Certified e-Document Authority (CeDA):
Trusted Third Party Repository & Certification Authority

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Content

InterPARES 3 Project
TEAM Korea

1

Overview of
Trusted Third Party digital Repository (TTPR)

TTPR = **TTP** + TDR

Trusted Third Party (TTP)

- An authority that acts as an intermediary between participating parties for trustworthy interactions between the parties
- A trusted third party authority that is trusted by both parties (A, B)

- Risk of repudiation
- Risk of fraudulence

Client (Sender) — A ----→ B — Client (Receiver)

A → TTP → B

TTP

•Trustworthy data exchange
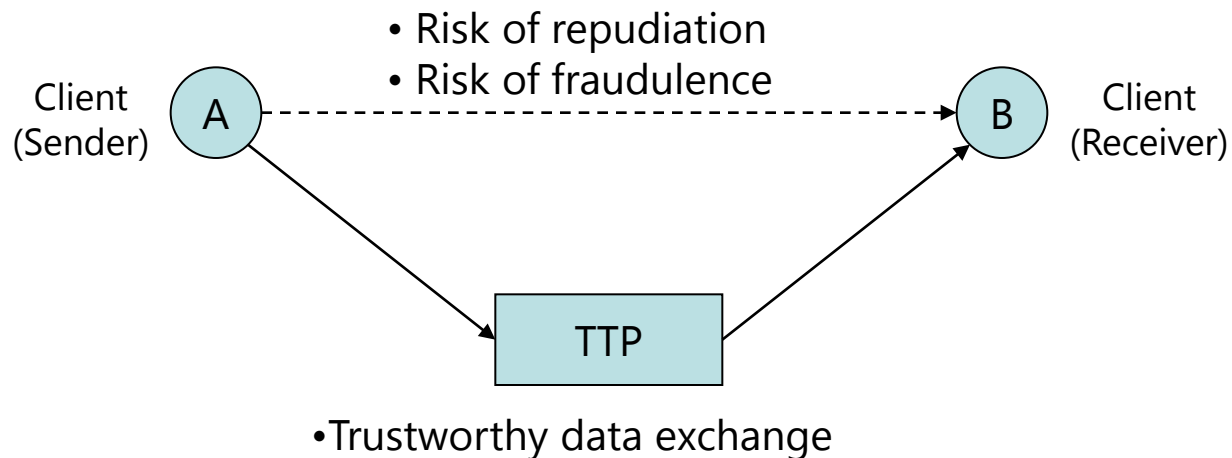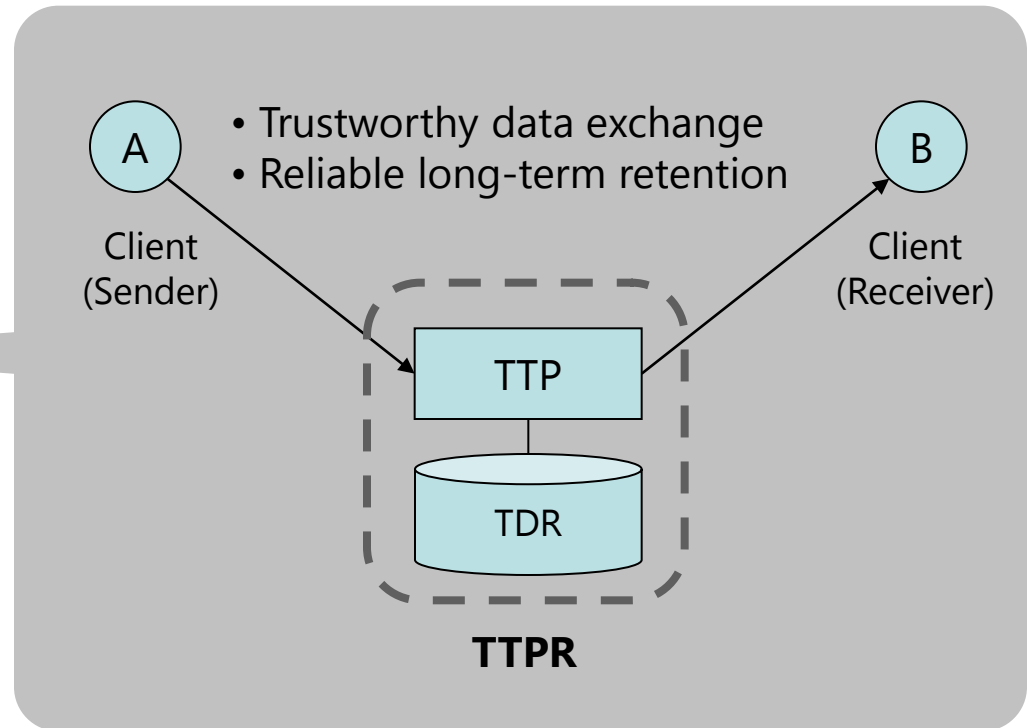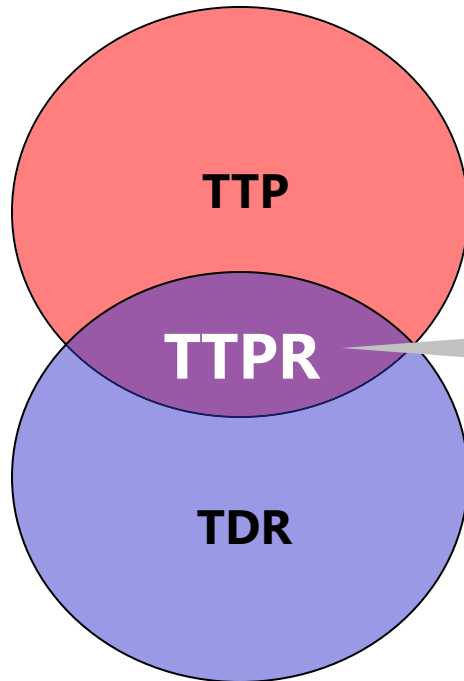
What is TTPR ? (2/3)

TTPR = TTP + **TDR**

Trusted Digital Repository (TDR)

- "A trusted digital repository provides reliable, long-term access to managed digital resources to its designated community, now and in the future." (OCLC/RLG, 2002, p. 5)
- Major properties of TDA (OCLC/RLG, 2002, p.5)
  - ✓ Accept responsibility for the long-term maintenance of digital documents
  - ✓ Demonstrate fiscal responsibility and sustainability
  - ✓ Design its system in accordance with standards
  - ✓ Establish methodologies for system evaluation
  - ✓ Have policies, practices, performances that can be audited and measured
- Can be either local repository or third-party repository

TTPR = TTP + TDR

Trusted Third-Party digital Repository (TTPR)

- TTP
- TTPR
- TDR

- Trustworthy data exchange
- Reliable long-term retention

A
Client (Sender)

B
Client (Receiver)

TTP

TDR

TTPR

Background of establishing TTPR

■ **To prompt usage of digital documents and e-business**

- Need to ensure reliability and authenticity of digital documents;

- Need to build trust in digital documents exchange between parties;

- Need to improve efficiency, speed, and collaboration in business sectors.

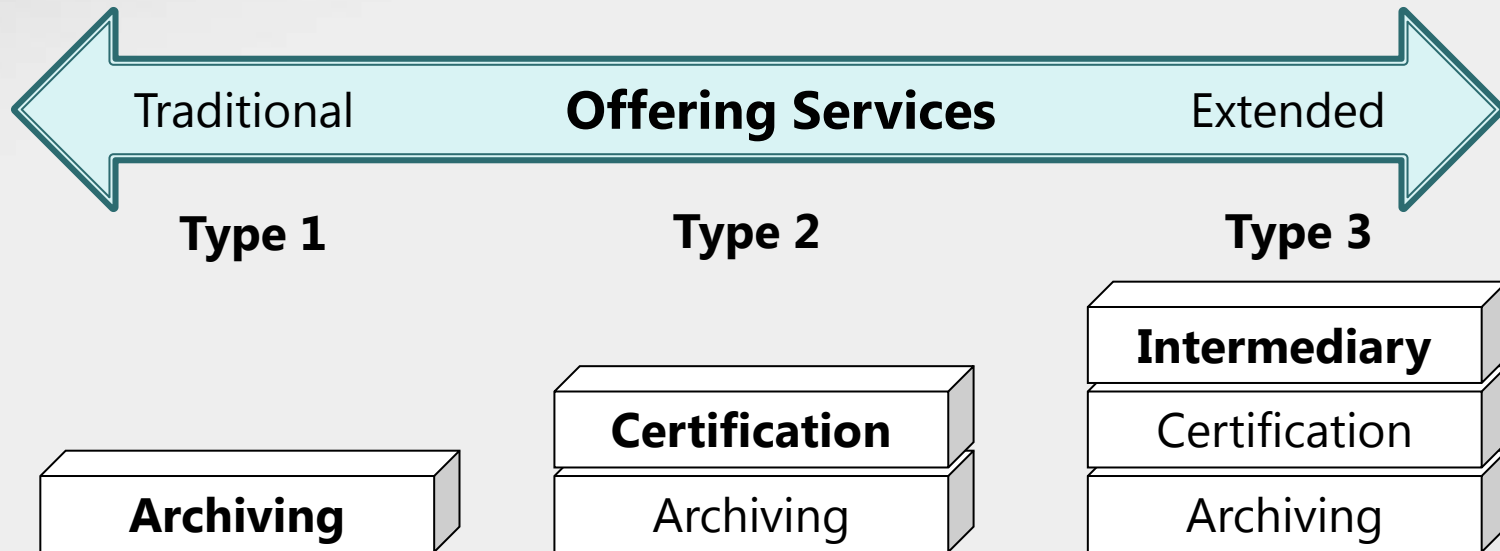■ **To reduce burden and cost of retaining paper records**

- Need to endow digitized records with the same legal authority as paper records;

- Need to enact relevant laws and requirements;

- Need to offer procedural and technical standards on setting up trusted; digital repository.

■ **Advancement of technology**

- Technologies are available on archiving, storage, security, communication and retrieval.

Types of TTPR

Traditional **Offering Services** Extended

Type 1　　　　**Type 2**　　　　**Type 3**

| Intermediary |
| Certification |
| Archiving |

| Certification |
| Archiving |

| Archiving |

▪ **Type 1**: Provides archiving service for digital information
　　　　(e.g. National archives, third-party records management companies)

▪ **Type 2**: Provides certification services of digital information for clients
　　　　(e.g. electronic notary services)

▪ **Type 3**: Provides environment for trustworthy exchange of digital information
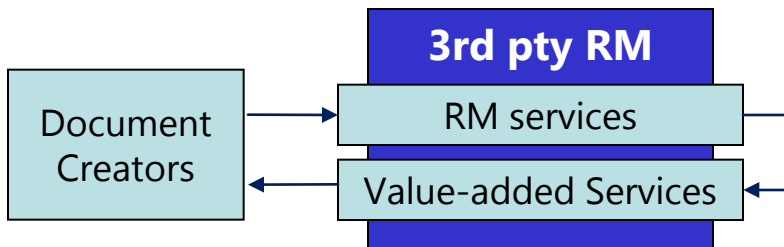
2

Cases of Trusted Third-Party digital Repository

Type 1. Archiving Service

National digital Archives

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Gov.          Publishers      Universities
Agencies
```

LAC TDR

3rd-party RM companies

3rd pty RM
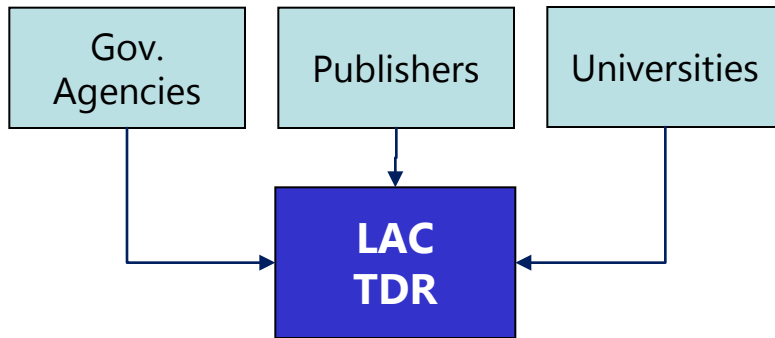
```
Document  →  RM services
Creators
             Value-added Services
```

Libraries Archive Canada (LAC)

● **National digital archives**
  • Accession, arrangement, description preservation, and access;
  • Managing all government records

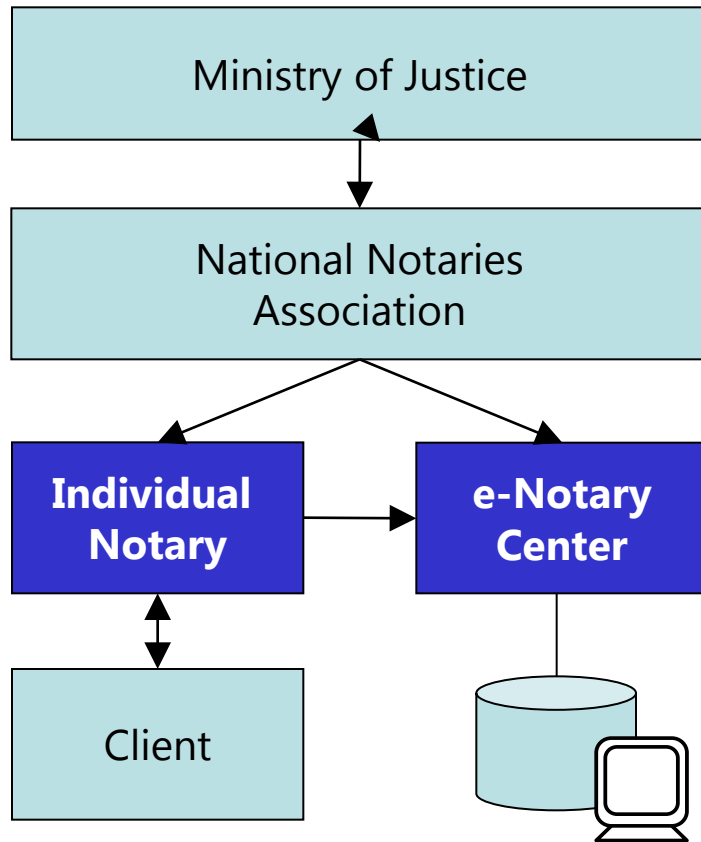● **Third-party records management**
  • Records management for active and inactive records;
  • Digital and digitized records;
  • Digital protection service.

● **Value-added services**
  • Adding value to retained records;
  • Business process outsourcing;
  • e-Discovery support.

Case 2. Certification Service

e-Notary in Japan

```
┌─────────────────────────────┐
│      Ministry of Justice     │
└─────────────────────────────┘
              ↕
┌─────────────────────────────┐
│     National Notaries        │
│        Association           │
└─────────────────────────────┘
        ↙              ↘
┌──────────────┐  ┌──────────────┐
│  Individual  │→ │   e-Notary   │
│    Notary    │  │   Center     │
└──────────────┘  └──────────────┘
       ↕
┌──────────────┐
│    Client    │
└──────────────┘
```

- **Amendment of Notary law in 2000**
- **Started in 2002**

- **Ministry of Justice**
  - Established rules and regulations on electronic notary;
  - Issuing electronic certificates;
  - Authorizing and supervising notaries.
- **National Notaries Association**
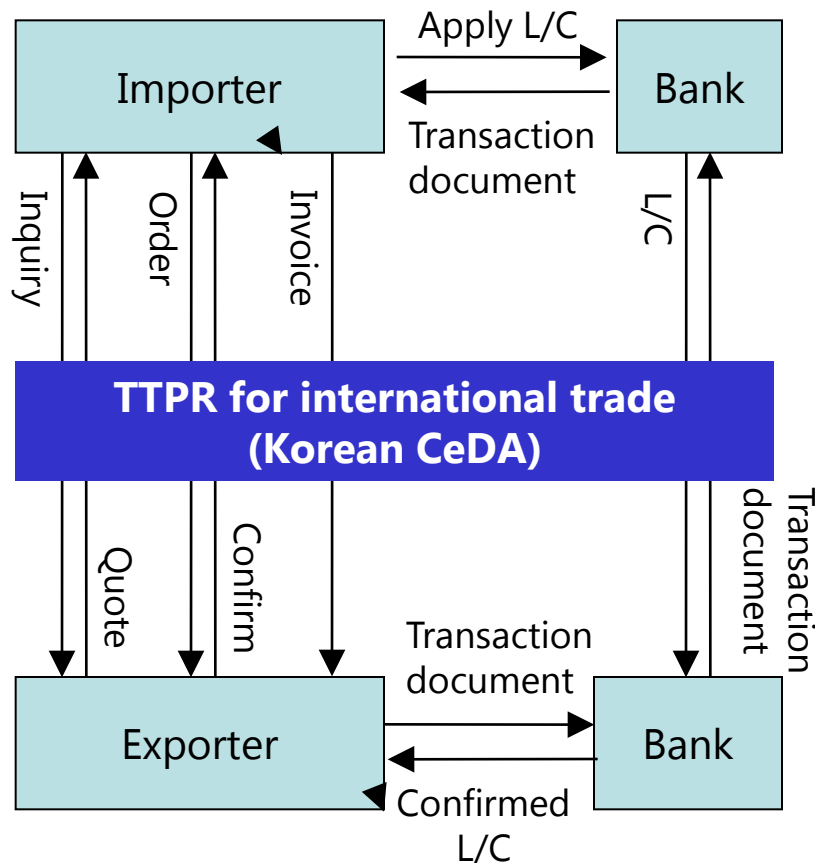 - Running 'e-Notary Center'

- **Individual Notary**
  - Creating electronic notaries ;
  - Notarizing electronic private document.

- **e-Notary Center → TTPR**
  - Retaining e-notarized documents (20 years);
  - Outsourced by Hitachi Co.

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Type 3. Intermediary Service

Electronic international trade

- ● **Hub of digital document exchange**
  - Exchanging trade documents via TTPR;
  - Delivering trusted digital documents to the receiver;
  - Preventing from repudiation during transactions between parties;
  - Creating a single point of contact for all parties.

- ● **Secure storage of trade documents**
  - Officially registering all documents;
  - Time stamping at the registration;
  - Creating a certificate for status change;
  - Access control;
  - Security management.

3

Case Study: Intermediary Service
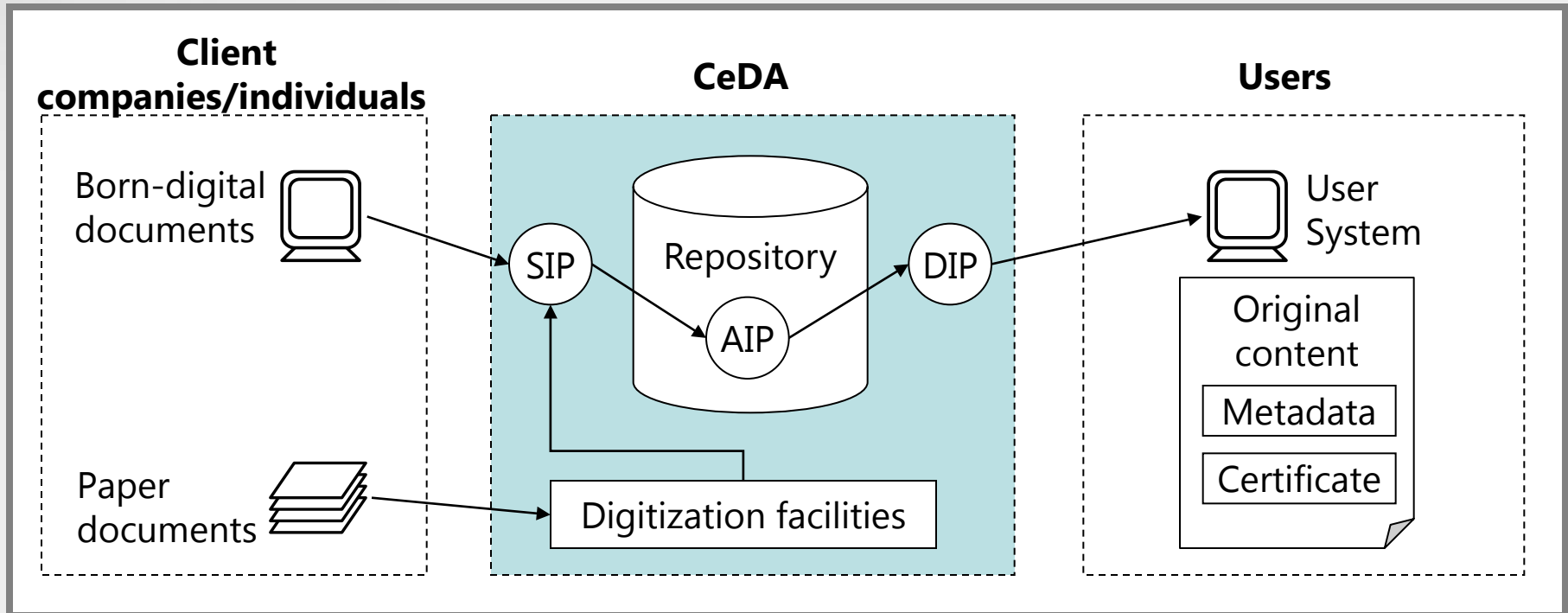# Certified e-Document Authority (CeDA), Korea

Governance of CeDA
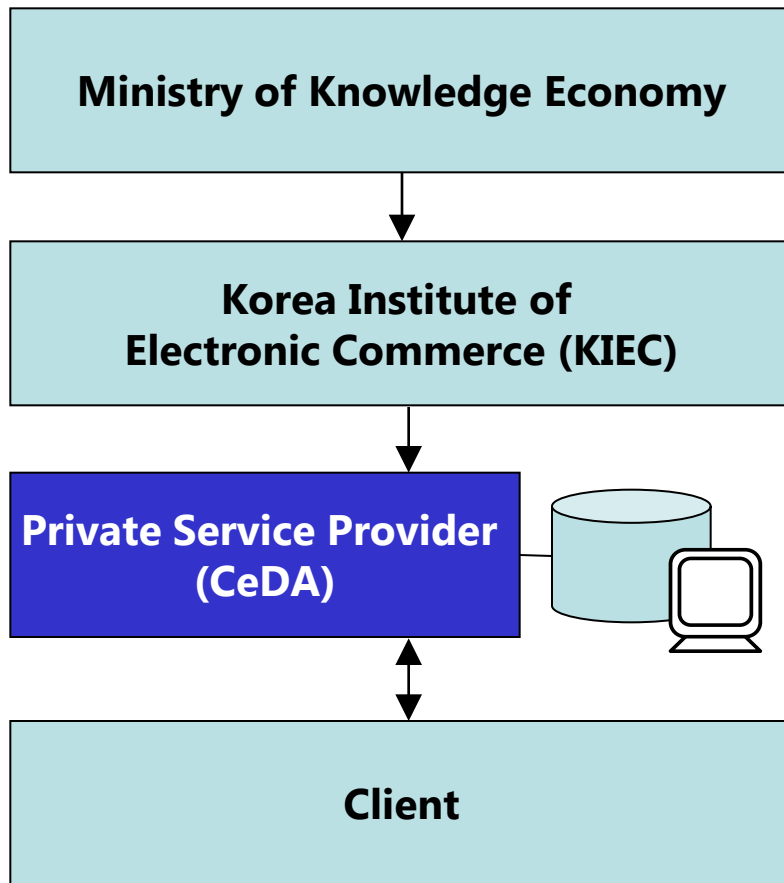
Ministry of Knowledge Economy	• Establishing the Acts, Notices and Regulations; • Supervising KIEC's activities; • Authorizing the CeDA.
Korea Institute of Electronic Commerce (KIEC)	• Evaluating potential candidates for the CeDA; • Setting up technical standards and guidelines.
Private Service Provider (CeDA)	• Archiving e-documents; • Exchanging secure e-documents; • Certificating the retained e-documents.
Client	• Private businesses; • Individuals.

Overview of CeDA

Client companies/individuals

Born-digital documents

Paper documents

CeDA

SIP

Repository

AIP

DIP

Digitization facilities

Users

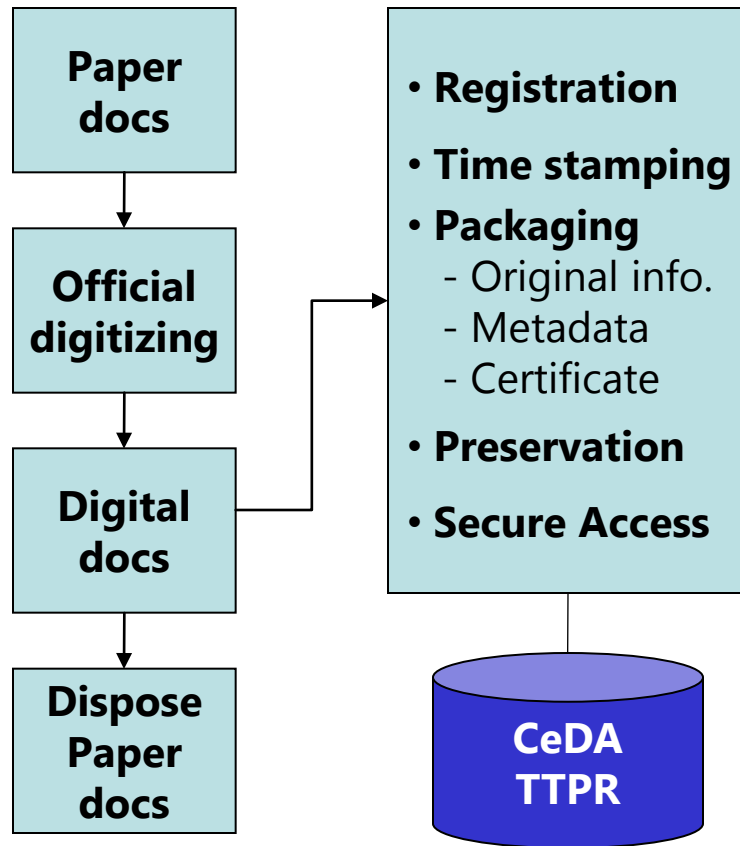User System

Original content

Metadata

Certificate

● **Official repository that ensures e-document's reliability**
- Preserving born-digital and born-again digital documents
- Ensuring legal authority of all retained documents
- Certifying the lifecycle of e-documents
- Being as an Intermediary for secure e-document exchange between parties

Services of CeDA (Primary services)

Official Digizing & Archiving

Paper docs
↓
Official digitizing
↓
Digital docs
↓
Dispose Paper docs

- **Registration**
- **Time stamping**
- **Packaging**
  - Original info.
  - Metadata
  - Certificate
- **Preservation**
- **Secure Access**

CeDA TTPR

Issuing Certificate

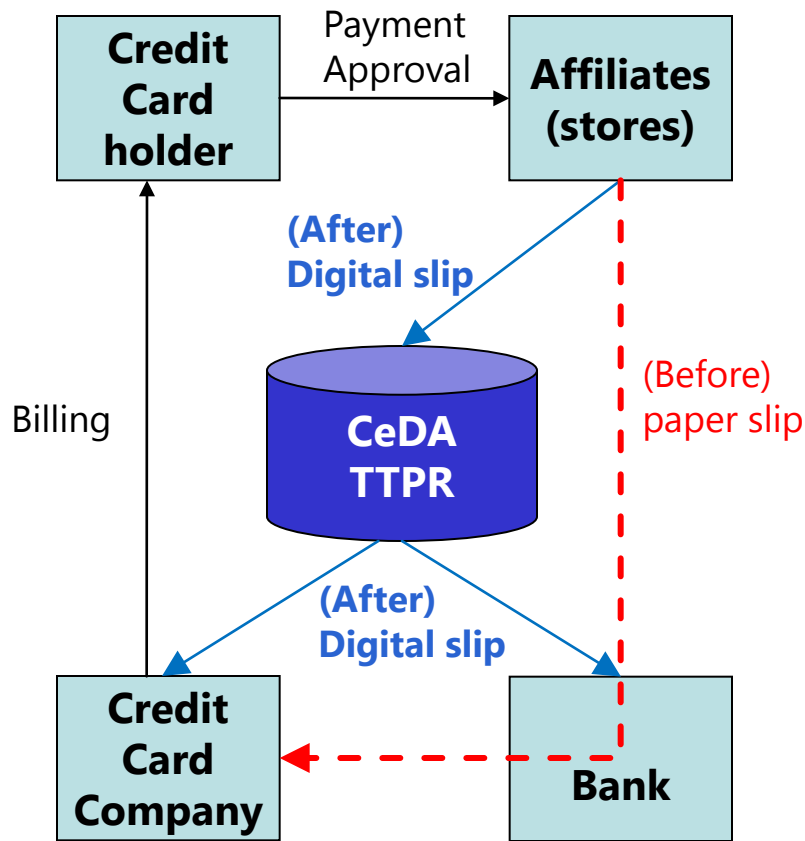**Validation of the fact that CeDA retains authentic docs**

Certificate of digital docs
-Creator info
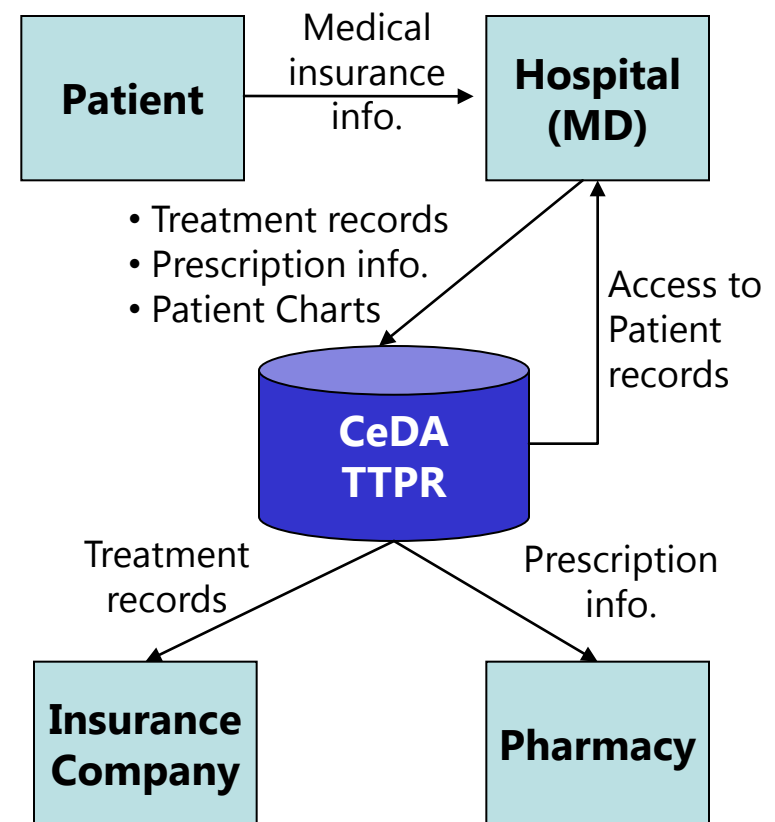-Registration info
-Authenticity info
-Access history

Validation on the issued certificates

Additional Services of CeDA

Paperless Credit Card records

Credit Card holder → Payment Approval → **Affiliates (stores)**

(After) Digital slip

CeDA TTPR

(Before) paper slip

Billing

(After) Digital slip

Credit Card Company

Bank

Paperless Medical records

Patient → Medical insurance info. → **Hospital (MD)**

- Treatment records
- Prescription info.
- Patient Charts

Access to Patient records

CeDA TTPR

Treatment records

Prescription info.

Insurance Company

Pharmacy

4

Discussion

Discussion

■ **Identity of TTPR**

➤ **Archiving service:**

Complementary supplement of traditional archives

➤ **Certification service:**

Ensuring the authenticity, reliability, integrity, and accuracy of documents

➤ **Intermediary service:**

A new business model of trusted digital repository

■ **Value of TTPR**

➤ Being a **feasible solution** for organizations without sufficient capabilities of digital information management

➤ Enabling to build **national infrastructure** in various industries for digital collaboration based on trusted relationship between participants

Thank you