

e-BOD(Bill of Delivery) for Logistics



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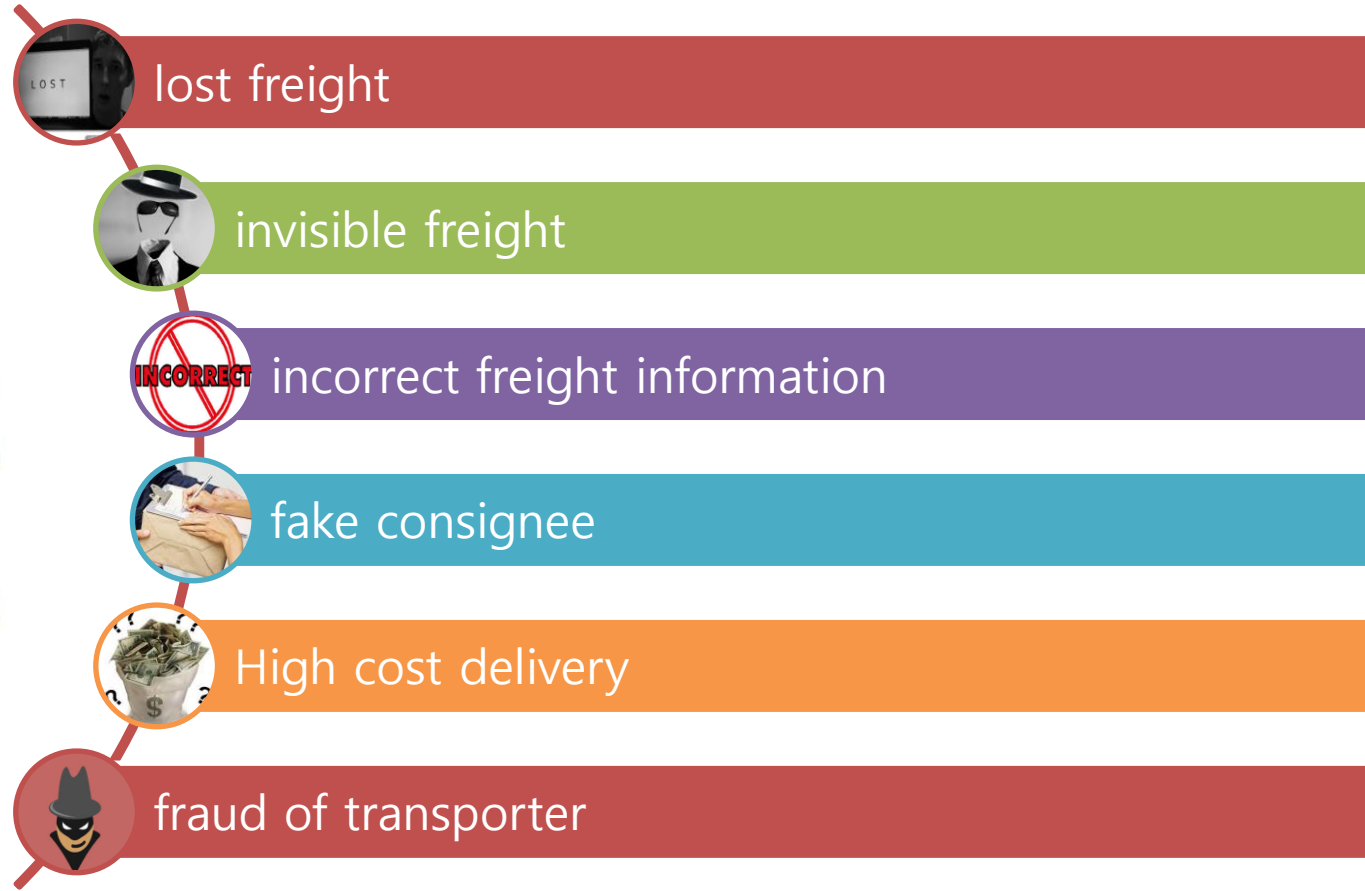
1. Introduction

2. Requirements

3. e-BOD(Bill of Delivery)

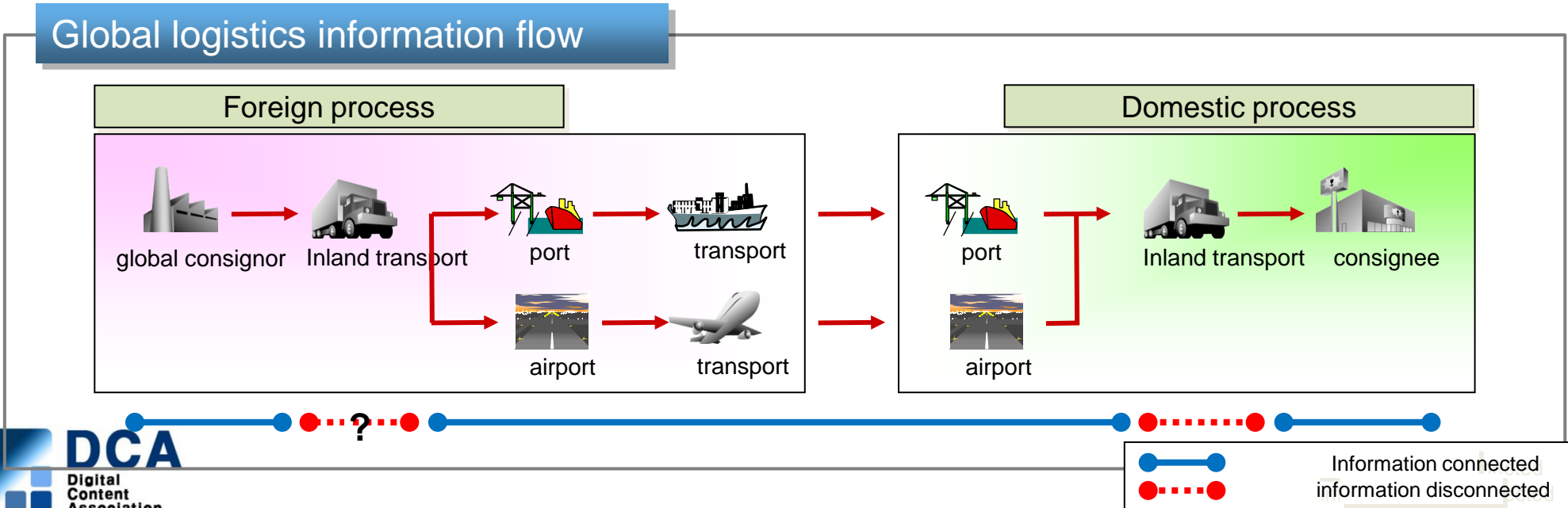
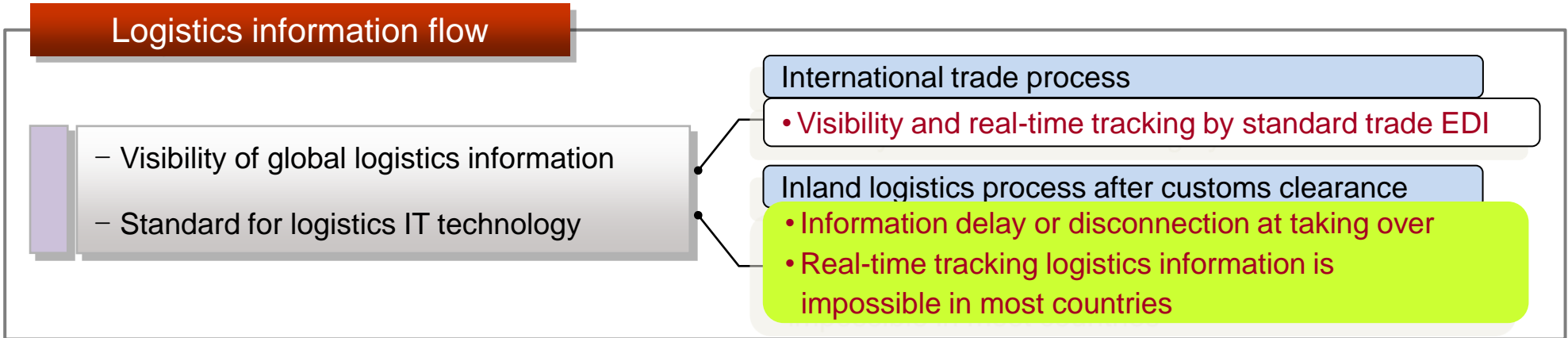
4. Contribution

1.1 Logistics problems



1.2 Requirements from consigners

Visibility and real-time tracking in inland logistics



1.3 Major causes

Person

- information distortion/omission
- mistake(inadvertently, unconsciously)
- accident, crime, laziness
- wrong transporter, consignee

Technology

- On-line and off-line mixed different communication protocols
- weak security
- interoperability problem

- incorrect delivery place
- Invisible freight
- complex logistics industry structure
- distorted logistics market
- vehicle problems

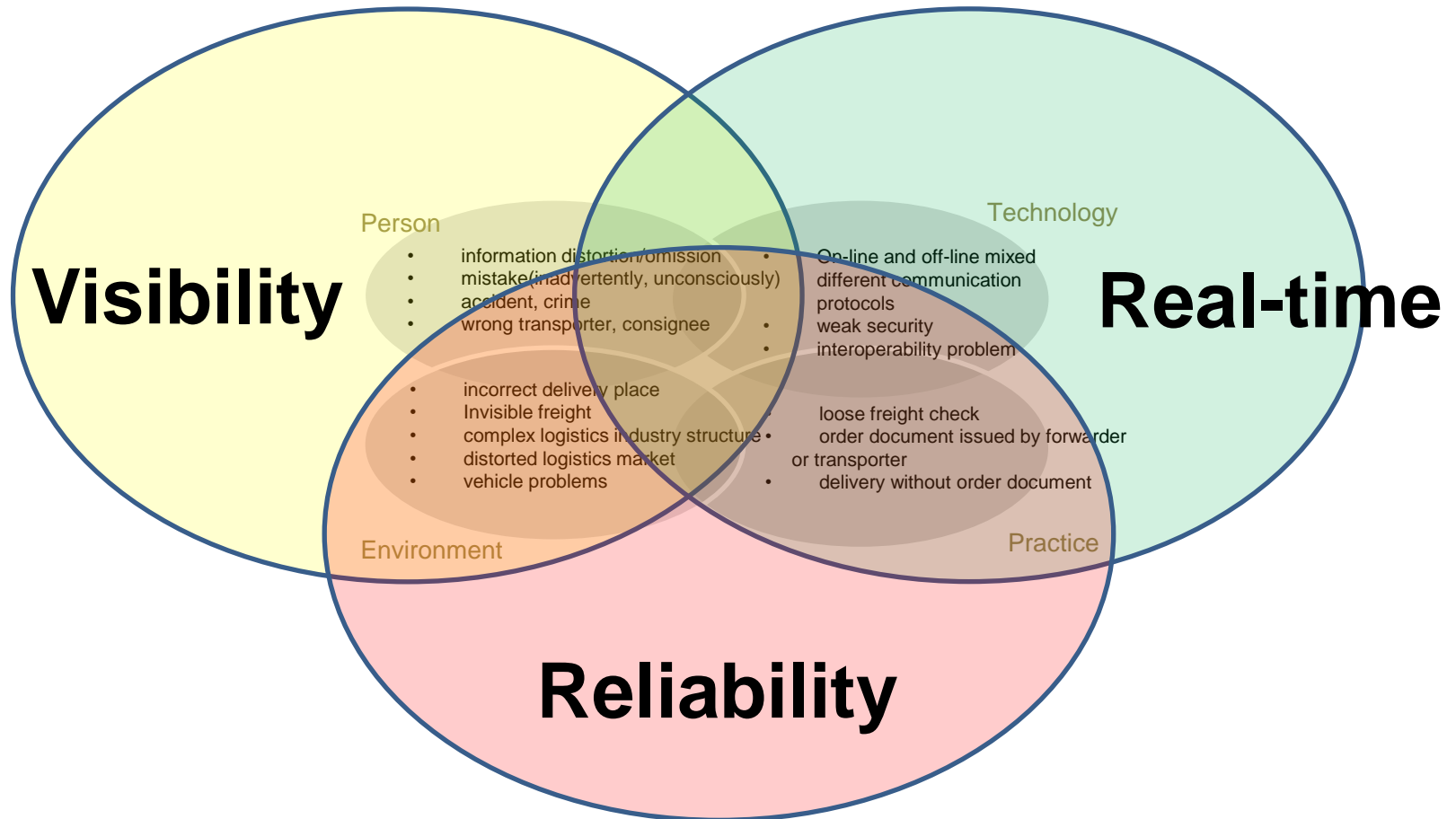
- loose freight check
- order document issued by forwarder or transporter
- delivery without order document

Environment

Practice

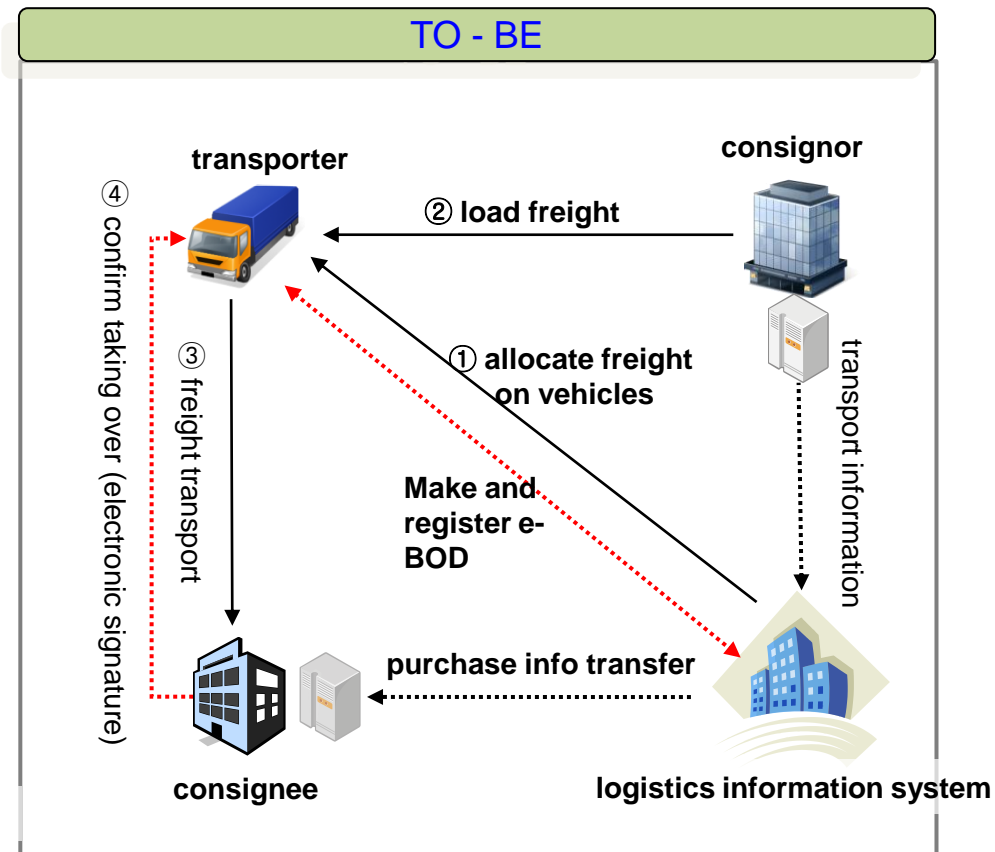
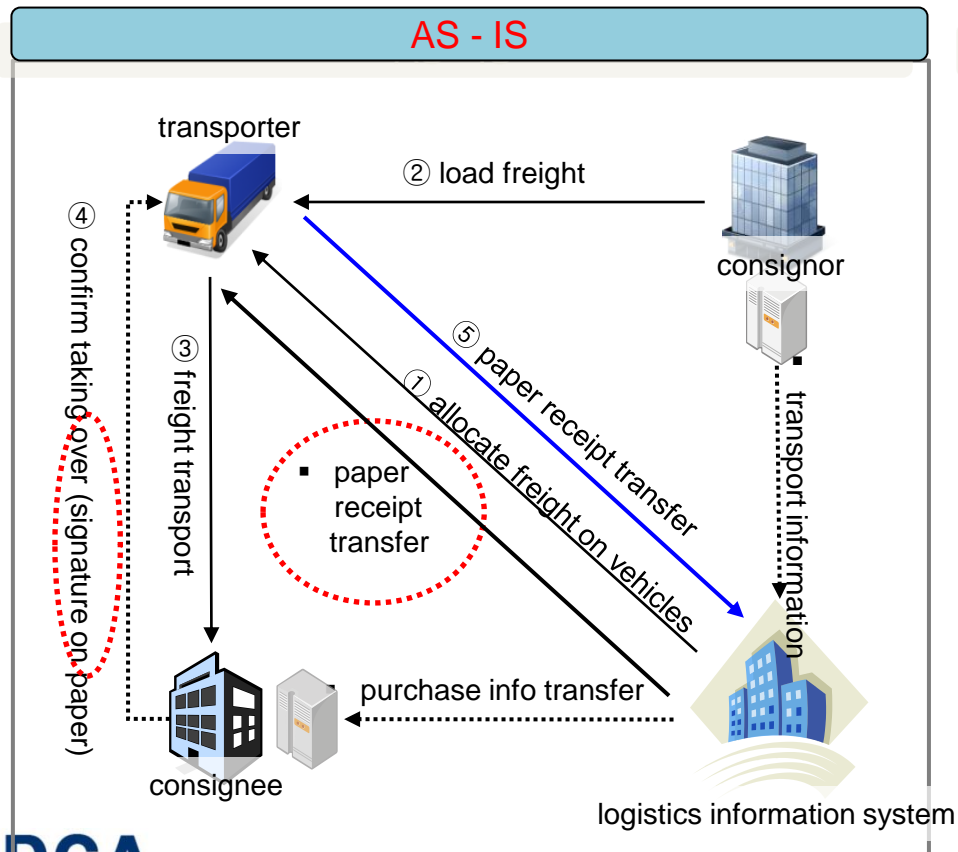
1.5 Requirements

Reliable Visible Real-time Logistics Data



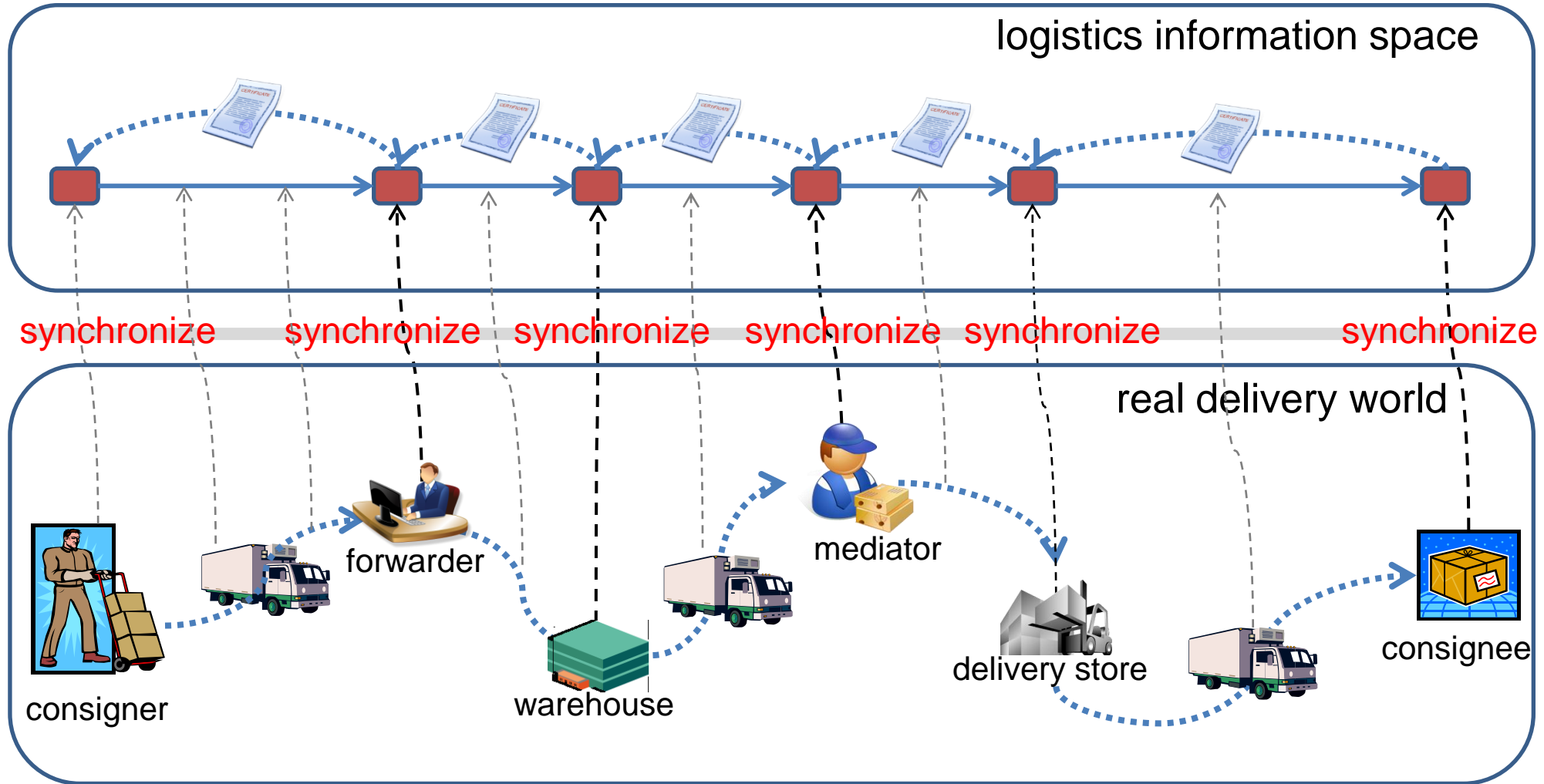
1.6 e-BOD(Bill of Delivery)

Electronic form receipt issued after accepting freight by consignee, which enables on-line process of distribution, peruse, evidence, payment process among transporter, consignor, forwarder, consignee



2. Requirements

2.1 Visible delivery in real-time



2.2 Synchronization: logistics information & real delivery

- Where is the freight now?
- By whom does the freight delivered now?
- Does the freight go on the right way?
- Does the freight arrive a right destination?
- Who does own the freight now?
- Is the freight delivering on the proper condition?

mobile IT + Standard e-doc

**Real-time Visible
Logistics**

2.3 Reliability

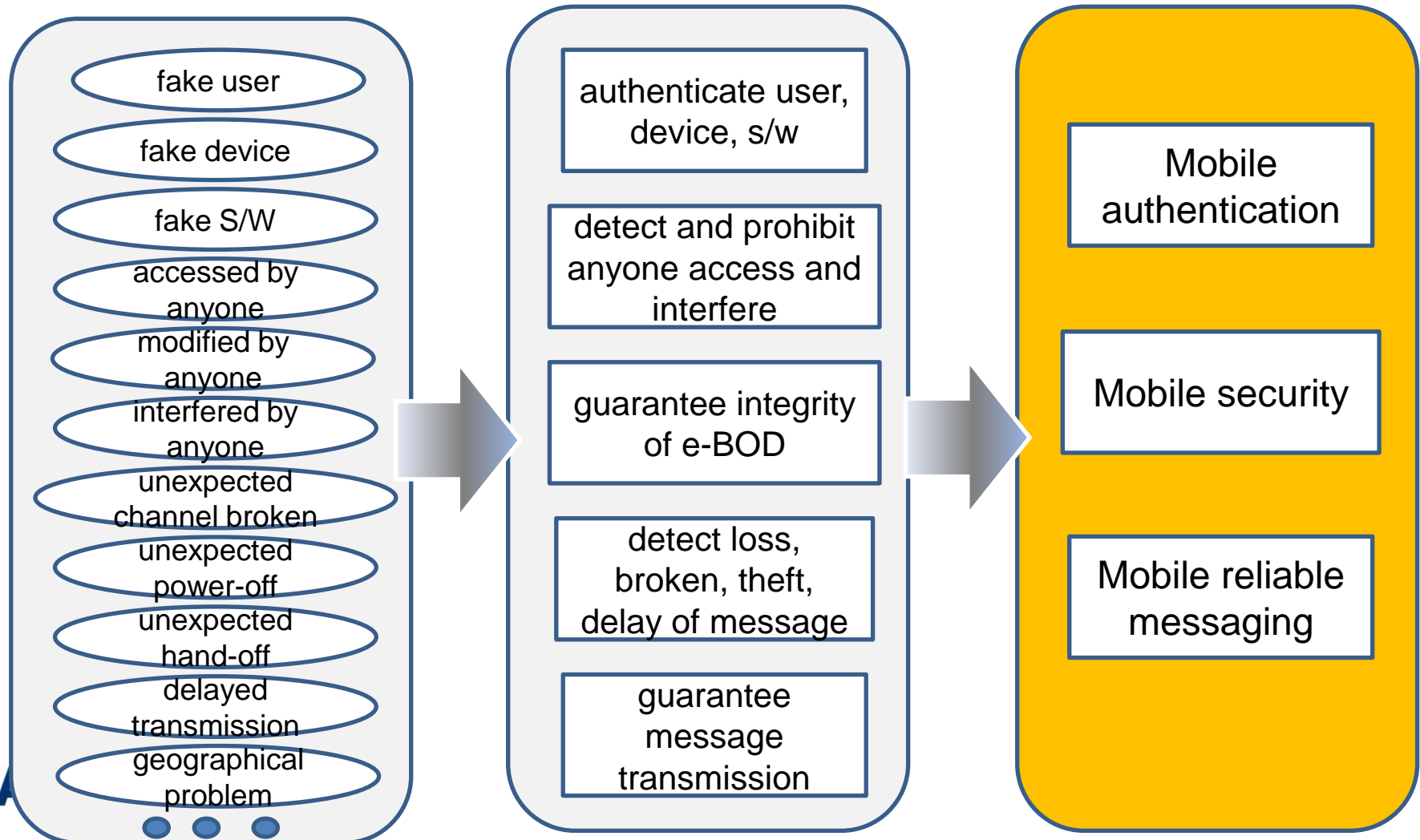
- How can we trust transporter and consignee?
- Is mobile data transmission reliable?
- Is mobile device reliable?
- Is the freight correct?
- Can we trust e-BOD made by consignee?



**We need trusted
mobile transmission
technology**

2.4 Problems in mobile technology

- Fake user, device, S/W; modified e-doc; unexpected status



2. Requirements

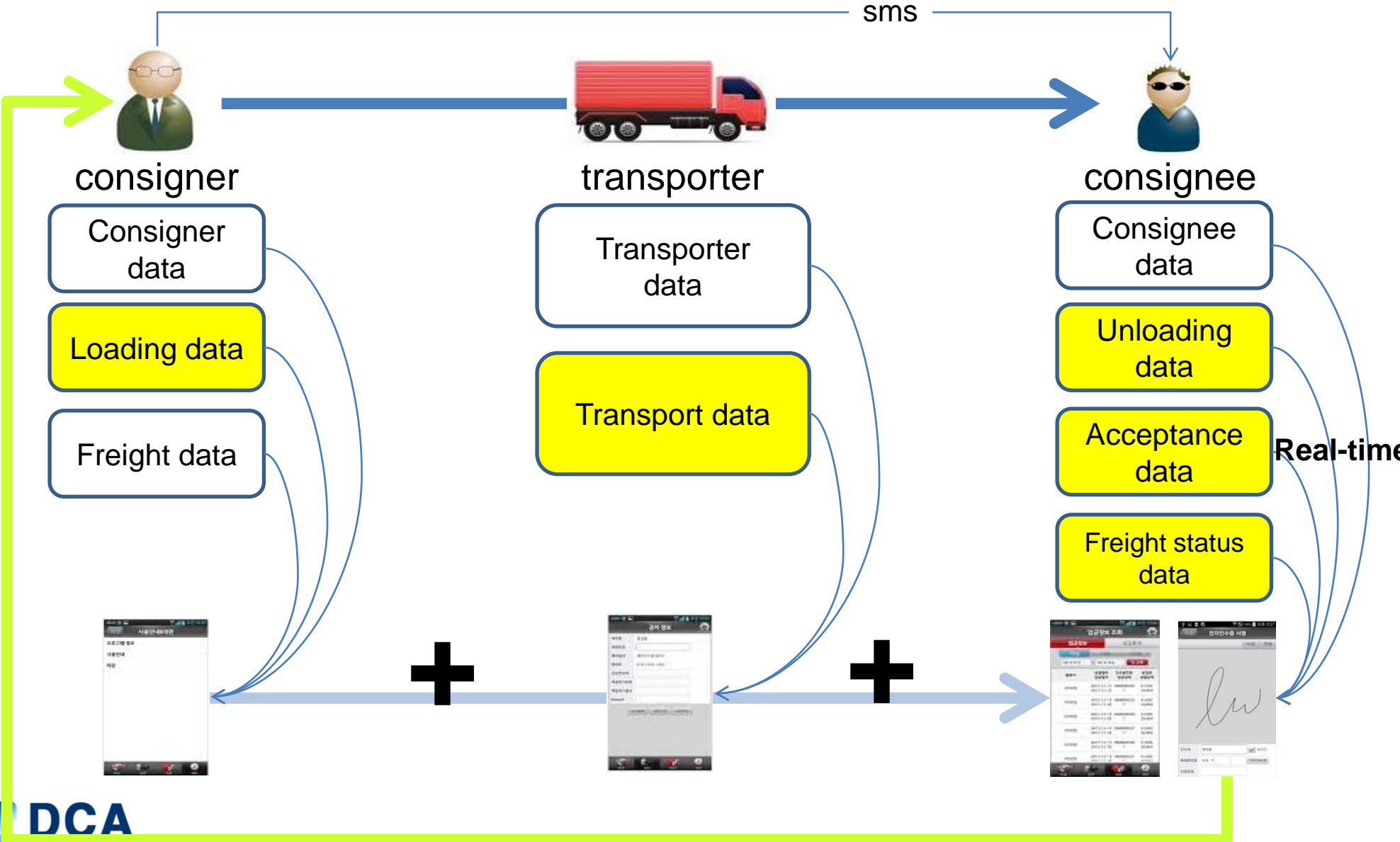
2.5 Depend on mobile reliability

- combination of authentication, security, reliable messaging

	Characteristics	Technology	Example
Mobile authentication	<ul style="list-style-type: none">• Simple• Reliable• Secured	<ul style="list-style-type: none">• User authentication• MD authentication• e-BOD S/W authentication	OTP, PIN, ID/password, OS registry key auth
Mobile security	<ul style="list-style-type: none">• Efficient• Robust• Accountability	<ul style="list-style-type: none">• Mobile channel encryption• Mobile e-BOD encryption• Mobile digital signature• Mobile encryption key management• Mobile non-repudiation	WTLS, sRTS, WPA2, WEP, WPKI
Mobile reliable transmission	<ul style="list-style-type: none">• Detectability• Robust• Evidentiality	<ul style="list-style-type: none">• Mobile session detection• Mobile session recovery• Transmission guarantee• Mobile transaction	WTP(reliable one-way, reliable two-way) NORM, ALC, FEC, Ack, NAK, repeated H/S Automatic wireless session recovery Ack time check

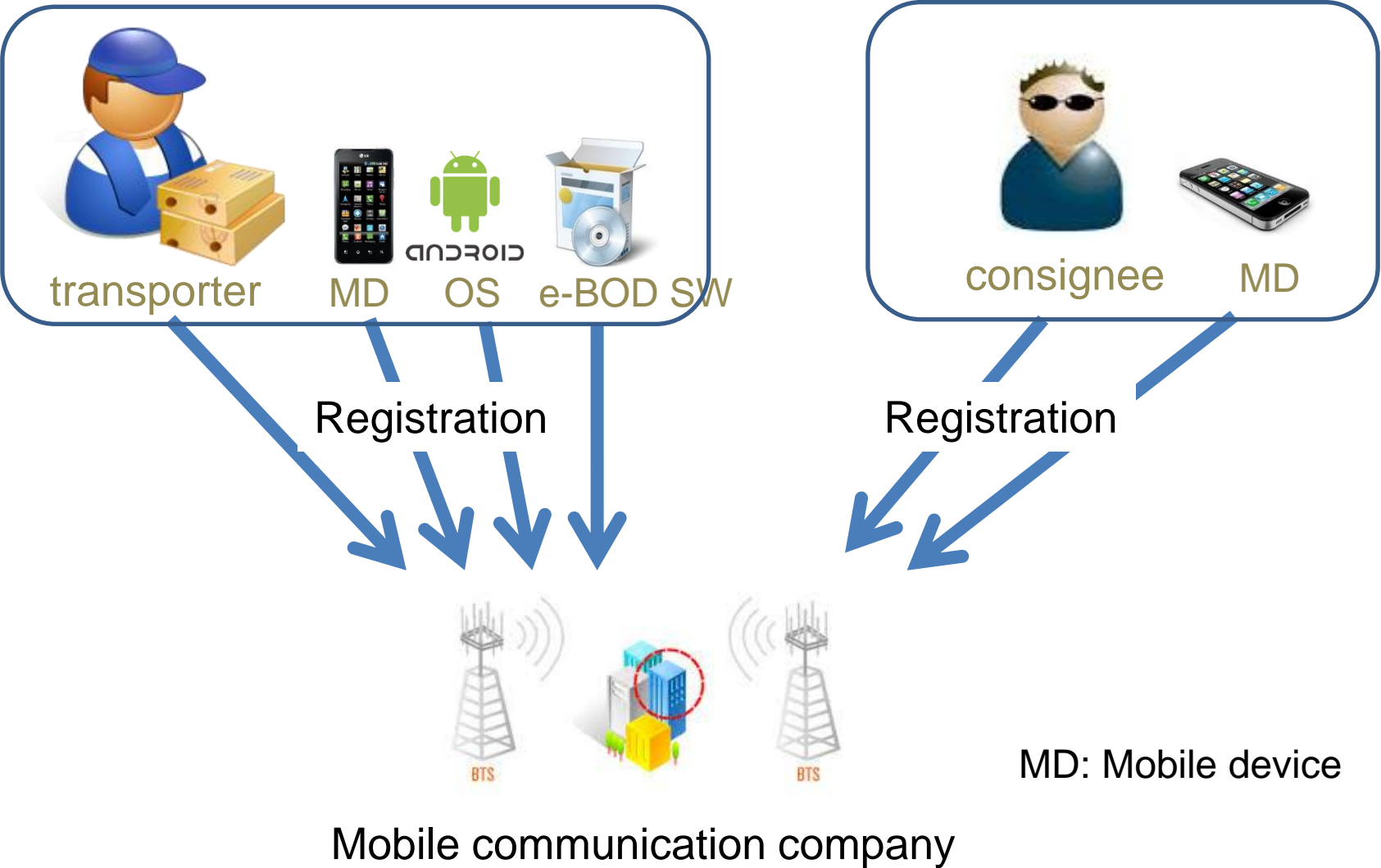
3. e-BOD(Bill of Delivery)

3.1 e-BOD data & processes



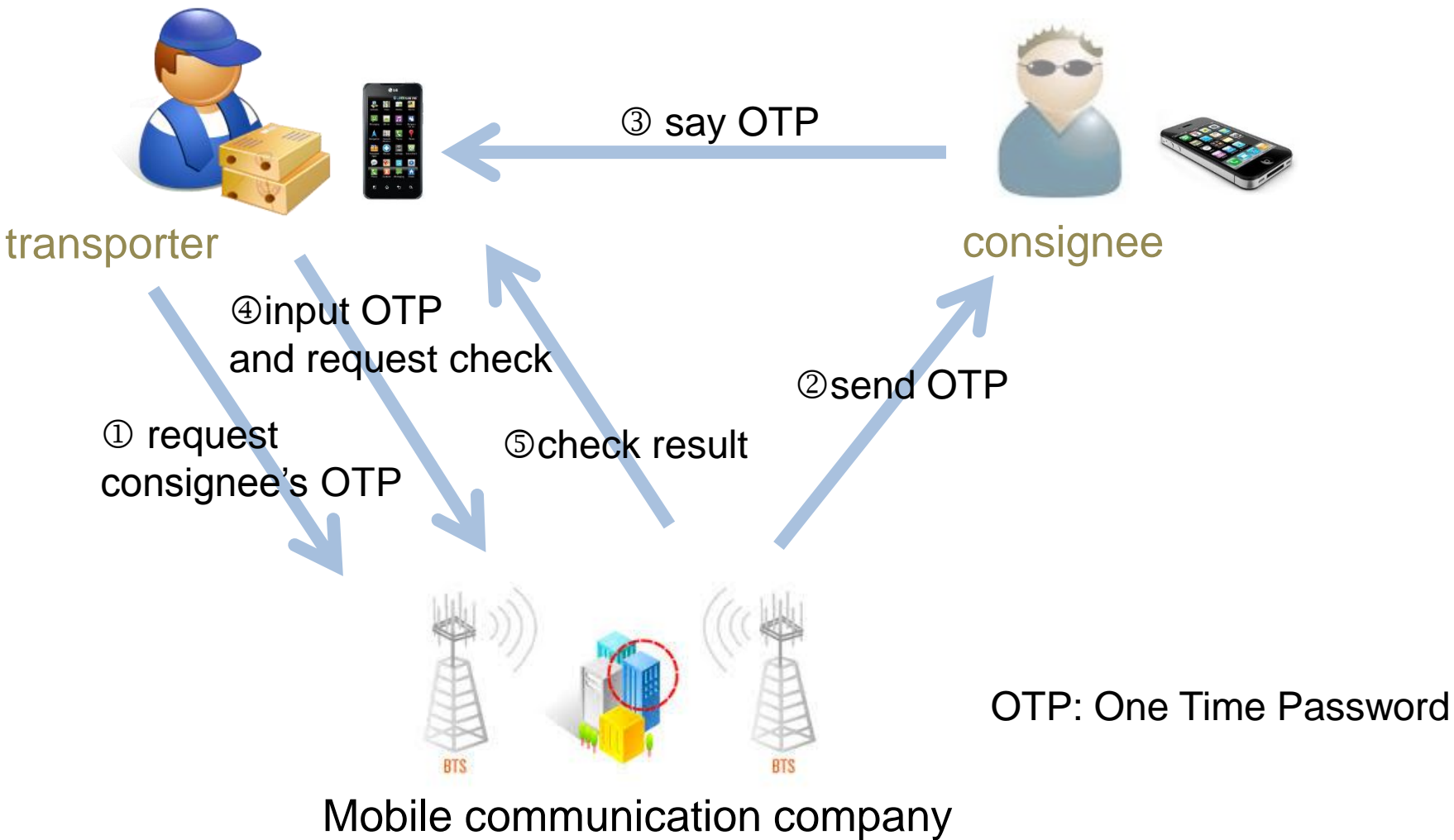
3. e-BOD(Bill of Delivery)

3.2 e-BOD authentication process: registration



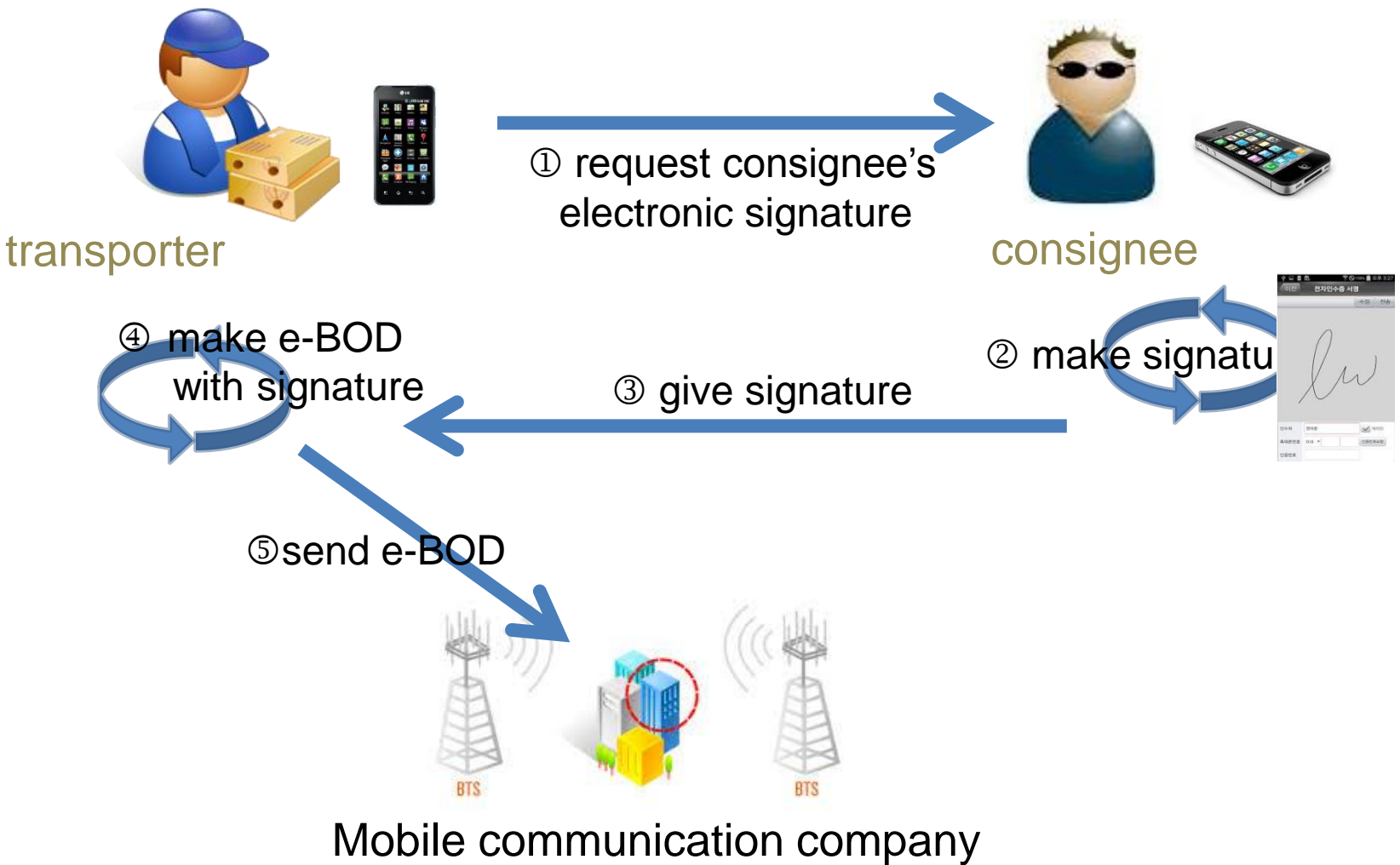
3. e-BOD(Bill of Delivery)

3.3 e-BOD authentication process: check consignee



3. e-BOD(Bill of Delivery)

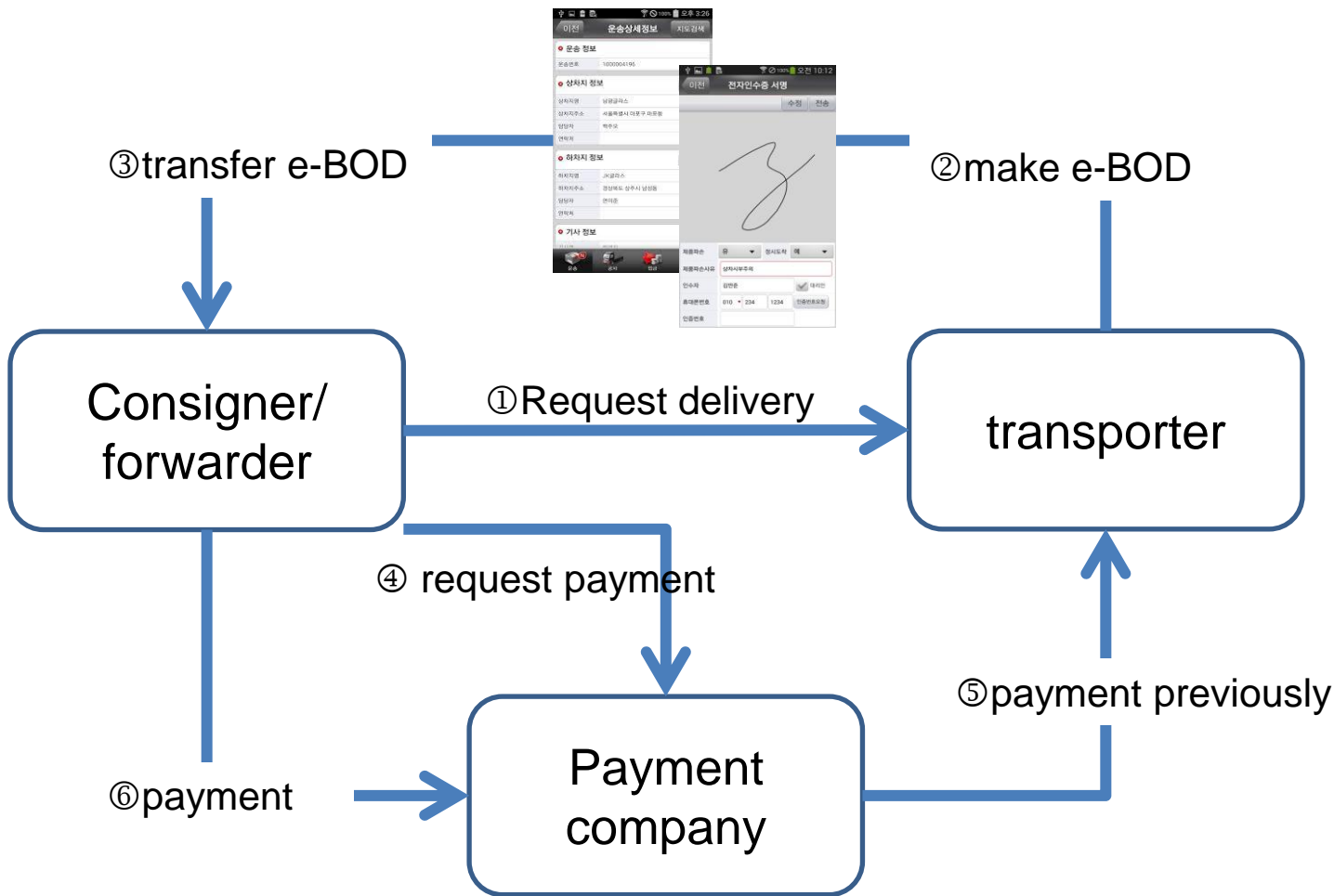
3.4 e-BOD authentication process: electronic signature



3. e-BOD(Bill of Delivery)

3.5 e-BOD Benefits

- Payment to transporter within 3 days after transport
- Real-time confirmation of transport: visualization
- Very simple process and no lost of receipt paper



4.1 Deliverables

Items	Content
CC/BIE	ACC, BCC, ABIE, BBIE, ASBIE
BRS	BRS for e-BOD application
e-BOD Message	XML schema for e-BOD message
Guideline	Guideline for using e-BOD in mobile environment

- Thank you !! -