

The Danish Software Strategy

Introduction

Choosing software is a strategic decision for the individual institution. At the same time there is a growing need for software solutions in the public sector to be interoperable. Open standards are a prerequisite for freedom of choice between suppliers and for the interoperability between the different IT systems of the public administration.

The governing principle of procurement and use of IT in the public administration must be a “maximum value for money” approach where the choice of software will be based on merit. But there are a number of fundamental preconditions for implementing this principle that are not fully met. These are:

- A lack of knowledge about the cost structures related to managing IT systems in the public administration and a lack of knowledge about different types of software solutions.
- The public administration is partly in a lock-in situation regarding certain software suppliers.
- In some cases the non-proprietary open formats that are necessary for the exchange of information between public IT systems, the citizens and companies are not available.
- Software solutions are only to a minor extent shared and re-used between public institutions.

In the autumn of 2002 the Danish Board of Technology published a report about “Open Source Software in the Public Administration” that identified a potential for substantial cost reductions in the public administration by migrating from proprietary software (e.g. Microsoft software) to open source solutions. The report recommended that the public administration takes a general decision on the use of open source and that pilot projects using open source software should be initiated.

A number of countries like Germany and France have taken steps to implement open source software in the public sector, and the United Kingdom has implemented an open source policy that puts open source on the same footing as proprietary software solutions.

In the autumn of 2002 the Ministry of Science, Technology and Innovation held hearings and seminars on IT architecture and open source software with the aim of getting knowledge from the public administration, citizens, companies and the software industry about the expectations, conditions and needs regarding the

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software solutions of the future. This has resulted in the creation of the Danish software strategy as described below.

The Danish software strategy

The Danish Software strategy's main objective is to foster competition, quality of services and coherency in the public software solutions on the basis of the following principles:

- **Maximum value for money irrespectively of the type of software**
The individual institution must be ensured that they can procure the software solution that has the maximum value for money measured on the basic of merit and local business need irrespectively of whether this implies using proprietary software solutions or open source.
- **Competition, independence and freedom of choice**
Competition is a prerequisite for an effective and diversified software market. The software industry must be able to offer their products to the public sector on equal terms. Barriers that hinder the free competition must be removed.
- **Interoperability and flexibility**
Software that are constructed in modules and that are able to interlink with other types of software are to be given priority. This type of software ensures that the modules in the software system independently can be changed gaining additionally flexibility, re-use and competition in the software area.
- **Development and innovation**
The public administration must in order to ensure a well-functioning software market be open to new methods of procurement and new software development methods. This does however not imply that well functioning methods should be abolished, but there is a need for testing new methods like the open source development method in order to assess its advantages and disadvantages in relation to full scale use by the public administration in Denmark.

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Denmark has chosen a practical approach to the open source issue. It is not a preference policy, in other words it is not compulsory to use of either open source or proprietary software. The choice of software type depends on what type of software gives maximum value for money in the given situation. The public administration must generally use software that supports coherency across institutions and stimulates a competitive software market, where the suppliers can offer their products to the public sector regardless of software type.

The government's IT policy aims to create a common public framework of IT architecture that addresses a number of the challenges. Among others it addresses the need to establish a common standard for the exchange of information using XML. The IT architecture framework obliges public institutions to justify their reasoning when choosing standards that are not open. The framework establishes that the public administrations should use certified open standards as a general principle and where this is not possible or beneficial the advantages and disadvantages of using de-facto open standards should be assessed.

The IT architecture focuses on the broad principles for IT infrastructure and system development. There is however a need to complement the IT architecture

with a software strategy and with a number of concrete initiatives that can foster competition, quality and coherency in the public sector software solutions.

Initiatives:

To support the aims of the strategy the following initiatives will be initiated in a first phase:

- **Increased insight into software development methods**

In specific cases it may be relevant for the public sector to develop software based on the open source development method. This can be the case in order to share the costs of development between various authorities or when access to the source code in a specific form is crucial to the trust in the system. The initiative to create a public digital signature solution based on open source will be monitored closely as to gain an increased insight in the open source development method.

- **Development of a TCO-model (Total Cost of Ownership)**

In order to assess software solutions on real terms it is necessary to develop a TCO-model (Total Cost of Ownership). The model must cover total costs of procurement, management and support as well as hardware costs. The model should also be applicable to assessing migration costs relating to new software solution. The model will be made available to all public institutions.

- **Pilots in central, regional and local government**

A number of pilot projects will be initiated at central, regional and local government level in order to gain additional knowledge about different types of software especially the cost structures involved in using different types of software in the public sector. The aim is particularly to assess the functionality and the level of the costs of managing office pc-workstations based on proprietary as well as open source software.

The project will be managed in corporation with the organisations Local Government Denmark and Danish Regions. The results of the pilots will be assessed using the TCO-model and furthermore the project will result in a number of migration assessment plans that describe the different pilot processes in order to make the knowledge available to all public institutions.

- **Use of open standards – a focus on document standards**

Competition in the software market must be stimulated through the use of open standards which also ensures access by the citizens and companies to public information regardless of what IT system they are using. The public sector must seek to ensure the accessibility of all public web pages by complying with commonly accepted standards of relevance, including XML, W3C standards and the standards for the accessibility for the impaired. The progress towards this will be monitored yearly in the public “top of the web” benchmarking e-services study.

The use of XML based data exchange is an important step forward, but the exchange of documents and their layout is a separate issue. An open recognized and suitable format for exchange of revisable documents does not exist so far. This hampers the competition between office productivity

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software packages. This is an international problem, and the issue will be raised on the international agenda, including within the EU IDA-programme. It will be attempted to reach a solution in co-operation with the market players. The project will be managed in co-operation with the Danish State Archive.

- **A larger software supply**

Framework contracts and public tenders can help to enlarge the software supply and increase the competition in the software market. The existing framework contracts do include the possibility of calling for open source products, but these are so far only represented in very limited numbers. A co-operation with the Danish National Procurement Ltd agency will be established in order to support a wider range of products.

- **Information gathering and dissemination**

The choice of software following the maximum value for money principle implies knowledge about the choices of software solutions on the market. A higher degree of insight and transparency in the software market is needed. All the results and lessons learned from the activities will be available at a website. At this site information on related national and international projects will be available for the benefits of all public institutions.

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The Ministry of Science, Technology and Innovation is responsible for the Danish software strategy and the related initiatives in co-operation with the Governments IT Council.

Timeframe

Phase 1:

- June 03: Start of development of TCO model
- September 03: Opening of a website containing among others open source information
- Autumn 03: Assessment of document standards and options
- Autumn 03: Start of pilots
- December 03: Assessment of product range provided by the Danish National Procurement Ltd.
- Spring 04: Evaluation of the open source development method in relation to digital signature
- Summer 2004: Evaluation report on results from the pilots

Phase 2:

- Assessment of results and need for further action

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More information on the software strategy can also be found on:
www.oio.dk/software (currently only available in danish).