



IT- og Telestyrelsen

Ministeriet for Videnskab
Teknologi og Udvikling

Krav og forventninger til it-arkitektur for sundhed

EPJ-Observatoriets Årskonference 27. oktober, 2004

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IT-strategisk Kontor,

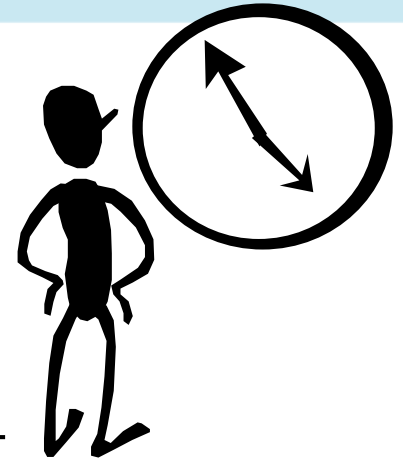
IT- og Telestyrelsen,

Ministeriet for Videnskab, Teknologi og Udvikling

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Agenda



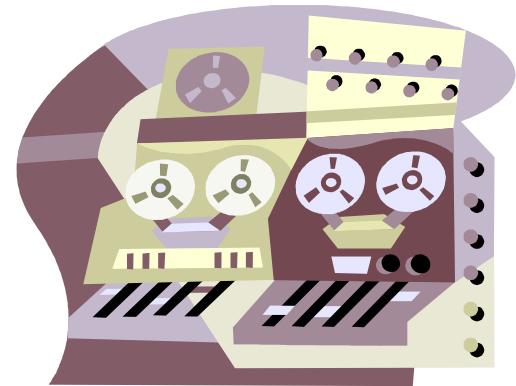
- Enterprise Architecture
- Fælles offentlige initiativer omkring IT-arkitektur og Informations-arkitektur
- Informations-arkitektur (Udvikling af datamodeller og XML-grænseflader)



San Francisco Cable Car Companies anno 1890



Similarities?



Public IT-systems in Denmark anno 2003/2004



The eight original San Francisco Cable Car companies:



Source: <http://www.cablecarmuseum.com>

Clay Street Hill Railroad

One line, 3½' gauge, bottom grip. Service from September 1873

Sutter Street Railroad

Two lines, 5' gauge, side grip. Service from January 1877

California Street Cable Railroad

Three lines, 3½' gauge, side grip on California St. line, bottom grip on the other two. Service from April 1878

Presidio & Ferries Railroad

One line, 5' gauge, bottom grip. Service from January 1882

Market Street Cable Railway

Five lines, 4' 8½" gauge, side grip. Service from August 1883

Ferries & Cliff House Railway

Four lines, 3½' gauge, bottom grip. Service from March 1888

Omnibus Railroad & Cable Company

Five lines, 3½' gauge bottom grip. Service from August 1889

Geary Street, Park & Ocean Railroad

Geary Street, Park & Ocean Railroad began on February 16, 1880



Characteristics of the San Francisco Cable Car Companies

Specifications:

- Deliberate choice of incompatible gauges and cable grip systems

Purpose:

- To protect the operator from hostile take over by competitors

Problems:

- Tailor made cable cars and components
 - Limited competition
 - Higher prizes
- Expensive to integrate
- Difficult to make profitable



Characteristics of Danish public sector IT-systems anno 2003

Specifications :

- Unintended choice of incompatible systems

Purpose:

- None

Problems:

- Tailor made IT-systems
 - Limited competition
 - Higher prizes
- Expensive to integrate
- Difficult to make profitable



Historic approach to application Architecture



New approach





Enterprise Architecture definition

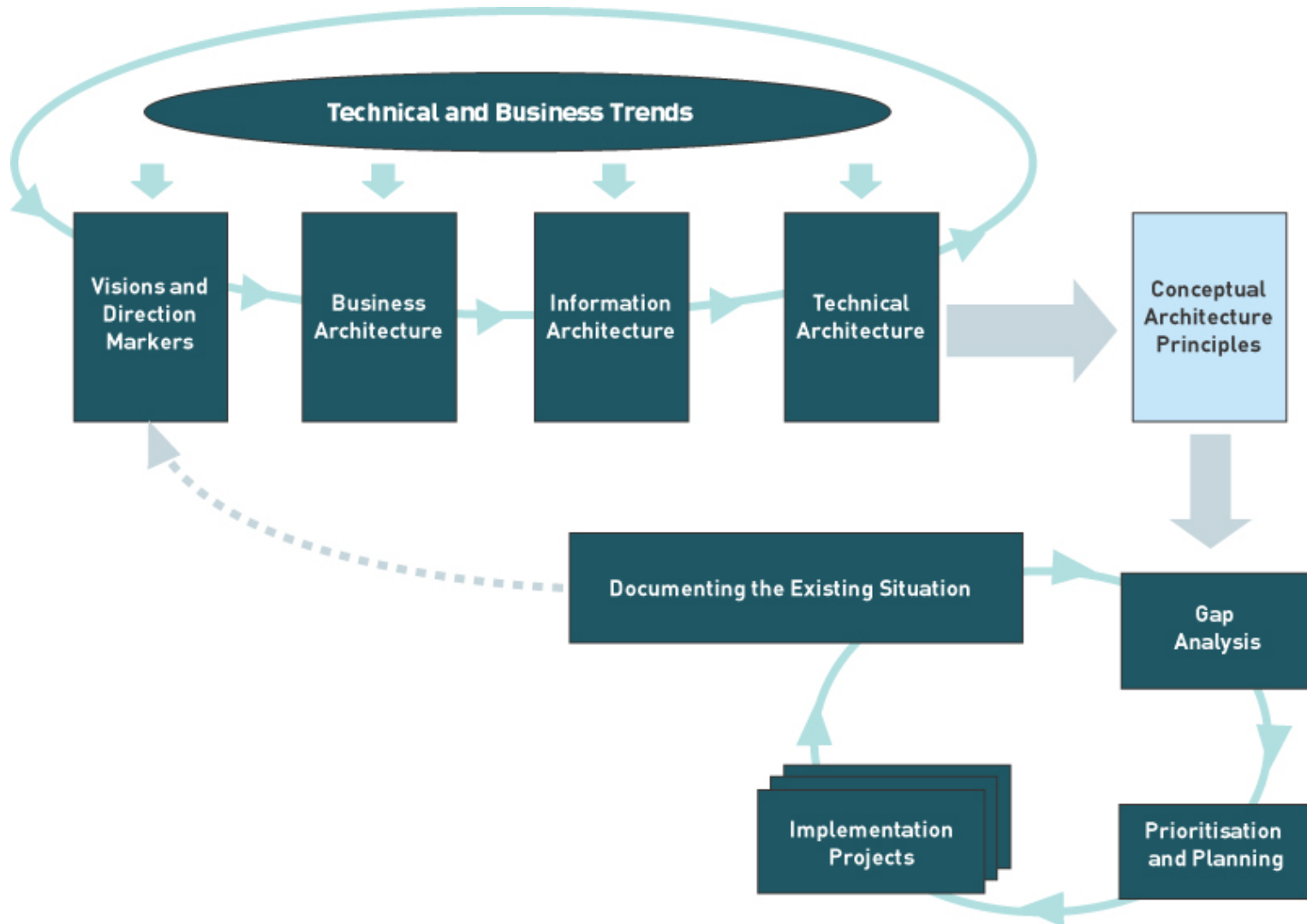
The framework that defines the overall structure of

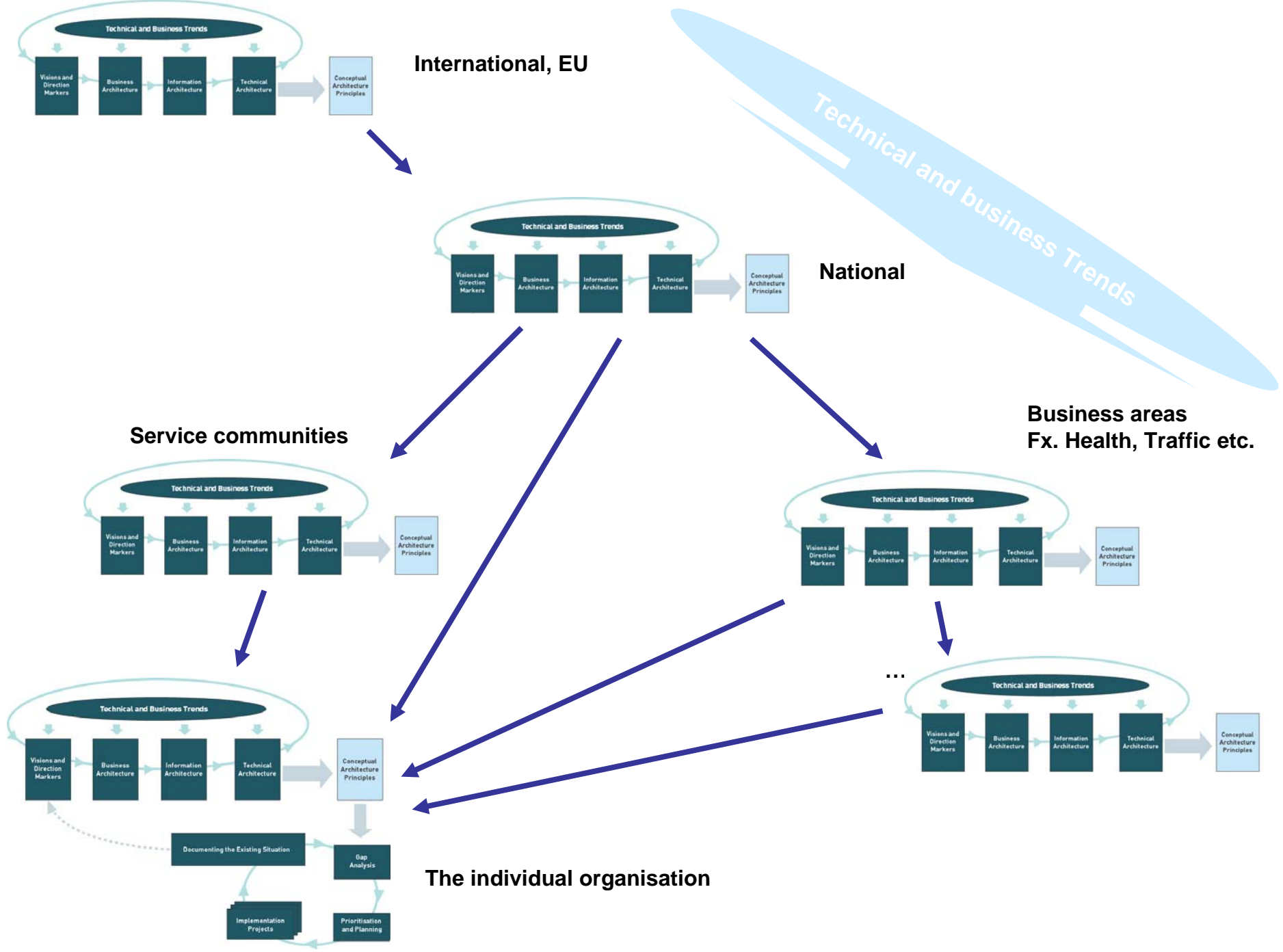
- the **business** and
- the **information** and
- **infrastructure** that supports the business,

based on defined business needs and principles that guide implementation choices.



Enterprise Architecture

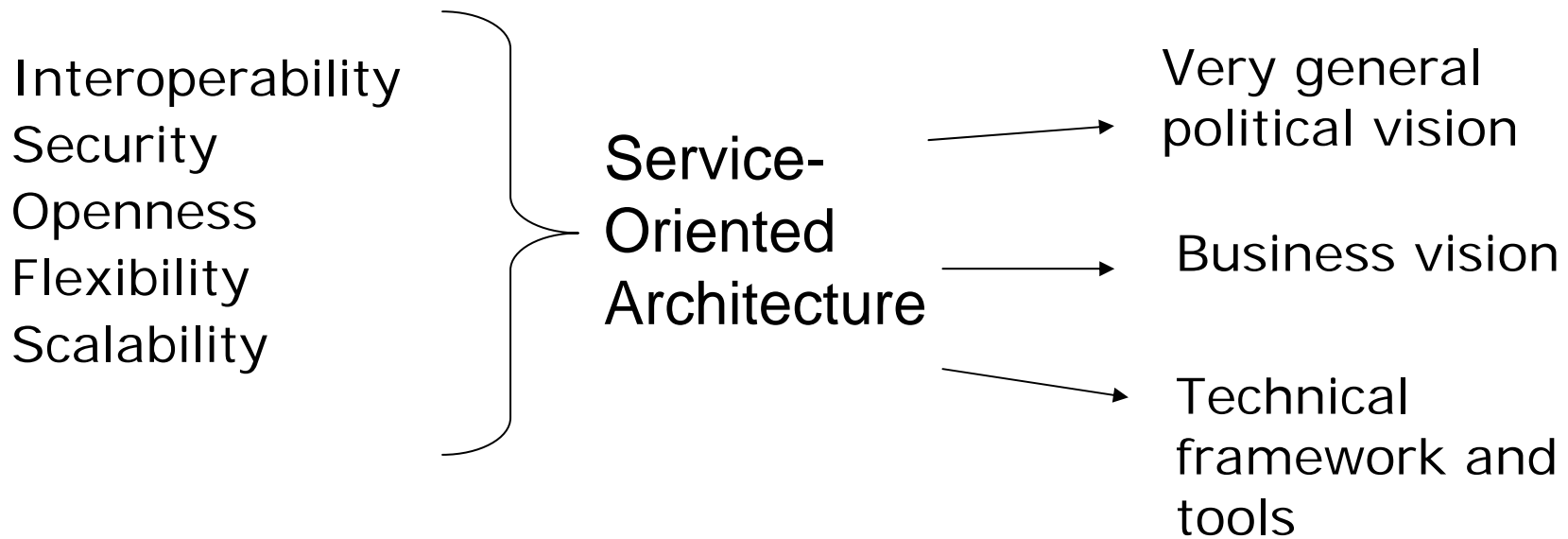






Five principles of eGov architecture

Three levels of understanding;



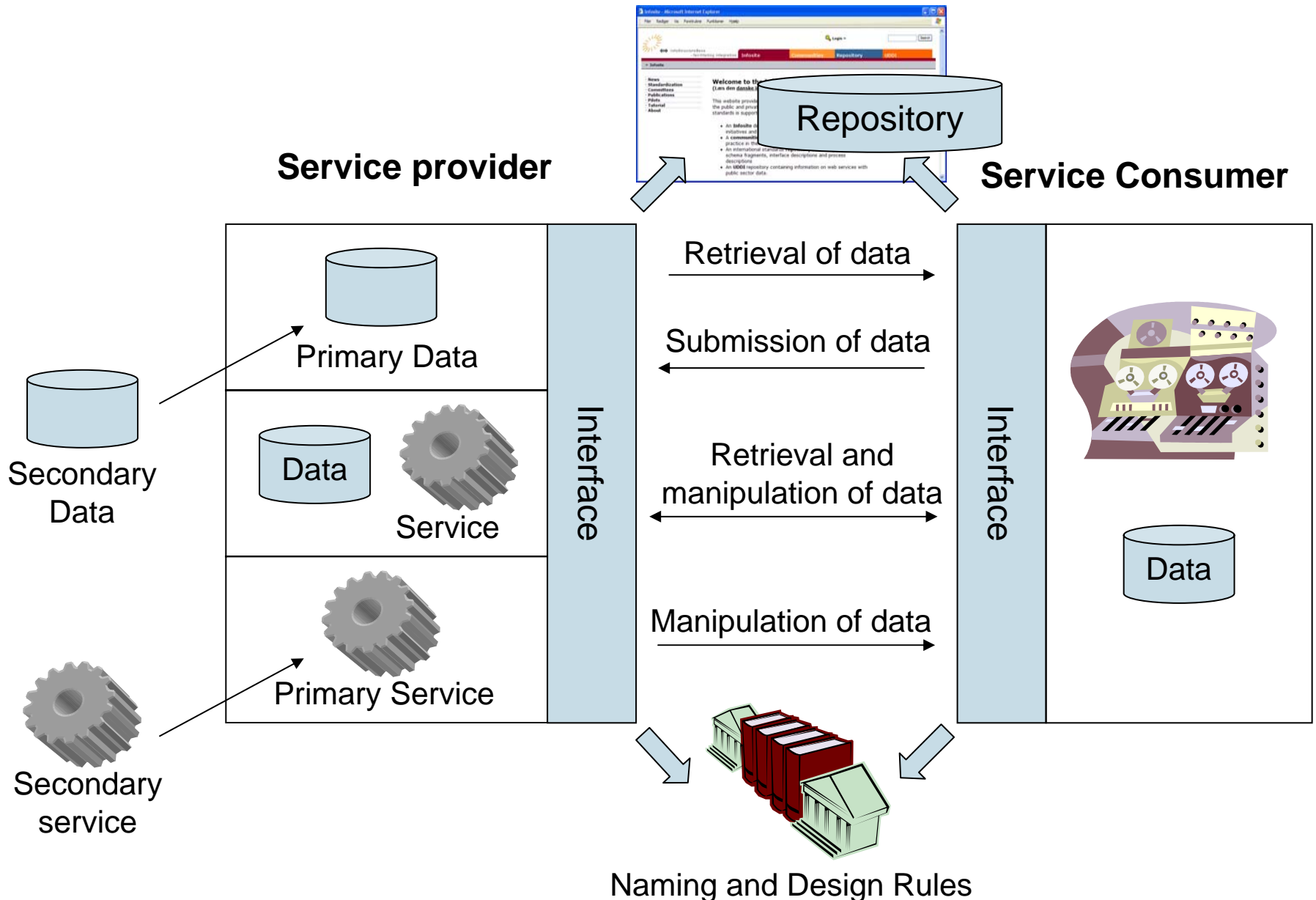


Our vision – a Service Oriented Architecture

- The public sector must act as an enterprise
- Authorities shall only ask citizens or companies to supply information once
 - All other information must be pulled from other authorities
- Each agency must expose their data and services using XML
 - Each agency is responsible for building and operating applications associated with the business processes that they own.
 - Each agency maintains its own data. Since data is never synchronized, it is not out of date or inconsistent.
 - A service operated by one agency may be used by multiple agencies. This keeps each from building the business logic on their own and ensure that each is using the same business logic.



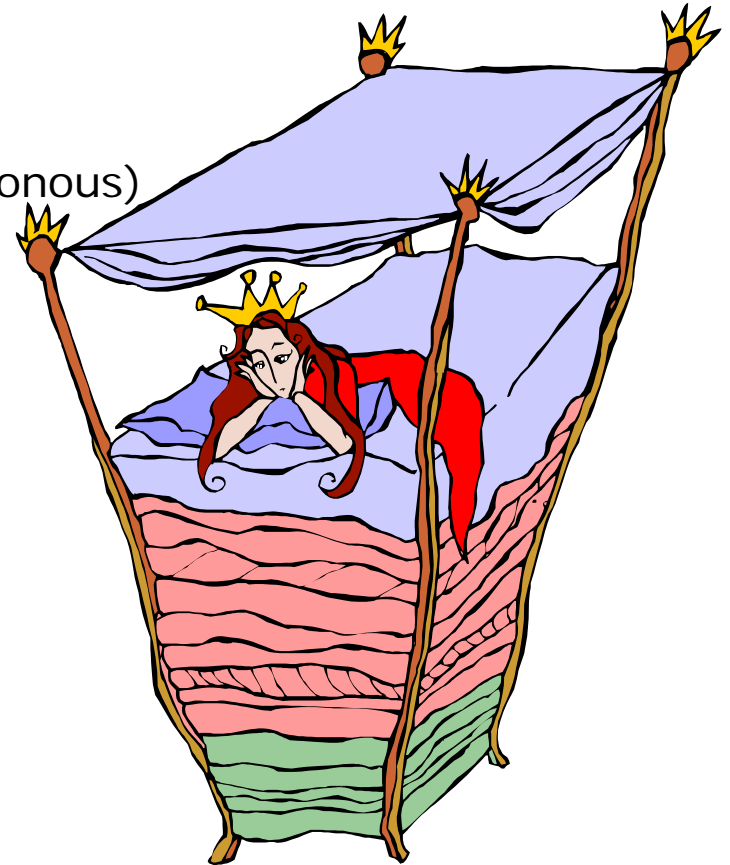
SOA – Service Oriented Architecture





The service oriented architecture fairytale

- Discoverable and Dynamic
- Loosely Coupled (resilient, asynchronous)
- Locationally Transparent
- Diversely Owned
- Interoperable (given standards)
- Composable (applications)
- Network-addressable
- Self-healing (rediscover and bind)





Central architecture initiatives

- Rules for access to and sharing of data
- Standard for digital signature
- The national XML standardisation project
- Common XML og UDDI repository
- Common standard for IT-security
- Enterprise Architecture Framework
- A Reference Profile
- Implementation guidelines and handbooks

See www.oio.dk



The Reference Profile

- e-Government Interoperability Framework (e-GIF)
- Implementation of the European Interoperability Framework from the eEurope Action Plan 2005
- An overview of central IT-standards that are relevant to e-government, including status assessments
- A cross-governmental resources for use in the planning, procurement and development of government IT-solutions.
- A toolkit that can be used in various situations, for example as a dictionary (available as a web service and in XML)



The Reference Profile

The Reference Profile is the [Danish e-Government Interoperability Framework](#).

The framework includes recommendations and status assessments for 146 selected standards, specifications and technologies used in e-government solutions.

This is version 1.1 of the framework. If you know the Reference Profile already, see [What's new?](#). Newcomers might want to check the [survival guide](#). All users should check the advanced [search services](#), and of course also read the (updated) [guidelines for use](#). Above all, everyone should dig into the 146 standards in the categories below.

Categories:

[User Interfaces](#) (18)

Web standards, images, and multimedia.

[Document and data exchange](#) (38)

From office documents, email and messaging to Web forms, syndication and databases.

[Net-based Services](#) (14)

The Basic Web Service Stack, Web Service Management, and Business Process Management

[Content Management and Meta data Definition](#) (9)

Datadeinitions and Meta data descriptions

[Data Integration](#) (14)

Data Integration issues, from Character Sets to Electronic Commerce

[Identity Management](#) (8)

Identity Management issues, including Authentication and Authorization

[Interconnectivity](#) (37)

Web based Interconnectivity; e-mail and other protocols; Component Transaction Models, Inter Process Communication; Security; Transportation; LAN and WAN interworking; and Routing Exchange Protocols

[Operations](#) (2)

Critical standards for the interoperability of operations and systems management software and systems.

[Business Area Specific Standards](#) (6)

From e-learning to geographical information

Want an overview of the content? Check the [sitemap](#).

From the Reference Blog

- [Make your own reference profile!](#)
In an attempt to offer usable services to the users of the reference profile, we are introducing some new user services. The perhaps most interesting new service is one that allows all registered user...
- [A datamodel for the reference profile](#)
One of the on-going activities related to the reference profile is related to the structuring of the content of the profile. How much information is needed, on scope and depth, and how does it fit int...
- [Survival guide for newcomers](#)
Here is a quick survival guide: Newcomers to the reference profile might want to read the policy document (that is, the Guidelines link in the menu). The substantial content is divided into a number ...
- [The reference profile 1.1 launch](#)
The new, international version of the Danish e-government interoperability framework, The Reference Profile, is officially launched on 12 August. The new version of the reference profile, which is lab...
- [English News](#)
- [Danske nyheder](#)



Search

 everywhere in the profile this category only[NEWS](#) • [GUIDELINES](#) • [SEARCH SERVICES](#) • [NEWSLETTER](#) • [USERS](#) • [LOGIN](#) •Start : [Net-based Services](#) : Basic Web Service Stack

Basic Web Service Stack

Name	Description	Status	Notes
SOAP 1.1 <small>updated</small>	SOAP	Approved	Communications protocol, allowing applications to communicate with each other using http with XML based information. This can be used to exchange of structured and automatically generated information amongst parties in an decentralised and branched environment. Recommended implementation see WS-I Basic Profile 1.0a . Infopage - Reference link - Bookmark this - Write a review -
WSDL 1.1 <small>updated</small>	WSDL	Approved	Web Service Description Language is used to describe applications or services, i.e. location, functional calls and any other information relevant for the use of them. Recommended implementation see WS-I Basic Profile 1.0a . Infopage - Reference link - Bookmark this - Write a review -
UDDI v2 <small>updated</small>	UDDI	Emerging	Universal Description, Discovery and Integration is used for describing the service and for discovery of the service in a wider perspective. Recommended implementation see WS-I Basic Profile 1.0a . Infopage - Reference link - Bookmark this - Write a review -

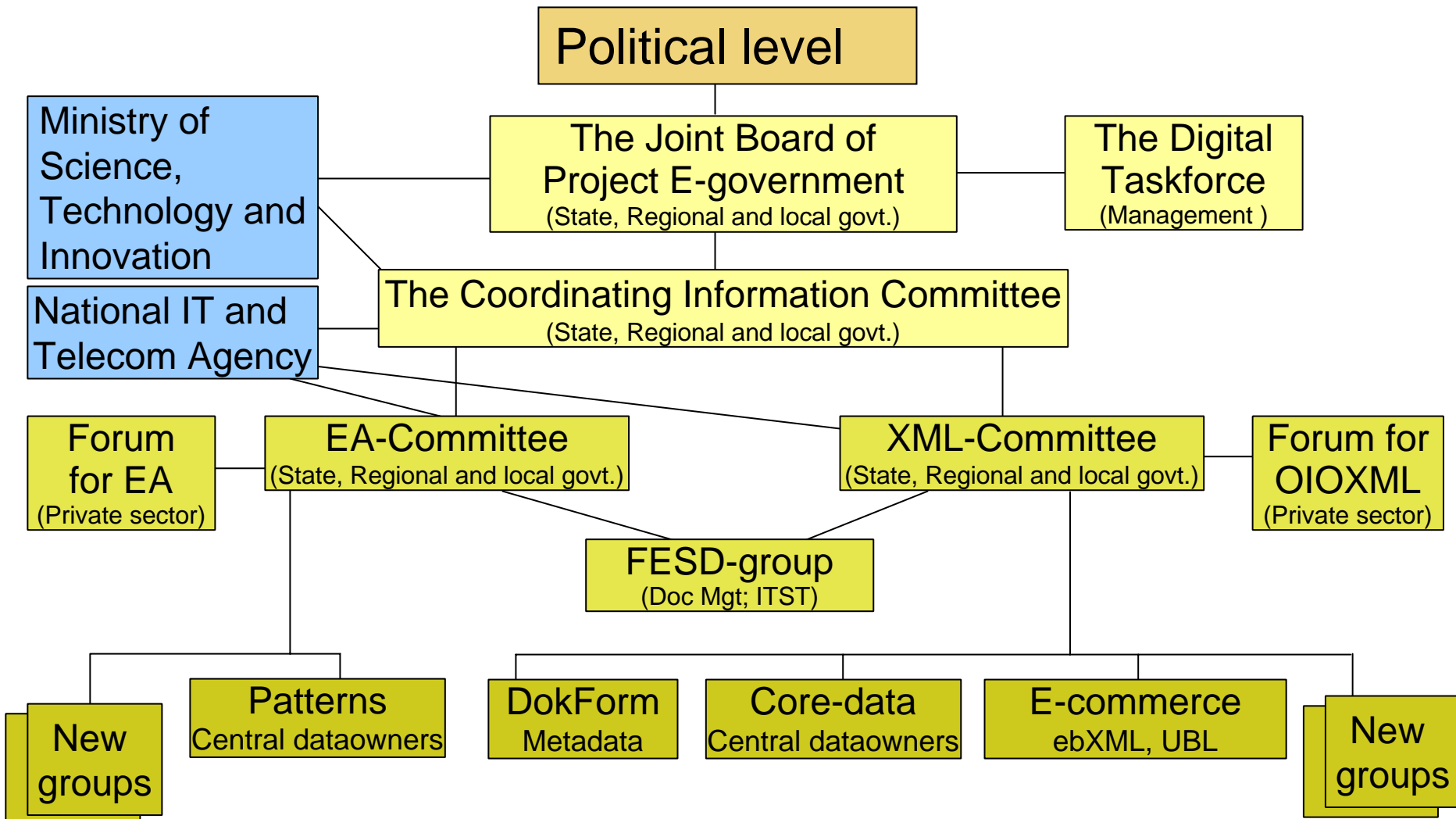
Related Categories:

- [Net-based Services/Basic Web Service Stack](#)
- [Net-based Services/Business Process Management](#)
- [Net-based Services/Web Services Interoperability](#)
- [Document and data exchange/Portlets](#)

This category contains the following standards, specifications and technologies: [SOAP](#), [WSDL](#), [UDDI](#),[NEWS](#) • [GUIDELINES](#) • [SEARCH SERVICES](#) • [NEWSLETTER](#) • [USERS](#) • [LOGIN](#) •[Contact](#)

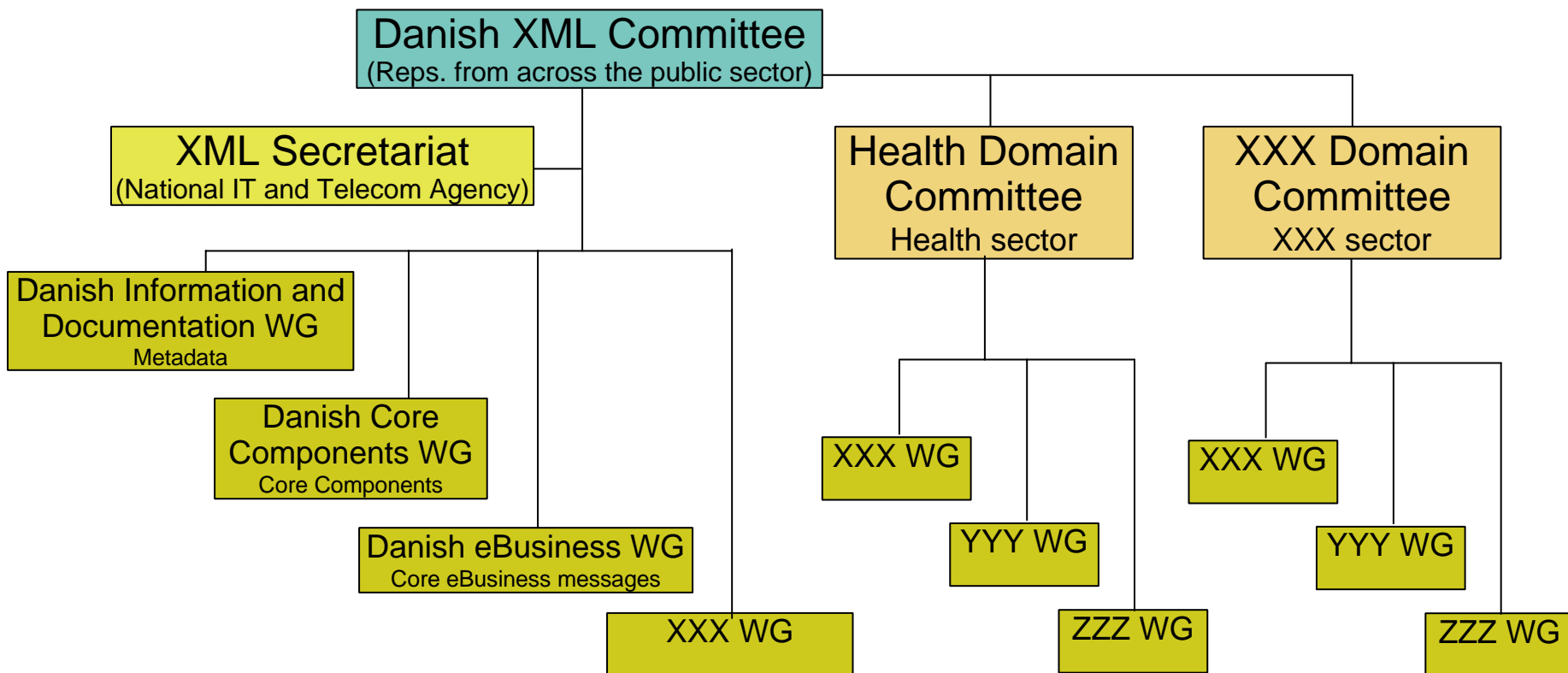


Organization and process for Govt. EA





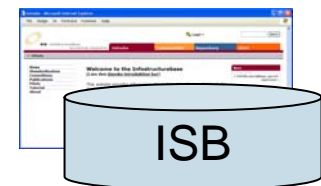
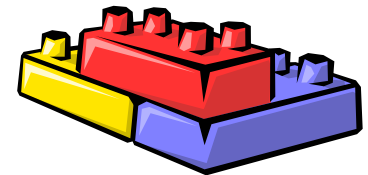
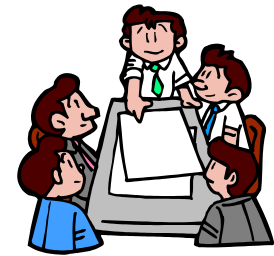
Organization of the Danish XML-project





Philosophy of the Danish XML-project

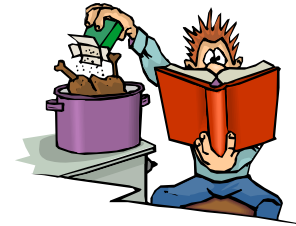
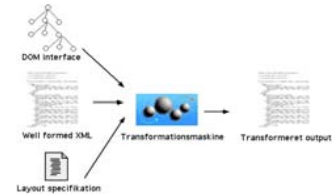
- XML-based data re-use and exchange between public authorities and their partners
- Coordination in a public sector XML Committee
 - Collaboration between state, regional and local authorities
- Standardization of XML-interfaces between public IT systems
- Reusable Data Definitions / Information Objects
- Shared repository / Tools





Philosophy of the Danish XML-project

- Development of a shared datamodel
 - Reuse from international standards
- Participation in international standardization initiatives
- Formalized rules and procedures (cookbooks)
- Authorities and companies must take responsibility and contribute with their own definitions
 - Standard development in Communities of Practice





The InfoStructureBase: 4 tools



- Infosite
- Repository
- Forum
- Service Directory*

<http://isb.oio.dk>

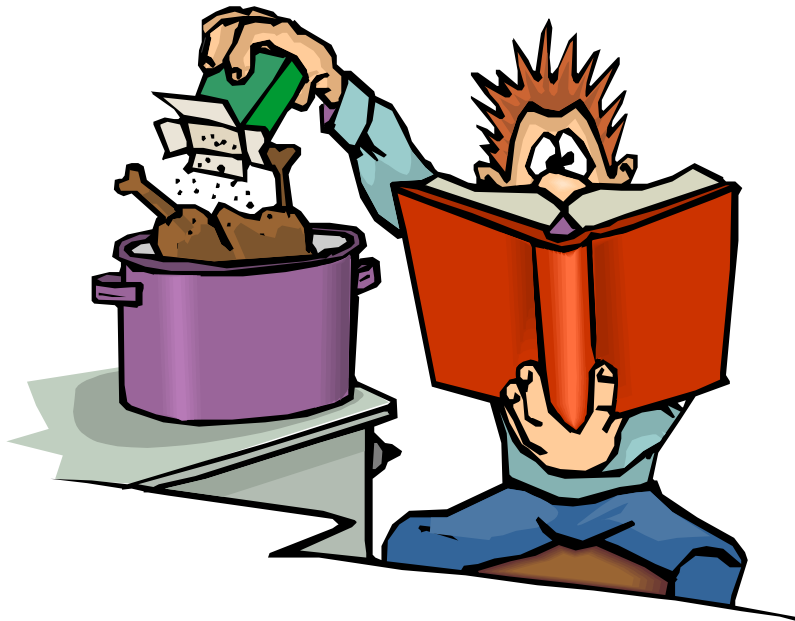
* Universal Discovery, Description, and Integration (UDDI)



Cookbooks

Implementation Handbook

Aimed at project leaders



Handbook for Standardization

Aimed at domain experts

Modeling XML Schemas with UML

Aimed at domain experts, system architects and XML Schema developers

XML Schema Handbook

Aimed at XML Schema developers

Integration Handbook

Aimed at system architects

<http://isb.oio.dk/info/publications/>



Opsamling

- Tag visionen om en serviceorienteret arkitektur som et pejlemærke
 - Indtænk robust eksponering af data og services i XML-baserede snitflader – så ender vi med SOA
- Udvikling af datamodeller bør have et internationalt ophæng
 - Giver større konkurrence blandt et bredere udbud af leverandører
 - Stiller store krav til mapning mellem datamodeller
- Brug IT-arkitektur hvidbog og håndbog som redskaber til at videreudvikle IT-arkitekturen på sundhedsområdet



Questions

www.oio.dk
(EA, XML, Structural reform)

Isb.oio.dk
(Infostructurebase)

Isb.oio.dk/info/publications/
(Cookbooks)

www.argouml.org
(UML-tool)



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