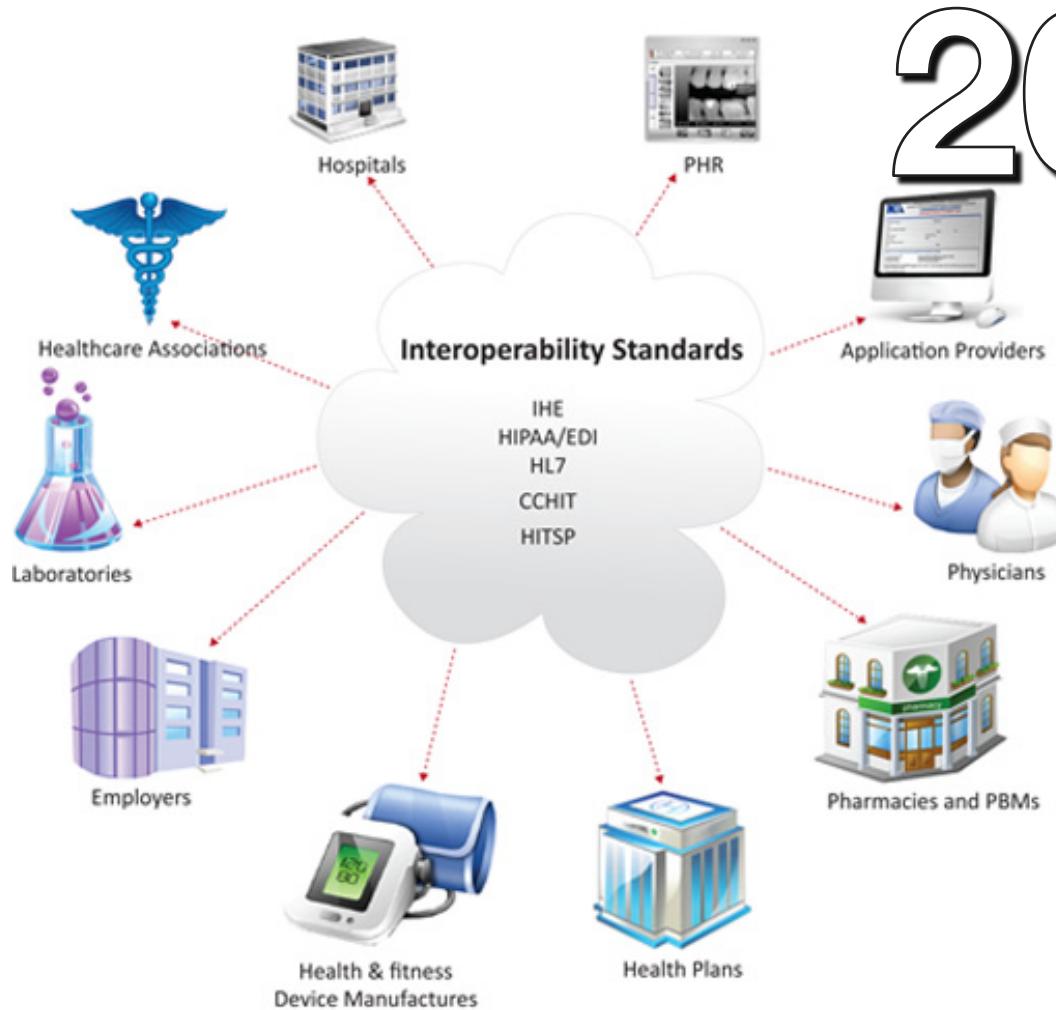
Access to your EHR on holidays

2004-2010

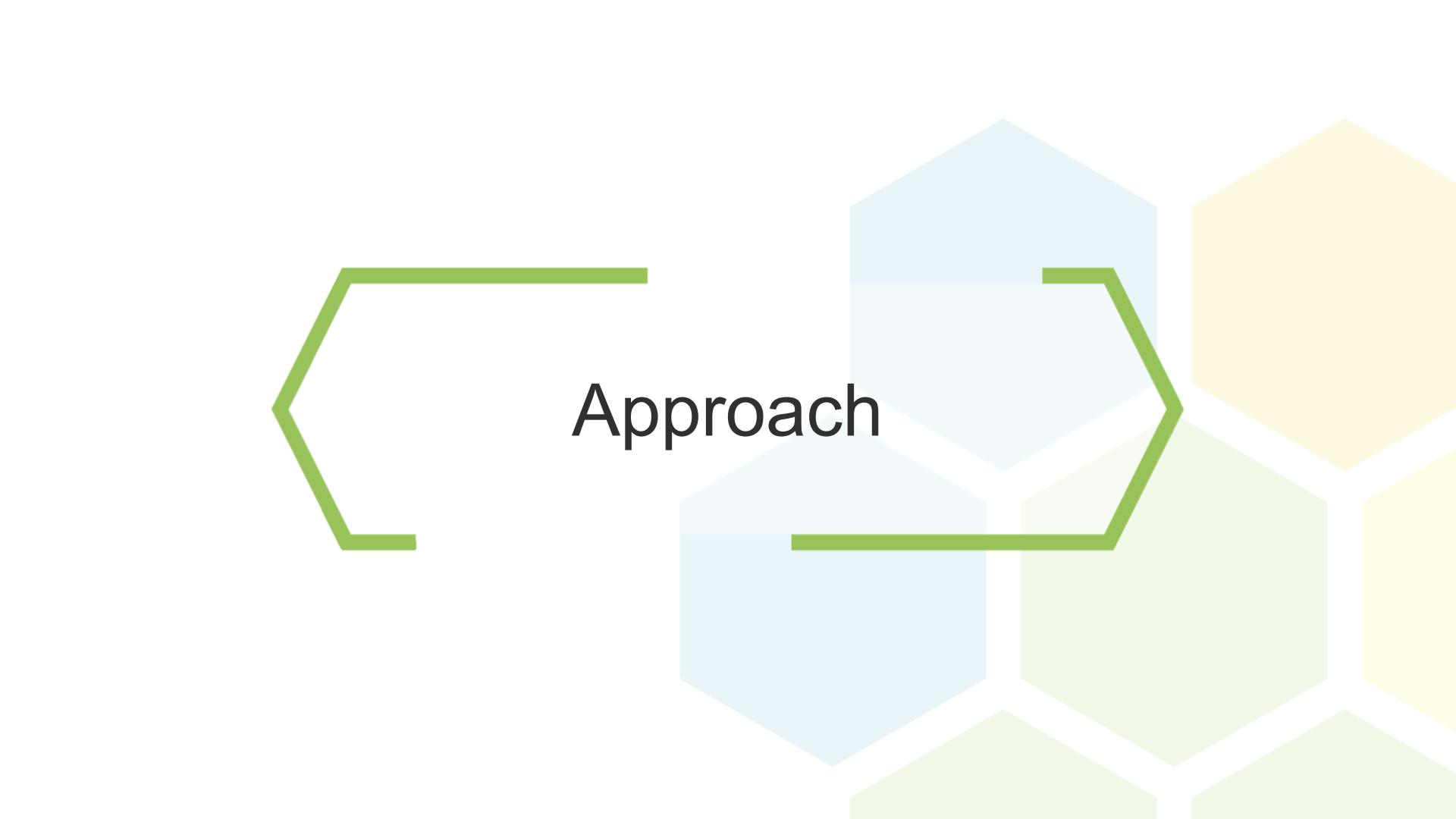
EHR



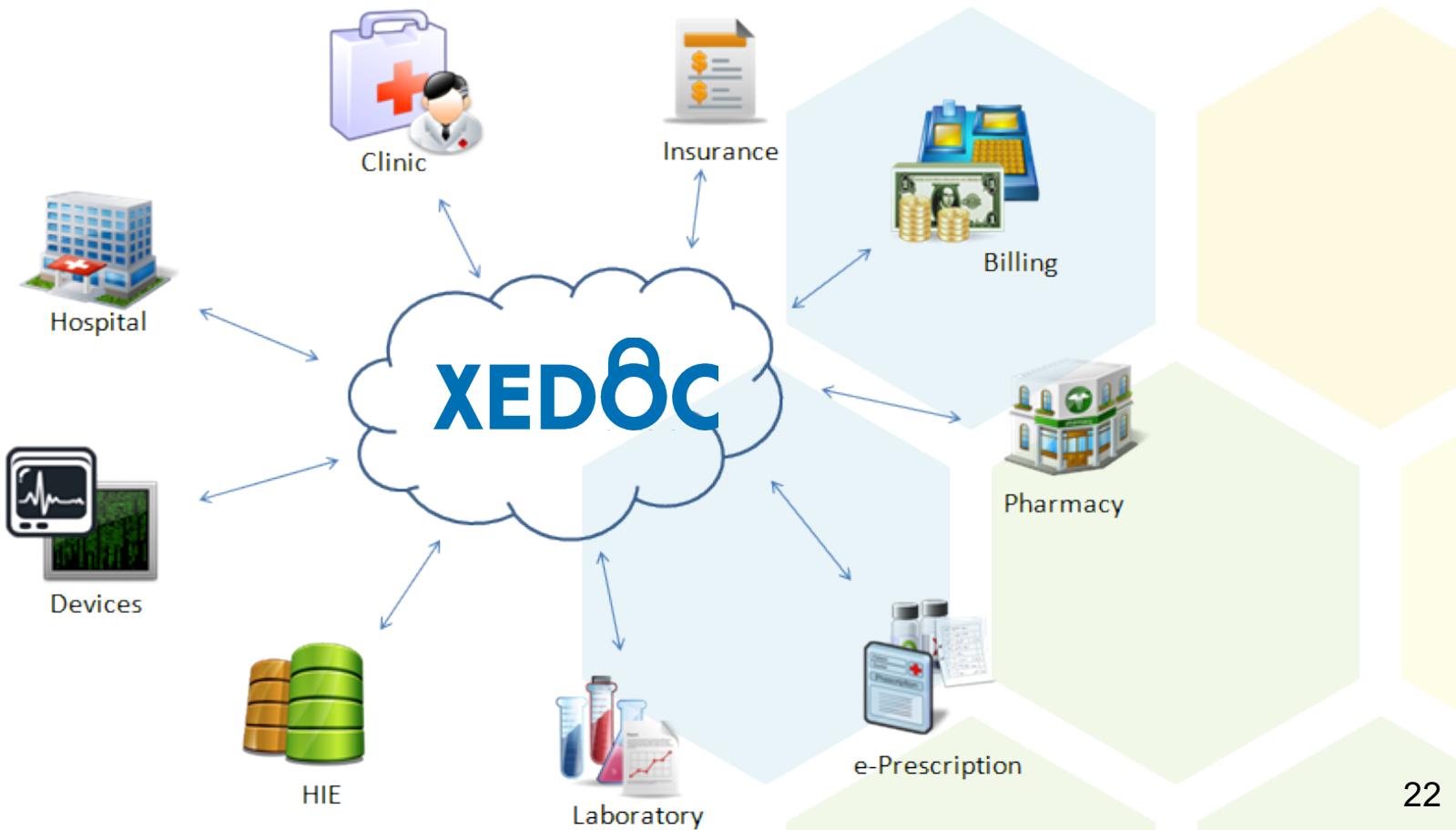
Architecture



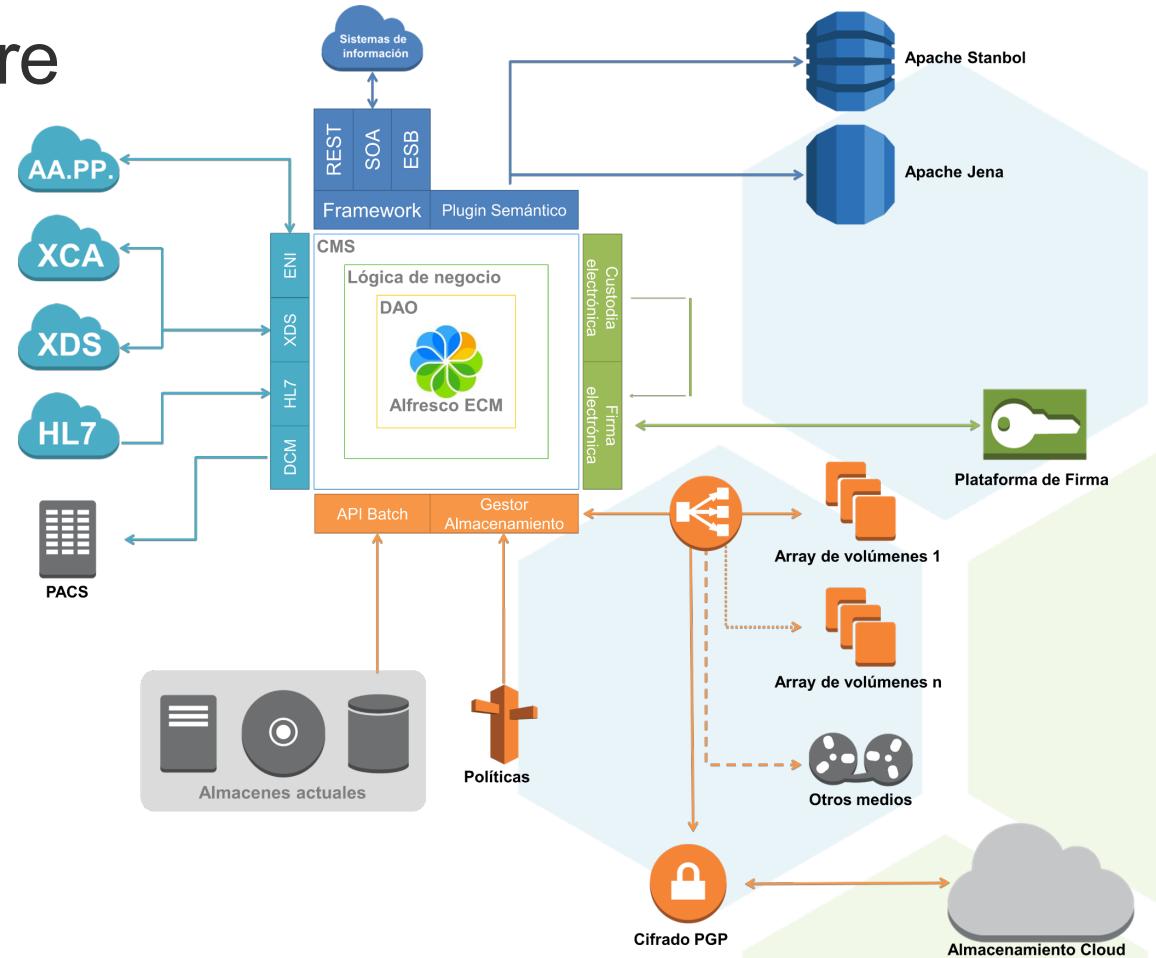
2012



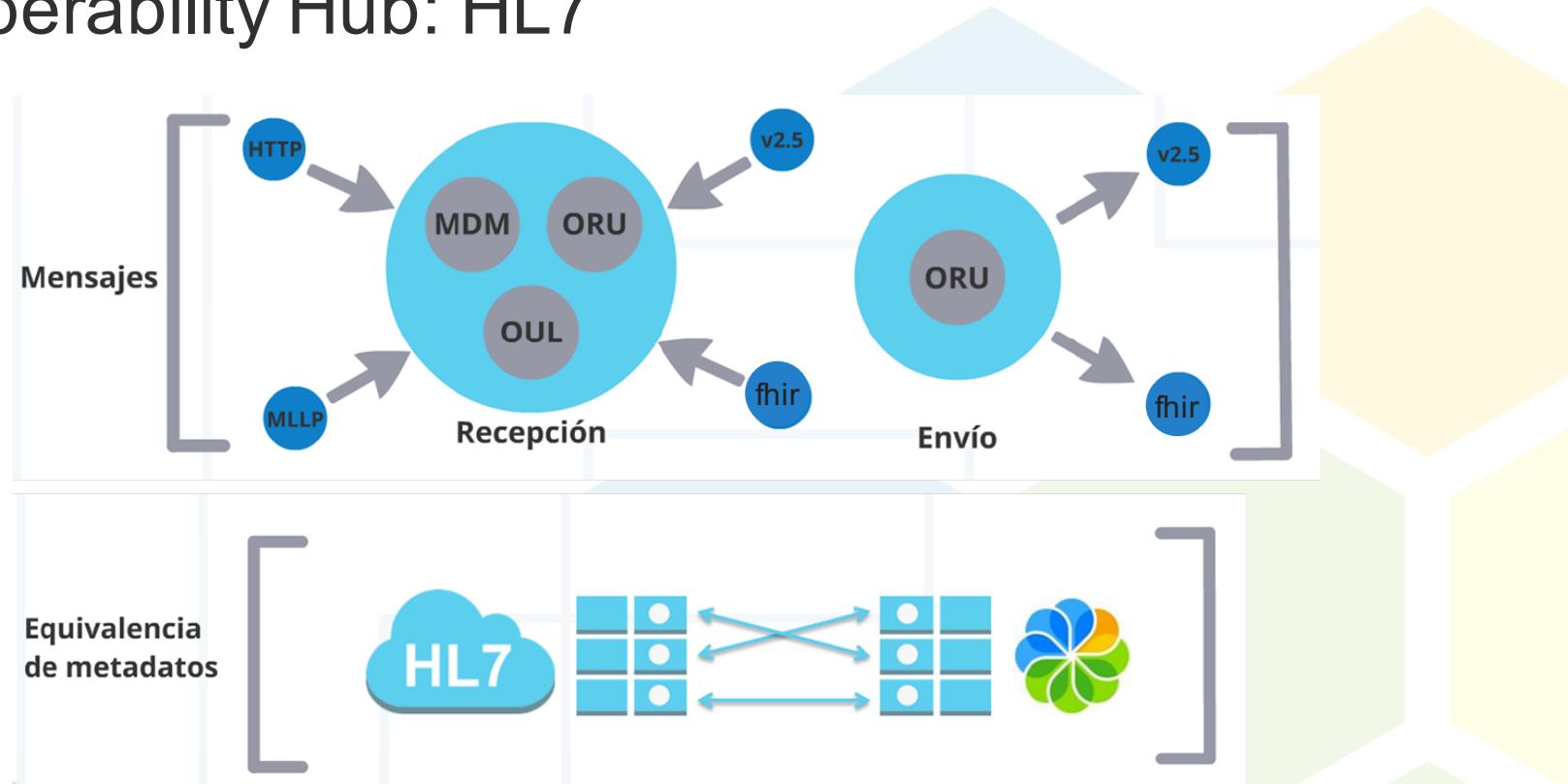
Approach



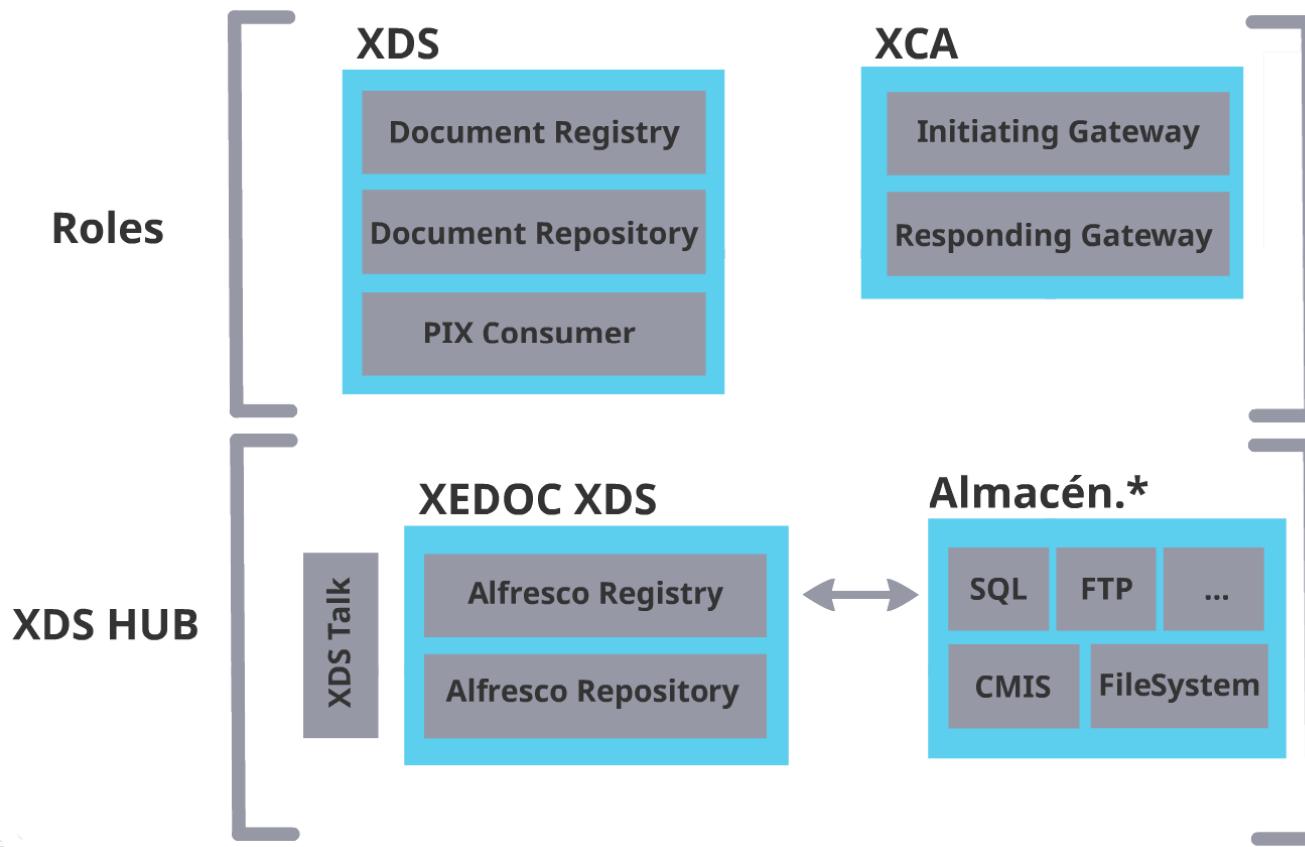
Big picture



Interoperability Hub: HL7



Interoperability Hub: XDS



Interoperability Hub: Match tools

The screenshot shows the XEDOC console interface running on localhost:8080. The left sidebar contains a navigation menu with items like DashBoard, XDS, XCA, HL7, Custodia, Almacenamiento, Validación, Compresión, Transformación, Migración, Análisis Semántico, CMS:Alfresco, XEDOC_WS, and ENI. The main content area has two sections: 'Registros y Repositorios' and 'Configuración Metadatos'.

Registros y Repositorios

repositoryUnique	Nombre	Papel	URL	Usuario	Contraseña	Bean	Activo	Editar	Eliminar
13.6.14.1.21367.2C	Alfresco	Repo/Reg	https://xedoc.serga	xedoc_xds	*****	xedocXDSClient	<input checked="" type="checkbox"/>		
13.6.14.1.21367.2C	IANUS	Repo/Reg	https://ianus.xds.se	xedoc_xds	*****	ianusXDSClient	<input checked="" type="checkbox"/>		
13.6.14.1.21367.2C	FTP SSCC	Registro	jdbc://ftpdbsergas	xedoc_ftpxds	*****	sqlXDSRegClient	<input checked="" type="checkbox"/>		
13.6.14.1.21367.2C	FTP SSCC	Repositorio	ftp://ftpscc.sergas	xedoc_ftpxds	*****	ftpXEDRepoClient	<input checked="" type="checkbox"/>		
13.6.14.1.21367.2C	Ejemplo	Repo/Reg	http://localhost:888	xedoc_pruebas	*****	pruebasClient	<input type="checkbox"/>		
13.6.14.1.21367.2C	Ejemplo_2	Repo/Reg	http://localhost:888	xedoc_pruebas	*****	pruebasClient	<input type="checkbox"/>		
13.6.14.1.21367.2C	Ejemplo3	Repo/Reg	http://localhost:888	xedoc_pruebas	*****	pruebasClient	<input checked="" type="checkbox"/>		

Añadir

Configuración Metadatos

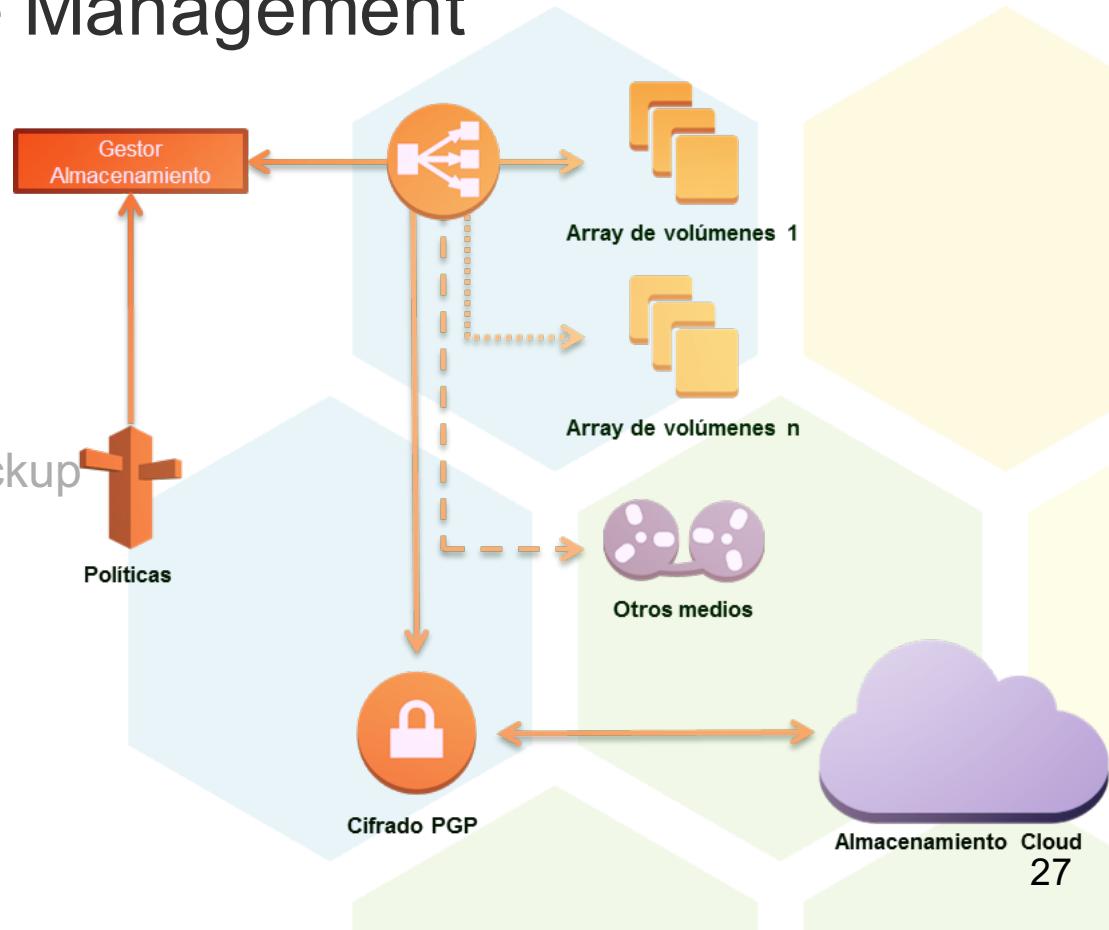
Metadatos XDS	Metadatos Registro	Esquema	Editar	Eliminar
Author*	Responsable	1.2.16.840.1.113883.5.2.5 Viena 2014		
ClassCode*	CodDocEx	1.2.16.840.1.113883.5.2.5 Viena 2014		
Comments*	Comentario	1.2.16.840.1.113883.5.2.5 Viena 2014		
CreationTime*	EventCodeList	1.2.16.840.1.113883.5.2.5 Viena 2014		
EventCodeList*	DataVersion	1.2.16.840.1.113883.5.2.5 Viena 2014		
PatientId*	IdPaciente	1.2.16.840.1.113883.5.2.5 Viena 2014		
PracticeSettingCode*	CodEspecialidad	1.2.16.840.1.113883.5.2.5 Viena 2014		
quarantine*	Enfermedad	1.2.16.840.1.113883.5.2.5 Viena 2014		

Information Lifecycle Management

Volume Management:

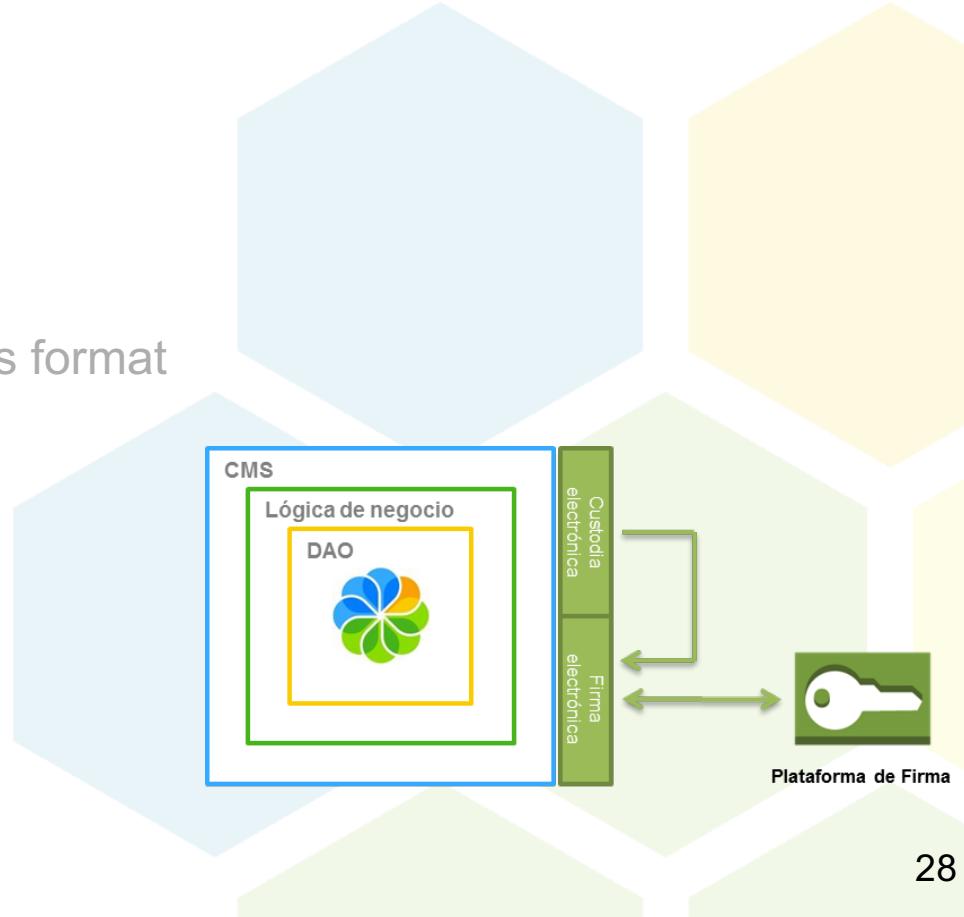
- Based on metadata
- Based on available space

Closing volumes to optimice backup

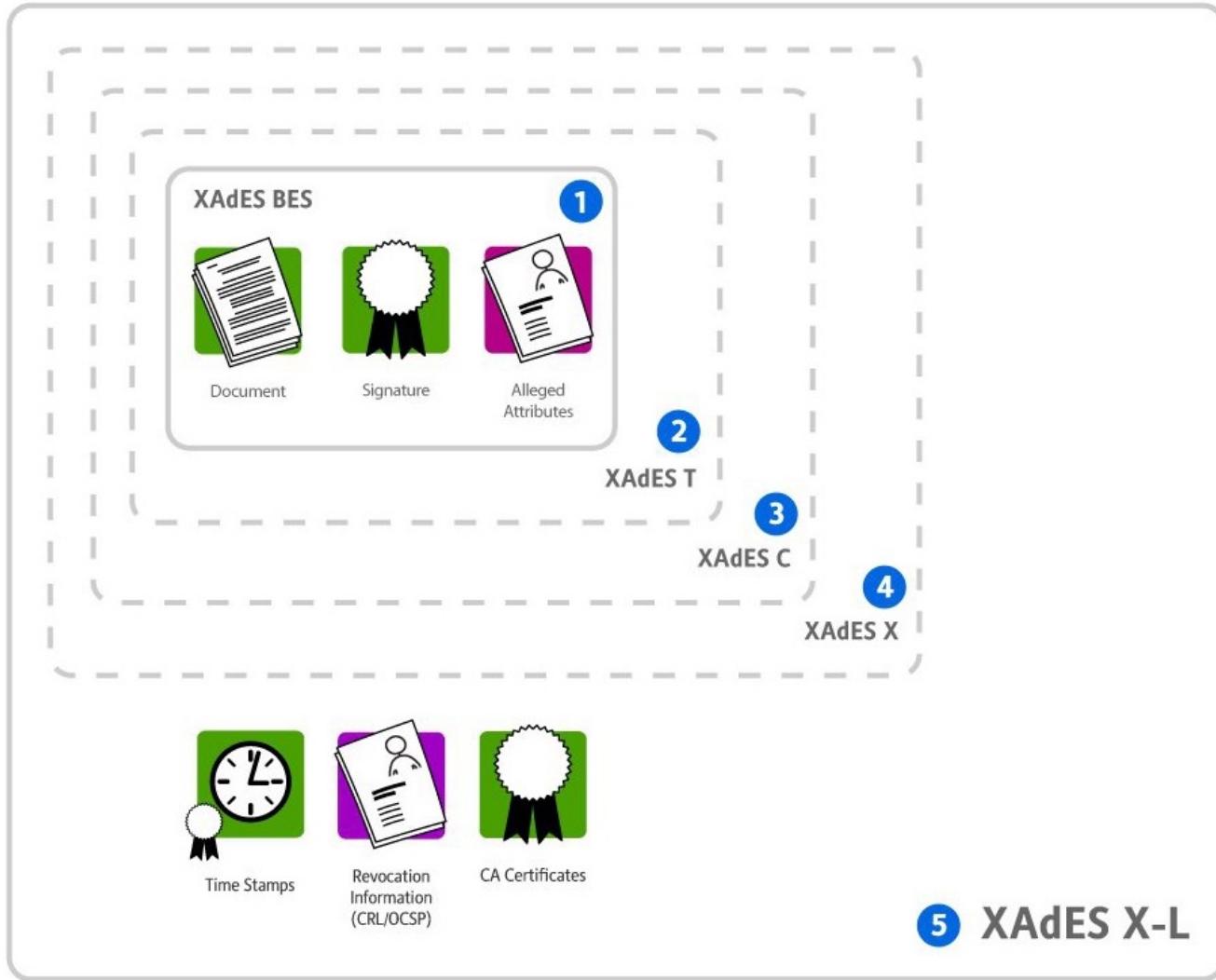


Custody

- Promoting digital signature
- Re-signing documents
- Transformation to long-term access format
- Signature platform integration



Custody



Transformation Server

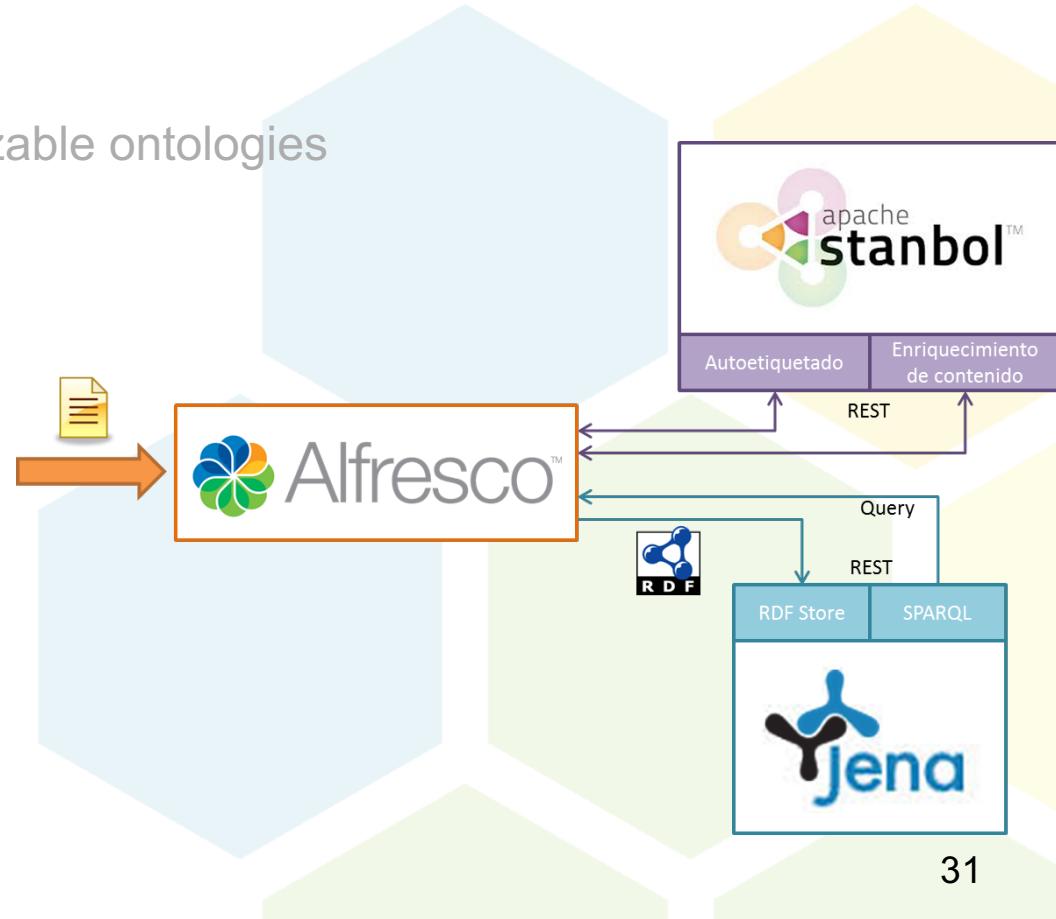


Digital Signature			
When	and	and	Do/execute
{hc}docExt=true	{hc}codCentro=270095	{hc}contentType=application/pdf	setFirma("XAdES")
{hc}docExt=true	{hc}appOrixe="SEGES"	{hc}contentType=image/jpeg	setFirma("XaDES_Detached")

Long-term			
When	and	and	Do/execute
{hc}docExt=true	mimeType="img/png"	{hc}appOrixe="SEGESDOC"	setTransformacion("PDF/A")
{hc}docExt=true	mimeType="ms/word"	{hc}tipoDoc="TD14"	setTransformacion("PDF/A")

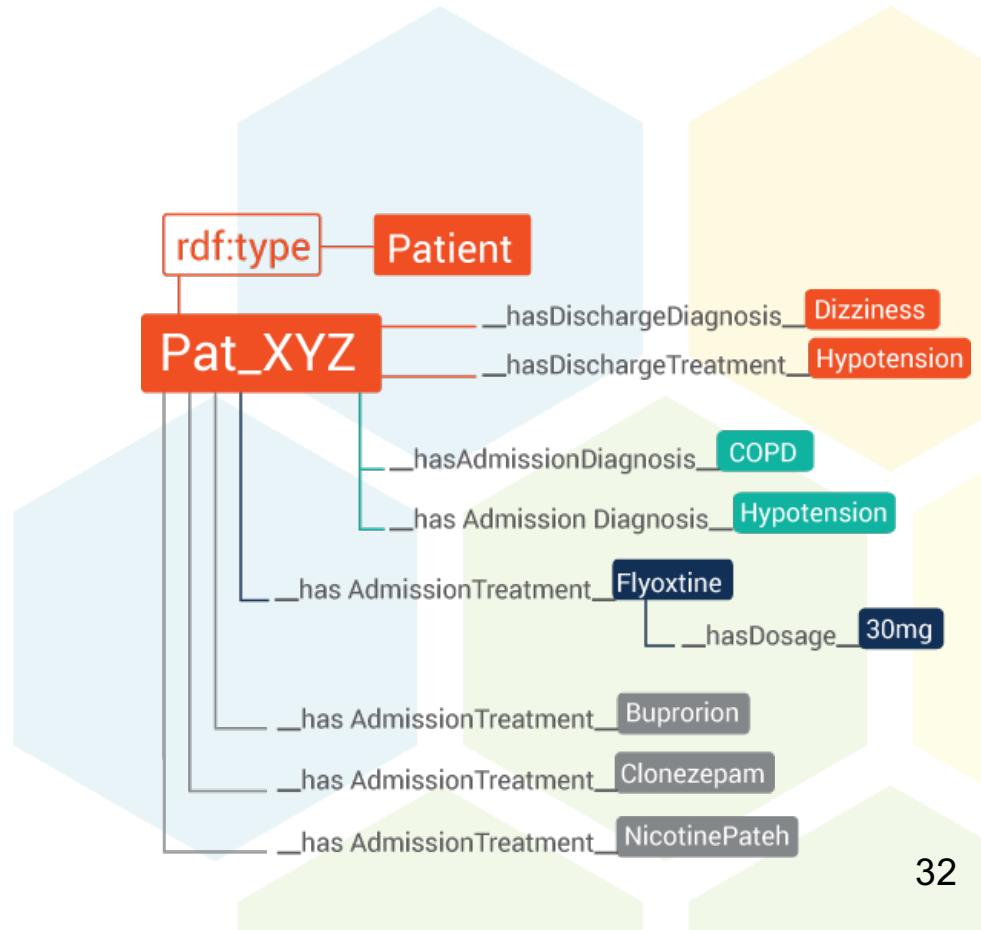
Semantic analysis

- Semantic analysis using customizable ontologies
- Content Auto-tagging
- Content data enrichment
- Semantic search



Semantic analysis

- Sample of rich content



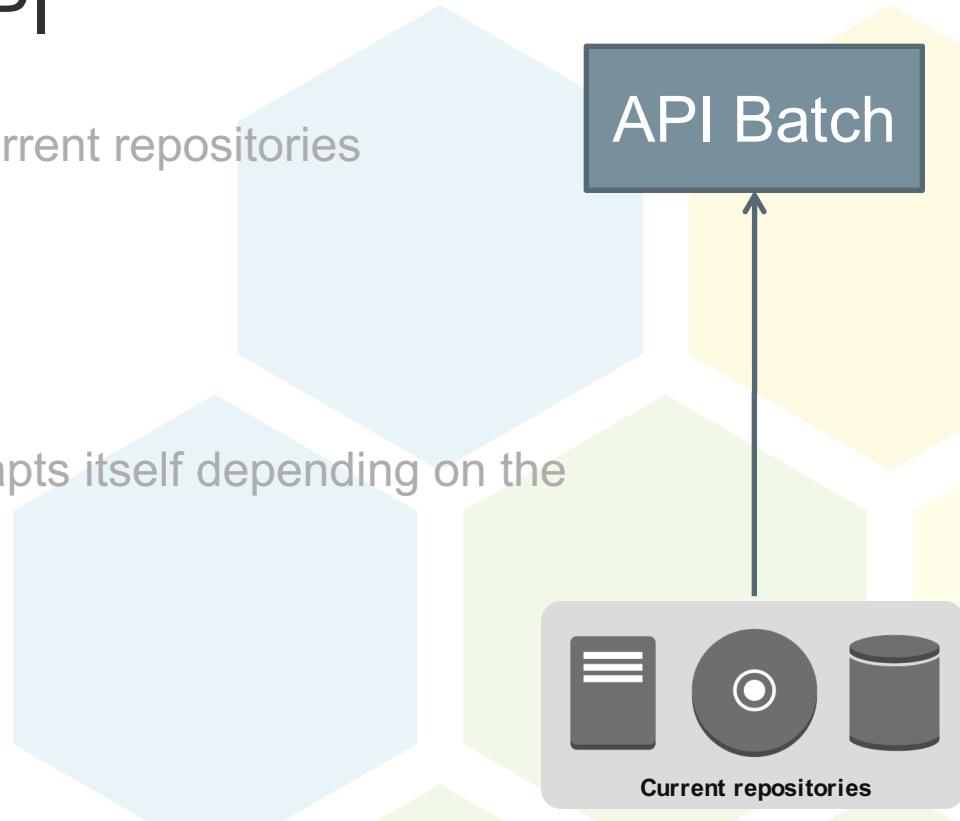
Migration tool with an API

Tools and services to migrate from current repositories

Multiple sources:

- FTP, Filesystem, Database, etc ...

Intelligent migration systems, that adapts itself depending on the repository load





kibana

Monitoring Server

Dashboard / 02 - XEDOC - Panel Alfresco 01

Add Save Share Options Reporting < ⏪ Last 30 days ⏩



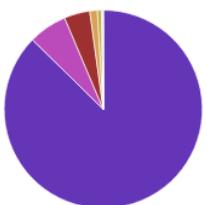
02 - XEDOC - Alfresco 01 - ARPAD vs CMIS - Tarta número de peticiones

● ARPAD
● CMIS

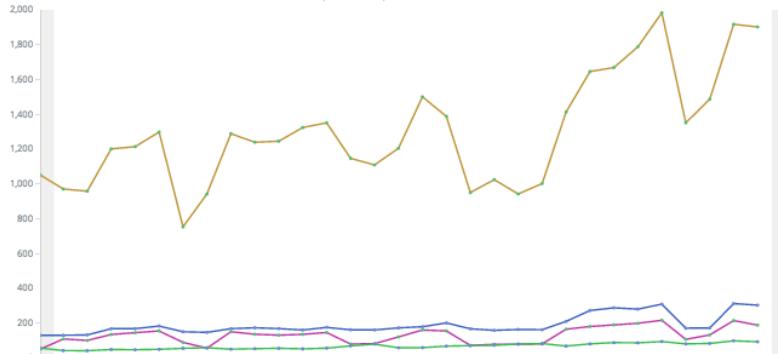


02 - XEDOC - Alfresco 01 - Respuestas - Tarta

● 200
● 201
● 409
● 207
● 302
● 801
● 204
● 401
● 404
● 304



02 - XEDOC - Alfresco 01 - ARPAD vs CMIS - Percentil Tiempos de Respuesta



02 - XEDOC - Alfresco 01 - Métricas generales 4 últimas semanas

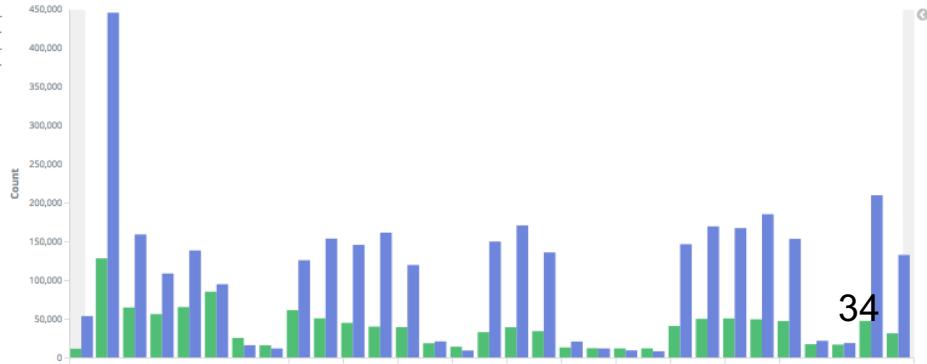
Table Request Response Statistics

@timestamp date ranges ▾

March 28th 2017, 14:28:05.871 to April 4th 2017, 14:28:05.871
April 4th 2017, 14:28:05.871 to April 11th 2017, 14:28:05.871
April 11th 2017, 14:28:05.871 to April 18th 2017, 14:28:05.871
April 18th 2017, 14:28:05.871 to April 25th 2017, 14:28:05.871

Count	Average responsetime	50th percentile of responsetime	90th percentile of responsetime
994,264	312.714	61.685	450.52
1,013,388	250.512	63	325.062
685,102	295.893	79.452	435.1
1,233,469	338.172	99.265	501.053

02 - XEDOC - Alfresco 01 - ARPAD vs CMIS - Número de Peticiones



34



Success Case

Sucess Case



SERVIZO
GALEGO
de SAÚDE

EHR Management

- Document Management system implementation
- Digitization process creation
- Duration of 4 years, since 2013

Activities

- Architectural definition
- Modules development
- Installation and configuration
- Process definitions

Volume

- 20.000 documents/day (10 GB)
- 2.000 request/minute
- 20.000 users

Team

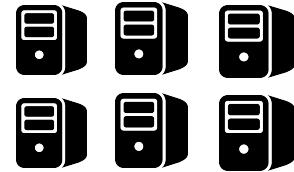
- 1 Consultant
- 1 Architect
- 2 Developers
- 1 Administrator
- 1 Support



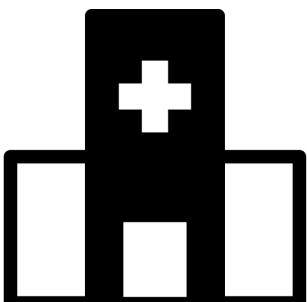
Architecture

- 3 repository nodes
- 3 solr nodes

Alfresco 4.1.8



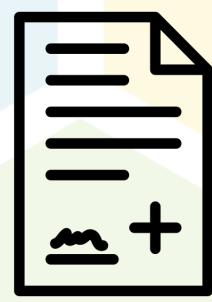
Success Case



472

A large black number "472" is displayed next to a black icon of a bar chart with a cross symbol on top, representing healthcare data visualization.

20k

A large black number "20k" is displayed next to a black icon of a doctor wearing a stethoscope, representing the number of healthcare professionals.

18M

A large black number "18M" is displayed next to a black icon of a document with a cross symbol, representing the volume of medical records.

Success Case

Response times, in high load situation:

- Search: 200 ms
- Download documents: 1 s
- Add documents: 2 s

High availability with 3 nodes x 4 cores (8 Gb)



The first success is Peter



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 @QueresTech

 Queres Tech

Thanks





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Twitter: @coffman