

NIFO Factsheet – Denmark

Different online sources are available that link to the NIF:

- The online collaboration platform digitaliser.dk as main reference point for the Danish NIF: <http://www.digitaliser.dk>
- The OIO architecture guide: <http://arkitekturguiden.digitaliser.dk/>
- The Danish eGovernment Digital Strategy 2011 – 2015: <http://www.digst.dk/Service-menu/English/IT-Architecture-and-Standards/OIO-architecture-framework>

Main interoperability highlights

The main reference point for the Danish National Interoperability Framework (NIF) is the online collaboration platform, [Digitaliser.dk](http://www.digitaliser.dk). Denmark has taken on board the concept of interoperability in specifications to be followed when developing IT architecture and standards (Cross-Government cooperation). The OIO architecture guide (beta)¹ provides information on the architecture principles, the method, standards systems and example cases. Multiple NIF related documents are stored on the Digitaliser platform: e.g. catalogues of XML interface definitions², PSI data sources, recommendations on standards and open source software projects.

Summary of the NIF

The Danish eGovernment Digital Strategy 2011-2015³ aims to accelerate the adoption of digital solutions in the public sector. The strategy is divided in three main tracks. Each track covers various areas and targets different groups. In the first track, the goal is to have no more printed forms or letters. The second track wants to achieve new digital welfare. The third track is about digital solutions for closer collaboration. This strategy has a practical approach to interoperability.

The OIO architecture⁴ is a common framework for public sector IT solutions. The OIO architecture methodology defines a series of activities, steps and deliverables. For each step, the objectives, actors, inputs, outputs, methodology, sample, tips and links are described. The OIO architecture guide (beta) provides information on the architecture principles, the method, standards systems and example cases.

Denmark puts forward a number of public services and building blocks. The public services are accessible through the Borger.dk portal⁵. The building blocks include amongst others user management and Single Sign On (SSO), eID and eProcurement.

¹ <http://arkitekturguiden.digitaliser.dk/>

² <http://digitaliser.dk/kataloger>

³ http://www.digst.dk/-/media/Files/Digitaliseringsstrategi/Tilgaengelig_engelsk_strategi.pdf

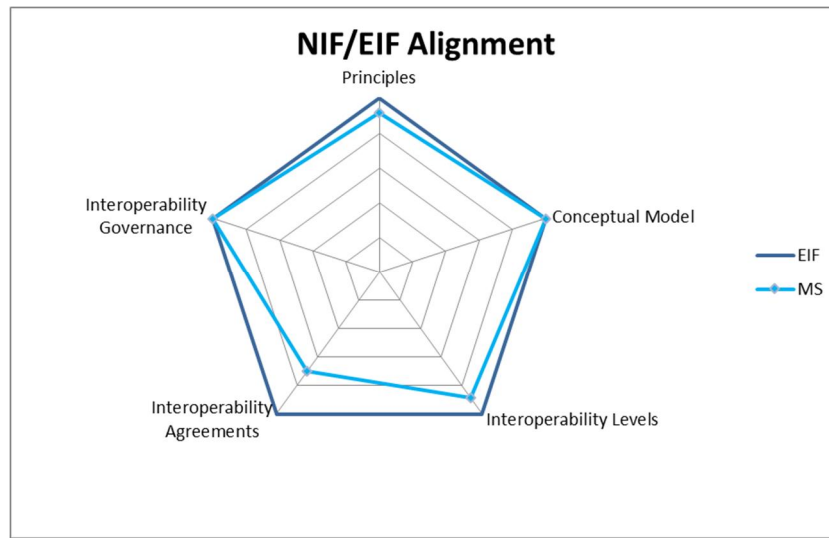
⁴ <http://www.digst.dk/ServiceMenu/English/IT-Architecture-and-Standards/OIO-architecture-framework>

⁵ <https://www.borger.dk>

A Steering Committee for Joint Public Cooperation (STS)⁶ has been established to ensure coordination and to prepare common framework decisions on the development of public sector digitisation.

Alignment NIF/EIF

The Danish NIF is well aligned with the EIF on all dimensions. Especially the Principles, Conceptual Model and Interoperability Governance dimensions are closely aligned with the EIF.



The Danish NIF fully aligns with ten of the twelve EIF principles. The Danish NIF partially aligns with two of the twelve EIF principles; namely the principle of multilingualism and technological neutrality and adaptability.

At the moment there is no single, general conceptual model; however the NIF contains a number of architecture artefacts along the lines of what is mentioned in the EIF. The common public reference models, Business Reference Model (FORM) and Service and Technology Reference Model (STORM)⁷ form the foundation for cross-public cooperation and support coherence across the public sector's IT portfolio. Denmark describes an architecture⁸ based on Service-Oriented architecture principles and puts forward standards for Service-Oriented infrastructure. Authentic sources are often made mandatory by law and the Digital Strategy 2011-2015 promotes heavily the improvement of these sources. User management (including SSO)⁹ and security standards¹⁰ are put in place to ensure compliance with security and privacy regulations.

The interoperability levels described in the Danish NIF are aligned with the ones described by the EIF. The Danish NIF - the OIO EA framework¹¹ - defines five levels of interoperability. (1) Strategy that includes objectives and policies, principles and laws and regulations, (2) Busi-

⁶ <http://www.digst.dk/Loesninger-og-infrastruktur/NemLogin/Brugerstyringsprojektet/Baggrund.aspx>

⁷ <http://www.digst.dk/Arkitektur-og-standarder/FORM-og-STORM.aspx>

⁸ <http://www.digst.dk/Arkitektur-og-standarder/It-arkitektur>

⁹ <http://www.digst.dk/Loesninger-og-infrastruktur/NemLogin/Brugerstyringsprojektet>

¹⁰ <http://www.digst.dk/ServiceMenu/English/IT-Security/Standard-for-information-security>

¹¹ <http://arkitekturguiden.digitaliser.dk/node/793>



ness, which includes organizational issues and processes, (3) Information that includes concepts, information, data models and data formats, (4) Applications that include patterns, applications and services and (5) Technology that includes technical standards, infrastructure in terms of basic software, hardware and network.

Across all these five levels there is a governance framework that includes EA governance, contracts, security, program and project management, finance, contracts and operations. The Danish NIF defines a steering committee for Cross-Government Cooperation (STS)¹² to ensure coordination of the public sector digitization.

The interoperability agreements described are partially aligned with the EIF. The Reference Committee on IT Architecture and Standards (OIO Committee)¹³ coordinates the public initiatives on standardization and IT architecture, and has representation from most departments as well as from municipalities and regions. The focus of the OIO Committee is on architecture, standards and technical infrastructure including formulation of principles and rules for their use.

More detailed information on NIF / EIF alignment is provided on the NIFO Community on JoinUp on the [Compare NIFs](#) page.

¹² http://www.digst.dk/~media/Files/Digitaliseringsstrategi/Tilgaengelig_engelsk_strategi.pdf

¹³ <http://www.digst.dk/ServiceMenu/English/IT-Architecture-and-Standards/Standardisation/Governance.aspx>

Example of alignment – Interoperability Governance

In Denmark, Interoperability Governance is a specific initiative in the common public sector e-government strategy, with roles and responsibilities on both the national and regional/local level.

Roles and responsibilities at national level:

- The Ministry of Finance is the main initiator of strategies and policies related to eGovernment and interoperability in Denmark. The Ministry of Finance develops initiatives concerning administration, public leadership and digitisation to improve the efficiency of the public administration in general.
- The Agency for Digitisation (merger of National IT and Telecom Agency and the Agency of Government Management) functions as a catalyst regarding the strategy shaped by the Ministry of Finance. The Agency's main responsibility is to contribute to the accomplishment of the political vision, the strategy and the understanding and development of relevant technology. Moreover, the agency coordinates the work and acts as the secretariat for the Steering Committee for joint Government cooperation (STS).
- The Ministry of Business and Growth develops, and is responsible for the IT strategy for the private sector in Denmark. The Ministry of Economic Affairs and the Interior performs certain tasks regarding IT modernization and digitisation-related issues.
- The steering committee (or STS) consists of top representatives from central ministries and from the municipalities and regions. The committee performs preparatory work for major political decisions, including the yearly economic negotiations between central and local government and the digital strategy¹⁰⁷.

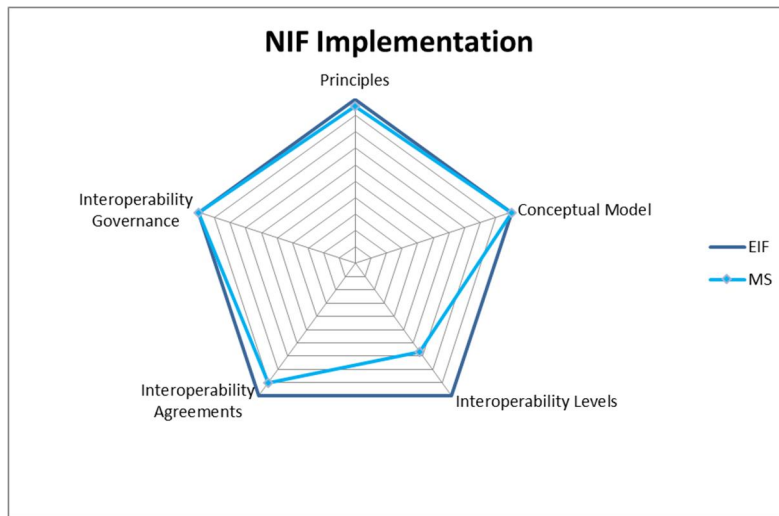
Roles and responsibilities at regional and local level:

- The Danish public sector is characterized by a high level of decentralization; however, state, regions and municipalities collaborate closely. As mentioned above, the steering committee (STS) forms an important role connecting central and local government. The sub-national governments are closely connected to the central one through legislation. However, the legislations and ICT solutions shall leave space for local adaptation. Major ICT solutions will consist of large e-government —building blocks, where each building block represents a delimited part of the digital procedure. The ICT building blocks offer the municipalities huge advantages. It becomes easier and cheaper to change the municipal services and switch suppliers¹⁰⁸. See the next figure for an overview of key players.

See http://www.digst.dk/~media/Files/Digitaliseringsstrategi/Tilgaengeligt_engelsk_strategi.pdf

Implementation of NIF

Denmark performs very well on the implementation of interoperability governance, the principles and the conceptual model, and interoperability agreements and performs well on the interoperability Levels.



For every principle, a practical example is provided either as a reference to the digist.dk or arkitekturguiden.digitaliser.dk platforms.

Concerning the conceptual model, the FORM and STORM reference models serve as the practical example. The architecture guidelines also contain principles referring to Service-Oriented Architecture and the interconnection of loosely coupled components.

Concerning the interoperability levels practical examples cover services such as borger.dk, NemID¹⁴ and SSO.

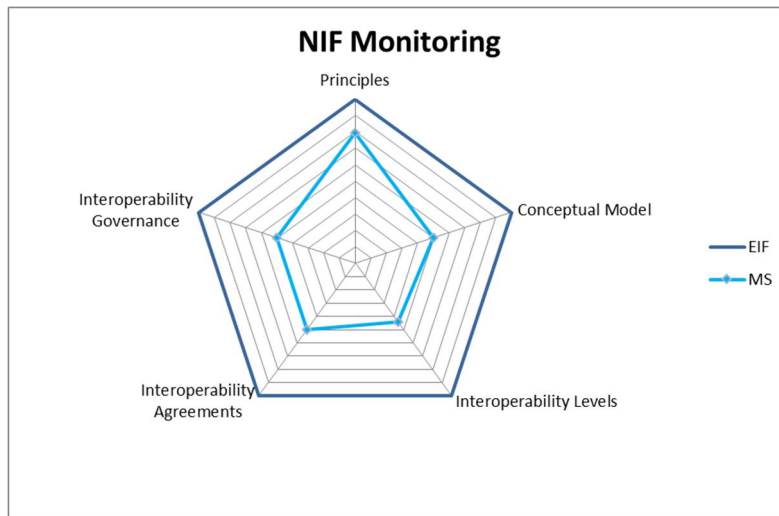
The OIO (Inter-government cooperation) architecture framework is the main source for the interoperability levels practical examples.

In the interoperability governance dimension, the cross governmental digitisation strategy 2010-2015 sets binding goals for eGovernment by 2015. All progress made in the eGovernment strategy initiatives and their benefits are documented according to a common description model. The governance organisation includes political agreement between national government, municipalities and regions.

Monitoring of NIF

Denmark performs very well on monitoring of interoperability principles and performs well in the other categories.

¹⁴ See: https://www.nemid.nu/dk-da/privat/bestil_nemid/



All the principles are monitored except multilingualism. Monitoring is done by the Steering Committee for the eGovernment Strategy or the National Audit Agency.

Concerning the conceptual model, the Danish Council for It-projects monitors projects over 10 million DKR.

Part of the core governance effort performed by the Danish Agency for Digitisation is the monitoring of some interoperability levels criteria. Monitoring is not performed on a general level, but via the governance set-up managing the strategies and individual initiatives.

In the interoperability governance dimension, there is no general monitoring of the complete NIF. Monitoring focuses within selected areas, typically related to specific initiatives such as mandatory digital post.

More information on all the implementation and monitoring examples is provided on the NIFO Community on JoinUp on the [Compare NIFs](#) page.

Example of implementation/monitoring - EIF Principle 6: Administrative simplification:

In Denmark, the administrative simplification is both practically applied and monitored.

- Practical implementation: A number of laws and regulations have been simplified in order to make things easier and save money for both private business and government. The government has set up a forum with business representatives in order to suggest simplification.
- Monitoring: The National Audit Agency monitors administrative simplification. The latest report/note provides an assessment of the impact of simplification on businesses:

See for practical implementation: <http://erhvervsstyrelsen.dk/virksomhedsforum>

See for monitoring: <http://www.rigsrevisionen.dk/publikationer/2007/706/1103-14/>



Other initiatives on interoperability

End 2015, the Danish Digital Post reaches 89% of all Danes over 15 years of age¹⁵. Digital Post may result in savings of over EUR 100 million per year; it allows citizens to correspond electronically with public authorities. Examples include letters from hospitals, pension statements, student grant applications, and correspondence with the tax administration. Users can access Digital Post on two secure websites borger.dk and e-boks.dk.

The Danish 'Open Data Innovation Strategy' initiative (ODIS)¹⁶ is about creating easier and more uniform access to public data as raw material for the private sector in the development of innovative digital products and services, useful analyses, data visualisations and data journalism. The government and Local Government Denmark have agreed on a basic data programme. As geographic basic data, from 1 January 2013 a large part of the data at the Danish Geodata Agency¹⁷ is available. This includes topographic data (maps), the cadastral map and the Danish Elevation Model.

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¹⁵ <https://joinup.ec.europa.eu/community/epractice/news/denmark%E2%80%99s-switch-over-digital-post-success>

¹⁶ <http://www.digst.dk/ServiceMenu/English/Policy-and-Strategy/Open-Data-Innovation-Strategy-ODIS>

¹⁷ <http://eng.gst.dk/>