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Session Five**

**INFORMATION TECHNOLOGY AND COMMUNICATION
IN THE PUBLIC SECTOR**

**BJARNE HELTVED
Denmark**

Good morning. My name is Bjarne Heltved. I work as an Information Architect in the IT Strategic Centre in the National IT and Telecom Agency. The agency is very close to the Ministry of Science, Technology and Innovation. I work with major data and the semantics, taxonomies and control vocabularies and so on, all of which manage the semantics.

The IT strategic centre is responsible for the common public IT architecture to develop the architecture and to do architecture operational for the business line in the public administration. We are working with enterprise architecture with XML meta data and semantics to make the standardisation and to create more interoperability. We are also secretariat for the common architecture committee and the common XML committee in Denmark. We participate in a lot of Danish working groups dealing with interoperability and standardisation.

I will tell you a little about the Danish citizens on the Internet, and I will tell you about some Danish strategic e-Government activities. First, a few general statistics about Denmark.

As you can see, we are a small country. Denmark has a population of a little more than 5 million. This amounts to roughly 1.4% of the total population in the European Union. Denmark is also a country in the middle of the largest Government reform in 30 years. In 2007, 14 councils or regions will become 5, and 271 Local Governments will become 98. It is an organisational project but is also a huge IT challenge.

As you can see, the Danish citizen has a very high Internet usage - 83% have access, maybe the highest Internet usage in the world. A little more than 70% of Danish citizens use the Internet at least once a week; 57% of the citizens use the Internet every day. More than 4 out of 10 Danish citizens use the Internet to access a Government service every month. I can also tell you that 68% of the citizens have used e-Government at least once. I am sorry that this slide, is in Danish only but I will explain it for you. The Central Government has 311 services having the citizen as a target group. These are the total amount of services from Central Government to the citizen - its digital services and non-digital services. 167 of these services, almost 54%, are already digital services. 69 services, or approximately 22%, are planned to be digital services. 73 services, or 23.5%, are not planned to be digital services. To obtain all the digital services in Denmark you also have to include services from Local Government and from Councils. At the moment we do not have statistics for the total amount of digital services from Local Governments and from Councils in Denmark.

About digital forms on the Internet - we know that 95% of the Local Governments websites have digital forms, that is 90% of the councils, and 75% of the Central Government's websites having digital forms. Denmark is among the leading nations concerning e-Government. We have many citizens on the Internet; we have many digital services on the Internet; we are very well organised cross-Governmental cooperation at all three levels. We have an e-Government board; we have a coordination information committee; we have an enterprise architecture committee, an XML committee; and we have started up something

new: we call it domain committees. They are all developing data standards within the related business areas. At the moment we have domain committees for health; for the environment, for roads; for universities; and for e-Business. And there are more to come. Cooperation is important in Denmark. International surveys from IBM, economics intelligence units and Accenture rate Denmark as one of the leading performers on e-Government in the world. Maybe we are among the leading performers on e-Government - but we still have a lot of work to do.

A survey on digital communication provided the background for our report about digital communication between the public sector and the citizens. The report was published in June this year by the Ministry of Science and Technology; the national IT and telecom agency; the Ministry of Finance, the digital taskforce; and Local Government in Denmark, representing the municipalities; Danish regions representing the councils, and the municipality of Copenhagen. The report had some interesting key findings, revealing that the telephone continues to be the preferred channel for the citizens when they communicate with the public sector. 22% of the citizens did not know Government sites on the Internet. 21% of the citizens expressed difficulties in finding information and service on the Internet.

The citizens use the Internet in different ways. They have different skills and they have different needs and different approaches to communicating on the Internet. The report categorised four different types of Internet users: the insecure user, the capable user, the experienced user and the professional user. The figures showing the numbers in brackets after each type of user indicate the approximate share of all Internet users in Denmark.

This slide contains three key findings from the survey. At the top left is shown the preferred channel; at the top of right the reasons why citizens prefer telephone; and the bottom figure is about safety on the Internet. As you can see about the preferred channel, there are big differences between the four types of Internet user regarding the choice of channel. The telephone is actually the preferred channel for three of the user types. Only the professional users have Internet and e-Mail as their preferred channel. What are the reasons why citizens prefer using the telephone? Some people find it difficult to handle information technology. This is mainly the group of insecure users. Many citizens find the telephone the easiest way to communicate, and many citizens use habit as the reason for using the telephone.

About safety on the Internet: we can say that we also have the challenge to make the insecure users and the capable users feel and be safer using the Internet for e-Government. Only the experienced and the professional users feel fairly safe on the Internet. We have some challenges in the future to meet the citizens' needs.

We have to offer more information about e-Government. We have to increase the citizens' knowledge about digital services and to create more value for the citizens and more relevant concerns. We need to make digital services easier to handle and easier to find on the Internet and to create a better coherence between the digital services, and to make the citizens feel safer on the Internet.

In Denmark, we work with a lot of activities on enterprise architecture, standardisation and interoperability to achieve the visions for e-Government. They are all intended to improve the basic conditions for efficient and coherent public IT use. This slide shows some of the activities we have in Denmark. I will tell you a little bit more about the activities that I have underlined on this slide. The campaign on e-Government services, A new portal for the citizens, The e-Day 2 interoperability framework, A reference model for cross-sector user control, and electronic billing.

The public sector's e-Government's strategy 2004-2006 which was launched in February 2004 contains five signposts: dealing with management service and infrastructure. One of the signposts from this strategy is the public sector must provide coherent services with citizens

and business in the centre. It is an important reason and an ongoing process for many years. Even though we already have success in Denmark, we have just started. We need more interoperability, and to increase cross-Government interoperability; business interoperability, information interoperability and technical interoperability. To create cross-Government interoperability you need more standardisation - on technical standards and on data standards - XML, as a common format for data interchange, meta data, data about data, information about information and the semantics to ensure that the precise meaning of exchange information is understandable. Developing a common language, so to speak. Through use of standards and interoperability we can create more coherence on Government websites. We can connect Government on different levels. We also have to make the citizens know our services and feel safe using our services.

Two weeks ago the public sector launched a major campaign to inform the citizens and their enterprises about the wide range of digital services already existing on the Internet. More than 70 Danish authorities took part in the campaign and the campaign will run for 7 weeks in the Danish media. This campaign is quite unique in Denmark because it is uniting the public sector, Central Government, Local Governments and Councils giving the same message about digital services. The purpose of the campaign is to increase knowledge about the digital services already existing and to promote a better and more positive attitude towards digital services. It is a time-saving, 20 hours a day services and is intended to try to change the citizens' habits so they use the Internet instead of the telephone. The campaign is a part of the challenge to fulfil one of the goals in the public sector's e-Government strategy 2004-2006, which is that "at least 60% of the population use the public sector's digital services by the end of 2006". At the moment, it is 44% of the citizens.

A new cross-Government project has been established to analyse the needs and foundation for a new cross-Government portal for the citizens and cooperates about digital communication to the citizens. At the moment, terms of references made across-Governments during committee have been established, and the committee represents Central Government, the Ministry of Finance, the digital taskforce, the Ministry of Science and Technology and Innovation, the Ministry of the Interior and Health, and the Ministry of Taxation. But it also represents Local Government Denmark which represents the municipalities, and the Danish regions represent the councils.

The steering committee refer to the board of e-Government. Four cross-Governmental working groups will be established - one for organisation and financing; one for content and the portal; one for user experiences and user behaviour; and one for technical requirements, enterprise architecture and information architecture. The working group starts their work in the near future and the report from the working group and the steering committee will provide the basis for the decision from the board of e-Government in 2006.

At the moment in Denmark we have two major portals for the citizens: from Central Government - we have Denmark.dk and, from Local Government also. In Denmark, we also have a number of - I call it the domain specific portal - within areas such agencies as Health, Social Affairs, Education, Environment and so on. Every Local Government has its website, every council has its website, every Ministry has a website and every agency has a website - all offering information and some of them also offering digital services. But many citizens do not know where to start.

e-Day2 was launched 1st February 2005, and all public authorities took an important step in the direction of e-Government and secure communication. All public authorities had to implement secure e-Mail using a digital signature and ensure that the handling of the secure e-Mail is appropriate. Citizens and companies have the right to receive and send secure e-Mails to the public sector, and vice versa, using digital signatures. Also sensitive personal data can be sent by the secure e-Mail. The overall objective of e-Day 2 is to replace 40% of the physical letter mail by electronic mail by November this year. Digital signatures will make

transactions between citizens, companies and the public sector safer. The use of a digital signature also increases the number of more advanced digital services on the Internet.

As I mentioned before, data exchange is very important, and data exchange requires standards. Standardisation is important at many levels - international standardisation, cross-Government standardisation, domain specific or sector standardisation, technical standards, data standards and process standards. Unique identifiers for citizens, for companies and properties have been cornerstones in the developing transaction based e-Government services. The goal is a common shared data model, an impossible dream ---- but; and the purpose is interoperability and re-use of data.

In Denmark we have an interoperability framework and the interoperability framework includes recommendation and status assessments for 461 selected standards. It is an overview of central IT standards relevant for e-Government. The interoperability framework operates with three different types of standards needed to create interoperability. All 461 standards are categorised in subsets - technical standards. We have 175. We have 285 data standards. We have only one process standard. But I am sure we will have more process standards in the future. It is very important to have an organisation and the work processes to support the technical and data standards.

Based on the interoperability framework, a first reference model for cross-sector user control was published this summer in Denmark. The model will be developed over time. It describes the contents of cross-sector solution for user control - how to identify a user; verify the identity of individuals; and access of data servers. The work is of a general nature, but at the same time it is adjusted to best serve the needs arising in connection with the structure reform in Denmark in 2007, as I mentioned earlier. The purpose is to remove barriers for interoperability, creating flexibility, and to increase the trust in the online environment. This reference model also makes it possible to increase the number of digital services on the Internet. I have been told that the Ministry of Technology and Innovation has established collaboration with the US e-Authentication programme who work with cross-sector user control in the United States.

I also have to mention e-Billing even though it does not affect citizens directly. Electronic billing is an element in the e-Day 2 programme. All bills to public authorities must be sent electronically in OIO XML format with effect from 1st February this year. The OIO XML format is the standard of data communication in Denmark. It is based on the international standard UBL (universal business language). This model is based on a combination of a change of an international standard and through legislation. The whole public sector, by law, is required to receive electronic invoices in a standard format, to ensure that the critical mass of customers will ask suppliers of ERP systems to implement the standard. The public sector in Denmark handles about 18 million bills every year. The public sector can save a lot of money.

You can read more about the Danish activities in the country report and you can also visit the website OIO.dk. It has some information in English too.

Thank you very much.