



epsos

EUROPEAN PATIENTS  
SMART OPEN SERVICES





# “epSOS in short”

[www.epsos.eu](http://www.epsos.eu)





## 1. Introduction to epSOS

- a. Intro to the project
- b. What is an NCP

## 2. History

- a. The development of the original common components
- b. NCP-in-the-box
- c. SRDC NCP and interoperability with NCP-in-the-box
- d. OpenNCP
- e. epSOS 2.0 Services

## 3. Organization

- a. Who
- b. For Whom
- c. How





## 4. Architecture and technologies

- a. IHE, HL7, other standardization bodies
- b. Architecture overview
- c. What is fully implemented, what is partly implemented, what is outside the scope

## 5. Tools

- a. Code repositories and CI
- b. Java, Maven, Gitflow

## 6. Experiences and an outlook to the future





# Introduction to epSOS

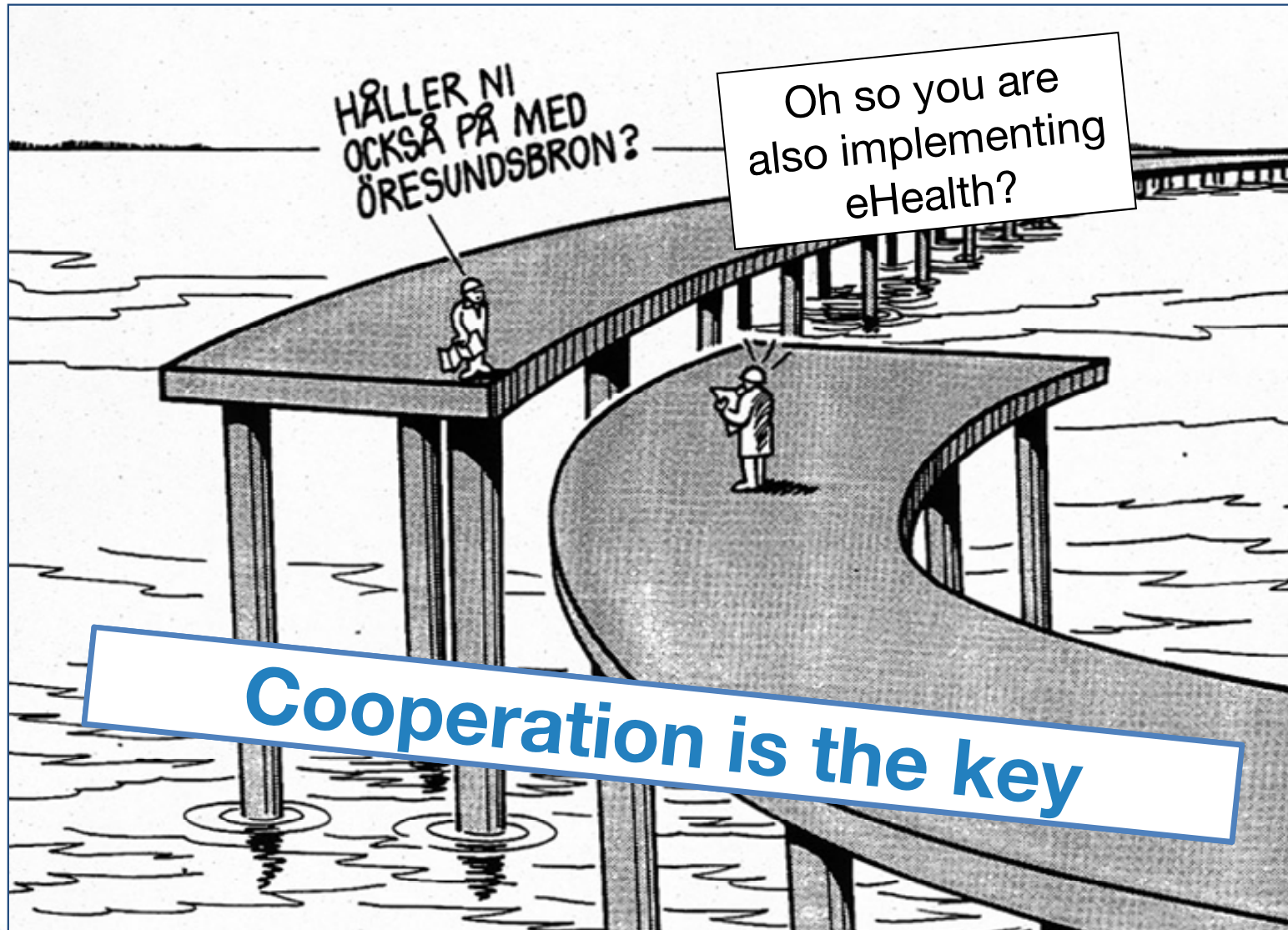




## epSOS Mantra

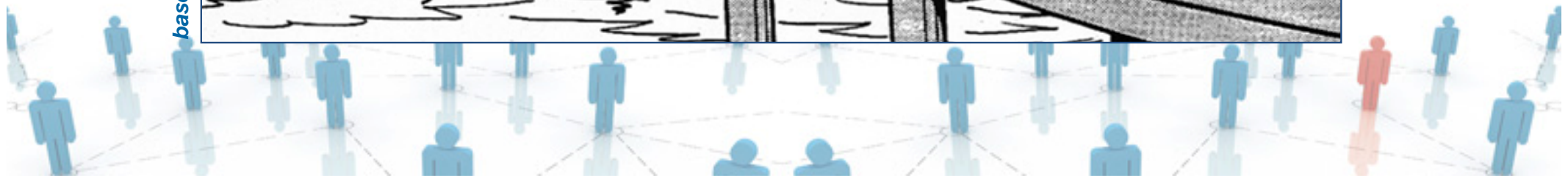
**From strategies to services**  
**eHealth as the enabler for cross-border healthcare**





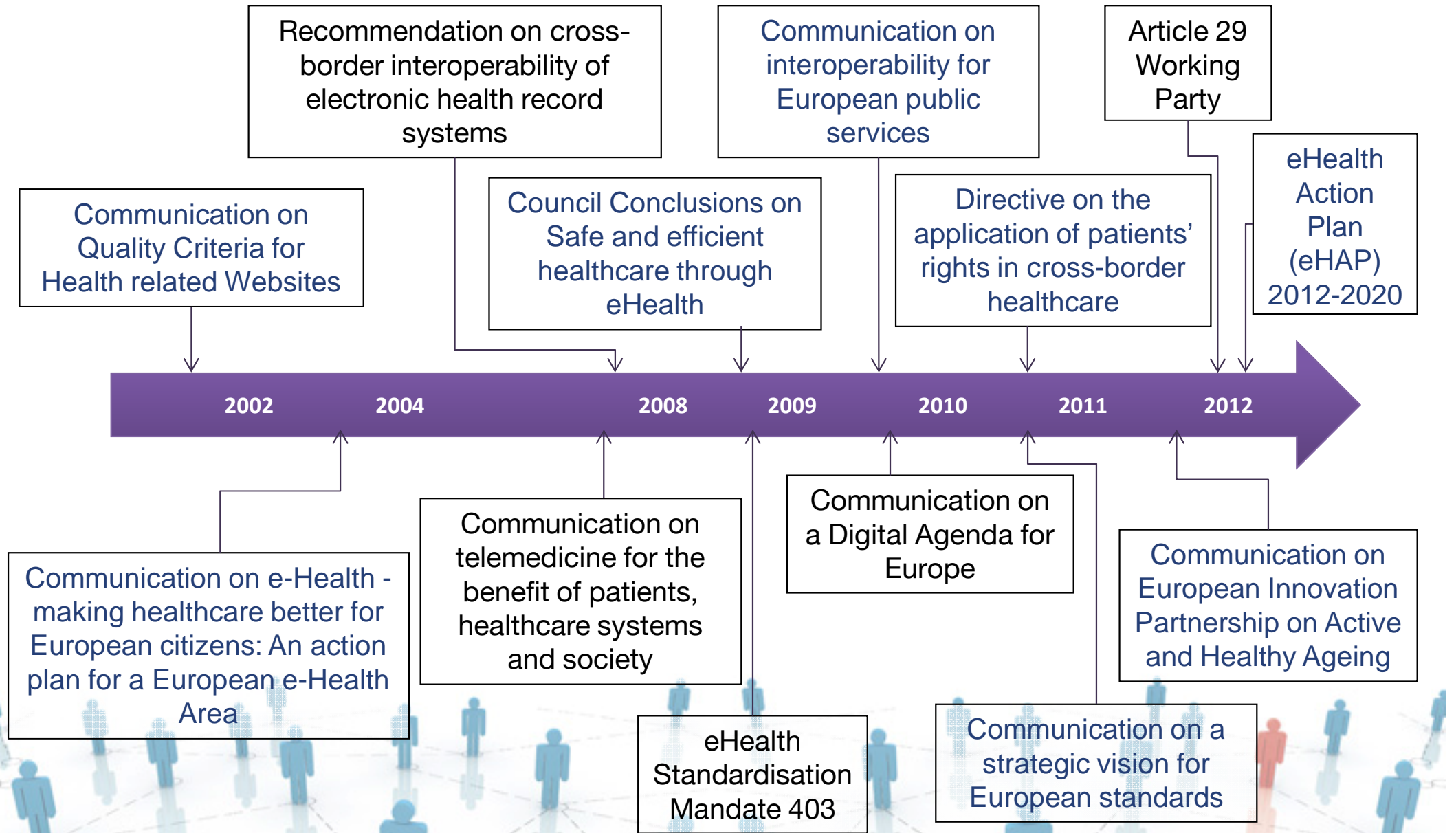
base from Mikael Erlandsson

**Cooperation is the key**





## Policy Context for EU eHealth Interoperability







# epSOS Time Frames

**epSOS I**

**epSOS II**

2008

2009

2010

2011

2012

2013





## The Goal

### Smart Open Services for European Patients

..to develop a **practical** eHealth framework and ICT infrastructure

that will enable **secure access** to patient **health information**, particularly with respect to a basic **Patient Summary** and **ePrescription**, **between European** healthcare systems.





## epSOS Vision

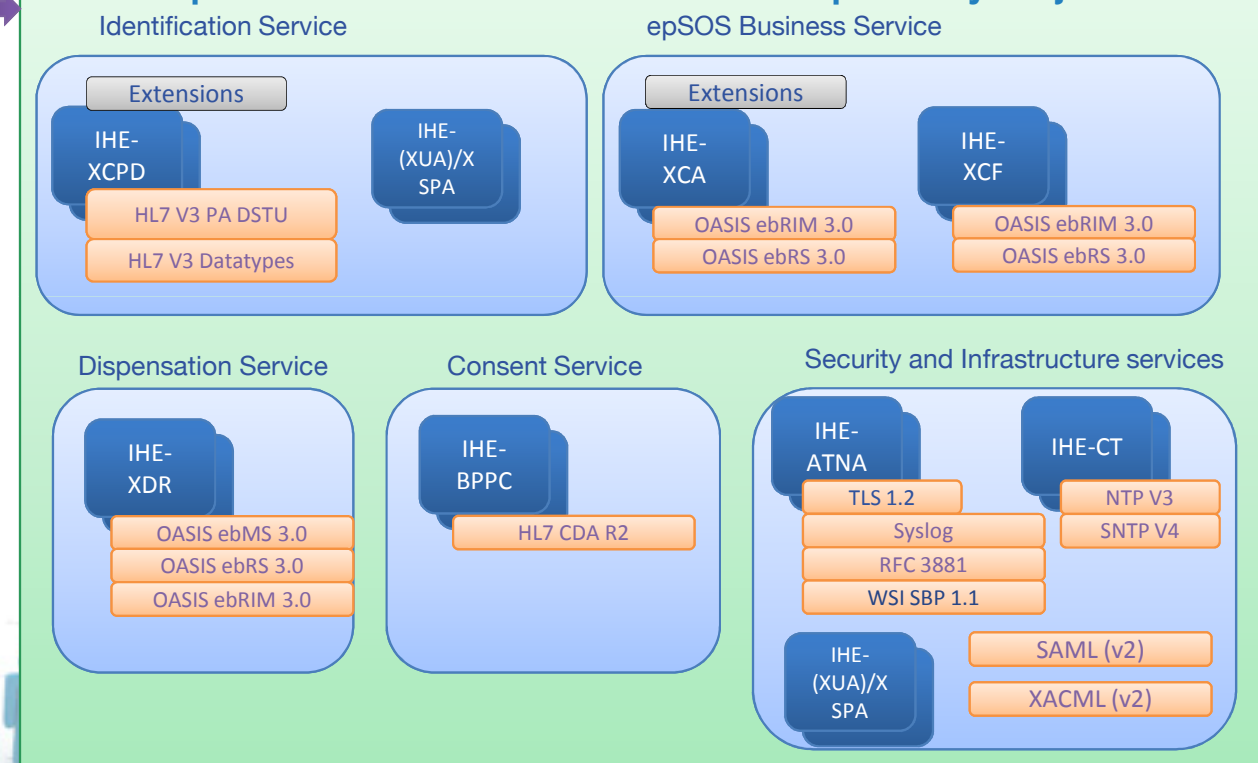
### International base standards and profile development

- LOINC
  - SNOMED/CT
  - HL7 v2
  - HL7v3
  - CDA L1 L3
  - Pdf/A
  - HTPP1.1
  - UTF8
  - OASIS ebRIM 3.0
  - OASIS ebRS 3.0
  - W3C MTOM
  - W3C XOP
  - W3C SOAP 1.2
  - WSI BP 1.1
  - WSI SBP 1.1
  - RFC1305 (NTP)
  - ETSI TS 102 231
  - SAML
  - X509
  - RFC 3881
  - XACLM
  - TSL/NSL
- IHE-BPPC
  - IHE-XCPD
  - IHE-XCA
  - IHE-CT
  - IHE-XDR
  - IHE-ATNA
  - IHE-XSPA
  - IHE-XUA
  - IHE-XCF
  - ...
- TSP
  - CEN activities
  - IEEE 11073
  - ...

### eHealth European Interoperability Framework: EU Recognised profiles

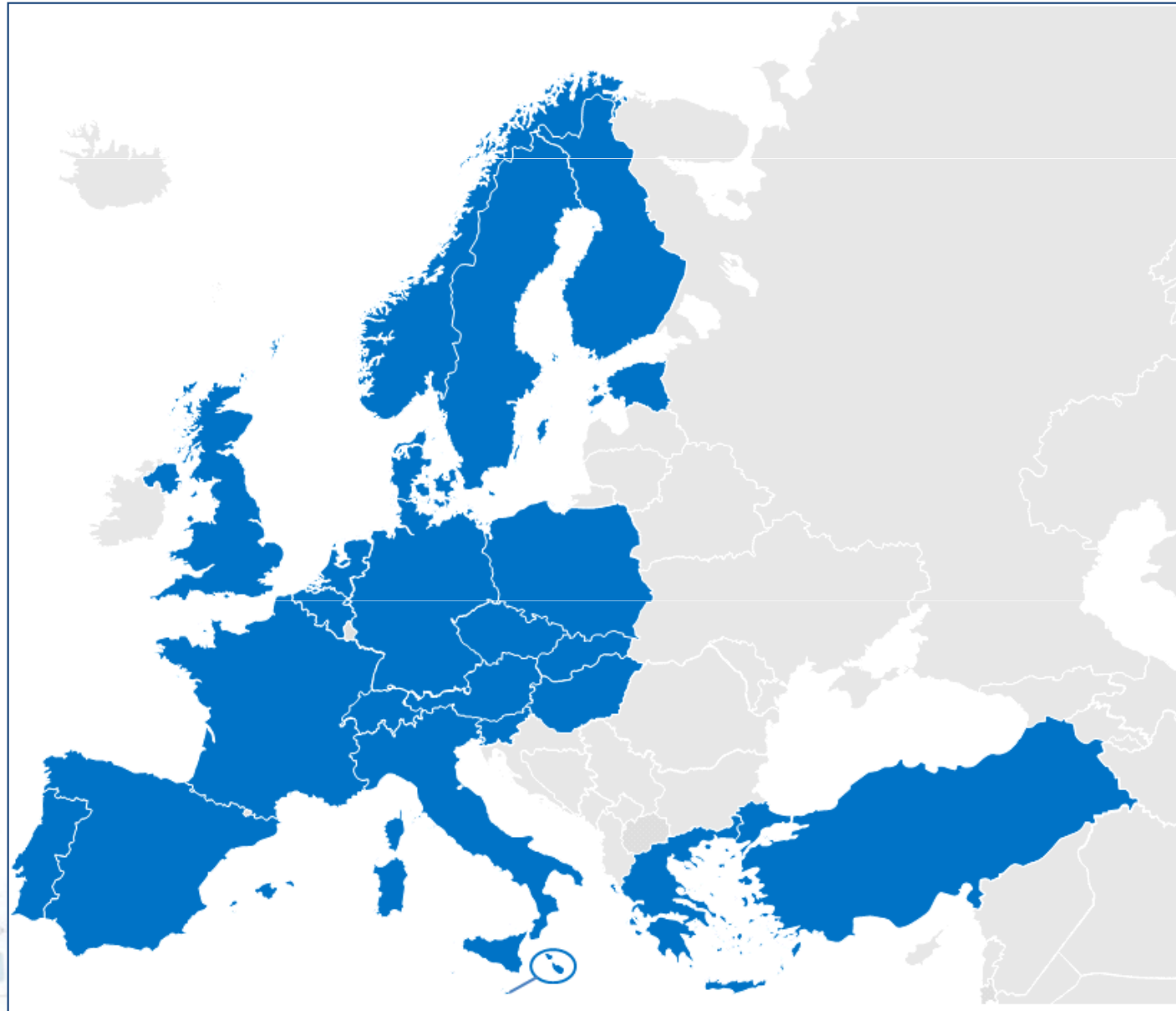


### epSOS EU Cross-Border eHealth Interoperability Project





26 Participating Nations





## Industry Team

as per 15.05.2013

<b>3M</b>	<b><u>Agfa HealthCare</u></b>	<b>Alert Life Sciences Computing</b>	<b>Apollo Information Technologies</b>
<b>Boston Life Labs</b>	<b>CareCom</b>	<b><u>Cisco</u></b>	<b>Conet AG</b>
<b>dbMotion</b>	<b>Dedalus Healthcare Systems Group</b>	<b>Engineering S.p.A</b>	<b><u>GE Healthcare</u></b>
<b><u>Gnomon Informatics</u></b>	<b><u>IBM</u></b>	<b><u>IHE Europe*</u></b>	<b><u>Indra</u></b>
<b>Insiel S.p.A.</b>	<b>Intel Corporation</b>	<b>Mawell</b>	<b>MediCognos</b>
<b><u>Microsoft</u></b>	<b>Netsmart</b>	<b>Oracle</b>	<b>Posam</b>
<b>RISE</b>	<b>Steria</b>	<b><u>Tiani-Spirit</u></b>	<b>TrebleM</b>
<b>T-Systems</b>	<b>UBM Medica</b>	<b>X-tention</b>	

**Industry Team Steering Group members are underlined**

\*Industry Team Coordinator,  
no member of Industry Team



Provide concrete cross border Health services

- **Patient Summary for EU Citizens**
  - Occasional and Regular Visit
- **ePrescribing for EU Citizens**
  - Medication ePrescription and eDispensation

epSOS I





## ■ Patient Access

- Give the patients access to their information in multi-language

## ■ Health-Care Encounter Report

- Report information about an encounter

## ■ Medication Related Overview

- Provide relevant information for medication dispensation



# National Contact Point

## Legal

Gathers all the legal supporting NCP structure

Controls the flow of information to and from the PN

## Technical

Acts as an entry/exit point for a national eHealth infrastructure

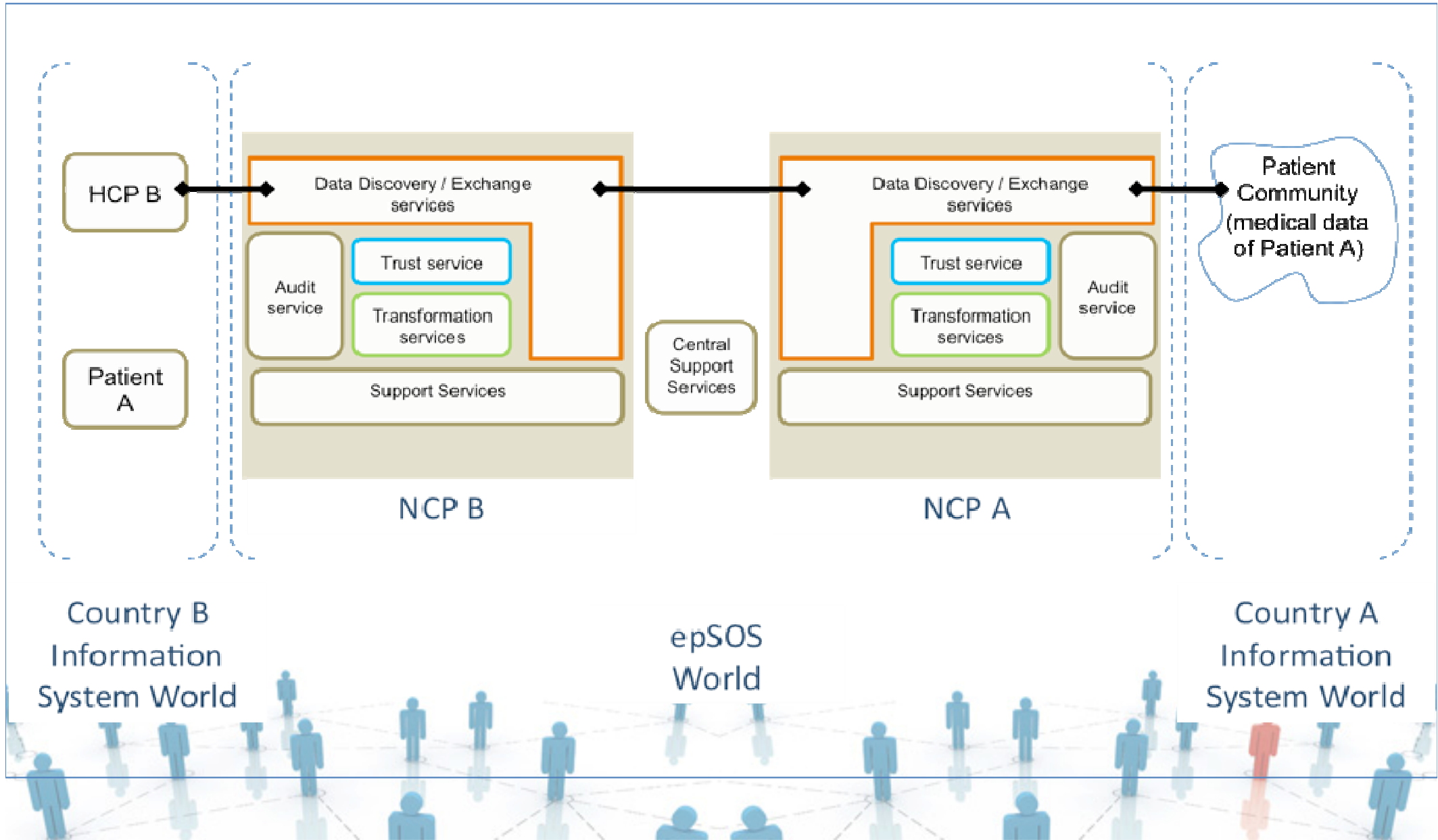
Handles semantic and technical adaptations of eHealth applications

Is built using the delivered components





## NCP Concept





# History





## Motivations

- **Interoperability** to connect services and architectures, potentially different in every Participating Nation (PN)
- The **National Contact Point (NCP)** is the fulcrum of cross border interoperability, exploiting the role of connecting the PN to the European Level environment.





## Original Idea

- Limit central project results to specifications
- Leave implementation to PNs

- Feasibility of achieving interoperability between NIs was very low
- PNs commitment with specs was low

## Recognized outcome

## Actions taken

- It was decided in 2010 to engage a consortium to develop a reference implementation





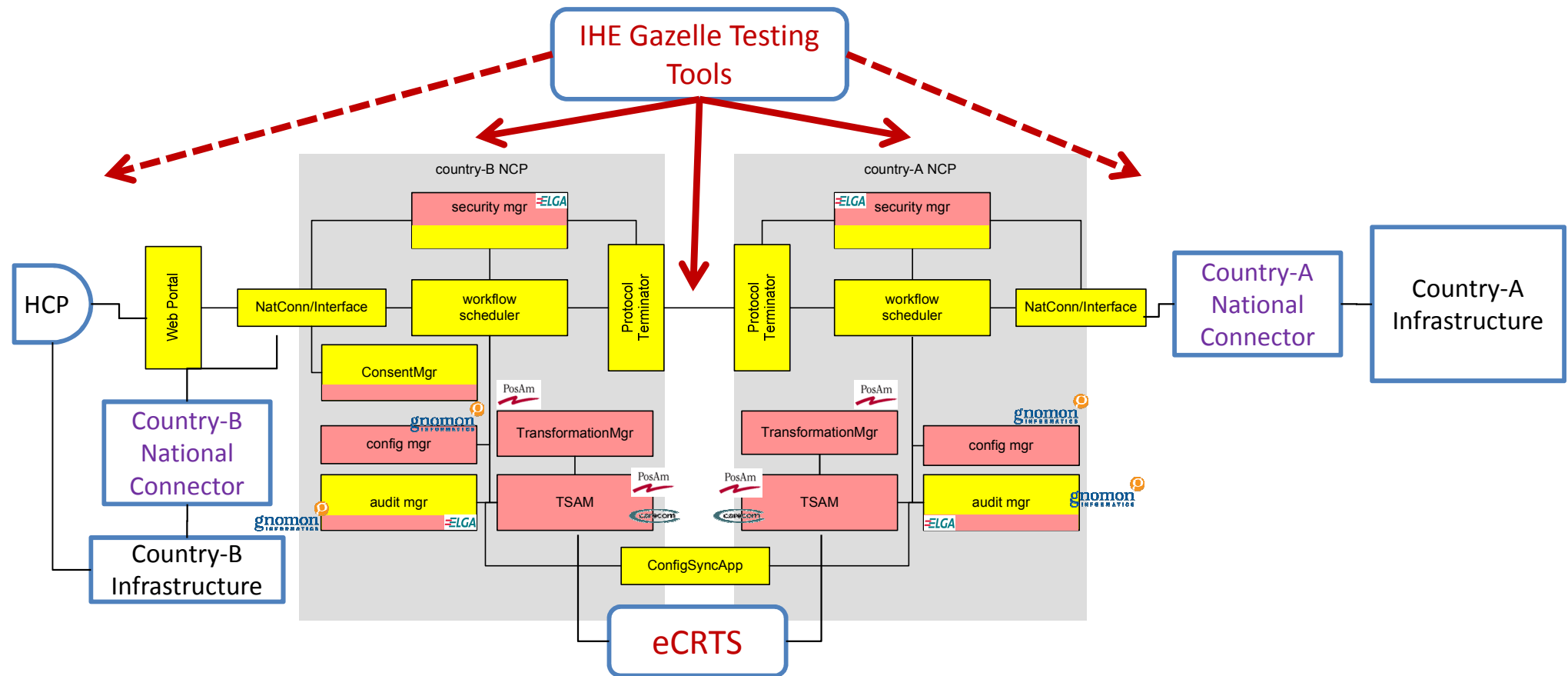
# FraunhoferElgaTiani Solution

- Developed by the consortium of **beneficiaries** and **industry team**
- Mainly constituted by **Fraunhofer, Elga** and **Tiani**
- The resulting components were in part **proprietary software**





# Common Components Development (CCD) Composition



yellow

Vendor ready-to-deploy and IHE connect-a-thon tested products  
→ no JARF sponsoring, royalty-free licence for epSOS pilot projects

red

cooperative, common development by Industry Team / Beneficiaries  
→ JARF sponsored Open Source Software, linked to vendor products





- Second NCP implementation developed by **SRDC** (Software Research, Development and Consultancy Ltd., Turkey)
- Provided **free of charge** to several countries for their own NCP, under GPL license
- Makes use of open epSOS **common components**
- Has compliant **interoperability** with **FET** solution and **OpenNCP**





## Summer of 2012

Concrete plans for forming an open source project (OpenNCP)

Delivering the software components necessary to run a NCP

Manifest it in the formation of an international task-force team







# Organization





## OpenNCP Community

**Open** group of **people** orchestrated by an **agile** software development methodology conducting effort on **designing, coding, testing** and delivering OpenNCP software





# Willing People == Community



*OpenNCP Team and epSOS Members at 2013 Istanbul Connectathon*



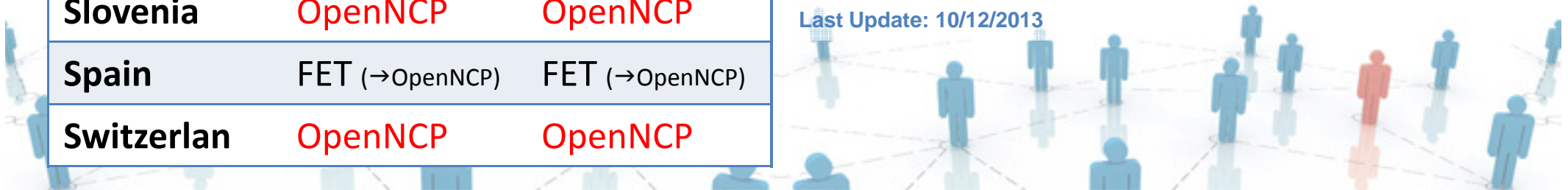


# OpenNCP Adoption

Patient Summary		
PN	PS A	PS B
Austria	FET	FET
Estonia	OpenNCP	OpenNCP
France	FET	FET
Hungary	N/A	OpenNCP
Italy	FET (→OpenNCP)	FET (→OpenNCP)
Luxembourg	N/A	OpenNCP
Malta	OpenNCP	OpenNCP
Portugal	OpenNCP	OpenNCP
Slovenia	OpenNCP	OpenNCP
Spain	FET (→OpenNCP)	FET (→OpenNCP)
Switzerland	OpenNCP	OpenNCP

ePrescription		
PN	eP A	eP B
Croatia	OpenNCP	OpenNCP
Denmark	FET	FET
Finland	OpenNCP	OpenNCP
Greece	N/A	FET (→OpenNCP)
Hungary	FET (→OpenNCP)	FET (→OpenNCP)
Italy	FET (→OpenNCP)	N/A
Spain	OpenNCP	FET (→OpenNCP)
Sweden	OpenNCP	OpenNCP

Last Update: 10/12/2013





## Since then

**100**

+ meetings

**21**

Software components

**4**

Used over 1 PAT and 4 PPTs

**epSOS I/II**

epSOS I and II services available

Adopted by MOST of epSOS PN (10+)





# OpenNCP Vision

...design and develop a set of Open Source Components (OpenNCP) that can be adopted by Participating Nation, to build their local implementation of the NCP (





# OpenNCP Definition

“epSOS NCP software publicly available under Open Source licensing”





**Motivation  
and Culture**

**Skills and  
Expertise**

**Key  
Ingredients**

**Willing People**

**Common  
needs**







# Distributed Development

**10**

Countries

**27**

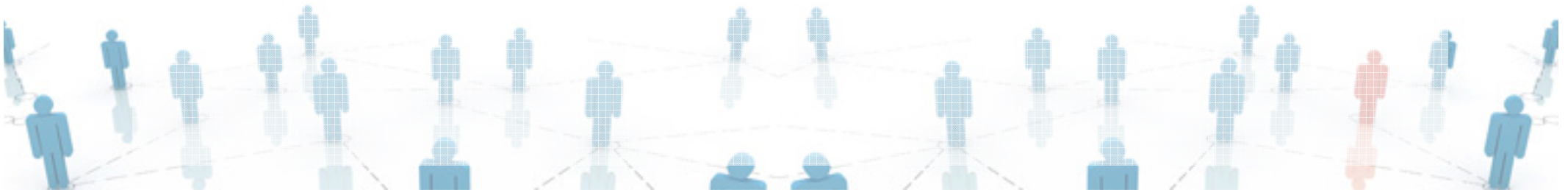
Contributors (not all coding)

**3**

Spanned timezones

**24**

Source repositories





# Method

Software components released **MUST**

- Be readily deployable;
- Have qualitative demands on the build tools (**Continuous Integration**);
- Have discipline of the developers when committing code;



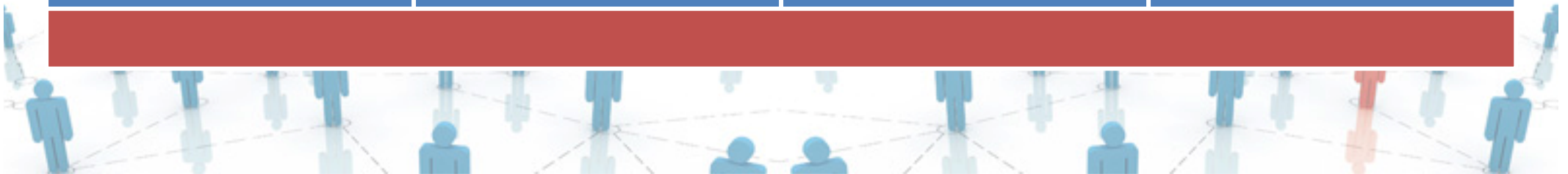
# OpenNCP Community

Collaborative  
Design

Technology  
Engineering

Support &  
Maintenance

Knowledge  
Sharing





# Architecture and Technologies

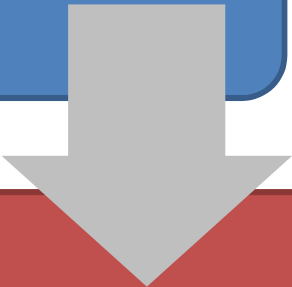





# IHE Definition

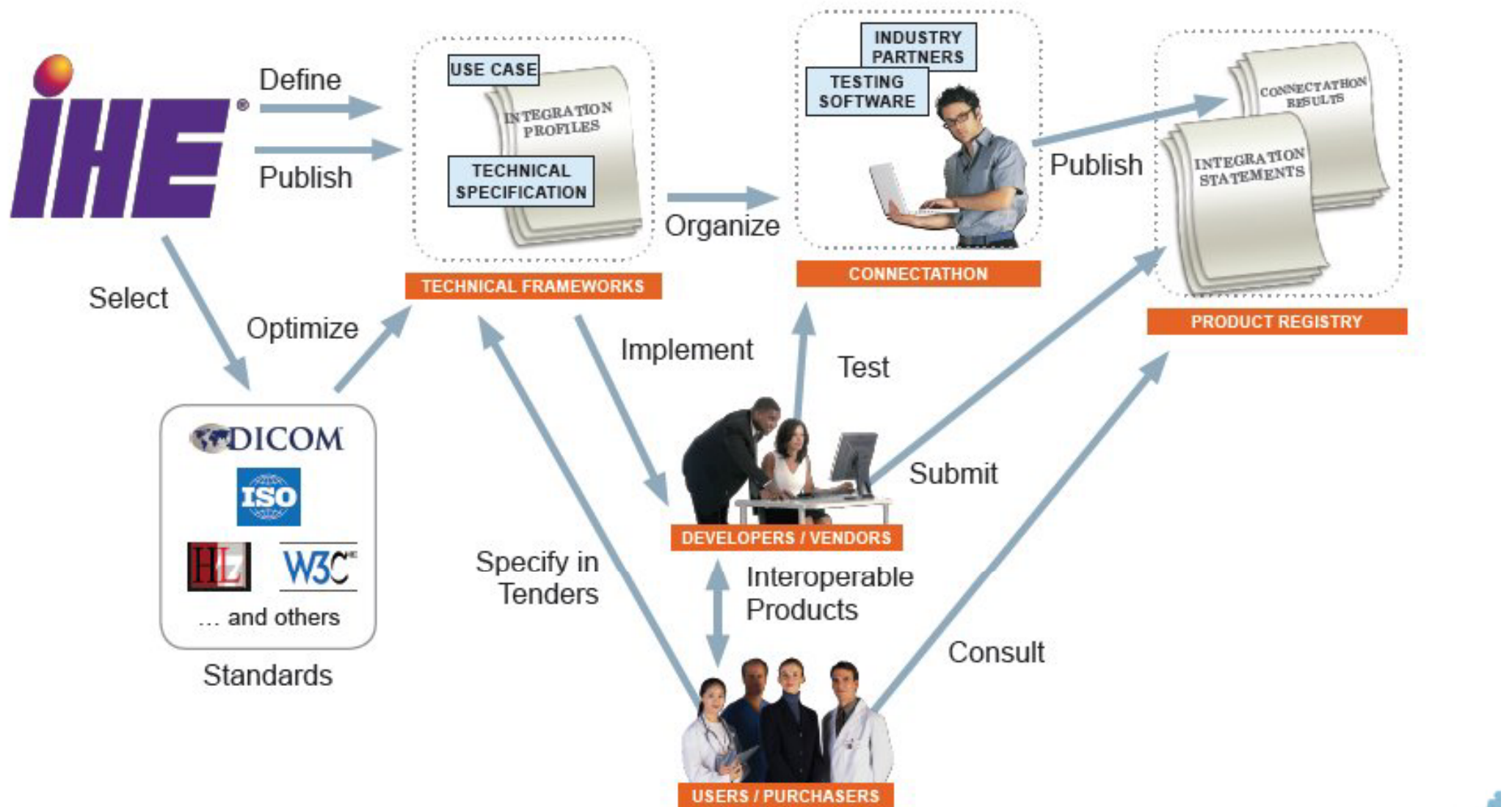


Aims to speedup the adoption of EHRs and optimize the clinical information exchange between systems.



By improving the **quality**, **efficiency** e **safety** of healthcare procedures due to improved information availability.







# HL7 Definition



## Vision

- Create the best and most widely used standards in healthcare

## Mission

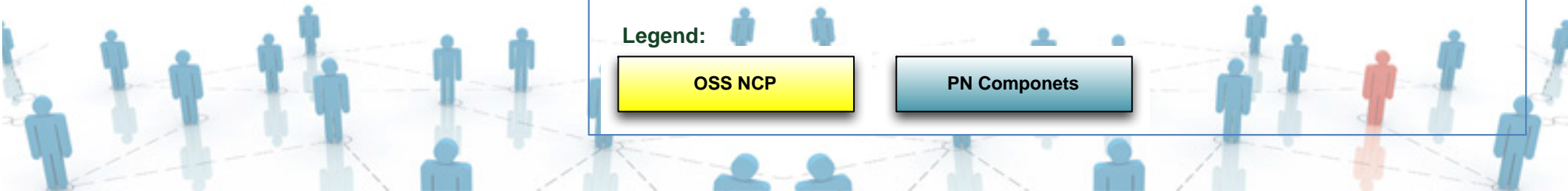
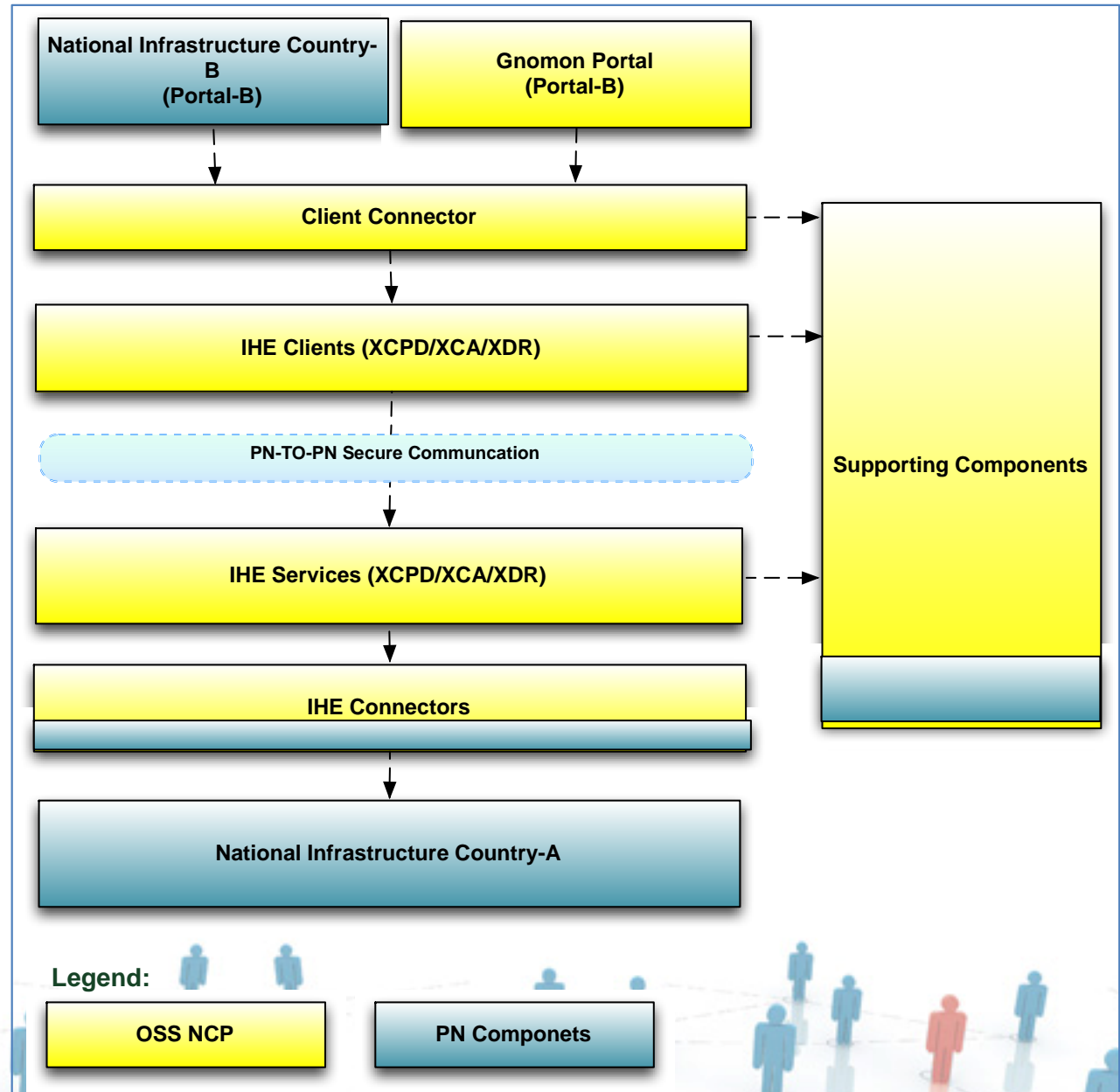
- Provide standards that improve care delivery, optimize workflow, reduce ambiguity and enhance knowledge transfer. All based on maximum scientific rigor.

## Meaning

- Level Seven refers to the seventh level of the OSI model, the application level.



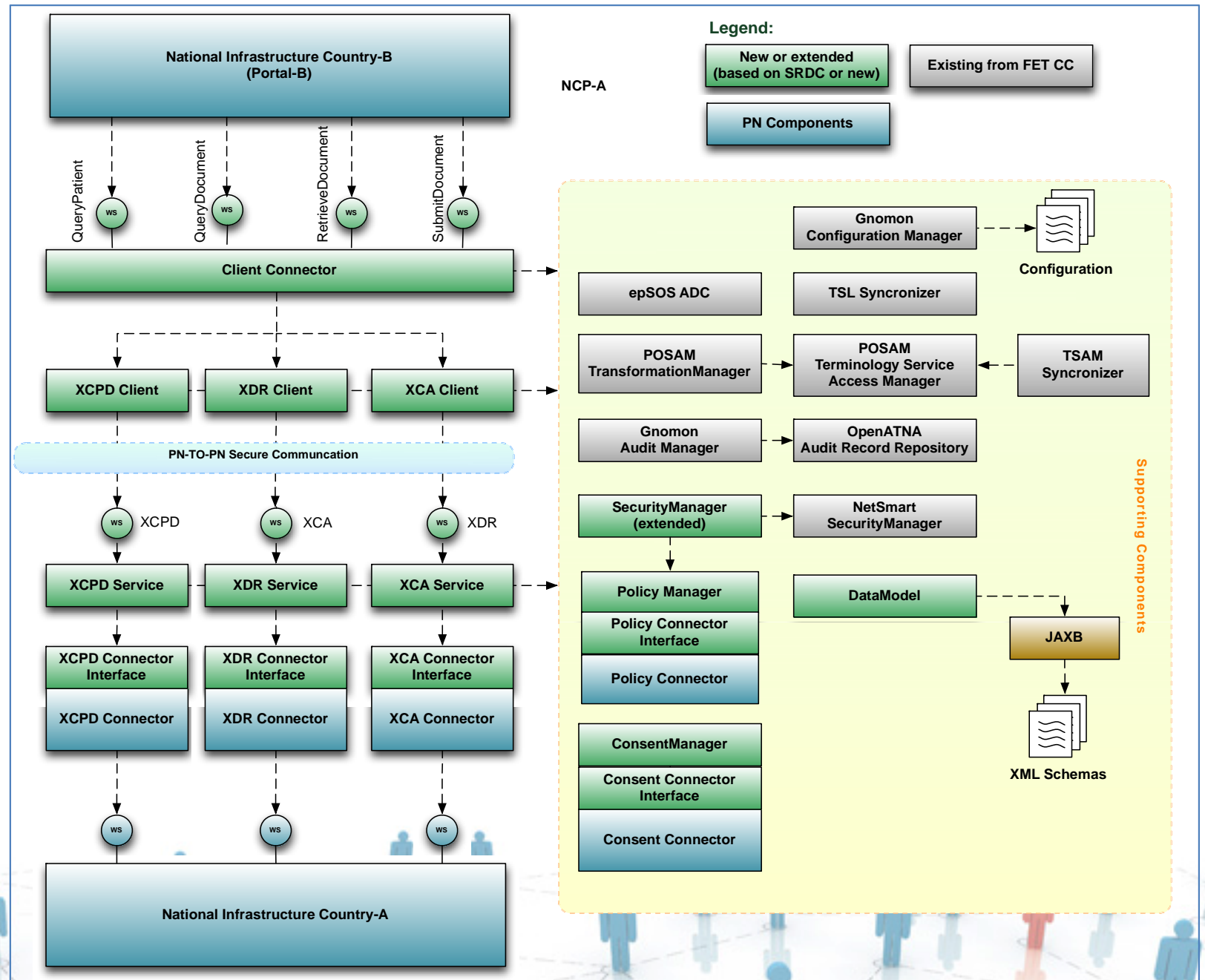
## NCP Common Component Architecture





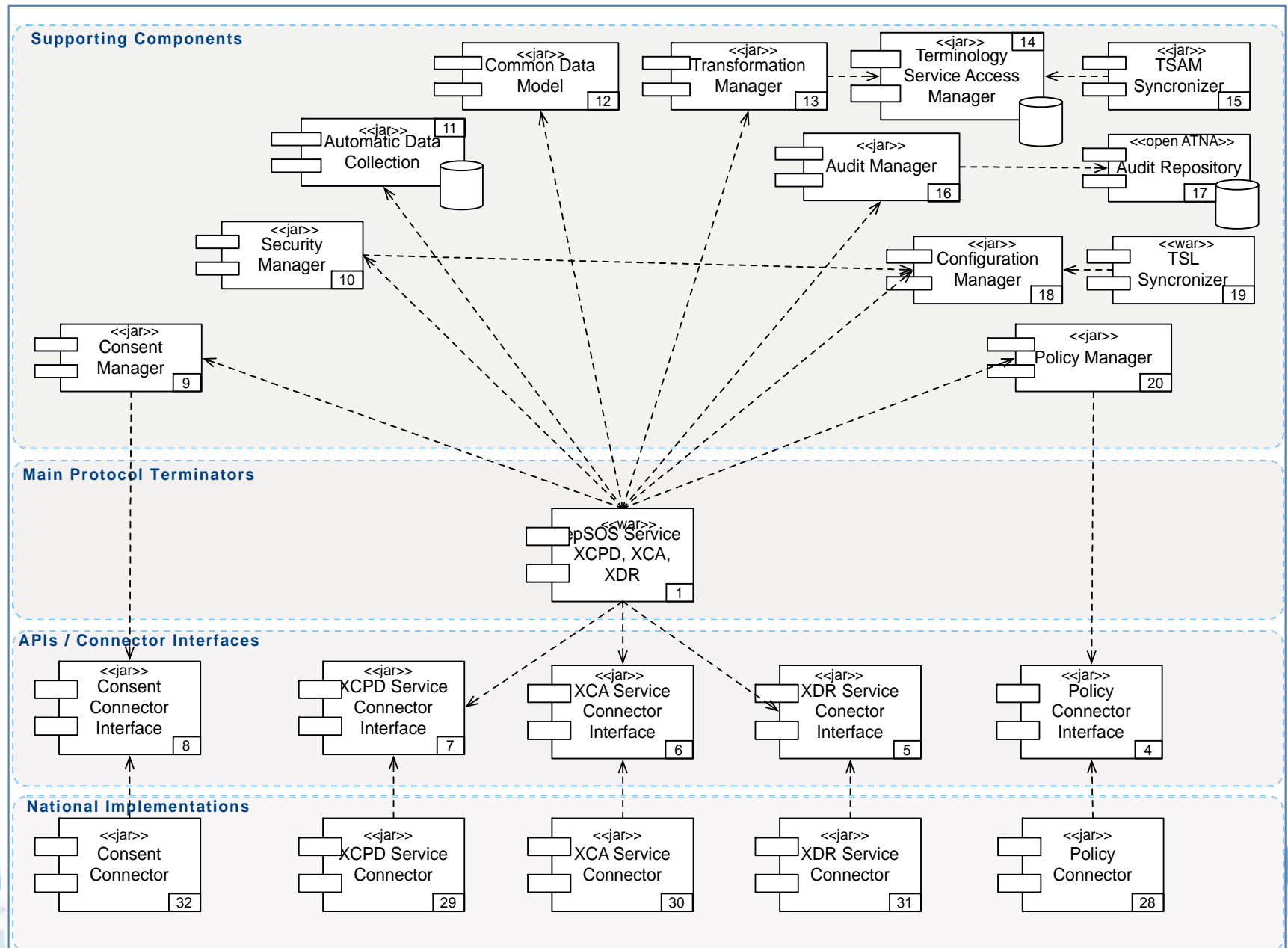


## NCP Logical Component Model



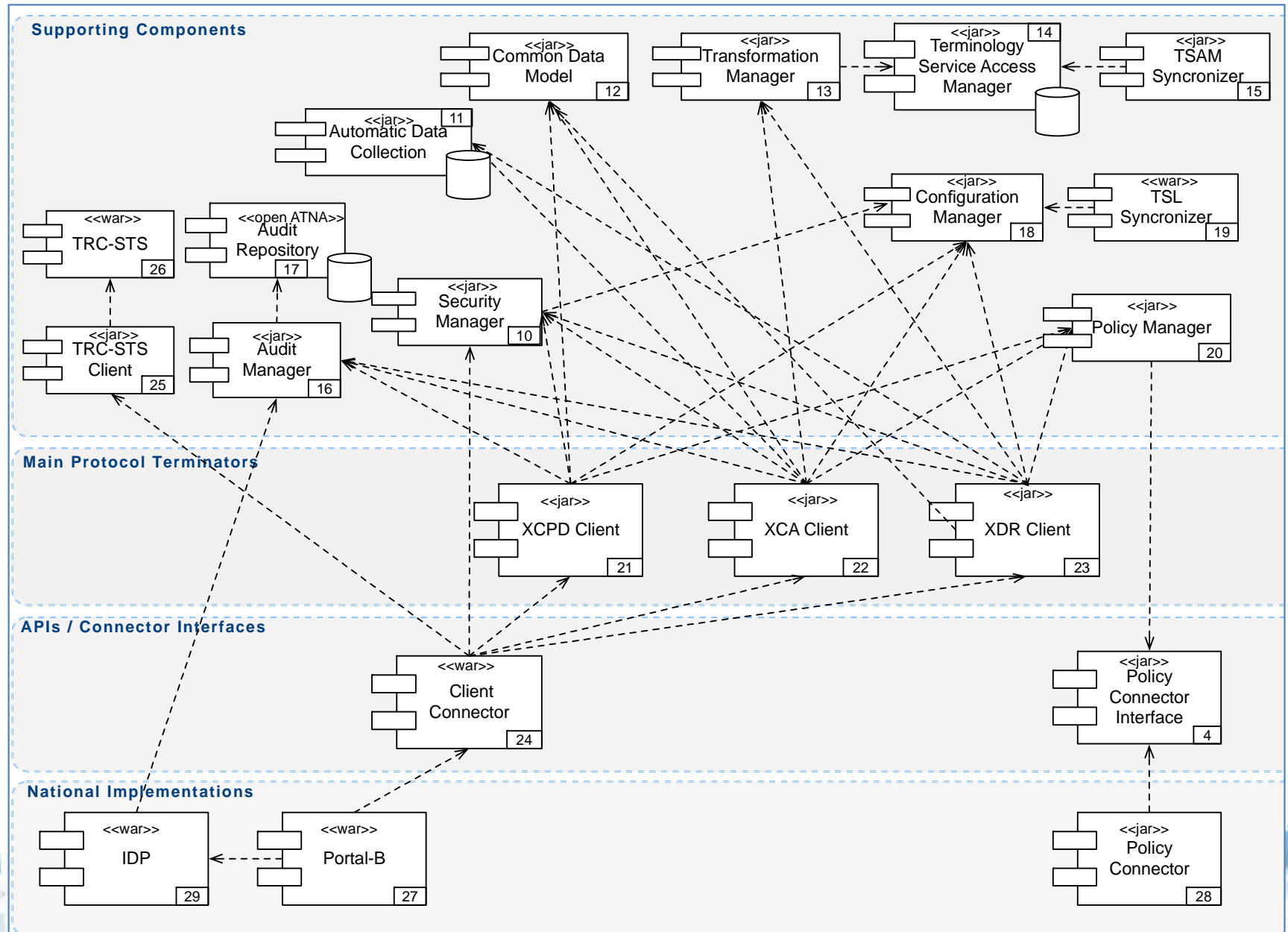


## NCP-A Components Architecture





## NCP-B Components Architecture





# OpenNCP Services Implementation Status

## epSOS I

Patient Service

Order Service

Consent Service

## epSOS II

Healthcare  
Encounter Report

Medication  
Related Overview

Patient Access

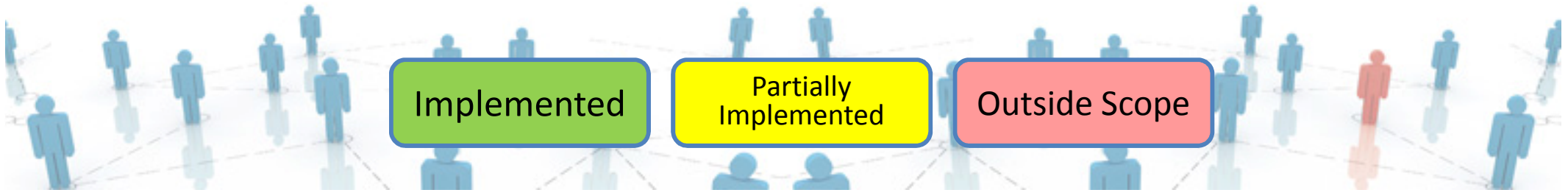
Automated  
Validation

112 Emergency

Implemented

Partially  
Implemented

Outside Scope





# Tools





# Development Management

Projects - Issues - Agile - **Create Issue**

Quick Search

MyDashboard

Activity Stream

**JIRA**

Thursday

Marcelo Fonseca attached 2 files to OPENNCP-28 - OpenNCP Documentation: General Presentation, Technical Aspects, Installation Overview

Forwarded message

From: Marcelo Fonseca <marcelo.fonseca@iuz.it>  
Date: 2013/12/26  
Subject: epSOS Documentation, Technical Aspects: information about the sheet

Issue solution

To: 'Marcelo, Kathrin' <kathrin.kathrin@iuz.it>  
Cc: 'Jürgen Wehner' <jurgen.wehner@gematik.de> 'Georg Wehner' <georg@gematik.de>, 'Lukas Blau' <lukas.blau@iuz.it>, 'Marcelo Fonseca' <marcelo.fonseca@iuz.it>  
<marcelo.fonseca@iuz.it>

Dear Kathrin,

Please accept our suggestion for a reference about the open source solution, to be included in the "epSOS Technical Aspects" sheet

Thursday at 11:44 AM

Marcelo Fonseca commented on OPENNCP Technical Sheet  
Here's my suggestion for an OpenNCP reference:

**Reference Implementation**

The epSOS Project decided to support the development of a reference implementation without any limitations on the usage of the PaaS. As a result the OpenNCP represents a set of best practices.

Thursday at 10:32 AM

Marcelo Fonseca commented on OPENNCP-28 - OpenNCP Documentation: General Presentation, Technical Aspects, Installation Overview

**Assigned to Me**

Key	Summary	Updated
OPENNCP-28	OpenNCP Documentation: General Presentation, Technical Aspects, Installation Overview	26-Dec-13
PT-387	JCA Query workflow messages are being validated twice in NCP-A-4	17-Dec-13
TSYNC-5	TSYNC-4 / Build CTS2 compliant REST client	17-Dec-13
TSYNC-4	TSYNC-4 / Adjust CDA to fit the database using the REST client	17-Dec-13
PT-405	eDispensation CDA Validation NCP-A	15-Dec-13

1-4 of 22 1 2 3 4 5 7 >

**Watched Issues**

Key	Summary	Updated
TSYNC-6	TSYNC-4 / Adjust CDA to fit the database using the REST client	17-Dec-13
TSYNC-5	TSYNC-4 / Build CTS2 compliant REST client	17-Dec-13
TSync-1	Paths in xppa properties should be relative, not absolute	18-Mar-13
PT-347	Send CDA document transformation/translation errors to the portal	31-Oct-13
PT-289	PT-289 / Extend integration tests for CLIENT part with LINE template POST	18-Oct-13

1-4 of 22 1 2 3 4 5 7 >

**Created vs. Resolved Chart (CI Enhancements Implementation Tasks)**

Issues: 6 created and 3 resolved  
Period: last 15 days (grouped Daily)

**Pie Chart (CI Enhancements Implementation Tasks)**

Total Issues: 43 Statistics Type Assignee

Dashboards - Projects - Issues - Agile - **Create Issue**

OpenNCP Support

Quick Filters: Only My Issues Recently Updated

43 To Do 6 In Progress 3 Quality Control 2 Done Release...

- Major (CONSIDER solve for release) 32 issues

PT-347 Send CDA document transformation/translation errors to the portal

COISA-6 Config Manager JIT Policy do not allow passwords to be stored in database

PT-116 XDR support for PDF/A coded eDispensation

CM-1 Implement consent revocation

PT-249 Refactoring of PT-219 (Some exception classes need to be moved to another project and to different packages)

PT-254 Problem with XDR submit dispensation request: it returns errors when trying with PHE endpoints

OP-7 Some audit logs generate exceptions in OpenATHA

TSAM-6 Thousands of Maven warnings

TIA-55 Transformation of coded element Author in ePrescription CDA level 1 produced by Sweden is not correct

OPENNCP-28 OpenNCP Documentation: General Presentation, Technical Aspects, Installation Overview

OP-17 A tool for importing audit dumps after failure recovery is needed

INT-68 WG epSOS OpenNCP Implementation - Austria

OPENNCP-66 Road to Sustainability

INT-69 Find VERY URGENT Ref Re: Ref Re: Access to Healthrem for PAC - "openncpl\_synchronizer"

**Tool**

Atlassian Jira + GreenHopper

**Location**

<https://openncp.atlassian.net>



# Knowledge Sharing

The screenshot shows the OpenNCP Community Home page on Confluence. The page title is "OpenNCP Community Home" and it was created by Luis Pinto, last modified by Licinio kustra Mano on Dec 26, 2013. The main heading is "Welcome to the OpenNCP Community!" followed by a group photo of community members. Below the photo, the text reads "This is the home of the OpenNCP development." and lists several resources: OpenNCP General Presentation, OpenNCP Technical Sheet, OpenNCP Disclaimer, OpenNCP Release Notes, OpenNCP Meeting minutes, OpenNCP Installation Overview, OpenNCP Installation Manual, and OpenNCP Usage. To the right, there are sections for "Looking for OpenNCP releases?" (with the latest release being 2.1.0), "Want to contribute to OpenNCP?" (with a link to meeting minutes), and "Want to install and setup the OpenNCP?" (with links to the installation manual and overview).

**Tool**

Atlassian Confluence

**Location**<https://openncp.atlassian.net/wiki>



# Code Sharing

**epsos-common-components**  
A project that implements the common components specified by the epSOS project

Project Home [Source](#)

Summary People

**Project Information**

- Stared by 3 users [Project feeds](#)
- Code license [Apache License 2.0](#)
- Labels [Health, eu, e-Health, ihe, license](#)
- Members [st...@manniche.net](#), [stefan.g...@mawell.com](#), [Konstantin.Hypponen](#), [msfyuk...@gmail.com](#), [marcelo...@luz.pt](#), [licinio...@luz.pt](#), [ivo.pinh...@luz.pt](#), [13 committers](#)

**External links**  
[OpenNCP Home](#)

**epSOS Common Components Description**

The [epSOS project](#) has released interoperability specifications (Common Components Specification) for national Contact Points (NCPs) to interact and support epSOS defined services such as patient summary and prescription. epSOS has also established a testing process for testing compliant implementations of these specifications, and ensure their interoperability.

**Project Dissemination**

The general dissemination of the epSOS project is carried out at <http://www.epsos.eu>, and all questions or comments regarding the project as a whole or any of the deliverables should be directed to the communication channels defined by the epSOS project. This open source project is a software implementation of these interoperability specifications. It is an example of their realization in software components that support building of an NCP (national contact point) by participating nations.

**Artifacts Publication**

All artifacts published by this open source project and its subprojects will be made available on <http://www.joinup.eu/>. This open source project will primarily provide the software components needed in an NCP, and integration tests that demonstrate their interdependencies. This will include build scripts, third party components, general instructions on deploying and notes on system prerequisites. Furthermore, the project may provide implementation notes, comments on the epSOS interoperability specification and general discussion related to the implementation of the software components. Such notes should be viewed in the context of a development work in progress, and may change over time or completely disappear.

**License notes**

The components developed in this project are developed under the ASLV2 and the GPLv3.

**OpenNCP Introduction**

The OpenNCP is thought of as a conceptual collection of the common components with the aim of constructing a NCP. The repositories hosted here represents the effort to meet this end.

**OpenNCP miniprojects**

The responsibility of the development and testing of the components have been divided into several miniprojects, each responsible of a logical

**epsos-common-components**  
A project that implements the common components specified by the epSOS project

Repository [protocolterminators](#) [Checkout](#) [Browse](#) [Changes](#) [Clones](#)

Committed Changes Branch: [develop](#) Tag: [<none>](#) Other: [<none>](#) [Download zip](#)

Rev	Scores	Commit log message	Date
<a href="#">1820e29188b</a>		Merge branch 'release/2.1.0'	Dec 17, 2013
<a href="#">2d51510ba0c7</a>		Preparing OpenNCP Gold Release Version 2.1.0	Dec 17, 2013
<a href="#">6a16e72a075a</a>		Merge branch 'release/2.1.0' into 'develop' Conflicts: <a href="#">epSOS-integration-test/pom.xml</a> <a href="#">epSOS-nCP-client-consumer/pom.xml</a> <a href="#">epSOS-nCP-client/epSOS-client-conector/pom.xml</a> <a href="#">epSOS-nCP-client/epSOS-sca-ws-client/pom.xml</a> <a href="#">epSOS-nCP-client/epSOS-client-conector/pom.xml</a>	Dec 17, 2013
<a href="#">e080f72a1a03</a>		PT-487 Review OpenNCP integration tests according to new testing tools - Adjust mock messages.	Dec 12, 2013
<a href="#">e080f72a1a03</a>		PT-487 Review OpenNCP integration tests according to new testing tools - Fix testing case.	Dec 12, 2013
<a href="#">e080f72a1a03</a>		PT-487 Review OpenNCP integration tests according to new testing tools - Adjust testing case.	Dec 12, 2013
<a href="#">3202c7a0251</a>		Preparing OpenNCP Release Candidate Version 2.1.0-RC0	Nov 25, 2013
<a href="#">8a28a60039a</a>		PT-377 PT-333 PT-336 PT-330 PT-304 PT-346 Validation tool for documents in Server Side - Add support for document validation tool in Client Side for the following services: MRD, PS, EP, HCER, ED, CS;	Nov 25, 2013
<a href="#">24687a0f3163</a>		PT-372 PT-306 PT-307 PT-290 PT-305 PT-319 Validation tool for documents in Client Side - Add support for document validation tool in Client Side for the following services: MRD, PS, EP, HCER, ED, CS;	Nov 25, 2013
<a href="#">d27ab0392b24</a>		Merge branch 'release/2.0.3'	Nov 4, 2013
<a href="#">48172a0066a</a>		Preparing for OpenNCP Release Version 2.0.3	Nov 4, 2013
<a href="#">26a929120b2</a>		PT-364 NCP-A XCPD Audit - Adjust filing of Human Requester User ID on other services; - Adjust version of Utils;	Oct 17, 2013
<a href="#">274393ba13ba</a>		PT-364 NCP-A XCPD Audit - Adjust filing of Human Requester User ID - Adjust version of Assertion Validator;	Oct 17, 2013
<a href="#">51a0320a0c03</a>		AM-11 epSOS-94 Audit Message - Adjust project version; - Adjust project dependencies;	Oct 16, 2013
<a href="#">3a0338a0a827</a>		Merge branch 'release/2.0.2'	Sep 12, 2013
<a href="#">a50305a0a00b</a>		Preparing for the OpenNCP 2.0.2 release	Sep 10, 2013
<a href="#">47243c77256f</a>		TSL/SVN-0 org/ibemate/Session NoClass (audi-manager version)	Sep 3, 2013
<a href="#">8d4e48d763d4</a>		Merge branch 'develop' of <a href="https://code.google.com/p/epsos-common-components">https://code.google.com/p/epsos-common-components</a> into 'develop'	Aug 26, 2013
<a href="#">433a0750a03d</a>		Merge branch 'release/2.0.1'	Aug 6, 2013
<a href="#">6115a0d0573a</a>		Preparing for the OpenNCP 2.0.1 release	Aug 6, 2013
<a href="#">a230173b1a3b</a>		AM-5 New Audit Test Specs - Adjust dependency version for Audit Manager;	Jul 10, 2013
<a href="#">8345071a0a0a</a>		Merge branch 'release/2.0.0-OPENNCP'	Jun 20, 2013
<a href="#">76337e60fa0b</a>		Preparing for release of OpenNCP 2.0.0	Jun 20, 2013
<a href="#">24673aa04177</a>		Merge branch 'release/1.1.1'	Mar 6, 2013
<a href="#">a1371a0a0762</a>		Merge branch 'release/1.1.0' Conflicts: <a href="#">epSOS-integration-test/pom.xml</a> <a href="#">epSOS-nCP-client-consumer/pom.xml</a> <a href="#">epSOS-nCP-client/epSOS-client-conector/pom.xml</a> <a href="#">epSOS-nCP-client/epSOS-sca-ws-client/po...</a>	Jan 24, 2013

**Tool**

Google Code + Git SCM

**Location**<https://code.google.com/p/epsos-common-components/>





# Quality Assurance

**Jenkins**

Novo Job  
Pessoal  
Historial de compilações  
Relacionamento de Projectos  
Verificar a impressão digital de ficheiro  
Gerir o Jenkins  
My Views

**Fila de Compilações**  
Sem compilações em espera.

**Estado de execução de compilações**

#	Estado
1	Parado
2	Parado

All	NCP-A	NCP-B	Static Analysis	Test and Deploy	+
S	W	Name ↓			
		StaticAnalysis - epSOS.Protocol.Terminators			
		StaticAnalysis - epSOS.Data.Model			
		StaticAnalysis - epSOS.Utilities			
		TestAndDeploy - epSOS.Audit.Manager			
		TestAndDeploy - epSOS.Config.Manager			
		TestAndDeploy - epSOS.Consent.Manager			
		TestAndDeploy - epSOS.Data.Model			
		TestAndDeploy - epSOS.Protocol.Terminators			
		TestAndDeploy - epSOS.PT.ClientConnector.Consumer			
		TestAndDeploy - epSOS.PT.ClientSide			
		TestAndDeploy - epSOS.PT.Integration.Test			
		TestAndDeploy - epSOS.PT.National.Connector.Mock			
		TestAndDeploy - epSOS.PT.NC.Mock.IT			
		TestAndDeploy - epSOS.PT.ServerSide			
		TestAndDeploy - epSOS.PT.Web.Services.Utilis			
		TestAndDeploy - epSOS.PT.WS.Interface.Declarations			

## CheckStyle Result

### Warnings Trend

All Warnings	New Warnings	Fixed Warnings
4993	0	0

### Summary

Total	High Priority	Normal Priority	Low Priority
4993	4993	0	0

### Details

Modules	Packages	Files	Categories	Types	Warnings	Details
Module	Total	Distribution				
EpSOS_CC_Client_Connector	195					
EpSOS_CC_IHE-XCA_Service_Client	1388					
EpSOS_CC_IHE-XCA_Service_Interface_Implementation	917					
EpSOS_CC_IHE-XCPD_Service_Client	190					
EpSOS_CC_IHE-XCPD_Service_Interface_Implementation	96					
EpSOS_CC_IHE-XDR_Service_Client	155					
EpSOS_CC_IHE-XDR_Service_Interface_Implementation	398					
EpSOS_CC_WS_Interface_Declarations	212					
EpSOS_CC_Web_Services_(based_on_IHE_XCPD,_XCA,_XDR)	1189					
EpSOS_CC_Web_Services_Utilis	47					
Mock_National_Connector_implementations	206					
<b>Total</b>	<b>4993</b>					

**Tool**

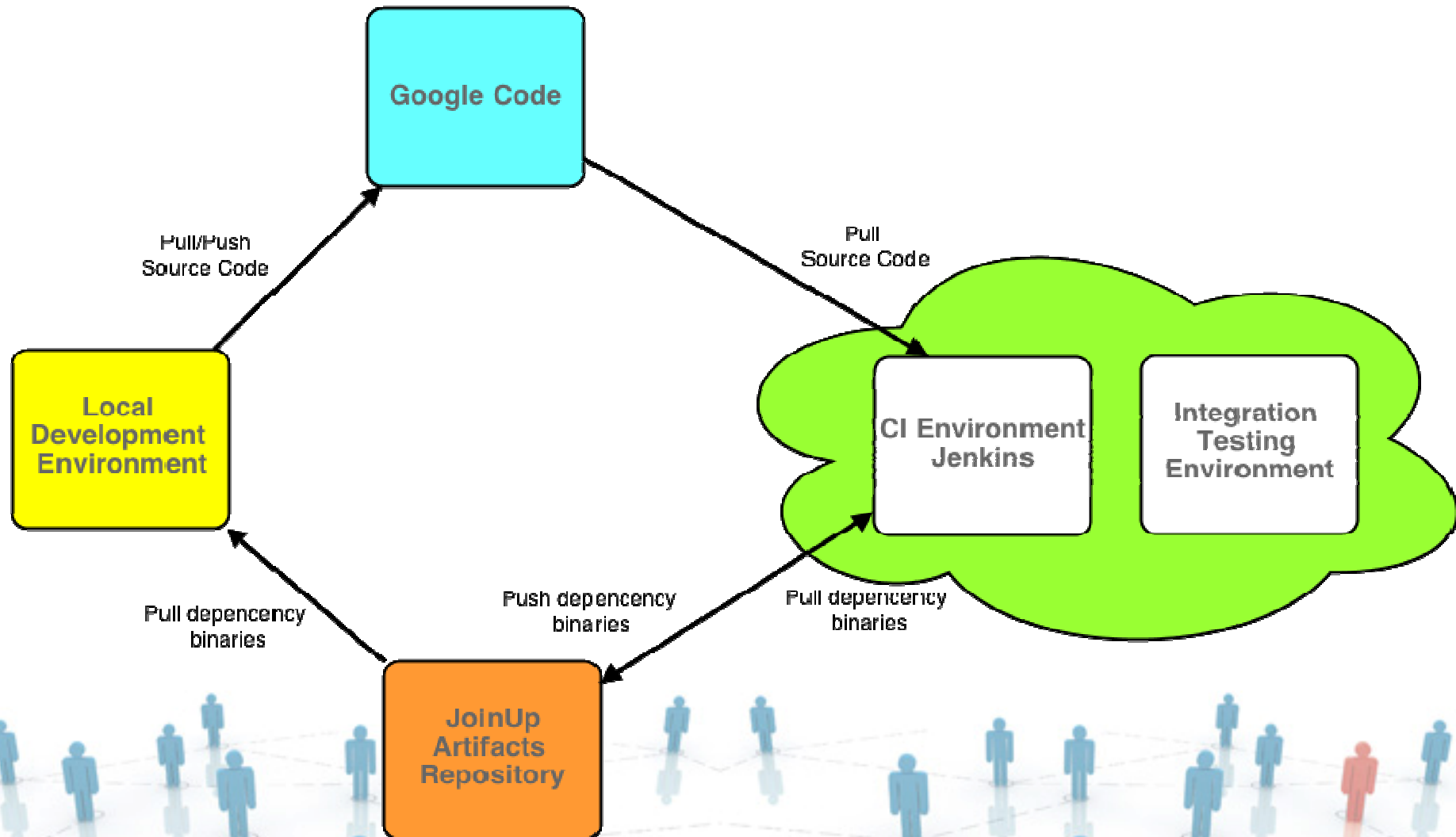
Jenkins

**Location**

<http://dev.iuz.pt/openncp-jenkins/>

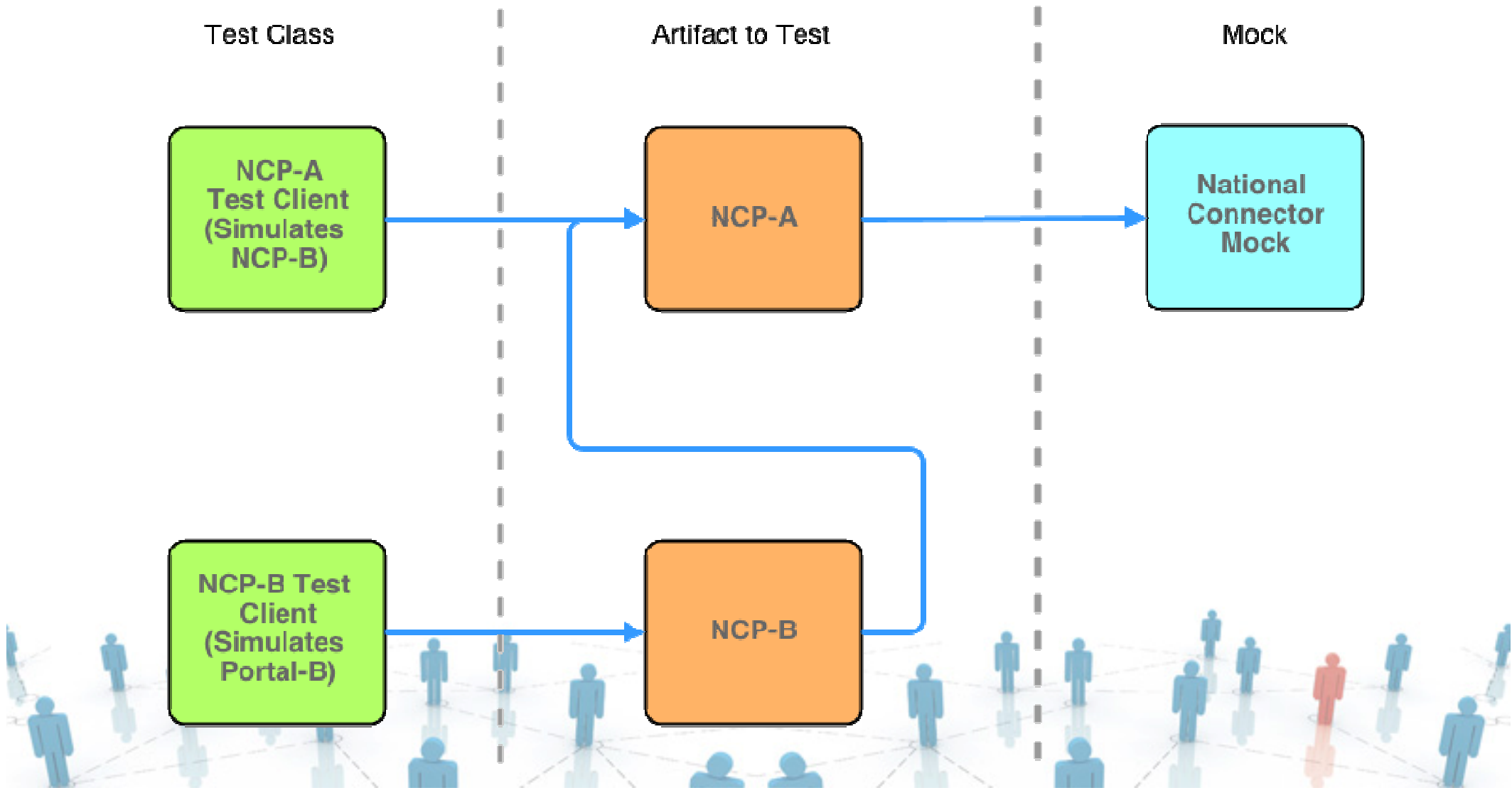


## Quality Assurance: CI Actors and Relations





## Quality Assurance: Continuous Integration Scheme





# Publishing Framework

European Commission  
Share and reuse interoperability solutions for public administrations

European Commission > ISA > Joinup > Software > Ecc > Software project

My Page | Communities | Semantic Assets | **Software** | News | Events | e-Library | People

Software  
Welcome (83 ★★★★★)  
Description  
Members list  
Issues  
Releases  
Metrics  
Highlights  
Semantic Assets  
Software  
Communities  
Asset release  
Communications  
News

European Patients Smart Open Services  
Request to be a member of this  
I use this project  
Membership of this must be approved by a facilitator  
Submitted by  
Fredrik Lindén  
facilitator member  
Software team  
Facilitators  
Fredrik Lindén  
Project owner Facilitator Member (SKL/SALAR)  
Jürgen Wehnert  
Facilitator Member (gematik)  
Thorsten Hentzelt  
Facilitator Member

Related activity | Related projects | Recent issues  
Thomas Uruk has joined the software [European Patients Smart Open Services](#)  
11 weeks 3 days ago  
Tomas Martišius has joined the software [European Patients Smart Open Services](#)

Collaborative platform created by the European Commission

*Support open source development work done by government agencies in Europe*

Tool

JoinUP

Location

<https://joinup.ec.europa.eu/software/ecc/home>



## Other tools and technologies used in OpenNCP

<b>Programming Language</b>	Java
<b>Webservice framework</b>	Axis 2
<b>Build framework</b>	Maven
<b>Versioning Scheme</b>	Semantic Versioning
<b>Licensing</b>	GPLv3 and ASLv2



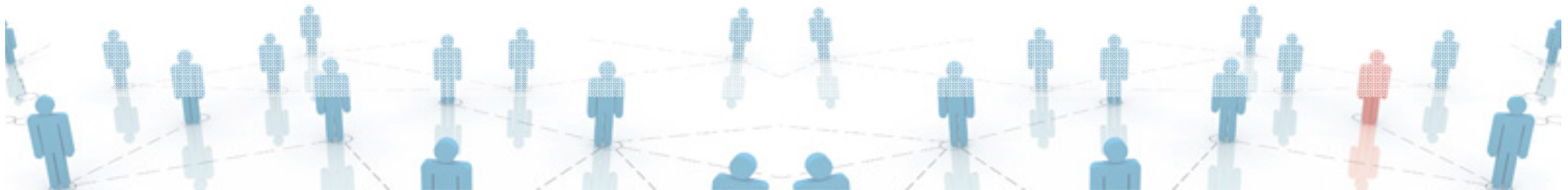


# Experiences and outlook to the future





- The past year and a half has been quite challenging to all of the OpenNCP members;
- We have managed to produce and maintain a set of important SW artifacts, with contributions from different PNs, with many constraints;
- Each PN earned a lot of knowledge and experience highly based on the sense of community and the information exchange;

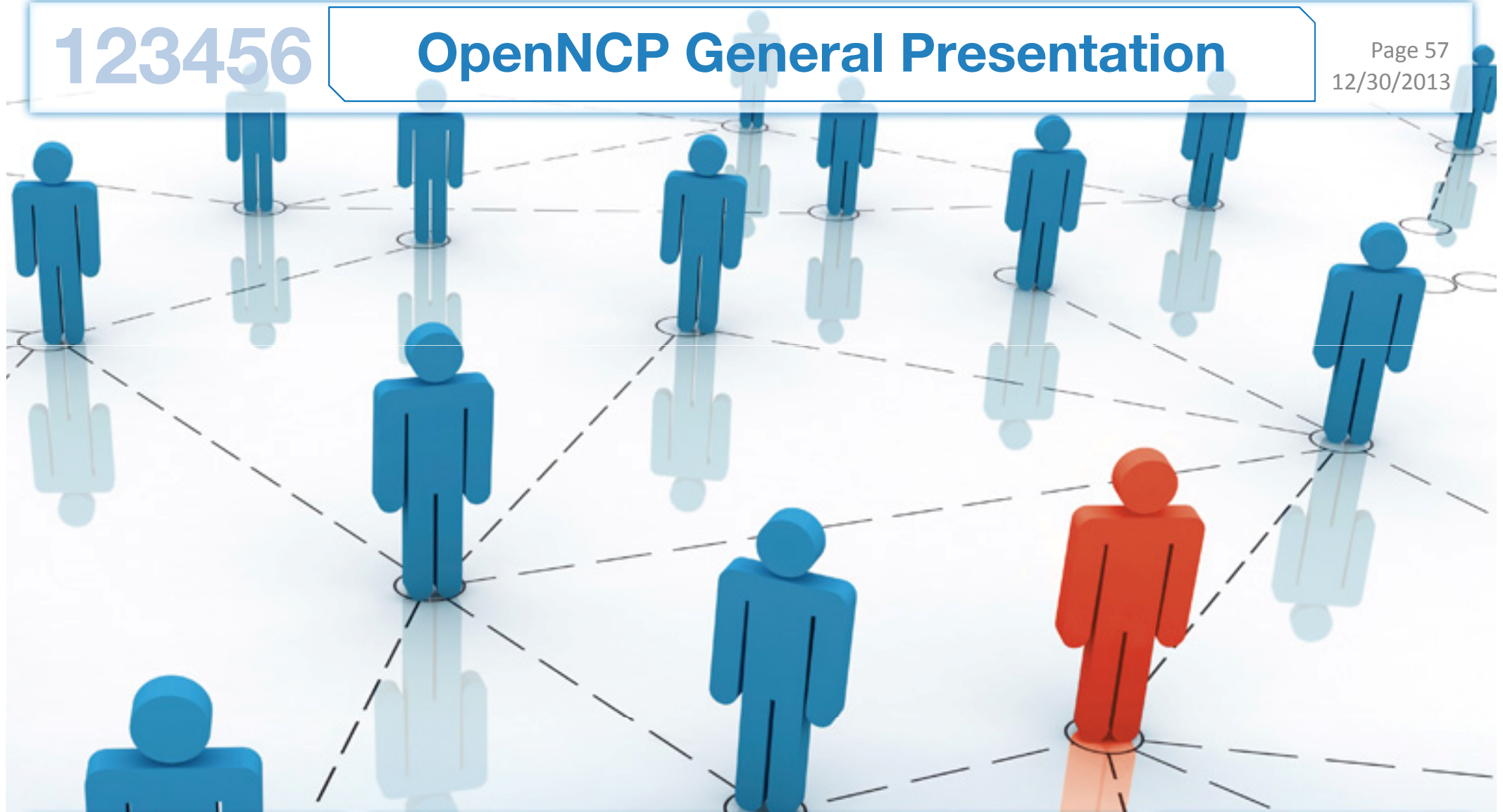




- The future of the OpenNCP will highly depend on the community good health;
- The increase of testing load under OpenNCP will lead to the assurance of the solution maturity;
- Each PN will gain more responsibility and independence in the testing activities;
- We hope to see the work performed in the OpenNCP used across multiple future projects;







Thank you for your attention!  
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