THE MANAGEMENT OF E-DOCUMENTS IN LATIN AMERICA

Aída Luz Mendoza Navarro

SUMMARY

The development of computer technology and telematics in Latin America can be observed in the laws about electronic documents and digital signature. Within that regulatory framework, electronic government is being implemented as part of the States' modernization process, the main objective of which is to optimize the relationship between the State and the citizen through the information and documentation services offered by public administration. Documentary management can be placed between both components, as related services are based on documents belonging to public archives and stored in different media. We will consider this problem in the following lines to deal, in a general sense, with the real situation of documentary management in Latin America.

I. INTRODUCTION

Latin American countries, as most of the countries in the world during about the last two decades – in some cases – have laws about electronic documents and, most recently, about digital signature. Thus, they have been able to introduce computing technology for the management of documents with the necessary legal support.

Laws about electronic media are mainly based on the legal value of the electronic document, its implementation in public administrations and other topics related with the exploitation of computing and information means. Laws emphasize the requirements that electronic documents and the digital signature must fulfil. Though there is some concept similarity, they do not always coincide either in their legal name or their importance. These differences regarding the relation between States through these

means may lead to arbitrary interpretations which, eventually, will be against the international legal framework in which both communications as well as business between countries take place, and not only Latin American countries but some others as well. This is especially true when Free Commerce Agreements are present topics that are especially interesting for these countries in which Public Administrations – where both administrative actions as well as acts are carried out by means of documentary management – play an essential role. This situation makes us think that if there is any conflict, litigation or controversy about matters that are only dealt with by means of computing technology, both national as well as supranational courts would have many difficulties at the time of pronouncing the final decisions for a legal solution.

One of the most important topics derived from the legislation about computing means refers to the legal value of electronic documents, the situation of which – within the Computing Law framework – has an important position. Many experts have commented about this situation expressing different points of views. During the last years, and as a parallel Law branch, it has shown a relevant development and it has concentrated the attention of the Law Schools in the main universities both of Latin America as well as of the rest of the world. At the same time, some progress has been made in some other related areas. Excellently developed researches have been carried out about concepts dealing with electronic documents and the digital and electronic signature. Nevertheless, this branch of knowledge - so important for understanding the commissioning of an electronic documentary management system – has not developed a deep relation with the archivist science to be able to relate both sciences in order to analyze and establish the similarities and the differences and, from such a debate, solid criteria may be derived to facilitate the decision-taking process when the installation of documentary management software is involved. If we analyze the different international events carried out about Computing Law, there are no papers dealing with electronic documentary management or about legal considerations of electronic documents and their use in private or public archives. We believe that this matter belongs more to the archivist field than to the legal one. But at present, knowledge gives us the possibility to

connect concepts and ideas between both sciences. This means, in other words, to interact in a multidisciplinary world which must refer not only to the exchange of knowledge when carrying out a specific activity with the participation of a team made up of experts from different areas, but at all stages of the debate, knowledge and participation as well. In our opinion, only in this way may success be achieved; archivists alone cannot solve the several problems present at the time of taking decisions and implement them to develop their work; they need the help of other professionals, such as lawyers and computer experts as all of them, together, may help to solve the questions that may arise in the future and the doubts that may prevent them from continuing.

Public administrations of Latin American countries are very similar to each other regarding their administrative structure and management, as their situation is not very different from one country to the other. In most of them, above all, we find great budget problems, and this directly influence on the purchase of computer equipment and consumables that may facilitate the implementation of electronic documentary management systems for the States. One of these problems lies on the lack of computing training public officers have, and which may facilitate them to be involved and to use software programmes confidently, thus increasing their technological knowledge. At the same time, the overcoming of the digital gap, mainly on the administered parties' side – which is also the case of some public institutions, especially in towns that are far away from the capital or the big cities – is another pitfall that it will be difficult to overcome in the short term.

In order to implement any documentary management software by electronic means, the legal basis must be considered, i.e., the whole set of laws that are enforced in the country and which are related with electronic documents, the complementary laws about the public administrations' operation and some other related and relevant governmental regulations. The organizations' own rules will be the basis of the implementation of any software with this purpose but, besides, it will be necessary to have other related laws that will be our legal basis. At the same time – though we are not going to deal with

them in this paper – it will be necessary to know the theory and practice of the archivist science, as well as the relevant archivist legislation.

Consequently, we must identify a set of elements for the implementation of a documentary management programme with no problems in which every opinion, professional contribution and institutional compromise will be important in order to obtain achievements. Nevertheless, we will need updated information about the type of computing technology for the development of the management of the State and its documents, according to the applicable sector. This information will be complemented by other countries' experiences and the research works that have been or are being carried out about this topic, as well as the models that may be found in Internet – which will also be an important source of information – though they may only be considered as reference instead of trying to reproduce them with complete accuracy as each situation must be considered individually.

In this document, we will only consider Latin American legislation and its relation with electronic documentary management, but it is clearly taken for granted that the relations of public administrations or, even more, of the governments, are not limited to this geographic area. At present, interaction with the whole world on real time is possible thanks to the "network of networks" called Internet. Now, and on this same moment, we may communicate with the most far away country. This is the computing technology and this is the modern computerised world in which, from my point of view, we fortunately have to live.

Electronic government is being controlled, with great care, by the different countries of the world; many expectations have been deposited on the usefulness of this type of government management that makes it be nearer population and turns to be one of the best means for knowing public opinion. Therefore, great efforts are being made to offer information though, in some cases, it is not updated with the frequency the use of information requires.

Despite we are convinced that electronic government (EG) offers satisfactory results, the attention towards the raw material of this system, i.e. archives, is not considered a priority with the same care that technicians, public officers, governors and authorities of the public administration dedicate to the EG installation. It is not recognized that a high percentage of information shown in the government portal must have its basis on the public management documents, i.e., on archives. This requires having special care both for their management as well as for their preservation. At the same time, the fulfilment of the requirement of authenticated information must always be carried out based on the archive documents, whatever their support may be.

In the following lines we are going to deal with the present situation of documentary management in Latin America, based on the laws on which all administrative activities are supported, the result of which is evidenced in the documents, and it is exhibited by means of the EG which uses said documents to offer true and duly verifiable information to the citizens but only if properly administered archives are kept so as to have documentary support for the States' management.

II. MODERNIZATION OF PUBLIC MANAGEMENT

Developed countries were the first in passing laws about electronic documents; these regulations began to be passed during the 80s, especially in Europe, as a consequence of the use of computers both in public as well as in private offices. The quick development both of the hardware as well as the software and the creation of software that facilitated administrative management, made legislation be modified or gave rise to the issuance of regulations expressly addressed to the implementation of computing in public management granting legal value to the electronic document. Then, the demand of computers for nearly all the activities carried out by people has gained a strength that has never taken place before as far as technology discovery is concerned. We can declare that computing has caused a revolution with reference to the working ways and methods. Its introduction in public management has deserved the passing of specific laws, as well as those which are being passed during the last years about transparency and access to public information, rendering of accounts and fight against corruption, for which computing support is essential. This is the reason why governments are eager to reach - some even overcoming great limitations – optimum levels of computing technology, awarding huge amounts from their budgets to these activities and thus, some other priorities are obliged to be put off, such as the fight against poverty and extreme poverty which seem to have won the battle in Latin American countries.

On the other hand, we still find some governments following obsolete practices and they are eager to maintain the *status quo*, increasing the administered parties' distrust, and where corruption levels are very high and inhabitants require the implementation of policies and severity for public administration transparency – and in these cases, documentary management has decisive influence – in order to offer the administered party the right to have access to information.

Never before during mankind history, has such a deep change taken place as the one observed as a consequence of computing existence and its several applications. The

State has not been out of this process as services – by means of the information highways – are increasingly being offered to administered parties and this is the real change being undertaken by the State – among some other topics which are not less important than this one-. Success can definitively be achieved by the automation of the services rendered by the State, guaranteeing quickness and safety at the time of replying to the administered parties' requests. As we can realize, we are facing a situation which, some years ago, and for some countries, was considered a Utopia.

The administered parties demand information, they expect to receive quick solutions for their requirements; in this situation, governments that are looking for reconciliation with their inhabitants – and are conscious of the lack of confidence on the authorities – have found a light in the tunnel when they have discovered that many of their problems may be solved by taking advantage of information and communication technology (ICTs). Hard work is being carried out in this sense to hang up information in the government Internet portals but we ask ourselves: are the changes and good practices carried out by the Administrations when information is available to the users consistent with the attention paid to the documents derived from the management of public organizations? Generally, archives are the last resource to be looked at. Governments have to consider the great advantages offered by the improvement of inter-governmental communications with citizens and their relations with private legal persons, as well as their relations with other States. But first of all, the documents – by means of which these relations will be executed and maintained – must be designed, prepared, processed and selected, so that the legal framework that will support each of the activities carried out and to be carried out may be achieved. Only in this way may the governmental efforts enjoy real sense and thus, information may be available each time it is needed for consultation or dissemination according to the users' needs.

Through computing technology, Administrations must be related in a compulsory and standardized connection to communicate the different State bodies, the information of which is distributed through the whole public administration, being connected by means of Internet or telematics. As messages and even documents are sent through this

intercommunion, it would also be necessary to standardize documentary management to facilitate transmission and recovery of information. This is why we must refer to documentary management systems in which administrations meet at common points, technological meetings for archive treatment and standardization of documentary typologies because, if they continue having different positions, it will be impossible for them to integrate into a State information system or, in other words, into the State Internet computing infrastructure. According to our point of view, this is one of the most democratic ways according to which governments may act: the delivery of information, to all levels and to all bodies, about its daily operation and, above all, about public expenses to recover the reliance that public officers and governors have lost. Francis Fujuyama says, "*Public bureaucracy of developing countries suffers a favouritism and corruption disease, and its extermination by means of the implementation of "modern" public administration systems has been the main objective of institutional reform"*[1]. As a matter of fact, governments' efforts are dedicated to them, and many times with the support of international institutions. Nevertheless, there is not always interest towards documentary management and attention towards public archives which are the first things to be considered in order to guarantee the so-defended transparency. Therefore, efforts must be centred on the creation of efficient documentary management systems to achieve a really modern public administration.

In several countries, management of electronic documents is producing surprising results but as risks to keep information in these media are still present, serious investigations are being carried out. They try to solve the problems we are all worried about in order to guarantee the availability of information, its authenticity and integrity, confidentiality and long-term preservation of the documents produced by electronic means; and optimize the added-value services to be offered to the administered parties. Their information sources are the documents filed in any type of media. They are daily produced in the public administration and they are under custody in public archives. Therefore, in order to deal with the real situation of archive management in Latin America and the services offered to the administered parties – which is the present

problem of those governments that want to enter the modernization era to improve their administrative operations and, at the same time, to recover their administered parties' confidence – we have to take two basic elements into account:

1. Legislation about computing technology applicable to electronic documents and archives which are the legal basis for public administrations; and

2. The EG implementation in accordance with the policies and strategies each government may apply.

Though legislation about transparency of government actions and access to information, the rendering of accounts, the crimes due to position, etc. are all present in the modernization of the States and are related with documentary management, in this case, we exclusively refer to legislation on computing technology as legal support of documentary management.

III. LEGISLATION ABOUT COMPUTING TECHNOLOGY APPLICABLE TO ELECTRONIC DOCUMENTARY ARCHIVES

In accordance with the legislation of each country, it may be understood that there is no legal obstacle for choosing documentary management only by electronic means, leaving hard copies aside. It is so declared by Mr. José María Prieto Sánchez when he says: *"The Administration has enough regulation so that the electronic document may replace hard copies, both from the file handling point of view as well as from the point of view of their usage as communication media between the administrations or with its relation with the citizen."*[2] At least as far as Latin America is concerned, there is a great distance between what we can observe in public administrations – where hard copies of documents multiply in most of the governmental organizations – and what electronic documentary management might be without any paper at all though hard copies coexist with electronic documentary management. This also happens in most of the developed countries because hybrid systems are closer to reality, without any prejudice of progressing in the use of electronic documents.

The same author declares: *"During the nineties, necessary conditions for being able to generalize the use of data exchange and store electronically were generated; during the following decade, we will be witnesses of paper disappearance as information hard copy"*[3]. We agree with Prieto in the sense that conditions are present – especially in developed countries – as the proper infrastructure is progressively being achieved to develop documentary management by electronic means. Most of the countries in the whole world have the necessary regulatory framework; every day, computing innovations arise which solve the problems observed to improve accesses, safety for information access, etc. Nevertheless, complete confidence in computing systems with reference to authenticity and long preservation of electronic documents still continues to be both controversial as well as risky topics for documentary management of public administrations. Therefore, disappearance of papers, for the time being, is a risky prediction, though we cannot stop recognizing the great advantages of the management of such media for the several services the State is obliged to offer.

As we have already mentioned, laws proliferated all round the world, first of all, as a general framework about the use of the ICTs, which necessarily influenced on the public and private documentary management. Nevertheless, the impossibility of being able to sign electronic documents forced, afterwards, the development of laws which rule the implementation of the digital signature, a topic on which the regulatory aspect seems to be concentrated. Based on all the laws about this topic, public officers have taken relevant decisions for the modernization of the States with the help of computing means, and some bodies - responsible of either the national, state or local archivist policy – have assumed the technical-archivist implementation of documentary management, trying to integrate archivist and computer science. But both of them have had the need of dealing with this topic from a legal point of view because it is within this framework in which administrative management develops.

Nobody has any doubt about the power of the law, and its efficiency depends on its application within the terms established by the law. Public officers, as well as lawyers, apply laws and support their decisions with arguments. For the former, it is quite difficult to find legal security which permits them to act with the least possible risk at the time of taking decisions such as, for example, when they authenticate an electronic document because its verification is not always completely reliable. Perhaps for lawyers, arguments to support their legal position are less risky, applying the so-called "rules of healthy critics" that, for José Taramona, are present both in the civil as well as in the criminal process in the sense that the evidence will be assessed as far as its relevance is concerned to convince the judge because the latter must have freedom to consider the evidences based on the rules mentioned. [4] Even more, for judges, their decisions pronounced at a Court of last resort are final and cannot be disputed within national jurisdiction. This is not the case of public officers because their decisions may be cancelled before jurisdictional levels. This situation may cause them some problems and responsibilities of legal nature. Therefore, every time the documents – which derive from electronic documentary management - must be used at judicial levels, or even at administrative ones as evidences, the best security measures must be taken to truly

demonstrate - and being completely sure of - the authenticity of the documents. But, in most cases, this is extremely complex.

Obviously, in this paper we cannot deal with the whole set of Latin American laws passed about this topic. Therefore, we will consider some of the main laws in force about electronic documents and the use of technology in public management passed in those countries which, in our opinion, are worth to be commented.

a) ARGENTINA

In Argentina, section 49 of the Law No. 11672 – Permanent Complementary Law on Budget - passed in 1995, was replaced by section 30 of the Law 24624 passed on the 28th. of December, 1995.[5] It dealt with the use of computing media for financial documents such as: contracts, corporate by-laws, deeds, powers of attorney, case files, direct contracting, public tenders, agreements, etc.; staff documents such as: agents' files, attendance control form, forms, receipts of salary payment, salary payment payrolls, indemnities, exclusions, attachments, retirement, etc.; and control documents, among which we can mention: documentary transfer control forms, complete forms of document remittance, records with file dealings or actions and all those that may get an added value of financial information subject to the action of the National State controlling bodies, etc. of the National Public Administration, and the administrative and commercial one to be included in their files. The law requires guarantees of stability, permanence in time, immutability and inalterability, fidelity, uniformity and integrity of information. Indelible optical or electronic first-generation original documents, and those reproduced with the same characteristics based on the original ones, will be considered as original documents with evidence value, in accordance with the provisions established in section 995 and the other consistent ones of the Civil Code. At the same time, it also declares that the first generation original documents either written or produced in any type of support, once they have been reproduced, they loose their legal value and, after having been cancelled, they may be destroyed.[6] The law

includes documents referring to rights and duties to be preserved only by electronic media which, according to our point of view, may be risky.

The regulation of the above-mentioned law passed by Administrative Decision 43/96[7] about indelible optic or electronic support *"refers to the data memorization means, the technology of which implies the irreversible modification of their physical condition and guarantees stability, permanence in time, immutability and inalterability."* In Chapter V the support requirements for the preservation of information are mentioned, with the aim of preserving *stability, permanence in time, immutability and inalterability.*

On the 12th. of November, 2001, the Law 25506[8] established the use of the digital signature and the electronic signature. The regulation of this Law, Decree 2628/2002, passed on the 19th. of December, 2002[9] in its 4th. section about technical rules, empowers the Head of the Ministry Council to establish the technical procedures and rules for the production, communication, filing and preservation of digital or electronic documents. In section 5, the legal requirement about preserving documents, registrations or data is established, in accordance with the present legislation. It may be fulfilled with the preservation of digital documents digitally signed. Certified copies thereof may be obtained from the original documents in digital form that are digitally signed. Authenticity certification will be made in accordance with the relevant legal procedures, and in section 41 of the regulation, emphasis is made on the need that the Head of the Ministry Council – among some other topics – must consider the actions tending to promote the massive use of digital signature for file dealings and establish a term of 5 years to have the whole set of administrative documents in digital format. We consider the law as excessively daring, because it implies that for the year 2007 – according to the legislation on this topic – public administration must be completely furnished with virtual documents.

b) BRAZIL

Decree No. 3505/2000 establishes a safety policy for information in the bodies and institutions of the National Public Administration the main basis of which is to make

Public Administration be aware of the importance of processed information and about the risk of being violated. Section 3 rules the guarantees for the information, *"guaranteeing confidentiality, integrity, authenticity, not rejection and availability of data and information"*; it refers to the information systems which include electronic documents.[10]

On the 5th. of September, 2000, Decree No. 3587 was passed by means of which the rules about the infrastructure of public codes of the National Executive Power are established[11]. In point 2 of section 2, it is specified that the *"public codes of the National Executive Power will facilitate, within the field of the bodies and institutions of the National Public Administration, the offers of secret services, the validity, authenticity and integrity of data, the irrevocable and immutable nature of electronic transactions and of the applications of supports using digital certificates"*. On the other hand, section 16 grants the Policy Management Authority (AGP) the power to pass the necessary measures so that electronically-managed documents may have the same validity, recognition and authenticity than those in hard copy.

Decree 3996 passed on the 31st. of October, 2001 deals with the rendering of services of digital certification within the scope of the National Public Administration, [12] as it appears in section 3 about the management of electronic documents for which it is necessary to use digital certificates. Provisional Measure No. 2202-2 passed on the 24th. of August, 2001[13] establishes the infrastructure of public codes and rules the electronic certificate and the digital signature, granting *authenticity, integrity and legal value to electronic documents.*

Decree No. 4073 passed on the 3rd. of January, 2002 regulates the Law No. 8159/19 which deals with the national policy of public and private archives. About the competence and composition of the National Board of Archives (CONARQ) and the National Archive System (SINAR), Vanderlein Batista dos Santos says that though there is no definition about an electronic document, it cannot be disregarded an explicit declaration stating that the electronic document is a document subject to the rules

applied to documents filed in traditional means, as an important step forward towards the standardization of the consideration of these documents.[14]

C) COLOMBIA

Colombian legislation has its basis in the Decree 2150 dated 1995[15] which looked for the reduction of administrative dealings in State bodies. In section 26, it authorizes the use of electronic archive and data transfer systems, and it orders public institutions to create electronic data transmission systems so that users may send and receive the necessary information for their dealings with the Administration. Besides, it also specifies that the use of technologies for documentary archives by the public cannot be limited, without any prejudice of the technological standards public institutions may adopt for the fulfilment of some of the people's legal obligations. Afterwards, Law 527 [16] about Data Messages, Electronic Commerce and Digital Signature was published on the 18th. of August, 1999. This law, in its 1st. section establishes that it will be applied to all information as data message, except to International Treatments and Agreements. As we can observe, the law maker, having very good criterion, has left aside these so-essential documents for the relations between the country and other States. This must also be applied to another type of documents as important as those exempted. It must be mentioned that in section 2, an information system is defined as the one used to produce, send, receive, file or process data messages in any other way, and section 5 grants them legal consequences, validity or compulsory force.

In section 8, it is said that data message is to be considered as an original document if it enjoys integrity from the moment it has been definitively produced, and based on section 9, it is understood that a full document is the one that has remained complete and unchanged, except due to the effect of an endorsement or change as a consequence of the communication process or file, and in section 10, validity is granted to the data message as evidence. Therefore, its value cannot be denied before any jurisdiction for not having submitted the original document. We warn that section 9 grants a wide range for the interpretation as it happens in other Latin American legislations. Meanwhile, the

circumstances established, with some danger, to support a modification in data message before the relevant jurisdiction, may be alleged. The related doubts may be solved with the computing-technical help, if this is possible. Section 11 refers to the rules of healthy critics and other criteria legally recognised for evidence consideration. Therefore, judges have the final decision about the legal value of data messages ruled by the above-mentioned law.

Then, law 598 was passed on the 18th. of July, 2000[17] by means of which the Information System for the State Contracting Surveillance (SICE), the unique catalogue of Property and Services (CUBS), and the Unique Registry of Reference Prices (RUPR), of the property and services used in common in the public administration were created, and some other provisions were passed. As in other countries, this law looks for transparency in the Colombian State acquisitions.

Law 962 passed on the 8th. of July, 2005 [18] rules the nationalization of administrative dealings and procedures of the State bodies and institutions and of natural persons who exercise public functions or render public services. In its first section, it is mentioned that the law objective will be to facilitate the relations between natural persons and the public administration. For this purpose, the aim of technological improvement is to improve public administration action and reduce the time and costs implied in the performance of dealings on the administrators' part, fostering the use of integrated technological means. This is a legislative measure that supports electronic government. Before that law, María Clara Gutiérrez declared that Colombia had designed the Connectivity Agenda, approved on the 9th. of February, 2000 by means of document 3072, to extend the use of information technology to all the population for, among some objectives, updating public institutions and socialize access to information[19].

d) CHILE

Law 19799 passed on the 26th. of March, 2002 [20], dealt with electronic documents, electronic signature and signature certification services. It rules electronic documents and their legal effects, the use of electronic signature therein, the rendering of

certification services for these signatures and the accreditation procedure that may be followed by those who render the certification service in order to guarantee its use safety. This law was passed after law 19052 – dated 14th. of April, 1991 – which explicitly declared the public nature of the certificates mechanically issued by the identification and Civil Registry Service, through the electronic data processing with no human participation and without any handwritten signature. [21]

In section 3 of the Law 19799- to which we are going to refer hereinafter – it is established the validity of the acts carried out and the agreements executed by natural or legal persons, either of public or private nature, signed with electronic signature. They are valid with the same extent and will cause the same effects as those executed in writing and in a hard copy.

For electronic documents which enjoy public nature, signing must be executed by means of advanced electronic signature which is the one certified by a qualified officer, created by using means that the holder has under his/her exclusive control in such a way that it can only be related with the signatory and with the reference information. It permits the further detection of any modification, checking the holder's identity and preventing the possibility of his/her denial of knowing the document integrity and its author. These documents may be submitted in a trial and, in case they are used as evidence, public documents will be full testimony according to the general rules.

As far as the use of electronic signatures by State organizations is concerned – except public companies created by law as they will be ruled by the laws on documentary issuance and electronic signatures by natural persons – the law in force in Chile establishes that acts may be executed or carried out, agreements may be executed and any type of document may be issued within its scope of competence by being electronically signed. Those actions for which the law requires such a formality which is not capable of being fulfilled by electronic document, or when the presence in person of the authority or public officer who must be a party thereof is required, will be exempted. The above-mentioned implies the unquestionable nature of public attestation

that must be observed in some acts to be fulfilled by public officers as part of the exercise of their work.

This warning confirms the limitations of electronic documents. In this case, is it convenient to completely carry out documentary management through computing? We quickly respond: absolutely not. As it can be observed, computing offers many advantages and several solutions but prudence must be applied when it refers to protecting certain legal and governmental acts.

According to the relevant law, acts, contracts and documents of the State bodies, executed by means of electronic signature, will be valid in the same way and they will produce the same effects than those executed in writing and in hard copies. Advanced signature is required to invest documents with public nature or to have the same effects as this type of documents.

Section 8 deals with the relation of the administered parties with the State bodies, which may be carried out, by means of electronic means and techniques, with electronic signature, following the procedure described by law but only if such techniques and measures are compatible with those used by said bodies. This is a limitation for the development of the EM because compatibilities are of technical type and they are even beyond any legal regulation. Therefore, only those administered parties who may have access to technical levels which permit them communicate with the public administration, may take advantage of the management technology before public bodies. At the same time, they must avoid - when using electronic signatures - to unjustifiably restrict the access to the services offered and to the advertising and transparency which rule their actions and, in general, that arbitrary discriminations may occur. This warning places the relation between the administered party and the administration within a real context because it gives priority to the right of having access to information about citizens for being in touch with public institutions, and this is a consequence derived from constitutional laws of all countries in the whole world.

e) COSTA RICA

Before the approval of the law on this subject, the Administrative Board of the National Archive of Costa Rica published a "Guideline for General Technical Regulations for the Management of Electronic Documents, applicable to the National Archive System of Costa Rica". This is important because it is passed by the first archivist organization of the country, showing a technical-archivist position which tries to connect computing technology application with electronic documentary management. We specially emphasize this fact because participation of bodies in charge of the archivist policy – with honourable exceptions – in most countries has been null or scarce, though it is essential for the protection of the most important documents produced by public administration.

The Guideline points out, as problems regarding the use of electronic documents, the so-called "informal" management, present in the handling of the electronic document by the generating parties, for which technical-archivist processes are not applied for the electronic management of documents. It also adds that it is not possible to guarantee the authenticity of electronic documents due to the changes they are subject to such as: partial loss of the document as a consequence of failures in the storage electronic device, software failures, software defects, changes of the original document made by the author or owner or by third parties who have no-authorised access, who do not guarantee their authenticity.

Lack of caution of public institutions is recognized when computing technology is applied to documentary management. This may result in the loss of valuable documents to evidence governmental management. Therefore, it suggests controls to minimize risks, and the use of the digital signature is mentioned as a solution for some part of the problem, though it has to face the complete lack of legislation about this topic. This was then solved with the approval of the law on electronic documents and digital signature. It also shows an unquestionable real situation related with the preservation for long terms due to the obsolescence of computing science. The guideline exhorts not to apply

computing technology in those institutions which do not have the necessary resources to guarantee the solution of "informal" management problems, authenticity guarantee and guarantee of permanence, which will refuse to carry out the management of documents with scientific and cultural value in electronic support till they have said resources. This warning seems to be highly correct because lack of prudence towards new things may put the safety of electronic documents in danger.

After this guideline - as we have already mentioned - law 8454 about certificates, digital signature and electronic documents was published[22]. This is one of the most recent laws in Latin America and it is applied to all types of transactions and legal acts – either of public or private nature – except if there is any legal provision to the contrary. One of its objectives is the deregulation of dealings.

The law recognizes that electronic documents must be considered evidences at the same level as physical documents. Nevertheless, it considers electronic notices only for judicial purposes (section 5, paragraph b), which, in our opinion, may limit some actions of the public administration. At the same time, it is thereby authorised to use electronic documents for the handling, management and preservation of judicial and administrative case files. About this topic, section 10 deals with the sending of a document, electronic message or digital file related with a certified digital signature about which – except if there is any evidence to the contrary – it is understood that the holder of the relevant digital certificate in force at the time of being issued has been the author and responsible thereof. This mode might replace the electronic notification.

With reference to the management and preservation of electronic documents, section 6 requires that their inalterability and access to a further consultation must be guaranteed. It is important to emphasize the last paragraph of this report. This states that with reference to the State and its institutions, the Law of the National Archive System No. 7202 passed on the 24th. of October, 1990 will be applied. It is assigned to the Directorate General of the National Archives the task to guarantee and regulate the due management and preservation of documents, messages or electronic files. This law is

very important and extremely new if compared with the whole Latin American legislation, and it is explained by the permanent vigilance of the National Archive during the pronouncing of the law. And this gives the highest institution regarding archivist in Costa Rica the possibility of having an explicit participation.

As in the previous legislations, digital signature enjoys evidence value and efficiency, the same as documents with hand-written signature. It also specifies that public electronic documents must have the digital signature certified.

The regulation was approved by the Decree No. 33018-MICIT [23]. In it, the main concepts of the law are defined, among them the one referring to *authenticity* as the truthfulness – which can be technically verified – of the author's identity of a document or communication. Technical authenticity does not exclude the fulfilment of the authentication and certification requirements required by law for specific acts or businesses; and *integrity* as the feature of an electronic document which shows that its contents and identification characteristics have remained unchangeable since the moment it was issued or otherwise, that though having been further modified, such modification has been carried out with the consent of all the legally qualified parties.

The regulation, in contrast with the other laws of the countries mentioned above, includes a paragraph fostering the implementation of the electronic government, but it excludes the dealings that necessarily require the citizen's physical attendance, or that the citizen has chosen such option. It also requests that the State and all public bodies foster the use of electronic documents, certificates and digital signatures for their services, as well as to facilitate the electronic reception, processing and resolution of their dealings and the communication of the result. As it is a relatively-new law, it can be placed among the present technological news as far as its application within the State field is concerned.

f) ECUADOR

In Ecuador, the Law No. 67 on electronic commerce, signatures and data messages passed on the 17th. of April, 2004 [24] rules data messages, electronic signature, certification services, electronic contracting and telematics, the rendering of electronic services through information networks, including electronic mail and the protection of the users of these systems.

Among the general principles, it is established that data messages will have the same legal value as written documents, and their effectiveness, assessment and effects will have to fulfil the provisions established in the law and its regulation. It is mentioned that when the law requires or obliges that information must be expressed in writing, this requirement will be fulfilled by means of a data message, but only if the information expressed therein can be available later for consultation. When law refers to data message, it is understood that the electronic document is also included as it can be concluded from the law because data message means the information produced by telematics and any other technological transmission means, as it is specified by that same law.

Electronic signature has the same value as the handwritten signature and it will have the same legal effects as far as the information expressed in written documents is concerned, and it will be accepted as evidence during trial proceedings. Said law includes the electronic and digital signature within the same concept though other countries rule them separately.

The law includes the electronic public documents recognizing the legal validity of the data messages granted, conferred, authorised or issued by and before the competent authority and electronically signed. According to section 48, the consumer or user must express his/her consent for accepting electronic entries or data messages and he/she will be informed about equipment and programmes for having access to the entries and messages. This situation – though the law does not mention it – may be considered as a

notification means. Nevertheless, section 56 considers electronic service for judicial purposes and it is then expressed than notices to representatives of public legal persons and to public officers of the Public Ministry, who must appear before Court in any proceedings, will be served in their offices or in their electronic service address chosen for that effect. In section 52 the validity of electronic documents as evidence is recognized.

g) MEXICO

By virtue of the decree passed on the 8th. of April, 2003 [25], several provisions of the Code of Commerce about electronic signature were modified and added. Section 89 establishes the Electronic Signature and the Advance Signature. The former has the same legal effects as the hand-written signature and it is accepted as evidence before any Court. The latter establishes some strict and specific requirements among which it is requested that the information about the signature creation must be under the exclusive control of the undersigned and that it must be possible to detect any modification of the signature. In the National Law about Administrative Responsibilities of public officers, electronic archives are mentioned[26]. In the Federal Code of Civil Procedures, section 210-A is added which, in its second paragraph and the subsequent ones, requires reliability on the method through which information has been produced in order to have evidence nature. Besides, it must be available for further consultation only if it is kept complete[27].

Some sectors have programmes for including electronic documents in the administrative management such as: the Secretaries of Administrative Development and Control, Agriculture, Cattle, Rural Development, Fishing and Food, Health, Work and Social Welfare. There is a Computer Committee of the State and Municipal Public Administration. As we can observe, individualized treatment may prevent the use of common criteria for documentary management and its corresponding connection with the EG.

h) PERÚ

The Legislative Decree No. 681 passed on the 11th. of October, 1991 [28] was the first legal device about this topic and it was ruled by the High Decree No. 009-92-JUS passed on the 26th. of June, 1992. Its scope of implementation was the private company. It was then modified so as to be implemented in the public administration as well.

According to the above-mentioned provision, the true copies of documents in micro-devices must guarantee absolute *fidelity, durability, stability and permanence – the same as or even more than the original documents*-; the General Archive of the Nation (AGN) must be notified as well as the regional archives so as to qualify historically important documents that will not be destroyed after being digitalized. Law 26612[29] passed on the 17th. of May, 1996, in its section 3 adds point e) to section 5 of the Legislative Decree No. 681 by means of which it authorises the use of the *"computerised"* signature; said signature must be stable, fixed, durable and its authenticity must be capable of being undoubtedly checked but, besides, it modifies section 234 of the Civil Procedural Code by recognizing the nature of the public or private document through computing means and of telematics in general, and according to section 9, the latter may be used for any type of data transfer and other added value services preserving their value as evidence.

Legislative Decree No. 827 [30] passed on the 11th. of May, 1996 refers to Public Administration, extending the scope of the previously-mentioned laws to modernize the official archive system.

Law No. 27269 [31] passed on the 28th. of May, 2000 about digital signatures and certificates tried to solve the problem of uncertainty about the authenticity of electronic documents, including the electronic and digital signature. This law was ruled by the High Decree No. 019-2002-JUS, which in its 4th. section defines, among some other concepts, the types of signatures.

Legislation about electronic documents modifies other legal texts to include the use of electronic means in the different fields of the State dealings in Peru, though there is no systematization so it seems to be separated from the context of the legal system.

Electronic notice is applicable both within relevant jurisdiction (Law 27419[32]) as well as to public administration as it is so specified in section 20 of Law 27444 [33] about General Administrative Procedure after having been accepted by the administered party.

i) URUGUAY

Law 16002 passed on the 25th. of November, 1988 about the electronic document [34] established that documents produced as a consequence of the distance transmission by electronic means between official bodies will be considered, by themselves, authentic documents and, for all effects whatsoever, they will provide full attestation about the existence of the original documents sent. Afterwards, law 16226 passed on the 29th. of October, 1991 about Administrative Actions [35] agrees, in its section 384, with section 130 of the Law 16002 about granting authenticity to the documents derived from the transmission, which will provide full attestation to all the effects whatsoever, and that the Court on Contentious-Administrative matters will determine and rule the way according to which actions will be carried out.

Law 16736 passed on the 5th. of January, 1996[36] about public administrations requires the fostering of employment and implementation of telematics and computing means for the development of their activities, guaranteeing the administered parties the access to the information they may be interested in. In administrative actions, autographic signature may be replaced by the proper countersigns or computing signs. As we can realize, digital signature is not specifically mentioned. This law has also included personal service of administrative acts and dealings by electronic mail and other telematics or computing means which will be considered with full value if they offer security. The law refers to what, on this moment, is being carried out in the EG when dealing with the administered party.

Afterwards, law 7243 passed on the 29th. of June, 2000 [37], about public and private services, public safety and conditions according to which production activities are carried out gives rise to the electronic file for administrative actions. In this law, electronic signature and digital signature are mentioned. They are granted the same value and efficiency. Later on, Decree 382/2003 passed on the 17th. of September, 2003[38] regulates the use of digital signature and recognizes its legal value whenever it is duly authenticated by codes or other safety procedures according to computing technology. It is granted the same value as evidence as the one enjoyed by the handwritten signature with reference to the document in a hard copy.

j) VENEZUELA

In Venezuela, the Decree No. 1204 passed on the 10th. of February, 2001 [39], grants legal value and effectiveness to the electronic signature, data message and to all understandable information transferred in electronic format, independently of its material support, and referring to both legal or natural persons, with public or private nature.

It is understood that electronic documents will enjoy value as evidence only when their integrity has been preserved and when the information contained in said data message is available. It is required that said information must be unchangeable –this requirement is equivalent to the one of authenticity- since it has been produced, except for any format change which may be characteristic of the communication process, file or presentation. This warning has also been made in some previous laws.

Electronic signature must fulfil the requirements specifically mentioned in the law in order to enjoy the legal effects granted to it. Nevertheless, electronic documents will qualify in accordance with the rules of healthy critics, i.e., according to the judges' consideration.

The rules expressed in the law about issuance and reception of messages may be understood as electronic service.

IV. ELECTRONIC GOVERNMENT IMPLEMENTATION (EG)

EG may be defined as the means that relates the State with the citizen through computing technology to receive and deliver information according to the interests or services the administered party needs to be satisfied.

In spite of their limitations for having computers in their own houses, administered parties are increasing their use of Internet to contact the State and the world. This is why the EG has an important position in the States' modernization. As a consequence thereof, both the computer as well as Internet are the new production means and the basic engines of computing society. [40]

In order that a State may consider the EG with a legal basis, it is necessary to go through the legal framework – that has been commented previously – with the aim of supporting, from a legal point of view, any action which may foster the inclusion of ICTs in the EG.

Not only the great advantages that may be offered to citizens through the EG are surprising, but also the satisfactory advances with reference to the handling of information and the solving of problems present in public organizations as well, specially during the last 50 years, such as the problems of document overproduction and written dealings. It is only necessary to transcribe the comment made by Pérez Merayo with reference to tax statements made by electronic forms which save the American government the processing of seventy-five railway carts full of tax statement forms, the reception and processing of pension requests, apart from the counselling to exporters and many other ways of interaction at a very low cost. [41] Actually, saving is considerable, but perhaps the expert forgets to mention the huge cost of the installed infrastructure for making it possible. And this is the main obstacle for the development of the EG in Latin American countries. Despite this evident real situation, we observe with satisfaction that all possible efforts are made to achieve some computing development levels. Within this context, work is being carried out to reduce the digital gap and to overcome the population's computing illiteracy, especially with reference to

public workers. This implies a great level of investment on training for all public administration officers - whatever their level may be - so that they may take advantage of computing technology benefits.

We have observed that many of the government's documents and data basis are available in Internet, but their dissemination does not facilitate the communication of information to users. Facing this situation, some governments struggle to be - as far as the EG advances are concerned – at the same level than the most developed countries of the world, based on a public management scheme. This obviously involves a documentary management system because the information the government may offer is mainly in the documents filed in the offices or navigating in the computing network within each of the public organizations. In this sense, one of the objectives of the EG is to remove the need of making the same dealings more than once before different bodies. But the different bodies must be communicated using the same technology aimed to the citizen.[42] It must be added that it is also necessary to make the documentary management be uniformed or standardized in each country because frequently, bodies implement their own systems independently without paying attention to uniform criteria as they do not exist because there is no national policy about electronic archives that must be originated in the national bodies or in those institutions in charge of managing archives within a specific territorial area.

Once the States have decided to implement the EG, the institutions must maintain their corresponding Web page with the required and updated information. If not, the objectives of these means will not be fulfilled. As far as the organizations with no Web page are concerned, they have to create it as soon as possible, addressing the relevant budgets to obtaining the necessary infrastructure and staff trained for this task.

In the Web page, *"The electronic government as a means to approach the State to the citizens"*[43] we may find valuable information about the EG state in Latin America which we are hereinbelow going to include as a summary, considering only the information related with our topic:

In Argentina, by virtue of the Decree 624/2003 (Official Gazette 22.8.2003) the Sub-secretary of Public Management is the body in charge of the implementation of the law system which establishes the infrastructure of the digital signature for the National Public Sector. It manages and co-ordinates the technical, economic and budget aspects of the National Telematics Network of Governmental Information. The National Information Technology Office (ONTI) helps the Sub-secretary of Public Management to prepare policies and implement the technological innovation and development process for the transformation and modernization of the State. It also promotes the technological standardization in computing, tele-computing or telematics, telecommunication, office automation or office computerisation; it takes part in the aspects related with the inclusion of the digital signature and the electronic document in the public sector and its filing in other means but paper; it participates in the security and privacy of digitalized and electronic information of the National Public Sector. It is in charge of the planning and implementation of the EG National Plan.

In Brazil, the EG wants to increase integration, efficiency and transparency of public administration to improve the citizen's life conditions. Thus, it turns to be a State tool – through the use of the ICTs – for, among some other purposes, improving the preparation and implementation of policies and a greater participation and exercise of citizenship. It is expected that it will be offered the electronic supply of services and information, the rendering of public accounts, transparency and control of budget execution and the performance of the governmental purchases and contracts through public tenders appearing in the network. At the same time, it has improved legislation to grant legal value to digital transactions, as well as to create an infrastructure of public codes to certify and authenticate electronic documents and public or private transactions carried out electronically (as we have already commented before). One of the main aims is to locate in the network all the governmental services that do not require the citizen's physical attendance, tending to the achievement of national and state services through different governmental sites found in the portal.

Colombia has created a long-term policy aimed to achieve mass penetration of Information and Communication Technologies (ICTs) in the country. It is a State policy the purpose of which is to introduce the knowledge society through the generalised use of the ICTs to modernize public and governmental institutions and socialize access to information. The Presidential Programme for the Development of the Information and Communication Technologies has been requested to implement the above-mentioned policy the purpose of which is to achieve a gradual on-line governmental construction programme to support transparency of the Colombian State by offering information and services through the information technologies in the country. It includes the development of an on-line government with national scope – electronic dealings-, electronic contracting through a "Sole Contracting Portal" and access to information, facilitating the implementation of technological solutions. The goal is achieved by obtaining a legal framework to guarantee the proper regulation of all the aspects related with the use of the information technologies.

Costa Rica is a country that has achieved an important potential for the technological development of connection by means of its Plan for Public Policies regarding ICTs. We are now specifically interested – considering the five goals of the Plan – in digital government the purpose of which – among some others – is the reduction of the digital gap to guarantee universal access to Internet; to make public management be transparent; to facilitate new interaction ways between the citizens and the institutions, and to speed up the rendering of services.

Chile is eager to improve governmental efficiency and transparency. Access to technology is carried out through the so-called info-centres and other low-cost means. It has achieved a good technological infrastructure due to a competitive sector in the telecommunications field. The technological capacity of public administration lies on the Secretary General Ministry of the Presidency. It co-ordinates the policies, plans, programmes and projects of electronic government. The State Modernization and Reformation Project (PRYME) is in charge of creating a State for servicing the citizen. At the same time, projects for the development of the EG include several public services

such as: purchase portal and the single point of contact for the consumer citizen. There are other services addressed to a specific sector of citizenship (electronic invoice, personal identification system), apart from transversally fostering the EG development of the State administration by using the digital signature and document, the creation of common services platforms and standards which foster the relation, exchange of experiences and information delivery. Recently, the National Archive – Santiago, 8th. of November, 2006 – has begun an interesting work taking into account the need of having a system that guarantees the preservation of electronic documents issued by the State bodies. Thus, a unique project is being fostered in the country to finally create an Inter-ministerial File Portal. [44]

Ecuador is committed to orientate telecommunication services towards the most unprotected sectors of the country to guarantee democratic access, taking into account the benefits of the information and knowledge society. The National Connection Committee creates and develops the National Connection Agency to integrate all the population of Ecuador in a great project through democratic access to the benefits and opportunities of the information society. This agency is in charge of policies, strategies, programmes and projects addressed to supply the Ecuador society with communication capacity with its surroundings areas and the world as a whole. On the other hand, the National On-line Government Programme suggests a set of initiatives and projects that use the ICTs. This facilitates that the State is at the citizen's disposal to guarantee transparency in its acts and the offer of services such as: information, dealings, public contracting and citizens' participation.

Mexico is developing an EG guided towards service. For this purpose, its priority lies on having a connection programme which goes beyond a governmental or sector project, according to the citizens' needs, managing the interests of the different governmental levels, different public institutions and bodies and others to extend the coverage of basic services such as education, health, economy, government, science and technology and industry, as well as other community services. One of the main worries is the removal of the digital gap for the benefit of business exchange and government

dealings. The idea is that citizens may exercise their right to be informed and have access to the services offered by the State through the Mega Network of the E-Mexican System.

In Peru, the objectives have been to increase the citizens' access to the State services and information and improve public management efficiency. Among the main components, it is important to mention the on-line services (Peru State Portal), the implementation of the State Intranet, and to be able to execute the State contracts and purchases with the computing support. For this purpose, an EG Office has been created. Among all the services, you can find: the design and implementation of electronic means of payment, the implementation of authorization mechanisms for citizens and companies for the follow-up of transactions, the granting of priority to the main dealings carried out by the citizen, re-design and implementation of the main on-line dealings at national level. Among some others, the following examples are also taken into account: safety information systems, inter-governmental coordination mechanisms, implementation of digital systems for the exchange and storage of official information and of the auditing and on-line follow-up systems. The governmental purchase management wants to increase transparency and the management capacity of the government of Peru for governmental purchases through the implementation of the Electronic System for the State Purchases and Contracting (SEACE) which is being used at present as a pilot project in several organizations.

Uruguay adopts an integrated strategy to foster the entrance of the country in the Information Society. One of the tasks is the Modernization of Public Administration (Network Government) with the purpose of contributing – based on the ICTs – to the construction of a modern, transparent and efficient State with greater participation of citizens in all the fields of the public administration and a better handling of information. According to the programme, in order that the Public Administration may take a leading role, it must be completely modernized, interacting with the citizen and with a generalised use of the ICTs in all its dealings.

Venezuela has considered developing contents which should be suitable for satisfying the specific needs of the different groups of users. For this purpose, the government takes the compromise to use the ICTs as a human development tool which has to be evidenced through the EG. Its strategy is completed by the creation of the so-called Info-centres that support the EG development and mainly, they are addressed to the groups with low economic resources.

Though legislation about computing means in Central American countries – but Costa Rica – has not been developed, it is important to mention that they are a party of the "Tegucigalpa Declaration on Electronic Government" written during the Conference on "Information and Communication Technologies and Electronic Government for the Regional Integration and Development" (Tegucigalpa, Honduras, 20 – 22 November, 2002). The creation and implementation of a Regional Strategic Action Plan about the EG in Central America is one of the decisions taken. The participating countries are: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panamá and the Dominican Republic. In all the Forums of the Central American Vice-presidents that took place during the years 2002 and 2003, among some other topics, it was set in motion the coordination of the EG project in the region, as a reply to the need of facilitating access to information and the performance of dealings.

V. CONFLUENCE OF LEGISLATION, ELECTRONIC GOVERNMENT AND DOCUMENTARY MANAGEMENT

The laws about computing technology enforced in the Latin American countries mentioned hereinbefore, are more or less similar to each other in their general features. In all cases, it is important to emphasize that legislation includes its application in the public administration in such a way that, from a legal point of view, any management software for electronic documents in these countries enjoys the legal support which mainly influences on the service of this type of documents and on the validity of all administrative actions carried out by such State public administrations through computing means.

One of the first obstacles observed in legislation production is the lack of specific reference to some technical-archivist considerations which should have been included in the laws revised. It may have occurred due to the lack of participation of the bodies in charge of archivist policy because if this is not the case, its omission cannot be understood. In the case of Costa Rica, this is an exception as it can be deduced from Law 8454.

One of the common characteristics we have observed is the requirement of authenticity of electronic documents, as it appears in all the world legislations on this topic. With reference to this matter, Fernando Ruiz says that for Carnelutti, authenticity is the relationship between the apparent author and the real author of the document. In electronic documents, it depends on the standardization levels of issuing computing systems. Both authenticity as well as stability of the document will depend, therefore, on the security that surrounds its preparation and issuance process. [45] This is the greatest challenge to be overcome to increase computing technology application, and it is a *sine qua non* requirement for documentary management through electronic means and the service offered to the user through the EG.

The greatest challenge is to preserve authenticity and stability of information in computing devices. We have to be conscious of the danger of loosing all documentary evidences quite easily because they may be deleted, changed or removed without leaving any trace and this leads to identify key elements to clarify the relevant facts of an investigation.[46] Jeimy Cano warns about this matter, stating that digital evidence is the basic evidential element about which information must be supplied regarding its creation, collection or guarantee and how it is submitted before the Court. Thus, we are facing a difficult and formal field of research in which technical knowledge is as important as forensic knowledge and the knowledge of evidential techniques. [47] As technological progress is taking place in documentary electronic management, it is essential to concentrate efforts on the investigation field about authenticity of documents in this type of support. This type of investigations – such as the one carried out by InterPARES, the second stage of which finished in September, 2006 and it is beginning a third stage called IntraPARES from which satisfactory results are also being expected and which should be widely spread among archivists of the whole world [48] - must be strongly supported.

As we can observe, risks are imminent. We have to be aware of the pitfalls of the software and the hardware which have a very wide and varied aspect. Fault prevention does not mean warning about prevention of specific cases that may take place but to have a permanent and suitable supervision and maintenance of all computing components so that as soon as a fault is observed, immediate solutions may be implemented as any delay may cause the loss of valuable information. Nevertheless, prevention measures for the possible failures that may occur and in their different modalities will be considerably helpful though they will never be enough.

A feature which must always be dealt with in any documentary management software is the identification of the essential documents to protect the most important documents of an organization and that guarantee the continuance of its functions and especially when

they are recorded in electronic media. The location of this type of documents requires a great level of specialization and deep knowledge of the task, objectives, aims and functions of the institutions to choose the most important and essential documents which guarantee the proper institutional operation. A multidisciplinary team of that institution, with the help of the experienced professional archivist, will make that aim be achieved.

One of the strategies recommended for the management of electronic documents is to have backups of the essential documents and of the software and keep them in a safety place, as a protection measure to avoid the complete loss of documents. Nevertheless, the most complicated and controversial aspect for the electronic document backups is to guarantee the authenticity of such backups. If not, they will have no legal value when being needed. Suitable rooms - different from the principal place - must be available for storing the backups. They must be prepared according to the environmental and technical characteristics required by the electronic documents in order to avoid their loss and guarantee their preservation. This implies, at the same time, to have enough budget for this purpose.

It must be added that the authentic document is the one that fulfils the legal requirements that guarantee it has suffered no falsification. Once this condition has been checked, said document can be used as valid evidence before any jurisdictional or administrative stage.

As far as the digital signature is concerned, according to the legislations analyzed, it enjoys the same legal validity for authenticating an electronic document. In some cases, different names are being used but, essentially, they deal with the same technical considerations for distinguishing the electronic signature from the digital signature as the latter works by means of public and private codes.

A guarantee required – as it happens with all the laws of the same nature – is that information must have the possibility to be consulted afterwards; that the document must preserve the format in which it was created, filed or received, or in any

demonstrable format; that the information produced or received has to be reproduced exactly; that any information which allows to determine the data message origin, the destination and the date and hour when it was sent or received, is to be preserved. This coincide with the service requirements some countries rule separately and with the archivists' demands regarding the origin and date all archivist document must specify.

The legislations of Colombia and Chile, with good criterion, except the registration of the acts and contracts executed or granted in those cases for which legal formality, which cannot be fulfilled by an electronic document, is required, when personal appearance of any of the parties is required and in those cases referring to family rights or in international compromises. All these exceptions are not foreseen by the other legislations studied. As we can observe, caution is shown towards matters that require the greatest safety in order not to leave legal safety in a risky situation. Thus, in our opinion, it is being recognized – by the legislation itself – that electronic documents even with digital or advanced signature, do not offer absolute safety. For the time being, it is convenient to specify some limitations for some documents that are essential for the States and for the citizen, establishing some limitations for the indiscriminate use of electronic means in public management.

A feature which is necessary to be solved is the systematization of the rules about advanced technologies to integrate them into the regulatory system of each country and, with a more ambitious project, into the international legislation. Some countries have gone a little bit forward by introducing modifications in the substantive and adjective law. But it is still not considered as a whole within each country legal system. This causes an incoherent dispersion which, in some cases, may cause some lack of understanding when being implemented. Therefore, the relevant modifications mentioned in the Civil Code, Criminal Code, Civil and Criminal Procedure Codes, Tax Code, Law on Securities, Code of Commerce, etc. are very useful to achieve greater efficiency at the time of implementing specialized legislation and integrating it into substantive and adjective laws.

Public administrations, through their different public branches, penetrate in the EG to facilitate their users' attention. They offer information both for democratically fulfilling the rendering of accounts before population, having at their disposal, all they need to check if their governors have fulfilled their obligations, as well as the one which is interesting for them for personal reasons. This new and excellent way of the State-administered party relationship gives us the possibility to determine that all the information appearing in the State portals must be supported by the archives of each public institution obliged to inform, and that public administration must guarantee the authenticity of the documents delivered *on line* to offer them authenticated so that their nature as evidences cannot be affected while being transferred through Internet. We must not forget that documentary management must offer safety guarantees both for physical means as well as for electronic means. Perhaps there is a greater demand for the latter. In both cases, this guarantee covers the whole life period of the documents. Even more, in some activities, special safety guarantees must be offered as in the case of the documents generated during the State acquisitions and contracting, as well as in the case of those documents which are the result of audits obliged by law in order to know public finance administration, as well as those documents which are evidence of the citizens' rights. Closely related with these topics, we may mention that, for the complete elimination of documents in electronic devices, the body empowered to authorize it must be equipped with the strategies, technological aids and strict follow-up of the documents the elimination of which is required as it will be more difficult for it to control the amount of documents to be eliminated.

It is important to emphasize that the process for the State to acquire property and services through Internet helps to be more transparent in nearly all Latin American countries that have adopted such means. The challenge now is to extend it towards each country region. Though it seems to be a utopia, this should be considered as a State policy if a transparent public management is really searched and the purpose is to begin an efficient fight against corruption. But it will be necessary to have high levels of security to guarantee the authenticity of the documents produced by the acquisitions and

contracting carried out by the State, specially, to satisfy financial audits by competent bodies. This will obviously require the use of the digital signature that legal provisions have successfully dealt with and eventually, the preservation, either in hard copies or by means of hybrid systems, of the case files if their authenticity and long-term preservation cannot be guaranteed only by electronic means.

For the time being, guarantees are not absolute. Unfortunately, it is well known that, in some cases, non-authorized accesses to the Web pages of the State organizations have occurred. This fact is considered a crime according to the criminal laws passed by most of the countries but it is not always possible to identify the active subject who has committed the crime because the computing technology itself facilitates any person's access and, generally, it is impossible to locate the user. [49] Therefore, great efforts should be made to reduce the risks as far as possible.

With reference to the use of digital signature in documentary management, special care must be taken regarding cryptographic controls to protect both information confidentiality and authenticity. We believe that its use must be thoroughly analyzed to decide to which administrative processes or actions will be applied based on the quality of the documents and the safety measures and, above all, due to the costs because for Latin America - for the time being – they are high. Probably, vulnerability may be concentrated on the loss of confidentiality of private sector or on technical failures which prevent the verification of the signature authenticity. It has been informed about some limitations of cryptography as a consequence of the degradation of cryptographic algorithms due to vulnerability which will question the efficiency of digital signature. [50] Nevertheless, it is one of the most important improvements in computing technology.

Continuous technological changes and the new legal regulations which may be issued for the implementation of the ICTs may specifically influence on public administration. These technological changes require the assignment of important budges for the relevant updating, and only for keeping equipment and other computing consumables updated. This reduces the possibilities of a greater use because State budgets – Latin

American countries suffer permanent budget shortage – are never enough to be in accordance with changes. And most citizens cannot have a computer at home to have access to services and furthermore, to be frequently supplied with updated equipment for their connection with the State through the Web.

A topic we have not considered from a legal point of view is the protection of the citizen's personal information with reference to its relation with the State though we have to mention that most of the countries have rules derived from the Constitutions and some others have specific laws which protect the citizens' rights about such a controversial topic as it is difficult to objectively qualify the documents which are included within the private life. Even the terms used by legislation and doctrine, in several cases, are not coincidental. In some cases, ranks within the so-called personal information are established. For example, we have the so-called *sensitive information* which is thus included within legislation. These may be those related with health for which limitations regarding its use under certain conditions and only by some people are established.[51] In our opinion, any classification – though being very detailed at any time – is included within the subjectivity field at the time of distinguishing when some information may be sensitive, intimate, secret, reserved, etc. What is really clear is that any person has the right that his/her information involving his/her private life, is not made public. Thus, States must include in their specialized legislation all provisions which guarantee the administered party's right and, in case of litigation, these rights will be recognized, with no objection, in the jurisdictional field. Therefore, information access controls must be carried out though the computing technology itself contributes to violate them. Such technology must be used to optimize them. Besides, the proper legislation to persuade the probable persons who may tend to commit computing crimes must be available and severe punishments for these experts who may deceive the controls must be established. Delia Lipszyc comments the following about the protection or control of accesses to electronic means: "*…for the time being, all the technical protection devices could be deceived, even by people who were neither computing experts nor hackers. Nevertheless, the basic aim of the protection measure*

technologies is not to produce impregnable measures the implementation of which is so expensive that it makes them be economically unworkable…"[52] To that extent, these controls are part of the budgets which, sometimes, are not available for Latin American countries. This is our real situation.

It is advisable to pass some legislation about the use of electronic mails. This has turned to be an excellent means of communication. Many public workers use them. Nevertheless, most countries have no legislation about it. There are no policies about when the e-mails can be used because messages are sent both for official matters as well as for personal affairs. Some institutions try to filter non-official e-mails but this is not enough as the officer receives a great variety of messages. Thus, it must exist a distinction between those messages which, eventually, may be considered archivist documents and those that are not. Even more, personal messages, messages from or to friends or the family, commercial messages, etc. are also sent and received. Therefore, it is not easy to make a classification and it is more difficult to keep them under control in order to be able to recover or detect such documents which are really important for official matters. And though the possibility to use a *"hot mail"* – the search of which is to be considered illegal - will always exist, the necessary inquiries to avoid it can not always be made without entering the private domain. An additional topic is the need to determine the official value to be granted to the e-mail message – not only to the message itself but to the attachments as well - and to those which, eventually, may be sent by users to communicate with the public administration because conflicts in which the e-mail message might be essential for recognizing the citizen's right cannot be left aside. It is better to define clear policies to identify the official documents sent by e-mail, specifying the characteristics which so define them, such as, for example, those referring to their nature as archivist documents.

Considering the legislation on computing technology as the legal support, as well as the implementation of the EG, documentary management based on modern archivist techniques is present in both elements. Any documentary management software for the public sector will include the consideration of the documents, from their production up

to their destruction or definite preservation, being understood as an interrelated and integral documentation process produced by a State management.

The aims of the documentary management software we are talking about, are related with: the need to facilitate documentary flow for public affair processing, at the different governmental levels, according to the political structure of each country; the identification, appraisal and determination of the terms for preserving documentary series produced by public bodies in any type of device; the control of documents during their drafting, production, dissemination, storage and recovery; the access of the documents derived from State activity; the optimization of security systems for the preservation of electronic documents; the reduction of computing vulnerabilities; the implementation of a single administration process for records and documents for the States bodies; and the need to work with multidisciplinary teams made up of technicians and professionals representing the State sectors that are directly involved in documentary management.

Let us emphasize the Guide for the implementation of a Documentary Management Programme prepared by the AGN of Colombia in February, 2006, to be implemented both by public as well as private institutions that perform public functions. In Stage II of the document, *"the aspects which can be automated are identified, and they are accompanied by a parameter scheme to be considered in a software tool with which the automation of the PGD wants to be achieved".*[53] Though the document includes several experiences as general guidelines, there is no doubt that it is a first approach about electronic documentary management to establish guidelines within a National Archive System.

There are some other interesting works related with electronic documents such as the guideline of the National Archive of Costa Rica mentioned hereinabove, which establishes instructions for computing implementation in the archives of its National Archive System. Brazil, on its side, has worked with the preservation of the archivist documentary heritage[54]. Chile has been offering, through its Web page[55], the service of

reception of applications and delivery of electronically certified and legalised copies of property registration documents dated since the year 1859 and which are filed in the National Archivist deposits. Certificates of mortgages, liens and prohibitions may also be requested. These works must be distinguished and congratulated because they cover a situation which is still not assumed by the other countries and that cannot be avoided.

In Peru, the Peruvian Technical Standard NTP-ISO/IEC 17799:2004 EDI about "Information Technology. Good Practice Code for the Management of Information Safety. 1st. Edition" was issued for the institutions of the National Computing System[56], with compulsory nature and approved by the Ministry Resolution No. 224-2004-PCM passed on the 23rd. of July, 2004[57] of the Presidency of the Council of Ministers in which the AGN did not take part and in which we have observed regrettable mistakes in several aspects related with archivist documents we have dealt with in another work. [58] Something similar has taken place in Mexico with reference to electronic documents. About it, Alicia Barnard has made the following comments: *"A document has been approved about computing safety requirements for the management of documents in electronic media. It has been prepared without taking into account the archivist practice but I believe the exercise is not bad and that it can be completed afterwards. The greatest problem of this type of initiatives is the great worry about keeping safe information systems, from the technological point of view, but with important defects for their preservation with the passing of time. For example, compulsory nature of metadata is established, but only for computing security purposes and, though many of them are useful for preservation, those which are related with the legal-administrative context or the processes during the information life cycle are omitted as metadata for archivist classification, validity, transfers or withdrawals, just to mention some of them."* [59]

Finally, we will add that the institutions responsible for the national archivist system in each country must keep permanent coordination with the institutions in charge of the EG operation in order to gather and join efforts for the following purposes:

- To facilitate the services offered by public institutions making them accessible for the whole population, fostering the attention of public archive needs.
- To promote the public management transparency through archivist documents.
- To supply unified and simple access points to satisfy the different information and service needs based on each of the public services.
- To offer the services of archives with added value: productivity and quality of the service using archive documents as information elements for the society of knowledge.
- To offer document consideration in the modalities requested by each user.
- To implement the complete on-line attention and solving of dealings.
- To answer consultations, claims and suggestions made on line.
- To try to reduce the costs of dealings and services in the State, rationalizing the steps to be followed during the processing and production of documents.
- To encourage the interrelationship between all the State institutions at a national level, making documentary management criteria be uniform.
- The use of forms will be co-ordinated as far as their design, creation and production are concerned, with the archivist bodies responsible for the national, state or local archivist policy, depending on the case.
- To favour the generalized use of the e-mail in the communications which permit its use, and clarify its nature as archivist document preparing standards for this purpose.

VI. CONCLUSIONS

The laws passed by the different countries about the application of computing in archives, in most cases, have their origin in the need derived from the global development of the ICTs and, in most cases, there has been no co-ordinated work with the national archivist institutions or those responsible for directing the archivist policy within a certain geographic area which would permit the introduction of some considerations which are typical of archivist and that may facilitate the consideration of the documents produced by electronic means, taking into account some securities or necessary protection to reduce the technological risks which are the archivists' main worry up to now.

The situation we are facing now is showing to us - as far as Latin America is concerned- an extended future of co-existence of documents in hard copies and those in electronic devices for documentary management. In most countries, and especially in their inner provinces, most documents are recorded in hard copies. We have some doubts with reference to the reduction of percentage margins in favour of the electronic document in a few years. Everything will depend on the progressive overcoming of negative conditions which, for the time being, are present for the preservation of documents in electronic means as the only way of storage.

In very few countries, computing technology applied to archives is being considered taking into account the archivist institutions at a national level or those that implement the archivist policy – which will be the best option – while public bodies, independently, are implementing their electronic documentary management software to enter into technological modern times with the consequential risks as there is no specialized archivist orientation.

In most of the countries considered for our work, there are no policies, strategies, criteria or common elements to make a standardized documentary management be possible to be derived from the institutions that control archive science, according to the

geographic scope of their competence. That should keep permanent co-ordination with the offices in charge of the EG in order to be able to choose computing-technical agreements that may allow the optimization of the electronic document management and their relation with the EG. The cases of Costa Rica and Colombia are excluded as they are working towards this direction. Chile has begun a work concentrated on the study of electronic documents produced by the ministries with the support of the UNESCO.

The EG is an example of the technological development and its application in the governmental actions. Undoubtedly, it optimizes the attention to the State-administered party, but it is necessary to point out that all the information appearing in the States' portals must be supported by the archives of each of the public organizations obliged to inform; and that the public administration must guarantee the authenticity of the documents delivered on line to offer their authentication in such a way that its value as evidence cannot be affected while it is being transmitted through Internet. This must oblige governors to pay more attention to public archives because they will be the basis of the information exhibited in the States' portals.

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[59] Alicia Barnard is an important archivist, head of the Institutional Documentary Centre of the Health Secretary of the Government of Mexico and a member of the CLAID Team of the InterPARES Project.