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

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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

- 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
What is TTPR? (3/3)

**TTPR** = TTP + TDR

**Trusted Third-Party digital Repository (TTPR)**

- Trustworthy data exchange
- Reliable long-term retention

Diagram:

- TTP
- TDR
- TTPR

Client (Sender): A
Client (Receiver): B

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

**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
Cases of Trusted Third-Party digital Repository
Type 1. Archiving Service

National digital Archives

Gov. Agencies  Publishers  Universities

LAC TDR

3rd-party RM companies

Document Creators  3rd pty RM

RM services  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**
  - 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**
  - Retaining e-notarized documents (20 years);
  - Outsourced by Hitachi Co.

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

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**Type 3. Intermediary Service**

**Electronic international trade**

- **Importer**
  - Inquiry
  - Order
  - Invoice

- **Exporter**
  - Inquiry
  - Quote
  - Confirm

- **Bank**
  - Apply L/C
  - Transaction document

- **TTPR for international trade (Korean CeDA)**
  - Transaction document

- **L/C**
  - Confirmed L/C

**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.
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**
  - Repository
  - Digitization facilities
  - SIP
  - AIP
  - DIP

- **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 Digitizing & Archiving

- **Paper docs**
- **Official digitizing**
- **Digital docs**
- **Dispose Paper docs**

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

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

CeDA TTPR
Additional Services of CeDA

**Paperless Credit Card records**

- **Credit Card holder**
- **Affiliates (stores)**
  - Payment Approval
  - (After) Digital slip
  - (Before) paper slip

- **CeDA TTPR**
  - (After) Digital slip
  - Billing

- **Bank**

**Paperless Medical records**

- **Patient**
  - Medical insurance info.
  - Access to Patient records
  - Treatment records
  - Prescription info.
  - Patient Charts

- **Hospital (MD)**

- **CeDA TTPR**
  - Treatment records
  - Prescription info.

- **Insurance Company**
- **Pharmacy**
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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