



## **SPANISH NATIONAL INTEROPERABILITY FRAMEWORK = ESQUEMA NACIONAL DE INTEROPERABILIDAD**

*Royal Decree 4/2010, of January 8th, which regulates the National Interoperability Framework within the e-government scope*

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# OFFICIAL STATE GAZETTE

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## I. GENERAL PROVISIONS

### MINISTRY OF THE PRESIDENCY

1331 Royal Decree 4/2010, of January 8th, which regulates the National Interoperability Framework within the e-government scope

#### I

The interoperability is the capacity of the information systems and of the procedures they support, to share data and to enable the exchange of information and knowledge among them. It is necessary for cooperation, development, integration and provision of joint services by Public Administrations, execution of diverse public policies; for the fulfillment of different principles and rights; for the transfer of technology and the reuse of applications in the interest of a better efficiency; for the cooperation among different applications that enable new services; facilitating the development of the e-government and the Information Society.

Within the Public Administration scope, communication through electronic means involves the fulfilment of several obligations on the part of Administrations, such as promoting the conditions which ensure that freedom and equality may be real and effective and removing obstacles that hinder or prevent the full application of the principle of technological neutrality and of the adaptability to the progress of the information and communication technologies are removed, guaranteeing the independence in the choice of alternative technologies by the citizens, the freedom to develop and introduce technological progresses in a free market scope.

Law 11/2007, of June 22, on electronic access of citizens to public services, acknowledges the prominence of the interoperability and refers to it as one of the aspects in which legal provisions have to be common and, therefore, it has to be addressed by the State Regulation. The interoperability is under the principle of cooperation in article 4 and has singular prominence in the title four dedicated to Cooperation among Administrations for the boost of the e-government. In this title, the assurance of interoperability of systems and applications used by Public Administrations appears in article 40 among the functions of the cooperation body in this matter, the Sectorial Committee of e-government. Following, article 41 refers to application, by Public Administrations, of informatics, technological, organizational and security measures that guarantee a suitable level of technical, semantic and organizational interoperability and avoid the discrimination of citizens because of their technological choice. And, then, article 42.1 creates the National Interoperability Framework that will cover a set of criteria and recommendations with regard to security, preservation and standardization to be taken into account by Public Administrations for technological decisions that guarantee the interoperability among them and with citizens.

The aim of the National Interoperability Framework is the creation of the necessary conditions to guarantee the suitable level of technical, semantic and organizational interoperability of the systems and applications used by Public Administrations, that would allow the exercise of rights and the fulfilment of obligations through the electronic access to public services, benefiting the efficacy and the efficiency at the same time.

## II

The National Interoperability Framework takes into account the recommendations of the European Union, the technological situation of different Public Administrations and the existing electronic services in such Administrations, the use of open standards, and in addition, standards widely used by citizens.

The articulation thereof has been carried out based on national guidelines on electronic access of citizens to public services, protection of personal data, electronic signature and electronic identity card, accessibility, the use of official languages, the reuse of information in the public sector and constituent bodies responsible for e-government. Other instruments have been taken into account, such as the National Security Framework, implemented within the scope of Law 11/2007, of June 22, or backgrounds as the Security, Standardization and Preservation Criteria of the applications used for the exercise of legal authority.

In terms of recommendations of European Union, it is considered the European Interoperability Framework, elaborated by the community programme IDABC, as well as instruments and actions elaborated by this programme that focus on the multiple aspects of the interoperability, as the European Centre of Semantic Interoperability, the Open Source Observatory and Repository and the European Union Public Licence. It is also considered Decision No 922/2009 of the European Parliament and of the Council, of 16 September 2009, on interoperability solutions for European public administrations (ISA), as well as the action plans on e-government with regard to interoperability and related aspects, particularly, with the community policy to share, reuse and collaborate.

## III

This royal decree only establishes the criteria and recommendations, together with specific necessary principles, that allow and favour the development of the interoperability in Public Administrations in a global and non-fragmentary perspective, in accordance with the general interest, nature and complexity of the regulated matter, within the scope of Law 11/2007, of June 22, with the aim to achieve a common regulatory denominator.

Consequently, the National Interoperability Framework involves all the aspects shaping globally the interoperability. Firstly, the organizational, semantic and technical dimensions referred in article 41 of Law 11/2007, of June 22, are considered; secondly, it deals the standards stated for the interoperability in Law 11/2007, of June 22, as well as the independence of the choice of technological alternatives and the citizens' right to choose the applications or systems to communicate with Public Administrations; thirdly, the common infrastructures and services are considered as recognized elements of dynamization, simplification and dissemination of interoperability also as facilitators of the multilateral relation; fourthly, the reuse of the applications of Public

Administrations, of the related documentation and of other objects of information, since the command «share» appears in the interoperability definition stated in Law 11/2007, of June 22, and together with «reuse», both are relevant for the interoperability and are related to the policies of the European Union in connection with the idea of sharing, reusing and collaborating; fifthly, the interoperability of the electronic signature and of the certificates are considered; finally, it deals the preservation, as established in Law 11/2007, of June 22, as declaration of the interoperability through time and that affects the electronic record in a singular way.

In this regulation the interoperability is referred as an integral process, where occasional actions or immediately relevant treatments do not fit, due to the fact that the weakness of a system is determined by its most fragile point and often this point is the coordination among individually suitable measures but inadequately assembled.

The regulation is structured in twelve chapters, four additional provisions, two transitory provisions, one repealing provision, three final provisions and one annex containing the glossary of terms.

The National Interoperability Framework refers to the National Security Framework for matters related to security beyond the necessary aspects to guarantee the interoperability.

The present royal decree is approved in application of the terms of final provision eight of Law 11/2007, of June 22, and in accordance with the terms of article 42, paragraph 3, and the first final provision of the regulation. This royal decree has been elaborated in collaboration with all Public Administrations, to which it applies, and it has received a favourable report from the Permanent Commission of the Higher Council of Electronic Government, the Sectorial Conference on Public Administration and the National Commission of Local Administration; and has been submitted to the previous report of the Spanish Agency of Data Protection. Likewise it was submitted to opinion of citizens according to the forecasts established in article 24 of Law 50/1997 of November 27.

By its virtue, on the proposal of the Minister of the Presidency, in accordance with the State Council and previous deliberation of the Council of Ministers at its meeting on 8 of January 2010,

BE IT ENACTED AS FOLLOWS:

## CHAPTER I

### General provisions

#### Article 1. Object.

1. The purpose of the present royal decree is to regulate the National Interoperability Framework established in article 42 of Law 11/2007, of June 22.

2. The National Interoperability Framework will include the criteria and recommendations on security, standardisation and preservation of the information, formats and applications, that Public Administrations will have to take into account, in order to ensure a suitable level of organizational, semantic and technical interoperability

of the data, information and services that manage in the exercise of their competences and in order to avoid the discrimination of the citizens because of their technological choice.

## **Article 2. Definitions.**

For the foreseen purposes of this royal decree, the definitions, words, expressions and terms must be understood in the sense indicated in the Glossary of Terms included in the annex.

## **Article 3. Scope of application.**

1. The scope of application of the present royal decree is the one established in article 2 of Law 11/2007, of June 22.

2. The National Interoperability Framework and its provisions of development will prevail over any other criteria with regard to interoperability policy in the use of electronic means for the access of the citizens to the public services.

## CHAPTER II

### **Basic principles**

## **Article 4. Basic principles of the National Interoperability Framework.**

The application of the National Interoperability Framework will be developed in accordance with the general principles established in article 4 of Law 11/2007, of June 22, and with the following specific principles of the interoperability:

- a) The interoperability as integral quality.
- b) Multidimensional character of the interoperability.
- c) Approach of multilateral solutions.

## **Article 5. The interoperability as integral quality.**

The interoperability will be taken into account as an integral way since the conception of the services and systems and through its lifecycle: planning, design, acquisition, implementation, deployment, exploitation, publication, preservation and access or interconnection among them.

## **Article 6. Multidimensional character of the interoperability.**

The interoperability will be understood considering its organizational, semantic and technical dimensions. The interoperability chain appears through inter-administrative agreements, in the deployment of the systems and services, in the determination and use of standards, in the basic infrastructures and services of Public Administrations and during the publication and reuse of the applications of Public Administrations, of the related documentation and of other objects of information. All this must be taken into

account without forgetting the temporary dimension which should guarantee the access to the information through time.

#### **Article 7. Approach of multilateral solutions.**

The multilateral approximation of the interoperability will be favoured so as to obtain the advantages derived from the scaling, the use of modular and multiplatform architectures, sharing, reusing and collaborating.

### CHAPTER III

#### **Organizational interoperability**

#### **Article 8. Public Administrations services available by electronic means.**

1. Public Administrations will establish and publish the access and use conditions of the services, data, documents and records in electronic format which will be available for the rest of Administrations specifying the aims, the modalities of consumption, consulting or interaction, the requirements that must satisfy the potential users, user profiles involved in the use of the services, protocols and functional and technical criteria necessary to access to these services, the necessary mechanisms of government of the interoperable systems, as well as the applicable security conditions. These conditions in any case will have to comply with the principles, rights and obligations of Organic Law 15/1999, of December 13, on the Protection of Personal Data and the corresponding development regulations, as well as with the stated in the National Security Framework and the legal instruments that will have to be endorsed by Public Administrations requiring the services, data and records.

The establishment of agreements among transmitting and receiving Public Administrations will be promoted, and particularly with the interoperability nodes foreseen in the paragraph 3 of this article, with the aim to simplify the organizational complexity without damage to the judicial guarantees.

With the aim to comply efficiently with the established in article 9 of Law 11/2007, of June 22, in the Sectorial Committee of e-government the interoperability services that will have to be provided by different Public Administrations will be identified, catalogued and prioritized.

2. Public Administrations will publish the services available for other administrations through the communication network of the Spanish Public Administrations or through any other equivalent network or through a network connected to the first one that will guarantee the secure access to the rest of administrations.

3. Public Administrations will be able to use interoperability nodes, understood as entities that have the entrusted function of management of global or partial sections of the organizational, semantic or technical interoperability.

#### **Article 9. Inventories of administrative information.**

1. Public Administrations will maintain the Inventory of Administrative Information updated that will include the administrative procedures and services provided in a classified way and structured in families, with indication of the level of the computerization. Also they will maintain an updated relation of their Public Administration bodies, and public service and register offices and the relations among them. These bodies and offices will be coded in an univocal way and this codification will be disseminated among Public Administrations.

2. Every Public Administration will regulate the way of creation and maintenance of this Inventory, that will be linked and will inter-operate with the Inventory of the General State Administration in the conditions determined by both parts and in the framework of the foreseen in the present royal decree; in this case, Public Administrations will be able to use the centralized Inventory for the creation and maintenance of their own inventories. The considerations about standards in article 11 will be applied for the description and modelling of the administrative procedures and the supporting processes.

## CHAPTER IV

### **Semantic interoperability**

#### **Article 10. Semantic assets.**

1. It will be established and maintained the list of data models considered as of common interest. They will be used preferably during information exchanges in Public Administrations, in accordance with the established procedure in the first additional provision.

2. Public Administration bodies or Public Law Entities linked or depending on them, holders of competences with regard to information exchange with citizens and with other Public Administrations, as well as in terms of common infrastructures, services and tools, will establish and publish the corresponding interchange data models that will be of mandatory application for information interchanges in Public Administrations.

3. Data models referred in paragraphs 1 and 2, will be adjusted to the provisions on standards of article 11 and will be published together with the related definitions and codifications through the Semantic Interoperability Centre of the Administration, following the licensing conditions stated in article 16.

4. The definitions and codifications used in the data models, referred in the earlier paragraphs, will take into account the provisions of Law 12/1989, of May 9, on the Public Statistical Function and the rest of laws that regulate the statistical function.

## CHAPTER V

### **Technical interoperability**

#### **Article 11. Applicable standards.**

1. Public Administrations will use open standards, and also in a complementary way, standards that are widely used by citizens, with the aim to guarantee the independence in the choice of alternative technologies by the citizens and Public Administrations and the adaptability to the progress of the technology, in the way that:

- a) The records and services of e-government that the transmitting bodies or Public Law Entities make available to the citizens and other Public Administrations, will be available at least through open standards.
- b) The records, electronic services and applications made available by Public Administrations for the citizens or other Public Administrations will be, as appropriate, visualizable, accessible and functionally operable in conditions that allow satisfying the principle of technological neutrality and avoid the discrimination of the citizens because of their technological choice.

2. In the relations with the citizens and with other Public Administrations, the exclusive use of a non-open standard without offering an alternative based on an open standard, will be limited to the circumstances when there is no open standard that would satisfy the functionality satisfied by that non-open standard and only while such unavailability exists. Public Administrations will promote the standardization activities with the aim to facilitate the availability of the open standards that meet their needs.

3. Generally, for the selection of standards and for the establishment of the catalogue of standards, particularly the following criteria will be considered:

- a) The definitions of standard and technical specification established in the Directive 98/34/CE of the European Parliament and of the Council of 22 of June of 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on information society services.
- b) The definition of open standard established in the Law 11/2007, of June 22, annex, letter k.
- c) Character of formalised specification.
- d) Definition of « cost not supposing access difficulty», established in the annex of this royal decree.
- e) Additional considerations referred to the adaptation of the standard to the necessities and required functionality; to the conditions related to the development, use or implementation, available and complete documentation, publication, and governing of the standard; to the conditions related to the maturity, support and adoption by the market, to its potential of reuse, to the multiplatform and multichannel applicability and to its implementation under diverse models of applications development.

4. For the use of complementary standards to the election indicated in the previous paragraph, the definition « widely used by citizens » established in the annex of the present royal decree will be taken into account.

5. In any case the citizens will have the chance to choose the applications or systems to communicate with Public Administrations or to address them, as long as they use open standards or standards generally used by the citizens. In order to facilitate the

interoperability with Public Administrations the catalogue of standards will contain a relation of open standards and, when necessary, complementary applicable standards.

## CHAPTER VI

### Common infrastructures and services

#### **Article 12. Use of common infrastructures and services and generic tools.**

Public Administrations will link the infrastructures and services that can be implemented in their scope of action with the common infrastructures and services provided by the General State Administration in order to facilitate the interoperability and the multilateral relation in the exchange of information and services among all Public Administrations.

## CHAPTER VII

### Communications of Public Administrations

#### **Article 13. Communication Network of the Spanish Public Administrations.**

1. With the aim to comply with the provisions of article 43 of Law 11/2007, of June 22, Public Administrations will use preferably the Communication Network of the Spanish Public Administrations to communicate with each other, purpose for which they will connect to it, either their respective networks, or their interoperability nodes, in a way that the interchange of information and services among them is facilitated, as well as the interconnection with the networks of the Institutions of the European Union and of other Member States.

SARA network will provide the Communication Network of the Spanish Public Administrations.

2. For the connection to the Communication Network of the Spanish Public Administrations the foreseen requirements in the first additional provision will be applied.

#### **Article 14. Addressing plan of the Administration.**

Public Administrations will apply the Addressing and Networking Interconnection Plan of the Administration, approved by the Higher Council of eGovernment, for its interconnection through the Communication Networks of Public Administrations.

#### **Article 15. Official hour.**

1. Systems or applications involved in the provision of an electronic public service will be synchronized to the official hour, with precision and gap that guarantee the certainty of the established terms in the administrative formality.

2. Date and hour synchronization will be carried out with the Royal Institute and Observatory of the Navy, pursuant to the legal hour in the Royal Decree 1308/1992, of October 23, which declares the Laboratory of the Royal Institute and Observatory of the

Navy as depositary laboratory of the national pattern of Time and laboratory related to the Spanish Centre of Metrology and, when it is possible, with the official hour at the European level.

## CHAPTER VIII

### Reuse and technology transfer

#### **Article 16. Applicable licensing conditions.**

1. In the licensing conditions of the applications and related documentation and of other information objects of which Public Administration are holders of intellectual property rights and that can be made available for other Public Administrations and for the citizens, without return or necessity of agreement will take into account that the aim to pursue is the use and the reuse, as well as the protection against its exclusive appropriation by a third party, in conditions when the transferor is relieved from the responsibility because of the possible misuse by the transferee and also from the obligation of the technical assistance or the maintenance by the transferor, or compensation in case of errors in the application.

2. For the applications declared as open source, administrations will use licences which assure that shared programmes, data or information:

- a) Can be executed for any purpose.
- b) Let its source code be known.
- c) Can be modified or improved.
- d) Can be redistributed to other users with or without changes if the derived work keeps these four guarantees.

3. For this aim the application of the European Union Public Licence will be procured, without prejudice of other licences that can guarantee the same rights stated in the paragraphs 1 and 2.

#### **Article 17. Directories of reusable applications.**

1. The General State Administration will maintain the Applications Directory for its free reuse which can be accessed through the Technology Transfer Centre.

2. Public Administrations will link their application directories referred in article 46 of Law 11/2007, of June 22 for its free reuse; and with those within the scope of the European Union.

3. Public Administrations will have to take into account the available solutions for its free reuse that can satisfy totally or partially the necessities of the new systems and services or the improvements and updates of the ones already implemented.

4. Public Administrations will procure the publication of the application source code, in development or finished, in the applications directories for its free reuse with the aim of favouring the actions to share, reuse and collaborate, benefiting a better efficiency.

## CHAPTER IX

### **Electronic signature and certificates**

#### **Article 18. Interoperability in the policy of electronic signature and certificates.**

1. The General State Administration will define a policy of electronic signature and certificates to be used as a general framework of interoperability for the authentication and mutual recognition of electronic signatures within its scope of action. Besides, the policy can be used as reference by other Public Administrations in order to define the policies of certificates and signatures to be recognized within its scope of competence.

2. Public Administrations will approve and publish their policy of electronic signature and certificates, considering the technical regulation established in first additional provision, which can coexist with other particular policies for a singular transaction in a concrete context.

3. Public Administrations receivers of signed electronic records will allow the validation of the electronic signatures against the policy indicated in the signature of the electronic record. This policy of signature must be admitted by every Public Administration for the mutual or multilateral recognition with other Public Administrations.

4. The common profiles of the fields of the certificates defined by the policy of electronic signature and certificates will enable the interoperability among user applications so both, the identification and the generated electronic signature from these common profiles, can be recognized by the applications of different Public Administrations without any type of technical, semantic or organizational restriction. These certificates will be the ones defined in Law 11/2007, of June 22, Law 59/2003, of December 19, on electronic signature and their regulatory developments.

5. The policy of electronic signature and certificates, mentioned in the first paragraph of the present article, will establish the technical and operative characteristics of the trusted list of certification service providers that will gather the qualified and interoperable certificates among Public Administrations that are considered as reliable for every concrete assurance level, within both national and European scopes. The list established by the General State Administration will be used as a reference by other Public Administrations in order to define their trust service lists for the application within their scopes of competence.

6. Applications that use electronic certificates and electronic signature:

- a) Will comply with the applicable policy of electronic signature and certificate regarding with different considered aspects and particularly with the application of the obligatory and optional data, the creation and validation electronic signature rules, the algorithms to be used and the minimum applicable key length.
- b) Will allow the mechanisms of citizen accreditation and representation with regard to the identification and electronic signature, foreseen in the corresponding regulation.

#### **Article 19. Interoperability aspects with regard to the certification service provider**

1. In accordance with the foreseen in the Royal Decree 1671/2009, of November 6, which partially develops the Law 11/2007, of June 22, on obligations of the certification service providers, in relation to the interoperability, the mentioned providers will fulfil the indicated provisions in the following paragraphs.

2. In relation with the organizational interoperability, certification service providers will have the following, described in the Declaration of Practice of Certification:

- a) Establishment of the uses of the issued certificates in accordance with the given profile and the possible limits of use.
- b) Practices when generating the certificates which allow later the application of some mechanisms of discovery and unmistakable extraction of the identity data of the certificate.
- c) Definition of the information of certificates or related to them that will be published by the provider, properly catalogued.
- d) Definition of the possible states of a certificate during its lifecycle.
- e) Service level agreement defined and characterized for the services of validation and of stamping of date and hour.

3. In relation with semantic interoperability, certification service providers will apply the following, described in their Declaration of Practice of Certification:

- a) The definition of the profiles of certificates that will describe through minimum standards the obligatory and optional content of the different types of issued certificates, as well as the information about the syntax and semantic of those contents.
- b) Establishment of the fields with unique information, which will allow its use in identification tasks.

4. Regarding technical interoperability, certification services providers will apply the following, described in the Declaration of Practice of Certification:

- a) The standards relative to policies and practices of certification and generation of electronic certificates, state of the certificates, secure devices of signature creation, controlling programmes, cryptographic devices, programming interfaces, cryptographic cards, preservation of documentation relative to the certificates and services, limits of certificates, in accordance with the stated in article 11.
- b) The incorporation within the certificates of information regarding Internet addresses where validation services are offered by the providers.
- c) The mechanisms of publication and of deposit of certificates and related documentation admitted among Public Administrations.

## **Article 20. Validation platforms of electronic certificates and electronic signature.**

1. Validation platforms of electronic certificates and electronic signature will provide trusted services to the applications that use services of certification and signature, providing validation services for certificates and signatures generated and admitted in diverse scopes of Public Administrations.

2. Will provide all the elements of trust and organizational, semantic and technical interoperability necessary to integrate different qualified certificates and signatures that can be found in the domains of two different administrations, in an only call point.

3. Will boost the technical harmonization and the common use of formats, standards and policies of electronic signature and certificates for the electronic signatures among the user applications and of other interoperability elements related to certificates, like the analysis of the fields and univocal extraction of the pertinent information. Particularly, the European standards of the European Standardisation Organizations in the field of the Information and Communication Technologies applied to the electronic signature will be taken into account.

4. Will incorporate the trust lists of the interoperable certificates among different national and European Public Administrations following the corresponding management operative framework from the trust list.

## CHAPTER X

### **Retrieval and preservation of the electronic records**

## **Article 21. Conditions for the retrieval and preservation of records.**

1. Public Administrations will adopt the necessary organizational and technical measures to guarantee the interoperability in the retrieval and preservation of the electronic records during its lifecycle. These measures will be:

- a) The definition of a recordkeeping policy, in accordance with the regulations and specific procedures to use during the generation and management of records and files.
- b) The inclusion of an electronic index in the files, signed by the acting body or entity, that guarantees the integrity of the electronic file and allow its retrieval.
- c) The single and unmistakable identification of every record by means of suitable conventions that enable them to be easily classified, recovered and referred.
- d) The relation of minimum obligatory metadata and, if necessary, complementary, related to the electronic record during its lifecycle and incorporation to the metadata scheme.
- e) The classification in accordance with a classification plan adapted to the functions, both general and specific, of every Public Administration and the Public Law Entities linked or dependent on them.
- f) The period of records preservation, established by the qualifying commissions that correspond, in accordance with the regulation in force, administrative regulations and legal obligations that have to be applied in every case.
- g) The complete and immediate access to records through online query methods that allow to visualize the records with content details, the exhaustive and pertinent retrieval of records, the copy or online download in original formats and the printing on paper of the necessary records. The system will allow the query, during the preservation period, at least of the electronic signature, included, when necessary, the time stamp and the metadata related to the record.
- h) The adoption of measures to assure the preservation of the electronic records during its lifecycle, in accordance with the foreseen in article 22, in order to assure its retrieval in accordance with the minimum period of preservation determined by the administrative regulations and legal obligations, to guarantee its preservation at long term, to assure its evidential value and its trustworthiness as electronic evidence of the activities and procedures, as well as transparency, memory and identification of the bodies of Public Administrations and of the Public Law Entities linked or depending on those that exercise the competence on the record or file.
- i) The horizontal coordination among the responsible for recordkeeping and the rest of interested services with regard to archives.
- j) Transfer, when it is necessary, of the files among different electronic repositories with the aim of preservation, in accordance with the established in the regulation with regard to Archives, so as to be able to assure its preservation and retrieval at medium and long term.

- k) Depending on the result of documental evaluation procedure, delete the information, or when it is necessary, physical destruction of the media in accordance with legislation to be applied, recording all these actions.
- l) The technological training of personnel responsible for the execution and control of recordkeeping activities, as well as for the processing and preservation in archives or electronic repositories.
- m) The documentation of the procedures that guarantee the interoperability at medium and long term, as well as the measures of identification, retrieval, control and processing of electronic records.

2. With the aim to comply with the stated in the paragraph 1, Public Administrations will create electronic repositories complementary and equivalent to conventional archives, regarding their function, destined to cover the set of electronic record lifecycle.

## **Article 22. Security.**

1. In order to assure the preservation of electronic records, the foreseen in the National Security Framework will be applied with regard to compliance with the basic principles and minimum security requirements through the application of the suitable security measures to the media where records are stored, in accordance with the categorization of the systems.

2. When the electronic records contain personal data, the stated in the Organic Law 15/1999, of December 13, and its regulation will be applied.

3. These measures will be applied with the aim to guarantee the integrity, authenticity, confidentiality, availability, accountability, quality, protection, retrieval and physical and logical preservation of electronic records, the media and will be carried out considering the possible risks and terms of the records preservation.

4. The relative aspects of the electronic signature in the preservation of the electronic record will be established in the policy of electronic signature and certificates and through the use of formats of long-lived signatures that preserve the signatures through time.

When the signature and the certificates cannot guarantee the authenticity and the evidence of the electronic records through time, the guarantee will be validated through the preservation and custody in the repositories and electronic archives, as well as recordkeeping metadata and other linked metadata, in accordance with the characteristics that will be defined in the Recordkeeping Policy.

## **Article 23. Record formats**

1. With the aim to guarantee the preservation, the record will be kept in the format in which it was drawn up, sent or received, and preferably in a format corresponding to an open standard that would preserve the integrity of the content of the record, the electronic signature and of the metadata that accompany it.

2. The choice of standardized and durable electronic record formats in order to assure the independence of the media data will be carried out in accordance with the foreseen in article 11.

3. When there is a risk of obsolescence of the format or stops being part of the ones admitted in the present National Interoperability Framework, standardized procedures of authentic copying of the records changing the format will be applied, keeping the labelling with information of the used format and, when it is necessary, the migrations or conversions of formats.

#### **Article 24. Digitization of records on paper.**

1. The digitization of records on paper by Public Administrations will be carried out in accordance with the corresponding technical regulation of interoperability regarding the following aspects:

- a) Standard formats of common use for the digitization of records printed on paper and compression technique applied, in accordance with the foreseen in article 11.
- b) Resolution level.
- c) Guarantee of exact and integral image.
- d) Minimum mandatory and complementary metadata, related to the process of digitization.

2. The management and preservation of the digitalized electronic record will consider the possibility that it also exists in another media.

## CHAPTER XI

### **Rules of compliance**

#### **Article 25. Electronic sites and registries.**

The interoperability of the electronic sites and registries and of the electronic access of the citizens to public services, will be ruled by the terms of the National Interoperability Framework.

#### **Article 26. Life cycle of services and systems.**

The compliance with the National Interoperability Framework will be included in the life cycle of services and systems, accompanied by the corresponding control procedures.

#### **Article 27. Control mechanisms.**

Every Public Law Entity or body will establish its own control mechanisms to guarantee, in an effective way, the compliance with the National Interoperability Framework.

#### **Article 28. Publication of compliance.**

The bodies and Public Law Entities of Public Administrations will publish the declarations of compliance and other distinctive signs of interoperability, credited by

them, obtained regarding the fulfilment of the National Interoperability Framework in the corresponding electronic sites.

## CHAPTER XII

### Update

#### **Article 29. Permanent update.**

The National Interoperability Framework will be permanently updated. It will be developed and improved, over time, simultaneously to the progress of the e-Government services, the evolution of technology and to the consolidation of the supporting infrastructures.

#### **First additional provision. Development of the National Interoperability Framework.**

1. The following technical regulations of interoperability, whose fulfilment will be mandatory for Public Administrations, will be developed:
  - a) Catalogue of standards: it will establish a set of standards that fulfils the foreseen in article 11 in a structured way and with the indication of the selection and lifecycle criteria applied.
  - b) Electronic records: it will discuss the minimum mandatory metadata the association of the data and metadata of signature or of time stamp as well as other related complementary metadata; and the record formats.
  - c) Digitization of records: it will include the applicable formats and standards, the quality levels, the technical conditions and metadata related to the digitization process.
  - d) Electronic file: it will discuss its structure and format, as well as specifications of remission and provision services.
  - e) Policy of electronic signature and certificates of the Administration: it will deal among other questions gathered in its definition in the annex I, those that affect the interoperability including the formats of signature, the algorithms to use and minimum key lengths, the creation and validation rules of the electronic signature, the management of the signature policies, the use of temporary and time stamp references , as well as the standardization of the representation of the electronic signature on screen and on paper for the citizen and in the relations among Public Administrations.
  - f) Protocols of data intermediation: it will include the specifications of the data intermediation protocols that facilitate the integration and reuse of services in Public Administrations and that will be applied to the providers and consumers of these services.

- g) Relation of data models that have a common character in the Administration and those that refer to subjects related to exchange of information with the citizens and with other administrations.
  - h) Electronic Recordkeeping Policy: it will include guidelines for the assignment of responsibilities, both directive and professional, and the definition of the programmes, processes and controls of recordkeeping and administration of the electronic repositories, and their documentation, to be developed by Public Administrations and by the Public Law Entities linked or dependent on them.
  - i) Connection requirements to the Communications Network of Spanish Public Administrations.
  - j) Procedures of authentic copying and conversion among electronic records, as from paper or other physical media to electronic formats.
  - k) Data model for the interchange of entries among Registry Entities: it will deal functional and technical aspects for the interchange of registry entries, management of errors and exceptions, management of annex, technological requirements and format transformations.
2. The Ministry of the Presidency, at the proposal of the Sectorial Committee of Electronic Administration foreseen in article 40 of Law 11/2007, of June 22, will approve the technical regulations of interoperability and will publish them through Resolution of State Secretary for the Public Function. For the edition and maintenance of the technical regulations of interoperability indicated in the paragraph 1, the corresponding work groups will be formed in the collegiate bodies with competences related to e-government.
3. The following instruments for the interoperability will be developed:
- a) Inventory of administrative procedures and provided services: it will contain procedures and services information classified by their computerization level, as well as information about the interfaces with the aim of favouring the interaction, or when it is necessary the integration, of the processes.
  - b) Centre of semantic interoperability of the Administration: it will publish the models for exchange data, both common and sectorial, as well as the relative ones to common infrastructures and services, together with the associated definitions and codifications. It will provide repository functions, generation of formats for automated processing, collaboration, publication and dissemination of data models that facilitate the semantic interoperability among Public Administrations and from them with the citizens; it will be linked with other suitable instruments of Public Administrations and of the scope of the European Union.
  - c) Directory of free reuse applications: it will contain the list of applications for its free reuse, including at least, the descriptive data relative to the application name, a brief description of its functionalities, use and characteristics, licence, the main applied open standards and development state.

### **Second additional provision. Training.**

Public Administration staff will receive the necessary training to guarantee his knowledge of this National Interoperability Framework. To make this training an effective reality, the responsible bodies will provide the necessary elements

### **Third additional provision. National Reference Centre of the Application of Information and Communication Technologies (ICT) based on open source.**

CENATIC, Public State Foundation, constituted by the Ministry of Industry, Tourism and Trade, through Red.es, will be able to promote open source projects aimed at the best introduction of the interoperability measures considered in the present royal decree and, with the aim to promote the reuse and to facilitate the interoperability, it will take charge of value enhancement and dissemination of all the applications declared as open source by Public Administrations.

### **Fourth additional provision. National Institute of Communication Technologies.**

INTECO, centre of excellence promoted by the Ministry of Industry, Tourism and Trade for the development of the knowledge society, may develop innovation projects and research programmes aimed at the best introduction of the interoperability measures set forth in the present royal decree.

### **First transitional provision. Systems and services adaptation.**

The existing systems on the date of effect of the present royal decree will be adapted to the National Interoperability Framework so that they allow the fulfilment of what it is set forth in the third final provision of Law 11/2007, of June 22, on citizens electronic access to public services. The new systems will apply to what it is established in the present royal decree since its conception.

If twelve months after the entry into force of the National Interoperability Framework there were circumstances that impede its full application, an adaptation plan will be created that will define the execution terms which in no case will be more than 48 months after that plan has taken effect.

The plan referred in the previous paragraph will be elaborated in advance and approved by superior competent bodies.

### **Second transitional provision. Use of presently admitted methods of identification and authentication.**

In accordance with the foreseen in article 19 of Law 11/2007, of June 22, and in the first transitory provision of the Royal Decree 1671/2009, of November 6, it is established an adaptation term of twenty four months in which it will be allowed to keep using presently admitted methods of identification and electronic signature.

### **Single repealing provision.**

All provisions of equal or lesser authority which are opposed to the dispositions of this regulation are hereby derogated.

### **First final provision. Qualifying title.**

The present royal decree is enacted by virtue of article 149.1.18.<sup>a</sup> of Spanish Constitution that attributes to the State the competence on the base of the Legal Regime of Public Administrations.

### **Second final provision. Regulatory development.**

The Ministry of Presidency is authorized to promulgate the necessary rules for the application and development of the provisions on this royal decree, without prejudice towards the competences of the autonomous regions of development and execution of the basic legislation of the State.

### **Third final provision. Entry into force.**

The present royal decree shall come into force on the day following its publication in the “Official State Gazette”.

Madrid, on January 8<sup>th</sup>, 2010.

JUAN CARLOS R.

The First Vice-President of the Government and Minister of the Presidency  
MARÍA TERESA FERNÁNDEZ DE LA VEGA SANZ

## **ANNEX**

### **Glossary of terms**

**Administrative procedure:** legally regulated formal process for the decision-making by Public Administrations to guarantee the legality, effectiveness, efficiency, quality, current rights and interests, which ends with a resolution that includes an administrative act; this legally regulated formal process is in practice implemented by an operational process which coincides, to a greater or lesser extent, with the formal process.

**Application:** a program or set of programs aimed to resolve a problem through the use of information technology.

**Common Infrastructures and Services:** operational instruments which facilitate the development and deployment of new services, as well as the interoperability of the existing ones, creating scenarios for multilateral relationships, and which satisfy the common needs in the different administrative areas; for example, the communication network of Spanish Public Administrations, the Transeuropean network sTESTA and the electronic certificates verification platform.

**Cost not supposing access difficulty:** price of a standard that does not prevent from achieving its possession or use. This price is understood as the distribution costs of the standard and not as its real value.

**Data:** a representation of facts, concepts or instructions in a standardized way, appropriate to the communication, interpretation or processing by automatic or human means.

**Data model:** set of definitions (conceptual model), interrelations (logical model) and rules and conventions (physical model) which allow describing the data for their interchange.

**Digitization:** technological process which enables to convert a printed record or a record in any other non-electronic media into one or several electronic files containing the encoded, exact and integral image of the record.

**Electronic record:** any type of electronic information, filed in an electronic media according to a specific and capable format of being identified and processed in a differentiated way.

**Electronic records lifecycle:** set of stages and periods which the life of a record goes through, from its identification within a recordkeeping system to its selection for permanent preservation, in accordance with legislation on Archives to apply in each case, or for its destruction according to the regulation.

**Electronic Image:** result of applying a digitization process to a record.

**Electronic Index:** list of electronic records included in an electronic file, signed by the Administration, body or involved entity, as appropriate, and with the aim of guaranteeing the integrity of the electronic file and to allow its retrieval whenever it is necessary.

**Electronic media:** mechanism, installation, equipment or system which allows to generate, store or transmit records, data and information; including any open or restricted communication networks such as the Internet, mobile or fixed phone or others.

**Electronic repository:** centralized archive where electronic data and records, as well as their metadata, are stored and organized.

**Electronic signature:** set of electronic data assigned to or associated with others, which can be used as a means of identifying the signatory.

**European Union Public Licence (EUPL):** licence officially adopted by the European Commission and available in the 22 community official languages to reinforce legal interoperability by means of a collective framework for the sharing of public sector applications.

**Family:** this is understood as the classification of administrative procedures according to generic criteria of similarity in relation to proceeding scheme, incoming and outgoing records and information, setting aside similarity criteria regarding the issue object of the procedure, appropriate body or other similar information.

**Formality:** each of the steps and actions which must be taken in a business process until its completion.

**Format:** Set of rules (algorithm) that defines the right way to exchange and store data in memory.

**Generic tools:** reference instruments and software, shared, collaborative or common components and similar re-usable modules which satisfy the common needs in the different administrative areas.

**Interoperability:** it is the capability of the information systems and of the procedures they support, to share data and enable the exchange of information and knowledge among them.

**Interoperability chain:** expression of the interoperability in the deployment of systems and services as a sequence of linked and interconnected elements, dynamically, through interfaces and projected to technical, semantic and organizational dimensions.

**Interoperability node:** a body that provides services of technical, organisational and legal interconnection among information systems for several Public Administrations under the conditions stated.

**Interoperability service:** any mechanism that allows Public Administrations to share data and exchange information using information technologies.

**Interoperability through time:** this dimension of interoperability is related to the interaction among elements of various technological waves; it is particularly relevant in the preservation of information in electronic media.

**Metadata:** data which defines and describes other data. There are different types of metadata depending on their application.

**Metadata scheme:** instrument that defines the incorporation and management of the metadata relative to content, context and structure of the electronic records through their lifecycle.

**Media:** object upon which or in which it is possible to record and retrieve data.

**Open source application:** application that is distributed with a licence which allows its free running, to know its source code, to modify or improve it and to redistribute copies to other users.

**Open Standard:** those which meet the following conditions:

- a) It is public and its use is freely available or at a cost not supposing access difficulty.
- b) Its use and application are not conditional upon payment of an industrial or intellectual property right.

**Operational process:** organized set of activities that are performed to generate a product or service; it has a defined start and end point, it involves resources and leads to a result.

**Organizational interoperability:** it is the interoperability dimension concerned with the capability of entities, and processes through which they carry out their activities, to collaborate in order to achieve those mutually agreed objectives related to the services they provide.

**Electronic Recordkeeping Policy:** guidelines or directives defined by an organization for the creation and management of authentic and reliable records available over time, according to its own functions and activities. The policy is approved within the organization at the highest level, assigning responsibilities with regard to coordination, application, supervision and management of the records processing program through its lifecycle.

**Policy of electronic signature:** collection of security, organizational, technical and legal regulation to determine how the electronic signatures are generated, verified and managed, including the required features of signature certificates.

**Recordkeeping metadata:** structured or semi-structured information that enables the creation, management and use of records over time within the context of their creation. Recordkeeping metadata are used to identify, authenticate and contextualize records, as well as the individuals, processes and systems which create, manage, preserve and use them.

**Standard:** technical specification approved by a recognised standardization body for a repeated or continuous application, with which compliance is not compulsory and which is one of the following:

- a) International standard: a standard adopted by an international standardisation organisation and made available to the public.
- b) European standard: a standard adopted by a European standardisation body and made available to the public.
- c) National standard: a standard adopted by a national standardisation body and made available to the public.

**Resolution level:** the spatial image resolution resulting from a digitization process.

**Semantic Interoperability:** it is the interoperability dimension concerned with ensuring that the exchanged information can be automatically interpretable and re-usable by software applications that were not initially involved in its creation.

**Formalised specification:** those specifications which either are standards in the sense of the Directive 98/34 or come from industry consortiums or other standardization forum.

**Technical interoperability:** it is the interoperability dimension concerned with the relationship among Information Technology systems and services, including aspects such as interfaces, interconnection, data and services integration, information presentation, accessibility and security, or other aspects of similar nature.

**Technical specification:** a specification contained in a document which lays down the characteristics required of a product such as levels of quality, performance, safety or dimensions, including the requirements applicable to the product as regards the name under which the product is sold, terminology, symbols, testing and test methods, packaging, marking or labelling and conformity assessment procedures.

**Time-mark:** the assignment of the date and, if necessary, the time, to an electronic record by electronic means.

**Time stamp:** the assignment of the date and time to an electronic record by electronic means with the intervention of a certification service provider that ensures the accuracy and integrity of the time-mark of the record.

**Time-stamping:** accreditation by a trusted third party of date and time in which any operation or transaction is carried out by electronic means.

**Trust Service List (TSL):** public access list which contains updated and accurate information on those electronic signature and certification services considered suitable to be used within an interoperability framework of the Spanish and European Public Administrations.

**Widely used by citizens:** used by almost all natural persons, legal entities and others with no juristic personality that are related or capable of being related to Spanish Public Administrations.