IT- og Telestyrelsen
Ministeriet for Videnskab
Teknologi og Udvikling

Electronic invoicing in Denmark

Experience and future initiatives

Swedish Alliance for e-business
Stockholm March 7th 2006

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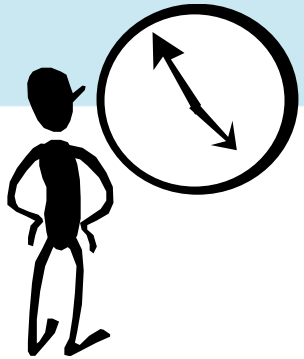
Office of Strategic IT,
Danish National IT and Telecom Agency
The Ministry of Science, Technology an Innovation

Agenda



- The background and business case
- The infrastructure
- The experiences
- Infrastructure initiatives
- The next initiatives

This is the story of...

- How electronic invoicing and electronic payment in B2G eBusiness is implemented in Denmark
- How picking the lowest hanging eProcurement fruits – saves millions

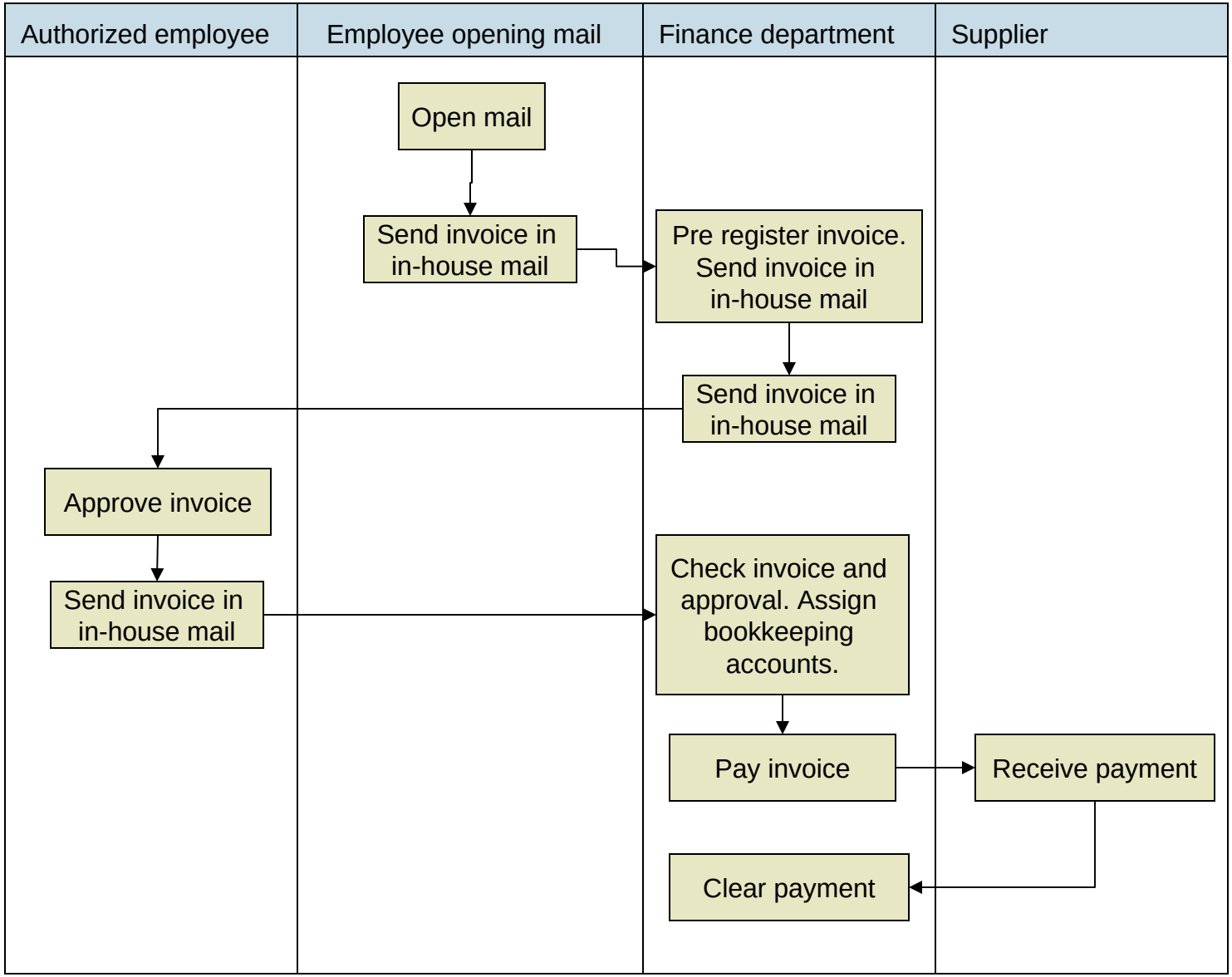
The short version

- As of February 1th 2005 – all invoices to the public sector has sent electronically
- 18 million invoices will be exchanged
- The initiatives is mandated by legislation
- 440.000 companies affected
- Scanning agencies handle the conversion of paper invoices
- OASIS Universal Business Language is the underlying standard

The numbers

Invoices sent to the public sector (thousands)

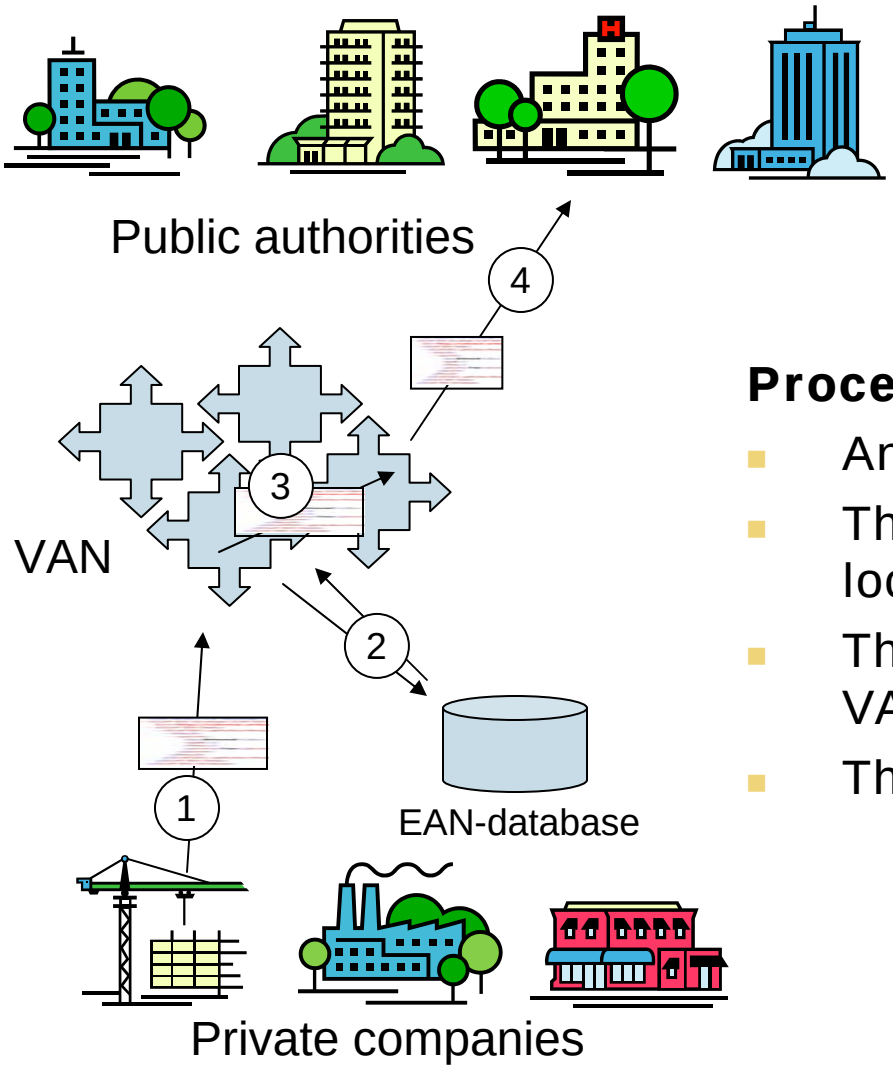
Municipalities	13.421	74%
Regions	2.610	14%
State	2.200	12%
Total	**18.231**	**100%**


Authorized employee
Employee opening mail
Finance department
Supplier
Open mail
Send invoice in in-house mail
Pre register invoice. Send invoice in in-house mail
Send invoice in in-house mail
Approve invoice
Send invoice in in-house mail
Check invoice and approval. Assign bookkeeping accounts.
Pay invoice
Receive payment
Clear payment

The business case (invoicing)

- Each minute saved in invoice handling of 18 million invoices equals 12 million Euro saved
- 10 minutes handling time is saved using an electronic invoice
  - 120 million Euro
- It is estimated that if ordering is also made electronic as much as 17 minutes will be saved in the handling of each invoice
  - Potential savings: 200 million Euro

VANS-infrastrukturen



Process

- An invoice is sent to a VAN-operator
- The VAN-operator looks up the EAN-location number in a database
- The invoice is perhaps sent to another VAN-operator
- The invoice is sent to a public authority

VANS infrastructure principles

- A VANS-network provides:
  - Shared addressing mechanism *(using EAN-location numbers)*
  - Secure exchange of data – once data is received by a VANS-operator *(Note that that the data exchange between the customer and the VANS-operator may not be safe and reliable)*
  - Guaranteed delivery of data *(once received by a VANS-operator).*
  - Freedom from bilateral exchange agreements

The Scanning agencies

- Receive paper based invoices
- Scan the invoices (throw the paper away)
- Do intelligent pattern matching
- Produce a reduced electronic invoice
- Certified companies may act as Read In Bureaus
- A maximum of 5 days processing time

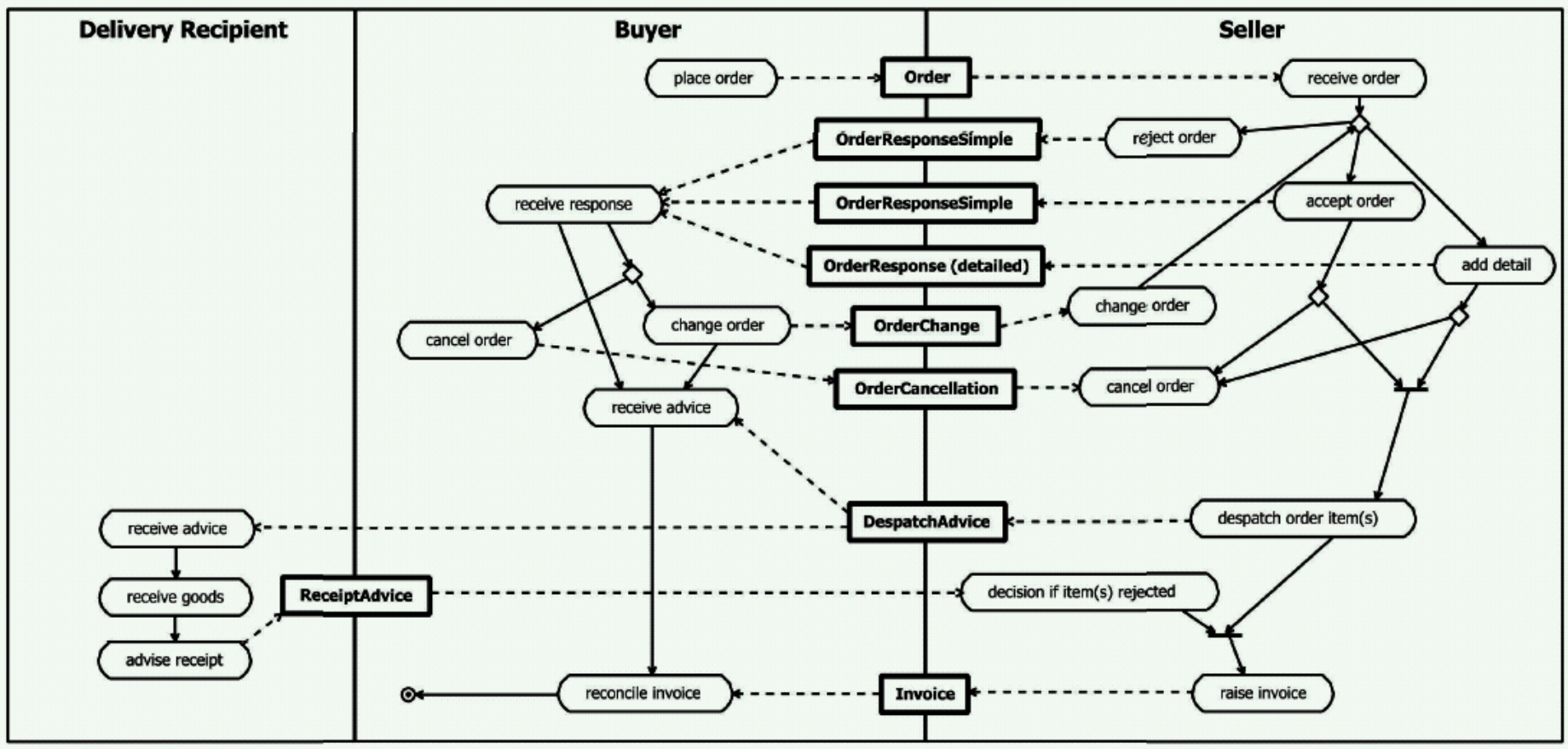
Private business Scanning agency Public authority

The standard

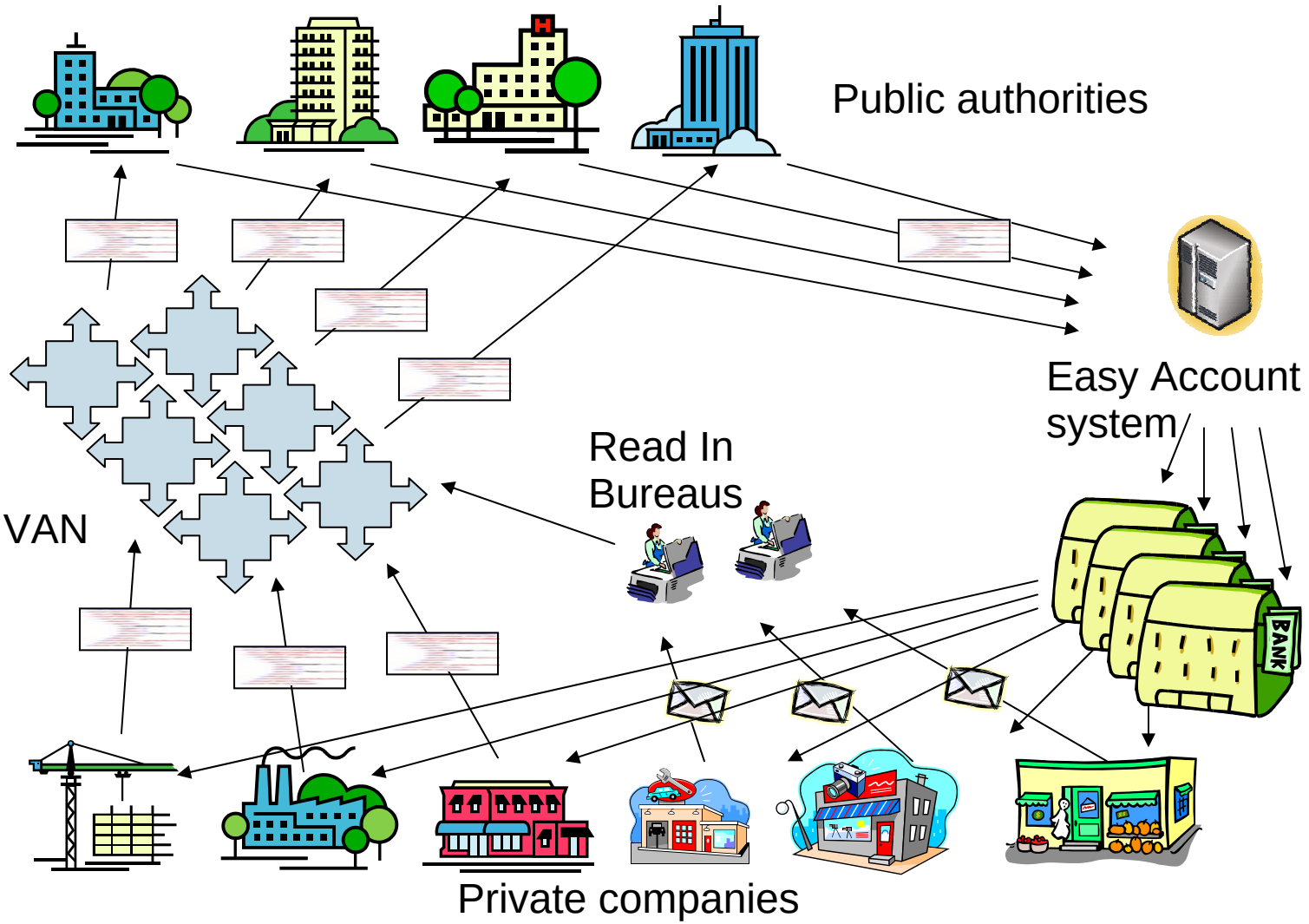
OASIS Universal Business Language:

- International effort to define a royalty-free library of standard electronic business documents
- Designed in an open and accountable vendor-neutral OASIS Technical Committee
- North European localization initiative
- UK, Sweden, Norway, Finland and Denmark
- Common subset to be uses in cross border scenarios

UBL 1.0 order-to-invoice



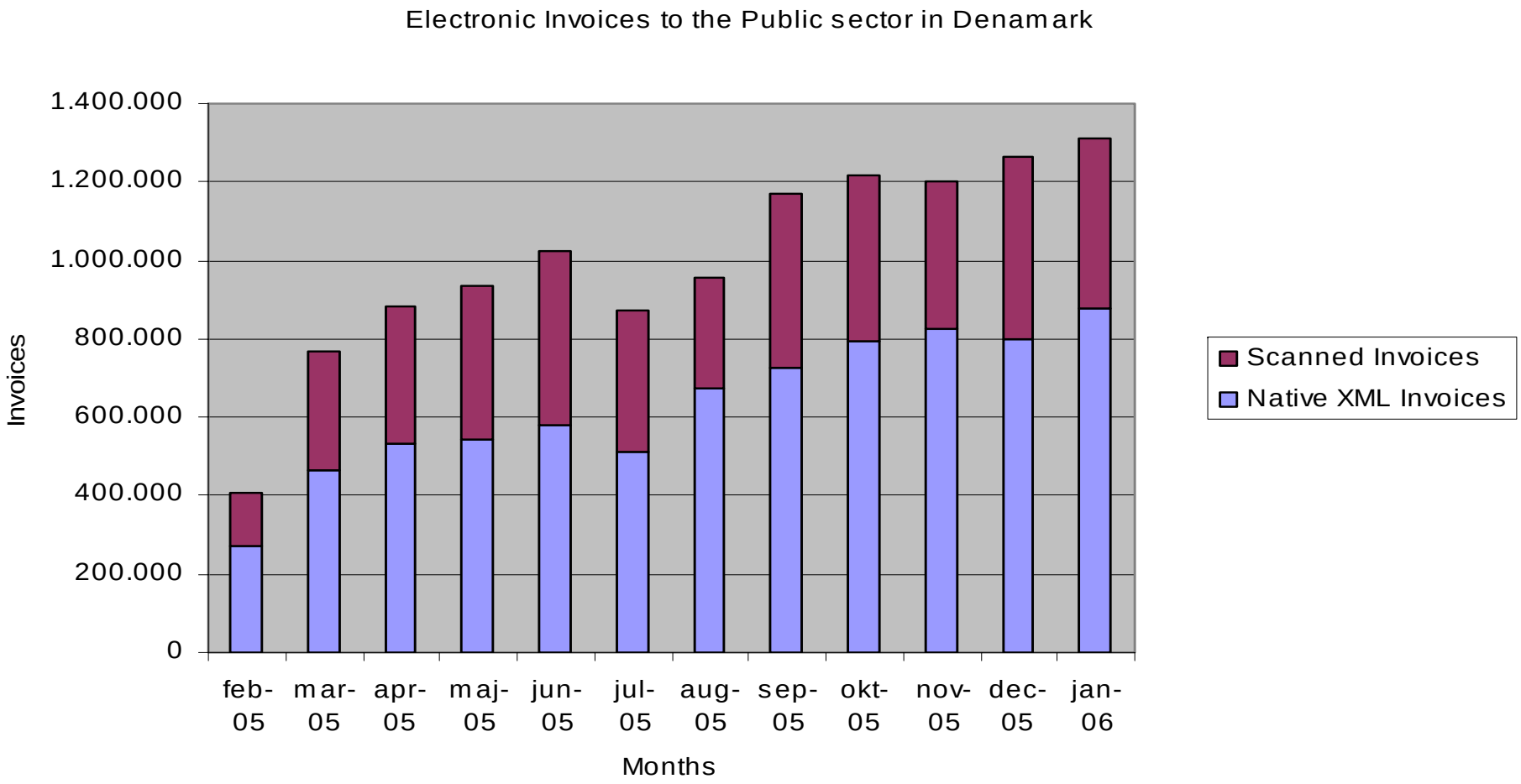
The full picture ultimo 2005



Upcoming messages

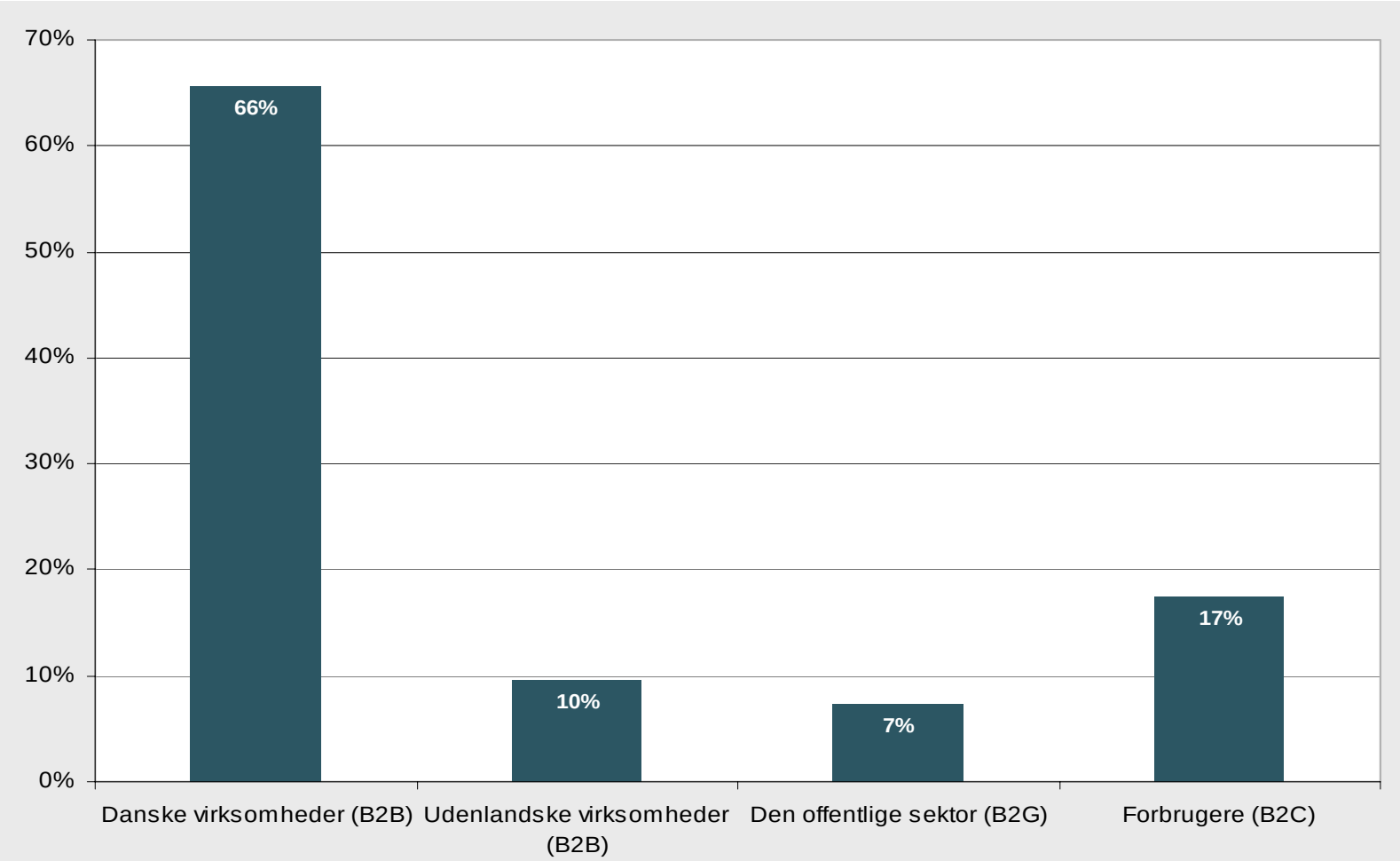
Dokumenter i en basal indkøbsproces (x) (forslag til danske oversættelser i parentes)				
Dokumenter[1]	Offentlig myndighed		Privat virksomhed	
	afsende	Modtage	afsende	modtage
Catalogue (katalog)		X		
Request for quotation (forespørgsel på tilbud)				
Quote (tilbud)				
Order (ordre)	X			X
Order response (ordrebekræftelse)				
Order response simple (simple ordrebekræftelse)		X		
Order change (ordreændring)				
Order cancellation (ordreannullering)	X			X
Despatch advice (afsendelsesadvis)				
Receipt advice (varemodtagelseadvis)				
Invoice (faktura)	X	X	X	
Self billed Invoice (køberinitieret faktura)				
Credit note (kreditnota)	X	X	X	
Debit note (debitnota)				
Self billed Credit note (Køberinitieret kreditnota)				
AccountResponce (Bogholdermeddelelse)				
Statement of account (kontoudtog)		X		
Remittance Advice (betalingsadvis)				
RykkerRenteNota		X		

Full digitalization – a challenge



The biggest volume is in the private sector

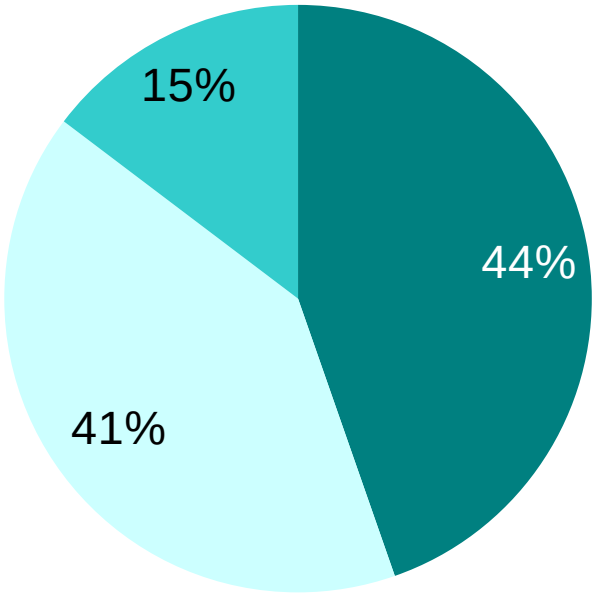
Companies between 10 – 99 employees



Kilde: KPMG 2005.

The smallest companies has the largest share of business documents

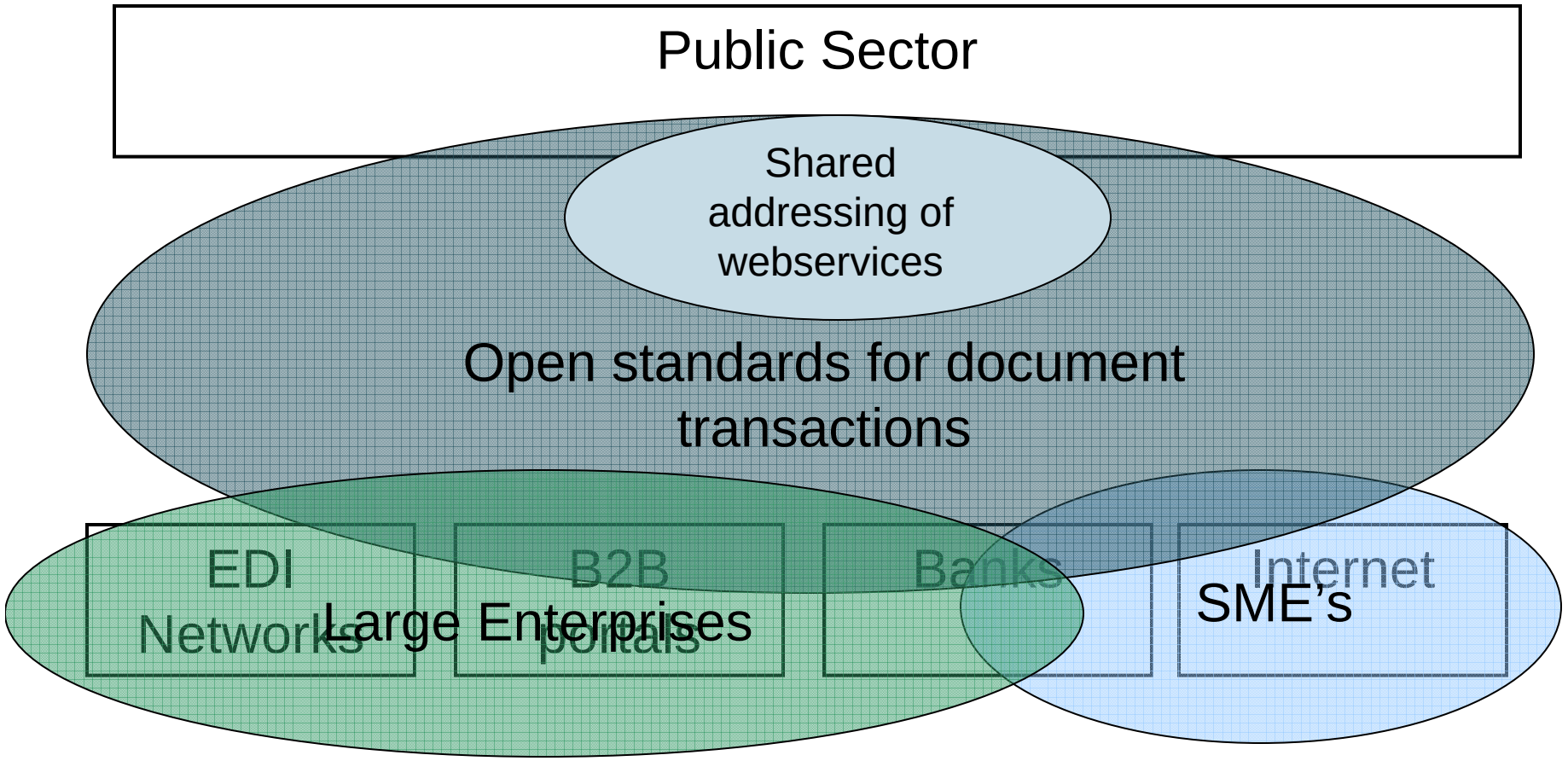
Distribution of transaction volume for companies between 10 and 99 employees. (Total volume is 191 million orders and invoices)



KPMG 2005

10-19 20-49 50-99

Bridging existing networks



Børsen ITinnovation Monday February 21th 2006

Milliardbesparelser på digital kommunikation

Digitalisering

Af NIELS BARFOD

Danske virksomheder kan spare op mod fem mia. kr. om året, hvis al forretningsmæssig kommunikation blev digitaliseret og udvekslet elektronisk i en helt ny internetbaseret arkitektur, som Videnskabsministeriet nu er gået i gang med at skrue sammen. De små og mellemstore virksomheder sender hvert år 240 mio. fakturaer og ordrer. Af disse er 190 mio. ikke er digitaliseret. Det koster en masse penge og det er besværligt i forhold til at forlade papiret helt og overgå totalt til digital forretningskommunikation.

»Med initiativet kan Danmark blive det første land i verden, som har en internetbaseret infrastruktur for elektroniske forretningsmeddelelser baseret på åbne standarder. Det er ikke udviklet andre steder i verden, hverken i offentlig eller privat regi. Det skal blive lige så let at sende en elektronisk faktura, som det er at sende en e-mail,« siger videnskabsminister Helge Sander (V), som vil have systemet klart allerede til næste år. Det kan det kun blive, fordi de byggesten, der skal bruges, faktisk findes i forvejen. De skal bare stykkes sammen på en ny og standardiseret facon.

Systemet kan spare mange penge og tid for virksomhederne, som dermed vil blive mere konkurrencedygtige, men det vil også være en nødvendighed, at de kan kommunikere digitalt, for sådan gør man i fremtiden, hvis man vil handle med de store internationale virksomheder.

Fremtidens værdikæder er digitale og det er ifølge ministeriet vigtigt for dansk erhvervsliv at komme med her og gøre virksomhedernes forretningsprocesser fuldt ud digitale. Danske virksomheder vil som følge af krav fra de store globale virksomheder før eller siden blive tvunget til at indgå i disse nye digitale værdikæder. Har vi ikke selv disse løsninger på plads, kan vi blive tvunget til at indgå løsninger dikteret af de store internationale koncerner.

FOTO: SCANPIX

Videnskabsminister Helge Sander (V) er varm fortaler for at få skabt en stærk dansk infrastruktur for elektroniske forretningsmeddelelser, der kan skabe milliardbesparelser for danske virksomheder.

Den danske erhvervsstruktur med forholdsvis mange små og mellemstore virksomheder fordrer, at netop internettet – fordi det er der i forvejen og alle virksomheder i dag har det – bliver transportvejen, så skal der være noget standardsoftware som eksempelvis et ERP-system eller et office-system samt en digital signatur. Ingredienserne findes allerede.

Simpelt og billigt

En internetbaseret infrastruktur til udveksling af elektroniske forretningsdokumenter vixx være en katalysator for af få virksomhedernes forretningsprocesser digitaliseret, og en simpel og billig struktur vil samtidig være en fordel for de små og mellemstore virksomheder, som i dag ikke har tilstrækkelige incitamenter til at sende og modtage forretningsmeddelelser digitalt.

Helt konkret bliver der tale om at sammensætte et sæt af standarder og anbefalede metoder for udveksling af forretningsdokumenter. Kommer Danmark hurtigt med her vil der være gode muligheder for at fremme anvendelsen af åbne internationale standarder på området. Også det vil være en fordel for danske virksomheder. Der er taget kontakt til de øvrige nordiske lande for at se om der er mulighed for en fællesnordisk løsning.

»Vi lægger stor vægt på, at initiativet udvikles i samarbejde med private aktører, herunder brugerne,« fortæller Helge Sander, som snarest vil offentliggøre, hvordan en række private aktører involveres i arbejdet. Initiativet har været drøftet med brancheorganisationer og IT-leverandører.

»Mit indtryk er, at der er bred opbakning til det og at dette er både interessant, rigtigt og et markant initiativ, der kan understøtte virksomhedernes konkurrencekraft,« siger ministeren.

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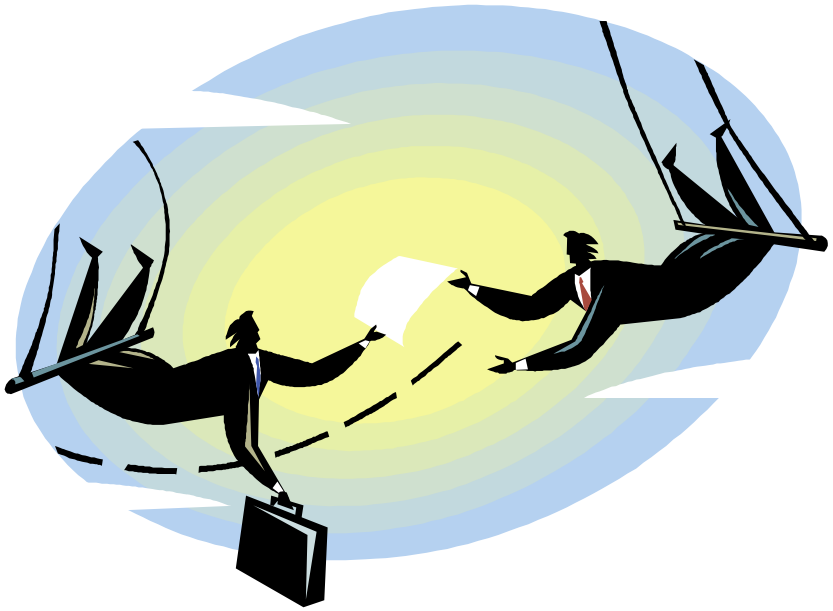
Vision

- It should be just as easy to exchange a business document electronically as it is to send an email.



Business Requirements

Short term: Reuduction in barriers to SME's

SME's must be able to:

- Send and receive business messages with no other infrastructure than an internet connection.
- Send and receive business messages with standard off the shelf business software.

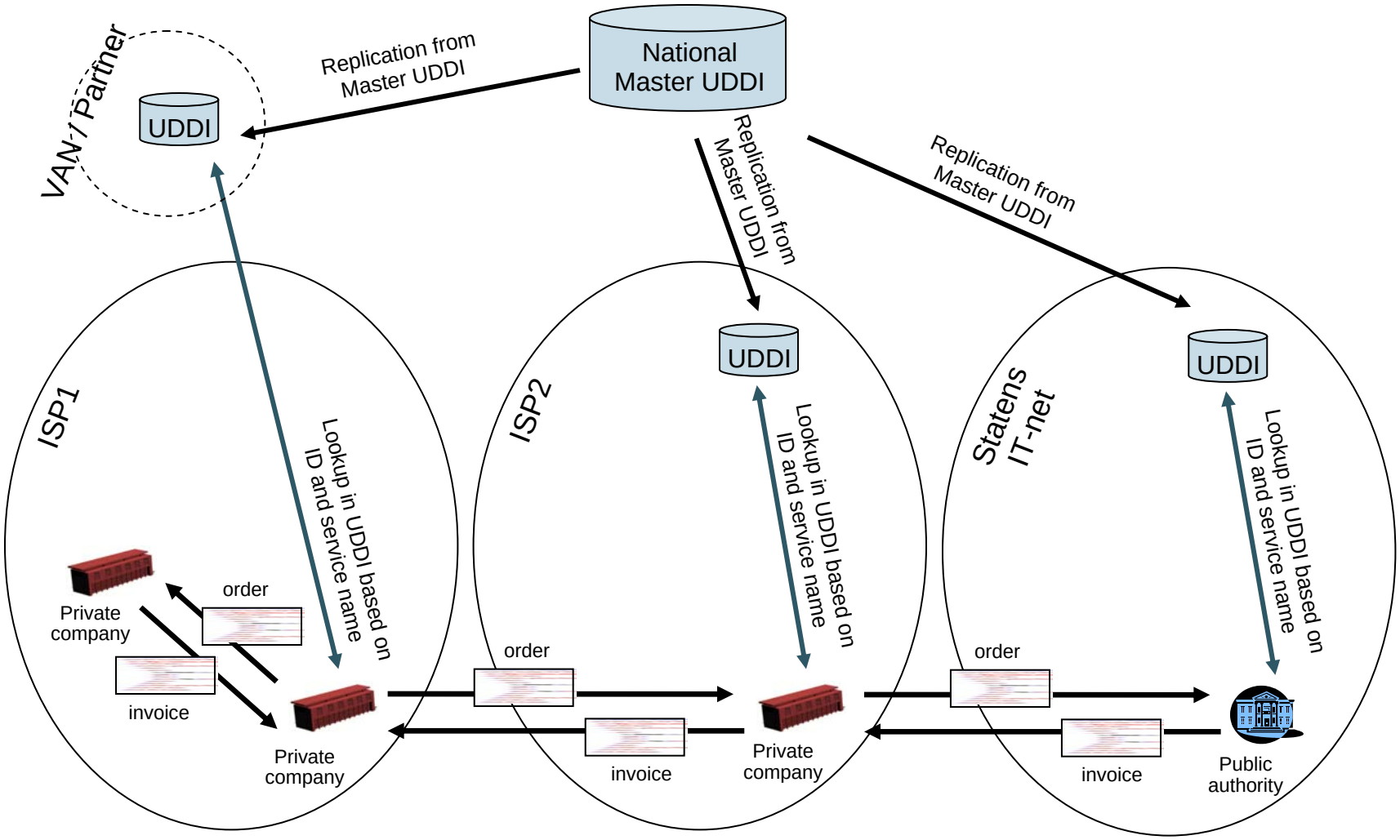
Long term requirements: Scalable infrastructure

- The infrastructure must offer a platform that can be the framework for data exchange in the public as well as the private sector.
- The private sector and the public sector are invited to register services and exchange any message (public standard, proprietary or open).

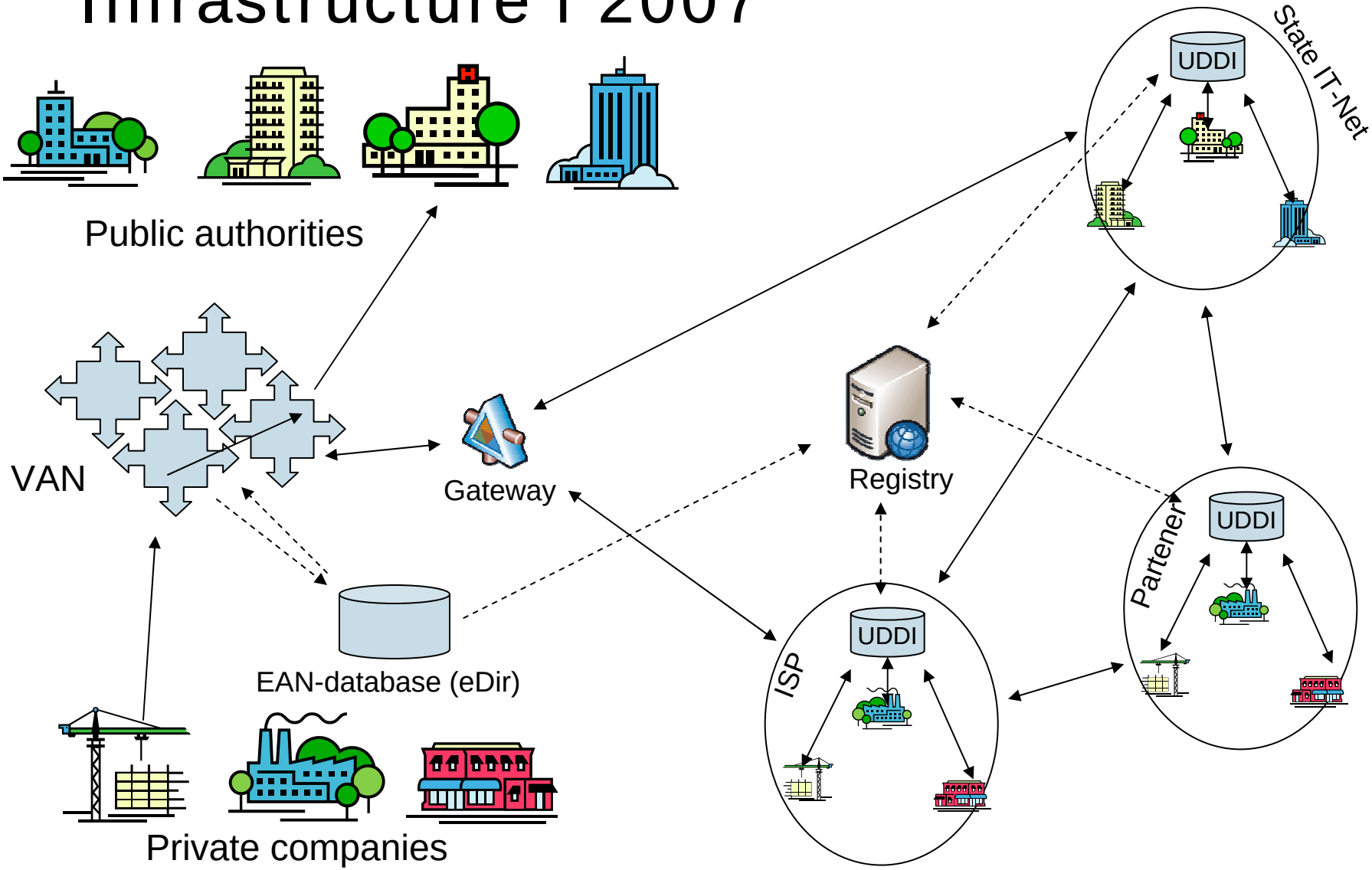
Elements in solution

- Master UDDI registry
  - Replicated / runtime UDDI registries
- Interoperability profiles (WS-* based)
  - Open standards
- Digital certificates
- Systems Developer Kit
- Client Reference implementation
- Marketing
  - Via partners
  - Public campaigns
  - eDag

Registry structure



Infrastructure i 2007



Client strategy

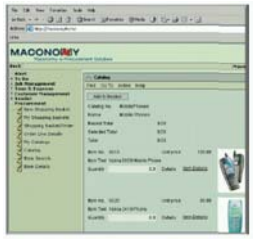
- The Ministry will develop an JAVA and WIN Software toolkit
- The toolkit can be used in
  - Online bank solutions
  - ERP-systems
  - stand alone clients
- The Ministry will provide a reference implementation of a generic client.
  - This client will not be supported by the Ministry
  - 3rd parties are invited to make commercial versions

VTU basic framework client

Can also be implemented by 3rd parties as stand alone or web application

Registry

ERP systems



Local folder

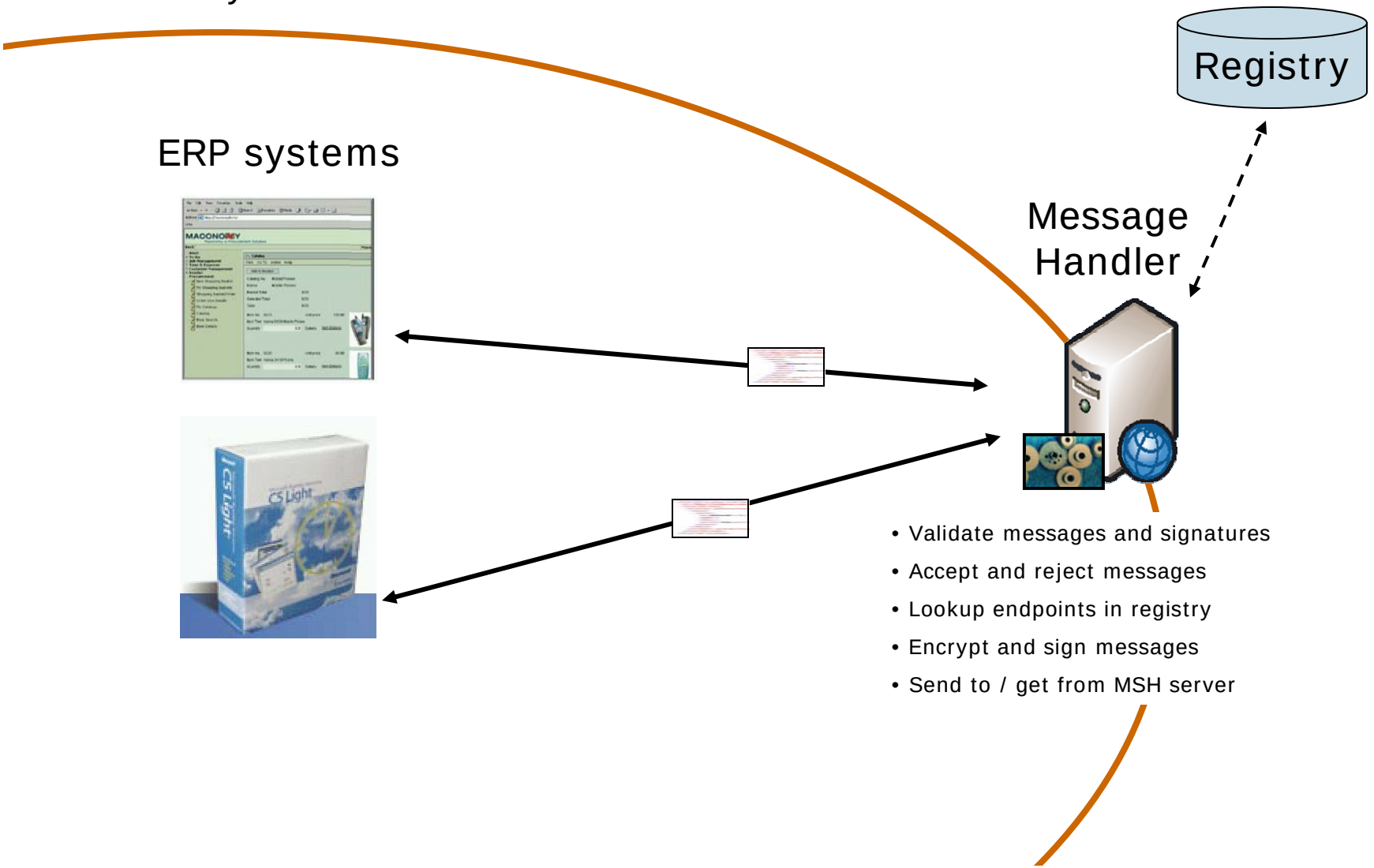
Generic client

- Built on SDK
- Get outgoing docs from local folder
- Put ingoing docs into local folder
- Validate messages and signatures
- Accept and reject messages
- Lookup endpoints in registry
- Encrypt and sign messages
- Send to / get from SMTP server

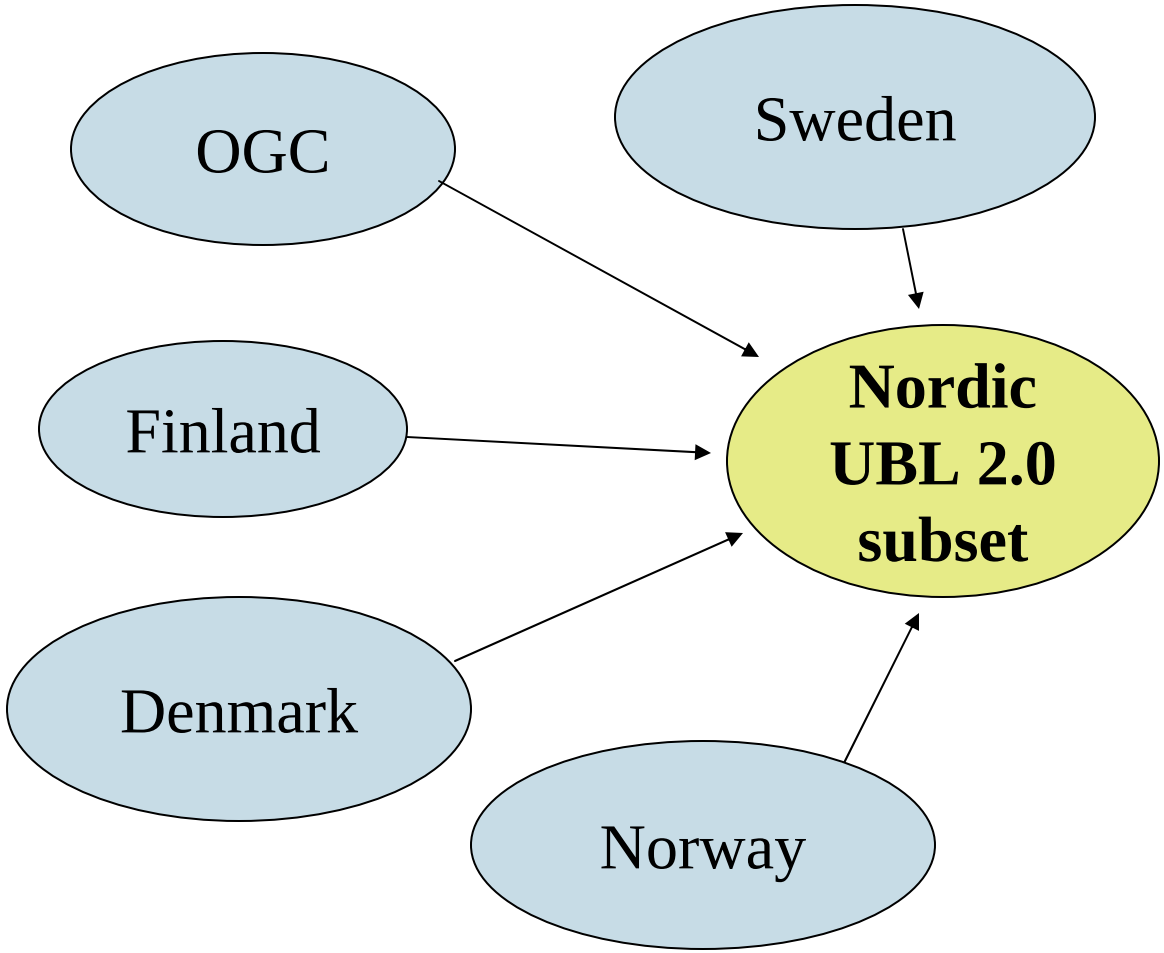
SMTP-server

ERP HTTP client implementation

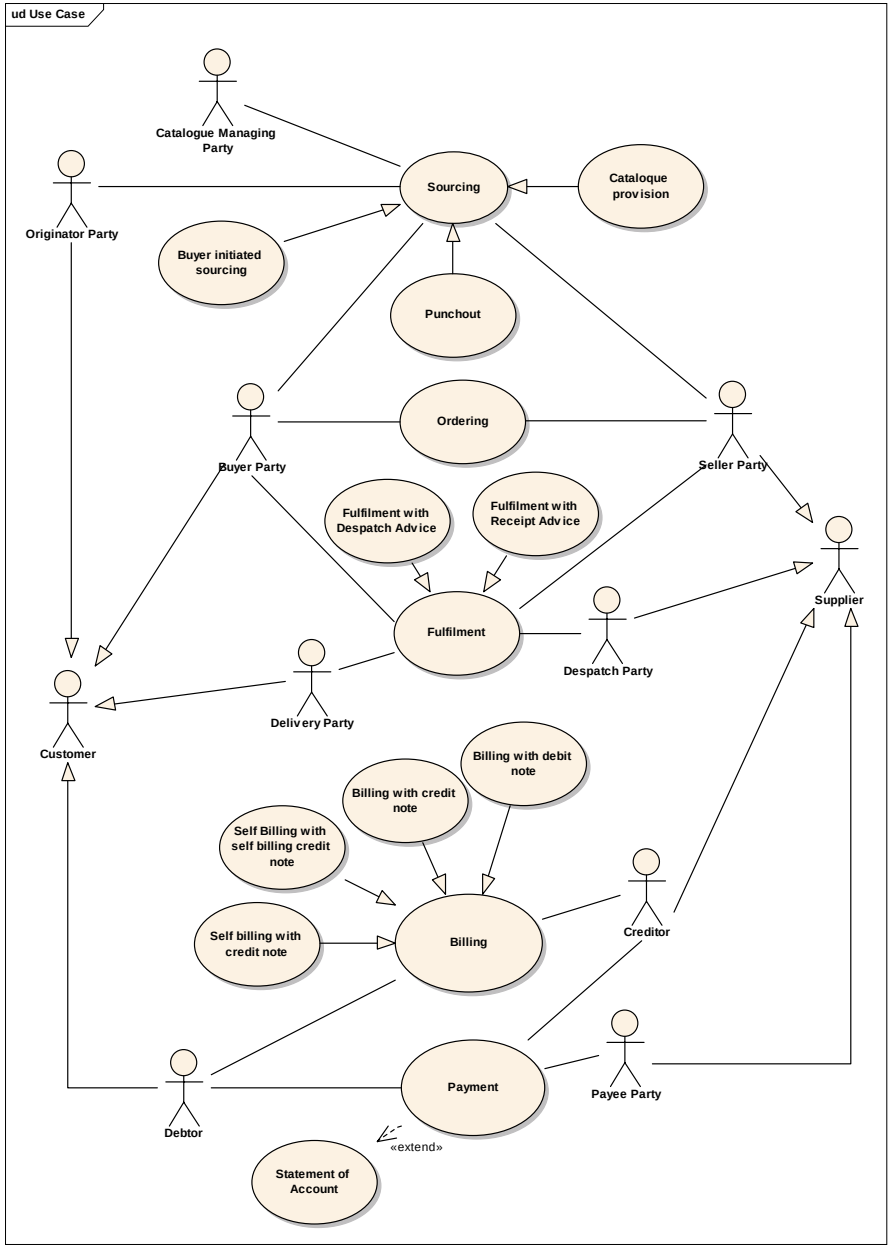
From system vendor



North European input to UBL 2.0



UBL 2.0 sourcing-to-payment



Questions

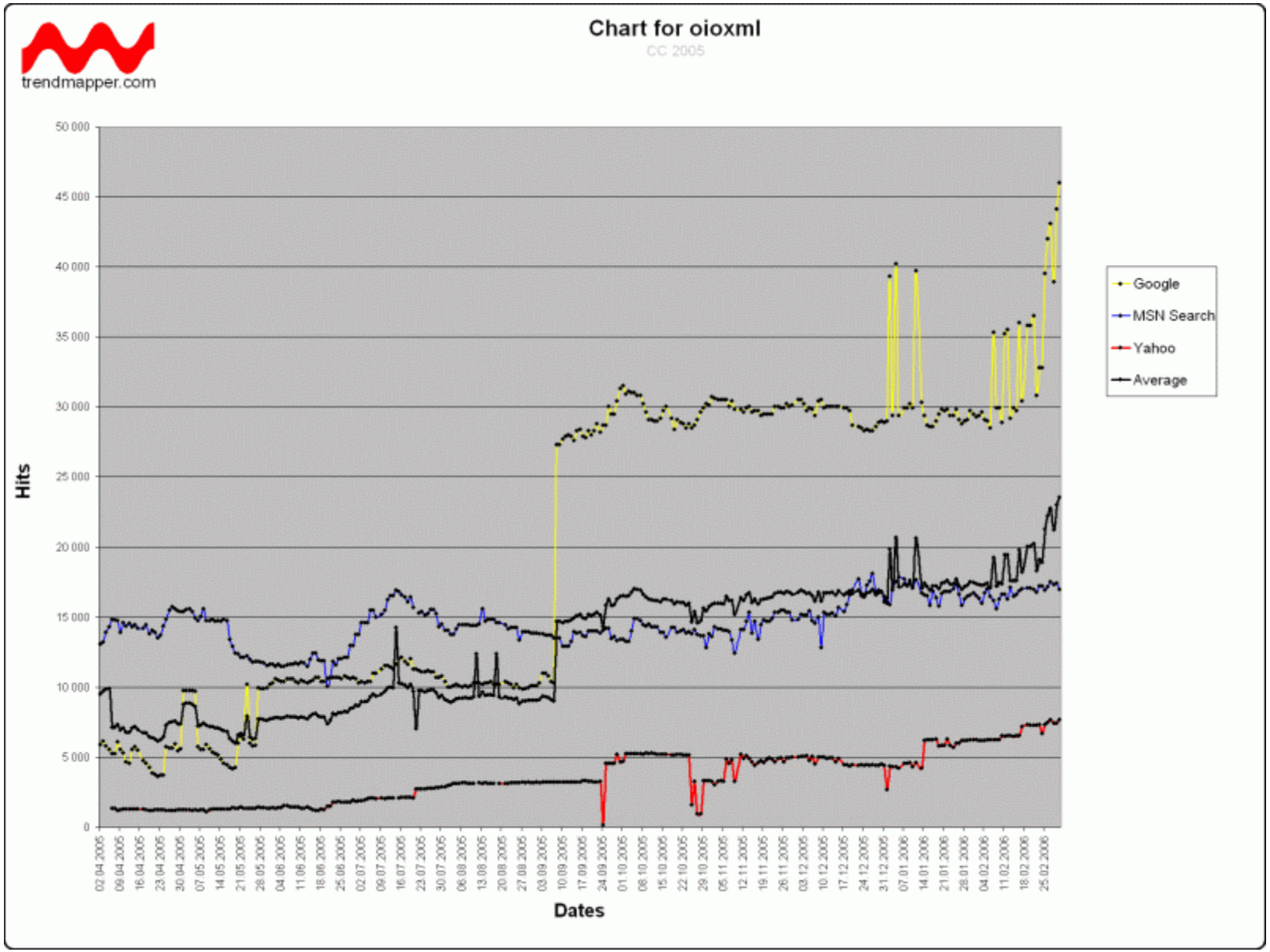
Legislation and statute
http://www.oio.dk/XML/standardisering/eHandel/materialer/OIOXMLeInvoice

Frequently asked questions:
http://www.oio.dk/XML/standardisering/eHandel/materialer/OIOXMLeInvoice/faq

Online Validator:
http://purl.oclc.org/NET/OIOXMLeFaktura/validator

InfoStructureBase – repository / registry
http://isb.oio.dk

mhb@itst.dk


trendmapper.com
Chart for oioxml
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MSN Search
Yahoo
Average