

The Dutch Approach

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8 May 2009*



Topics

- Introduction
 - Necessity of change
 - Choices for Infrastructure
 - Implementation Strategy
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Some background..



Betere zorg door betere informatie



And figures

- 17 million citizens
 - 100 hospitals
 - 8 university hospitals
 - 4500 general practices
 - 1800 pharmacies
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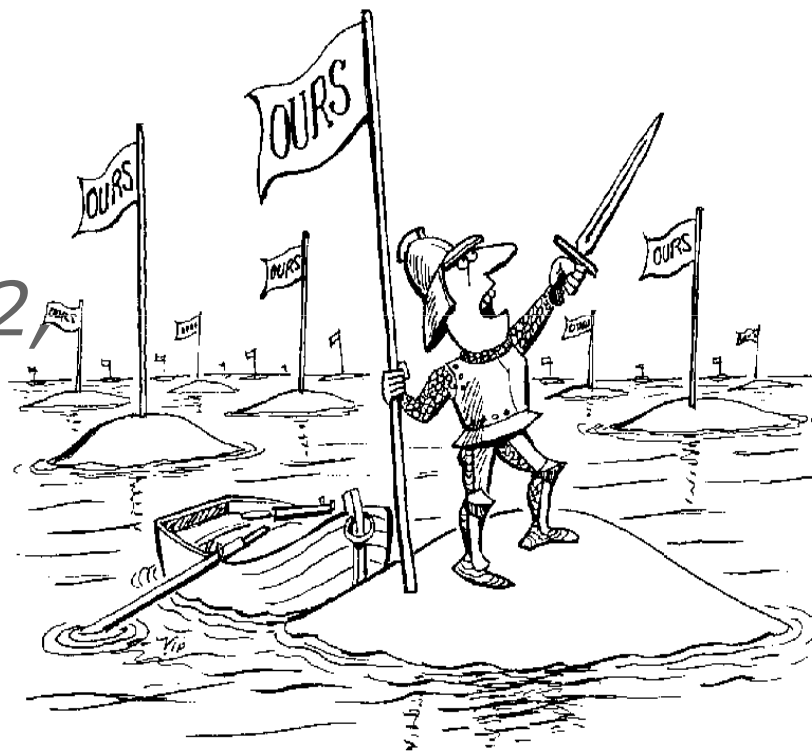
Challenges in Healthcare

- Increasing demand for healthcare
 - Shortage: budget, staff
 - Waiting lists
 - Increasing complexity
 - High-tech care, super-specialists
 - Multidisciplinary care, crossing institutional borders, crossing regional/national borders
 - Ambulatory / short stay interventions
 - Patient demands guarantees for quality of care
 - And...
-



Too many islands

- Primary Care: *Edifact, mailbox*
- Secondary care: *HL7v2, file transfer*
- Various terminology: *ICPC, ICD9, DSM-4, Snomed-CT*

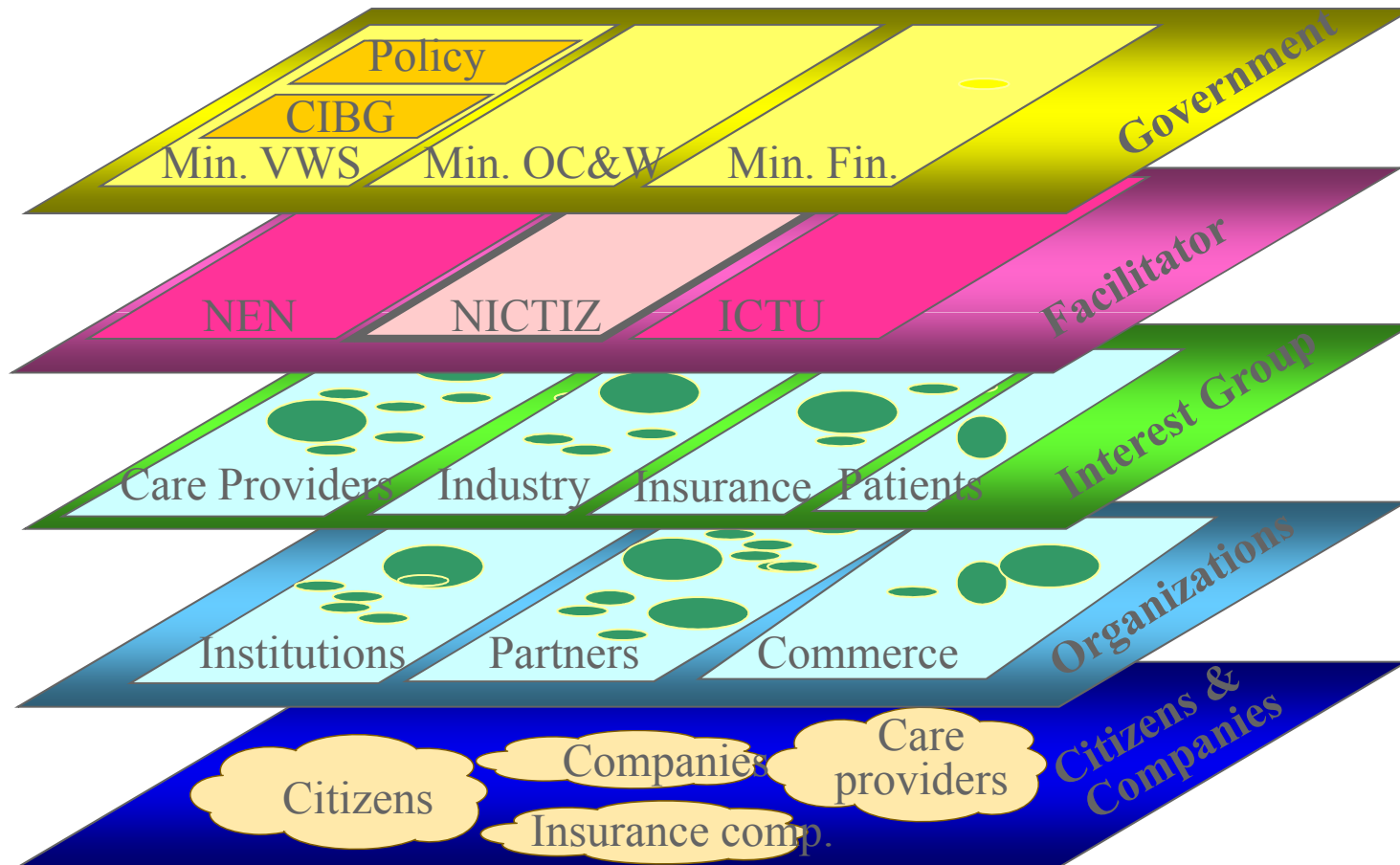


NICTIZ organization



- Nationwide and neutral “change agent” for ICT and Innovation in healthcare
 - Knowledge centre, Design, Maintenance, Operations
 - All parties involved take part: care-providers, patients, healthcare insurers, IT-industry
 - Funding by the government
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Stakeholders



Mission of Nictiz

- Efficiency in healthcare
 - *Prevent unnecessary and double work*
 - *Prevent errors due to lack of information*
 - *Uniformity in information*
 - Nationwide ICT infrastructure
 - Nationale EHR
 - *F.e. electronic medication records*
-

Critical Components

- Critical Success Factors for exchanging information are:
 - An infrastructural network
 - Standard containers for exchange
 - A common language
 - Common knowledge of protocol
 - The use of law and regulation
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Initiatives in healthcare

- Centralised systems
 - *Possibly with hierarchy around national, regional databases*
 - Confederate regional initiatives with equal partners
 - *Each with a central database*
 - Patient based healthcare chipcard
 - Zorgpas initiative
 - Decentralised concept
 - Based on internet
 - Belgian Social Security Infrastructure
 - XDS from IHE
-

Other countries

- **England:**
 - Centralised system, Clinical document
 - **Germany:**
 - Distributed system, Patient based chipcard
 - **Canada:**
 - Centralised system, Messages
 - **Finland:**
 - Centralised system, Clinical documents
-

National choice

Copyright 1998 by Randy Glasbergen.



**“Our new product has no fat, no cholesterol,
no calories, no sugar, no salt and no preservatives.
The box is empty, but it has exactly what everyone wants!”**

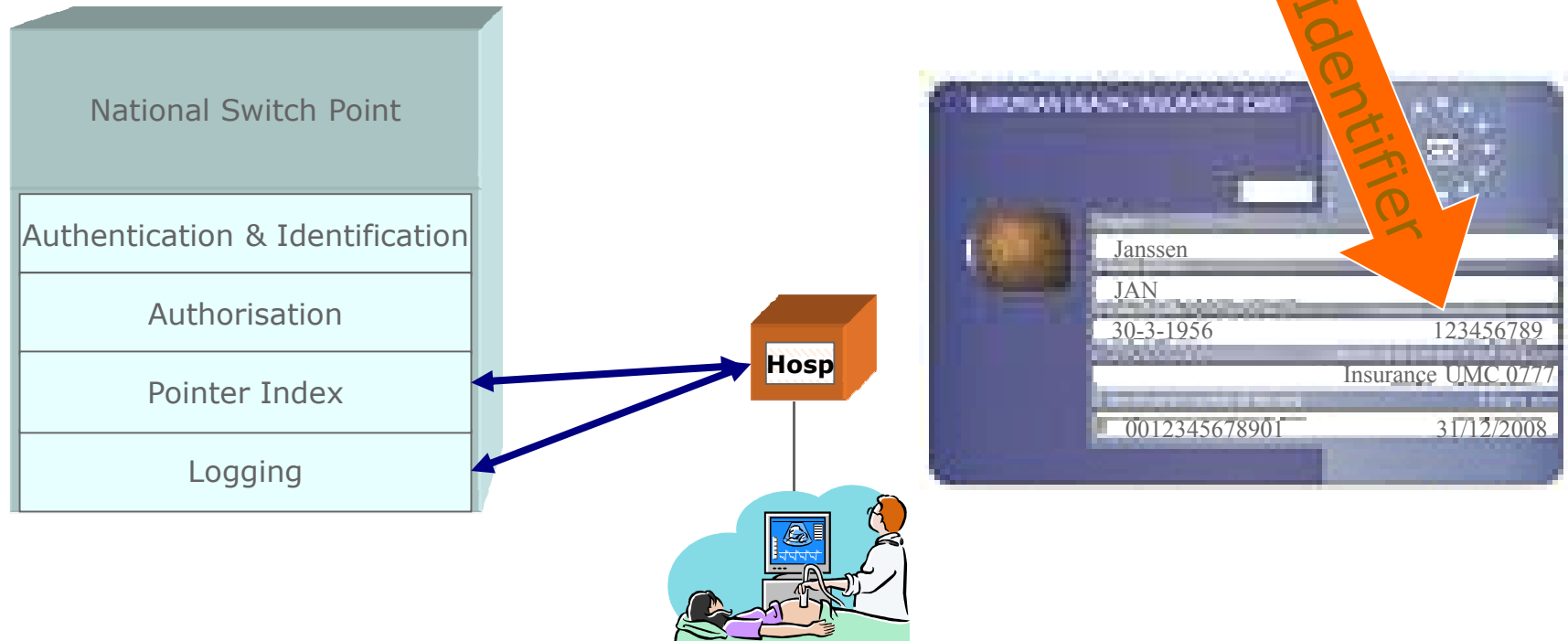
Central versus decentralised

- What should a national Electronic Health Record contain?
 - Who is responsible for the consistency of the data?
 - How would the central system relate to the local application?
 - How to deal with changing requirements in time?
-

Elements of AORTA

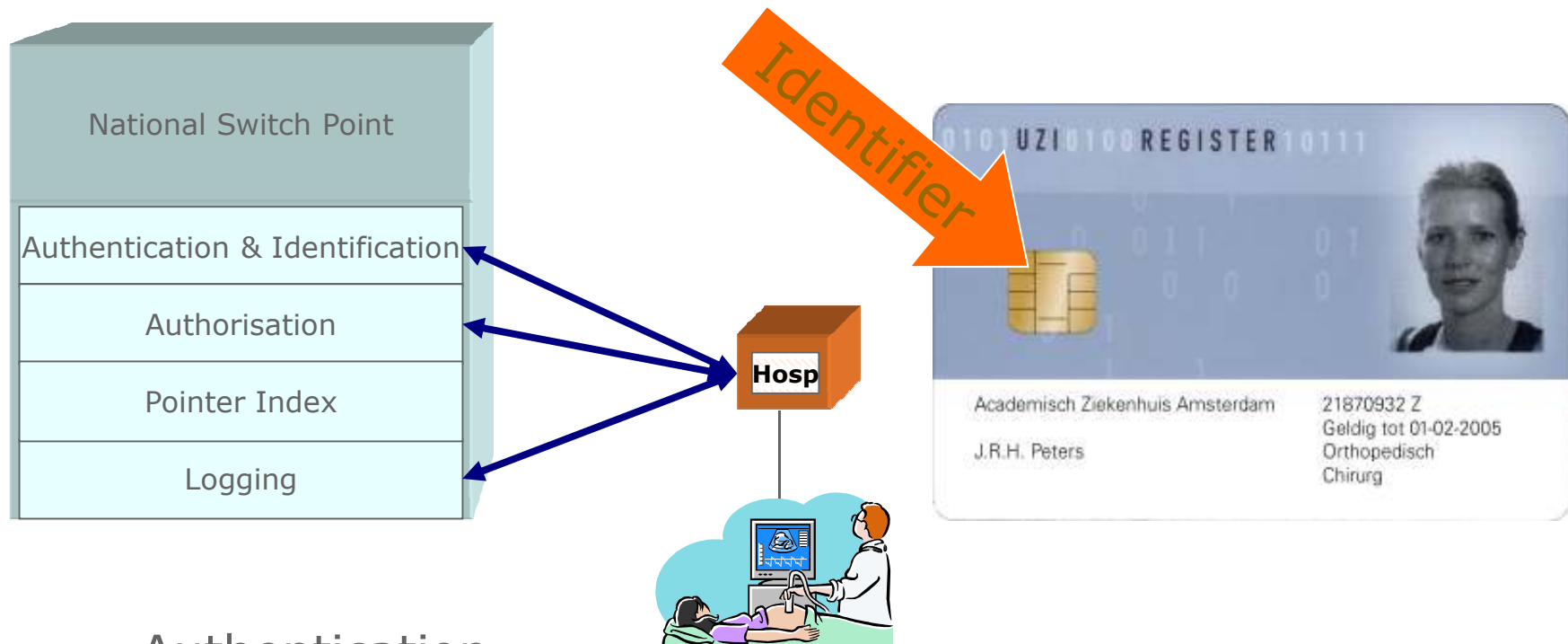
- Unique Patient Identifier
 - Unique Care Provider Identification
 - National Switch Point
 - Certified systems of health care providers
-

Unique Patient Identifier



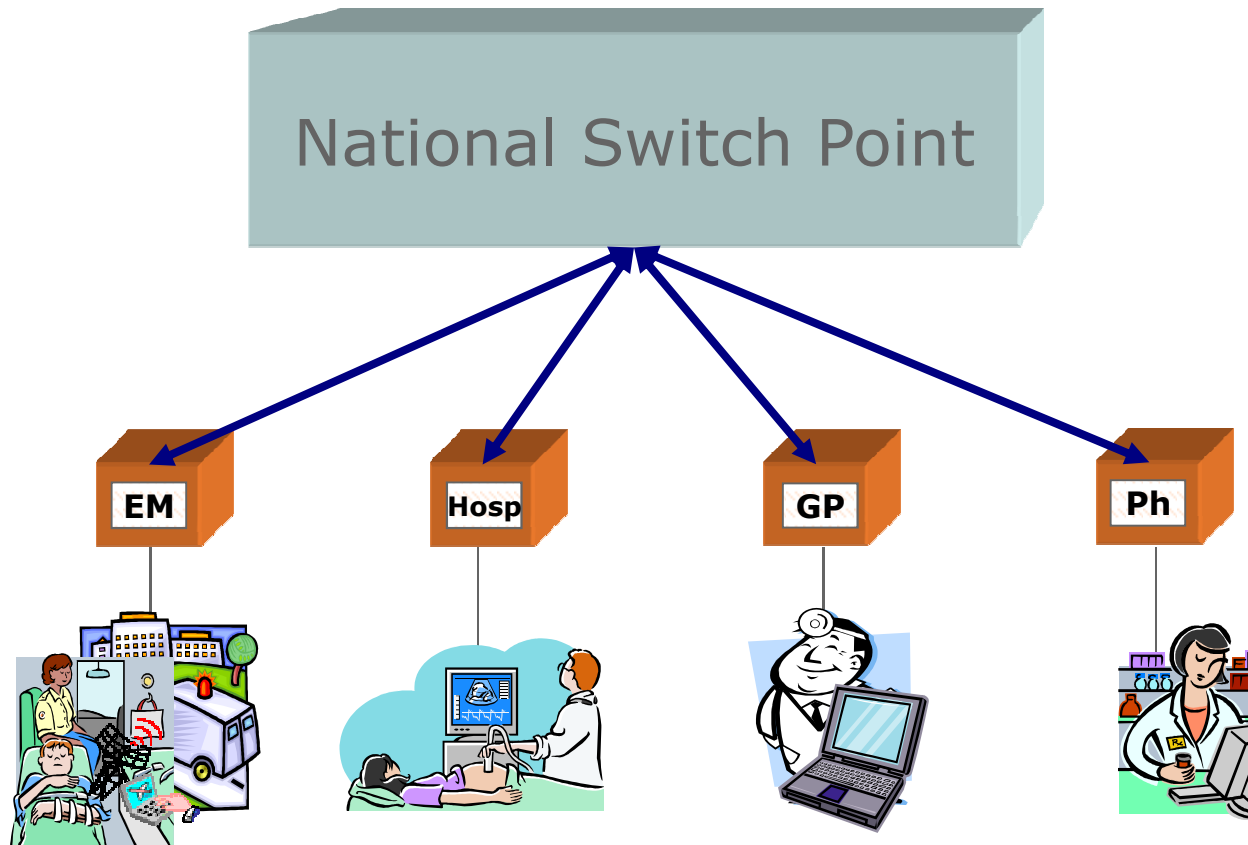
- Trace and collect patient information
- Irrefutable patient information

Unique care provider identification

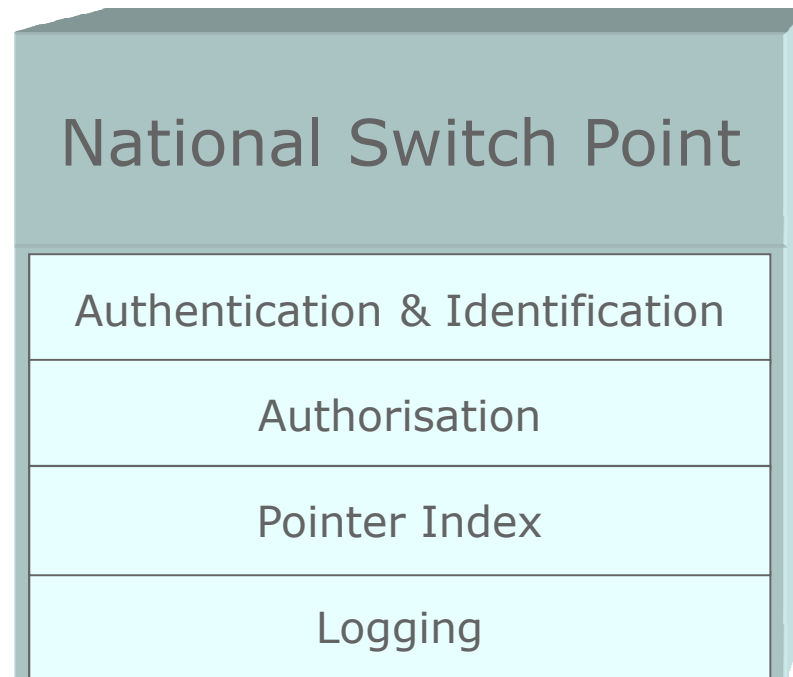


- Authentication
- Irrefutable identity
- Electronic Signature

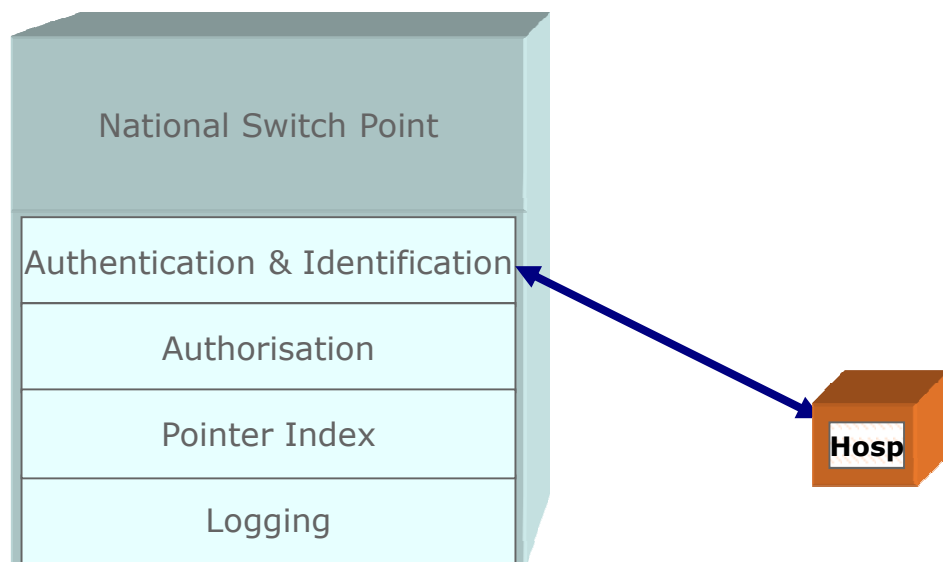
Share patient Information



Functions

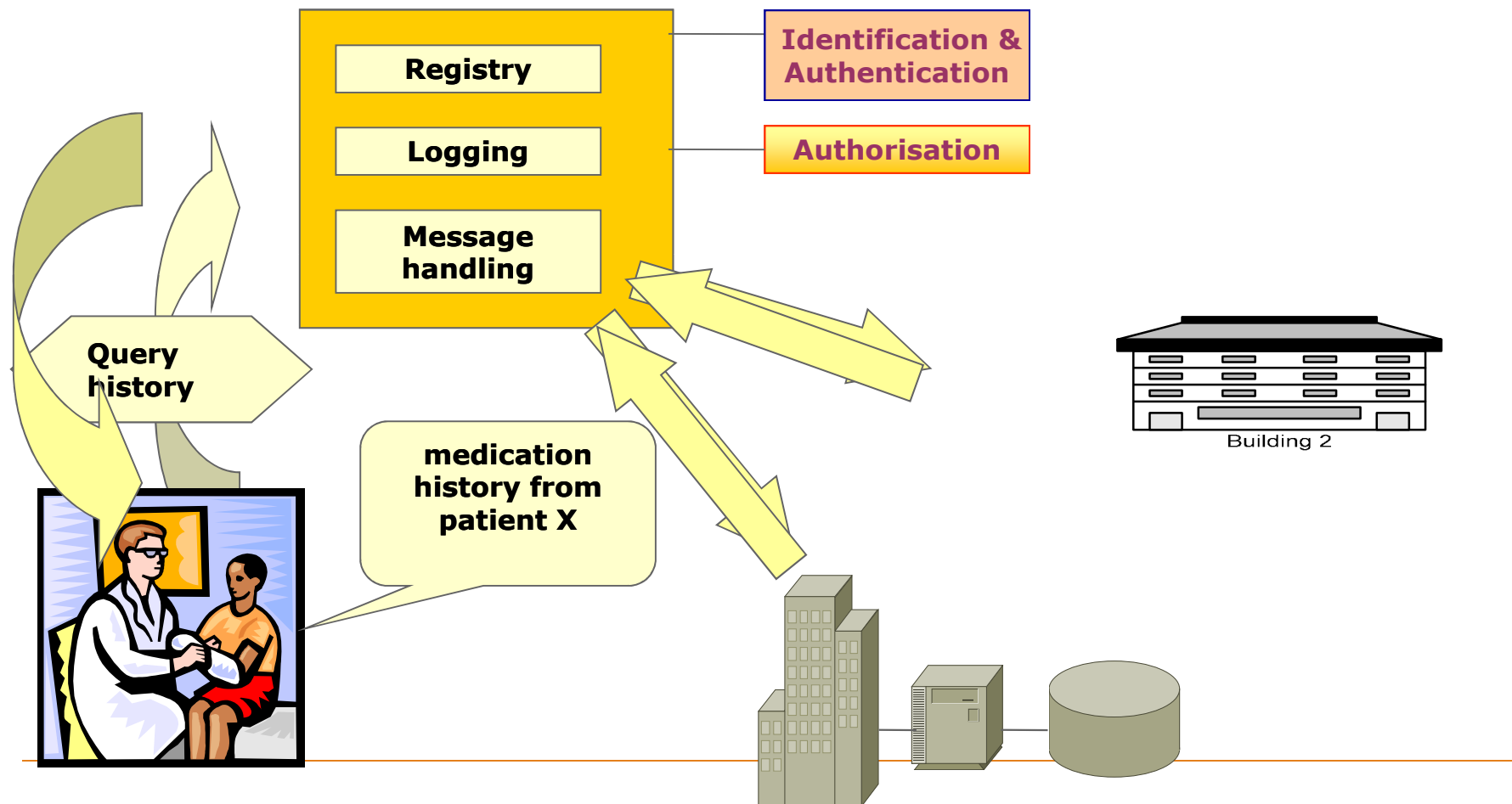


Certified systems



Certificate:
(properly) managed IT systems
of end-users

Review process



GC Houtwijk

Diversen Patienten F-toetsen Administratie Communicatie

Mevrouw M. TESTA [Marieke , 59] Arts: JN Ass.: JO/02-04-2006
 Hildo KROPLAAN 77 Pat:2386141/P /HW/JN/P 2386141
 2552 XM DEN HAAG 29011944/V

Medisch journaal

Medicatiestatus : Alles

L.vrs	T	Etiketnaam	Dos.	Hoev./eh	Th.eind	Ap	Arts	ICPC	W
1	>	260306 T OXAZEPAM TABL 10MG	2N1T	30ST	250406*	^			
2		150206 C METFORMINE HCL TABL 850MG	2.1T	180ST	160506*	^			
3		140206 C LACTULOSESTROOP 500MG/G	A 8ML	300ML	060306*	_	ROMYN	D12	
4		030106 T FURABID CAPS MGA 100MG	2.1C	6ST	060106	_	GCHOU	D12	
5		171205 T LACTULOSESTROOP 500MG/G	M 8ML	200ML	110106	_	GCHOU	D12	
6		111205 C SOL ALUMINII CHLOR SPIR 20% A A		30ML	251205*	_	GELDE	A09	

Einde

[Landelijke Medicatie historie tussen 05-2005 en 04-2006]

Vdat	Etiketnaam	Apotheek	Plaats	Hoev/eh	Dos	H	Arts
1	>	140306 ORAP TABL 1MG	Alg.Zknhuis	Delft	30ST	1.2TN	PSYCH


ESC : Einde Medicatie-Zoeker

Allen -

F9:Menu F2:Terug ESC:Afbreken F8:Einde *Einde bestand*

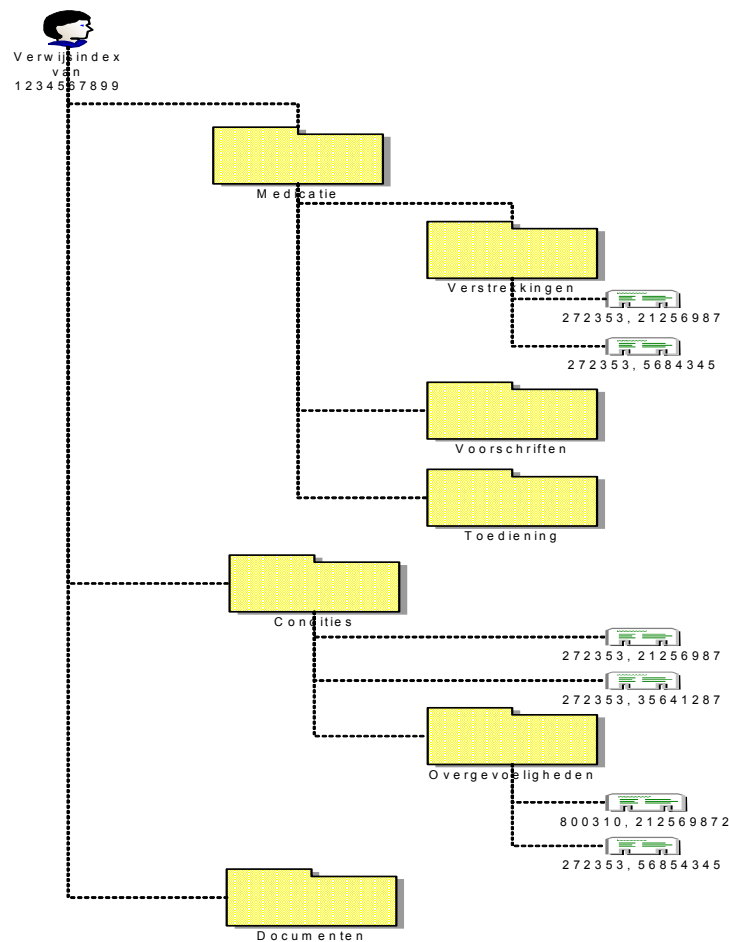
[Volgorde: Afl.datum] [R/M]

NUM

Start  10:53

Continuity of Care

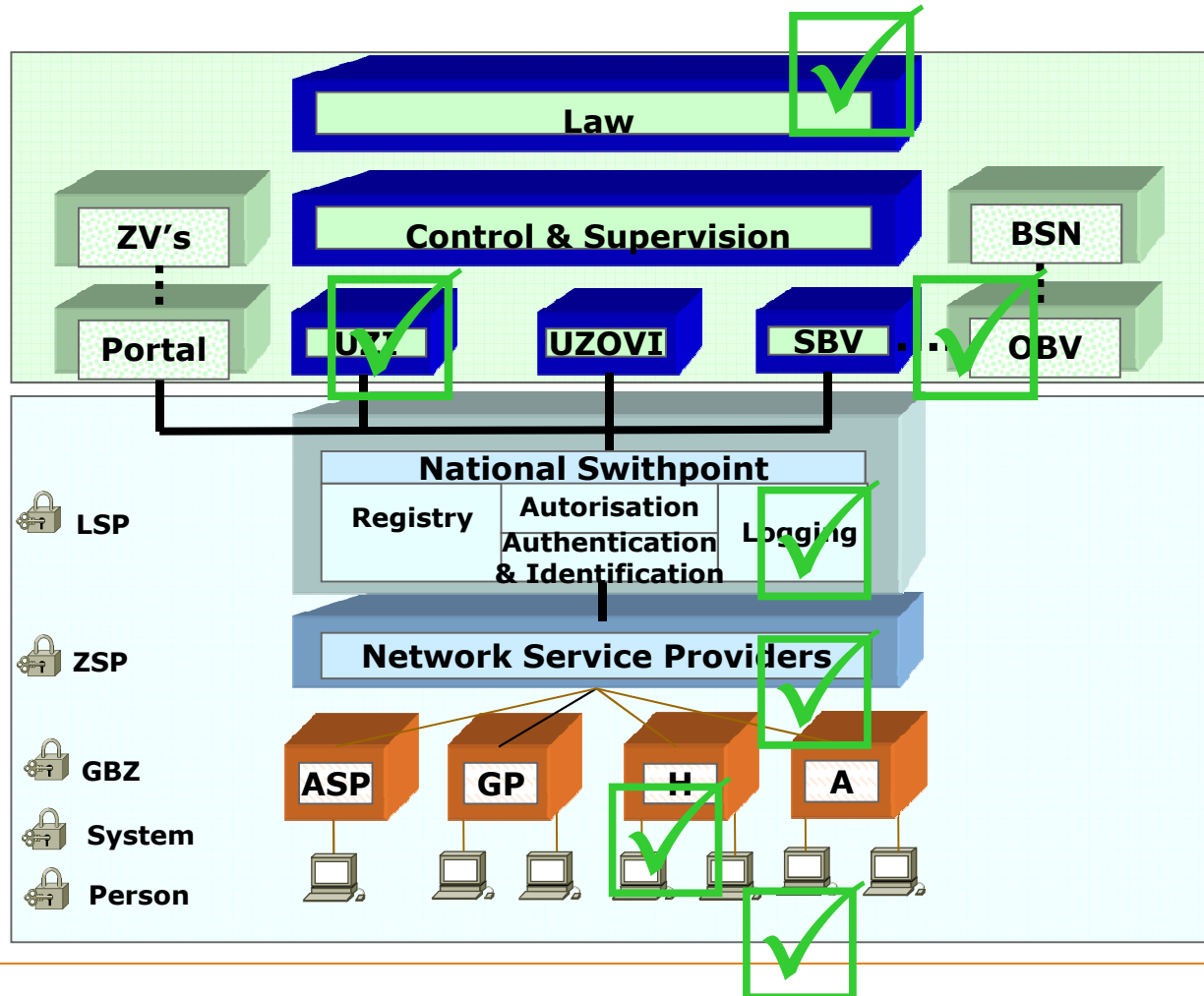
- Register index on different levels:
 - *Elementary*
 - *Folder*
- Concern-tracker for client continuation
- Multiple folders allowed



Message vs Documents

- Each communication type has it's own characteristics:
 - Messages are used for actual status
 - Latest lab results, weather forecast
 - Clinical documents represent a persistent legal document:
 - Discharge or referral document.
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Current Status



National Programs

- Pharmacy & Prescribing domain
 - GP summary and referrals
 - Diabetes healthcare
 - Emergency care
 - Maternity care
 - Pathology
 - Laboratory results
 - Youth prevention program
-

Implementation steps

- Develop domain standards with stakeholders
 - IT development by vendors
 - IT vendor certification
 - Trial run in regional pilots
 - Roll out nationwide
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Challenges & Changes

- Organizational changes
 - *Notes are for others, not for yourself*
 - Time spans over decades
 - *Shifting political views*
 - *Changing functional requirements*
 - *Changing technical innovation*
 - Financial investment requirements
-

Yes, we can!!



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 - info@nictiz.nl
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