



Ministry of Science
Technology and Innovation

Providing Denmark with Digital Signatures

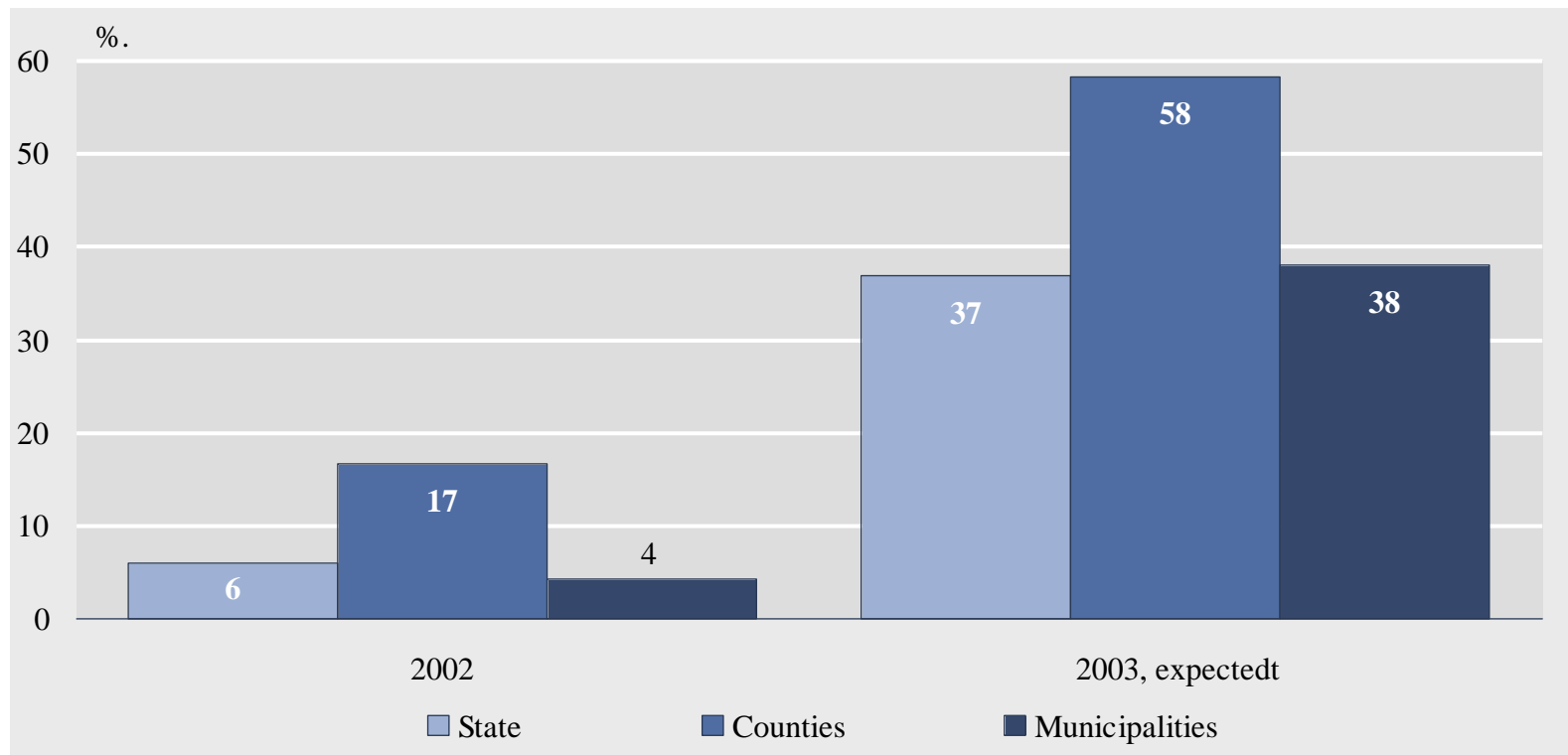
Yih-Jeou Wang, Head of Division, Centre of IT Policy
Ministry of Science, Technology and Innovation, Denmark
E-mail: yjw@vtu.dk

*ICA 37th Conference, 16 – 18 September 2003
Tallinn, Estonia*



Ministry of Science
Technology and Innovation

Public Sector Usage of Digital Signatures

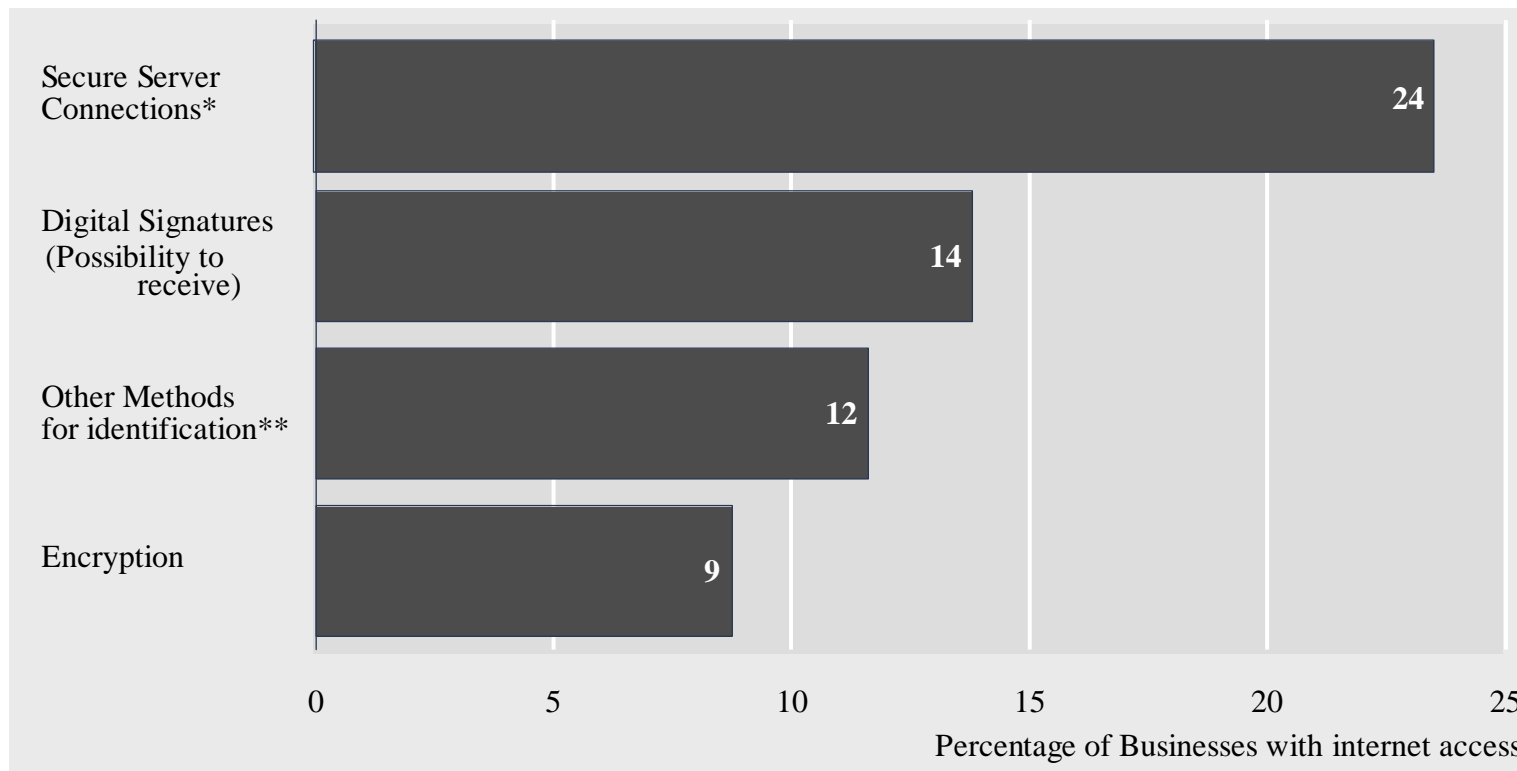


Statistics Denmark: The Public Sector's IT Usage 2002, January 1, 2003



Ministry of Science
Technology and Innovation

Secure Communication with Businesses



*Supporting security protocols as SSL

**E.g. PIN Codes

Statistics Denmark: Danish Businesses Usage of IT 2002, April 10, 2003



Background and Purposes

- Background:
 - Digital signature pilot projects 1999 – 2000
 - Act on Electronic Signatures October 1, 2000
 - Public tender on security solutions May 2001
- Barriers for the usage of Electronic Signatures
 - Lack of Standardisation
 - Demand for Personal Presence for Identification
 - Expensive and Difficult Accessible Hardware Solutions
 - Lack of Electronic Services using Electronic Signatures
 - Lack of a Feasible Business Case
- Establishing a general open, scaleable and transparent security infrastructure based on PKI



Ministry of Science
Technology and Innovation

OCES Certificate Policy – the Common Danish Standard

Security Level:

- Software based digital signature (with mandatory password usage)
- Issued without the demand of personal presence for identification
- CA responsibility:
 - Extended responsibility towards citizens
 - Private businesses may rely on separate agreements
- Authorisation and controlling as in the Act on Electronic Signatures

May be used for:

- Admittance control - Logon
- Encryption for e-mails
- Digital signatures for e-mails og web-sites

And issued as:

- Personal certificates
- Employee certificates
- Business certificates



The OCES Project

- Cooperation between central and local government
- €6,7 million
- Public Private Partnerships
- Public Tender
 - Project competition focusing on:
 - Business models
 - Fast dissemination and penetration of digital signatures
 - Usage of existing services
 - Negotiation:
 - Consortium (PBS, KMD og DMdata) 14. januar 2003
 - TDC 16. januar 2003
 - Contract with TDC February 6, 2003



Ministry of Science
Technology and Innovation

The Result of the Tender

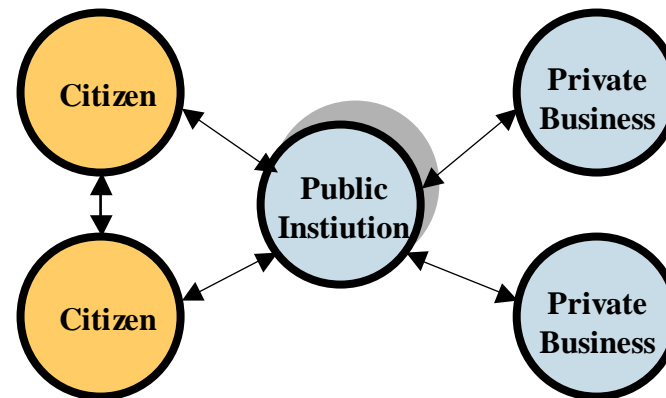
- A contract between the Ministry and TDC for 4 years with an option of 1 more year
- **Corporate agreement** covering all public institutions in central government, counties and municipalities
- **Framework agreement** with product catalogue and a model delivery contract for public institutions to use
- **Recommended prices** and a **business model** on the private market



Ministry of Science
Technology and Innovation

The Corporate Agreement: The Receiver pays for the Usage

- Personal certificates for all citizens
- Installation support for all citizens
- Unlimited reception of personal certificates and employee certificates





The Corporate Agreement (cont.)

- Usage and distribution of certificates through hosts
- PR and marketing activities
- Goals for the number of certificates issued:

Period	No. of certificates
Year 1	350.000
Year 2	700.000
Year 3	1.000.000
Year 4	1.300.000
Year 5 (option)	2.000.000



Ministry of Science
Technology and Innovation

The Framework Agreement and the Product Catalogue

- Issue and usage of employee and business certificate within a public institution
- Special types of certificates and add-on components for reception and handling of web signatures
- Local registration function in the public institution
- Support for employees
- Application support for citizens
- Education on installation and usage
- Additional services such as time stamping, archiving etc.



Ministry of Science
Technology and Innovation

Status – Electronic Services in Service

- The National Tax Authority (300,000 users)
- The Ministry of Foreign Affairs
- 15 municipalities (e-mail and electronic self-service solutions) – and more are joining later this year...
- TDC web-mail og “TDC on-line” (700,000 users)
- “danmark” – private Danish health insurance company (1.7 million customers)
- “Virk.dk” – A common public sector portal for companies (250.000 companies)



Ministry of Science
Technology and Innovation

Status – Electronic Services Planned

- TDC: Mobile services and e-Store
- ATP - the Danish supplementary labour market pension fund (1.9 million customers)
- The public sector health portal ready in Q4 2003
- Ministry of Education: Central Education Admission Portal Q1 2004 (60,000 persons per year)
- Ongoing contract negotiations with about 30 important public authorities and private businesses



Status – Numbers and Problems

- Digital signatures to citizens:
 - Ordered: 41,000
 - Issued: 24,200
- Employee and business certificates:
 - Employee certificates: 2,100
 - Business certificates: 100
- Support statistics:
 - Calls: 34%
 - Answered in total: 96% (82% within 1 minute)
 - E-mail: 20 – 30 support requests each day
- Typical problems: Windows XP and how to handle Java-scripts



Ministry of Science
Technology and Innovation

Coordination in the Public Sector

- Common public sector coordination group
 - Create an overview of all public sector electronic services
 - PR and marketing
 - eDay II
- Establishing of an user forum
 - Exchange of experiences
 - Establishment of common solutions



Ministry of Science
Technology and Innovation

Special initiatives and considerations

- Digital signatures to 5,000 visually handicapped
- Converting PIN codes in existing services to digital signatures
- Development of an open source solution
- Digital signatures for persons with secret addresses or persons living abroad
- Mobility of digital signatures



Ministry of Science
Technology and Innovation

Experiences so far...

- It takes time to establish an open infrastructure in large scale for digital signatures
- Few or no experiences nationally or internationally to draw on
- The electronic services are the driver for the spread of digital signatures in society
- It is still too early to evaluate the project
- TDC is still expecting to reach the goals on the number of certificates issued