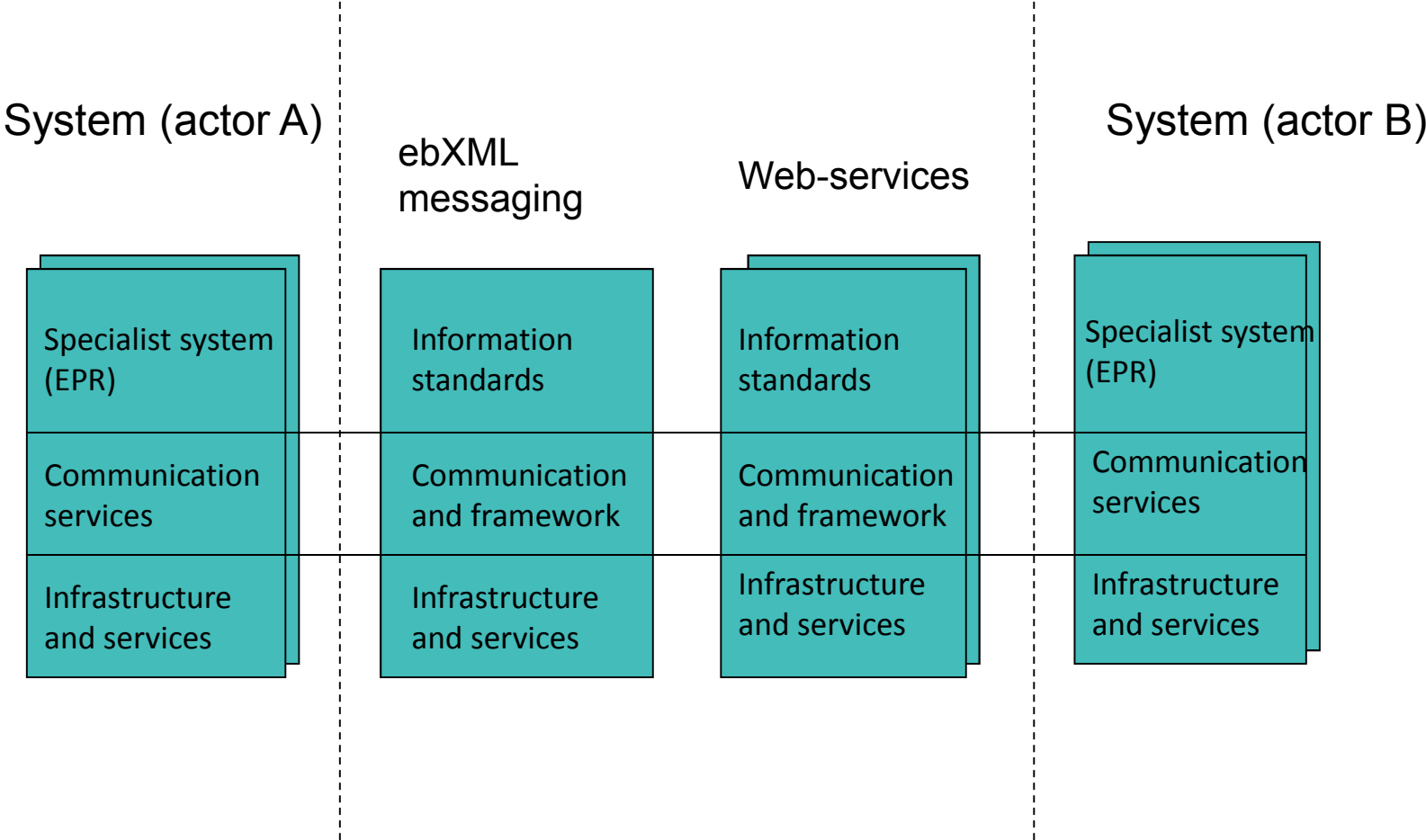


# Testing and certification in Norway

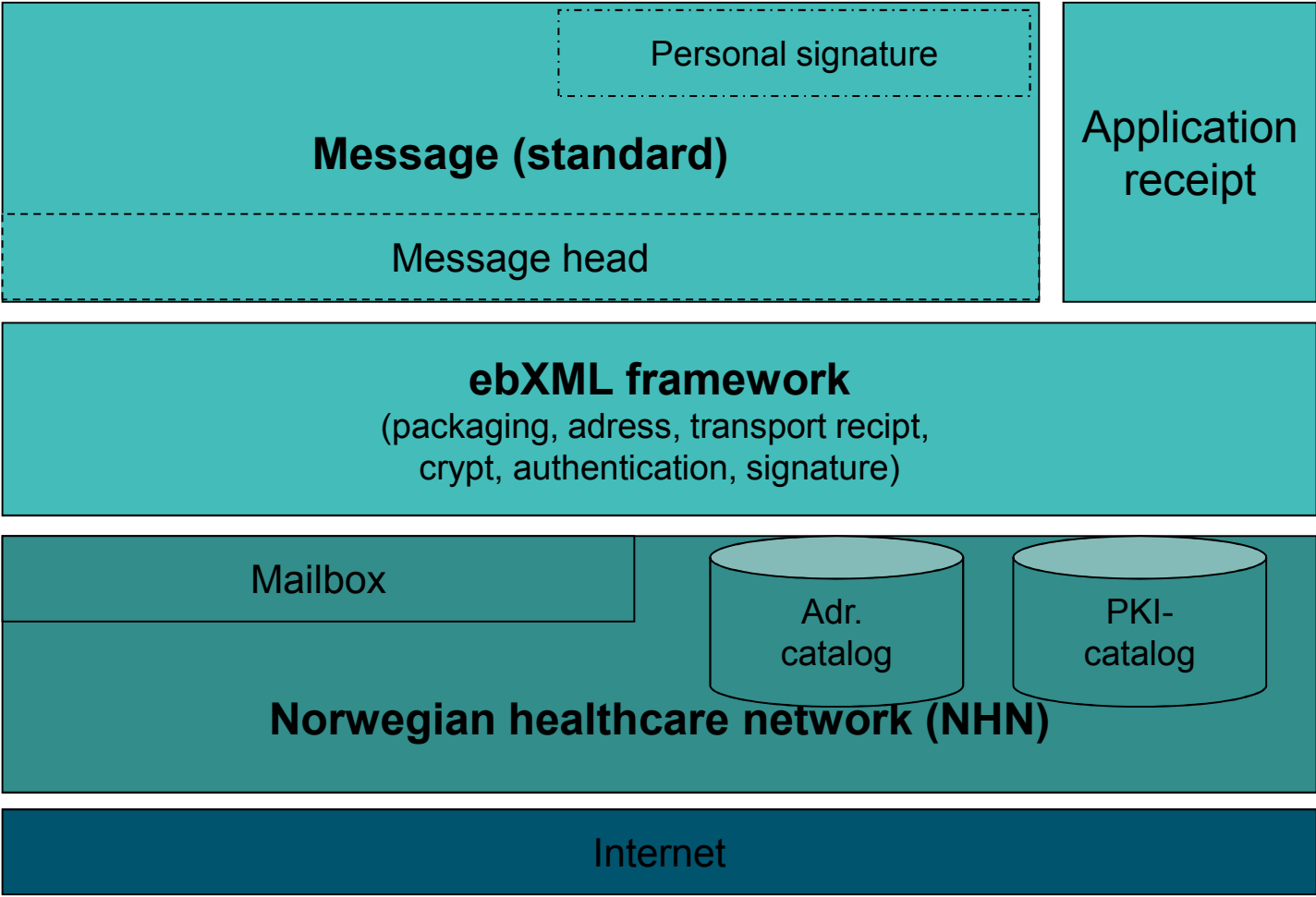
Interoperability testing in the health care sector

Odense 2014.01.21

# Interoperability framework



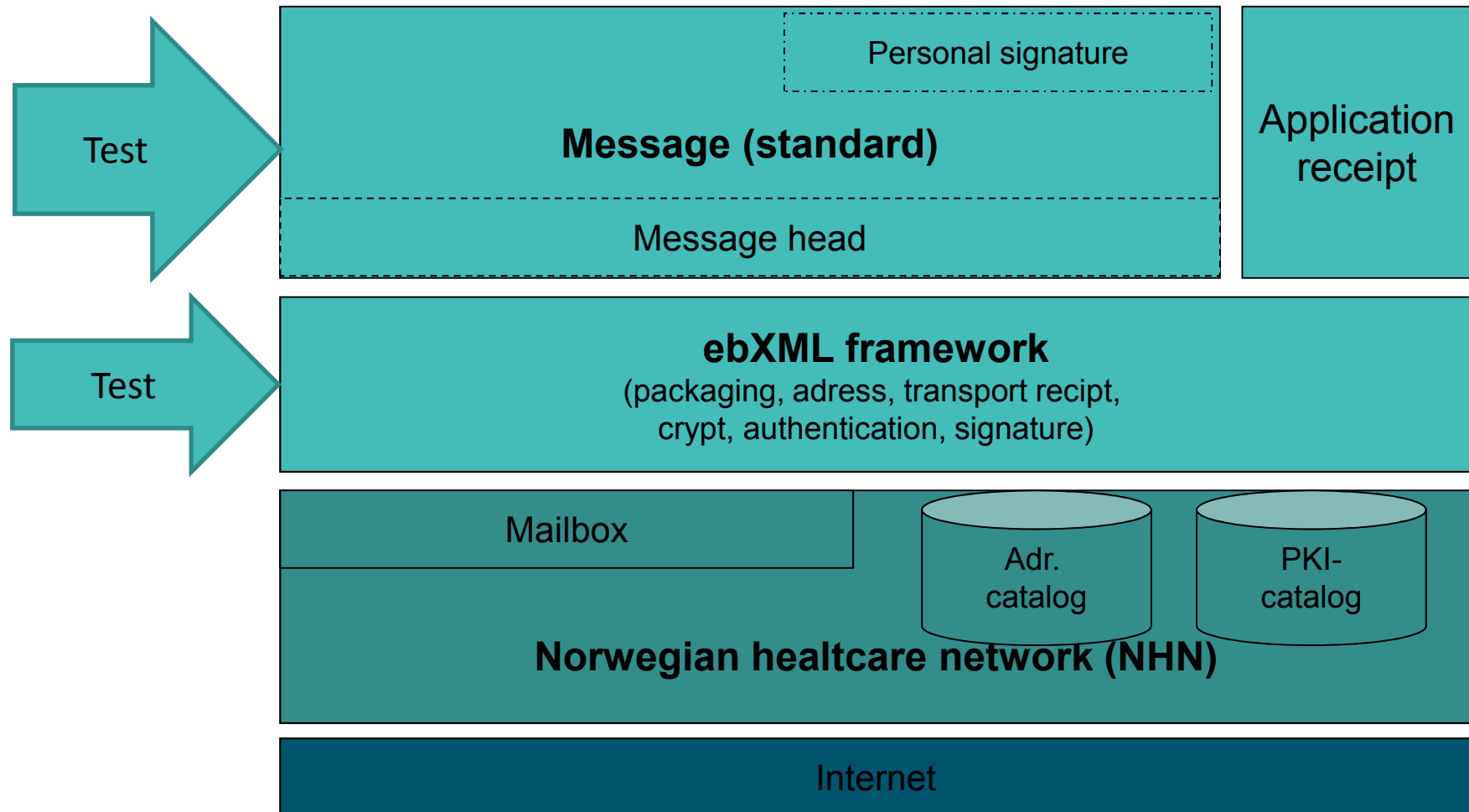
# Interoperability framework



# History of testing/certification in Norway

- KITH AS started Test and certification on assignment from Norwegian directorate of health in 2005
- The first years was used to build test tools and test the most common messages used in the healthcare sector
- More than 400 message implementations have been certified since the start
- About 1/3 of the message implementations tested is never certified because of deficiencies in the implementation
- KITH AS became a part of the Norwegian directorate of Health 01-01-2012

# Test goals



# Test and certification

- Test the implementation of the interoperability framework by the different actors in the Norwegian health care sector
- Focus on the syntax and semantics in the XML documents used for communication
- The certification is voluntary

# Test procedure

- Norwegian directorate of Health publishes a test document for every XML-message, the test documents are divided in two parts:
  - Test cases to be sent/received by the system
  - A declaration, stating that the system is in accordance with the list of requirements, possible to document deviations
- The system developer imports/sends the test cases from/to the system and documents the results of the testing
- The system developer fills out the declaration form and documents the UI with screenshots
- The Directorate of Health evaluates the documentation and reports deviations back to the developer

# Evaluation

- The Norwegian Directorate of Health evaluates the XML according to:
  - XML syntax
  - Coding and representation of the medical information
  - Coding and representation of the administrative information
  - Core functions of the system must be present
  - Addressing and patient information
  - The implementation of the Application receipt
- Screenshots:
  - Presentation of the information to the user





# Test tools

- Validation server ([testserver.kith.no](http://testserver.kith.no))
  - Automatic validation of XML from the system
- Test-wizard ([testserver.kith.no/wizard](http://testserver.kith.no/wizard))
  - Send and receive XML messages to/from the system to be tested
  - Fill out the declaration and post further documentation online
- The future: NHH is building a testcentre for even more elaborate and automatic testing

# NHN TEST CENTER

*Summit on Interoperability, Odense 21 January 2014*

*Helge Moe, head of department for project management NHN*

## *Connects the Norwegian healthsector*

- Established as a state enterprise on July 1st, 2009.  
Non-profit, owned by the Ministry of Health and Care services
- «The Health Network is the sum of all connected parties, the solutions they use and the communication services and components that facilitate a secure information exchange»
- 250.000 potential users:
  - All public and private hospitals
  - > 98 % of the general practitioners
  - All 428 municipalities;
  - > 700 dental clinics
  - All pharmacies
- >600k unique electronic messages per day
- Operating and presenting national ICT-services
- 24/7 monitoring of security and quality of network and services, user assistance and helpdesk.
- >100 third party service providers



# BACKGROUND

- In 2013, the Ministry of Health and Care services gave NHN the task of establishing a national test center for electronic messages.
- No official requirements for participation or certification.
- Challenges with the suppliers of EPR-systems regarding contractual obligations
- Physical test lab is being established - «virtual health network»
- Ongoing dialogue with the norwegian healthcare sector about the objectives for the test center.

# POSSIBLE OBJECTIVES

- EPR system interoperability
- Life-cycle testing of different electronic messages based on real-life scenarios.
- Coordinate correction of errors on behalf of the healthcare sector.
- Offer access to test instances of infrastructure services and national services to other parties in the health sector.
- Establish and maintain test cases and best-practice documents on testing.
- Certification of EPR-systems. Establish our own while waiting for official requirements...