NATIONAL INTEROPERABILITY FRAMEWORK OBSERVATORY

Analytical Model
ICELAND

The content of this Analytical Model reflects the status as collected in 2016.

DIGIT

Directorate-General for Informatics

ISA²

EIF Element - Reference - Category	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementation scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
			NIF-EIF Alignment	**NIF implementation**			**NIF monitoring**	
See reference: the European Interoperability Framework_v2 See definitions listed in the ISA EIF brochure								
Subsidiarity and proportionality Ref: EIF, Chapter 2, Underlying principles Category: Principles+A8:C10	Does the NIF contain the 'subsidiarity and proportionality' principle?	Increased interoperability information is a prerequisite for electronic services evolve with the growing demands of the community and meet the requirements of the harmonized European services and e-commerce across borders. With increased interoperability can be optimized by better use of information and information systems. Policies and frameworks for interoperability are also necessary to be able to meet the various provisions of the Services Directive of the European Parliament and of the Council (see Council 2006/123/ESB of services from December 12, 2006), designed to eliminate obstacles to free movement of services the internal market of the European Union. Furthermore, the representative also stated that the principle is a given for the society as a whole and that it is executed by generally doing the actions and recommendations of the EIF. The European Union is working on concerted European effort to improve the interaction of systems and processes in the public sector with the aim to strengthen public services within Europe and between European countries. This work is mainly observed in the European Organization ISA (Inter operability Solutions for European Public Administration, which took over from the IDABC - Inter Oper Able Delivery of European eGovernment Services to Public Administration, Businesses and Citizens - 1 January 2010). see: http://samvirkni.ut.is/	2	This principle is in the published NIF. The NIF in Iceland is fundamentally based on the co-operation of all levels of Government, the private sector and the consumers/citizens. As mentioned, "The project was conducted by the Ministry of Finance in cooperation with other ministries and representatives of local authorities and the private sector." The organization of the NIF management (steering committee) includes also representatives of the R&D (the university community) and the consumer/user/citizen. In addition, the "policy" (Icelandic: "stefna") states that the NIF is to be governed and controlled by the interested parties (it is not a "government" NIF), emphasizing the need of the user (citizens, consumers, customers, staff, public agencies, companies). The IS-NIF is not a mandate by the State, but a cooperation where the State is only a participant. This means that the public authority does respect proportionality, allowing for the greatest possible freedom to the interested parties. See http://samvirkni.ut.is/stefna.html	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
User-centricity EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'user-centricity' principle?	The use of information technology in business operations and organizations have proliferated in recent years, demand for improved access of people and companies to information and services called for new ways of electronic services. Alongside this, demand for easy and effective communication of information has increased dramatically. The User-centricity Principle is actually one of four primary principles underlying the NIF – see http://samvirkni.ut.is/stefna.html (Icelandi: Notendamiðjun). See: http://samvirkni.ut.is/	2	Iceland.is the single point of contact website for eGovernment services for all levels of government. It contains content on e.g. the user, car registration, real estate taxes, vaccine info and the personal mailbox for government communication. The EUGO portal provides a single point of contact. See https://www.island.is/eugo/en	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the	1
Inclusion and accessibility EIF, Chapter 2, Underlying principles Recommendation 2 Category: Principles	Does the NIF contain the 'inclusion and accessibility' principle?	Comment: Does this automatically entail that the user of the services takes a central spot? • to access user-friendly services in a secure and flexible manner allowing personalisation; • multichannel delivery, allowing access to services anyhow, anywhere, anytime; • to access a single contact point, even when multiple administrations have to work together to provide the service; • to provide only the information necessary to obtain the public service and to provide any given piece of information only once to administrations; • administrations to respect privacy.	0		[describe project here]	0	[describe monitoring procedure here]	0
Security and privacy EIF, Chapter 2, Underlying principles Recommendation 3 Category: Principles	Does the NIF contain the 'Security and privacy' principle?	The framework of security A number of criteria are considered to fundamentals or framework of security, as security in IP communications practices, general málreglur for encryption, security of connections and communication channels and time stamping. Please also see the section on the secure data exchange Nothing specific is written down in legislation, there is only a law supporting the directive from '93 See: http://samvirkni.ut.is/samvirkni/oryggisthjonusta/ http://samvirkni.ut.is/samvirkni/oryggisthjonusta/umgjord.html Security part of the NIF, treating different subjects http://skilriki.is/media/skjol/Stefnumarkandi_krofur_1_0.pdf	2	This principle is applied in many government websites (assurance of service provider, compliance with laws and regulations, privacy, proper use), and is founded on our data protection and privacy act (nr. 77/2000) and related regulation. As an example, see www.island.is/islykill/oryggi and www.island.is/islykill/personuvernd (pages under Island.is government portal) which outline the security measures for Island.is eGovernment central portal. In addition, a new service at the Directorate of Health for citizen's portal (access to health information for all) has implemented this principle, and will be opened for public access in Q3 of 2014. This principle is also the reason for the decision to focus on Security services in the first version of the NIF, which resulted in references to requirements and standards for Security framework (cryptography - CMS, TSP, ISO 18014, ANSI X.9.95), General security services (PKI; X.509, ETSI for CP, cert profiles, OCSP, PKCS#11, secure devices), Web service security (WS-Security), Cryptography (SHS), XML security (DSS, XAdES, PAdES, CAdES, XMLDsig) and Authentication/Authorisation (SAML, LDAP). See samvirkni.ut.is/oryggisthonusta. All of these support the principle of Security and Privacy, and are key elements in PKI-IS (see i.e. www.islandsrot.is and www.skilriki.is).	[describe project here]	2	The security measures of the Island.is authentication service has been audited by external auditor.	2

Analysis of the NIFs

EIF Element - Reference - Category	Measurement	NIF-EIF Alignment		NIF implementation			NIF monitoring	
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Multilingualism EIF, Chapter 2, Underlying principles Recommendation 4 Category: Principles	Does the NIF contain the 'Multilingualism' principle?	On the page "Presentation of data and communication (data presentation and exchange)", Stafamengi (Character sets) Reglur fyrir stafakótun (Character encoding schemes) are taken into account. More specifically http://samvirkni.ut.is/samvirkni/framsetning-gagna-og-midlun/reglur-fyrir-stafakotun.html for UTF-8 supported character sets. See: http://samvirkni.ut.is/samvirkni/framsetning-gagna-og-midlun/reglur-fyrir-stafakotun.html	1	[describe project here]	The NIF does not contain this principle as such, but carriage in coding schemes are included in the technical interoperability agreement. Coding is essential for multilingual-capable systems. Having agreement on the coding is necessary to be able to implement multilingual solutions and services for all "spoken" languages in Europe. The EUGO portal provides a single point of contact in English. See https://www.island.is/eugo/en	1	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Administrative simplification EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Administrative simplification' principle?		0		[describe project here]	0	[describe monitoring procedure here]	0
Transparency EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Transparency' principle?	iceland.is the single point of contact website for eGovernment services for all levels of government. It contains content on e.g. the user, car registration, real estate taxes, vaccine info and the personal mailbox for government communication.	1	Although this principle is not contained in the NIF, transparency is a fundamental principle in the single point of contact website, wwww.island.is. It provides access for all levels of Government. Island.is provides a personal mailbox for government communication. See https://www.island.is/	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Preservation of information EIF, Chapter 2, Underlying principles, Recommendation 5 Category: Principles	Does the NIF contain the 'Preservation of information' principle?	There is pdf/a archiving, a document preservation agency is installed, the most important ISO standards on multimedia are also mandatory and audit rules have been set-up.	0		[describe project here]	0	[describe monitoring procedure here]	0
Openness EIF, Chapter 2, Underlying principles, Recommendation 6 Category: Principles	Does the NIF contain the 'Openness' principle?	It is a government policy that administrations should explore the possibilities and the options of open source software as an alternative. A work plan has been established to heighten the utilization of open source by government For criteria set out in the national framework proposed, they must meet all the following requirements: "The criteria shall be open according to the definition (formerly IDABC)." See: http://samvirkni.ut.is/samhengi.html	2	Openness is a fundamental requirement in the agreement of the interoperability in the NIF, i.e. by requiring the organisations issuing valid reference/standards need to be open. This is also essential in the governance and organization of the IS-NIF – it is based on willingness of all – individuals, organizations – to share their knowledge and resources for the benefit of all. See http://samvirkni.ut.is/samhengi.html, under the heading "Kröfur fyrir samþykki viðmiða" (e. requirements for agreement on standards).	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Reusability EIF, Chapter 2, Underlying principles, Recommendation 7 Category: Principles	Does the NIF contain the 'Reusability' principle?		0		Icelands's Soil Conservation Service is increasingly relying on free and open source software solutions. Using the database management systems Mysql and Postgresql and other open source tools, helps in saving "millions of Icelandic kronas per year. https://joinup.ec.europa.eu/news/icelands-soil-conservation-service-saving-millions-open-source	1	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1

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		NIF-EIF Alignment		**NIF implementation**			**NIF monitoring**	
Technological neutrality and adaptability EIF, Chapter 2, 'Underlying principles, Recommendation 8 Category: Principles	Does the NIF contain the 'Technological neutrality and adaptability' principle?	Requirements for acceptance criteria For criteria set out in the national framework proposed, they must meet all the following requirements: The criteria shall be open according to the definition (formerly IDABC). See: http://samvirkni.ut.is/samhengi.html	1	[describe project here]	Interoperability is based on agreements and generally excepted references and specifications, where services and solutions should be shared and re-used as appropriate. To avoid imposing specific technologies or products agreements on standards are implemented and at the same time a frameworks and infrastructures have been set up. For example, certificate validation (www.islandsrot.is), single access to all eGovernment services (www.island.is) and common protocols and processes for ebusiness (www.ut.is), to mention some. Technical neutrality can be implemented in many ways. Support of any standards, defined architecture, agreement for technical specifications, common infrastructure for authentication and signatures, any policies, requirements and guides for implementations and protocols, can all be important elements of technical neutrality.	1	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Effectiveness and efficiency EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Effectiveness and efficiency' principle?	The aspect is treated from a technical perspective only: PKI and transport + web services will be used because of their efficiency thus creating an more efficient environment. However, this is not explicitly treated in the NIF See http://samvirkni.ut.is/samhengi.html	1	Implemented partly (technical perspective) through the underlying principles of efficency in the interoperability based on PKI and transport plus web services. Implemented services that serve as examples are www.island.is, www.rsk.is, and many others. Electronic invoicing was one of the recommendations made by Iceland's Government Efficiency Group, which was asked in 2013 to come up with ways to reduce costs and speed-up tendering processes for all of Iceland's public administrations. The government of Iceland has switched to eInvoicing, as of 1 January. Iceland hopes that this move will help save some ISK 500 million (about EUR 330.000) per year. https://joinup.ec.europa.eu/community/epractice/news/iceland-government-has-switched-einvoicing	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Conceptual model EIF, Chapter 3 Category: Conceptual model	Does the NIF contain a conceptual model?		0		[describe project here]	0	[describe monitoring procedure here]	0
Public administrations should develop a component-based service model, allowing the establishment of (European) public services by reusing, as much as possible, existing service components. EIF, Recommendation 9 Category: Conceptual model	Is the conceptual model a component-based service model? (e.g. SOA)	Though it is not explicitly mentioned, the conceptual model is component based since it utilising web services and other elements related to SOA as can be seen from the technical specifications taken up. See http://samvirkni.ut.is/samvirkni/samthaetting-gagna-og-millibunadur/	2	Implemented but not monitored. There is an agreement on basic concepts for component based services, utilising web services and and other SOA related elements. The European Public Services Conceptual Model is a part of the IS-NIF, since the NIF aligns with the EIFThe conceptual model is also a key element in current work on architecture for public IT systems at the Ministry of Interior, to be published soon. The SOA-concept is also a key in the underlying architecture for all public web-sites. See http://www.ut.is/vefhandbok/ See http://samvirkni.ut.is/stefna.html under "Tilmæli um áherslur landsumgjarðar"	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Public administrations should agree on a common scheme to interconnect loosely coupled service components and put in place the necessary infrastructure when establishing (European) public services. EIF, Recommendation 10 Category: Conceptual model	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components?	The integration between data and equipment This category includes factors relating to the integration of data sources in different computer systems. Three key components in data integration are common type of lighting for the data type of heterogeneous information sources of the data and projection queries between the illumination source and a common data model descriptions. Between Equipment interconnection software for data sharing is also part of this category. Standards based on XML (XML-based standards) Standards based on EDI (EDI-based standards) Web services (Web Services)) Distributed architecture software systems (Distributed Application Architecture)) Metadata (meta-data) Message transmission software systems (Application Messaging)) See: http://samvirkni.ut.is/samvirkni/samthaetting-gagna-og-millibunadur/	1	The NIF contains standards based on XML, Web services and other SOA related elements. This is generally implemented in the electronic services such as the island.is portal. See https://www.island.is	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Interconnection of service components. EIF, Recommendation 10 Category: Conceptual model	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?		0		[describe project here]	0	[describe monitoring procedure here]	0
Public administrations should make their authentic sources of information available to others while implementing access and control mechanisms to ensure security and privacy in accordance with the relevant legislation. EIF, Recommendation 11 Category: Conceptual model	Does the NIF encourage to make the authentic sources of information available to others?		0		[describe project here]	0	[describe monitoring procedure here]	0

		NIF-EIF Alignment		NIF implementation			NIF monitoring	
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Access control EIF, Recommendation 11 Category: Conceptual model	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	Security The framework of security (Security Framework) Public Key Setup (General Security Services - PKI) PKI is related to "Iceland root - Islandsrot" Security in Web Services (Web Services Security) Cryptography (Cryptography) Security in XML (XML Security) Authentication / authorization (Authentication / Authorization) Access Manager (Access policies) PKI-IS: Certificate Profile (Innihald rafræna skilríkja): Workgroup Agreement of the "Technical Committee for PKI in Iceland" under the IT-committee (FUT) of the Icelandic Standards. Is the reference for the Icelandic qualified certificates issued under Íslandsrót (Iceland Root). The document is public; see for example the link http://skilriki.is/thjonustuveitendur/taekniupplysingar/taekninefndfut/. Policies for ISRS certificates in electronic services: Requirements for Certificate Authorities issuing public key certificates (Stefnumarkandi kröfur fyrir ISRS skilríki í rafrænni þjónustu: Kröfur till vottunarstöðva sem gefa út dreifilyklaskilríki): Documentation of the agreement between the State (Ministry of Finance) and all the financial companies in Iceland as a part of the contracted co-operation for building the PKI and dissemination of end-user certificates on debitcards. Is based on both ETSI TS 101 456 (for qualified certificates) and ETSI TS 102 042 (for other public certificates). Is the "mother" of other CPs in the PKI Iceland structure (as for Íslandsrót and "Fullgillt audkenni" owned by the company Auðkenni that issues the end-user certificates). See the links http://skilriki.is/media/skjol/Stefnumarkandi_krofur_1_0.pdf for the document and www.islandsrot.is for the CA of Íslandsrót and http://www.audkenni.is/adstod/vottunarstodvar.cfm for the Auðkenni CA. See: http://samvirkni.ut.is/samvirkni/oryggisthjonusta/ http://samvirkni.ut.is/samvirkni/oryggisthjonusta/sannvottun-heimilun.html	2		See the comments in the colom NIF Element Present. The PKI-IS is fully implemented and operational, provided important interoperably for authentification and signatures, and currently being expanded to include websertificates and secure communication infrastructure, based on standards. Many public services use a central access management service called "Auðkenningarþjónusta Ísland.is", which is a central aspect of the single contact government services website www.island.is. Also, the Directorate of Health is in the pilot phase of building a patient-portal for all health services in Iceland, where access management of both citizens and professionals is at the core. See https://www.island.is	1	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Public administrations, when working to establish (European) public services, should develop interfaces to authentic sources and align them at semantic and technical level. EIF, Recommendation 12 Category: Conceptual model	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?		0		*[describe project here]*	0	*[describe monitoring procedure here]*	0
Interoperability levels EIF, Chapter 4 Category: Interoperability levels	Does the NIF describe the four levels of interoperability?	Technical interoperability Technical interoperability deals with the relationship between information systems, includes definitions of performance, connectivity, integration services, data presentation and data flow. Government agencies, and companies need to be agreed on the standards and specifications that are used to ensure technical interoperability. Presentation of data and communication (data presentation and exchange) The integration between data and equipment (data integration and middleware) Interconnection Service (Interconnection Services) Security (security services) Semantic interoperability Semantic interoperability allows companies and organizations to process information from external sources. Such synergy to ensure a common understanding between the parties. To set the record needs to define a concept collections with data structures, data acquisitions and concepts that are specifically targeted to this aim. **The semantic interoperability** must also define the form of information flow between the parties (i.e. syntactic inter operability).	1		The technical interoperability is generally implemented in electronic services. Only the technical interoperability is implemented. It contains agreement between all levels of government and the private sector on technical references used in implementation of electronic services. The scope is all services that are provided as electronic services and all exchange between public agencies, private sector, affiliations (societies) and citizens. It includes (as detailed in http://samvirkni.ut.is/samhengi.html) G2G, G2C, G2B/B2G, G2Org, G2OG, B2B and B2C. These technical references are respected in all new implementations where the NIF is applied. Most implemented services and infrastructure comply, at least to some extent (depends on time of implementation) - as an example see www.island.is, www.skilriki.is (PKI), www.ut.is (public web-sites).	1	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Legal interoperability: Public administrations should carefully consider all relevant legislation relating to data exchange, including data protection legislation, when seeking to establish a European public service. EIF, Chapter 4 Recommendation 14 Category: Interoperability levels, legal artefacts	Does the NIF impose to consider all relevant legislation related to data exchange?	There is no overarching legislation. There is a certification policy document on skilriki.is that does explain the usage of the needed certificates. PKI-IS: Certificate Profile (Innihald rafræna skilríkja): Workgroup Agreement of the "Technical Committee for PKI in Iceland" under the IT-committee (FUT) of the Icelandic Standards. Is the reference for the Icelandic qualified certificates issued under Íslandsrót (Iceland Root). The document is public; see for example the link http://skilriki.is/thjonustuveitendur/taekniupplysingar/taekninefndfut/. Policies for ISRS certificates in electronic services: Requirements for Certificate Authorities issuing public key certificates (Stefnumarkandi kröfur fyrir ISRS skilríki í rafrænni þjónustu: Kröfur till vottunarstöðva sem gefa út dreifilyklaskilríki): Documentation of the agreement between the State (Ministry of Finance) and all the financial companies in Iceland as a part of the contracted co-operation for building the PKI and dissemination of end-user certificates on debitcards. Is based on both ETSI TS 101 456 (for qualified certificates) and ETSI TS 102 042 (for other public certificates). Is the "mother" of other CPs in the PKI Iceland structure (as for Íslandsrót and "Fullgillt audkenni" owned by the company Auðkenni that issues the end-user certificates). See the links http://skilriki.is/media/skjol/Stefnumarkandi_krofur_1_0.pdf for the document and www.islandsrot.is for the CA of Íslandsrót and http://www.audkenni.is/adstod/vottunarstodvar.cfm for the Auðkenni CA.	1		*[describe project here]*	0	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1

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Organisational interoperability - business process alignment. Public administrations should document their business processes and agree on how these processes will interact to deliver a (European) public service. EIF, Chapter 4 Recommendation 15 Category: Interoperability levels, organisational artefacts	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	In Iceland, organizational interoperability is viewed as dealing with how organisations need to align processes and procedures to achieve common goals. To achieve these goals, it is necessary to define the protocols used to communicate between them and to identify a common semantic interpretation and syntactic representation of shared information. In order to achieve synergy in business process needs, it is necessary to define and coordinate processes to facilitate cooperation. This also involves identifying what information / data must be supplied along with the form in which they belong. Also it is necessary to define how services are organized between public institutions, the public and businesses and to customers and citizens. Furthermore, to facilitate services and manage interoperability in business processes it is important to define how change is managed. http://samvirkni.ut.is/samvirkni/	0		*[describe project here]*	0	*[describe monitoring procedure here]*	0
Inter-governmental coordination. EIF, Chapter 4 Recommendation 15 Category: Interoperability levels, organisational artefacts	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?		0		*[describe project here]*	0	*[describe monitoring procedure here]*	0
Organisational interoperability - organisational relationships. Public administrations should clarify their organisational relationships as part of the establishment of a (European) public service. EIF, Chapter 4 Recommendation 16 Category: Interoperability levels, organisational artefacts.	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?		0		*[describe project here]*	0	*[describe monitoring procedure here]*	0
Organisational interoperability - change management. Public administrations working together to provide (European) public services should agree on change management processes to ensure continuous service delivery. EIF, Chapter 4 Recommendation 17 Category: Interoperability levels, organisational artefacts	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery?	To facilitate service and manage interoperability in business processes is important to define how change is implemented. Change Management aspects are taken up with the technical standards ("Suggestions for management changes that the introduction and use of means, both internal changes users and coordination between users who implement and use criteria.") Change management, where relevant, is included in the Interoperability-section of the NIF (see samvirkni.ut.is). Also, for each chapter, there are provisions for scope of specifications, impact of interoperability, best practices and guidance and tools. These can be defined per standard, or generally for each chapter (topic section). This is included in the interoperability section of the NIF, as relevant, applicable to each reference or topic section. See: http://samvirkni.ut.is/samvirkni/	2		*[describe project here]*	0	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Semantic interoperability. Public administrations, when working together to establish (European) public services, should use a common taxonomy of basic public services. EIF, Chapter 4 Recommendation 13 Category: Interoperability levels, semantic artefacts.	Does the NIF encourage the usage of a common taxonomy of basic public service?	The integration between data and equipment This category includes factors relating to the integration of data sources in different computer systems. Three key components in data integration are common type of lighting for the data type of heterogeneous information sources of the data and projection queries between the illumination source and a common data model descriptions. Between Equipment interconnection software for data sharing is also part of this category. Standards based on XML (XML-based standards) Standards based on EDI (EDI-based standards) Web services (Web Services)) Distributed architecture software systems (Distributed Application Architecture)) Metadata (meta-data) Message transmission software systems (Application Messaging)) See: http://samvirkni.ut.is/samvirkni/samthaetting-gagna-og-millibunadur/	1		*[describe project here]*	0	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Public administrations should support the establishment of sector specific and cross-sectoral communities that aim to facilitate semantic interoperability and should encourage the communities to share results on national and European platforms. EIF, Recommendation 18 Category: Interoperability levels, semantic artefacts	Does the NIF encourage public administrations to support the establishment of sector specific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms?	Comments: Semantic interoperability allows companies and organizations to process information from external sources. Such synergy to ensure a common understanding between the parties. To set the record needs to define a concept collections with data structures, data acquisitions and concepts that are specifically targeted to this aim. The semantic interoperability must also define the form of information flow between the parties (i.e. syntactic inter operability). Country Framework for interoperability of electronic services has not defined semantically interoperability. See: http://samvirkni.ut.is/samvirkni/	0		*[describe project here]*	0	*[describe monitoring procedure here]*	0

		NIF-EIF Alignment			NIF implementation			NIF monitoring	
EIF Element - Reference - Category	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned		Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementa-tion scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
Technical interoperability. Public administrations should agree on the formalised specifications to ensure technical interoperability when establishing European public services. EIF, Recommendation 19 Category: Interoperability levels, technical artefacts.	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	Definition of basic criteria The criteria for interoperability as set out in the national framework have a different position: Criteria adopted as part of the national framework Recommendation (ie recommended): Standards set out the recommendation is critical for interoperability party and should be used if possible. Draw special attention to the recommended criteria in public tenders. Mandatory (ie mandatory): mandatory criteria should be used in negotiations between the parties without exception. It is typical that the criteria have been previously recommended criteria. Outbound (ie fading): It is expected that the criteria outgoing will be replaced by a new standard within a specified time, for example, open standards, or better in some other respects. It is recommended to set goals that are shut down solutions based on these criteria and make a plan for útfösun or scrapping solutions. These criteria are not accepted as part of the national framework Proposal for observation (ie proposed / under observation): norms set forth a proposal is intended to increase awareness of new aspects of interoperability. Such criteria must take in consideration where you take a position on whether they will be confirmed as advice and even later as a mandatory standard in country setting. Why the proposed standards are being observed may be that they did not receive support, for example with an open standards organization, or they have not been widely adopted by service providers, or that the criteria have not yet even have utility or advantage over other criteria for stakeholders. Members may refer to the criteria strategic criteria if applicable. Rejected (ie rejected): Criteria administration has rejected on the grounds that they do not meet the requirements for national framework. Such criteria should not be used in new solutions. Obsolete (e. Obsolete): Standards that have been replaced by new parameters have been fösuð out. Such criteria should not be used anymore in solutions. Requirements for acceptance criteria For criteria are set out in the national framework proposed, they must meet all the following requirements: The criteria shall be open according to the definition (formerly IDABC). The criteria must be released or formally supported, some of the following standards organizations: ANSI CEN ETSI IEC IETF ISO	2		Technical interoperability is central in the NIF. The NIF, with reference to formalized technical specifications, is an agreement between ministries (financial & economy, interior, industry & innovation), the Federation of Icelandic Employers (SA) and the Icelandic Association of Local Authorities. These technical standards are used today, but the compliance is not yet monitored. See as examples as https://www.island.is/, http://www.sendill.is/ (messaging service provider), https://www.rsk.is/, http://www.inexchange.is/IS/ (extranet service provider).	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Public administrations, when establishing (European) public services, should base interoperability agreements on existing formalised specifications or, if they do not exist, cooperate with communities working in the same areas. EIF, Recommendation 20 Category: Interoperability agreements.	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	Requirements for acceptance criteria For criteria are set out in the national framework proposed, they must meet all the following requirements: The criteria shall be open according to the definition (formerly IDABC). The criteria must be released or formally supported, some of the following standards organizations: ANSI CEN ETSI IEC IETF ISO ITU IST NIST OASIS W3C Furthermore, land management framework adopted a criterion-based definitions firm RSA Laboratories for interaction with share certificates (PKCS # 11) on the grounds that this criterion is widely accepted by software manufacturers and lausnaraðilum where international standards are missing yet. Framework governing land can edit this list of recognized standards organizations. To be accepted as a standard recommendation in national frameworks, they must meet all the following requirements: The criteria have been previously approved as proposed. The conclusion of the assessment of the impact of guidelines on interoperability supports the decision of the general usage guidelines. For criteria are adopted as mandatory standards in a country setting, they have proved useful as recommended standards, generally accepted in electronic services. Also need to be realistic other assumptions that management national framework require the use of guidelines without exception. These criteria have not been defined. See: http://samvirkni.ut.is/samhengi.html	2		Our NIF is basically a documentation (in complete agreements of all stakeholders, of implemented technical interoperability standards and reference). The IS-NIF encourages interoperability agreements to be based on existing formalized specifications as published on http://samvirkni.ut.is. These specifications are listed, see as an example http://samvirkni.ut.is/samvirkni/samthaetting-gagna-og-millibunadur/vefthjonusta.html, which lists the Web Service specifications. This is sector-independent. Iceland is not aware of a specific formal agreement between two organizations, other than the general agreement of compliance with the IS-NIF.	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1

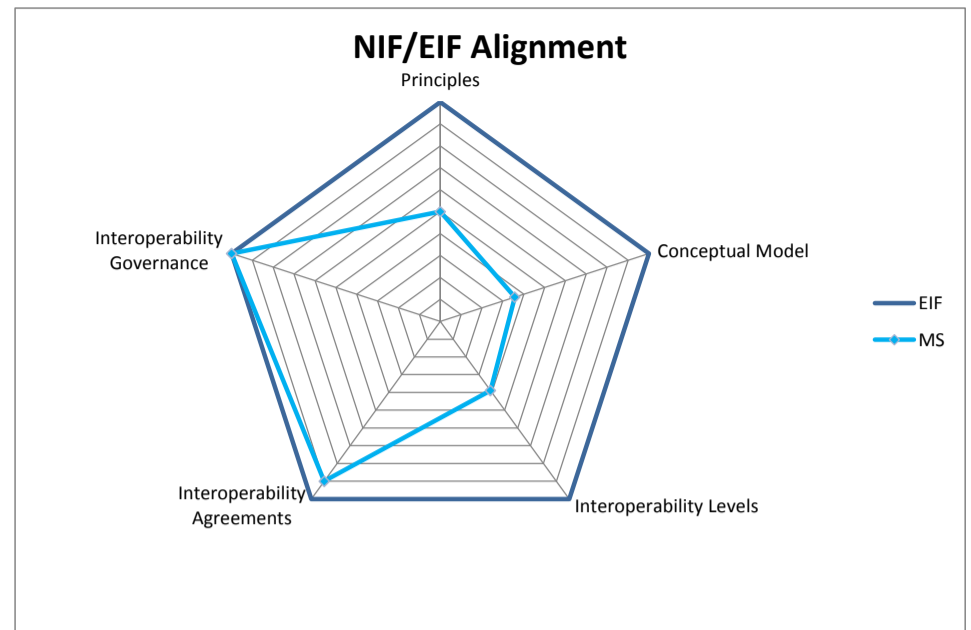| EIF Element - Reference - Category	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementa-tion scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
		NIF-EIF Alignment		**NIF implementation**			**NIF monitoring**	
Public administrations should use a structured, transparent and objective approach to assessing and selecting formalised specifications. EIF, Recommendation 21 Category: Interoperability agreements.	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	The process is similar to CAMSS there is a cooperation with different associations such as Icepro (independent venue) and the Icelandic standards organisation. These organisations look into all proposals and try to find a basis for agreement of all involved parties. If the proposal is approved the nthe Steering Committee takes it up further. See: http://samvirkni.ut.is/samhengi.html	2	The newly implemented services and infrastructure that are based on the specifications in the NIF are practical examples. See https://www.island.is/, http://skilriki.is/, http://www.islandsrot.is/, http://www.audkenni.is/, https://www.rsk.is/ The NIF is a structured, transparent and objective approach to assess and select formalized specifications. By agreeing to the NIF (establish and maintain), the interested parties (public and private sector, R&D and citizens) are participating in assessing and selecting formalized specifications, which will be the reference requirements in all implementations of electronic services. These specifications are open (requirement of the NIF) and include secure data exchange specifications and requirements. The assessment and selection of the specifications already published in the NIF was done in "grass-root" organizations (both ICEPRO Committee on Electronic Business and FUT-IT Sector of Icelandic Standards – both open expert groups) with participation of all interested parties w.r.t. the NIF. All this work is done in close co-operation of these organizations and the Icelandic Standards. The IS-NIF is therefore a venue for publishing this selection, based on agreement of all parties involved.	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
When establishing (European) public services, public administrations should prefer open specifications, taking due account of the coverage of functional needs, maturity and market support. EIF, Recommendation 22 Category: Interoperability agreements.	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	Requirements for acceptance criteria For criteria are set out in the national framework proposed, they must meet all the following requirements: The criteria shall be open according to the definition (formerly IDABC). See: http://samvirkni.ut.is/samhengi.html	2	The newly implemented services and infrastructure that are based on the specifications in the NIF are practical examples. See https://www.island.is/, http://skilriki.is/, http://www.islandsrot.is/, http://www.audkenni.is/, https://www.rsk.is/ The NIF is a structured, transparent and objective approach to assess and select formalized specifications. By agreeing to the NIF (establish and maintain), the interested parties (public and private sector, R&D and citizens) are participating in assessing and selecting formalized specifications, which will be the reference requirements in all implementations of electronic services. These specifications are open (requirement of the NIF) and include secure data exchange specifications and requirements. The assessment and selection of the specifications already published in the NIF was done in "grass-root" organizations (both ICEPRO Committee on Electronic Business and FUT-IT Sector of Icelandic Standards – both open expert groups) with participation of all interested parties w.r.t. the NIF. All this work is done in close co-operation of these organizations and the Icelandic Standards. The IS-NIF is therefore a venue for publishing this selection, based on agreement of all parties involved.	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1

Analysis of the NIFs

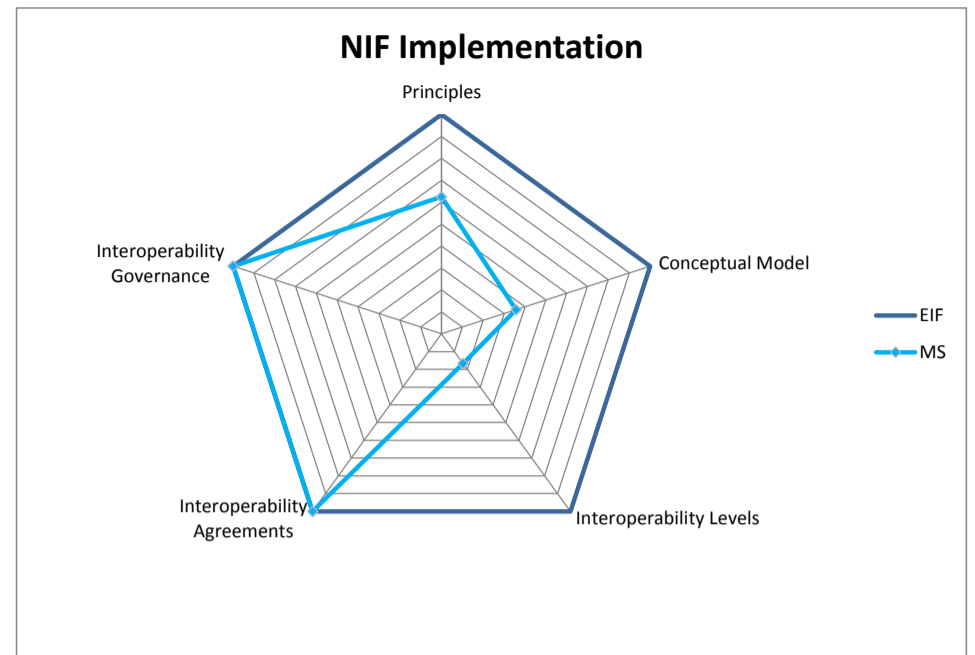| EIF Element - Reference - Category	Measurement	NIF-EIF Alignment NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	NIF implementation Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementa-tion scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
Contribution to the standardisation process Public administrations should lead or actively participate in standardisation work relevant to their needs. EIF, Chapter 5, Recommendation 23 Category: Interoperability agreements.	Does the NIF encourage public administrations to lead or actively participate in standardisation work relevant to their needs?	The "Icepro" groups open public institutions and private entities. There is a working group on openness and a standardisation body in Iceland together with the "grassroots working group" (Island rot). Everybody is invited to participate in the discussions even if they are not a member of any of the groups. See: http://samvirkni.ut.is/samhengi.html	2	The newly implemented services and infrastructure that are based on the specifications in the NIF are practical examples. See https://www.island.is/, http://skilriki.is/, http://www.islandsrot.is/, http://www.audkenni.is/, https://www.rsk.is/ The NIF is a structured, transparent and objective approach to assess and select formalized specifications. By agreeing to the NIF (establish and maintain), the interested parties (public and private sector, R&D and citizens) are participating in assessing and selecting formalized specifications, which will be the reference requirements in all implementations of electronic services. These specifications are open (requirement of the NIF) and include secure data exchange specifications and requirements. The assessment and selection of the specifications already published in the NIF was done in "grass-root" organizations (both ICEPRO Committee on Electronic Business and FUT-IT Sector of Icelandic Standards – both open expert groups) with participation of all interested parties w.r.t. the NIF. All this work is done in close co-operation of these organizations and the Icelandic Standards. The IS-NIF is therefore a venue for publishing this selection, based on agreement of all parties involved.	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Public administrations, when working together to establish (European) public services, should agree on minimum service requirements for secure data exchange. EIF, Recommendation 13 Category: Interoperability agreements.	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	The minimum service requirements are taken up on a technical level as certain requirements that the messages need to conform to like stated in the technical standards: PKI, WS Security and x509 certificates Comment: Common taxonomy or data model or code list could not be retrieved	1	The newly implemented services and infrastructure that are based on the specifications in the NIF are practical examples. See https://www.island.is/, http://skilriki.is/, http://www.islandsrot.is/, http://www.audkenni.is/, https://www.rsk.is/	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most often part of the concerned project, the ICEPRO experts are expected to plays a key feedback role by implementing the change in thinking and acting in eGovernment projects.	1
Governance Public administrations should establish a framework for the governance of their interoperability activities across administrative levels. EIF, Recommendation 25 Category: Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	Implementation and maintenance Country framework is the responsibility of working on national frameworks, appointed by the Ministry of Finance with representatives of the prime minister, finance, transport and local government ministry, the Association of Local Authorities and SA. One task of the working group was to publish the first issue of national framework for interoperability of electronic services for Iceland. The Task Force has also submitted a proposal for a mechanism for the development and management of national framework for interoperability in the future. The basis for clear image at the right shows the action steps associated with the development	2	The NIF is based on agreement across all admistrated levels and is intended to control the interoperability activities in both public and private sector. The NIF itself is such an agreement and provides the description of the roles and responsibilities of the stakeholders. See http://samvirkni.ut.is/samhengi.html	[describe project here]	2	Iceland Ministry of Finance and Economic Affairs mandates ICEPRO to implement and systematically monitor the activities and the criteria linked to the interoperability. It is the first step to reach full supervision and monitoring of the whole set of EIF elements aligned with Icelandic NIF. As they are most	1

Category	EIF	MS
Principles	100%	50,0%
Conceptual Model	100%	35,7%
Interoperability Levels	100%	38,9%
Interoperability Agreements	100%	90,0%
Interoperability Governance	100%	100,0%

NIF/EIF Alignment

Category	EIF Element	Scoring	
		Max	MS
Principles	Subsidiarity and proportionality	2	2
	User-centricity	2	2
	Inclusion and accessibility	2	0
	Security and privacy	2	2
	Multilingualism	2	1
	Administrative simplification	2	0
	Transparency	2	1
	Preservation of information	2	0
	Openness	2	2
	Reusability	2	0
	Technological neutrality and adaptability	2	1
	Effectiveness and efficiency	2	1
	Total	**24**	**12**
Conceptual Model	Does the NIF contain a conceptual model?	2	0
	Is the conceptual model a component-based service model? (e.g. SOA)	2	2
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	1
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	0
	Does the NIF encourage to make the authentic sources of information available to others?	2	0
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	2
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	0
	Total	**14**	**5**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	1
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	1
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	0
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	0
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	0
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	2
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	1
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	0
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	2
	Total	**18**	**7**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	2
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	2
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	2
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	2
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	1
	Total	**10**	**9**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	2
	Total	**2**	**2**

Category	EIF	MS
Principles	100%	62,5%
Conceptual Model	100%	35,7%
Interoperability Levels	100%	16,7%
Interoperability Agreements	100%	100,0%
Interoperability Governance	100%	100,0%

NIF Implementation

Category	EIF Element	Scoring	
		Max	MS
Principles	Subsidiarity and proportionality	2	2
	User-centricity	2	2
	Inclusion and accessibility	2	0
	Security and privacy	2	2
	Multilingualism	2	1
	Administrative simplification	2	0
	Transparency	2	2
	Preservation of information	2	0
	Openness	2	2
	Reusability	2	1
	Technological neutrality and adaptability	2	1
	Effectiveness and efficiency	2	2
	Total	**24**	**15**
Conceptual Model	Does the NIF contain a conceptual model?	2	0
	Is the conceptual model a component-based service model? (e.g. SOA)	2	2
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	2
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	0
	Does the NIF encourage to make the authentic sources of information available to others?	2	0
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	1
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	0
	Total	**14**	**5**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	1
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	0
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	0
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	0
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	0
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	0
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	0
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	0
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	2
	Total	**18**	**3**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	2
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	2
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	2
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	2
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	2
	Total	**10**	**10**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	2
	Total	**2**	**2**

Category	EIF	MS
Principles	100%	41,7%
Conceptual Model	100%	21,4%
Interoperability Levels	100%	27,8%
Interoperability Agreements	100%	50,0%
Interoperability Governance	100%	50,0%

NIF Monitoring

Category	EIF Element	Scoring Max	MS
Principles	Subsidiarity and proportionality	2	1
	User-centricity	2	1
	Inclusion and accessibility	2	0
	Security and privacy	2	2
	Multilingualism	2	1
	Administrative simplification	2	0
	Transparency	2	1
	Preservation of information	2	0
	Openness	2	1
	Reusability	2	1
	Technological neutrality and adaptability	2	1
	Effectiveness and efficiency	2	1
	Total	**24**	**10**
Conceptual Model	Does the NIF contain a conceptual model?	2	0
	Is the conceptual model a component-based service model? (e.g. SOA)	2	1
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	1
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	0
	Does the NIF encourage to make the authentic sources of information available to others?	2	0
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	1
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	0
	Total	**14**	**3**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	1
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	1
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	0
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	0
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	0
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	1
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	1
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	0
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	1
	Total	**18**	**5**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	1
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	1
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	1
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	1
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	1
	Total	**10**	**5**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	1
	Total	**2**	**1**