

Vedlikehold av sikkerhetsløsninger fra et infrastruktur-perspektiv

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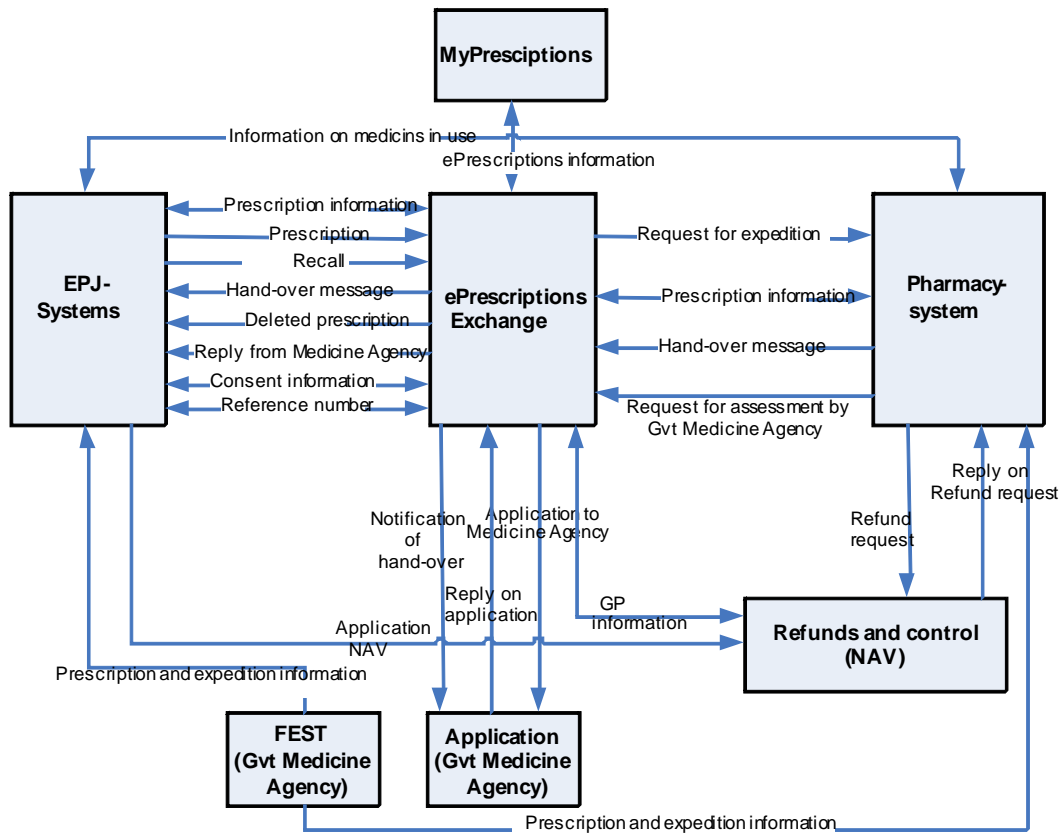
Infrastruktur

- Veier, jernbane, vann, ..
- Applikasjoner – infrastruktur
- ***Informasjons-infrastruktur:*** Applikasjoner som infrastruktur

Eksempel

- ...og best practice: Internet

ePrescription



eCustoms

- Harmonizing, streamlining customs declarations in EU
- Aim: "Single window"
- Increased trade/globalization
 - New risks: Mad cow, terror, counterfeit, ..
 - Containers, big hubs
 - New customs control procedures

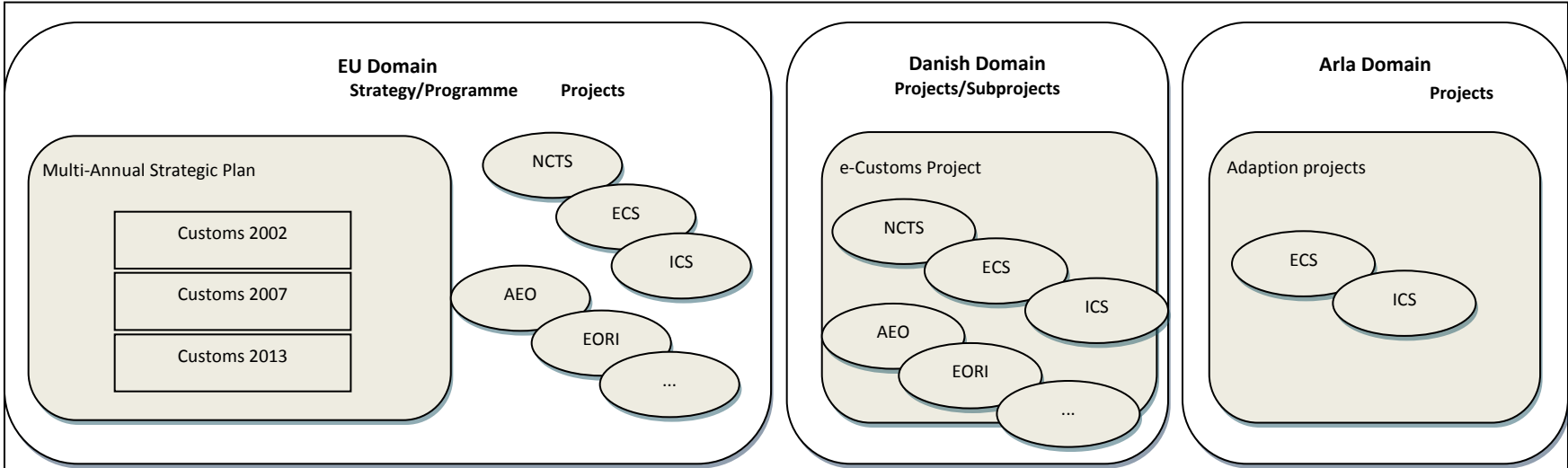


Figure 4. Organization of e-Customs projects at EU, national, and trader level.

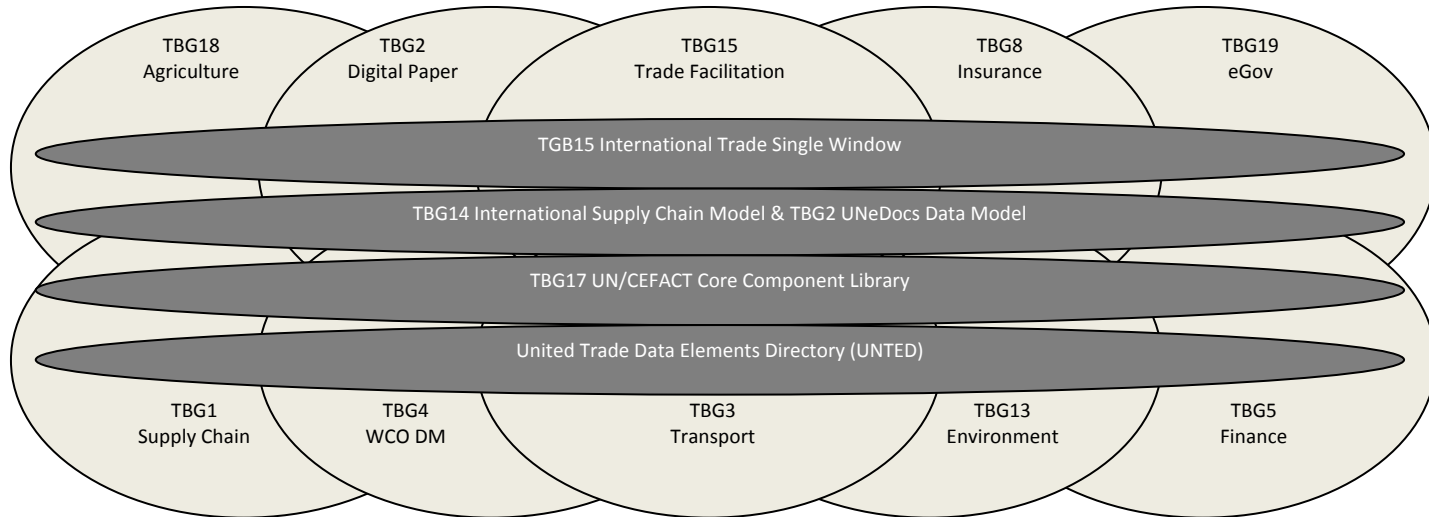
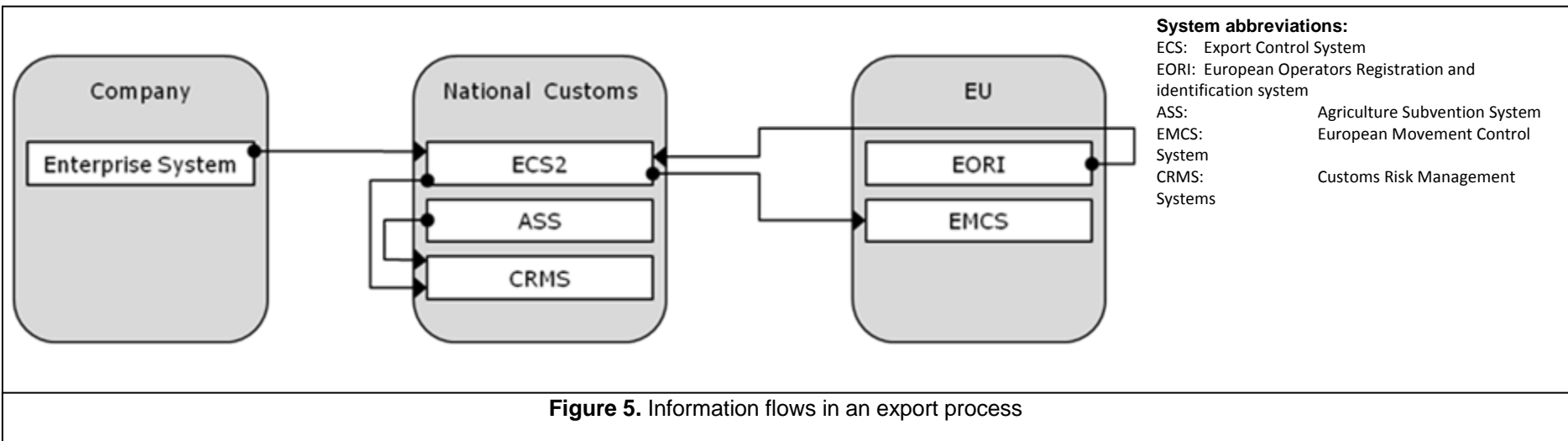
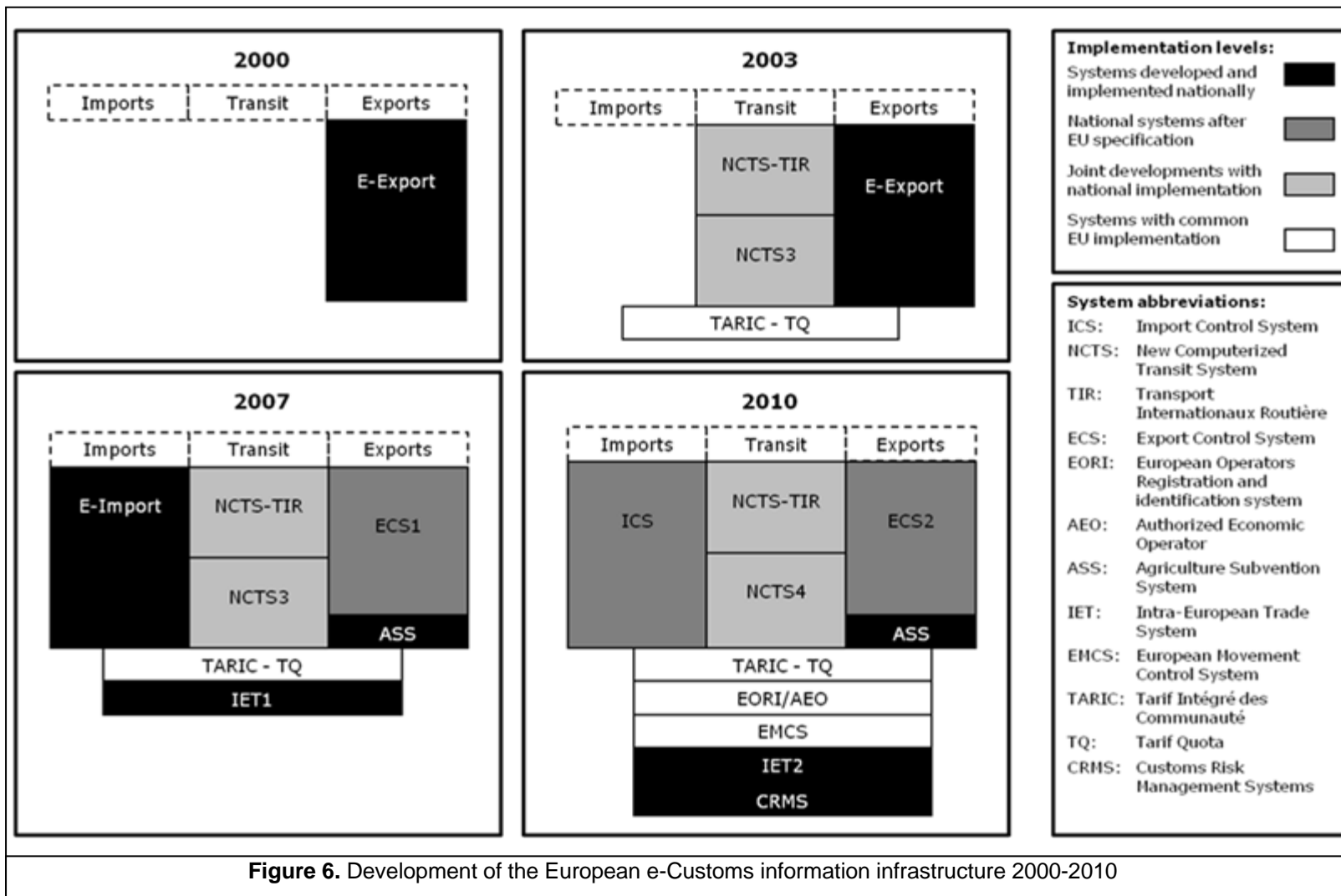


Figure 3. UN/CEFACT International Trade and Business Processes Group (TBG) and key relationships between these working groups. Redrawn from Dill (2007).





Cases

- Health care: EPR, RIS/PACS, EDI networks, telemedicine, HISP
- Industry: SAP implementation, corporate standards/infrastructures, supply chain (oil)
- Mobile Internet: CPA, billing systems
- Internet: strategy, standardization, Nordunet
- Digital music ++
- eGouvernement: eCustoms

Summary Care Record Systems

- Scotland:
 - 3 MGBP (4M Euros, 4 M USD)
- Denmark:
 - Official, top-down
 - 10 M Euros,
 - Faded out after about 4 years, officially canceled after 8
 - Unofficial, bottom-up
 - Great success
- Norway (ePrescription)
 - 500 MNOK, currently pilot in one GP office
- UK
 - Started 2004, early adoption 2007, further deployment is frozen
 - Spent 240 MGBP

Defining Information Infrastructure

Information Infrastructure

- Open
- Evolving
- Heterogeneous
- Installed base

- Cultivating living organism

Information System

- Closed
- Life cycle
- Homogeneous (??)
- Designed from scratch

- Design of dead material

Utvikling av II

- Standardisering
- Internet: bottom-up, evolusjonær utvikling
- OSI/telekom: top-down, spesifikasjons-drevet, big bang

- Design dilemmaer:
 - Take-off problemet
 - Lock-in problemet

Sikkerhetsløsninger

- Også infrastruktur
 - Åpen
 - Løsning
 - Brukere
 - Utviklere
 - Evolusjon (gateways)
 - Heterogenitet
- Eksempel: eResept

”Vedlikehold”

- PKI
- Sykehus: PKI 2014
- Alternativ løsning: Virksomhets-sertifikater
- Pris:
 - Sykehusene: ?
 - De andre: 20 MNOK (= total-løsning i Skottland)

Mange aktører – mer politikk

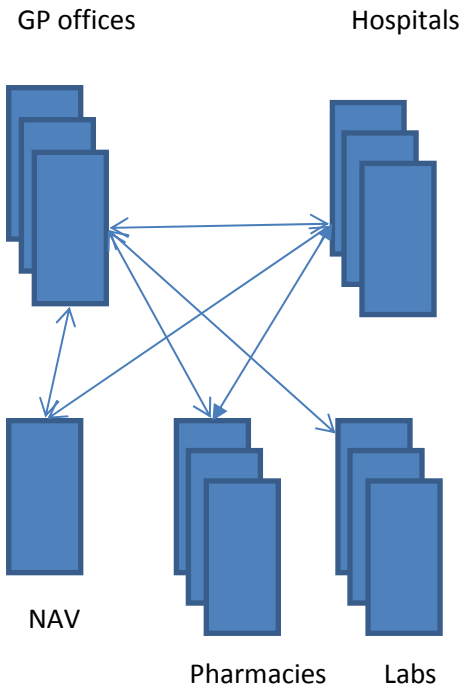
- Sikkerhet = politikk
- Bare det beste er godt nok?
 - Uhellige allianser: ”fundamentalistiske” teknologer ++
- Sikkerhet er kritisk ressurs
 - Kontroll av sikkerhet = kontroll av infrastruktur
 - analogi end-2-end
 - Blitt brukt for å stoppe prosjekt
 - Nasjonalt Helsenett - Helsedirektoratet

Konklusjon

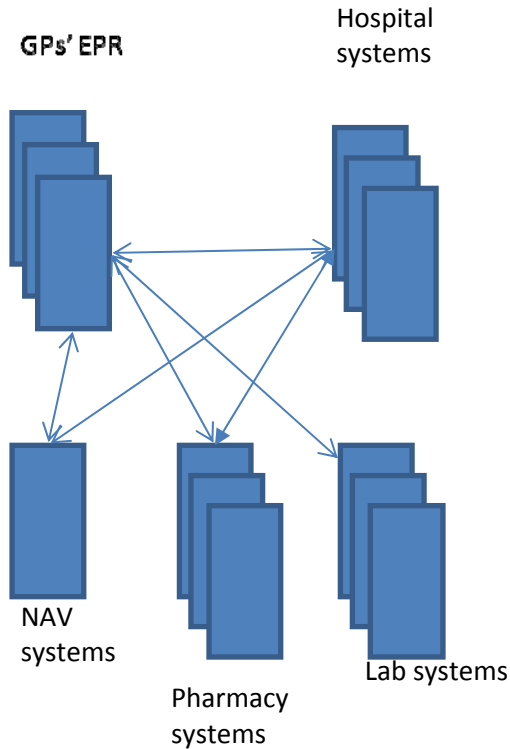
- Vellykkede sikkerhets-løsninger må etableres på samme måte som andre vellykkede infrastrukturer: bottom-up, evolusjon, enkle løsninger, håndtere åpenhet
 - Ikke som et lukket system!
- Må håndtere samspillet mellom teknologi, organisasjon, politikk

The EDI Paradigm

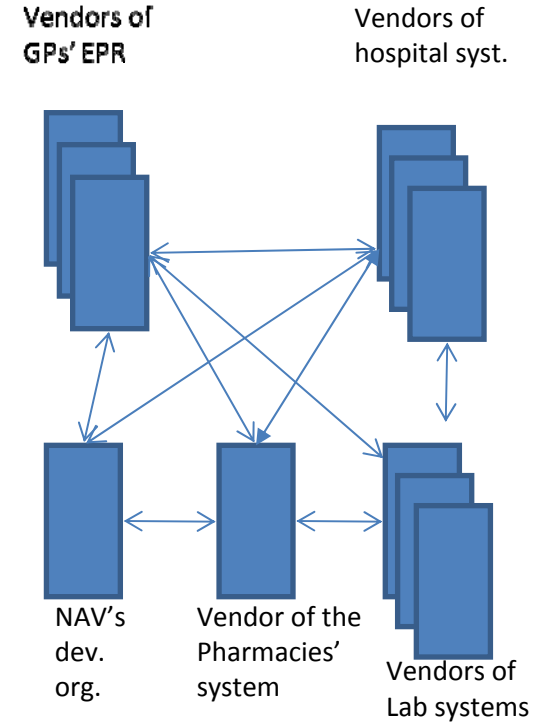
Information flow



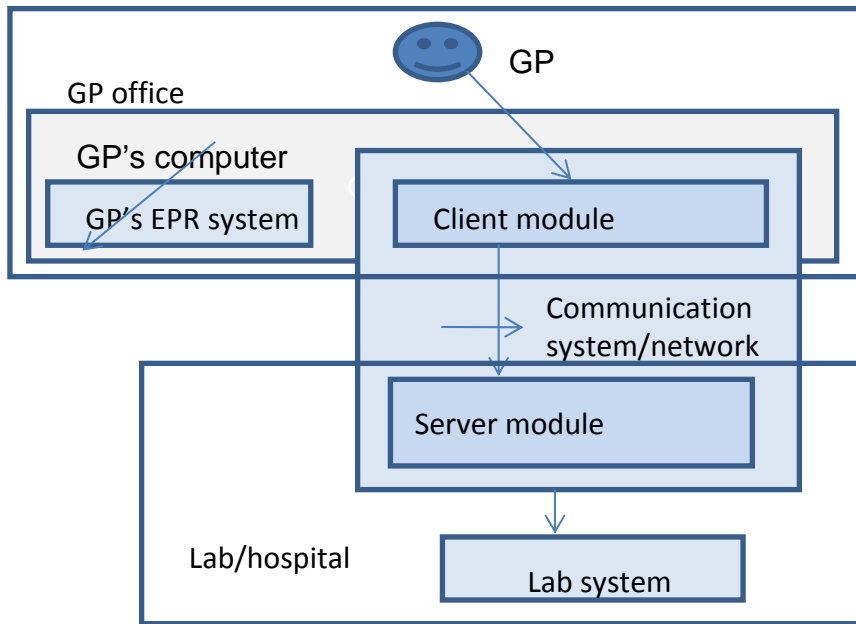
ICT architecture



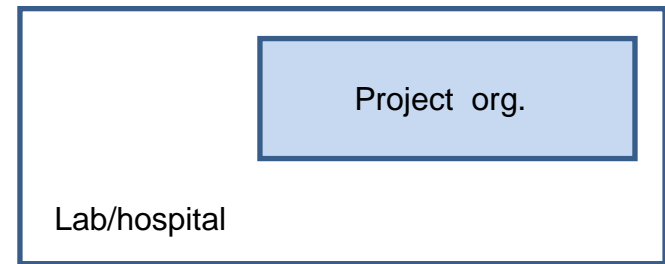
Project organization



An alternative



ICT architecture



Project organization

Differences

EDI Paradigm

- Complex technical solution
- Very complex project organization
- Top-down
- Escalating complexity (destabilizing)
- Stabilizing (freezing) user practices
- Failure

"ASPO" architecture

- Simple technical solution
- Very simple project organization
- Bottom-up, evolutionary
- Stable complexity
- Destabilizing user practices (stimulating organizational innovation)
- Success

Top-down

- All stakeholders involved
 - Each has separate requirements
- The more stakeholders involved, the more new requirements will be generated
- Each change: all stakeholders have their requirements ..
- Aims at stability – generates destabilizing processes