

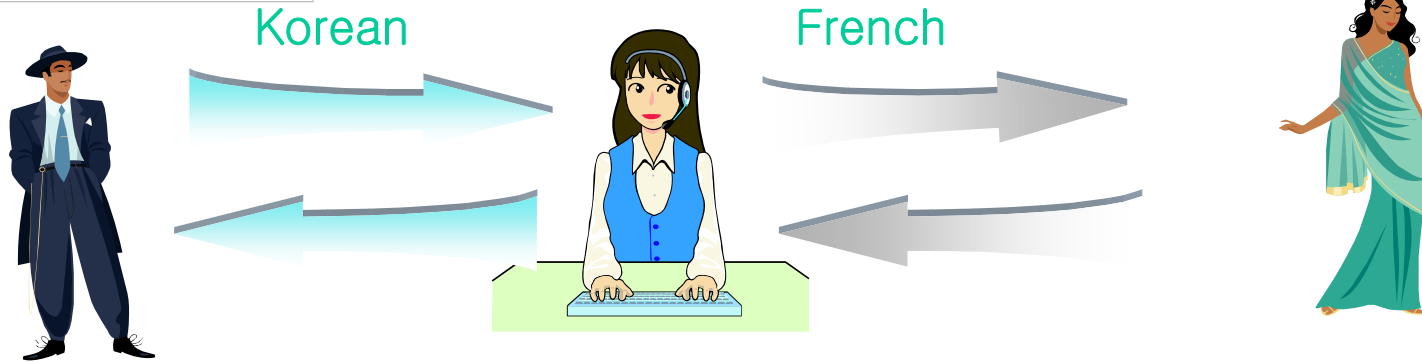
IT Platform & Standards Of KONEPS



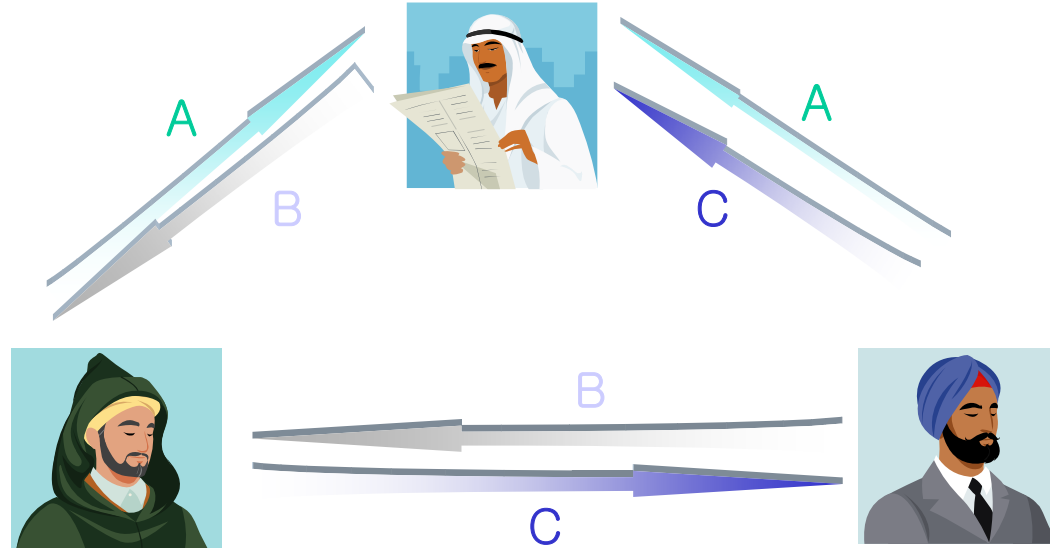
2009. 9

Why Standardize ?

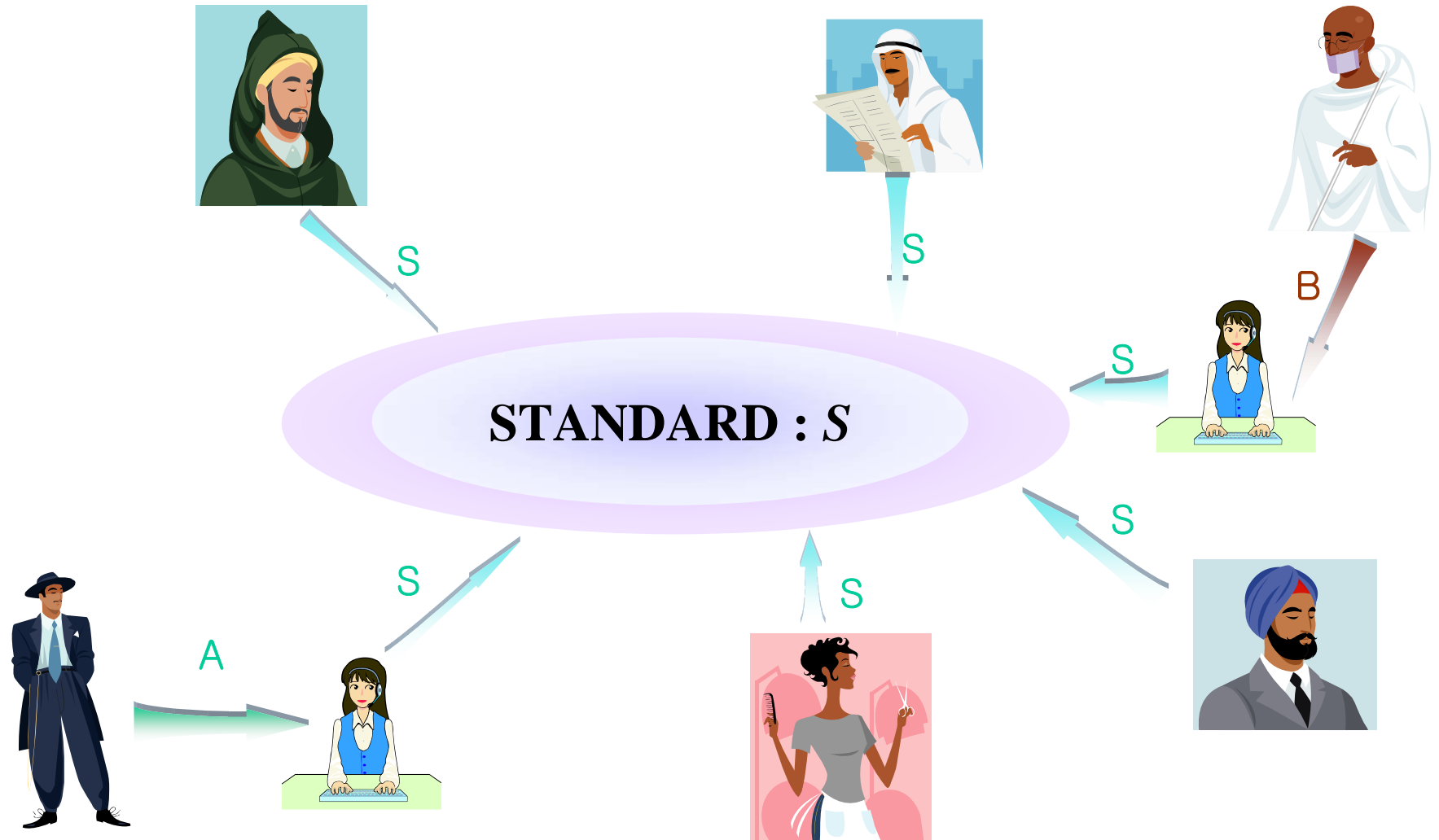
Conversation



But Discussion ??



Why Standardize ?



- XML (Extensible Markup Language)
 - a set of rules for encoding documents electronically
 - by W3C
- ebXML (Electronic Business using XML)
 - an open, XML-based infra that enables the global use of electronic business information in an interoperable, secure, and consistent manner by all trading partners
 - by OASIS and UN/CEFACT
- XML Signature (XMLDSIG)
 - an XML syntax for digital signatures
 - by W3C

- WSDL (Web Service Description Language): an XML-based language that provides a model for describing Web services.
- ebMS (ebXML Messaging Services): an open standard for the secure exchange of B2B documents using Web service.
- SOAP (Simple Object Access Protocol): a protocol specification for exchanging structured information in the implementation of Web Services in computer networks
- MIME (Multipurpose Internet Mail Extensions): an Internet standard that extends the format of email into a variety of content types
- PKI (Public Key Infrastructure)


KONEPS (Korea ON-line E-Procurement System) started in 2001, as one of 11 e-Government projects of the Special Committee for e-Government

○ Stage 1: Establishing the Government e-Procurement System (Mar 2002 ~ Dec 2002)

- Establishment of public procurement ASP (Application Service Provider) system
- Construction of public procurement internet portal
- Establishment of procurement support system
- Establishment of IT platform & standards for public procurement

○ Stage 2: : Advancement of customer-oriented services (Sept. 2003 ~ Aug. 2004)

- Establishment of Data Ware (DW) System
- Improvements in the e-Procurement service system
with CRM, Mobile services supporting PDA, Web Call Center etc.
- Standardization of the data linkage system *based on standardized messaging system and Webservices*



Stage 3: Establishment of data linkage system in *digital budgeting and accounting systems* and standardization of operation systems (2005. 12 ~ 2006. 12)

- Linking *digital budgeting and accounting systems* to KONEPS
- Expansion of the application of e-Procurement process
e-Procurement process, formerly applied to goods, construction, and services, now expanded to include *leases, repairs, maintenance, insurance, real estates, securities* acquisition, etc.
- Advanced system operations
built ITSM (IT Service Management) system and obtained ISO20000



Objects of KONEPS

- Maximize **efficiency** and **transparency** in procurement administration
- Promote private e-Businesses
- Maximize **competitiveness** of private companies, and ultimately the nation's overall competitiveness

Establishing **standardized** systems for public procurement

Procurement ASP system

ASP for Public Agent
ASP for Supplier

Procurement portal system

Registration of supplier
Single Window for Tendering

Procurement support system

E-Guarantee
Sharing Government Information
Sharing Association Information

IT Platform & Standards

Catalog, ebXML, ITSM, e-Document, Reg/Rep, ebMS, PKI etc.



e-Document exchange system

- KONEPS was built on ebXML-based e-Document exchange for the entire procurement procedure
- Digital signature : using XMLDSIG by digital certificate
- Encryption : based on PKI
- Document Library : CCTS (*Core Components Technical Specification*) by UN/CEFACT
- Webservices : WSDL (*Web Service Description Language*), UDDI (*Universal Description Discovery and Integration*)

e-Catalog Information system

- Standardization of the classification system for product items
- Based on UNSPSC (*United Nations Standard Products and Services Code*)
- Over 1 Million catalogs and 20,000 classifications
- Used for e-Commerce and goods management

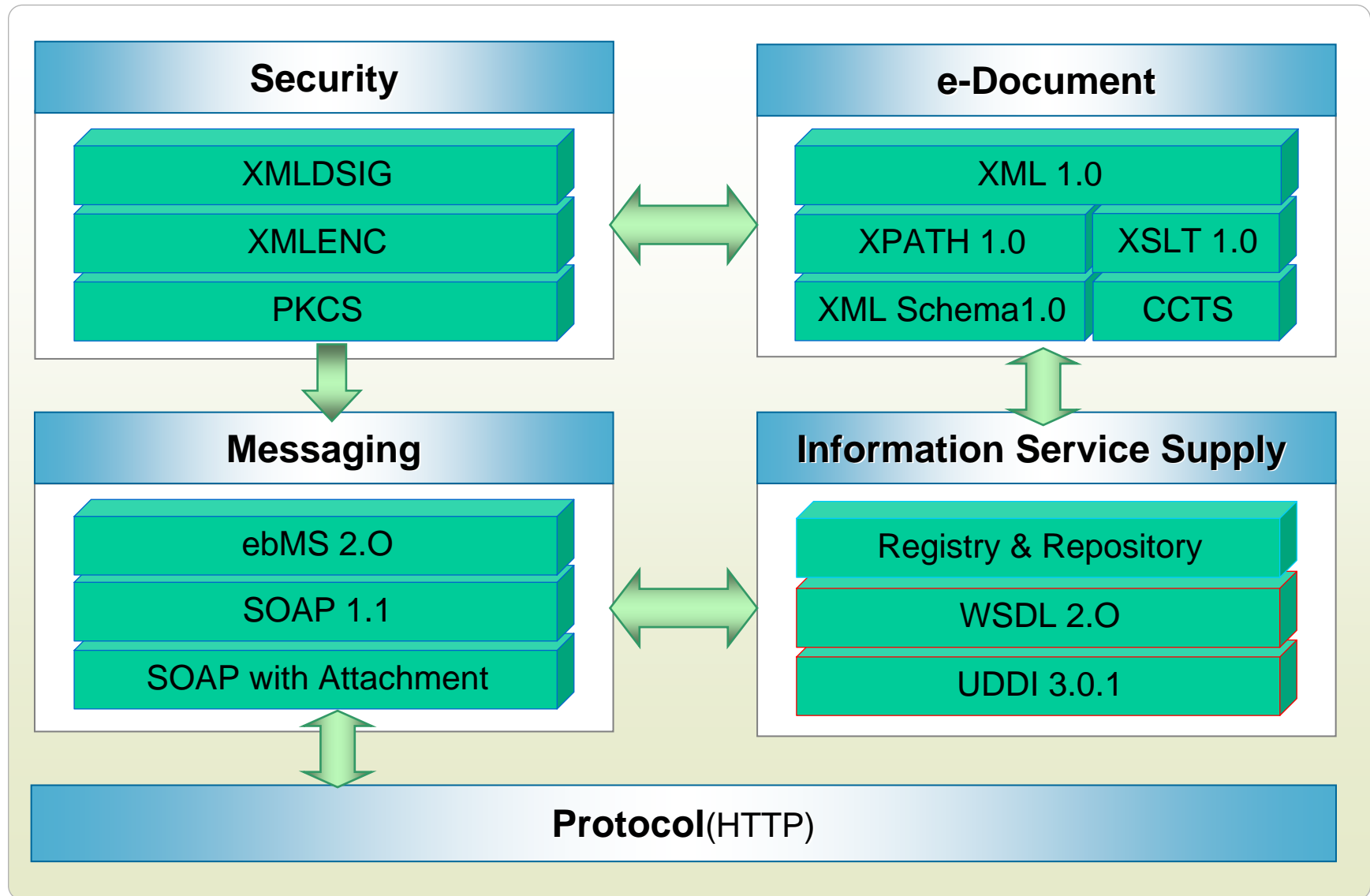
Being used by *central governments, local governments, educational institutions etc.*

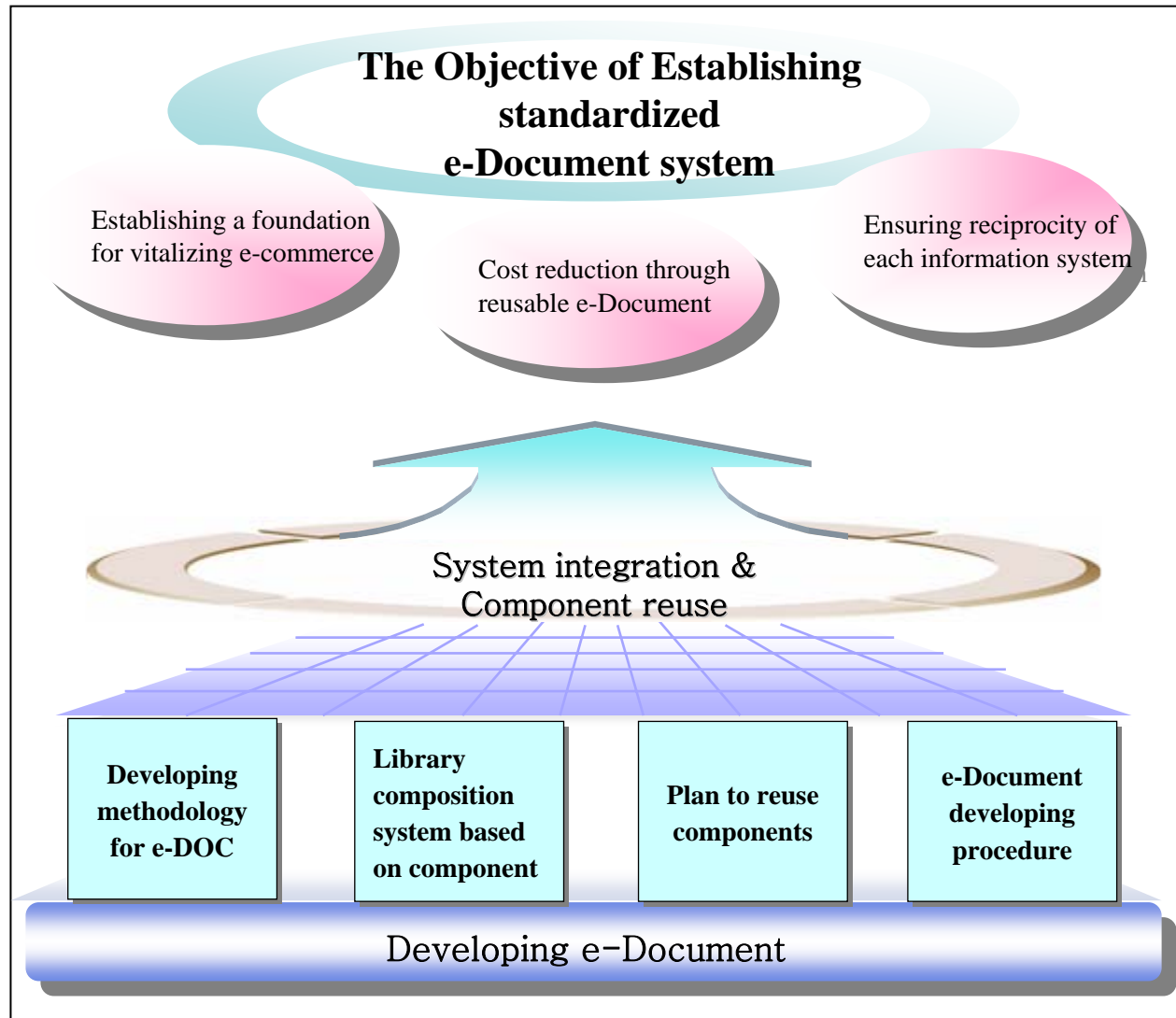
Standardized Information Technology System Management

- Outsourcing system, including the *Service Level Agreement (SLA)*, was introduced in 2005
- In 2005, BS15000 was obtained from the *British Standards Institution (BSI)*
 - * Whole service operation organization was based on the IT Infrastructure Library (ITIL) methodology
- ISO20000 was obtained in 2006. 3
- In Dec. 2006, IT Service Management system (ITSM) was built
 - integrates the two application areas of ITIL (Service Support and Service Delivery)*

Standardization of KONEPS

(e-Document exchange system)





e-Documents Development by Stage

Analyzing Business process

- Analysis on Business Process and user requests
- Analysis on procurement related laws
- Decide will be developed e-Documents

Establishing Standardization System

- Development methodology for e-DOC
- Establishing XML Schema composition
- Establishing Assembly Rule

Library composition

- Composition of Core Components (CCT, BCC, ACC)
- Composition of BIE based on BCC and ACC
- Composition of CC catalog and BIE catalog
- Standardization of Codes
- Composition of Library based on Component

Developing e-Documents

- Analysis on Document items using Work Sheet
- Development of Schema and XML Instance according to W3C
- User interface design and XSL development using XML Instance

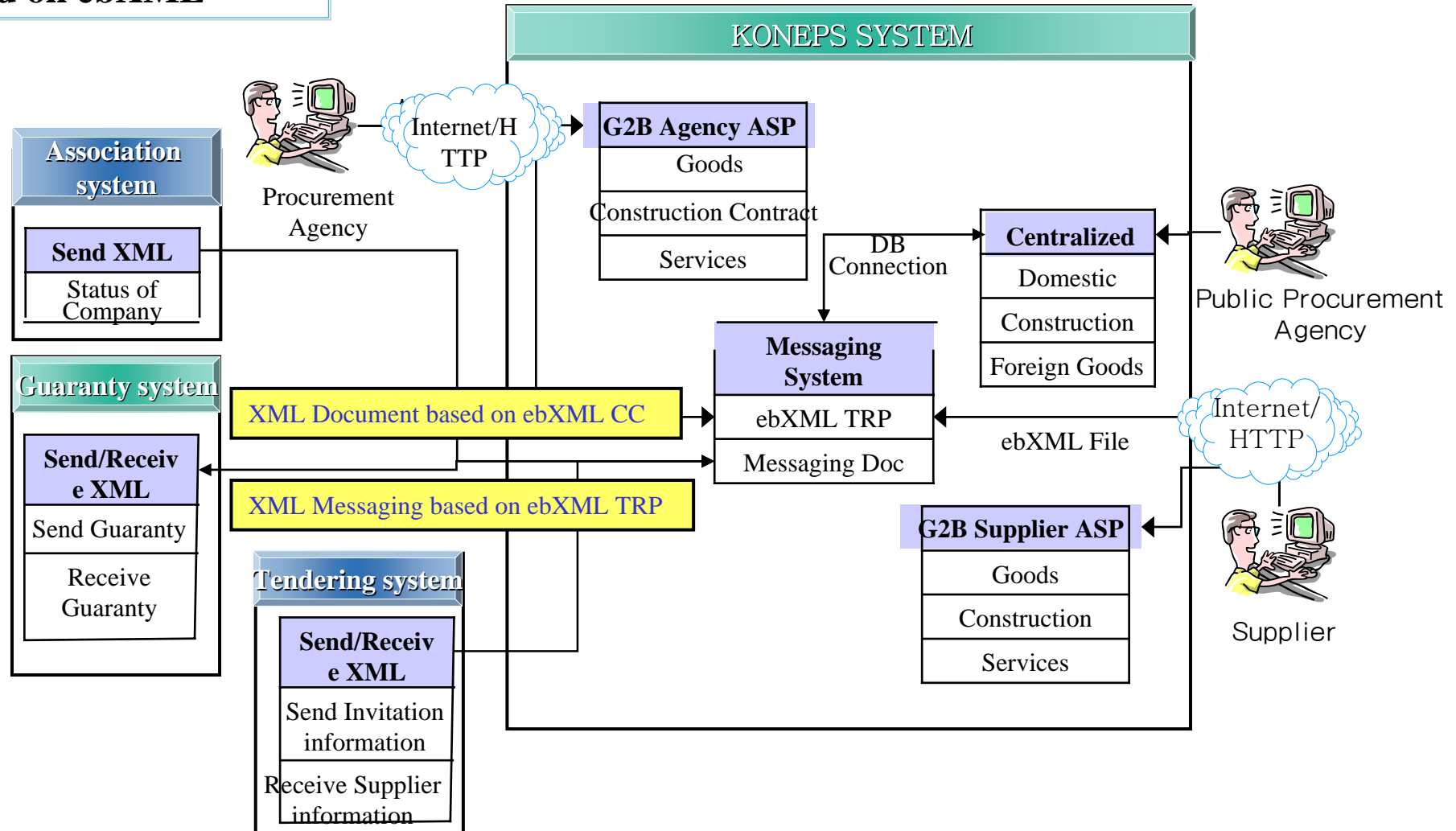
○ Number of e-documents used in transactions

Type of business	Number of documents	Number of transactions (millions)
Bidding documents	24	22.5
Contracts	45	4.5
Purchasing request	33	1.6
Guarantee	10	0.8
Payment	37	5.0
Connected documents with outer system	39	0.4
General doc., etc.	98	15.3
Total	243	50.1

- In General doc., 501 thousand administrative information such as *national/local tax payment certificates* were electronically transferred in e-Documents in 2008

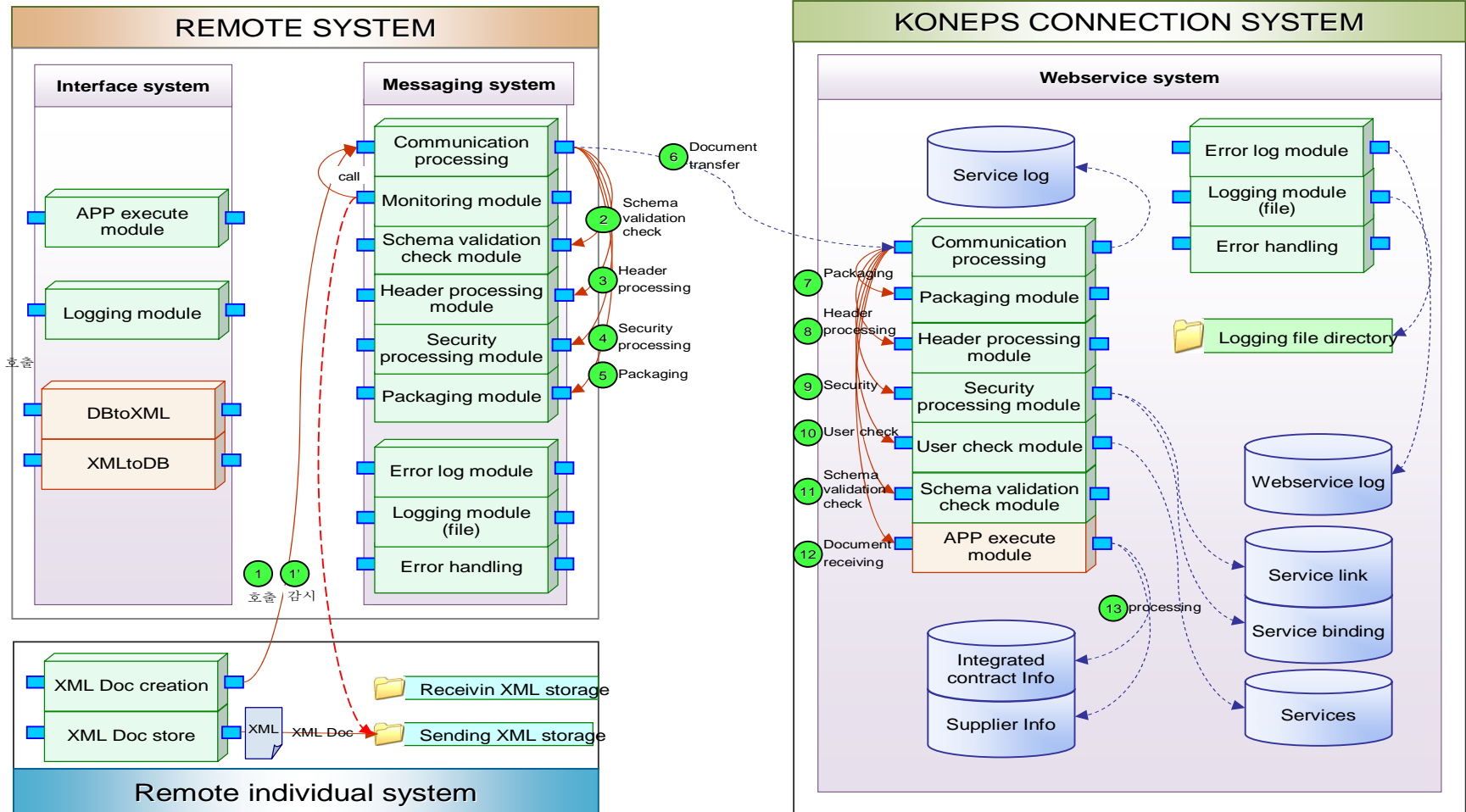
Standardization of KONEPS (*messaging system*)

Based on ebXML



Standardization of KONEPS (messaging system)

Based on Webservices

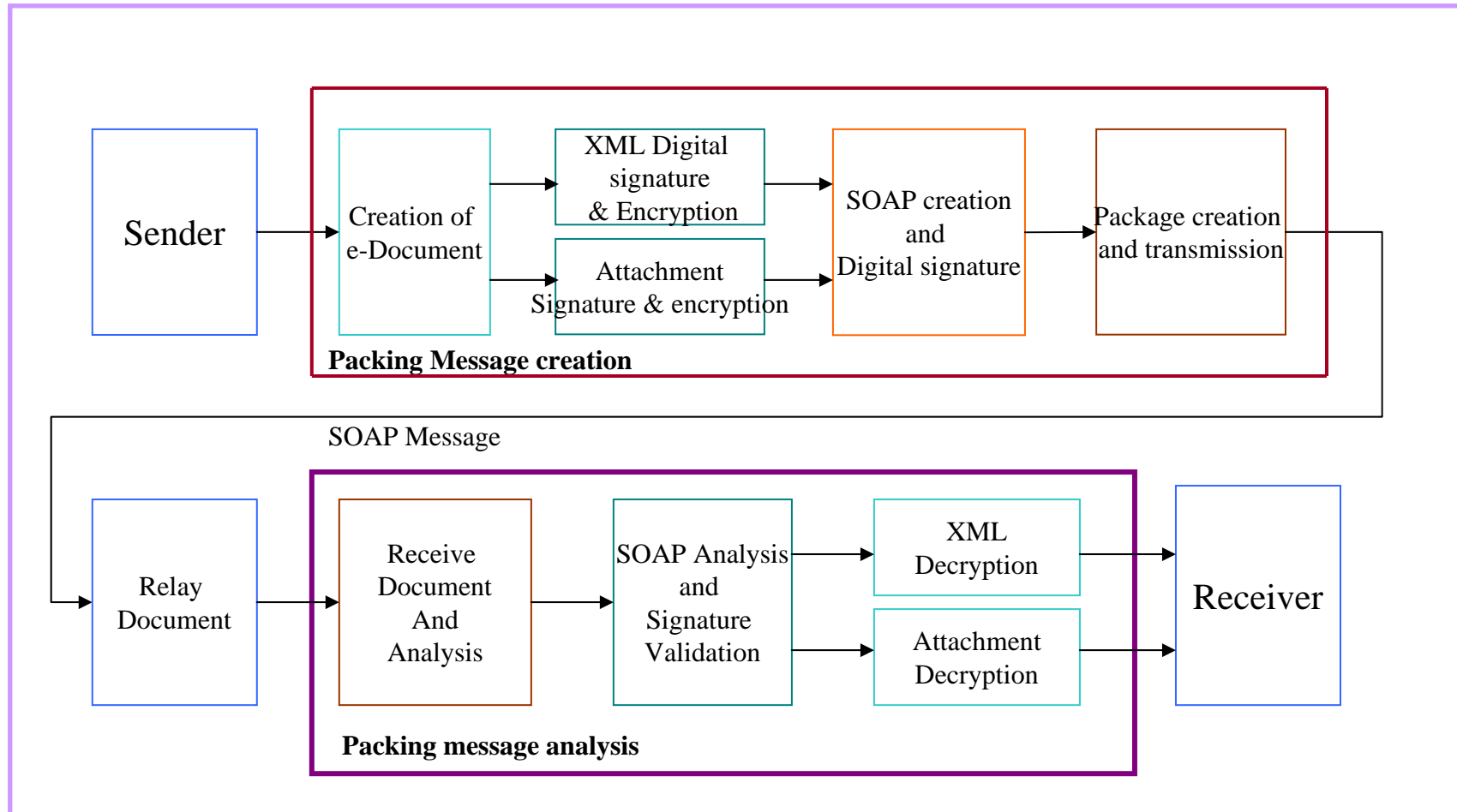




Based on Webservices

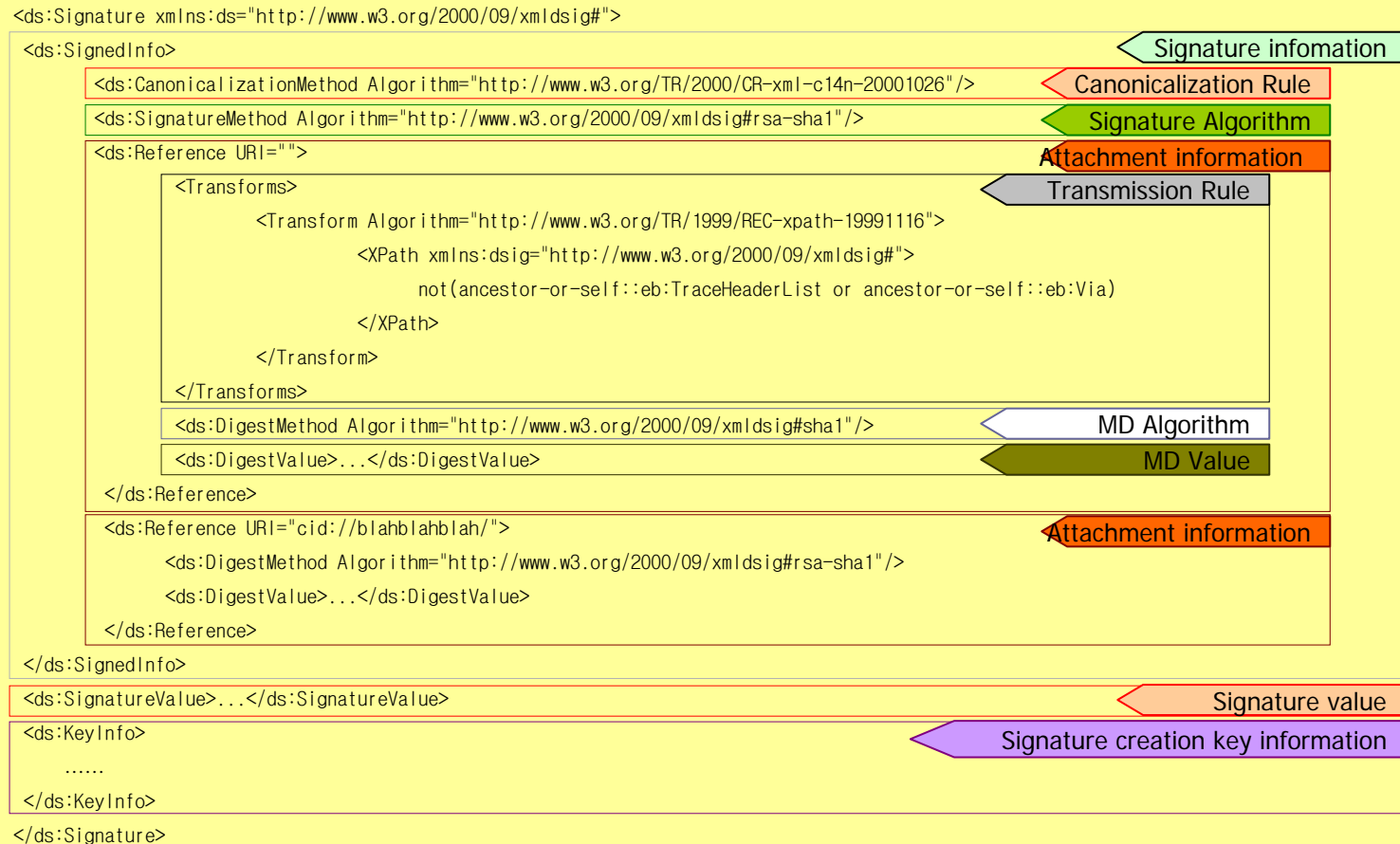
- ① Store XML Documents, generated from remote individual systems, to directory.
- ② Schema validation check
- ③ SOAP Header generation
- ④ Encryption and e-Signature procession
- ⑤ MIME document generation
- ⑥ Document sending
- ⑦ MIME document parsing
- ⑧ SOAP parsing
- ⑨ Decryption and e-Signature authentication
- ⑩ User and authority check
- ⑪ Schema validation check
- ⑫⑬ Receiving and Parsing

Process of Message Creation and Transmission

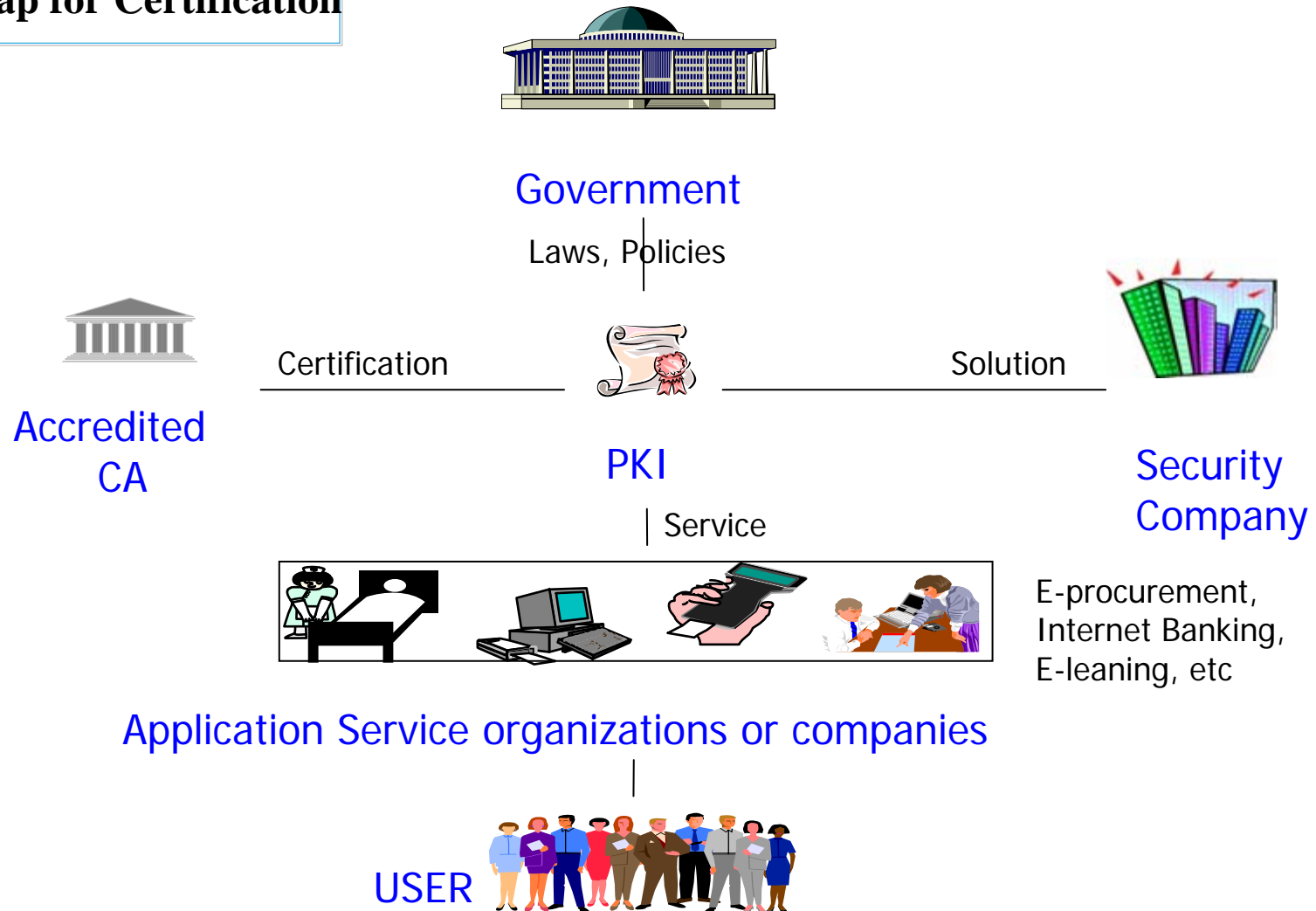




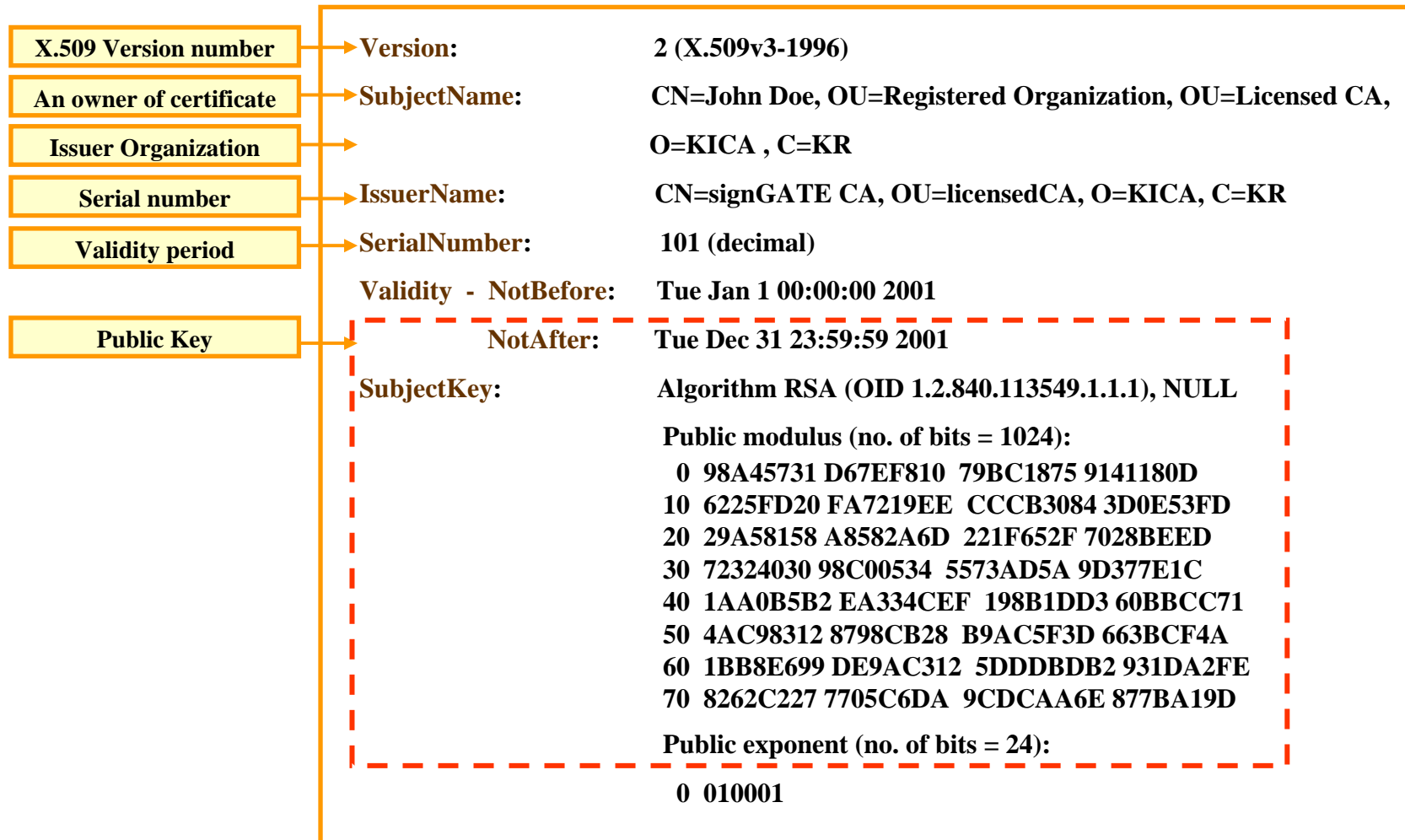
Structure of e-Document



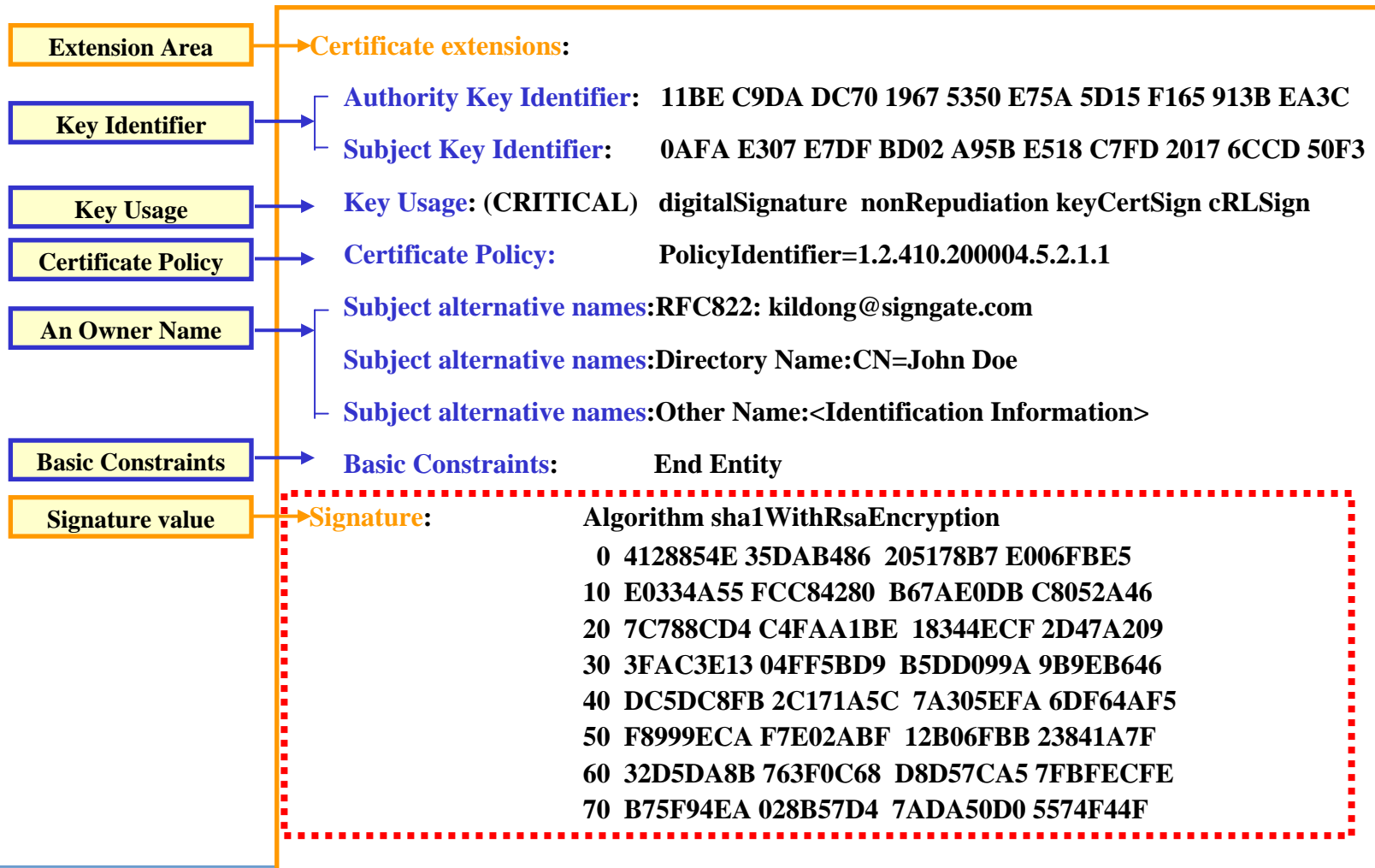
Process Map for Certification



Certificate structure based on X.509

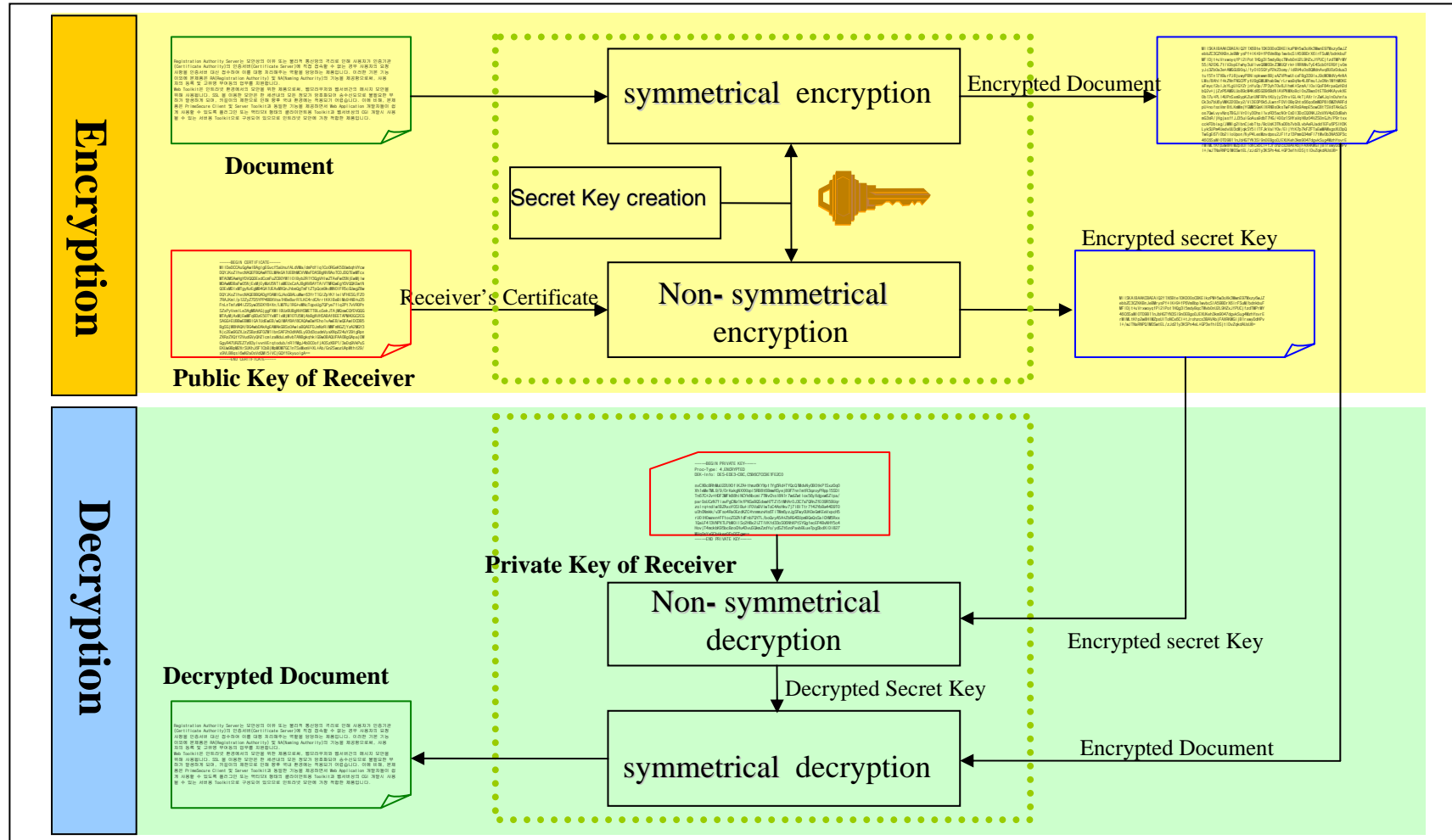


Certificate structure based on X.509



Standardization of KONEPS (encryption)

Process of Encryption based on PKI





Q & A