Digital records preservation and Public records management program

2019.09.

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Professor/Lecturers
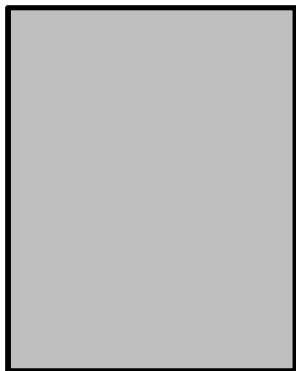
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<Brief resume>

-Hanyang University
-Chief consultant of DiMS Co. Ltd.
-Member of National records management committee
-Chair of Korean ISO46/SC11 RM standard committee

What is the most valuable treasure of Nepal?

What is the most valuable record of Nepal?

- – Why is the record valuable or what value does it have?

E-governance initiative and e-document & records

- e-governance initiative produces many e-document and records
- e-document and records should be archived and preserved as paper ones for Nepal historical and cultural evidences
- But, they needs different technologies, methods and practices

- This lecture will presents;
1) document and records management basics
2) document and records management program
   - policy, law and management framework
   - core management instruments and processes
3) Korean cases

Why Document and Records Management

The ICA believes that effective records management is an essential precondition for;

- good governance,
- the rule of law,
- administrative transparency,
- the preservation of mankind's collective memory, and
- access to information by citizens.

* ICA (International Council on Archives)

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Why Document and Records Management

Korean Public Records Management Act:

Article 1 (Purpose): The purpose of this Act is to prescribe matters necessary for the management of public records in order <u>to realize transparent and responsible administration</u> of public institutions as well as to safely keep and efficiently utilize public records.

Mission of USA archive:

Public access to government records <u>strengthens democracy</u> by allowing Americans <u>to claim their rights of citizenship, hold their government accountable, and understand their history</u> so they can participate more effectively in their government.

Nepal e-government Vision

"The Value Networking Nepal" through;
- Citizen-centered service
- Transparent service
- Networked government
- Knowledge based society

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What is records?

information created, received and maintained as evidence and as an asset by an organization or person, in pursuit of legal obligations or in the transaction of business

(By definition of ISO 30300 standard)

- Information
- Evidence and asset
- Created, received and maintained by person or organization
- In pursuit of obligations or in the transaction of business

What is records

By Korean Public Records Management Act:

The term "records" means archival information and data in <u>all forms</u>, such as:

- documents, books, ledgers, cards, drawings,

- audiovisual materials and

- electronic documents

created or received by public institutions in relation to the affairs thereof, and

- documentary art records;

What is records (All format)

Regardless of Format

Eye readable	• Paper • Microform

Machine readable	• Electronic Records
	  - Email
	  - Digital Imaging
	• Audio/Video

Others	• Physical Objects (Artifacts)

What are Electronic Records?

Electronic records/archives;

archival information and data created and managed *by data processing systems, such as computers*

(Public Records Management Law)

Electronic document/records;

Information or data created, transmitted, received, or stored in an electronic form *by an information or data processing systems such as computers*

(Act on Electronic Documents and Transactions)

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What are Electronic Records?

- Electronic records are 2 types;
    - **Born Digital**: Have been created electronically
    - **Digitizing or Imaging**: Hard copy records that are being reformatted into an electronic form

- The information may be in any form:
    - Word processing files
    - E-mail messages
    - Images of maps or pictures
    - World Wide Web content
    - Computer code
   - Spread sheets
    - Databases

Types of Electronic Records

- Structured data
  - Relational database (Oracle)
  - Object oriented database (e.g. MS Access)

- Semi-structured text records
  - E-mail database

- Unstructured files
  - Word processing files
  - Text databases (Notes, litigation support)

- Software dependent systems
  - GIS
  - Imaging systems

What are Electronic Records?

- Electronic records may be stored in computer memory or on storage media.
- They may or may not have paper backup.

- Electronic records are also **Government records**
  - As paper records are Government records.

- Value of a record determined **by content, not format!**
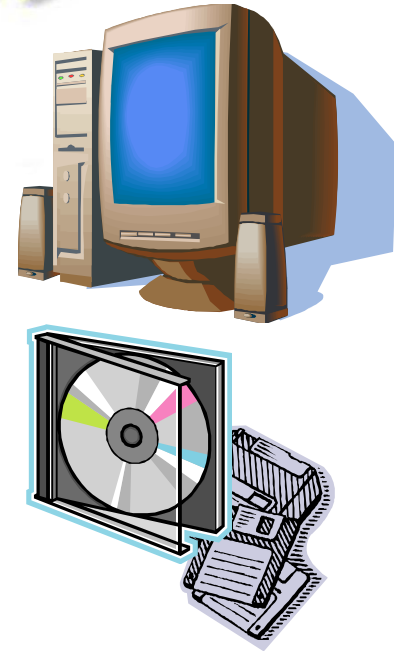
Characteristics of authoritative records

4 Characteristics (ISO 30300)

- **Authenticity**

An authentic record is one that can be proven to be what it purports to be.

- **Reliability**

A reliable record is one whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest; and

- **Integrity**

A record that has integrity is one that is complete and unaltered.

- **Useability**

A useable record is one that can be located, retrieved, presented and interpreted within a time period deemed reasonable by stakeholders.

Records vs. Non-records

Is this a record or not?

- E-mail to contractor clarifying terms: Record

- Memo notifying a subordinate of committee assignment: Record
  - Sender must retain as record; recipient may delete as appropriate

- Draft of a report: Non-Record!
  - The final report will be a record, however

Records vs. Non-records

Identifying a Record

- Was it created in the course of business?
    - correspondence, studies
- Was it received for action?
    - controlled correspondence, Departmental information request
- Does it document activities and actions?
    - calendars, meeting minutes, trip reports
- Does it support financial obligations or legal claims?
    - funded award files (contracts or grant files)
- Does it communicate requirements?
    - policies or procedures
- Are you or your unit responsible for keeping it?
- Provide information regarding the historical development of Gov. programs or people?
- Is it required by an approved records disposition schedule?

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Records vs. Non-records

Identifying Non-records

- Generated and used in agency business, but not records - owned by the agency
- Reference material: Reports written by other agencies, journals and newsletters
- Convenience copy: Duplicate copies of correspondence, policies, reports
    - Multiple copies of funded award files may be records.
- A stock copy of a publication.
- A draft or working paper.
    - Circulated and/or substantive changes are records

Records vs. Non-records

Identifying Personal papers

- Do not relate to or have any effect upon the conduct of agency business - owned by an individual.

- Documents created before entering government service.

- Private materials brought into, created, or received in the office that were not created or received in transaction of government business.

- Work-related personal documents that are not used in the transaction of government business.

Q & A
(질의 응답)

Public records management program

Records management:

field of management responsible for the <u>efficient and systematic control</u> of the creation, receipt, maintenance, use and disposition of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records

Management System for Records (MSR):

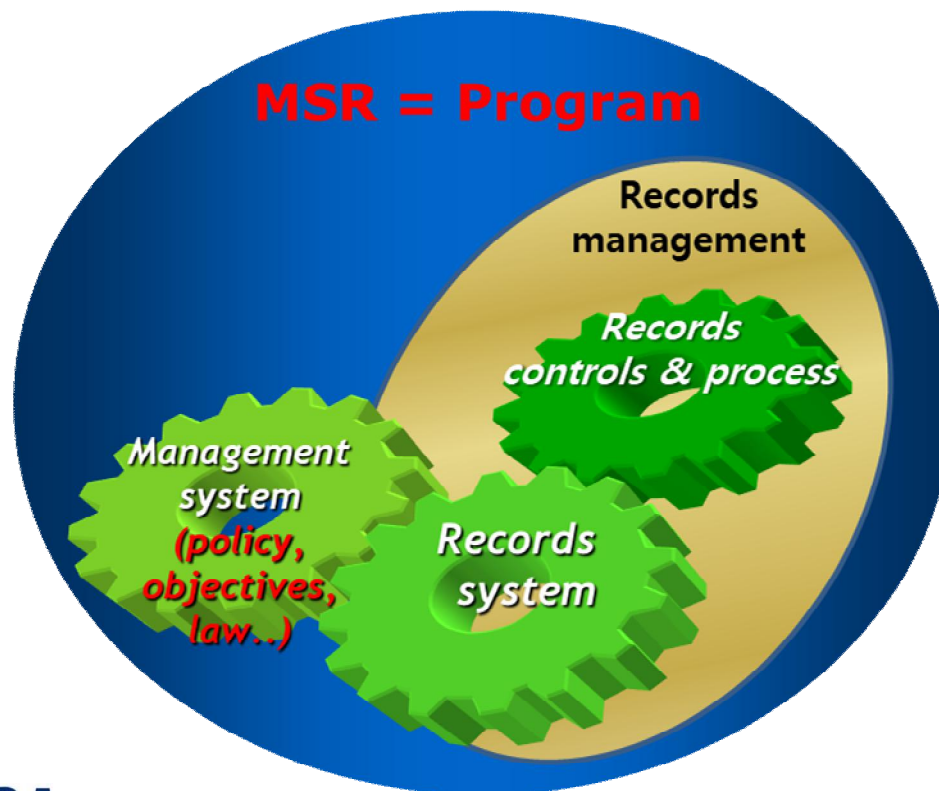<u>management system</u> to direct and control an organization with regard to records

The MSR <u>establishes the policy</u>, objectives and directives <u>framework</u> for controlling the organization's records in **records systems** and ensures that those records systems meet the organization's requirements.

Within the framework of the MSR, **records processes and controls** need <u>to be designed, implemented and monitored</u> to meet the records policy, objectives and directives.

(ISO 30300 & 30301)

Records management program structure

- Management system (policy, law)
- Infrastructure (software system)
- Control instruments
- Processes

MSR = Program

Records management

Records controls & process

Management system (policy, objectives, law..)

Records system

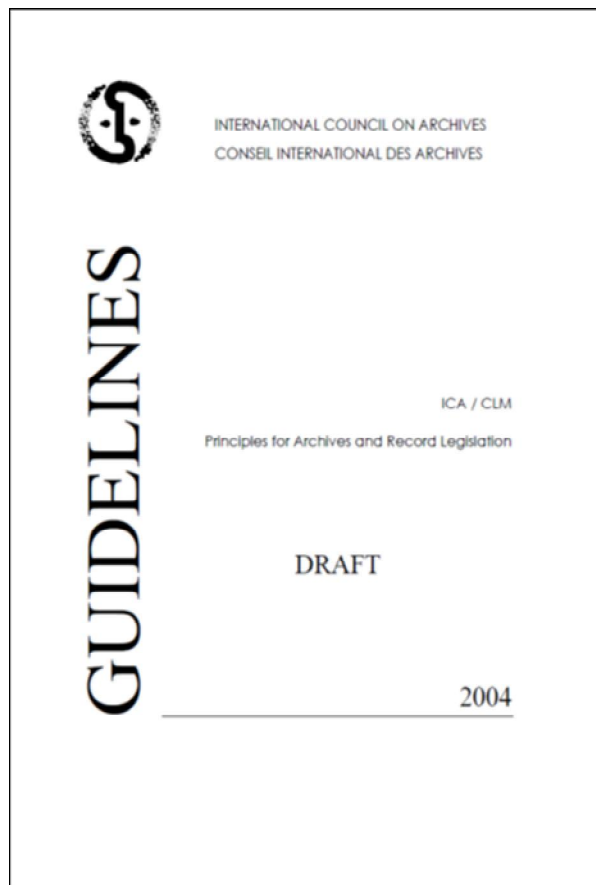|	
MSR:	management system to direct and control an organization with regard to records
Records system:	information system which captures, manages and provides access to records over time
Records controls & process:	Process for records creation and control (capture, register, classification, transfer, disposition, destruction, etc.)

ICA Principles for Archives and Record Legislation

Legislation is a set of binding principles and rules stipulated through formal mechanisms.

INTERNATIONAL COUNCIL ON ARCHIVES
CONSEIL INTERNATIONAL DES ARCHIVES

GUIDELINES

ICA / CLM

Principles for Archives and Record Legislation

DRAFT

2004

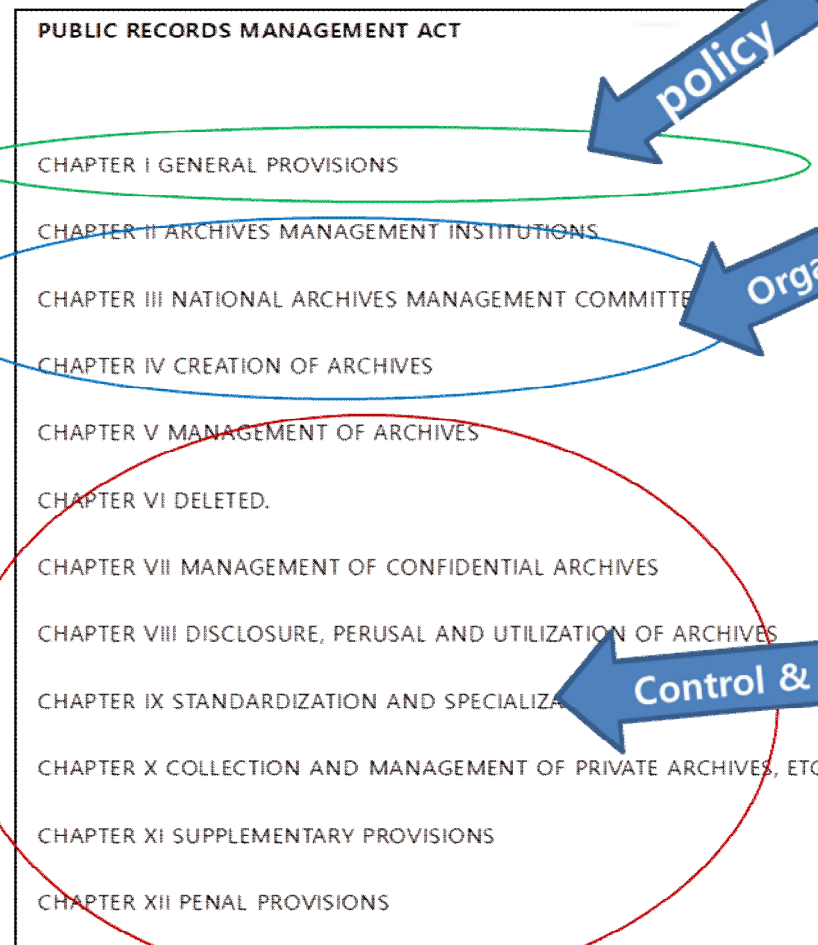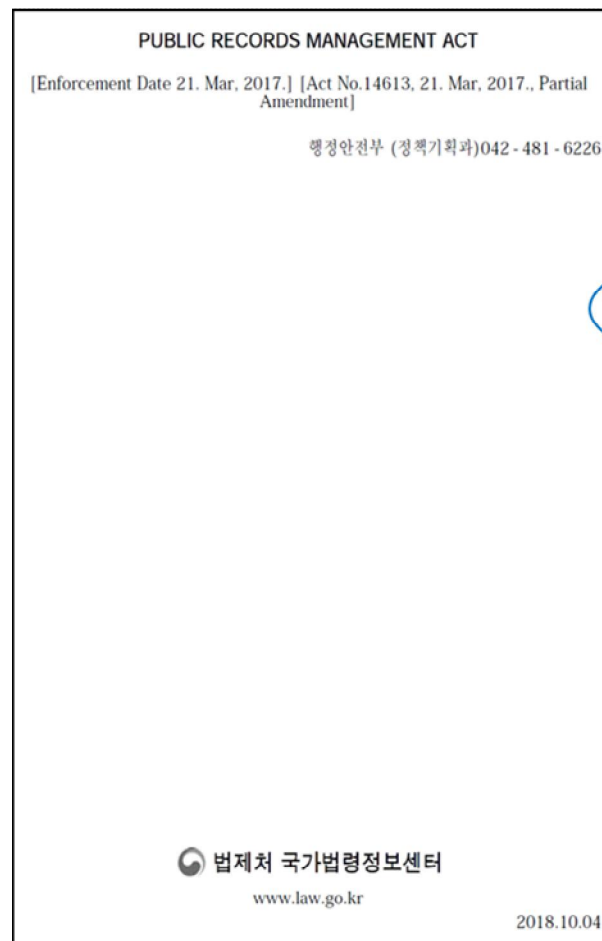DRAFT Principles for Archives and Record Legislation

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8. Advisory Body
9. Reporting Responsibility
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12. Appraisal and Disposal
13. Transfer of Archives
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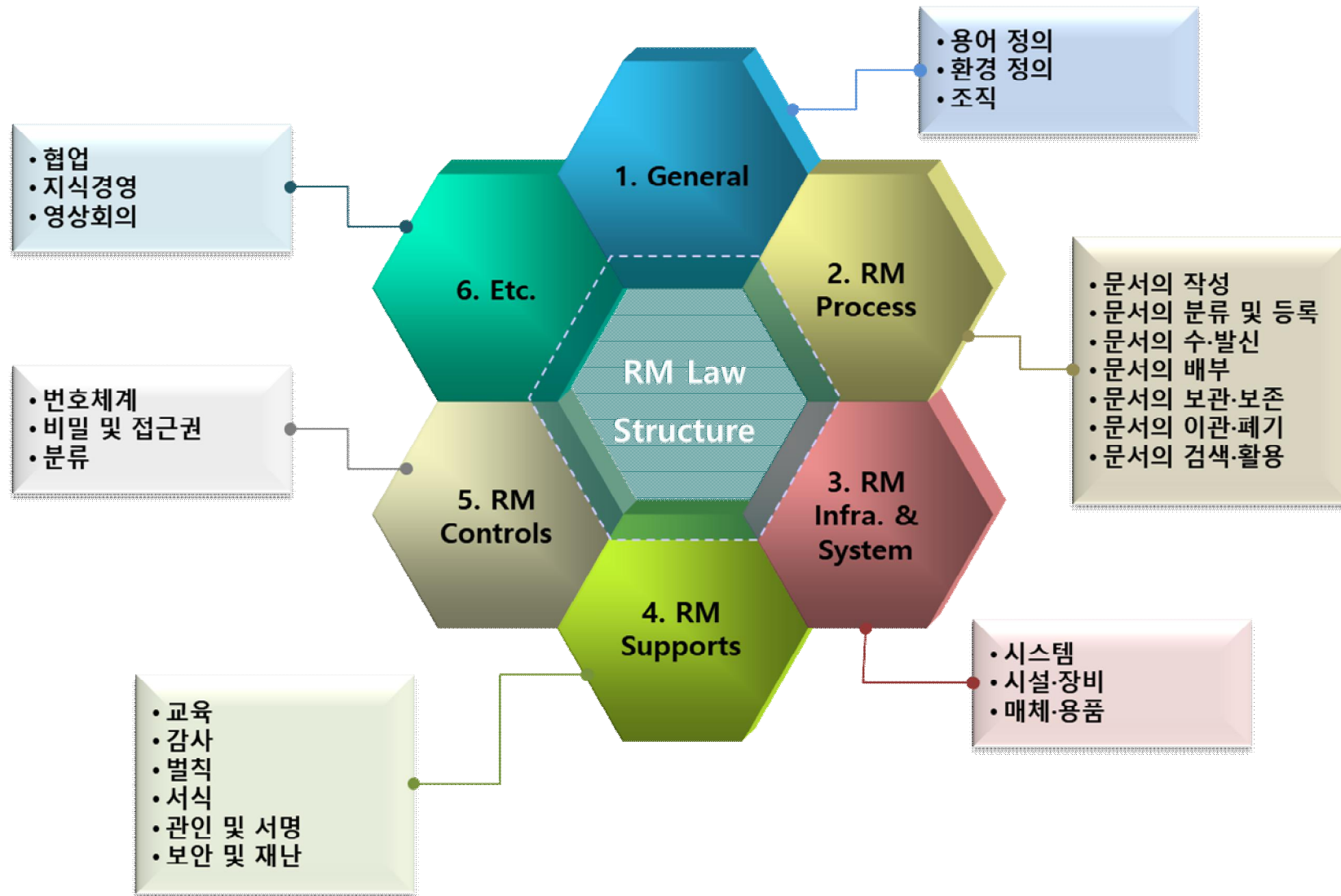15. Access
16. Preservation
17. Sanctions

policy

Organ. & infra.

Control & process

Korean Public records management law

PUBLIC RECORDS MANAGEMENT ACT

[Enforcement Date 21. Mar, 2017.] [Act No.14613, 21. Mar, 2017., Partial Amendment]

행정안전부 (정책기획과)042 - 481 - 6226

법제처 국가법령정보센터
www.law.go.kr

2018.10.04

PUBLIC RECORDS MANAGEMENT ACT

CHAPTER I GENERAL PROVISIONS

CHAPTER II ARCHIVES MANAGEMENT INSTITUTIONS

CHAPTER III NATIONAL ARCHIVES MANAGEMENT COMMITTE

CHAPTER IV CREATION OF ARCHIVES

CHAPTER V MANAGEMENT OF ARCHIVES

CHAPTER VI DELETED.

CHAPTER VII MANAGEMENT OF CONFIDENTIAL ARCHIVES

CHAPTER VIII DISCLOSURE, PERUSAL AND UTILIZATION OF ARCHIVES

CHAPTER IX STANDARDIZATION AND SPECIALIZA

CHAPTER X COLLECTION AND MANAGEMENT OF PRIVATE ARCHIVES, ETC

CHAPTER XI SUPPLEMENTARY PROVISIONS

CHAPTER XII PENAL PROVISIONS

policy

Organ. & infra.

Control & process

Korean Public records management law

Records control instruments

Metadata schemas for records	Business classification schemes	Access and permissions rules	Disposition authorities
logical plan showing the relationships between metadata for records elements, normally through establishing rules for the use and management of metadata	Tool for linking records to the context of their creation	Access: right, opportunity, means of finding, using or retrieving information	instrument that defines the disposition actions that are authorized for specified records

- **Records consist of content and metadata.**
- **Metadata describes the context, content and structure of the records, as well as their management (ISO 15489-1)**

- **Content**: What information (data) does the record contain?

- **Structure**: appearance and arrangement of the content
  - form, format and the relationships between the components comprising the record

- **Context: Metadata**
  - business, legal and social contexts; why and for what purpose?
  - when and with what records systems create, and how to relate among records?
  - who create, manage and use records

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Metadata schemas for records

- Metadata is used to identify, describe and manage records.
- Metadata schemas is to define the metadata

- The point of capture metadata:
  - Some of a record's metadata is derived or attributed at the time the record is created or captured and does not change.

- The process metadata:
  - Metadata about actions on the record and other events in the record's existence, including the participating agents, continues to accrue over time as the record is used and managed.

- Records do not possess such metadata lack the characteristics of authoritative records.

Business Classification Scheme

Definition (15489-1:2015):

- **Business classification scheme:** tool for linking records to the context of their creation

- **Classification:** systematic identification and/or arrangement of business activities and/or records into categories according to logically structured conventions, methods, and procedural rules
  - Classification action links records to their business context by associating them with categories in a business classification scheme

Reminders:

- Records are the by product of business activities.

- Records classification links records to the context so that people can understand a record was created as a results of what business activities

- Without linking, classifying records by records type, subjects, organization or authors is meaningless.

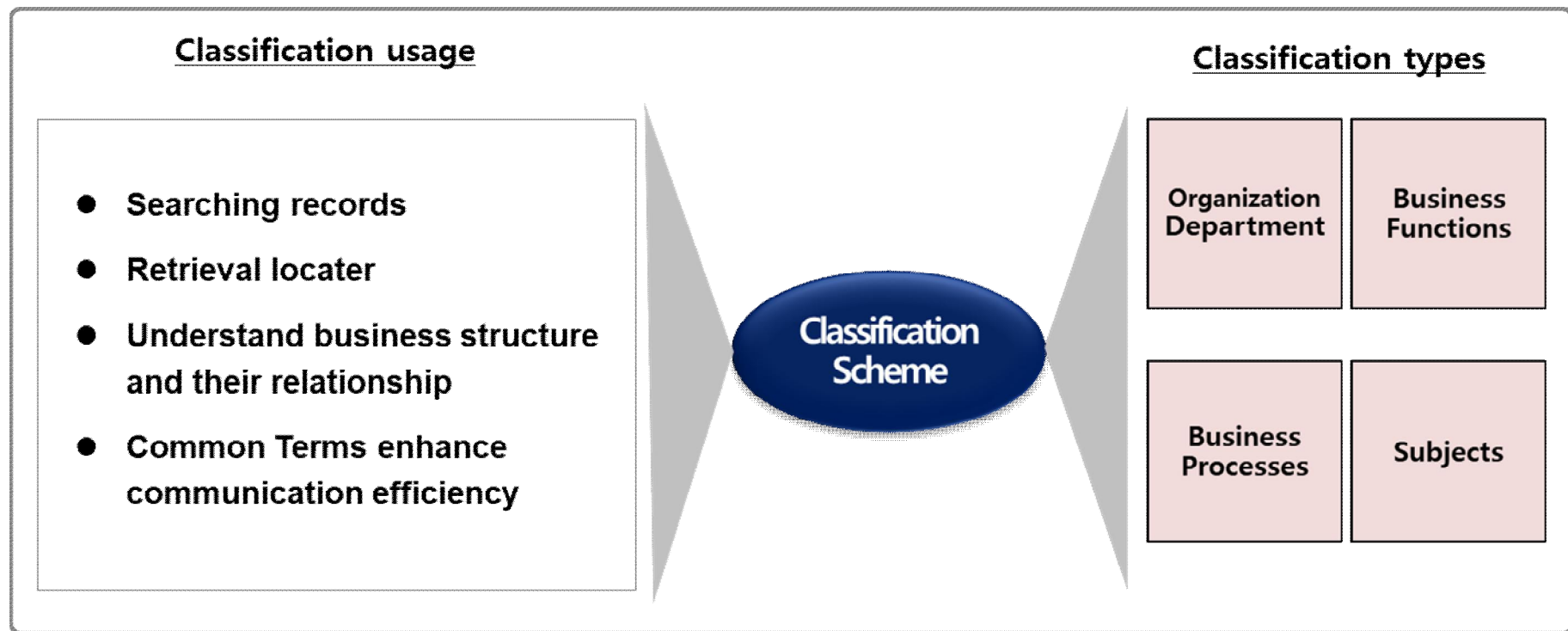- **Records classification is different from library book classification or category**

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Business Classification Scheme

Classification Structure
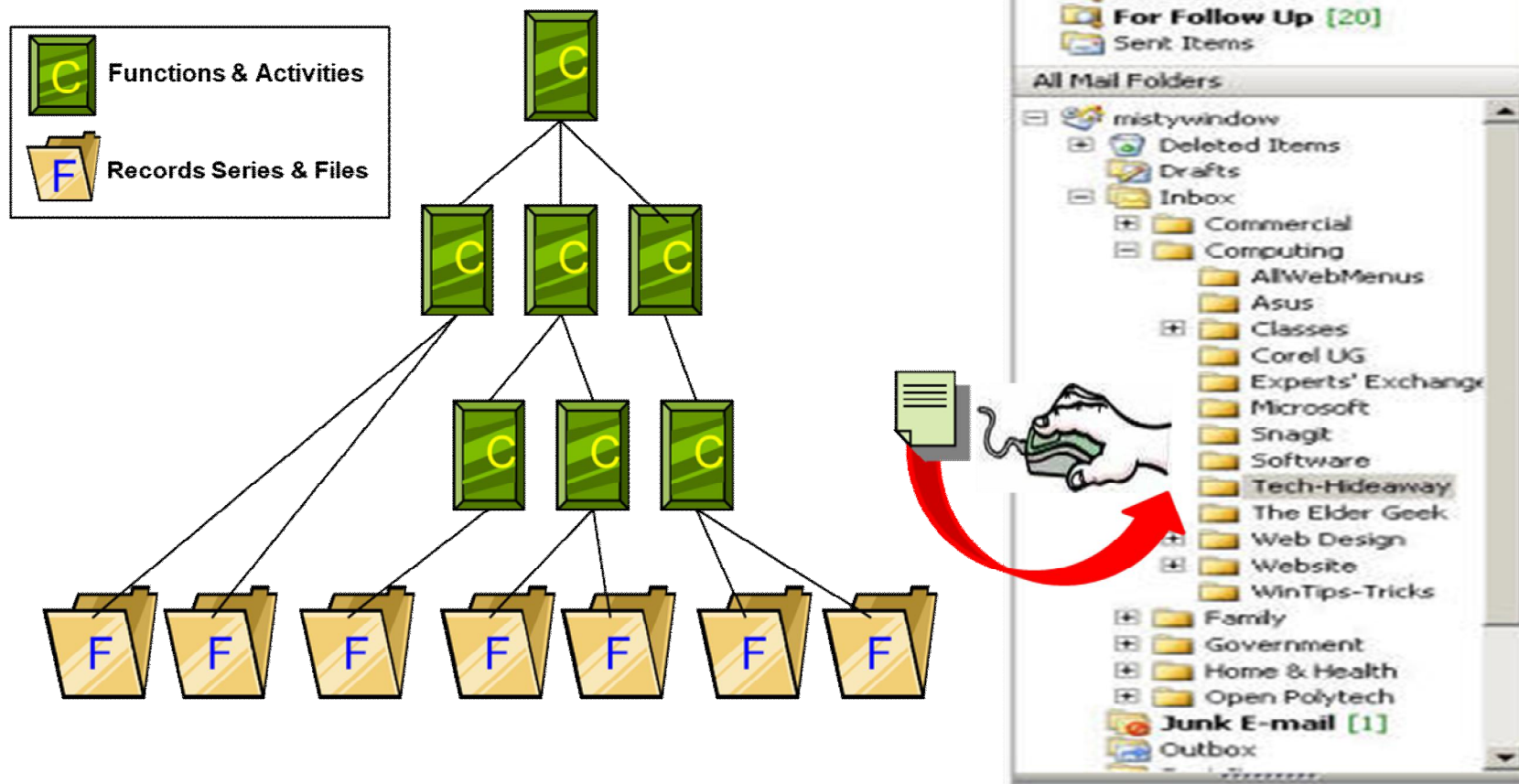
Business Classification Scheme types

- Classification by Business Functions is recommended among several types
- Documents and records are the intellectual property of government. Detail inventory have to be made and controlled.

Classification usage

- Searching records
- Retrieval locater
- Understand business structure and their relationship
- Common Terms enhance communication efficiency

Classification Scheme

Classification types

Organization Department	Business Functions
Business Processes	Subjects

Access and permission rule

- A set of rules identifying rights of access and the regime of permissions and restrictions applicable to records should be developed.
  - Need evaluation the value and importance of content of records
  - Considering security and privacy
- Levels of access or permissions should be assigned to the <u>records and user groups</u>

User Group / Records Level	Creator	Manager	Team member	Employee	executive	DRM
Top Secret	Read	Read	No Access	No Access	Read	Edit: × , Print: ×, Screen Capture: ×
Secret						Edit: × , Print: ×, Screen Capture: ×
Team only			Read			Edit: O , Print: O, Screen Capture: O, Watermark: O
Internal use				Read		
Open to Public						Not applicable

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- The most important instrument of a records management program
- Provide instructions for <u>what must be done</u> with records that are no longer needed for current government business
  - Ex) preserve, transfer to archive or destruction

- Usually approved by the archivist and records manager
- Are themselves essential records

- A record's value is based on the agency's business need and falls into one or more of four overlapping categories;
  - Administrative/Business value
  - Fiscal value
  - Legal value
  - Historical value

- Considering risks of not having proper records

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Disposition authorities and retention period

- Disposition authorities are also called retention schedule and it generally include;
  - Schedule number
  - Date effective
  - Name of agency
  - Name of department
  - Records series title
  - Description of the records series
  - Retention period for records
  - Method of records disposition (disposal or preservation)
  - Special instructions if necessary

Disposition authorities and retention period

GENERAL RECORDS SCHEDULE 1.1: Financial Management and Reporting Records

This schedule covers records created by Federal agencies in carrying out the work of financial management: procuring goods and services, paying bills, collecting debts, accounting for all financial transactions, and monitoring agencies' net worth. It does not apply to copies of records forwarded to the Department of Treasury or the Office of Management and Budget in fulfillment of reporting requirements. These forwarded copies serve unique business purposes at those agencies and are therefore scheduled separately as records of OMB and Treasury.

This schedule covers financial management records of grants and cooperative agreements but does not cover administrative records of such grants and agreements. These administrative records are covered in GRS 1.2.

This schedule covers financial transactions and reporting but not overall planning for finance. These records are covered under current GRS 5, anticipated to be replaced by future GRS 1.3.
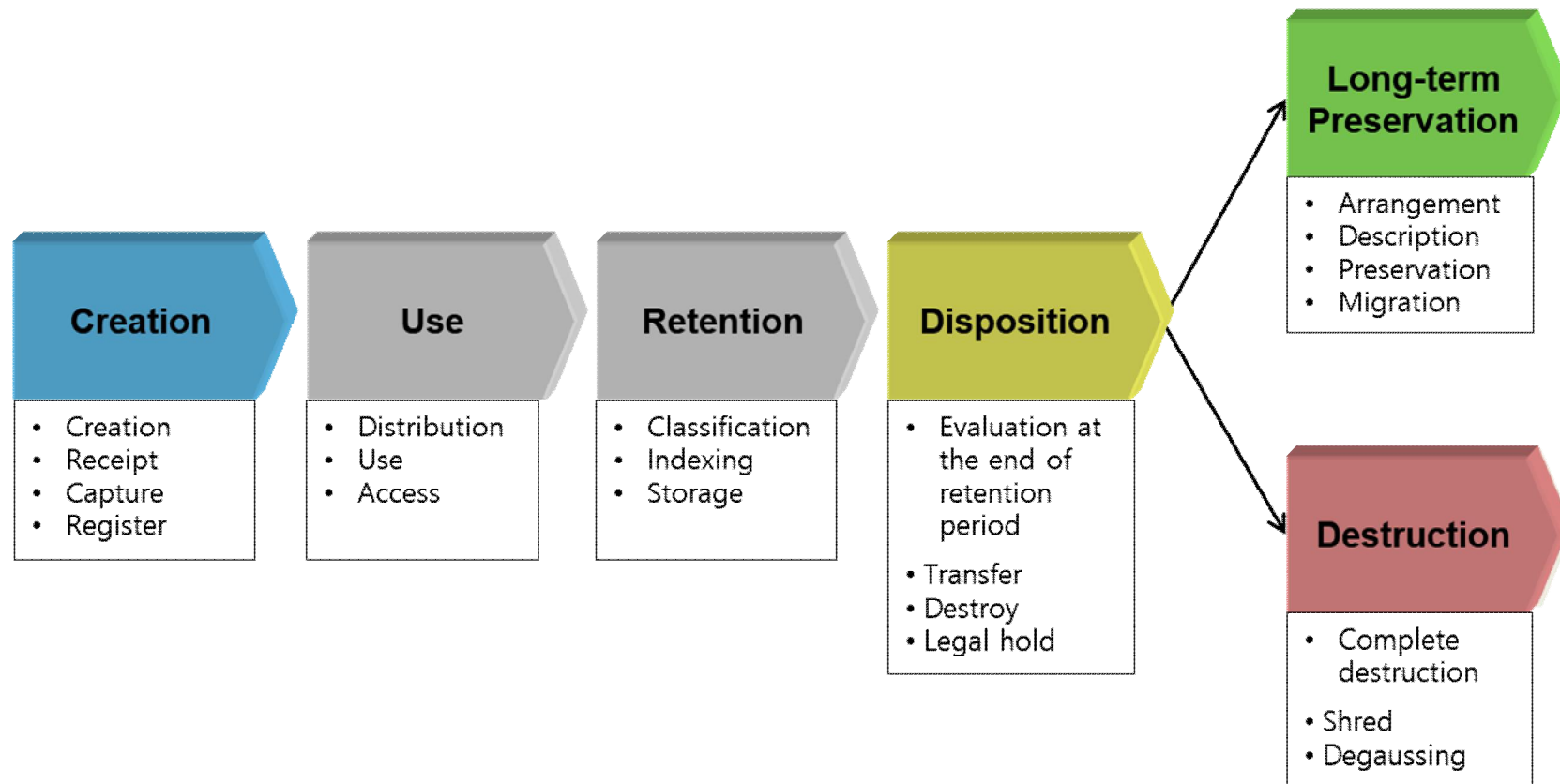
This schedule covers contract records maintained by Federal agencies but not records maintained by contractors, which are governed by 48 CFR 4, subpart 4.7.

This schedule covers financial transactions as an administrative function common to all agencies, but not administrative records documenting unique agency missions, such as student loan collection or seeking reimbursement for Superfund cleanups.

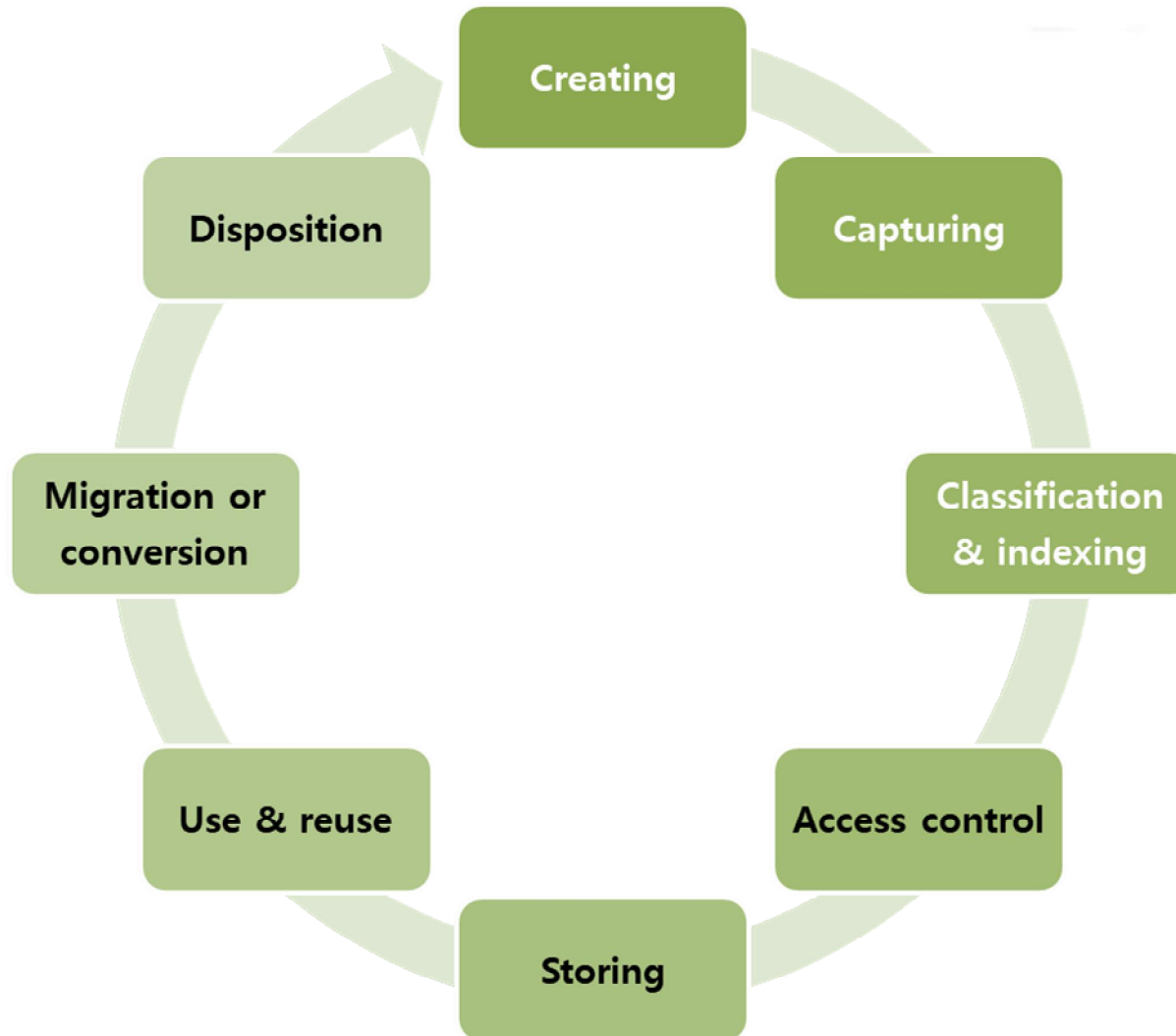| Item	Records Description		Disposition Instruction	Disposition Authority
001	**Financial management and reporting administrative records.** Records related to managing financial activities and reporting. Records include: • correspondence • subject files • feeder reports • workload management and assignment records		Temporary. Destroy when 3 years old, but longer retention is authorized if needed for business use.	DAA-GRS-2016-0013-0001
010	**Financial transaction records related to procuring goods and services, paying bills, collecting debts, and accounting.** Many records included in this item are maintained by accountable officers to account for the availability and status of public funds, and are retained to enable GAO, Office of Inspector General, or other authority audit. Financial transaction records include those created in the course of procuring goods and services,	Official record held in the office of record.	Temporary. Destroy 6 years after final payment or cancellation, but longer retention is authorized if	DAA-GRS-2013-0003-0001

3

Records Lifecycle

Records have lifecycle. From birth to Death but, different from human, or to permanent life

Creation
- Creation
- Receipt
- Capture
- Register

Use
- Distribution
- Use
- Access

Retention
- Classification
- Indexing
- Storage

Disposition
- Evaluation at the end of retention period
- Transfer
- Destroy
- Legal hold

Long-term Preservation
- Arrangement
- Description
- Preservation
- Migration

Destruction
- Complete destruction
- Shred
- Degaussing

Records processes

- Records life cycle has 8 steps of processes ; from creation to disposition

(ISO 15489)

Creating

Capturing

Classification & indexing

Access control

Storing

Use & reuse

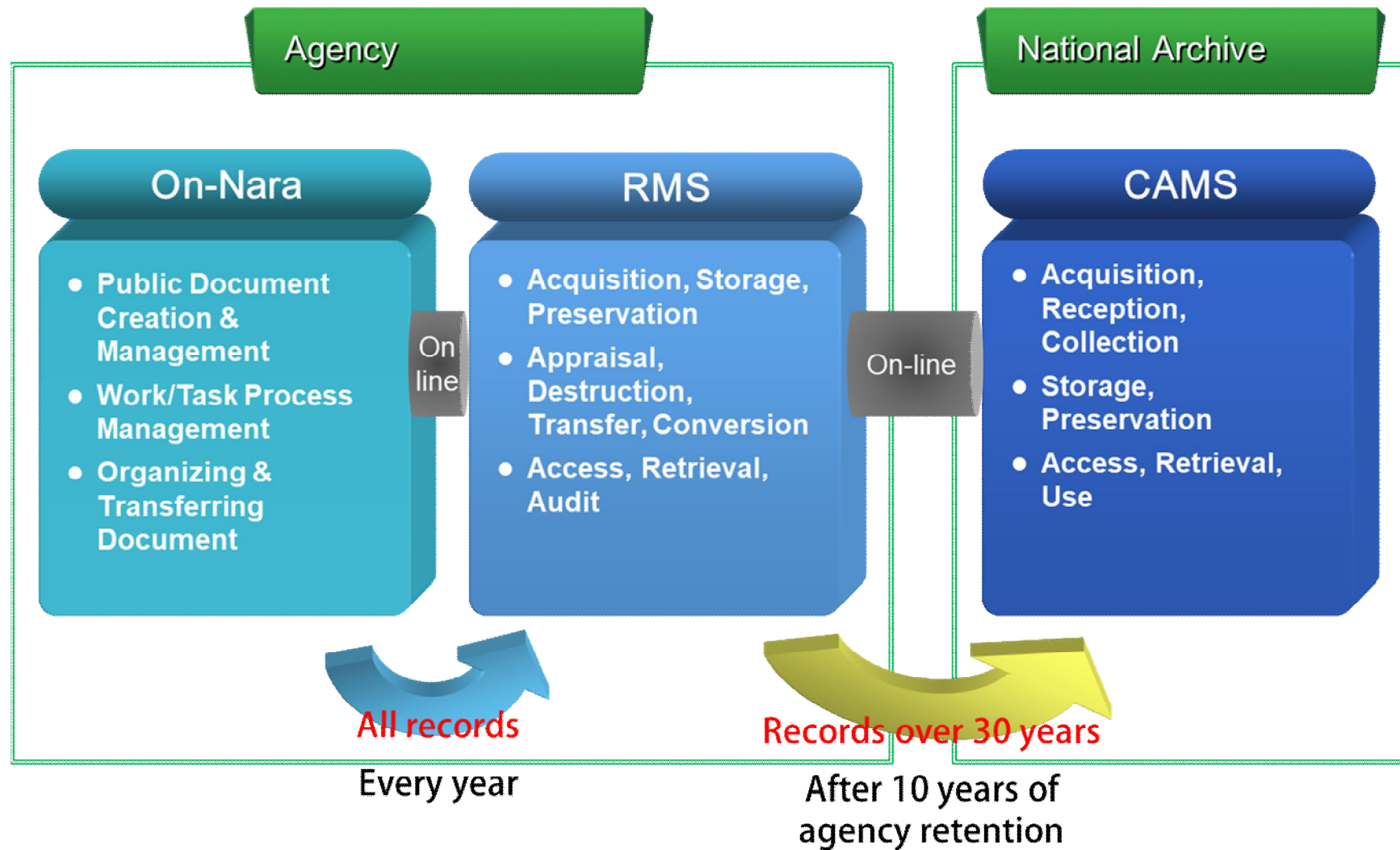Migration or conversion

Disposition

Records processes : Creating and Capturing

- Records are created or received and captured <u>in order to conduct business activity</u>.

- To keep and manage certain records over time, this should be done <u>by capturing them into a records system</u>.
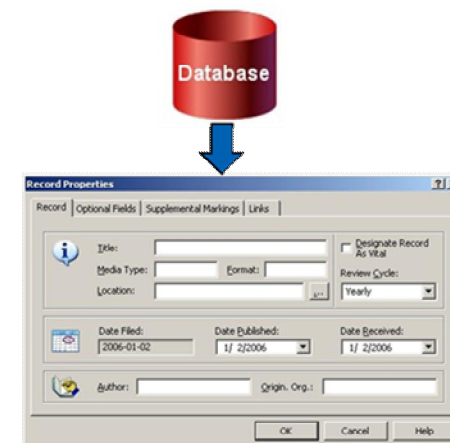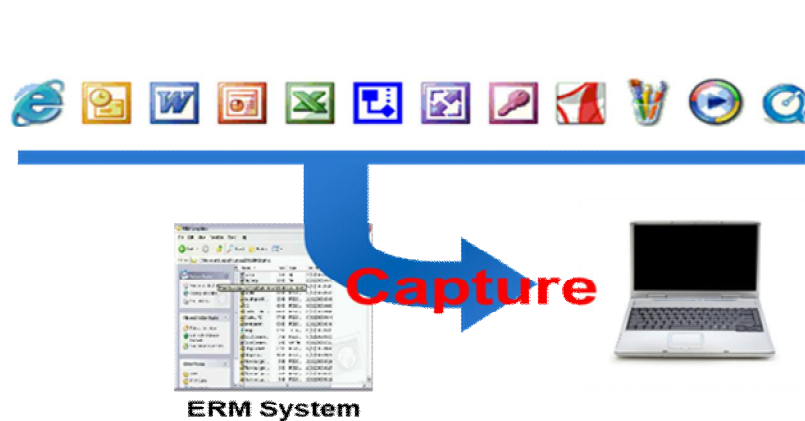
- At the point of capture, the metadata documenting a record's context should be fixed and kept as evidence of the transaction.

Record Management Scheme in Korea

Agency

National Archive

On-Nara
- Public Document Creation & Management
- Work/Task Process Management
- Organizing & Transferring Document

On-line

RMS
- Acquisition, Storage, Preservation
- Appraisal, Destruction, Transfer, Conversion
- Access, Retrieval, Audit

On-line

CAMS
- Acquisition, Reception, Collection
- Storage, Preservation
- Access, Retrieval, Use

All records

Every year

Records over 30 years

After 10 years of agency retention

EDMS and ERMS

- **Electronic Document Management Systems**
  - Document Repository
  - Document check in/out
  - Allows users to create, edit, delete
  - Search & Retrieval
  - Audit Trails
  - Access Controls

- **Electronic Records Management Systems**
  - Declare a document a record
  - Applies <u>Retention Schedule</u>
  - <u>Prevents alteration or deletion</u>
  - Maintains contextual information
  - Access Controls
  - Tracks Electronic & Paper Records

Records processes : Classification & Indexing

- Classification links records to their business context by associating them with categories in a business classification scheme.
  - Creator designates a business folder installed in on-nara system when asking approval to his senior.

- Indexing metadata such as subjects, location or personal names, may also be used to make records more retrievable.

Classification & Indexing

Records processes : Access control and Storing

- Record system should be designed to support the provision and restriction of access to records.
  - in accordance with the access and permission rule

- Records, regardless of format or media, should be stored in a way that protects them from unauthorized access, change, loss or destruction, including theft and disaster.
  - storage environment(s) and media;
  - protective materials and special handling procedures
  - physical and information security;
  - authorized disaster planning and recovery procedures

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Records processes : Use and Migration

- Records should be useable for as long as they are retained. Records systems should be designed to support easy use of records.
  - applying and maintaining appropriate metadata about a record's technical dependencies
  - creating additional copies of records or converting them into alternative formats
  - migrating records
  - ensuring continued access and useability of records in a disaster
  - establishing routine monitoring of storage conditions.

- The process of migration and conversion between business and/or records systems, including the decommissioning of the system(s), or from analogue to digital formats (digitization), should be managed.
  - The disposition of source records following a migration or conversion process should be authorized.
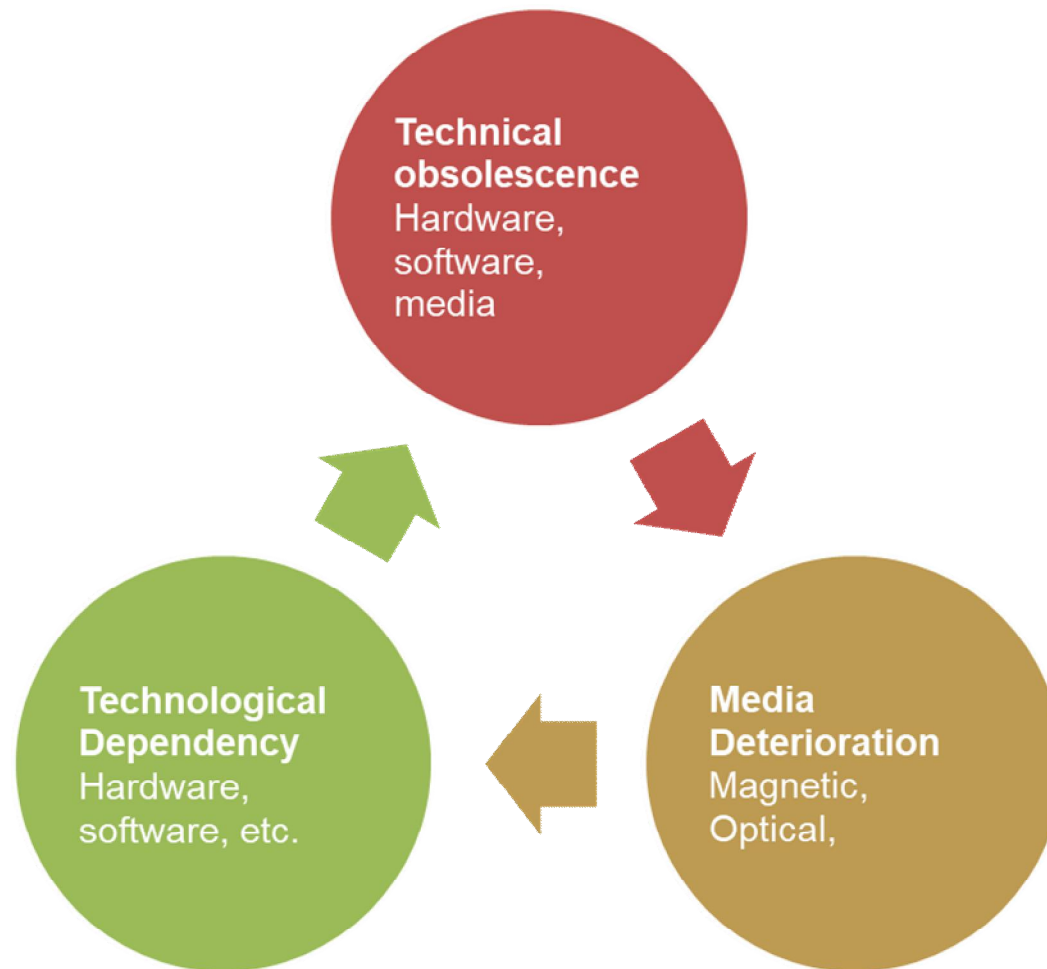
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Records processes : Disposition

- Disposition actions specified in disposition authorities should be implemented.
  - <u>destruction</u> of records and metadata
  - <u>transfer of control</u> of records and metadata to an organization that has assumed responsibility for the business activity through restructure, sale, privatization or other business change
  - <u>transfer of control</u> of records and metadata to an institutional or external archive <u>for permanent retention</u>

- Governing principles in destruction of records
  - Authorized destruction
  - records pertaining to pending, litigation or legal action, or investigation should not be destroyed
  - Complete destruction (ex. Hitting "delete" doesn't remove records)
  - Documentation of destruction action

Electronic records preservation Challenges

Unlike paper records, digital records do not survive <u>by accident</u>

Technical obsolescence
Hardware, software, media

Technological Dependency
Hardware, software, etc.

Media Deterioration
Magnetic, Optical,

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Media Life Expectancy (Physical)

Environment

Handling

Media quality

Affects on

Media life assumed

- **Paper = 100+ years**

- **Microfilm = 500 years**

- **Computer diskette = 2 – 5 years**

- **DLT = 10 - 30 years**

- **CD-ROM = 5 - 50 years**

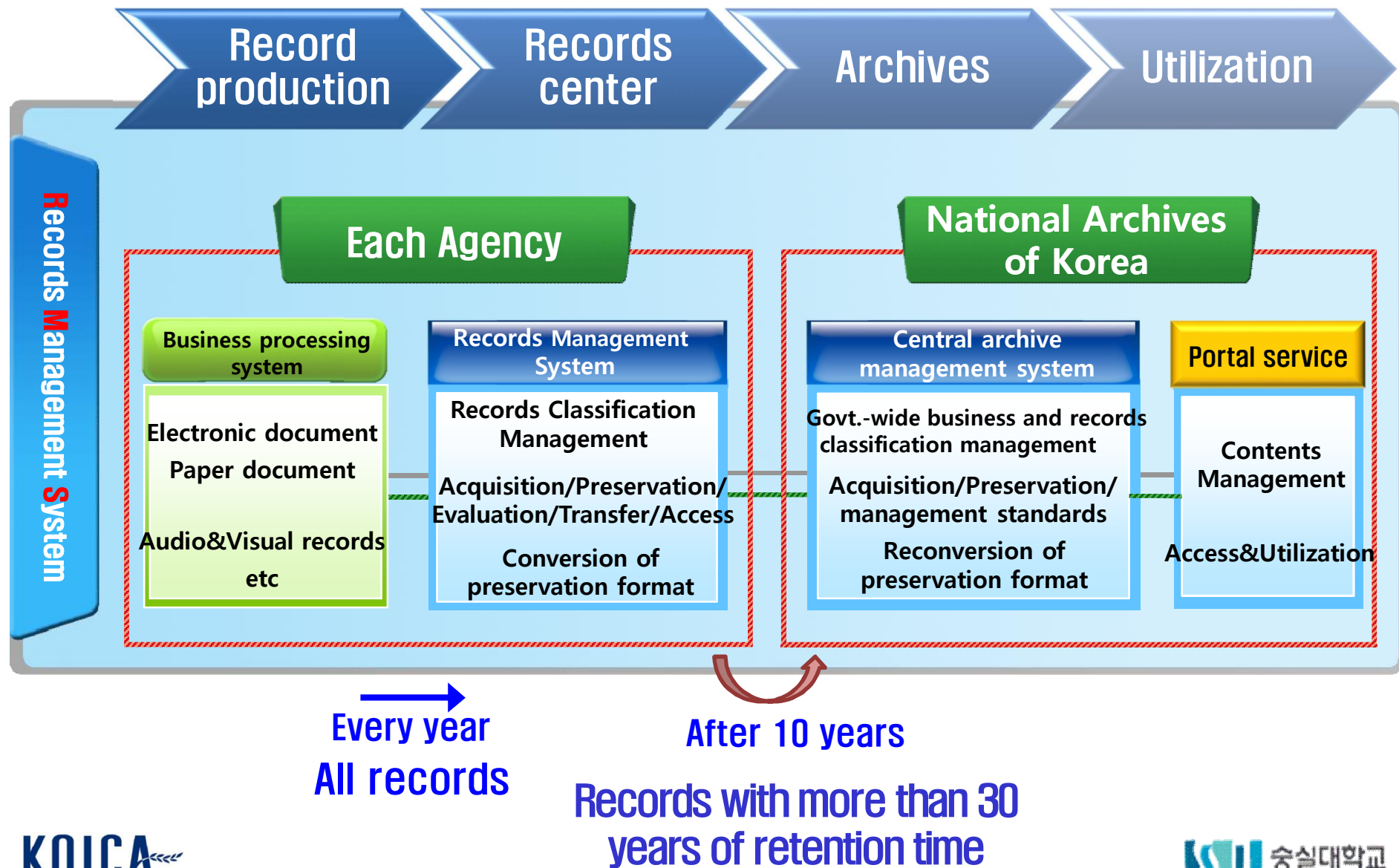- **Magneto-optical = 5 - 100 years**

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Q & A
# (질의 응답)

E-Government Project and Electronic Records

- **2001~2003 : 11 e-government projects**
  - Electronic approval process and distribution systems of electronic records

- **2004~2007 : 31 e-government projects**
  - Computerization of entire document processing system
    - Expansion and advancement of electronic document distribution system
    - Establishment of records management system(RMS) and central archives management system(CAMS)

- **2008~2014 : System integration and government 3.0**
  - Emphasis on utilization and integration of electronic records systems

- **2015~2018 : Cloud based system**
  - Cloud based electric document and records management system

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Electronic Records management system in Korea

Record production → **Records center** → **Archives** → **Utilization**

Records Management System

Each Agency

Business processing system

Electronic document
Paper document

Audio&Visual records

etc

Records Management System

Records Classification Management

Acquisition/Preservation/Evaluation/Transfer/Access

Conversion of preservation format

National Archives of Korea

Central archive management system

Govt.-wide business and records classification management

Acquisition/Preservation/ management standards

Reconversion of preservation format

Portal service

Contents Management

Access&Utilization

**Every year
All records**

After 10 years

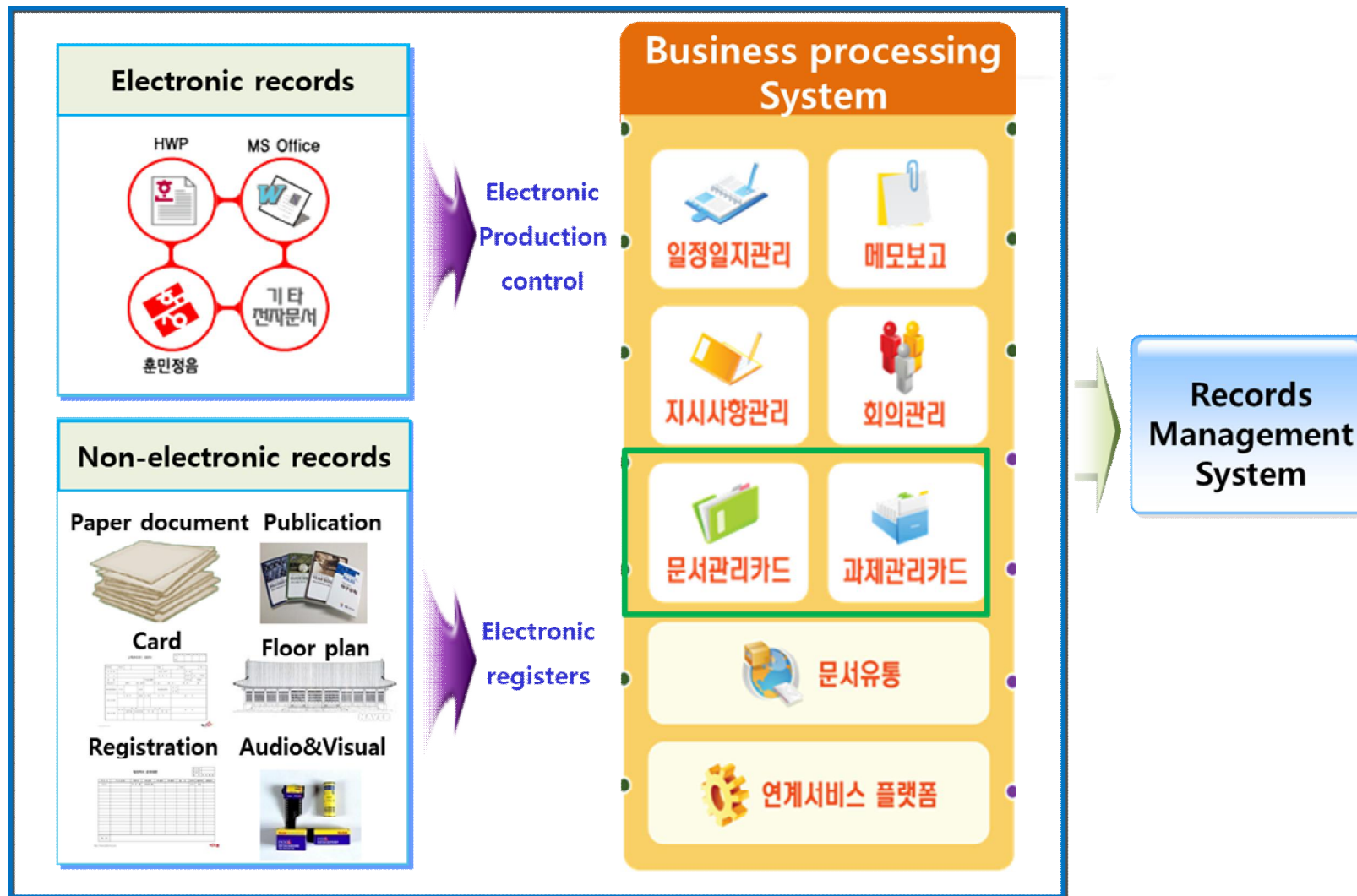**Records with more than 30 years of retention time**

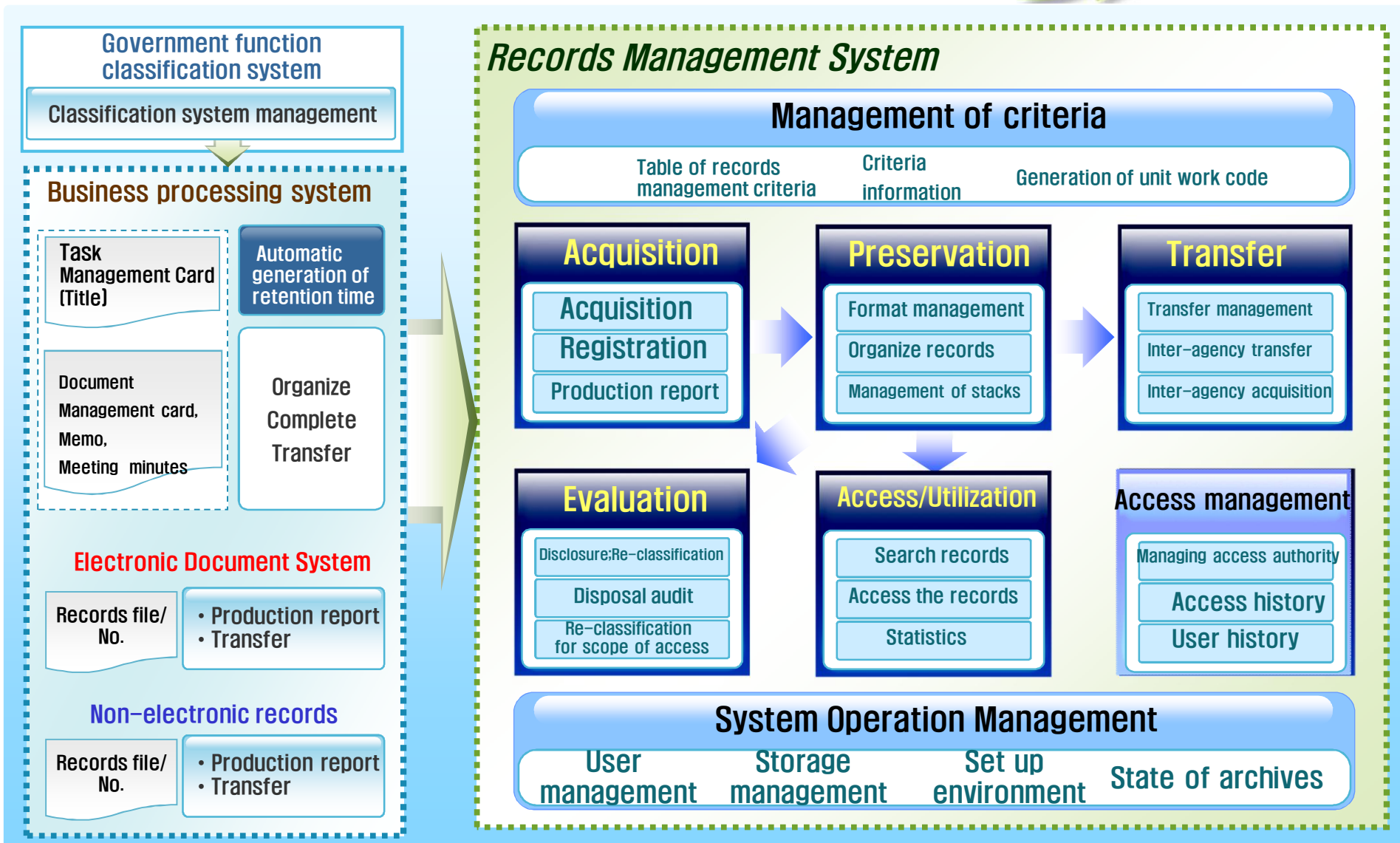KOICA

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Cloud RMS in Korean

Every Public organization's On-Nara and RMS will store electronic records in the <u>common storage</u> within Government Cloud Platform.
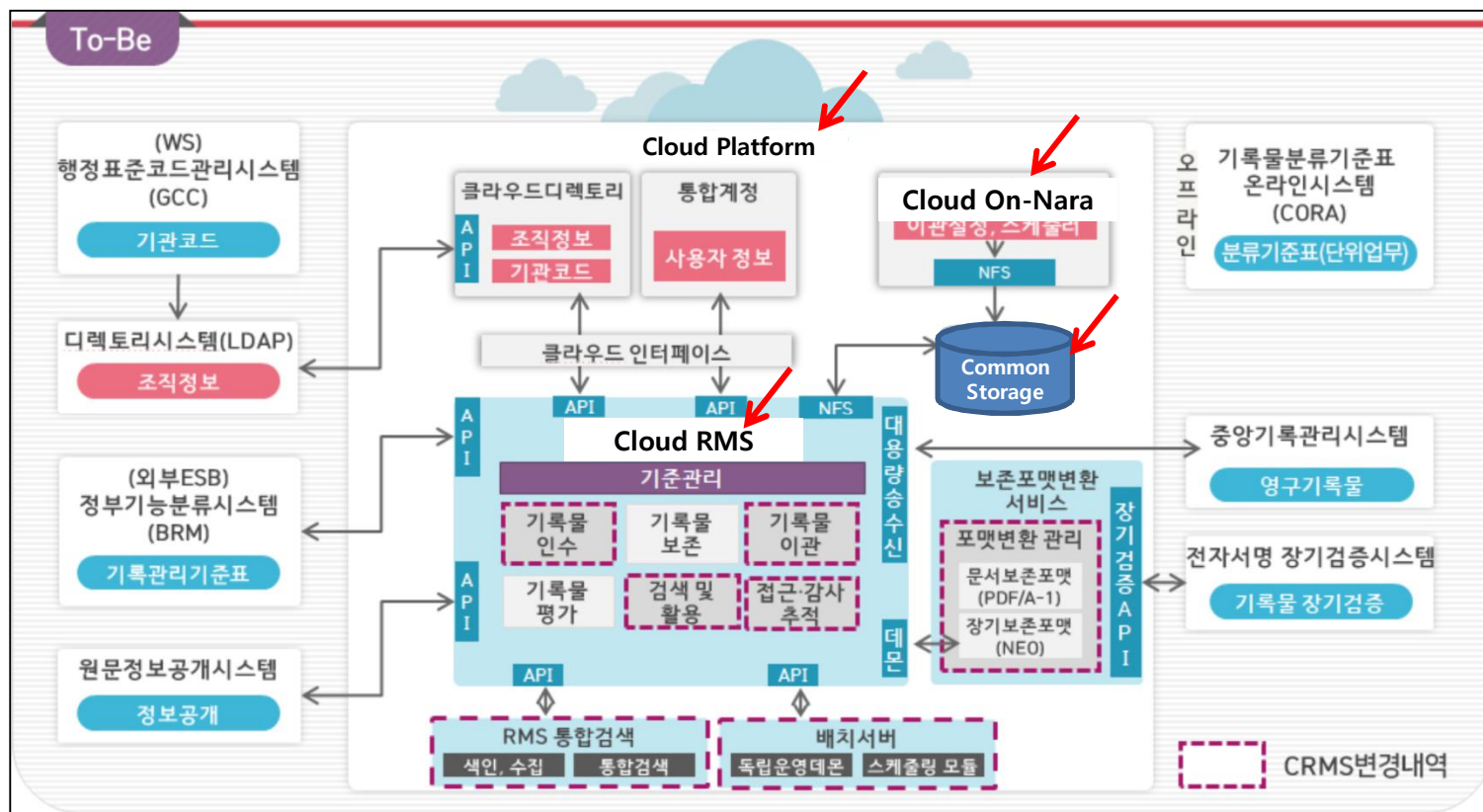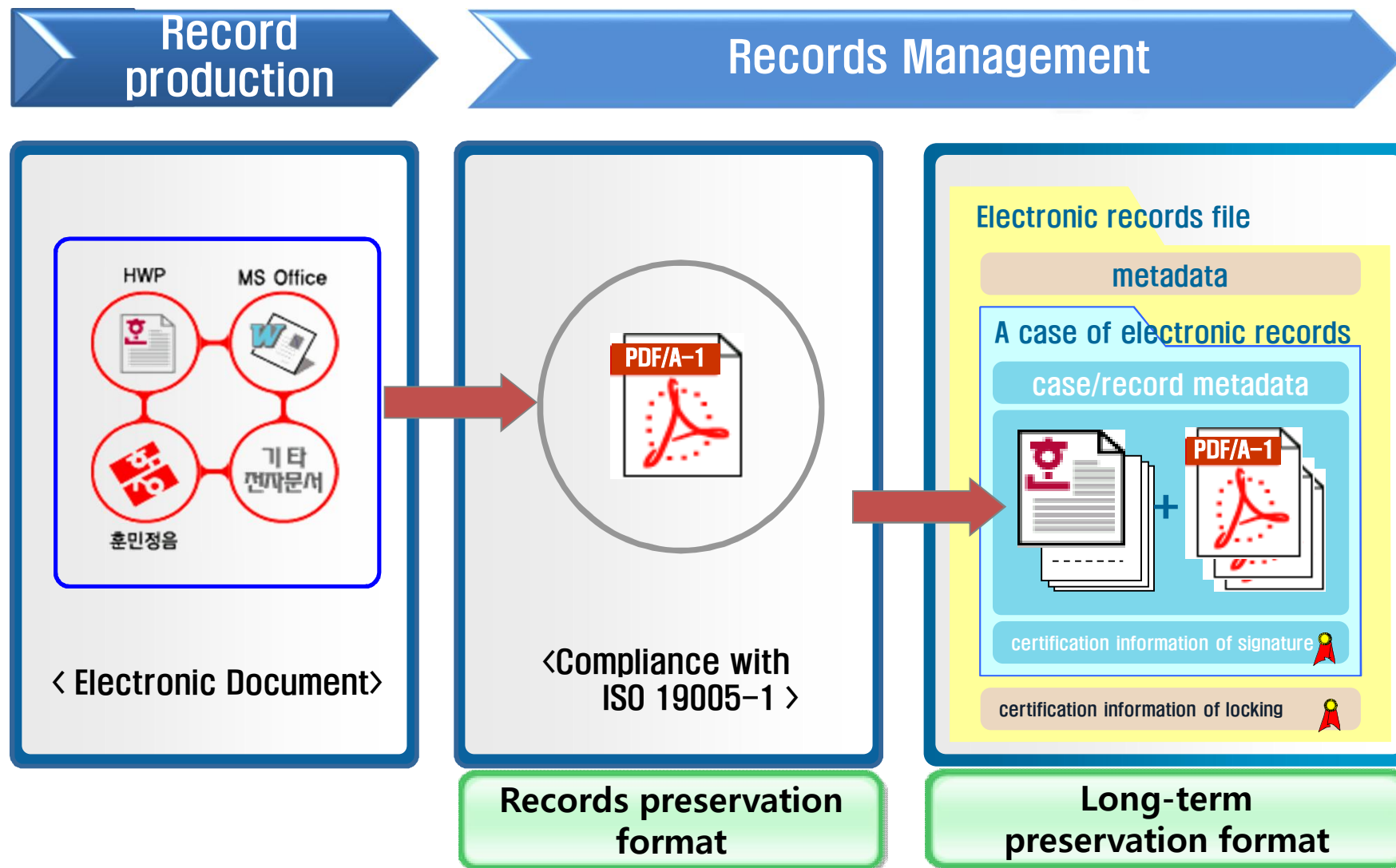
Business processing System(On-Nara System)

Records Management System

Conversion of preservation format

Record production → **Records Management**

< Electronic Document >
- HWP
- MS Office
- 훈민정음
- 기타 전자문서

PDF/A-1

<Compliance with ISO 19005-1 >

Records preservation format

Electronic records file
- metadata
- A case of electronic records
  - case/record metadata
  - 호 + PDF/A-1
  - certification information of signature
  - certification information of locking

Long-term preservation format

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Records Management System : Main Page

Central Archive management system

Central Archive management system

Records Center		Central Archive management system						Related systems

Management of criteria

Table of records management	Criteria information	Records classification management

System administration

User management	Access privileges	Audit trail	administration

Records Center

- Production status report
- Transfer

Private · Overseas

- Donation And Purchase
- Designation as national records

Acquisition and registration
- Production management
- Acquire and register records
- Organize records
- Register special records

Planned collection
- Possession/Planning to collect national records
- Designation as national records

Preservation management

Pre-storage
- Conversion of formats
- Archiving boxes
- Sterilization
- Management of stacks

Post -storage
- Digitalization
- Description/Evaluation
- Disclosure / Reclassification
- Checkup/ Preservative treatment

- Preservation stacks
- Storge

Search support
- Thesaurus
- Authority Data

Access and utilization
- Online access management
- Offline access management
- Integrated search

Content Management
- Underlying content management
- Major collection management
- Inter-content management

Job Support

Policy management	Supervision and assessment	Computerization management	Organizational Management	Training management	Promotion and exhibition	General support

Related systems
- Records Management System
- BRM System
- System for conversion of document preservation format
- Long term verification System of electronic signature
- Nara Repository
- Integrated records Search system

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Central Archive management system

- **storage and preservation management of electronic records**
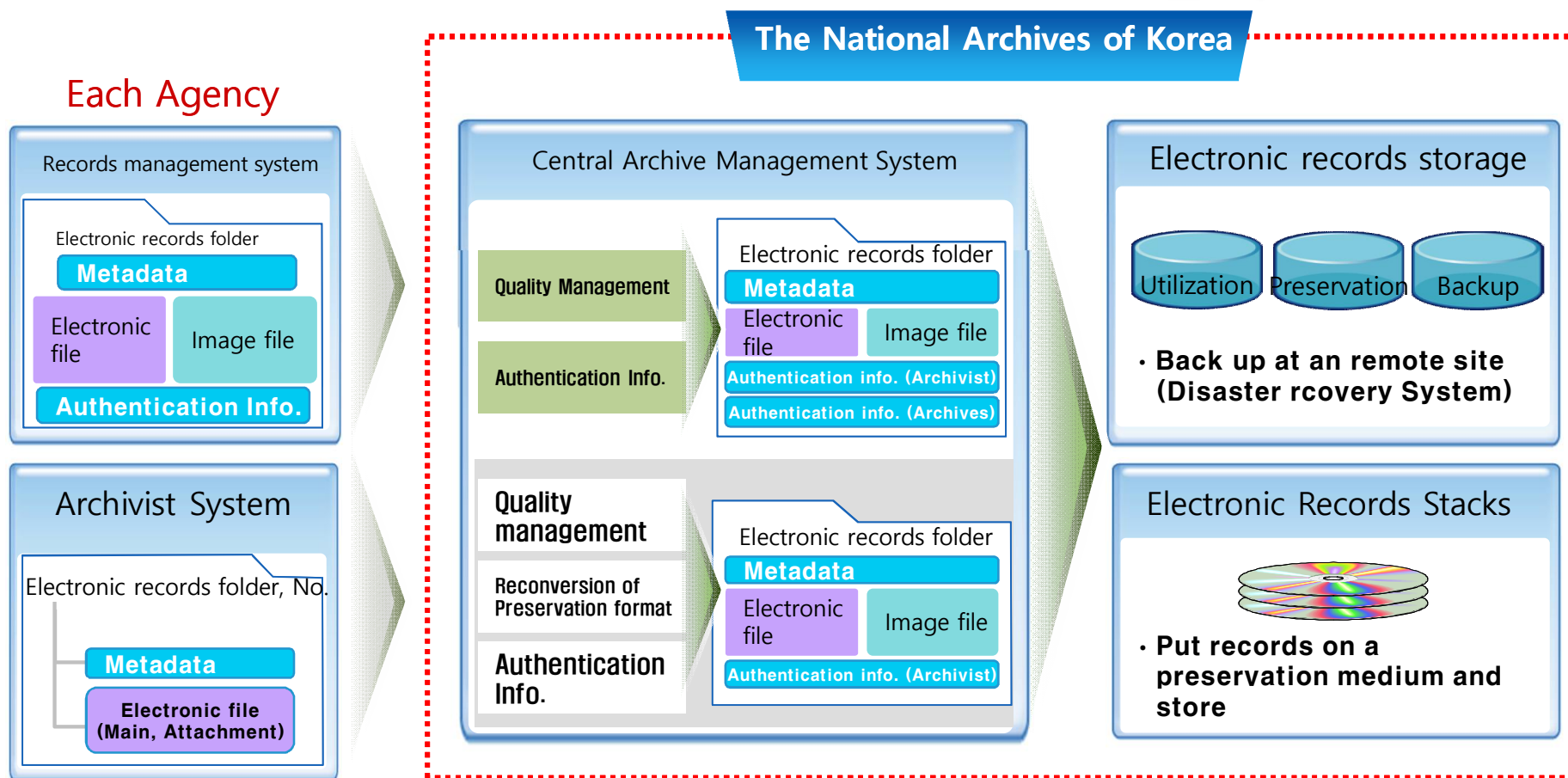
The National Archives of Korea

Each Agency

Records management system

Electronic records folder

Metadata

Electronic file	Image file

Authentication Info.

Archivist System

Electronic records folder, No.

Metadata

Electronic file (Main, Attachment)

Central Archive Management System

Quality Management

Authentication Info.

Electronic records folder

Metadata

Electronic file	Image file

Authentication info. (Archivist)

Authentication info. (Archives)

Quality management

Reconversion of Preservation format

Authentication Info.

Electronic records folder

Metadata

Electronic file	Image file

Authentication info. (Archivist)

Electronic records storage

Utilization | Preservation | Backup

- **Back up at an remote site (Disaster rcovery System)**

Electronic Records Stacks

- **Put records on a preservation medium and store**

National Archives of Korea

http://www.archives.go.kr/english/index.jsp

Online Service for Recorded Information

- **Contents Portal service**

Contents types
- Various themes
- Records series
- Education

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Q & A
(질의 응답)

Reference(참고문헌)

- Public records management Act of Korea
- ISO 30301 and ISO 15489-1
- Body of Key Knowledge for Records Management in ISO 30301 (SA Cho)
- KOICA website: www.koica.go.kr
- NAK website: www.archives.go.kr/english/index.jsp
- ICA website: www.ica.org/en

THANK YOU!