



# Technical Standard of PAA

April, 2012

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KTNET

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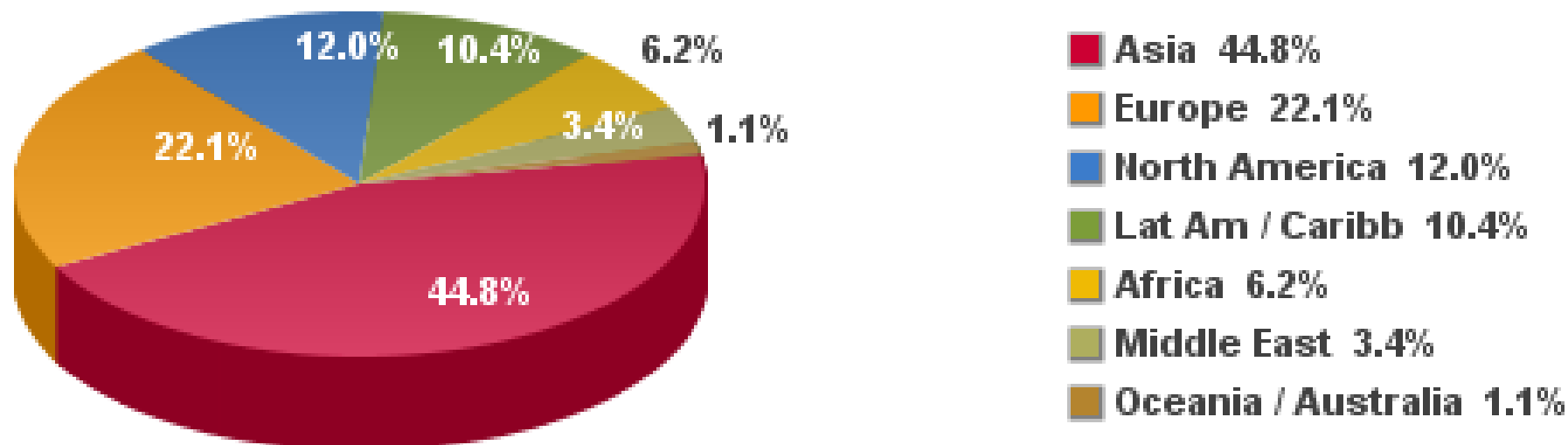
- 1. Messaging Standard & Communication Protocol**
- 2. Security and on going Services**
- 3. Introduction of KTNET**

# 1. Messaging Standard & Communication Protocol for PAA

- ❑ PAA Value Position
- ❑ Packaging Specification
- ❑ Single hop transaction Model
- ❑ Multi hop transaction Model
- ❑ Messaging Standard (ebXML)

# Internet Users in the World

## Distribution by World Regions - 2011



Source: Internet World Stats - [www.internetworldstats.com/stats.htm](http://www.internetworldstats.com/stats.htm)

Basis: 2,267,233,742 Internet users on December 31, 2011

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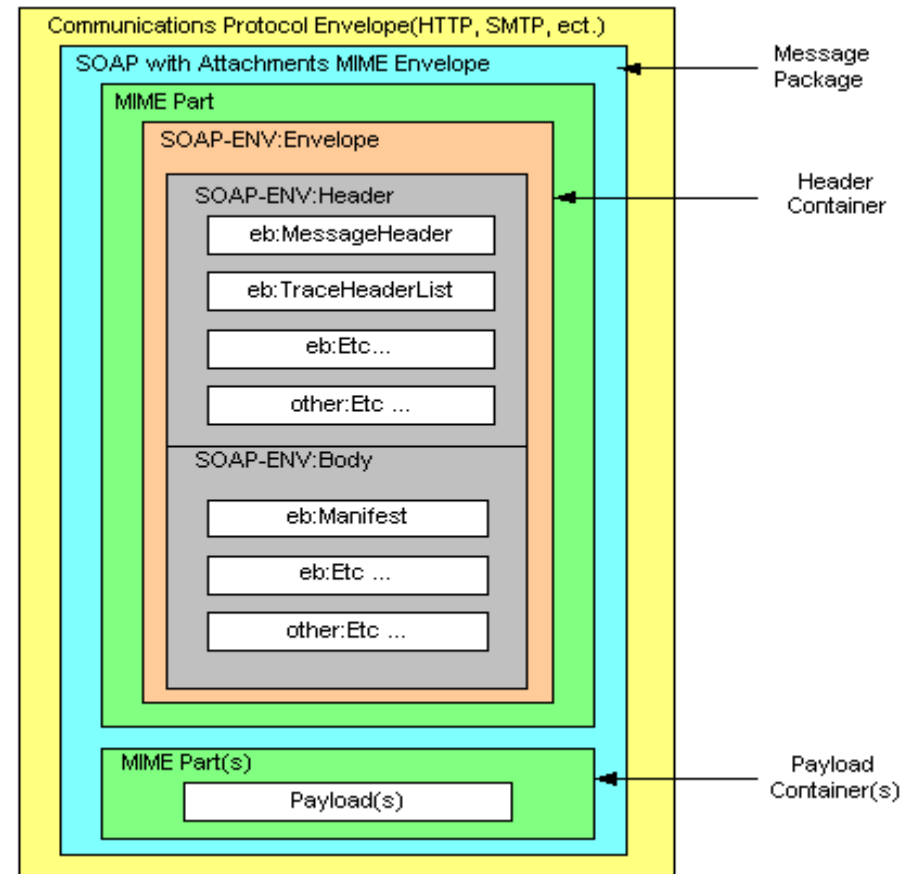
# The PAA Value Proposition

- EFFICIENT OPERATIONS – Trade **data can be reused**
- REGULATORY INTEGRATION -**Integrated with Government services**
- ERROR FREE OPERATIONS – **reduction of errors** caused by multiple data re-entry
- SECURITY - **no additional development** works or data mapping
- NEUTRAL RELIABLE PLATFORM – **neutral** , **reliable** and **secure**
- STRONG PAA LEGAL FRAMEWORK



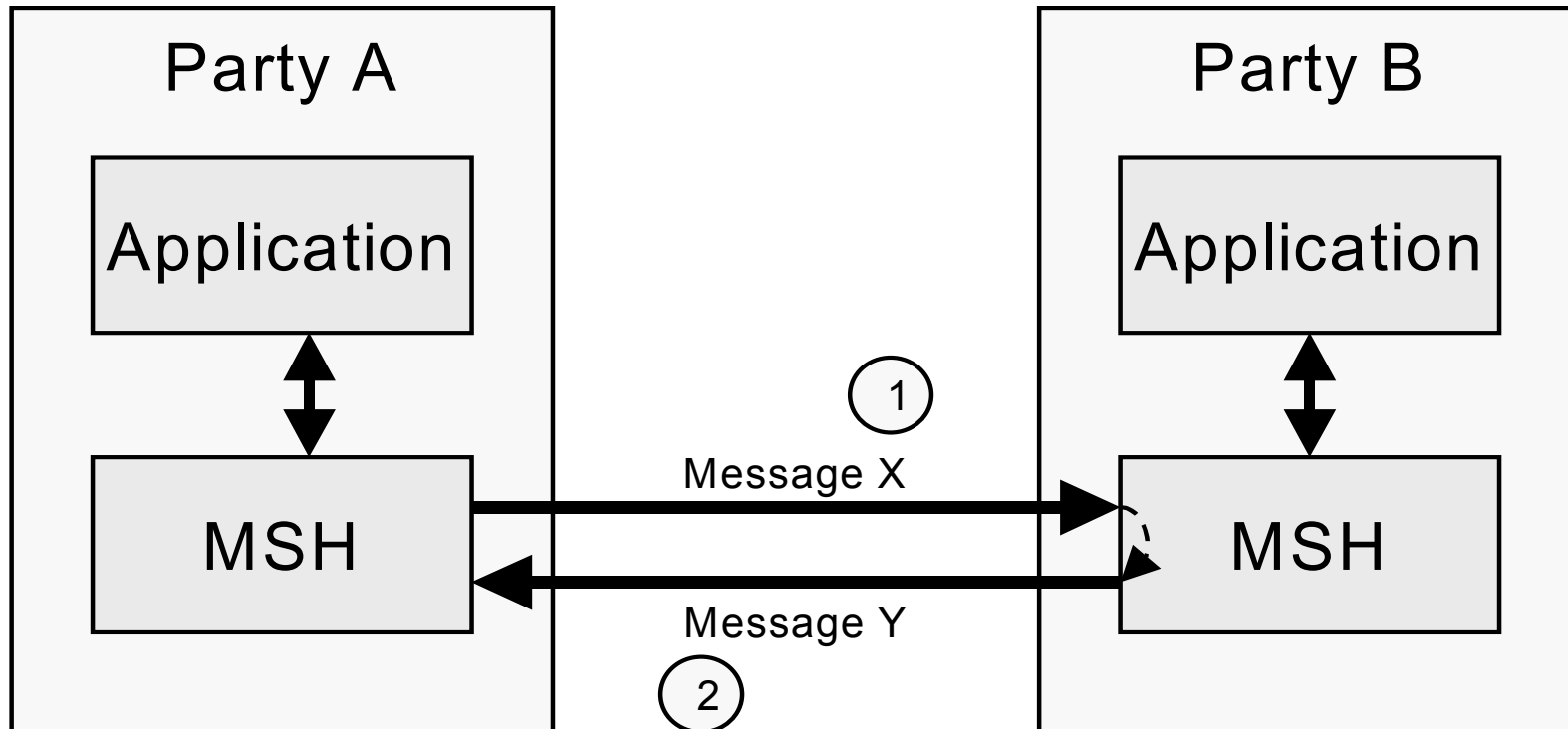
# Packaging Specification

- ebXML Message Structure
  - communication protocol independent MIME/Multipart message envelope
  - SOAP Messages with Attachments
- Two logical MIME parts within the *Message Package*
  - A MIME part, referred to as the *Header Container*, containing one SOAP 1.1 compliant message
  - zero or more MIME parts, referred to as *Payload Containers*, containing application level payloads



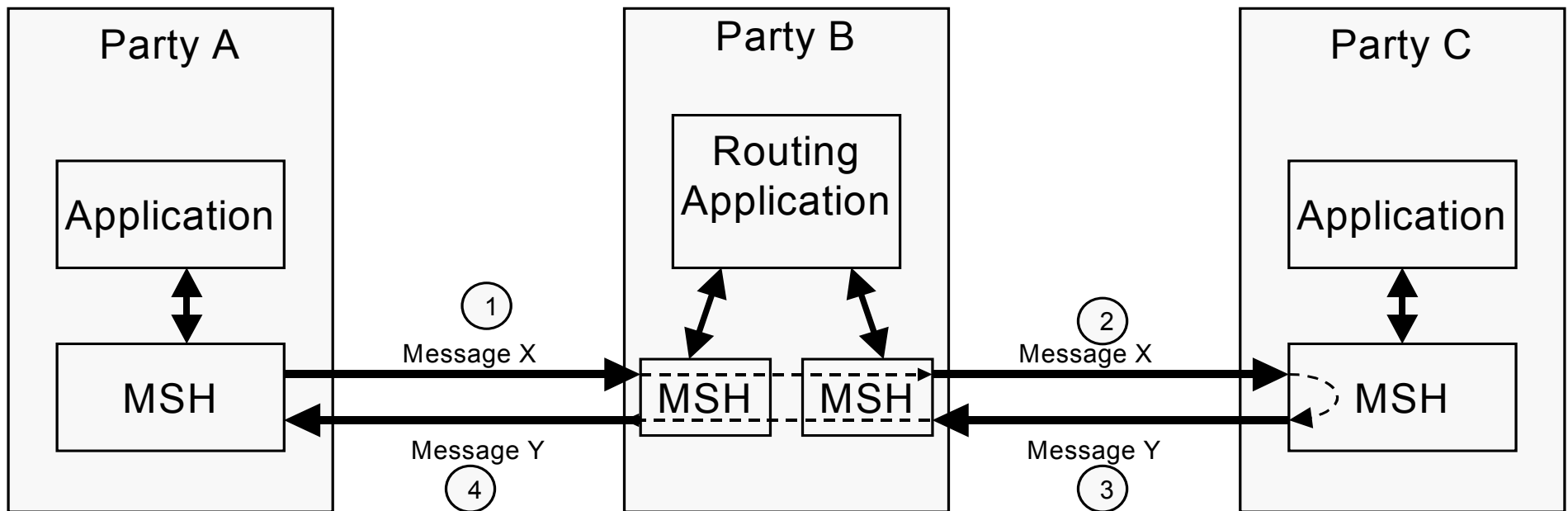
# Single Hop TraceHeader Model

sent directly from one party to another



# Multi-hop TraceHeader Model

Multi-hop messages are not sent directly from one party to another, instead they are sent via an intermediate party, as illustrated by the diagram below:



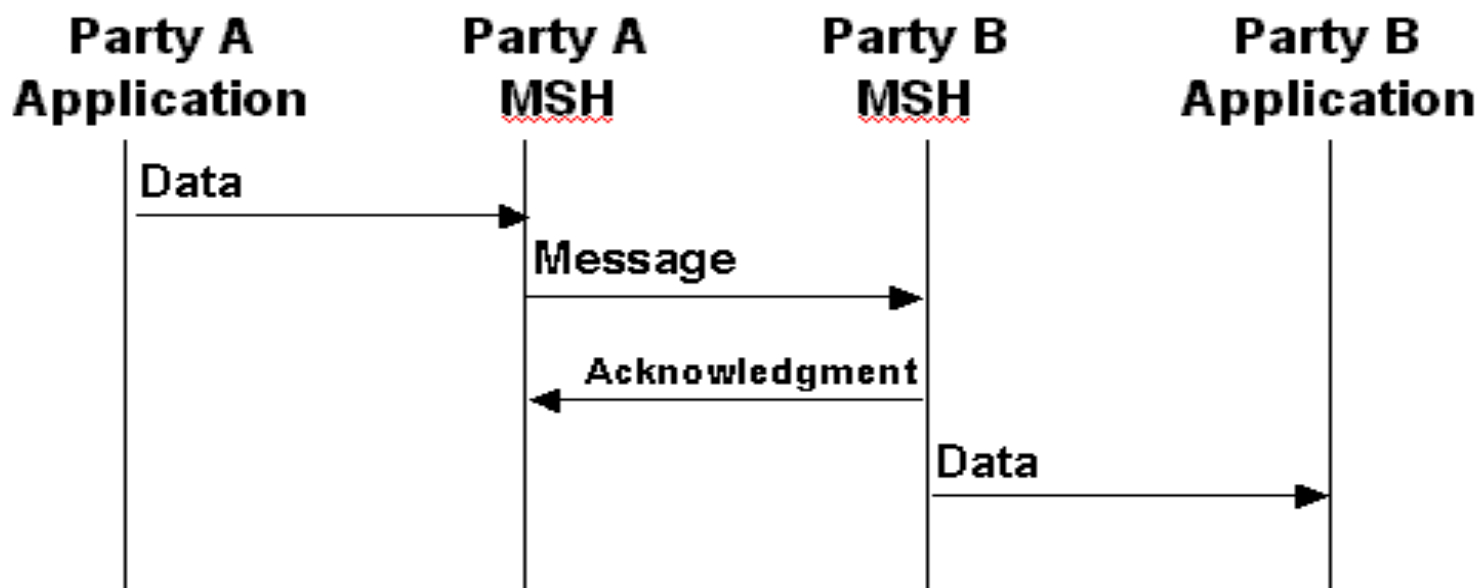
Transmission 1 - Message X From Party A To Party B

Transmission 2 - Message X From Party B To Party C



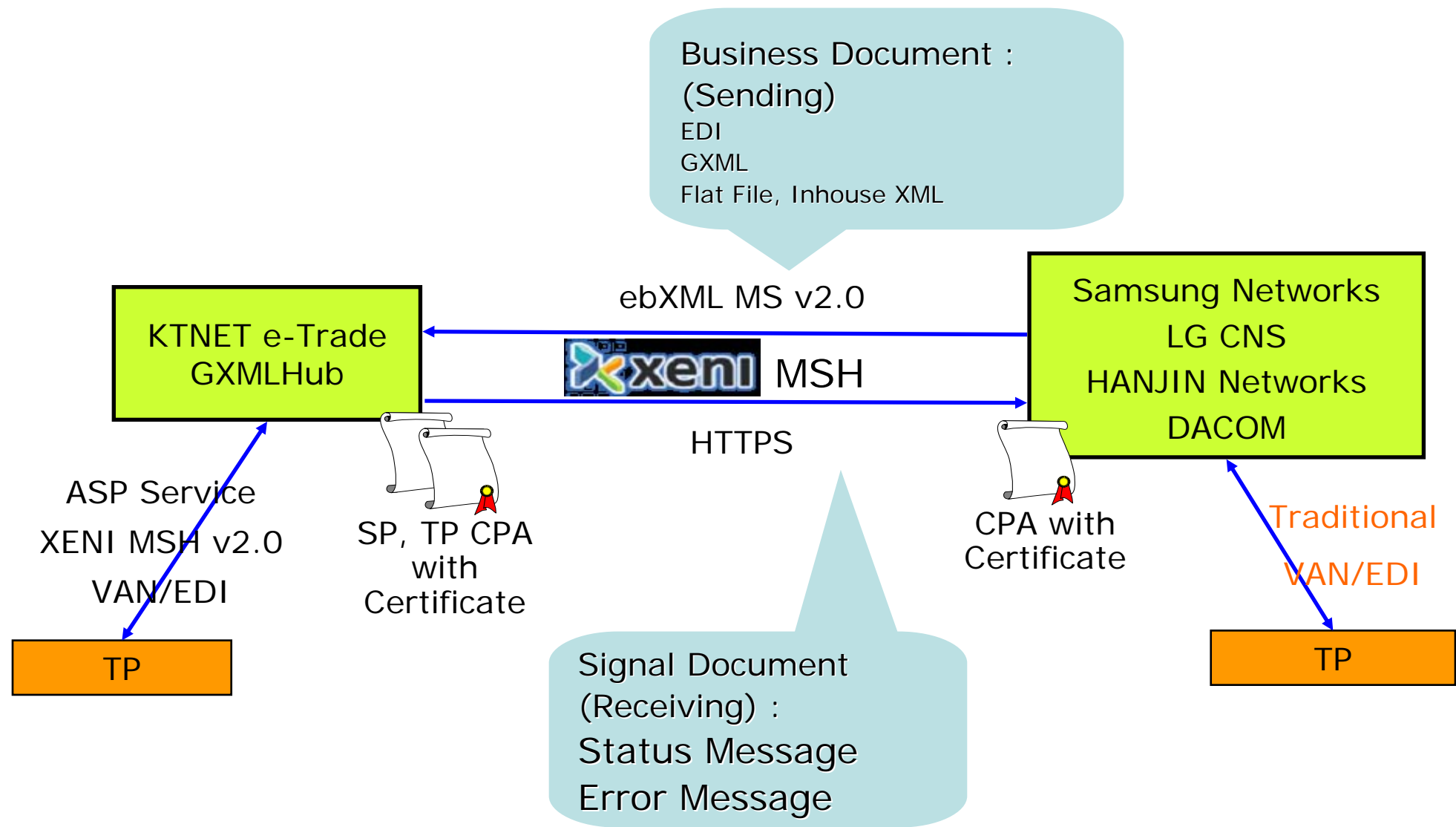
# Reliable Messaging

- Methods of Implementing Reliable Messaging
  - using the ebXML Reliable Messaging protocol
  - using ebXML SOAP structures together with commercial software products that are designed to provide reliable delivery of messages using alternative protocols.

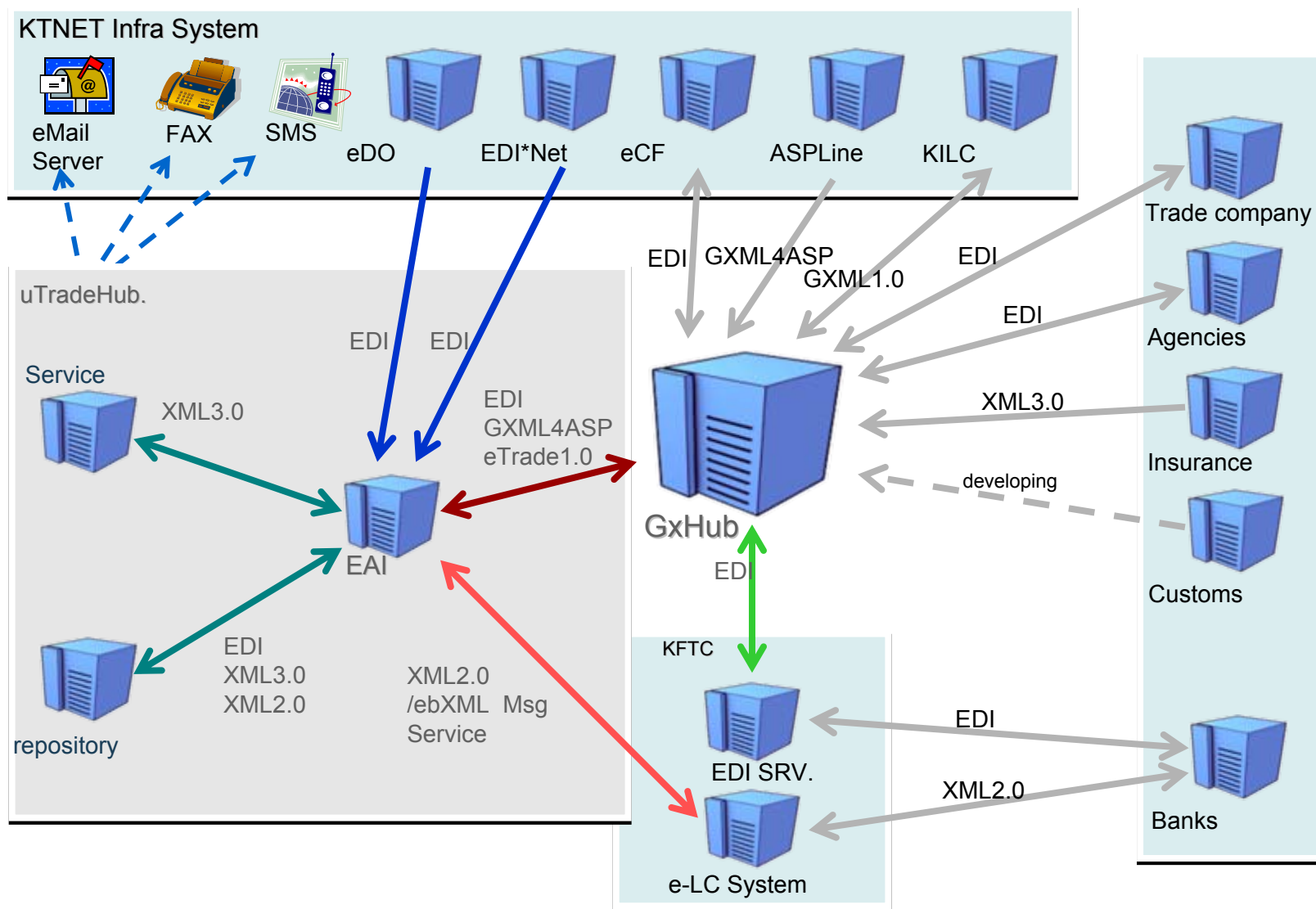


(DeliverySemantics : OnceAndOnlyOnce, reliableMessagingMethod : ebXML)

# Message Standard (ebXML)



# ● System Architecture

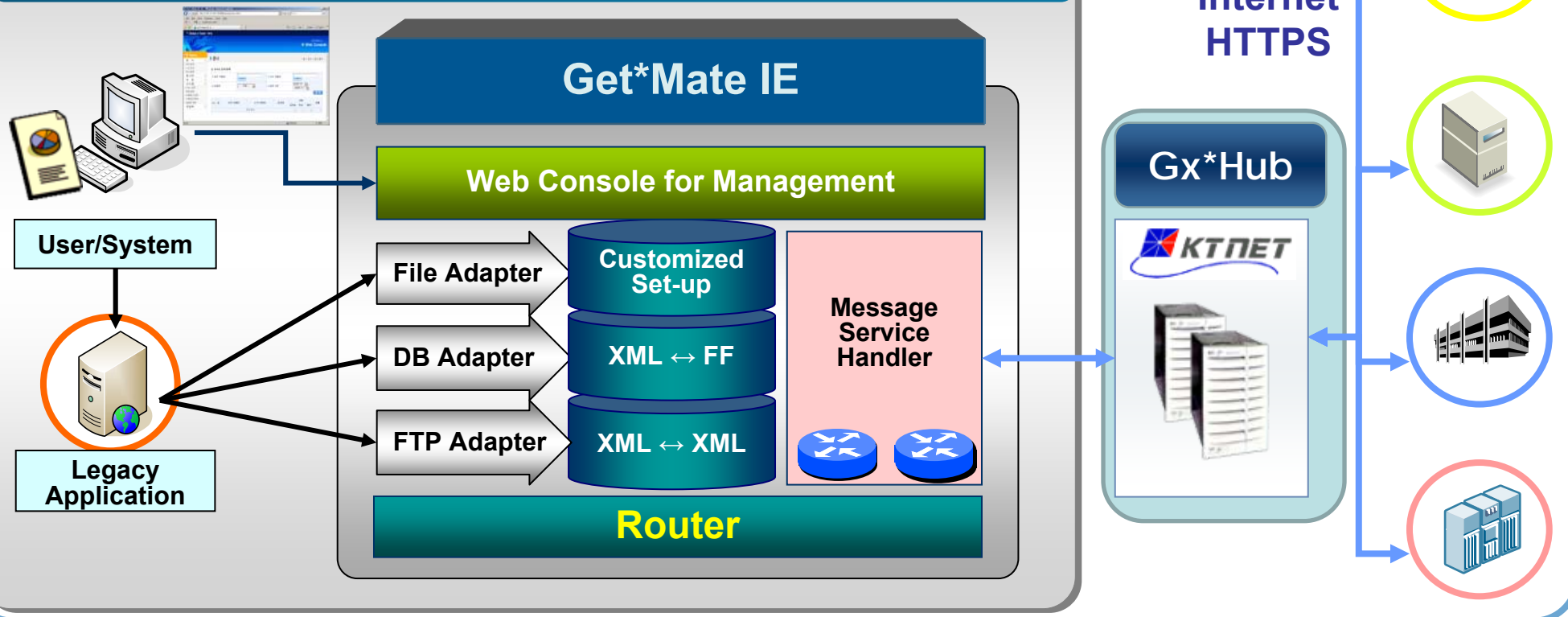


## ● Message Handling Service

GeT\*Mate is a solution required by an enterprise that wants to simplify business procedures and reduce expenses through paperless trade

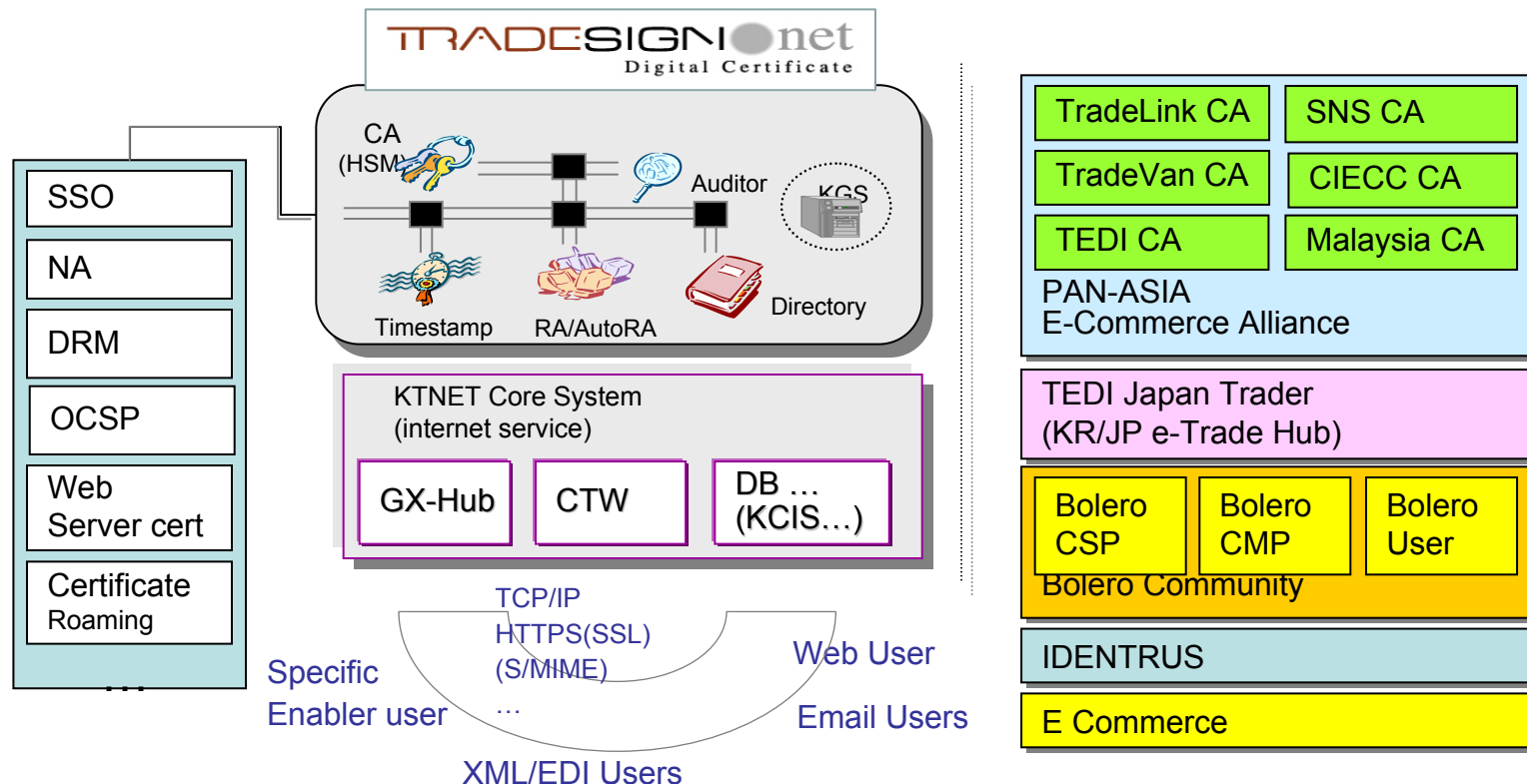
Connecting legacy EDI system with virtually any type of platform

ebXML based Messaging solution (XML-EDI, EDI-EDI, XML-XML)



## Certificate Authority

- TradeSign([www.TradeSign.net](http://www.TradeSign.net)) ensures that e-trade systems are working error-free via Trusted Third Party (TTP) Certification.
- The Government's Designated Certification Agency provides a safe and reliable basis for spreading e-Commerce including B2C,B2B,B2G and others.



## 2. Security and on going Services

- ❑ Advanced Security Structure
- ❑ Supported documents
- ❑ How we implemented – pilot projects and more

# Upgrading Security Structure

\* Key length upgrade (recommended)

- RSA / KCDSA 1024bit-> 2048bit (Korea Certification-based Digital Signature)
- ECDSA(Elliptic Curve Digital Signature Algorithm)163bit-> 224, 233bit

\* Hash Algorithm: SHA1(160bit)>SHA256(256bit)

Current

RSA 1024  
SHA 1

RSA 2048  
SHA 256

New

RSA 1024  
SHA 1

RSA 2048  
SHA 256

2012.1.1

2013.1.1

Digital  
Signature

RSA 1024  
SHA 1

Recommended (Current or  
SHA 256 above )

RSA 2048  
SHA 256

\*Ministry of Public Administration and Security

[Rivest Shamir Adleman](#)

# Supported Documents

- Purchase Orders
- Advance Shipment Notice
- Packing List
- Commercial Invoice
- Air Way Bill
- Bill of Lading
- Delivery Order
- Trade Declarations
- Electronic Certificate of Origin
- Shipping Order
- Processing Trade (China)

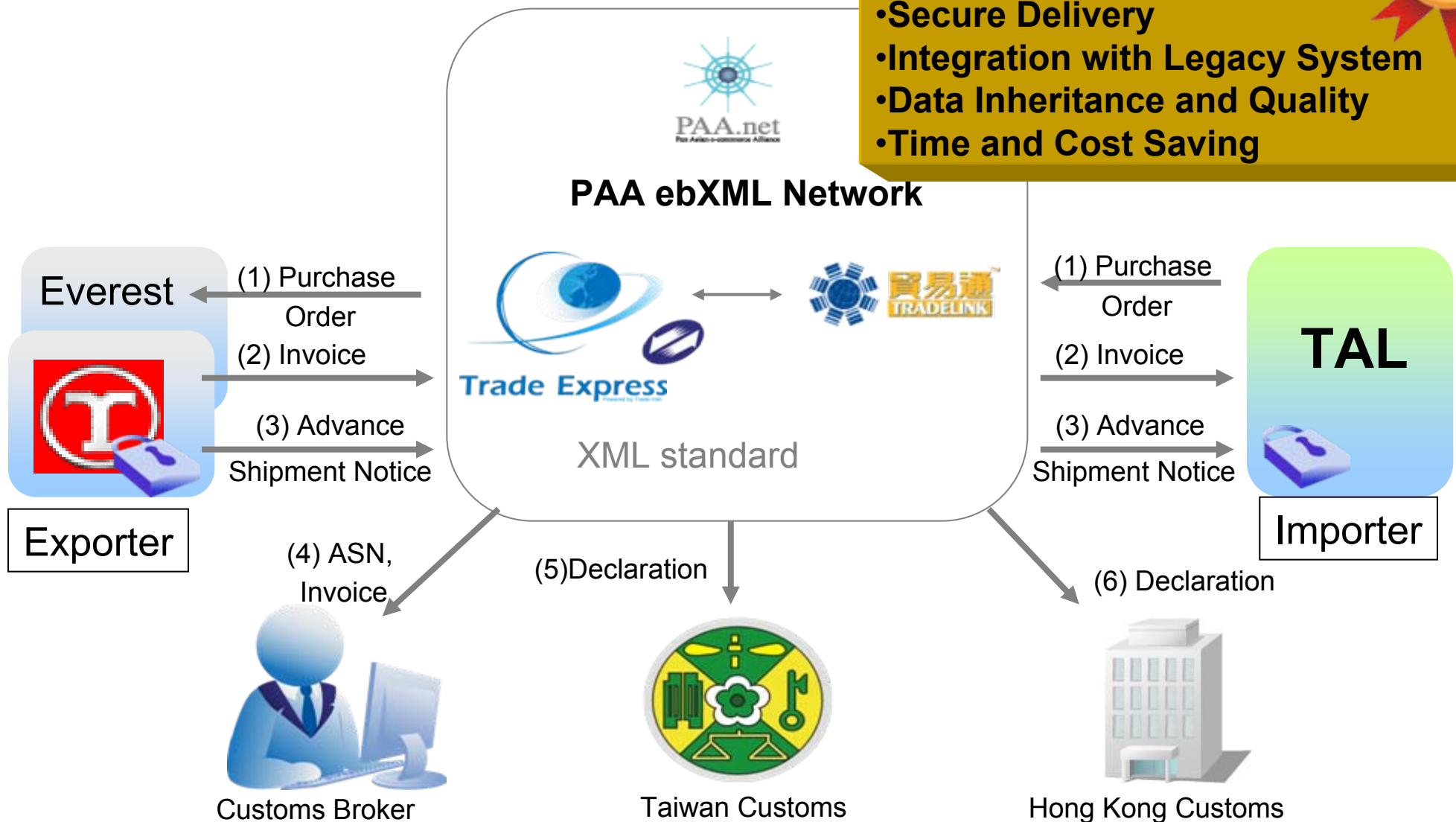




# TAL - Tai Yuen Cross Border Pilot via PAA

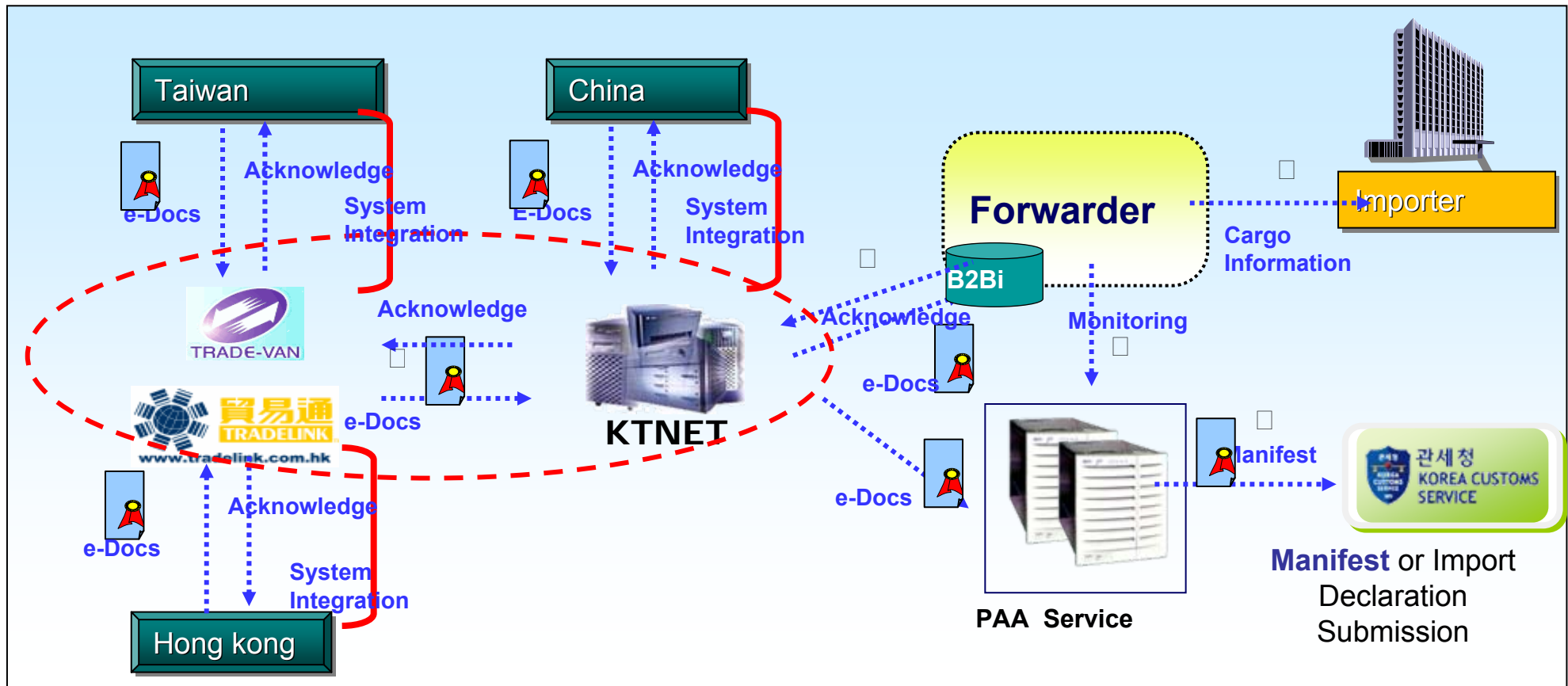
## Guarantee

- Secure Delivery
- Integration with Legacy System
- Data Inheritance and Quality
- Time and Cost Saving

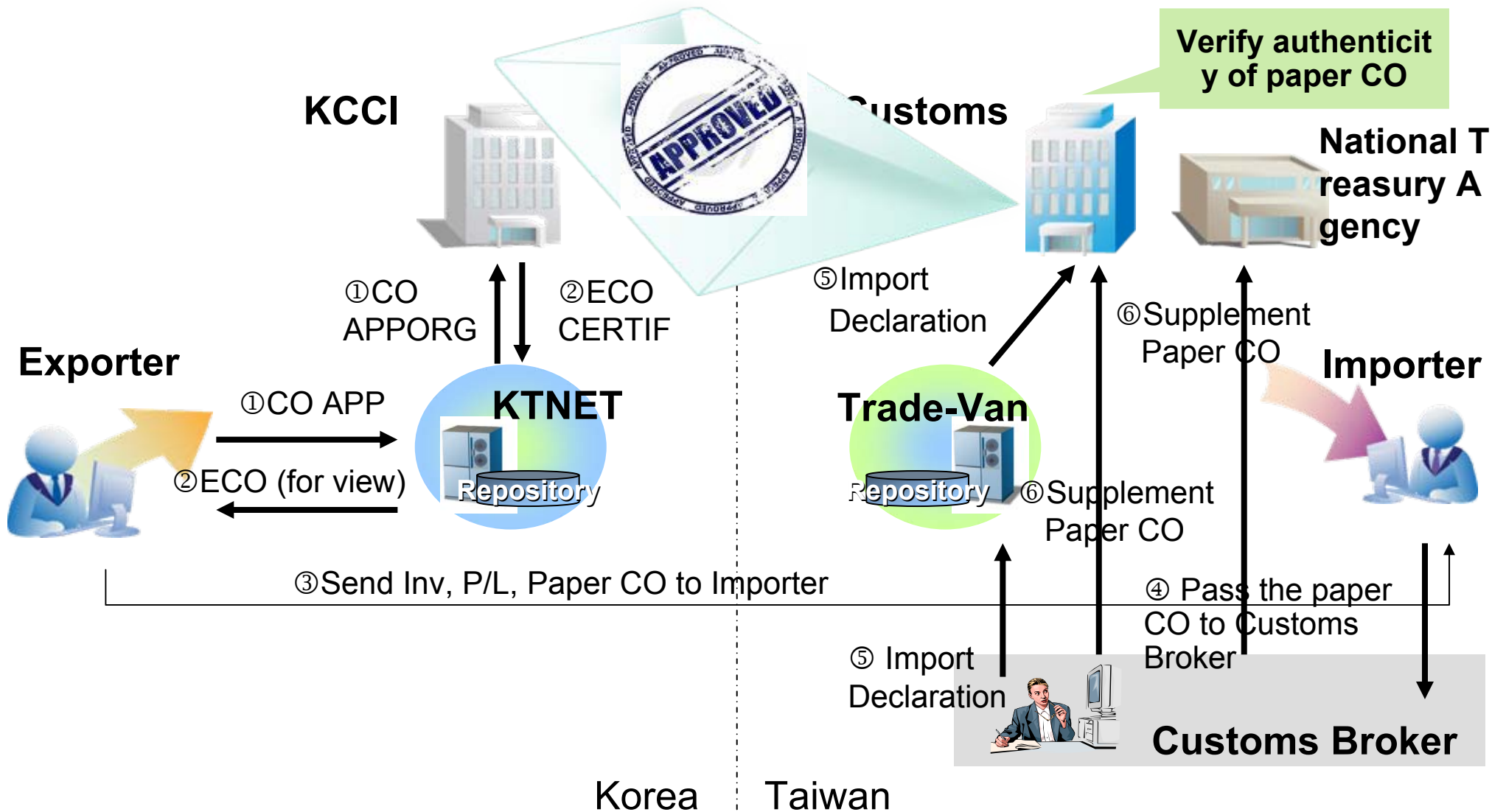


# Global Service for Freight Forwarder

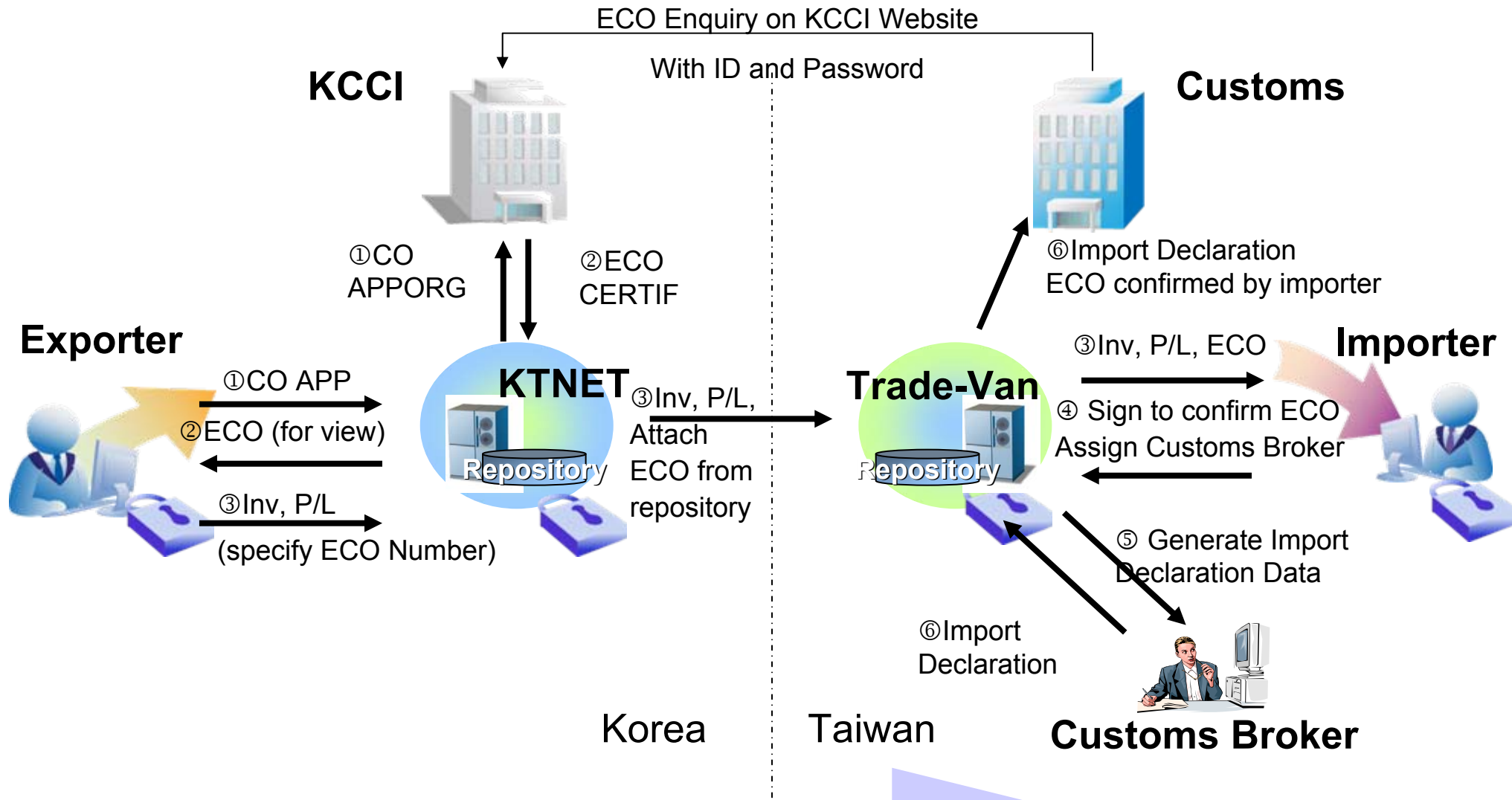
- Cross Border Hub to Hub Model through KTNET's Global partnership
- Global service for enhancing FF's competitiveness



# Paper CO Scenario [Korea ► Taiwan]



# ECO Scenario [Korea ► Taiwan]

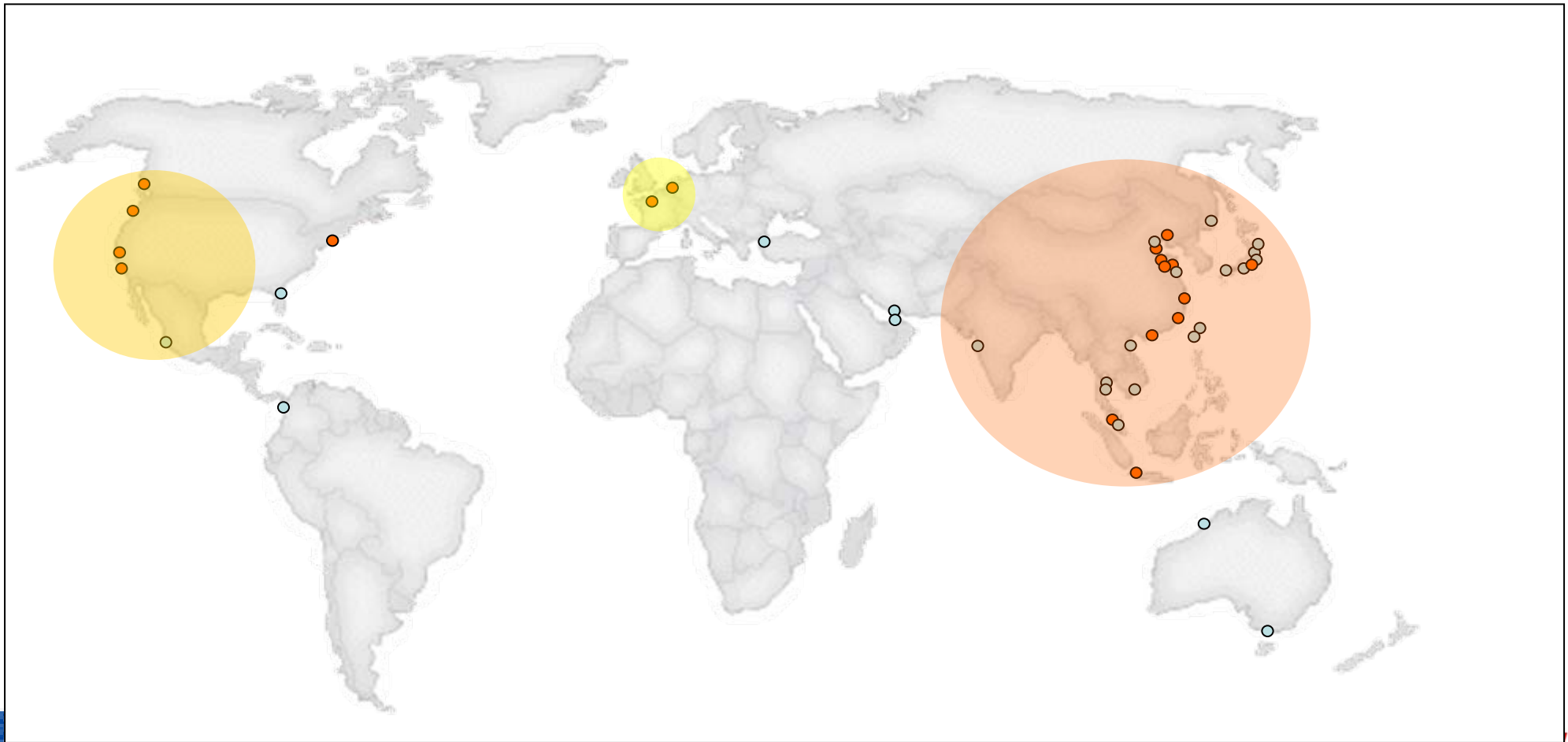


New developments: cross border eSPS exchange

# Cargo Visibility Service(CVS) Project

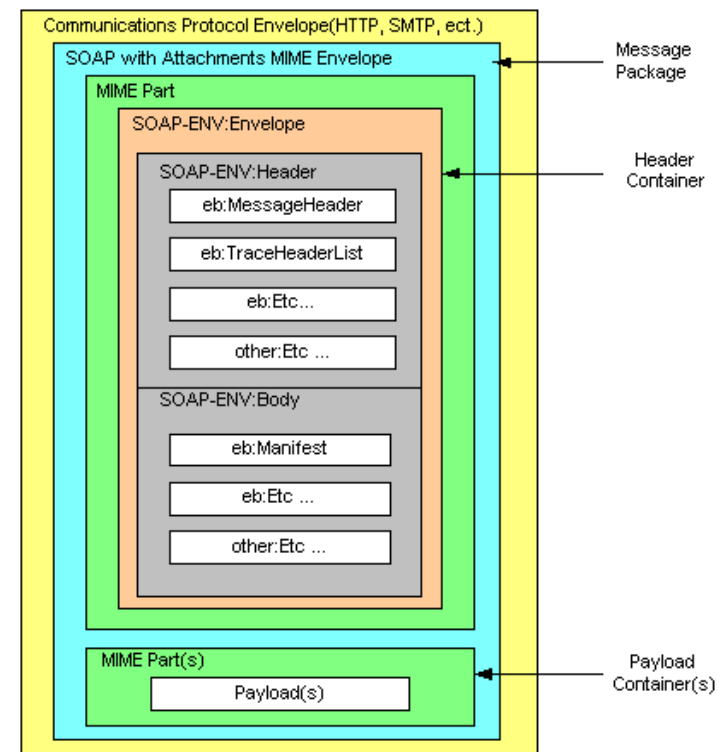
- Concept

- Network to major Ports in PAA and other region to acquire the cargo status information in the port and customs area, which is hard to be provided from private logistics company



# Technical Standard

	CIECC Trade-Van SOGET	Dakosy	MISNA
<b>Protocol</b>	ebXML	SFTP	SMTP
<b>Document</b>	IFTSTQ IFTSTA	IFTSTQ IFTSTA	Private
<b>Note</b>	Dalian (IFTSTA Only)	Only KTNET sends Query	Vessel departure and arrival only



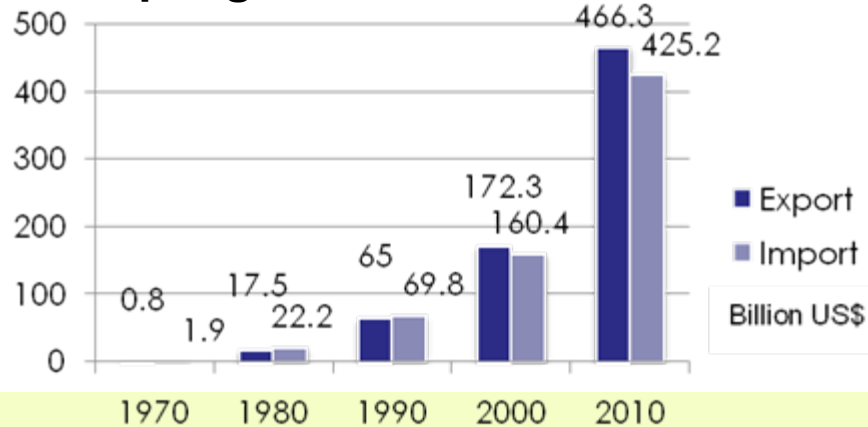
### 3. Introduction of KTNET

- Why we need Single Window?
- Who we are?
- What we do?
- History of KTNET



# ● Why we need Single Window?

## Rapid growth of trade volume



## Tons of trade documents



**More than 620 boxes per major vendor**

## FTA Status of Korea

### ▪ In Effect

- U.S.A.(2011.3.15), Peru(2011), Chile (2004)
- EU(2011), EFTA(2006)
- India(2010), ASEAN(2009), Singapore(2006)

### ▪ Under negotiation

- Columbia, Mexico, Canada,
- Australia, New Zealand, Turkey

## Bottleneck in trade process



**19-28 days for customs clearance**



## ● Who we are?

Founded by Korea International Trade Association(KITA) in Dec 1991

- Established by the law, 'Trade Automation Act' by Ministry of Commerce, Industry and Energy(MOCIE, Currently Ministry of Knowledge economy)



## ● What we do?

Pursuing Efficiency of Trade Process & national competitiveness

- by reducing processing time and costs, through Trade Automation

Legal Support

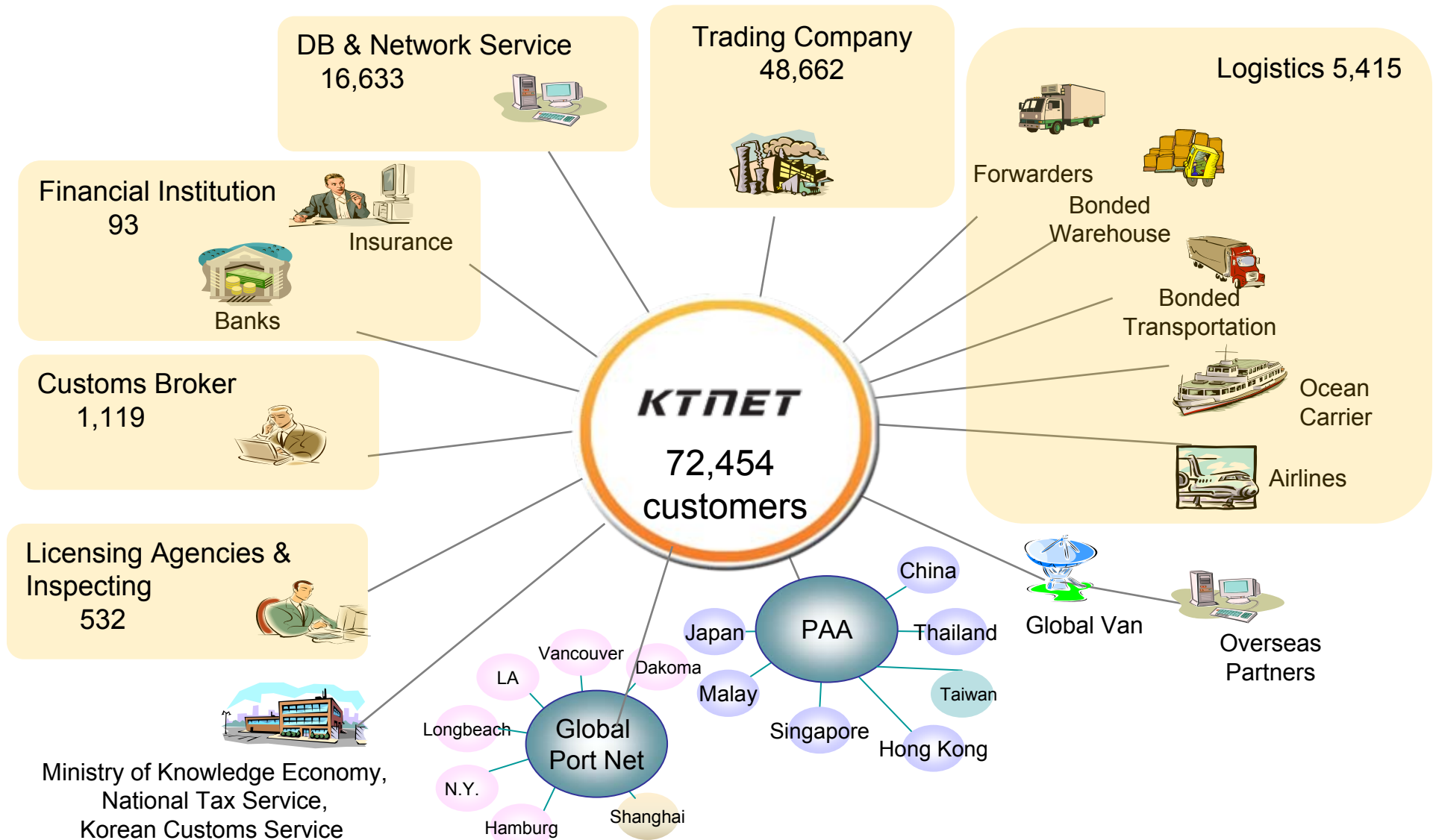
- KTNET has designated as Infrastructure Service Provider for 6 Business areas by the government

- National Paperless Trade Infrastructure Provider(Electronic Trade Facilitation Act)
- e-Customs Service Provider(Customs Act)
- Electronic Bill of Lading(e-B/L) Title Registry(Commercial Act)
- Certified e-Document Authority(Framework Act on Electronic Commerce)
- Purchase Confirmation of raw materials for Export Goods Service agency (Foreign Trade Act)
- Accredited Certificate Authority(Digital Signature Act)

# History of KTNET

Establishment	Internet based Service	One Stop Service
<ul style="list-style-type: none"> <li>• Agreement with KCS, e-Customs System Building &amp; Operation ( Designated as 'Trade Biz. Automation Service Provider')</li> <li>• Act on Promoting Trade Biz. Process Automation</li> <li>• Foundation of KTNET</li> </ul>	<ul style="list-style-type: none"> <li>• Designated e-Document Authority</li> <li>• Paperless Trade Basic Infra Provider</li> <li>• Launching 'cTradWorld.com' (Portal for Paperless Trade)</li> <li>• Accredited Certificate Authority for digital signature</li> <li>• e-Logis Frame (Logistics Portal)</li> <li>• Initiatives for Global Service               <ul style="list-style-type: none"> <li>- Founding member of PAA</li> <li>- Founding member of ASEAL</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Global cargo tracking service</li> <li>• Libyan Single Window Project</li> <li>• Mongolian e-Customs Project</li> <li>• Mongolian National Assembly e-Library , DR Center Project</li> <li>• e-C/O cross border transaction</li> <li>• e-Nego service</li> <li>• e-Settlement Service Agency</li> <li>• e-B/L Title Registry</li> <li>• Purchase confirmation (National Tax Service) , Hospital, Insurance e-Document repository building</li> <li>• Launching full Internet-based One stop service</li> </ul>
<div> <div>Launching Paperless Trade</div> <ul style="list-style-type: none"> <li>• EDI based C/O and Invoice</li> <li>• MFCS, customs refund system</li> <li>• Services for Bonded Cargo, Import/Export Clearance</li> <li>• L/C and Import/Export License</li> </ul> </div>		
<div> <div>Closed Network (1989 ~ 1999)</div> <div></div> </div>	<div> <div>Open Network (1999 ~ 2008)</div> <div></div> </div>	<div> <div>Single Platform (2008 ~ present)</div> <div></div> </div>

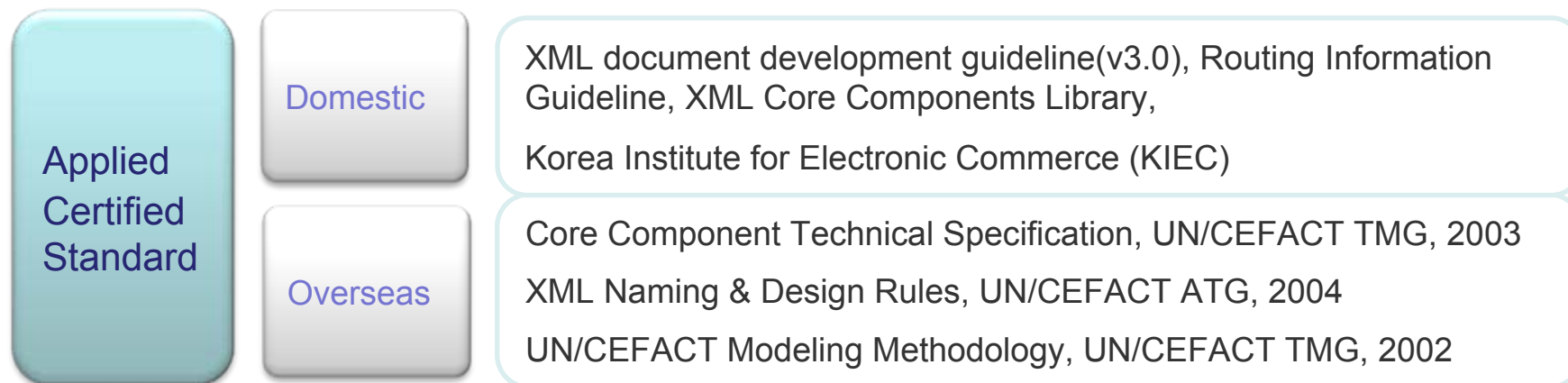
# ● Strong Community





## 289 Million transactions in 2011

- 585 different kinds of e-documents based on both domestic and Int'l standards



- Most frequently used electronic documents

