

Legal Protection of Electronic Storage of Notary Protocols

 Dewi Andriani^{1*},  Winner Sitorus²,  Maskun³,  Sakka Pati⁴

¹Faculty of Law Hasanuddin University, Makassar, Indonesia.

^{2,3,4}Department of Law, Hasanuddin University Makassar, Indonesia.

Keywords:

Electronic;
Notary public;
Protocol;
Legal protection;
Encryption;
Electronic information and transactions.

Article history:

Received: 16/01/2025
Revised: 28/01/2025
Accepted: 07/02/2025

Abstract. This research investigates legal protection for the electronic storage of notary protocols in Indonesia, addressing challenges of security and regulatory gaps in the digital era. The study employs a normative legal research method by analyzing existing regulations, particularly Law Number 11 of 2008 on Electronic Information and Transactions (ETI), and assessing their applicability to electronic notary protocols. Secondary data from legal documents and relevant literature complement the analysis. The research reveals that while ETI provides a legal basis for the validity of electronic documents, it lacks specific provisions for electronic notary protocol storage. Data security remains a significant concern, requiring stronger measures against illegal access and data breaches. Although encryption and digital signatures are used, their effectiveness needs to be enhanced through a robust Information Security Management System (ISMS). Furthermore, disparities in IT infrastructure among notary offices hinder the uniform adoption of electronic storage systems. Comprehensive legal protection, higher security standards, and dedicated regulations are essential to ensure the security and legal certainty of electronic notary protocols in Indonesia. The findings emphasize the need for specialized training for notaries, improved IT infrastructure, and effective law enforcement to adapt to digital notarial practices.

1. INTRODUCTION

Based on the rule of law, Indonesia guarantees every citizen's legal certainty, order, and protection. The existence of authentic written evidence is one of the forms of providing legal actions, agreements, stipulations, and legal incidents made by authorized officials, in this case, by a notary (Burhanuddin, Sumardi, & Maskun, 2020). A notary is a specific position that carries out the profession of providing civil law services to the public who need protection and guarantees to achieve legal certainty (Pramono, 2015). The notary has the authority to create authentic deeds and other powers regulated by law or based on other authorities, in accordance with the Law on the Position of Notaries, particularly Article 15 of Law Number 2 of 2014 concerning the Position of Notaries (Almira Rahma, Pujiyono, & Saptanti, 2024). The most important and essential authority a notary possesses is to make authentic facts. The authenticity of the act performed by a notary, according to Article 1868 of the Civil Code, is based on reflecting the will of the parties as outlined in the form of a deed. Therefore, the authenticity of this deed should not be doubted (Angraeni, Said, Paserangi, & Arisaputra, 2018). Notarial deeds possess strong evidentiary power in civil matters, making notaries essential in various legal transactions. The role of notaries is further defined by their obligation to comply with ethical standards and legal regulations, ensuring that their actions serve the public interest and maintain legal certainty (Kamran, Rahman, & Pawennei, 2024). Unfortunately, this notary product only applies locally. If it is to be used in international relations, a legal process is needed due to differences in jurisdiction (Irianti, Ashri, & Sakharina, 2019). This multifaceted role underscores the importance of notaries in the legal system, as they authenticate documents and uphold the integrity of legal processes within their jurisdiction (Poetra, Setyawan, & Prakoso, 2024).

Indonesian notary positions are regulated by Law Number 2 of 2014, which amends Law Number 30 of 2004. According to Article 16, paragraph (1), letter b, notaries must create and save Deed Minutes as part of the Notarial Protocol, which serves as evidence for civil law actions. Notary practice requires a protocol. Good management and legal regulations are essential for public trust in the notary profession and for proper notarial activities (Bey, Jamilah, Ruhaeni, & Suriaatmadja, 2024).

The Notary Protocol serves as written evidence, as required by Article 1866 of the Civil Code, which utilizes authentic private letters as the primary proof. Authentic deeds represent the best civil evidence. Since the minutes of the Deed constitute the original Deed, which includes the signatures of the presenters, witnesses, and Notary, they must be maintained securely. Habib Adjie identified three benefits of a notary deed or authentic deed (Adjie, 2018).

- Obtain legal certainty for the parties who agree according to what is stated in the agreement.
- It provides a sense of security for the parties because they can sue the other party if there is a default or something that makes one of the parties feel disadvantaged.
- Perfect proof without needing to be assessed or interpreted other than what is stated in the agreement's content.

To maintain future viability, the Notary must protect the protocol during their active term for multiple reasons. Article 62 of Law Number 2 of 2014 concerning the Position of Notaries (UUJN) stipulates that the transfer of the Notary Protocol occurs under conditions including the Notary's death, termination of their term, voluntary resignation, incapacity to fulfill duties for over three years, appointment as a state official, relocation, temporary suspension, or dismissal. The responsibility for preserving the Notary's protocol, specifically the original deed, rests with the Notary, Substitute Notary, or Temporary Notary Official, even after the transfer of the protocol. The Regional Notary Supervisory Council performs annual inspections to verify the appropriate maintenance and security of these processes as proof.

Although the Law on the Position of Notaries does not clearly delineate the term of a Notary's accountability for the acts they produce, Article 63, paragraph (5) suggests that Notary protocols older than 25 years must be transferred to the Regional Notary Supervisory Council. This transfer indicates the cessation of the Notary's professional liability for the deeds, exonerating them from

any future legal disputes regarding the protocols.

Based on the provisions of Article 1946 of the Civil Code, it is regulated that an agreement expires after a certain time. To obtain material rights (*acquisitive verjaring*), within a specific period of controlling a particular object, a person who has good intentions based on legal rights acquires an immovable object after a period of 20 (twenty) years of control. If the person controls it for 30 (thirty) years, they cannot be forced to prove the basis of their rights. Furthermore, the provisions of Article 1967 of the Civil Code state that legal demands, whether material, personal, or debt, expire. This expiration is called "*extinctieve verjaring*." Expiry serves as a means to be released from legal demands, both material and personal or debt, after 30 (thirty) years have passed.

Thus, the provisions above provide legal certainty that the storage of Notary protocols as evidence at trial will expire "*extractive perjuring*, by Law after 30 (thirty) years of the protocol's life since the minutes were signed. That is how long a Notary's protocol must be kept, up to a maximum of 30 (thirty) years, with the Notary who made it or transferred it to a colleague in the profession and stored in the form of papers, in the form of books. Sometimes, a Notary who is about to retire can hand over thousands of books, and of course, there is enough cupboard space to accommodate them.

The relationship between notary protocol and archival management is very close and important in the notarial context. Both are interrelated in maintaining the integrity, security, and orderliness of official documents produced by notaries (Mirzajanovna, 2024). Referring to Article 3, letter b of Law Number 43 of 2009 concerning Archives (hereinafter abbreviated as Law 43/2009), it is determined that the administration of archives aims to ensure the availability of authentic and reliable archives as valid evidence.

Several problems occur in practice, including:

- a. There are thousands of notary protocols from a senior notary who has died or retired. These protocols are stored in several cupboards.
- b. Notary protocols can be damaged by bookworms, rain, or fire, which can compromise the strength of the evidence.
- c. A notary accepted the notary protocol, and the notary died in good faith. After inspection, several parts of the minutes were found to be defective, such as being torn, and there were also minutes of the deed that neither the notary nor the witness signed, which could invalidate the minutes as authentic deeds. The receiving notary then deals with law enforcement, such as being summoned by the police or being sued in civil court, even though the notary knows that Article 65 of Law Number 2 of 2014 concerning the Position of Notaries states that the responsibility lies with the notary who made the minutes. This sets a bad precedent for the notary if they want to accept the protocol.
- d. Some notaries have sufficient space and funds, store their protocols well, and have a special fireproof room, but not all notaries have this capability.

A notary and writer, Kie (2007), experienced that the notary who received the protocol needed more space to accommodate the bundles of deed minutes. For example, if every year, based on the Notary's Position Regulations, 12 (twelve) books are produced, and a notary works in one place for 15 (fifteen) years, then the books that must be submitted total 180 (one hundred and eighty) books. If the book is of standard thickness, it may not be an issue. However, it is important to consider that now, in 1993, notaries are competing to create as many deeds as possible, often violating the law, including not reading the deeds themselves, not verifying who is signing, and deploying assistants everywhere for deed verification, and so on. According to information received from insiders, several notaries in Jakarta create more than 1,000 (one thousand) deeds a month, and one can imagine how thick one bundle of minutes is and how difficult it will be for the recipient of the protocol to manage it.

Hundreds of years have passed since then, starting with the enactment of the *Reglement op Hitt Notarisambt* in Indonesia (Regulations on the Position of Notaries in Indonesia, Stb. 1860 Number 3). Subsequently, the Law on the Position of Notaries was enacted; the provisions in all these regulations state that notary archives, specifically the minutes of the deed, are kept in paper form.

With technological developments, archival management also involves media transfer and document digitization. Notary protocols can be digitized to improve document management efficiency, security, and accessibility. Digitization also helps reduce the risk of physical damage and makes it easier to search for documents electronically. Very efficient data storage no longer takes up enough space or cupboards in the Notary's office, takes a long time to write, and uses the program provided to input data, and is safe because the physical condition of the paper is no longer damaged by being stored for a long time. Data storage can be done electronically in the form of flash disks with various size capacities, ranging from 512 MB, 2 GB, to the latest, namely 1 TB (1000 GB), hard disk drive (HDD), compact disc (CD), secure digital memory, diskette, magnetic tape, and cloud storage.

Changes in society, which then began to be anticipated by the provisions of the laws currently in effect, to the point where several laws and regulations regulate the use of electronic technology, include:

- a. Law Number 11 of 2008 concerning Electronic Transaction Information, along with Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008, and Law Number 1 of 2024, which is the Second Amendment to Law Number 11 of 2008 concerning Electronic Transaction Information (ETI), emphasizes the importance of having a clean and productive digital space. In consideration, Law Number 1 of 2004 states that it is necessary to utilize information technology with legal certainty.
- b. Law Number 43 of 2009 concerning Archives. Article 32, paragraph (2) states that archival infrastructure and facilities can take advantage of developments in information and communication technology.
- c. Law Number 2 of 2014 concerning Amendments to the Notary Position Law states in the explanation of Article 15, paragraph (3), that the term "Cyber Notary" refers to the authority of a notary to certify transactions carried out electronically. This includes making deeds of waqf pledges and airplane mortgages. A Cyber Notary is a concept that describes notaries who utilize advancements in electronics or digital technology in their daily work.

Article 5, paragraph (1) of the ETI Law stipulates that electronic evidence is considered acceptable, while Article 1866 of the Civil Code identifies letters as fundamental evidence, encompassing both authentic and private correspondence. A letter, as defined by A. Pitlo, is a written instrument that serves as evidence and bears a signature, facilitating the reading and interpretation of an individual's thoughts. Sudikno Mertokusumo posits that written evidence or letters are defined as "any medium containing readable symbols intended to articulate emotions or communicate thoughts, utilized as evidence" (Mertokusumo, 2002).

Common letters function as punctuation marks that provide meaning and are identifiable to readers. According to Article 1, sections 1 and 4 of the ETI Law, letters utilized as evidence may exist as electronic documents in analog, digital, electromagnetic, optical, or comparable formats. These forms encompass writing, audio, visuals, maps, diagrams, photographs, correspondence, signs, numerals, access codes, symbols, or perforations, all of which convey meaning and are interpretable by anyone possessing the necessary comprehension.

Article 5, paragraph (2) of the ETI Law affirms the validity of electronic information and electronic documents, including their printed versions, as admissible evidence in accordance with Indonesian procedural law. This provision explicitly states that electronic

information or documents, including wiretaps or recordings obtained through interception, are admissible as evidence if acquired for law enforcement purposes and authorized by the police, prosecutor's office, or other legally empowered institutions.

Legal protection of the electronic storage of notary protocols is increasingly recognized as important in the digital era. Research shows that the role of the notary is evolving to accommodate electronic documentation, with legal reform proposals to increase the validity of electronically stored notarial acts (Amelia & Gunarto, 2024). Additionally, integrating digital technology into notarial practice has been shown to increase efficiency and accessibility, enabling the use of electronic signatures and documents (Beglova, 2024). However, challenges remain, such as the need for legal experts in the field of informatics and the adaptation of senior notaries to new technology. Ultimately, a comprehensive legal framework that recognizes electronic notarial acts as valid and enforceable is essential to ensure the integrity and reliability of electronic deposit systems (Aspan, Setiawan, Wahyuni, Prabowo, & Zahara, 2023).

Various legal problems are not yet connected in terms of electronic documents. The use of information technology is, of course, developing in practice; this is not limited to notary protocols, which function to provide legal certainty and protection for important documents. Therefore, a breakthrough is needed regarding management methods and technology used to manage notary protocols to provide the convenience and practicality offered by the electronic notary protocol storage system. However, on the other hand, there are no regulations that provide a synergistic umbrella for this act.

2. RESEARCH METHODS

This type of research is normative juridical research, with an approach based on primary legal material by examining theories, concepts, legal principles, and statutory regulations related to this research. The data collection used in this research comes from a literature study of statutory regulations and books that support and explain norms that may be formulated in the electronic storage of Notary protocols to ensure guaranteed legal protection for proving the veracity of authentic deeds in the future. The legal materials that have been collected are used to solve the legal issues being researched. The legal material obtained will be analyzed normatively and qualitatively, namely by discussing and explaining the material obtained based on legal norms or rules relevant to the main problem. Then, the data in the form of legal materials that have been received are presented in the form of narrative text, the descriptions of which are arranged systematically, logically, and rationally. In the sense that all the data obtained will be connected according to the main problem being studied so that it forms a unified whole.

3. STORAGE OF NOTARY PROTOCOLS ACCORDING TO THE LAW ON NOTARY POSITIONS

The Law on Notary Positions mandates that notary protocols be preserved in either conventional or paper format. Article 1, point (13) of Law Number 2 of 2014 concerning the Position of Notaries defines a notary protocol as a compilation of deeds or other significant documents. The Notarial Protocol, in paper form, comprises all minutes of deeds, registers, and the annual compilation of notarial deeds (repertorium). Tan Thong Kie asserts that the protocol encompasses all minutes of deeds (minuut-akte), registers, and annual compilations of notarial deeds (reportorial). The term protocol does not encompass the documents (stukken) that individuals provide to a notary for the creation of a deed (Narsudin, 2022).

The preservation of notary protocols, as stipulated by Law Number 30 of 2004 regarding Notary Positions and amended by Law Number 2 of 2014, requires that protocols be retained in physical format rather than in digital or electronic form. Article 15, paragraph (1) of Law Number 2 of 2014 concerning the Position of Notaries states that notaries are empowered to draft original deeds, preserve them, and issue certified copies and excerpts, thereby guaranteeing the validity of the deed's date. Article 16, paragraph (1), underscores the necessity of preserving deeds as Minutes of Deeds within the notary protocol.

According to Article 58 of Law Number 2 of 2014 concerning the Position of Notaries, notaries must record all deeds in a daily ledger, including details such as the serial number, date, type of deed, and names of the individuals involved. This documentation is meticulously regulated, featuring consecutively numbered pages that are authenticated by the Regional Supervisory Council. Private correspondence, whether formalized or archived, must be diligently recorded in accordance with comparable protocols.

Article 63 of Law Number 2 of 2014 concerning the Position of Notaries delineates the procedure for the transfer of Notary protocols, stipulating submission within 30 days, along with an official handover report. In the event of the Notary's death, temporary suspension, or termination, the protocol must be transferred to another Notary or the Regional Supervisory Council. Protocols exceeding 25 years are submitted to the Regional Supervisory Council for preservation.

Finally, Article 65 of Law Number 2 of 2014 concerning the Position of Notaries stipulates that Notaries, along with their substitutes and temporary officials, retain accountability for every deed they perform, even after the transfer of the protocol to another entity. This ensures accountability and compliance with legal norms throughout a Notary's professional responsibilities.

The notary is tasked with maintaining the notarial deed and procedure for the duration of their tenure, which will then be transferred to their successor. In a paradigm that continues to depend on paper mediums, it is necessary to provide space and incur relatively high costs for the temporary safeguarding of files. Notaries possess constrained financial resources; hence, it cannot be presumed that they employ librarians or archivists capable of providing adequate help (Makarim, 2013).

According to Article 62 of Law Number 2 of 2014 concerning the Position of Notaries, the Notary Protocol comprises various documents that must be maintained to ensure accountability and compliance with legal provisions. The Minutes of Deed, as defined in Article 1 of Law No. 2 of 2014, represent the original notarial deeds signed by presenters, witnesses, and the Notary, forming an integral part of the Notary's protocol. These are bound into books monthly, with each book containing up to 50 deeds and marked with the number, month, and year of creation. The Deed Register Book (Repertory) documents all deeds made daily, listing their serial numbers, dates, nature, and the names of the presenters. Additionally, Notaries are required to maintain a Register of Private Deeds, which records private documents legalized or registered under their authority, including similar detailed information. The Klapper, an alphabetical list compiled monthly, contains the names of all parties appearing before the Notary, along with the nature and number of the deeds. Furthermore, the Protest Register Book records protest deeds monthly, and if no protests occur, the Notary must submit a report stating "ZERO." The Will Registration Book documents all wills created and must be reported no later than the 5th of each month; if no wills are made, a "ZERO" report is required. Lastly, other Register Books, such as the Limited Liability Company Register Book, document the establishment of companies, amendments to Articles of Association, and changes to company management. These comprehensive records are vital for maintaining the integrity of notarial acts and ensuring their compliance with statutory provisions.

Submission of the Notary Protocol can be carried out if the notary:

- a. Die; (Febyanti, Tanuwijaya, & Iriyanto, 2023).
- b. His term of office has ended, namely, the Notary is 65 (sixty-five) years old, or his term of office has been extended to 67 (sixty-seven) years (Wibisono & Ngadino, 2020).
- c. At your own request,
- d. Incapable spiritually and/or physically of carrying out the duties of the position as a Notary continuously for more than three years; (Aida & Riyanto, 2023) has the status of a civil servant, state official, advocate, leader, or employee of state-owned enterprises, regional-owned enterprises, privately owned enterprises, or is holding another position that is prohibited by statutory regulations from holding the position of Notary; (Trisnawati & Sudek, 2019).
- e. Moving position area; (Ma'ruf & Handoko, 2023).
- f. Temporarily suspended;
- g. Dismissed dishonorably (Ma'ruf & Handoko, 2023).

Submission of the protocol in the event of the Notary's death is carried out by the heirs to another Notary in a location appointed by the MPDN (letter a). Meanwhile, the submission of the Notary protocol, as stated in letters b, e, d, f, and h, is carried out by a Notary to another Notary in a location appointed by the Minister on the recommendation of the Regional Supervisory Council.

4. ELECTRONIC DOCUMENT STORAGE AND ELECTRONIC NOTARY PROTOCOL STORAGE BASED ON THE ETI LAW

Now a new era has begun, an era called globalization that is engulfing the lives of nation-states on the surface of this earth. (Assagaf, Sumardi, & Sitorus, 2022). The preservation of electronic documents and notarial protocols under Indonesia's Electronic Information and Transactions (ETI) Law is a developing domain with considerable ramifications for legal practice. The ETI Law establishes a framework for electronic document storage, characterizing an electronic document as information kept in digital format that is accessible and intelligible via an electronic system. The vast quantity of deed archives (*minuta*) that notaries must uphold presents logistical difficulties. These issues impact both current notaries and their successors who inherit these archives, leading to significant operational expenses for the notary office. Moreover, the identification and replication of historical records are laborious and intricate, exacerbating these difficulties. Risks such as fire, insect damage, and flooding underscore the necessity for alternate options, such as the electronic storage of notarial procedures.

From an efficiency perspective, switching to electronic storage could benefit both notaries and the public by streamlining document retrieval and management. Nonetheless, this transformation must conform to the current regulations in Indonesia to prevent conflicts or overlapping provisions, requiring a thorough examination of pertinent laws. Article 1 of Law No. 11 of 2008, as revised by Law No. 19 of 2016, delineates fundamental principles including electronic information, electronic transactions, information technology, and electronic documents. Electronic information includes various forms of data, such as text, audio, photos, and other formats that are processed to convey meaning. Electronic documents encompass information generated, communicated, or stored in diverse formats, ensuring accessibility through electronic systems. These definitions establish a strong legal basis for incorporating electronic systems into notarial activities while ensuring adherence to statutory obligations.

There are quite a lot of benefits that can be obtained with an electronic-based storage system, but in general, it can be said to manage documents effectively and efficiently (Sugiarto & Wahyono, 2015).

Transfer of documents from paper form to microfilm form or other media can be done by utilizing current technology (Voges & Fingscheidt, 2009). Data or information can be preserved using diverse media, each presenting distinct characteristics and purposes. Magnetic tape is a storage medium composed of magnetic material applied to a thin plastic substrate, similar to the ribbon found in cassette tapes. Magnetic disks are circular mediums extensively utilized for data storage. Optical disks provide substantially more storage capacity, capable of holding data hundreds or thousands of times more than conventional magnetic media. A prevalent storage medium is the USB Flash Disk (UFD), a portable device resembling a pen that interfaces with a Universal Serial Bus port for data transfer and storage. Moreover, memory cards are slim, small storage devices frequently utilized in personal digital assistants, digital cameras, mobile phones, and camcorders. Each media type offers adaptable solutions for data storage, customized to particular user needs and technological specifications.

Storage using cloud computing provides many benefits beyond reducing operational costs and can be accessed at any time, making it more efficient. Cloud computing services that are often used in today's activities include Google Drive, Gmail, Yahoo, and so on.

4.1. Legal Protection for Electronic Notary Protocol Storage

Legal protection of the electronic storage of notary protocols is a complex issue, especially due to the lack of specific regulations governing this practice in Indonesia. The current legal framework, as highlighted in several studies, does not provide clear guidelines for the electronic storage of notarial protocols, leading to a "norm vacuum" or legal uncertainty (Kencana, Syaifi, & Erliyani, 2023). Rapid technological advances have had a significant impact on various aspects of human life, including the legal field. One aspect of law that is affected by technological developments is notarial activities, particularly regarding the maintenance of notary protocols (Sugiarto & Wahyono, 2015).

Notaries, as public officials with the authority to create authentic deeds, have a significant responsibility in maintaining the confidentiality and security of documents stored in their protocols (Makarim, 2011). In this case, the security of the notary protocol is very important because the protocol is a collection of vital and confidential documents (Makarim, 2015).

With the increasingly rapid development of technology, electronic storage of notary protocols, also known as cyber notary, has become a necessity to ensure the security and confidentiality of these documents (Mariyam, 2015). However, cyber implementation notaries in Indonesia are still not comprehensively regulated in existing laws and regulations.

This research aims to analyze legal protection for the electronic storage of notary protocols in Indonesia. Based on the research results, several important findings were identified regarding regulations, data security, technology used, legal protection, and infrastructure readiness.

First, regulatory analysis shows that there are provisions that regulate electronic document storage but do not specifically regulate notary protocols. Law Number 11 of 2008 concerning Electronic Information and Transactions (ETI) and its implementing regulations provide a legal basis for the validity of electronic documents; however, there are no specific regulations regarding the

electronic management of notary protocols.

Second, regarding data security, the research results show that data security in the electronic storage of notary protocols still requires special attention. This security aspect includes protection against unauthorized access, data leaks, and data damage that may occur due to cyberattacks or technical errors.

Third, the technology applied in electronically storing notary protocols includes the use of encryption and digital signature systems. However, there is a need to improve the information security management system (Information Security Management System - ISMS), which is more comprehensive.

Fourth, from a legal perspective, the protection of electronic notary protocols includes more detailed arrangements in special laws or government regulations that govern procedures for storing, accessing, and auditing electronic notary protocols.

Fifth, other findings show that the readiness of information technology infrastructure in notary offices varies, with some notary offices still using traditional methods and not fully adopting electronic storage technology.

Legal protection for the electronic storage of notary protocols requires more specific and detailed regulations in laws or government regulations. These clear legal arrangements will provide legal certainty for notaries in carrying out their duties and functions, as well as guarantee the security and confidentiality of important documents stored in notary protocols.

Legal protection for the electronic storage of notary protocols requires more specific and comprehensive arrangements, including the standardization of procedures, identification and authentication systems, as well as the legal accountability of the parties involved. With the existence of adequate legal regulations, it is hoped that these can guarantee legal certainty and comprehensive protection for notaries in carrying out their duties and functions, especially regarding the electronic storage of notary protocols.

Currently, the existing regulations in the ETI Law are insufficient to cover all aspects required for the electronic storage of notary protocols. New regulations must address notary obligations regarding the use of technology, data security standards, and audit mechanisms. The importance of this special regulation lies in the need to provide legal certainty for notaries in carrying out their duties and to protect the interests of the parties involved in electronically documented transactions.

The use of technology such as encryption and digital signatures is a good first step, but higher security standards are needed. Integrated ISMS implementation can help protect notary protocol data from cyber threats. The government needs to set minimum technology and security standards that must be met by notaries. These standards should cover various technical aspects such as the encryption methods used, security protocols for data storage and transmission, as well as procedures for data recovery in case of system failure.

One important aspect of the legal protection of electronic notary protocol storage is the implementation of an information security management system. This system aims to identify, evaluate, and manage risks related to information security, such as confidentiality, integrity, and availability (Kurnianto, Isnanto, & Widodo, 2018).

Implementing a good and comprehensive Information Security Management System (ISMS) in the electronic storage of notary protocols will ensure the security of these important documents. Several key elements that need to be considered in an ISMS include information security policies, access control, asset management, security incident management, and business continuity management (Setiadi & Bagiastra, 2021).

Establishing a clear and comprehensive information security policy is essential to guarantee the confidentiality, integrity, and availability of information in electronically stored notary protocols. Implementing a reliable identification and authentication system is necessary to verify the identity of users who access electronic notary protocols (Wahyudi, Efendi, Subli, Subki, & Alfian, 2020).

Implement effective access control mechanisms to limit and monitor access to electronic notary protocols. Implement comprehensive data backup and recovery procedures to ensure the availability of information in electronic notary protocols. Implement protective measures against cyber threats, such as malware, DoS attacks, etc.

By implementing an adequate ISMS, legal protection for the electronic storage of notary protocols can be properly guaranteed. ISMS will ensure the security and confidentiality of important documents stored in notary protocols, providing legal certainty for notaries in carrying out their duties and functions. The intricacies of maneuvering through procedures in various legal systems may necessitate significant legal knowledge and resources (Eviani, Maskun, & Faqi, 2024).

Apart from more specific regulations, effective law enforcement is also needed. Legal protection for electronic notary protocols must include strict sanctions for data security violations, as well as efficient dispute resolution mechanisms. Strong law enforcement will provide a deterrent effect for parties who attempt to violate the rules and will provide a sense of security for notaries and parties involved in electronically documented transactions.

To support the implementation of electronic storage of notary protocols, it is necessary to increase the capacity of the information technology infrastructure in notary offices. In addition, training and education for notaries and their staff regarding the use of electronic storage technology and data security are also very important. This training should cover the technical and practical aspects of using electronic storage systems, as well as the security procedures that must be followed to protect data from internal and external threats.

Effective legal protection also requires cooperation and coordination between various parties, including the government, notary associations, technology service providers, and law enforcement. This collaboration is important to ensure that all technical and legal aspects of electronically storing notary protocols can be carried out properly. This collaboration will also ensure that there is harmony in the implementation of established standards and regulations, as well as adequate support for notaries in adopting new technology.

5. CONCLUSION

Legal protection for the electronic storage of notary protocols requires a comprehensive approach, including clear regulations, high-security standards, effective law enforcement, infrastructure readiness, and good cooperation between various related parties. In this way, electronic notary protocols can be stored safely and protected from various threats while still meeting applicable legal requirements. The implementation of clear and specific regulations, as well as strong law enforcement, will provide legal certainty and protection for notaries and parties involved in electronic transactions, thereby increasing public trust in the use of technology in the notarial field.

Funding:

This study received no specific financial support.

Institutional Review Board Statement:

Not applicable.

Transparency:

The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests:

The authors declare that they have no competing interests.

Authors' Contributions:

All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

REFERENCES

- Adjie, H. (2018). *Civil and administrative sanctions against notaries as public officials*. Bandung: Refika Aditama.
- Aida, D. M. N., & Riyanto, S. (2023). Ratio legis liability answer recipient protocol regarding the contents of the deed based on notary public position act. *Recital Review*, 5(1), 1–19.
- Almira Rahma, A., Pujiyono, P., & Saptanti, N. (2024). Notary's legal liability for deeds declared null and void. *International Journal of Educational Research & Social Sciences*, 5(2), 200–204. <https://doi.org/10.51601/ijersc.v5i2.800>
- Amelia, L., & Gunarto, A. M. (2024). Legal reconstruction of electronic storage for notarial deeds minute based on the value of justice. *Scholars International Journal of Law, Crime and Justice*, 7(5), 167–172.
- Angraeni, D., Said, N., Paserangi, H., & Arisaputra, M. I. (2018). The legal analysis of notary/ppat who takes a leave but keep make legal deed. *Jurnal Hukum Novelty*, 9(2), 205–217.
- Aspan, H., Setiawan, A., Wahyuni, E. S., Prabowo, A., & Zahara, A. N. (2023). Cyber notary issues authority certificate to provide legal protection in online selling. *Journal of Law and Sustainable Development*, 11(10), e1801–e1801. <https://doi.org/10.55908/sdgs.v11i10.1801>
- Assagaf, A. A., Sumardi, J., & Sitorus, W. (2022). The effect of cost determination in the provision of Halal certificates on traded products in Makassar city. *Khazanah Hukum*, 4(3), 192–204. <https://doi.org/10.15575/kh.v4i3.19945>
- Beglova, G. Z. (2024). Digital transformation of the Russian Notary. *Gaps in Russian Legislation*, 17(2), 81–85.
- Bey, E. F., Jamilah, L., Ruhaeni, N., & Suriaatmadja, T. T. (2024). Regulatory reform of the storage of notary protocols as a national archive in Indonesia. *Journal of Law and Regulation Governance*, 2(5), 215–222. <https://doi.org/10.57185/jlarg.v2i05.51>
- Burhanuddin, B., Sumardi, J., & Maskun, M. (2020). Notary responsibility on electronically stored client data: Challenges and developments. *International Journal of Multicultural and Multireligious Understanding*, 7(8), 741–749.
- Eviani, N. Y., Maskun, M., & Faqi, A. F. (2024). Legal challenges of AI-induced copyright infringement: Evaluating liability and dispute resolution mechanisms in digital era. *Jambura Law Review*, 6(2), 403–428. <https://doi.org/10.33756/jlr.v6i2.24459>
- Febyanti, D. S., Tanuwijaya, F., & Iriyanto, E. (2023). The legal consequences of heirs not submitting the notary protocol to the regional supervisory board. *Jurnal Ilmu Kenotariatan*, 4(2), 119–129. <https://doi.org/10.19184/jik.v4i2.43763>
- Irianti, A. A. T., Ashri, M., & Sakharina, I. K. (2019). Role of notary public in increasing the ease of doing business index through the apostille convention. *Journal of Economics and Business*, 2(1), 1–9. <https://doi.org/10.31014/aior.1992.02.01.61>
- Kamran, M., Rahman, S., & Pawennei, M. (2024). Notary's responsibility in the exercise of authority as an authentic deed official. *Journal of Law and Sustainable Development*, 12(4), e3342–e3342. <https://doi.org/10.55908/sdgs.v12i4.3342>
- Kencana, V., Syaafi, A., & Erliyani, R. (2023). The urgency of electronic notary protocol storage in e-notary perspective. *International Journal of Social Science and Human Research*, 6(8), 4712–4720.
- Kie, T. T. (2007). Study of notaries and miscellaneous notary practices. *Ichtiar Baru Van Hoeve*.
- Kurnianto, A., Isnanto, R., & Widodo, A. P. (2018). *Assessment of information security management system based on ISO/IEC 27001: 2013 on subdirectorate of data center and data recovery center in ministry of internal affairs*. Paper presented at the In E3S Web of Conferences (Vol. 31, p. 11013). EDP Sciences.
- Ma'ruf, M. A., & Handoko, W. (2023). Notary responsibilities to transition protocol submitted notary to him. *Notarius*, 16(3), 1528–1542.
- Makarim, E. (2011). Modernization of future notary law: A legal study of cyber possibilities notary in Indonesia. *FHUI Publishing Agency*, 41(3), 467–498.
- Makarim, E. (2013). *Notary and and electronic transactions legal studies about cyber notary or electronic notary*. Jakarta: PT Raja Grafindo Persada.
- Makarim, E. (2015). Authenticity of electronic public documents in government administration and public services. *FHUI Publishing Agency*, 45(4), 508–570.
- Mariyam. (2015). Building an ideal model of notary supervision. *Legal Issues*, 44(4), 447–453.
- Mertokusumo, S. (2002). *Indonesian civil procedure law* (6th ed.). Yogyakarta: Liberty.
- Mirzajanovna, K. M. (2024). The importance of notarial activity in protecting the rights of individuals and legal entities. *The American Journal of Political Science Law and Criminology*, 6(3), 51–56. <https://doi.org/10.37547/tajpslc/volume06issue05-04>
- Narsudin, U. (2022). Substance of notary and PPAT in practice. *PT Nas Media Indonesia*.
- Poetra, D. S., Setyawan, F., & Prakoso, B. (2024). Comparison of the law of duties and authorities notaries in countries with civil law and common law legal systems. *As- Syar'i : Journal Counseling Guidance Family*, 6(3), 1465–1477.
- Pramono, D. (2015). The evidence strength of deed made by notary as public official according to civil procedural law in Indonesia. *Lex Jurnalica*, 12(3), 248–258.
- Setiadi, W. T., & Bagiastra, I. N. (2021). Validity of signature on deed authentic by electronic reviewed by cyber notary. *Acta Comitatus*, 6(1), 66–67.
- Sugiarto, A., & Wahyono, T. (2015). *Modern record management from conventional to computer based*. Indonesian: Gava Media.

- Trisnawati, M., & Sudek, S. (2019). Legal protection against notary public recipient protocol in case it happens violation deed notarized by notary giver deceased protocol. *Notarius*, 12(1), 23-41.
- Voges, C., & Fingscheidt, T. (2009). Technology and applications of digital data storage on microfilm. *Journal of Imaging Science and Technology*, 53(6), 060. <https://doi.org/10.2352/j.imagingsci.technol.2009.53.6.060505>
- Wahyudi, E., Efendi, M. M., Subli, M., Subki, A., & Alfian, M. R. (2020). Implementation of the digital signature scheme using the schnorr authentication method. *Explore*, 10(1), 23-30.
- Wibisono, G., & Ngadino, N. (2020). Responsibility of regional notary supervisory council for protocol transfer of died notary. *Sultan Agung Notary Law Review*, 2(2), 150-159.