

# ROYAL DECREE 4/2010, OF 8 JANUARY, WHICH REGULATES THE NATIONAL INTEROPERABILITY FRAMEWORK WITHIN THE E-GOVERNMENT SCOPE



GOBIERNO  
DE ESPAÑA

MINISTERIO  
DE ASUNTOS ECONÓMICOS  
Y TRANSFORMACIÓN DIGITAL

SECRETARÍA DE ESTADO  
DIGITALIZACIÓN E  
INTELIGENCIA ARTIFICIAL

SECRETARÍA GENERAL DE  
ADMINISTRACIÓN DIGITAL

**Translation coordinated by:**

Secretariat-General for Digital Administration (SGAD)

**Edited by:**

© Ministry of Economic Affairs and Digital Transformation  
Office of the General Technical Secretary  
Publishing Centre

**2nd electronic edition**

March 2022

Series: *Administración electrónica*

**NIPO: 094-22-031-4**

Publication available at the eGovernment Web Portal, Portal de Administración Electrónica (PAe):  
<http://administracionelectronica.gob.es>



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

# Royal Decree 4/2010, of 8 January, which regulates the National Interoperability Framework within the e-Government scope

- This document is not an official translation –and therefore has no legal validity– of: Royal Decree 4/2010, of 8 January, which regulates the National Interoperability Framework within the e-government scope. Published in the Spanish Official State Gazette (BOE). Boletín Oficial del Estado (BOE) no. 25, from 29/01/2010. Reference: BOE-A-2020-1331
- Entry into force: 30/01/2010
- Department: Ministry of the Presidency
- Last amendment: Royal Decree 203/2021 of 30 March, approving the Regulation on the Performance and Functioning of the Public Sector by Electronic Means. Reference: [BOE-A-2021-5032](#) (BOE) no. 77, from 31/03/2021
- Permalink ELL: <https://www.boe.es/eli/es/rd/2010/01/08/4/con/>

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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 fulfilment 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 22 June, 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 22 June, 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 22 June, 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 22 June, are considered; secondly, it deals the standards stated for the interoperability in Law 11/2007, of 22 June, 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 22 June, 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 22 June, 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 22 June, and in accordance with the terms of article 42, paragraph 3, and final provision one 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 27 November.

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 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 22 June.

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 22 June.

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 22 June, 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 13 December, 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 22 June, 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. Administrative information inventories.**

1. Each Public Administration shall keep all its administrative information inventories up to date, which shall include, at least:

- a) List of administrative procedures and services provided in a classified and structured manner. Public administrations shall electronically connect their inventories with the Administrative Information System managed by the Ministry of Territorial Policy and Public Function in collaboration with the Ministry of Economic Affairs and Digital Transformation.
- b) List of its administrative bodies and public offices and their relations with each other. This inventory will be electronically connected to the Common Directory of Organic Units and Offices, managed by the Ministry of Economic Affairs and Digital Transformation, in collaboration with the Ministry of Territorial Policy and Public Function, which will provide a unique coding.

2. Each Public Administration shall regulate the creation and maintenance of these two inventories, under the conditions determined, in general terms, by the corresponding technical

standards for interoperability; where appropriate, Public Administrations may make use of the aforementioned Administrative Information System and Common Directory of Organic Units and Offices for the creation and maintenance of their own inventories. For the description and modelling of administrative procedures and their supporting processes, the provisions on standards set out in Article 11 shall apply.

## 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 9 May, 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 use of ICT technical specifications in public procurement together with the definitions of standard and technical specification set out in Regulation No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation.
- b) The definition of open standard established in the Law 11/2007, of 22 June, 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 thematurity, 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 22 June, 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. Administration Addressing Plan.**

Public Administrations shall apply the Plan for Network Addressing and Interconnection in the Administration, developed by the corresponding interoperability technical standard, for interconnection through communication networks.

#### **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.

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 23 October, 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. Licensing conditions for computer applications, associated documentation and any other information object whose intellectual property rights are owned by a Public Administration and can be made available to other administrations and citizens shall take into account the following aspects:

- a) The aim is the use and reuse of public resources.
- b) Complete protection against exclusive or partial appropriation by third parties.
- c) The transferor's exemption from liability for possible misuse by the transferee.
- d) The non-obligation of technical assistance or maintenance by the transferor.
- e) The total absence of any liability on the part of the transferor vis-à-vis the transferee in the event of errors or malfunctioning of the application.
- f) Licensing shall be by default without consideration and without the need to enter into any agreement. Partial pass-on of the acquisition or development costs of the transferred applications may only be agreed when this payment has a direct impact on increasing the functionalities of the transferred asset, includes specific adaptations for its use in the transferee body, or involves the provision of assistance or support services for its reuse in the transferee body.

2. For computer applications, associated documentation, and any other information object declared as open source, Public Administrations shall use those licences that ensure that the programs, data or information comply with the following requirements:

- a) They can be implemented for any purpose.
- b) They allow their source code to be known.
- c) They can be modified or improved.
- d) They may be redistributed to other users with or without changes as long as the derivative work retains these four guarantees.

3. For this purpose, the European Union Public Licence application shall be procured, without prejudice to other licences guaranteeing the same rights as set out in paragraphs 1 and 2.

4. In order to facilitate the establishment of licensing conditions, Public Administrations shall include the following aspects in the technical specifications of contracts for the development of new computer applications:

- a) That the contracting administration acquires full intellectual property rights to the applications and any other information objects to be developed as part of the contract.
- b) That in the case of re-using previously existing assets, the contracting administration receives a product that it can offer for subsequent reuse to other Public Administrations. In addition, in the case of open source products, it should be possible to declare the future developed application as open source.

#### **Article 17. Reusable application directories.**

1. The General State Administration shall maintain the General Directory of applications for free reuse, in accordance with article 158 of Law 40/2015, of 1 October, by the use of the Technology Transfer Centre. This directory may be used by other Public Administrations. If the Public Administration has its own directory, it must ensure that the applications available in this directory can also be consulted through the Technology Transfer Centre.

2. Public Administrations shall connect directories of applications for free reuse with each other; and with equivalent instruments at European Union level.

3. Public Administrations shall publish reusable applications, in product or service mode, in the directories of applications for free reuse, with at least the following content:

- a) Source code of the finalised applications, in case they are reusable in product mode and have been declared as open source.
- b) Associated documentation.
- c) Licensing conditions for all assets, if reusable in product mode, or level of service offered, if reusable in service mode.
- d) Costs associated with their reuse, if any.

4. Administrations shall endeavour to incorporate into the original application any modifications or adaptations made to any application that has been obtained from a directory of reusable applications.

### CHAPTER IX

#### **Electronic signature and certificates**

#### **Article 18. Interoperability in electronic signature and certificate policy.**

1. The General State Administration will define an electronic signature and certificate policy that will serve as a general interoperability framework for the mutual recognition of electronic signatures based on administrative document certificates in Public Administrations.

All public law bodies and entities of the General State Administration shall apply the electronic signature and certificate policy referred to in the previous paragraph. Failure to apply this

policy must be justified by the competent body or agency and authorised by the Secretariat-General for Digital Administration.

2. Other Public Administrations may make use of the electronic signature and certificate policy referred to in the previous section.

3. Notwithstanding the previous section, Public Administrations may approve other electronic signature policies within their respective spheres of competence.

The electronic signature policies approved by the Public Administrations shall be based on the technical standard established for this purpose in the first additional provision, on existing technical standards, and shall be interoperable with the electronic signature framework policy mentioned in Section 1, in particular, with its implementation files. The Public Administration proposing a particular electronic signature policy shall guarantee its interoperability with the aforementioned electronic signature framework policy and with its corresponding implementation files in accordance with the conditions established in the technical standard for interoperability set out for this purpose in the first additional provision.

4. In order to guarantee the interoperability of electronic signatures issued in accordance with the established policies, electronic signature policies approved by Public Administrations must be communicated, together with their corresponding implementation files, to the Secretariat-General for Digital Administration of the Ministry of Economic Affairs and Digital Transformation.

5. Public Administrations receiving signed electronic documents, provided that they have previously accepted the signature policy of the issuer, shall allow the validation of electronic signatures according to the signature policy indicated in the signature of the electronic document.

6. The common profiles of the certificate fields defined by the electronic signature and certificate policy will enable interoperability between user applications, so that both the identification and the electronic signature generated from these common profiles can be recognised by the applications of the different Public Administrations without any type of technical, semantic or organisational restriction.

7. The procedures in which electronic signature certificates are used shall comply with the electronic signature and certificate policy applicable in their field, particularly in the application of mandatory and optional data, rules for the creation and validation of electronic signatures, algorithms to be used and minimum key lengths applicable.

#### **Article 19. (Repealed)**

#### **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.

1. 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 13 December, 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 Office Websites and electronic registries.**

The interoperability of the electronic office web sites and electronic 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 office web 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 standards for interoperability will be developed and will be mandatory for Public Administrations:

- a) Technical Standard for Catalogue of Standards: this shall establish a set of standards that satisfy the provisions of Article 11 in a structured manner and indicating the selection and life cycle criteria applied.

- b) Technical Standard for the Electronic Document: this shall address the mandatory minimum metadata, the association of signature or time-stamped data and metadata, as well as other associated complementary metadata; and document formats.
- c) Technical Standard for the Digitisation of Documents: this shall address the applicable formats and standards, quality levels, technical conditions and metadata associated with the digitisation process.
- d) Technical Standard for the Electronic File: this shall address the structure and format of the electronic file, as well as the specifications for provision and availability services.
- e) Technical Standard for the Administration's electronic signature and certificate policy: this shall address, among other matters that are included in its definition in the annex, those affecting interoperability, including signature formats, algorithms to be used and minimum key lengths, rules for the creation and validation of electronic signatures, management of signature policies, use of time references and time stamps, as well as the standardisation of the presentation of electronic signatures on screen and on paper for the citizen and in relations between Public Administrations.
- f) Technical Standard for Data Brokerage Protocols: this shall address specifications for data brokerage protocols that facilitate the integration and reuse of services in Public Administrations and that shall be applicable to service providers and consumers.
- g) Technical Standard for the List of data models that are common in the Administration and those that refer to matters subject to information exchange with citizens and other Administrations.
- h) Technical Standard for Electronic Document Management Policy: this shall include guidelines for the assignment of responsibilities, both managerial and professional, and the definition of the programmes, processes and controls for document management and administration of electronic repositories, and the related documentation thereof, to be developed by Public Administrations and by the public bodies and public law entities linked to or dependent on them.
- i) Technical Standard for Requirements on connection to the Spanish Public Administration communications network.
- j) Technical Standard for Procedures for Authentic Copying and Conversion between electronic documents, as well as from paper or other physical media to electronic formats.
- k) Technical Standard for Data Model for the exchange of entries between Registry Entities: this shall deal with functional and technical aspects for the exchange of registry entries, management of errors and exceptions, management of annexes, technological requirements and format transformations.
- l) Technical Standard for Reuse of Information Resources: this shall address common standards on the location, description and unique identification of information resources made available to the public by electronic media for reuse.
- m) Technical Standard for Interoperability of Inventory and Coding of Administrative Objects: this shall address the rules related to the coding of administrative objects, as

well as the connection between the corresponding inventories, including, on the one hand, organisational units and offices of the Administration, and, on the other hand, administrative information of procedures and services.

- n) Technical Standard for Interoperability of Transfer and Entry of electronic documents and files: this shall address the requirements and conditions relating to the transfer of electronic documentary clusters, electronic documents and files, together with associated metadata, between electronic document management systems and electronic archiving systems.
- ñ) Technical Standard for Interoperability for the Assessment and Disposal of electronic documents and files: this shall address the conditions and requirements relating to the assessment of electronic documents and files for the establishment of retention, transfer and access periods or, where appropriate, total or partial disposal.
- o) Technical Standard for Interoperability for the preservation of electronic documents: this shall address the conditions and requirements relating to the preservation of electronic documents to ensure their authenticity, integrity, confidentiality, availability and traceability, as well as the protection, retrieval and physical and logical preservation of documents and their context.
- p) Technical Standard for Interoperability for the processing and preservation of databases: this shall address the conditions and requirements relating to the preservation of databases to ensure their authenticity, integrity, confidentiality, availability and traceability, and enabling the protection, recovery and physical and logical preservation of data and their context.
- q) Technical Standard for Interoperability for the Addressing Plan: this shall address rules applicable to IP addressing allocation and requirements to guarantee the correct administration of the Spanish Public Administrations' communications network and to avoid the use of duplicate addresses.
- r) Technical Standard for Interoperability for the reuse of assets in product and service mode: this shall address the requirements and conditions to facilitate the reuse of assets in both product and service mode by Spanish Public Administrations.
- s) Technical Standard for Interoperability of the data model and interoperability conditions for registries of authorised public officers: this shall address the functional and technical aspects for full interoperability of authorised public officer registries belonging to the Administrations, as well as the interconnection of these to electronic office websites.
- t) Technical Standard for Interoperability of the data model and interoperability conditions for electronic registries of powers of attorney to act before the Administration: this shall address the functional and technical aspects for full interoperability of electronic registries of powers of attorney belonging to the Administrations, as well as the interconnection of these to electronic office websites, to commercial and property registries, and to notarial records.
- u) Technical Standard for Interoperability of Document Reference System and Trusted Repositories: this shall address the technical requirements to be met by document

references when they are exchanged, so as to avoid unnecessary transfer of documentation.

- v) Technical Standard for electronic signature and certificate policy at state level: this shall address the technical guidelines and standards applicable to the use of certificates and electronic signatures within its scope of application, organised around the concepts of signature generation and validation and shall include the interoperable profiles of Public Administrations' identification media provided by Law 40/2015, of 1 October.

2. The Ministry of Economic Affairs and Digital Transformation, at the proposal of the Sectoral Commission for e-Government provided by the ninth additional provision of Law 40/2015, of 1 October, on the Legal Regime of the Public Sector, shall approve the interoperability technical standards and publish them by means of a Resolution of the Secretary of State for Digitalisation and Artificial Intelligence.

3. Corresponding working groups shall be set up in the collegiate bodies with competences in the field of e-Government for drafting and updating the interoperability technical standards indicated in Section 1 and any future standards that may be approved by the Ministry of Economic Affairs and Digital Transformation necessary to guarantee the appropriate level of interoperability as a result of the level of technological development, international commitments or the applicable regulatory framework.

In order to guarantee due interoperability in terms of cybersecurity and cryptography, in relation to the application of Royal Decree 4/2010, of 8 January, regulating the National Interoperability Framework in the field of e-Government, the competent body shall be the National Cryptologic Centre, attached to the National Intelligence Centre.

- 4. The following instruments for interoperability will be developed:
  - a) Administrative Information System: Inventory of administrative procedures, provided services and other administrative actions that generate public documentation, with information about them classified by functions and indicating their level of digitisation, as well as information about interfaces to favour the interaction or, where appropriate, the integration of processes.
  - b) Semantic Interoperability Centre of the Administration: It shall store, publish and disseminate the data models for interoperability services between Public Administrations and between Public Administrations and citizens, both common and sectoral, as well as for common infrastructures and services, and the related semantic specifications and code lists. Its purpose is to facilitate the semantic understanding of government data exchange services and to maximise the reuse of semantic assets in the construction of these services. It shall connect with other equivalent instruments of Public Administrations and at European Union level.
  - c) Centre of Technology Transfer: Directory of applications for free reuse that shall contain the list of applications for free reuse, including, at least, descriptive data relating to the name of the application, brief description of its functionalities, use and characteristics, licence, main open standards applied, and state of development.
  - d) Common Directory of Organic Units and Offices of Public Administrations: A tool that shall allow the synchronisation of information systems dealing with inventory, coding

and evolution of organic units and offices in different modes of integration to ensure flexibility in both the consumption and provision of related information.

**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 (repealed)**

**Fourth additional provision (repealed)**

**Fifth additional provision. Technical regulation on the reuse of information resources.**

The technical regulation on the reuse of information resources must be approved by 1 June 2012 at the latest.

**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 22 June, 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 22 June, and in transitional provision one of Royal Decree 1671/2009, of 6 November, 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 8 January 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

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

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

**Signature Policy Implementation Files:** These are the representations in formal language (XML or ASN.1) of the conditions set out in the signature policy, according to the technical standards established by standardisation bodies.

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

**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.

**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.

**Common infrastructure or service:** organisational and technical capacity that meets common user needs in various areas of government, together with its supporting operational governance, which may be horizontal or sectoral in nature, with various modes of provision, as a service or as a product, or integration as a platform, to facilitate interoperability, security, economies of scale, rationalisation and simplification of the administrative action.

**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.

**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.

**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.

**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.

**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.

**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.

**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.

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

**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.

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

**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.

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

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

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

**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.

**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.

**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.

**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.

**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.

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

**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.

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

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

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

**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.