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>> The Company

SOOD is an French innovative company founded in 2003; it holds a large portfolio of international patents in document security, digital confidence and textual documents tattooing process.

Since 2009, SOOD has established a cooperation with "Université de La Rochelle" (Laboratory L3I, directed by Jean Marc Ogier) to develop these technologies.

S*end* **O***nly* **O***ked* **D***ocument*

>> *Our Technology*

- **We bring a real and appropriate answer for the transmission of information between entities.**

- **The technology particularly fits to the management of data sending from individual electronic vaults.**

- **For this we have also developed a tattooing process available for both electronic and paper documents and usable on document containing only texts (***the majority of administrative documents***).**

- **This tattooing process developed for our authentication technology can be used also for many other purposes: copyrights management included for electronic books, augmented reality …**

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>>Concerns of new digital document world

- **Can I be sure that the data I integrate in my Information System is reliable?**
  - ✓Am I sure that, if the information is authenticated, this information is up to date?
  - ✓Can I be sure that the information will remain available during all the period that the information is used by my company to accept a transaction?

- **Can I be sure that the sender of the information is the real owner of it?**
  - ✓Someone can use an authentic document to impersonate the real owner.

- **Can I be sure that the information I send are used only by the third party to which I want to grant an access to?**
  - ✓Wherever information is sent, this information can be used by anyone receiving it or intercept it or copy it.

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>> *Benefits of the SOOD technology*

- The **authentication** of shared information is **100% guaranteed**.
- **No obsolescence of the information** integrated in the recipient's information system.
- Perfectly fitting to the new exchanges processing (CLOUD / SAAS) and **insuring identities of sender and recipient**.
- The information is shared as from any transmission medium (digital, paper, potential document).
- Adapted to management of document from individual electronic vaults.
- **Not intrusive**: No third-party access to your personal strorage.
- Insure the respect of personal rights

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>> *Main characteristics: Authentication*

- **The authenticity of the information is directly guaranteed by the creator of the information. A direct link is created between the creator of information and the "requester" third party. No fraud is possible.**

- **The link between Creator of information/document and requester remain available until this information is no longer useful to the requester. The requester is immediately warned of any update on information he has integrated on his information system.**

- **Avoid any conflicted uses of the same information including by unrelated third-parties.**

- **The data integrity is guaranteed during all the life-cycle of an associated transaction.**

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>> *Main characteristics: Identity*

- **Only the owner of the information is allowed to transmit a document to a requester third-party using our process.**

- **A self authenticating copy can be used only by the requester third party designed by the owner for a specified use. No other requester third party can use this copy.**

- **No possibility to hijack an identity by misusing of a self authenticating copy.**

- **The owner is aware of all usage performed through the self authenticating copies he has created. Any attempt of unauthorized use would be automatically revealed while being unsuccessful.**

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>> *Main characteristics: Privacy*

- **Only the designated third-party can access the data linked to the self authenticating copy.**
- **Only the granted information are available for the designated third-party.**
- **If the copy is hijacked, the hacker cannot access the information linked to the self authenticating copy.**
- **Usage of the transmitted copy is under full control of the emitter; he can revoke or update any rights attached to the self authenticating copy he has created.**
- **No access to the electronic digital vault of the owner is done by the designated third party.**

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>> Main characteristics: Hybrid

- If the copy Even though the digital document is the next generation data transmission mode, paper is still the main one.

- Therefore we developed a special tattooing that can be applied on any administrative document, which means composed almost only with text blocks, (few or no images nor color).

- The tattooing is extremely discreet and don't need any special medium (paper, ink…) nor sophisticated hardware (printer). It can be ported to the digital version of the document at the cost of a very low weight increase.

- The tattooing is available for both formats electronic and paper and is still available when a paper is digitized or when an electronic document is printed.

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>> Authentication: Global process diagram

- **Information Creator:** the entity creating the document/information, for example a utilities company like water or energy provider if the document is an invoice.

- **Archiving Third Party:** the entity that manages the original document created by the Information Creator. This entity can be the creator himself. This entity also manages the delivery of “self authenticating copies” and “authenticated copies”.

- **Owner of the document:** for an invoice, for example, the owner is the user of the service provided by the creator (for example a utilities company)

- **Requester:** is a third party that requests the owner for a document to ensure a transaction. For example, the requester can be a bank agency which requested to his customer a copy of an invoice in order to certify his address to get a mortgage.

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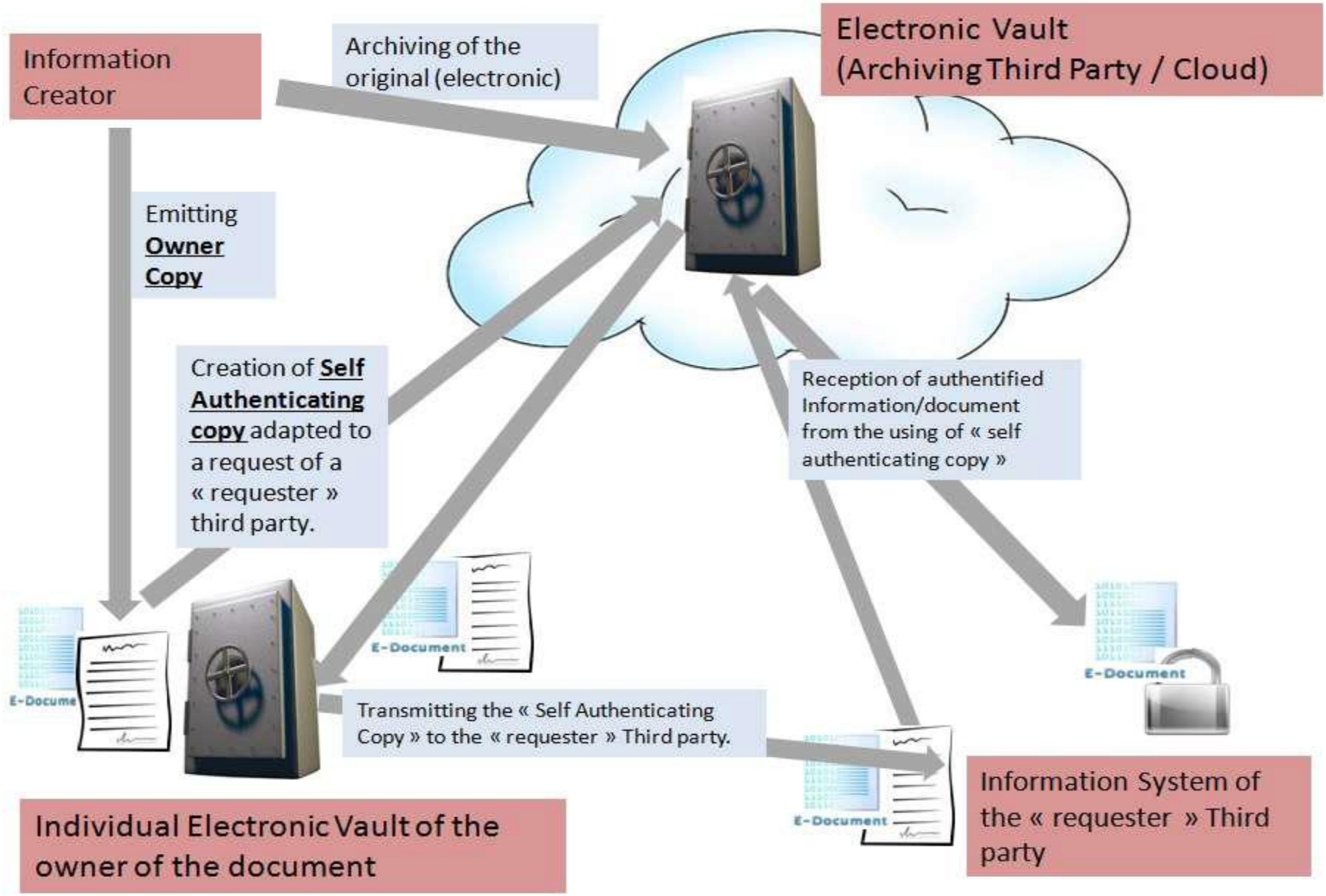
>> Authentication: Global process diagram



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>> Authentication: Creating an "owner copy"

- **The original of the document, the real reference, is not sent to the owner but only to the "Archiving third party".**

- **In parallel an "owner copy" is sent to the owner. This copy can be issued on paper or on electronic format like a PDF (possibly directly sent to the individual electronic vault of the owner.**

- **An electronic owner copy can also result from the scanning of a paper owner copy.**
  - ✓We work with the **L3I** to be able to make this operation possible directly by flashing from a mobile terminal (Smartphone, Tab).
  - ✓The electronic owner copy got by scanning or flashing (in near future) the owner paper copy can be sent directly to the electronic vault of the owner.

- **An electronic owner copy or a paper owner copy is a privileged key of access to the original of the document managed by Archiving Third Party.**

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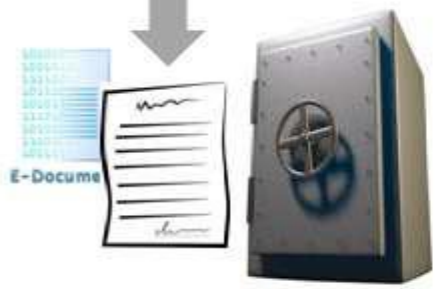
>> Authentication: Creating an "owner copy"

Information Creator

Archiving of the original (electronic)

Electronic Vault (Archiving Third Party / Cloud)

Emitting **Owner Copy**



Individual Electronic Vault of the owner of the document

The **emitter** creates an « **electronic original** » of the document and transmit it to his « **Archiving Third Party** »

Parallel to this sending, the **emitter** send an « **owner copy** », either on paper or in electronic format. If electronic format, it can be sent directly to the « **personal eletronic vault** » of the owner.

The "owner copy" can be also "**potential**": available on internet site depending of a specific request of the owner.

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Authentication: Creating a "self authenticating copy"

- **A " self authenticating copy" is like token given to the requester registered by the administration of the " archiving third party".**

- **The owner of the owner copy can define with precision what is available with the token linked to the self authenticating copy.**
  - ✓He can define who is authorized to use the created self authenticating copy (entity, entity's service, one person or a group of persons …)
  - ✓He can also define the information or the documents reachable with the self authenticating copy. These information and documents can be already existing or even not yet existing.

- **The created self authenticating copy can be a real copy of a document or a copy with changes. These changes can be made, for example, to hide some confidential information.**

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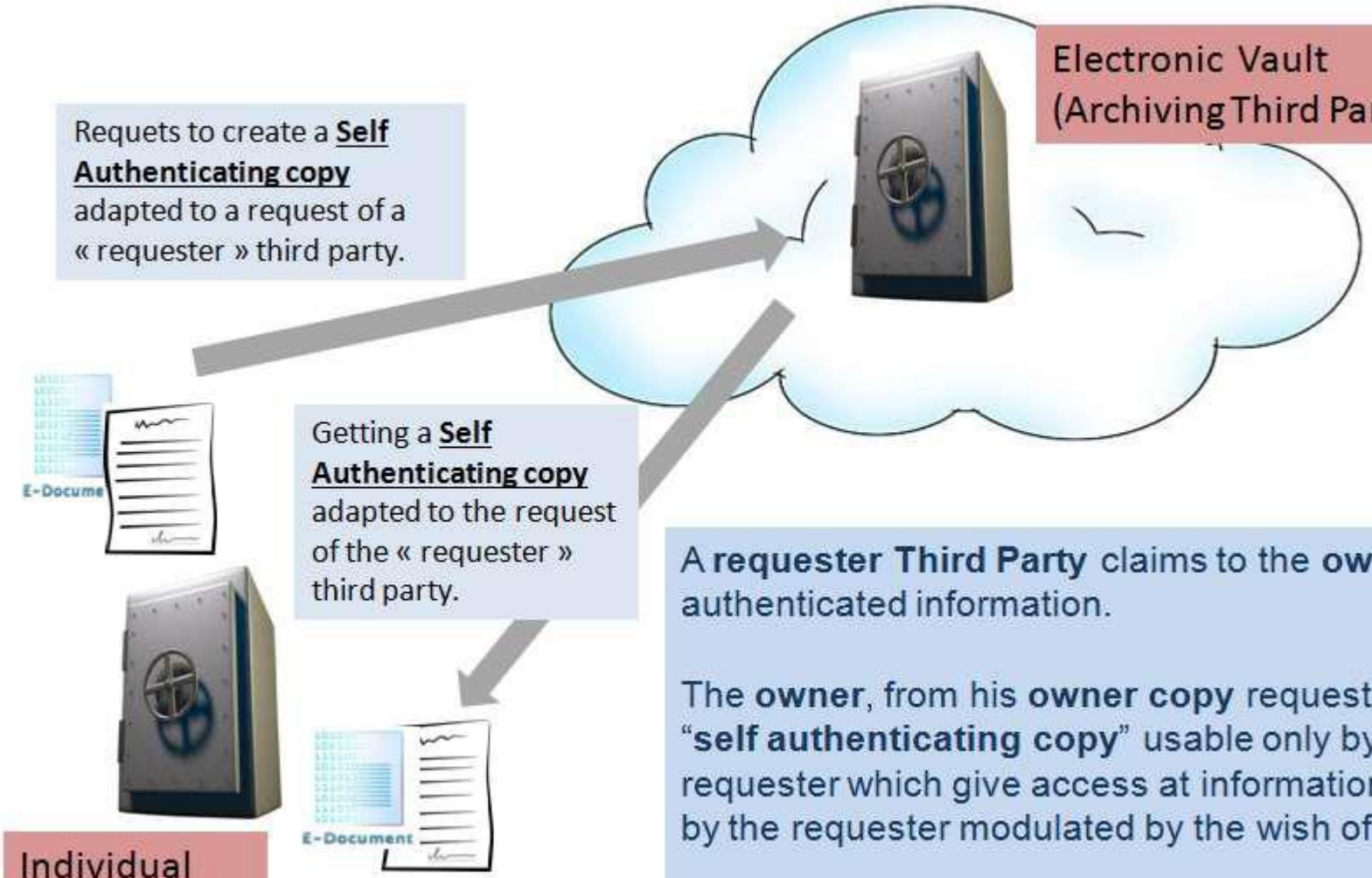
Authentication: Creating a "self authenticating copy"



A **requester Third Party** claims to the **owner** authenticated information.

The **owner**, from his **owner copy** requests an adapted "**self authenticating copy**" usable only by the requester which give access at information requested by the requester modulated by the wish of the owner.

The « **self authenticating copy** » can be created either on paper or on electronic format (as PDF). This copy can be used only by the designed addressees.

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Authentication: Using a "self authenticating copy"

- **The requester can receive the self authenticating copy on paper or electronic format (like PDF).**

- **From a paper self authenticating copy, the requester can scan it, through an application to build a request to get authenticated information/document(s).**
  - ✓He We are working with the **L3I** to be able to perform this operation from a mobile terminal (Smartphone, Tab).

- **From electronic self authenticating copy, the requester can use it, through an application, to get authenticated information/document(s).**

- **The request can ask for existing or future authenticated information/document(s) linked to the used self authenticating copy, in the limits defined by the owner for this self authenticating copy.**

- **Any request or sending using the self authenticating copy can generate tracing for the owner.**

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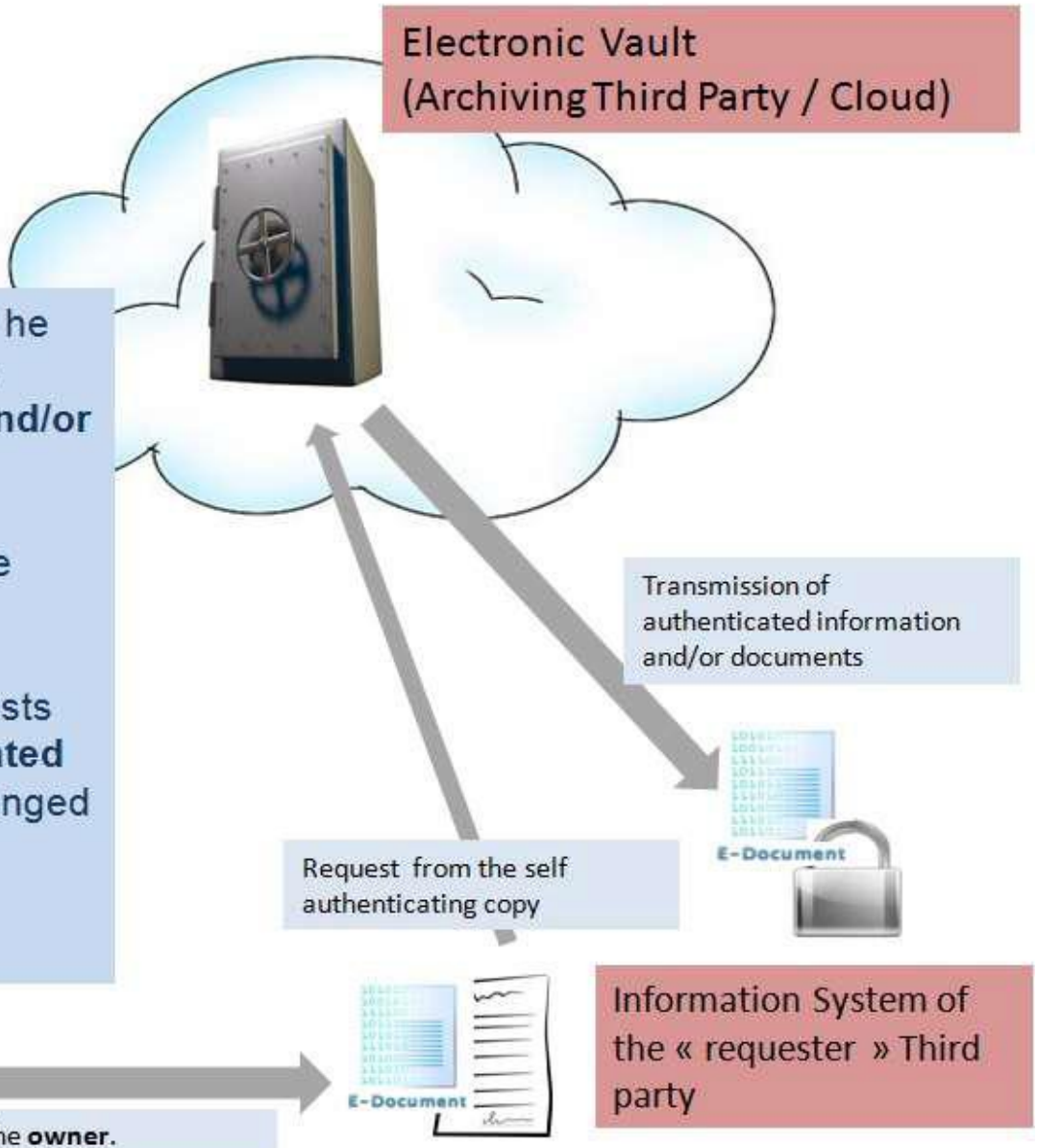
Authentication: Using a "self authenticating copy"



Through the **self authenticated copy** he get from the owner, the **requester** can request **authenticated information and/or document(s)** from this copy.

The request is managed directly by the **archiving third party**.

The **owner** can be noticed of all requests and sending using the **self authenticated copy** he has created. He can also changed the using capacity of the **self authenticated copy** (by reducing or increasing rights).

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The SOOD's Tattooing

- **Tattooing exist based on adding binary information on image. But many documents have only text parts or great part of texts.**

- **SOOD's Tattooing based on text data. The encoding capacity is about 20 bytes for a line and about 10 bytes for "useful" information.**

- **The information can be split in two or three unitary subsequences.**
  - ✓Theses subsequences can be spread on the whole text.
  - ✓ Adapted for a processing from mobile terminal (Smartphone, Tab).
  - ✓The tattooing is available for both paper and electronic format.
  - ✓ PDF format, weight of the file is not increasing significantly

- **SOOD's tattooing survives if we transform the PDF to an image (like a JPEG) or if we print the file. For paper, any printer (recommendation 600 dpi) is able to print an encoded document, black printer or color printer**

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Some SOOD's Tattooing applications

- **Our authentication process.**
  - ✓Adapted to create linking with the archiving third party of emitter for owner copy or self authenticating copy,
  - ✓Available if these copies are either on paper or on electronic format.

- **Copyrights management.**
  - ✓Able to include a complex reference in each part of a document.
  - ✓3 or 4 lines of an electronic book are enough to include the reference of the book, the reference of the owner and the reference of the extract.
  - ✓Very fast to encode an electronic book of hundreds of pages in few seconds, compatible with an "instant" delivery when the book is bought on an internet website like Amazon or Google books.
  - ✓Our tattooing has the same efficiency of a license plate for a car.

- **Augmented reality.**
  - ✓Also useful to be used as a 2D barcode with the advantage to be present on all parts of the document with adapted links.

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Samples of SOOD's Tattooing spreading

Subsequences

First subsequence of encoded information

Second subsequence of encoded information

Third subsequence of encoded information

Encoded Text (*colors only to materialize the subsequences*)

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Maecenas porttitor congue massa. Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna. Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede.
Vivamus a mi. Morbi neque. Aliquam erat volutpat. Integer ultrices lobortis eros.

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Samples of SOOD's Tattooing spreading

Subsequences

First subsequence of encoded information

Second subsequence of encoded information

Third subsequence of encoded information

Encoded Text (*colors only to materialize the subsequences*)

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Maecenas porttitor congue massa. Fusce posuere, magna sed pulvinar ultricies, purus lectus malesuada libero, sit amet commodo magna eros quis urna. Nunc viverra imperdiet enim. Fusce est. Vivamus a tellus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Proin pharetra nonummy pede.
Vivamus a mi. Morbi neque. Aliquam erat volutpat. Integer ultrices lobortis eros.

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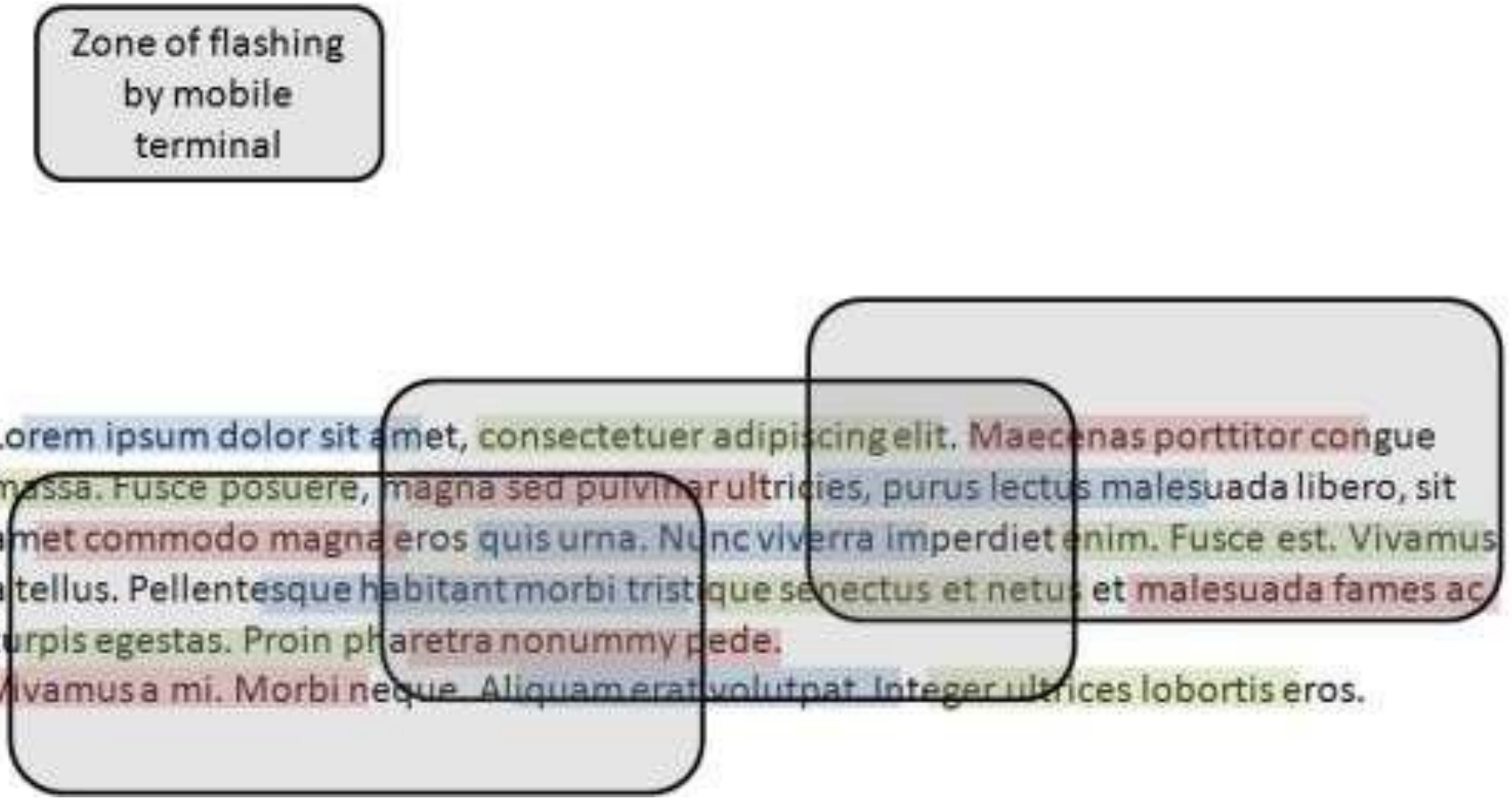
Flashing SOOD's Tattooing spreading



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Video Capture and SOOD's Tattooing spreading