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e-GOVERNMENT AND STATISTICS

Invited Paper

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I. INTRODUCTION

1. To provide digital access to public services both for citizens and businesses has since the introduction of Internet been a common goal for public administrations. The type and complexity of the applications and services provided have developed. Up until now, most of the developments have been carried out locally by the different public administrations. Some clusters of cooperation have appeared, but still most developments have been based on bottom-up initiatives, serving local needs. The result is that many electronic services are scarcely coordinated since the solutions have been developed without reference to broader, common requirements.

2. In 2006, the Norwegian Government published a white paper on Norwegian ICT strategy, called “An information society for all”. The government’s aims here are two-fold. The users should be met by an *open, accessible and coherent public sector* offering integrated and fully digital services via sound electronic self-service solutions. The developments should be carried out in a sufficient and coordinated way, to *make effective and free up resources through the use of ICT* in order to strengthen public welfare provisions, while reducing administrative burdens.

3. This paper gives a short introduction to existing and upcoming e-Government activities, mainly targeted at businesses in the private sector, with relevance for Statistics Norway. The basic aim is to point out both areas for cooperation between the NSI and other public administration, and to point out certain areas within an NSI, relevant for the developments and integration of public services in a coherent e-Government perspective.

II. e-GOVERNMENT – STATUS IN AREAS RELEVANT FOR STATISTICS NORWAY

4. Some key figures from 2006 on the penetration of ICT technology in Norway is listed below.

- 82% of the Norwegian households have a PC
- 78% of the households have access to the Internet
- 67% of the households have broadband access
- 70% of the Internet users accessed a public internet service in 2007

Internet access and PC penetration are on the same level within the Nordic countries, while the Internet usage among businesses is somewhat lower in Norway compared to the other Nordic countries

5. The first attempts to provide coordinated public services were connected to the need of lowering the response burden. A lot of initiatives took place in the late 1990's, but they did not reach any momentum until the Norwegian Tax Authorities started developments on digital reporting from businesses, which resulted in the Norwegian Altinn ("All in") project. This was a collaborative project between the Norwegian Tax Directorate, The Norwegian Register Centre and Statistics Norway.

6. Even though Statistics Norway has provided electronic forms for all statistical enquiries since 1994, most of these forms are only available on Statistics Norway's own web service, called Idun. Our aim is to make the Idun service integrated with Altinn, at least through a single sign-on service. A major upgrade of Altinn is planned for 2009. Most likely, Statistics Norway will consider moving all business questionnaires to the new version of Altinn. However, this will depend on the quality of the new forms engine to be installed in Altinn. All automated file extracts from business internal systems are put forward through Altinn.

7. The Altinn portal has become a major success, and for the moment 23 public administrations collect data, and exchange information with businesses using the portal. The response burden measured in man-years caused by filling in public forms has been reduced with 1200 man-years since 1998. This equals a 20% reduction. More than half of this has been achieved over the past 3 years, with Altinn as a significant driving force. Both software vendors and businesses are very satisfied with the Altinn portal. All in all, 2 out of 3 businesses use Altinn for public reporting.

8. In 1998, a national repository on public forms was established at the Norwegian Register Centre. All forms developed by public administrations are registered, and the different administrations are obliged also to update the register when changing the content of the forms. The response burden on Norwegian businesses is calculated based upon information in this register. The register can trace the usage of single data elements, and take action on unnecessary redundancy in the data collection among public administrations. An existing forms specification must be present in the repository, before the form can be implemented and executed in the Altinn forms engine. For the moment, development has started in order to enhance the register to become a national semantics register, defining and describing the content, concepts and relationships of data elements collected and processed by public administrations.

9. A concept of "My page" on the Internet, a personalized portal to all relevant public services for the citizens, has been introduced. Statistics Norway provides no integrated services yet at this portal. Health and municipal services are typically in the scope to be provided.

10. Common PKI solutions have been delayed. Development of a common PKI security portal was abandoned in 2006, partly due to lack of an appropriate governance model and pricing mechanisms both for clients and for the connected service providers. For the moment, both Altinn and "My page" also provide single sign-on services, but only at limited levels of security. The basic administrative registers of the population and the businesses give Norway an advantage in terms of providing identification to all citizens and to all businesses. But still we have not succeeded to take stock on this advantage by establishing a well functioning strategy and service for authentication using PKI.

11. Even though we have made significant progress in terms of providing a number of digital public services, we are still in a phase where we develop on our own, or provide a limited or simple cluster of similar services. We are about to start more coordinated activities, but close interaction between administrations is still pending. Governing common ICT services on behalf of a number of administrations that actually own the services has been challenging, and the financial and governance model when major updates and investments are necessary, have proven to be vulnerable.

III. e-GOVERNMENT – STRATEGIC INITIATIVES

12. The Norwegian ICT strategy mentioned above stated a clear need for a more coherent and overall ICT architecture, and closer cooperation between administrations. Central governance has been strengthened by establishing a new Directorate for ICT and government administration from 1 January 2008. A number of initiatives have been taken, in order to set up the basis for better coordination and cooperation. One of these initiatives was undertaken last autumn, where a project was launched with the following objectives:

- Establish overall **principles** for ICT Architecture within the public sector.
- Identify and describe some core **information processes** and **value chains** within the public sector, and in interaction with the private sector.
- Propose and describe **common services** and **common ICT components**.
- Propose and describe a **Governance model** for the complete architecture.
- Describe the **socio-economic cost-benefits** when establishing a common ICT architecture.

13. The objectives were rather ambitious, and the project was not able to fully achieve all objectives within the time limit available. But critical actions were pointed out, that give an indication of what will have the government attention in the future. There is a need to elaborate common principles for the architecture at three levels.

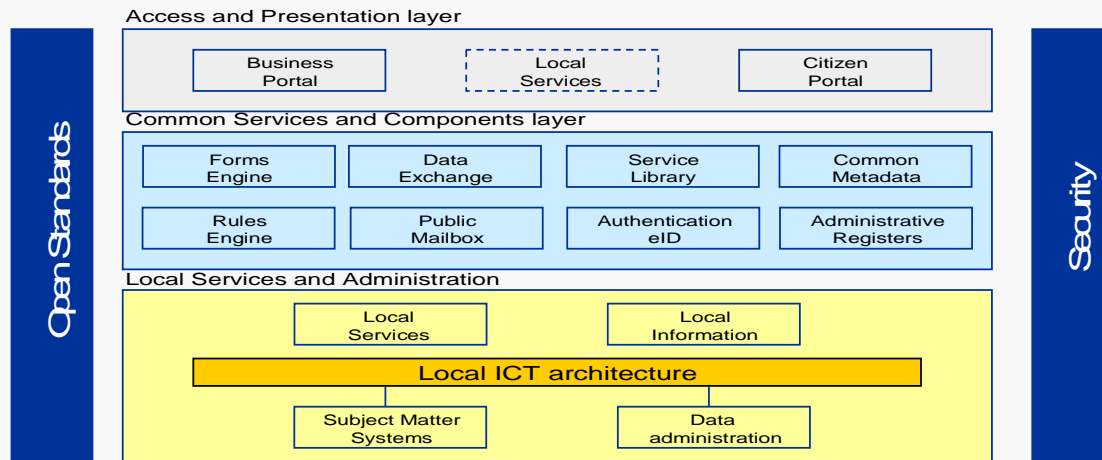
- Principles at national level which applies for all of the public sector, also including international obligations
- Principles within certain domains or sectors
- Principles at the level of administration, municipality etc.

14. The principles at the national level were outlined as follows, and should be inherited at lower levels

- Service oriented architecture as basis of developments
- Interoperability as a principle of design, covering organisational, semantical and technical interoperability
- Availability, in terms of providing round-the-clock open services, universal design etc
- Provide sufficient security at all levels needed
- Connectivity by forcing the use of open standards etc
- Flexibility by providing common services and components
- Scalability and coherence

15. The architecture should be realized in three layers, as shown on the next page. The first level is formed by an access and presentation layer, where the two portals Altinn for businesses and MyPage for citizens play a major role as access also to integrated local services. The next layer is formed by a number of available common services and components. A number of the possible services are shown in the figure. Most of them are not yet realized. The third layer at the bottom indicates the local ICT architecture at the level of administration, county, municipality or in terms of clustered common services. The figure indicates that also local ICT architecture within certain aspects must be compliant with the overall architecture and also compliant with security demands and open standards, and also be able to take stock on the common services and components when provided.

Common public ICT-Architecture



16. A short description of the proposed common components is listed below.

- The *Forms Engine* already exists as a component of the Altinn portal. The functionality will be enhanced, and the engine will be provided as a more standalone component, independent of the national forms repository. Still there is a challenge to find sufficient questionnaire design tools that fulfil the needs of an NSI that also could be executed on a standardised forms engine.
- The *Data Exchange* service is intended as a service for exchange of mass information between administrations in a secure and traceable manner, connected to Altinn that takes stock on the already established connections between the established users of Altinn as a data collection service.
- The *Service Library* states an obligation for every public administration to describe and make available information about their provided services in an agreed and uniform manner.
- The *Common Metadata* module describes the need for a number of commonly available metadata services and that the use of these metadata should be mandatory. The focus will be on content standardisation, to allow for more automated processes and workflows between them.
- The *Rules Engine* should help managing and automating the use of common administrative rules, and ensures that the same privileges and obligations apply when appropriate.
- The *Public Mailbox* should act as an official and accepted digital address where to post and pick up official information and requests.
- The *eID* has been mentioned, and is the approved and commonly available (set of) certified PKI solutions.
- The *Administrative Registers* module states the need for the register owners to provide certain parts of the information obtained in the basic registers not only for the main administrative aim of the register, but for suitable reuse within other services and systems.

IV. e-GOVERNMENT – IMPLICATIONS AND POSSIBILITIES FOR THE NSI

17. The strategy for e-Government and the aimed developments in Norway are most likely equal to a lot of other countries. The rather ambitious goals imply a shift in strategy within different administrations, including NSIs. In general, e-Government initiatives enable new possibilities for NSIs.

18. Further actions to decrease the response burden can be taken. In Norway, as an example, a new cooperative project between the Tax authorities, the Norwegian Labour and Welfare Administration (NLWA) and Statistics Norway has been proposed, which aims at finalizing all public reporting needed at the time you issue the salary payment. This will not be possible unless we establish close cooperation with the vendors of payroll systems, based upon standardised interfaces and equal possibilities and rights to

access to common services. The specifications must be harmonised, and the information shared by the receiving organisations. For instance such as when a newly-hired employee shall receive his first salary, he or she is also automatically registered in the register of employees at NLWA and entitled to any relevant public insurance etc.

19. The demand to open up interfaces and to describe your business processes, to provide metadata, to describe rules and in general to document how you process information and how you have developed your services, unlocks the silent knowledge within the public administration. The possibilities for an NSI to benefit upon reuse of already collected data, as long as the data is followed by metadata and documentation that makes them understandable and process able, will substantially improve. Of course, there are a lot of potential obstacles, but any results achieved in this direction will count positively. Today we face technological, organisational and legal barriers. If we shall reach any of the goals stated for e-Government, all these types of barriers must be addressed in parallel.

20. One of the core competences of an NSI is the experience in content oriented classification. The work in this area, for instance at the Norwegian Register Centre, attracts contribution from Statistics Norway. The underlying work needed to ensure semantical interoperability is both interesting for us, relevant according to our competence and useful for the future possibilities to produce more statistics and new statistics. The work on semantical interoperability and content classification, should also coincide with work on topic maps and in general with the aims underlying the web 3.0, the semantic web. This means that the NSI knowledge really can contribute to future developments within e-Government and digital society.

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