# epSOS Technical Aspects

epSOS is the main European electronic Health (eHealth) interoperability project co-funded by the European Commission and 47 beneficiaries. It focuses on improving medical treatment of citizens while abroad by providing health professionals with the necessary patient data.

epSOS identifies several means of interoperability which shall enable the use of cross-border services such as the Patient Summary and ePrescription. The figure below describes the basic blocks of the National Contact Point (NCP). The NCP can act either as NCP-B (country of treatment) and/or as NCP-A (patient's country of affiliation).

Basic Architecture
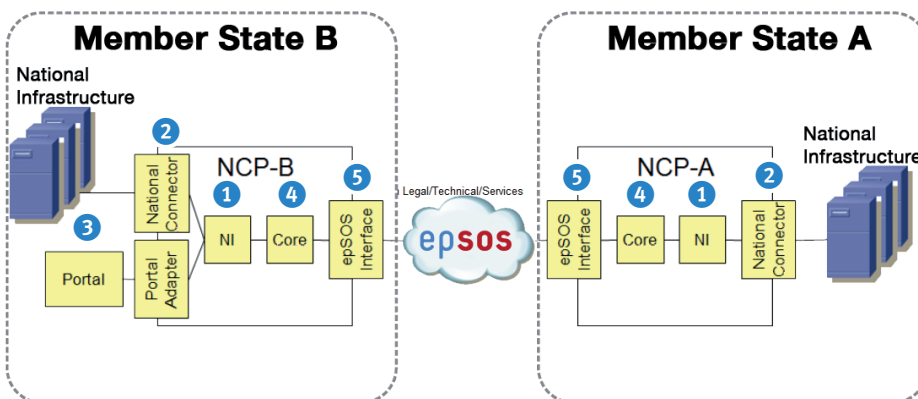
❶ THE NATIONAL INTERFACE +
❷ THE NATIONAL CONNECTOR

The National Interface connects the epSOS Common Components and the National Connector. The National Connector is not part of the epSOS Common Components. National Connector Interfaces exposed to the national infrastructure are country-specific. The National Connector is responsible for accessing the national infrastructure and fulfilling the national requirements.

❸ THE PORTAL & PORTAL ADAPTER

The Portal is a Graphical User Interface used by the health professional when providing epSOS Services (Patient Identification, Patient Summary, ePrescription and eDispensation) to patients. Two different Portals are part of the Common Components and each country can decide which one they would like to use. If a country develops a portal solution of their own, then they are obliged to use the Portal Adapter, which is a web service.

❹ THE CORE ELEMENTS

The "Core Elements" are the Common Components which were defined within the epSOS project and belong to the business layer in the NCP architecture. They consist of the IHE X* protocol terminator services, the Security Manager, Policy Manager, Consent Manager, Audit Manager and Repository, the Semantic Transformation Manager, the Terminology Service Access Manager and the component to synchronise NCP configuration and Terminology repository.

❺ THE EPSOS INTERFACE

The epSOS interface is also a part of the Common Components defined in epSOS and belongs to the epSOS communication layer in the national contact point architecture. It consists of the Inbound Protocol Terminator (when acting as the patient's country of affiliation) and the Outbound Protocol Terminator (when acting as the patient's country of treatment).

epSOS Systems and Standards

The epSOS architecture is based on IHE (Integrating the Healthcare Enterprise) profiles. The epSOS Services are implemented as web services. Communication between service consumer and service provider is always initiated by the consumer. Each Participating Nation (PN) provides these services through the NCP that acts as a service provider to other PN's and as a gateway for consumers.

Security Aspects

The epSOS Security Policy formalizes all the security aspects to provide a secure operational environment for epSOS. The security policy also specifies the obligations of service providers and users and must be approved, implemented and periodically audited by all epSOS partners. The epSOS Security Policy is part of the Framework Agreement. The security management process for epSOS is based on the principles as defined in ISO/IEC TR 13335 (ISO/IEC 27000).

Identification and Authentication

Identification and authentication refer to the necessity to establish the identity of patients and health professionals as well as for documents and other objects in the healthcare process.

In epSOS, the patient is identified (and authenticated) by her/his home country based on the identification parameters. The results of this step are tokens which are used for further epSOS transactions. On the other hand, the attending epSOS health professional is authenticated within the health professional's home country (this process is the responsibility of the Participating Nations). The results of this step are authenticated information including a role attribute.

Semantics

Different local semantic catalogues and language diversities had to be taken into account within the epSOS project.

epSOS' semantic services utilize a number of key components and techniques, namely:

- ▶ CDAs (Clinical Document Architecture) and PCC (Patient Care Coordination)
- ▶ epSOS MVC (Master Value Sets Catalogue)
- ▶ epSOS MTC (Master Translation/Transcoding Catalogue)

Read more: www.epsos.eu