

---

# SD Card Based eBook Application for Mobile Devices

TOSHIBA Corporation

August 11, 2011

# Ubiquitous Connectivity

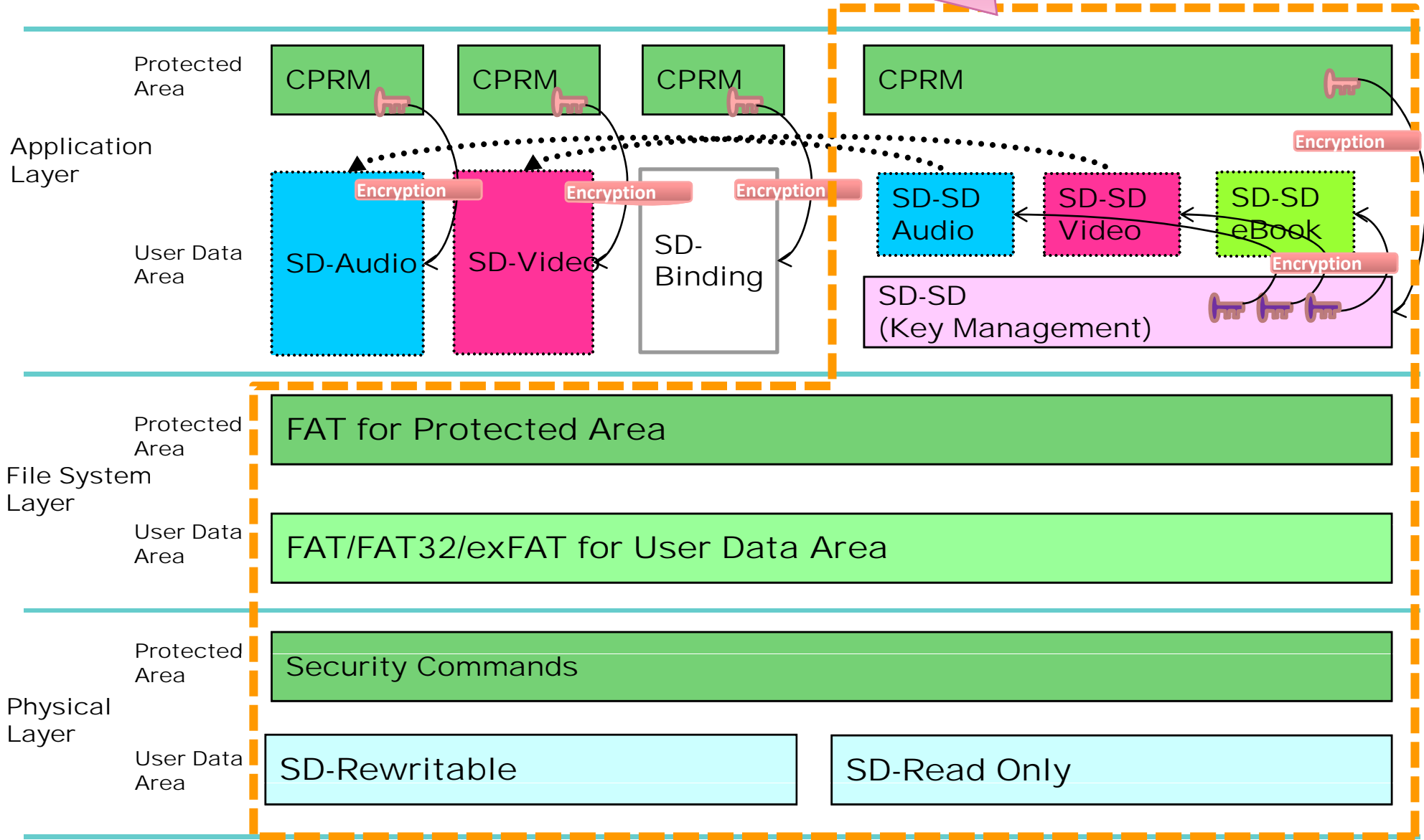
SD-SD deploy "Anytime, Anywhere" data connection



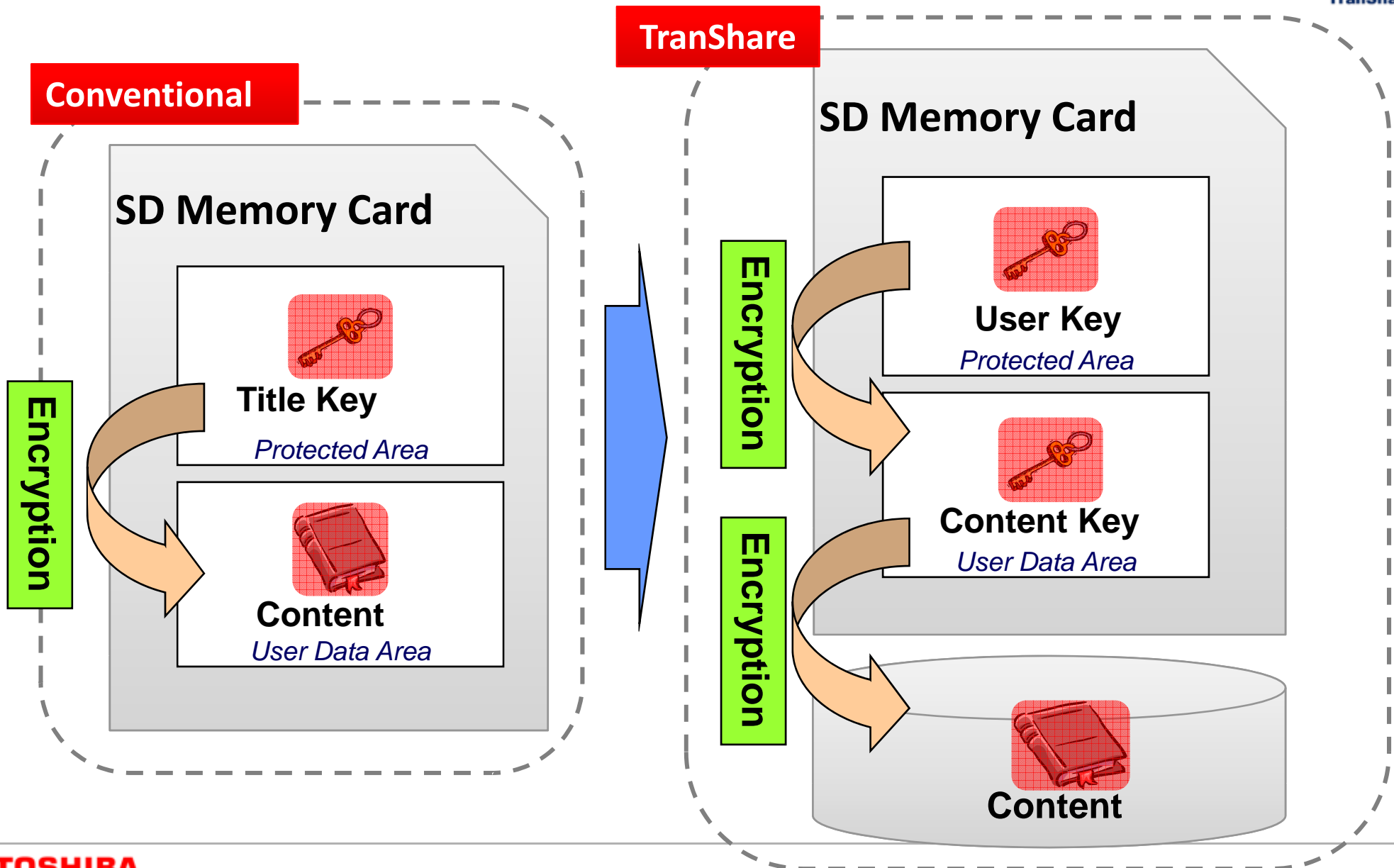
Confidential

# SDA and 4C Specification

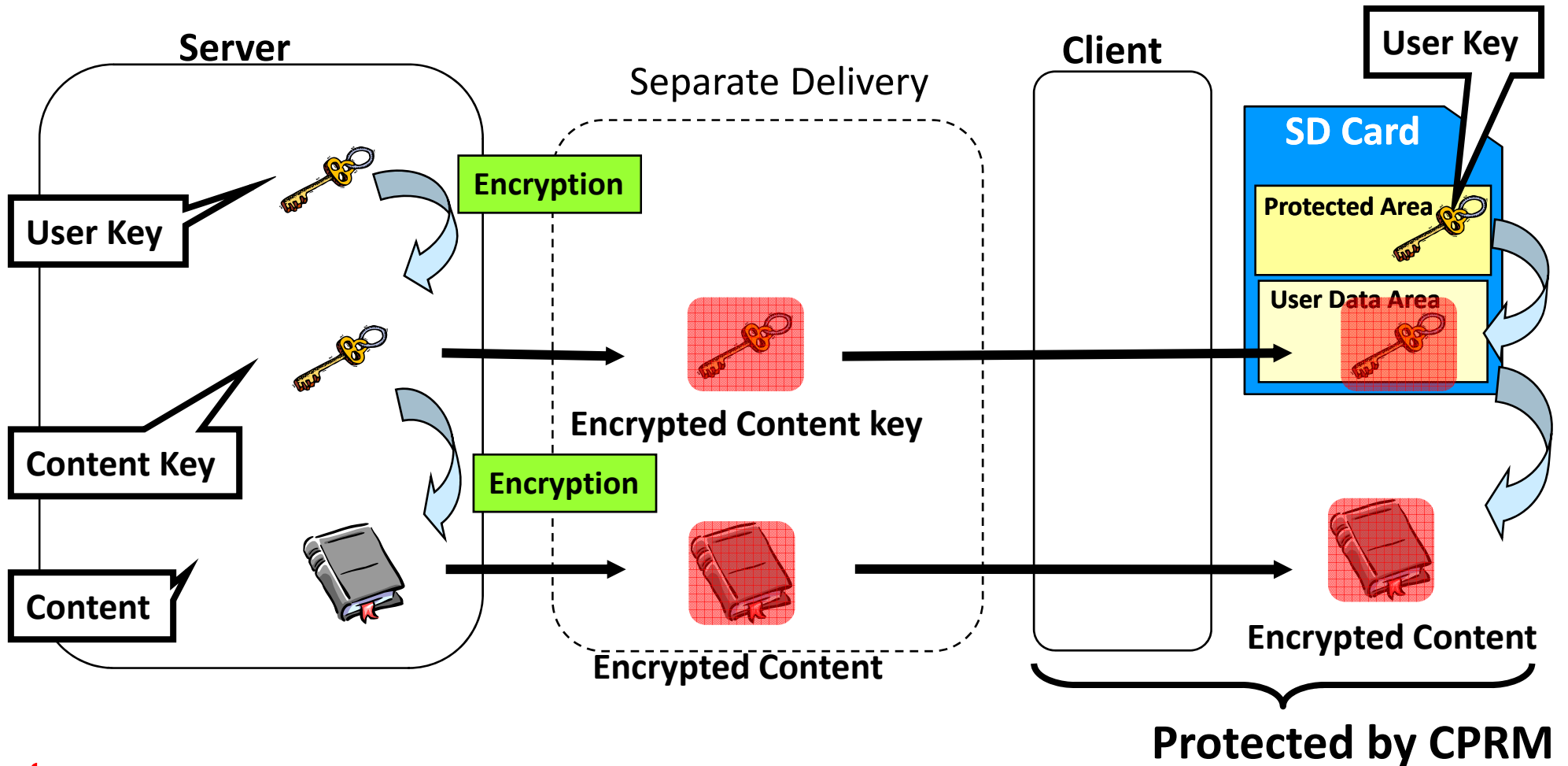
Used in TranShare™



# Double key layers in TranShare

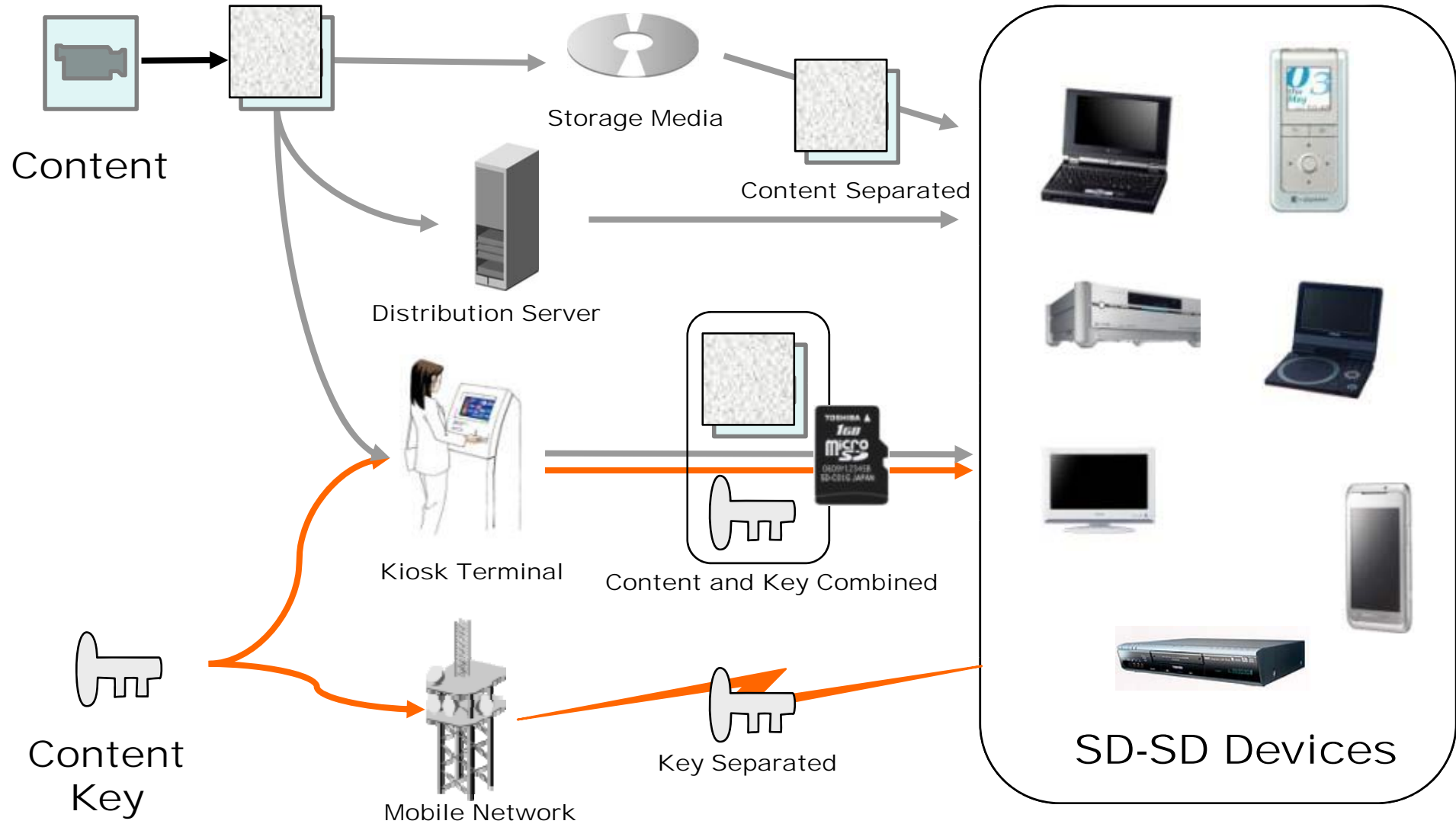


# Network distribution



**Covered by TranShare**

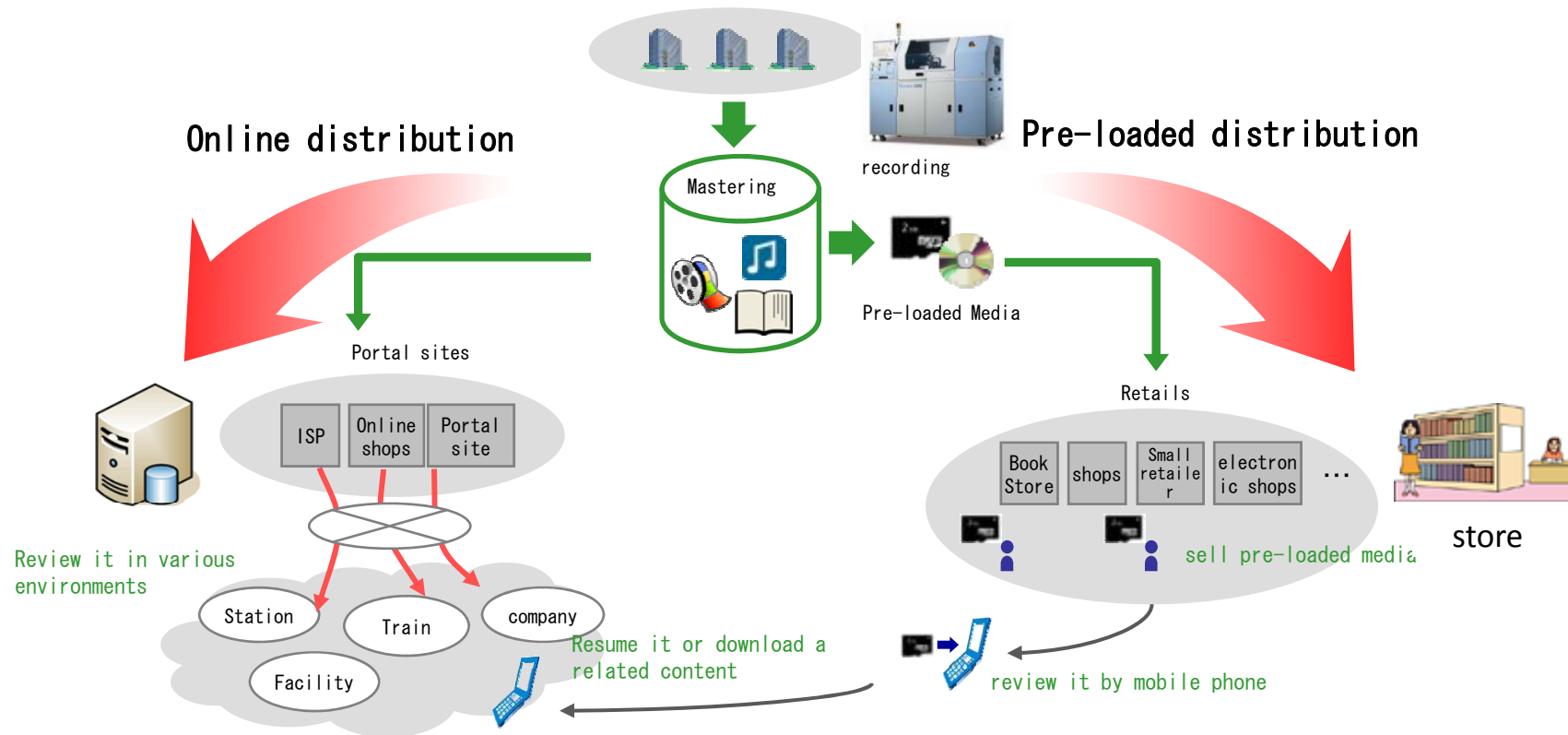
# Separate Delivery



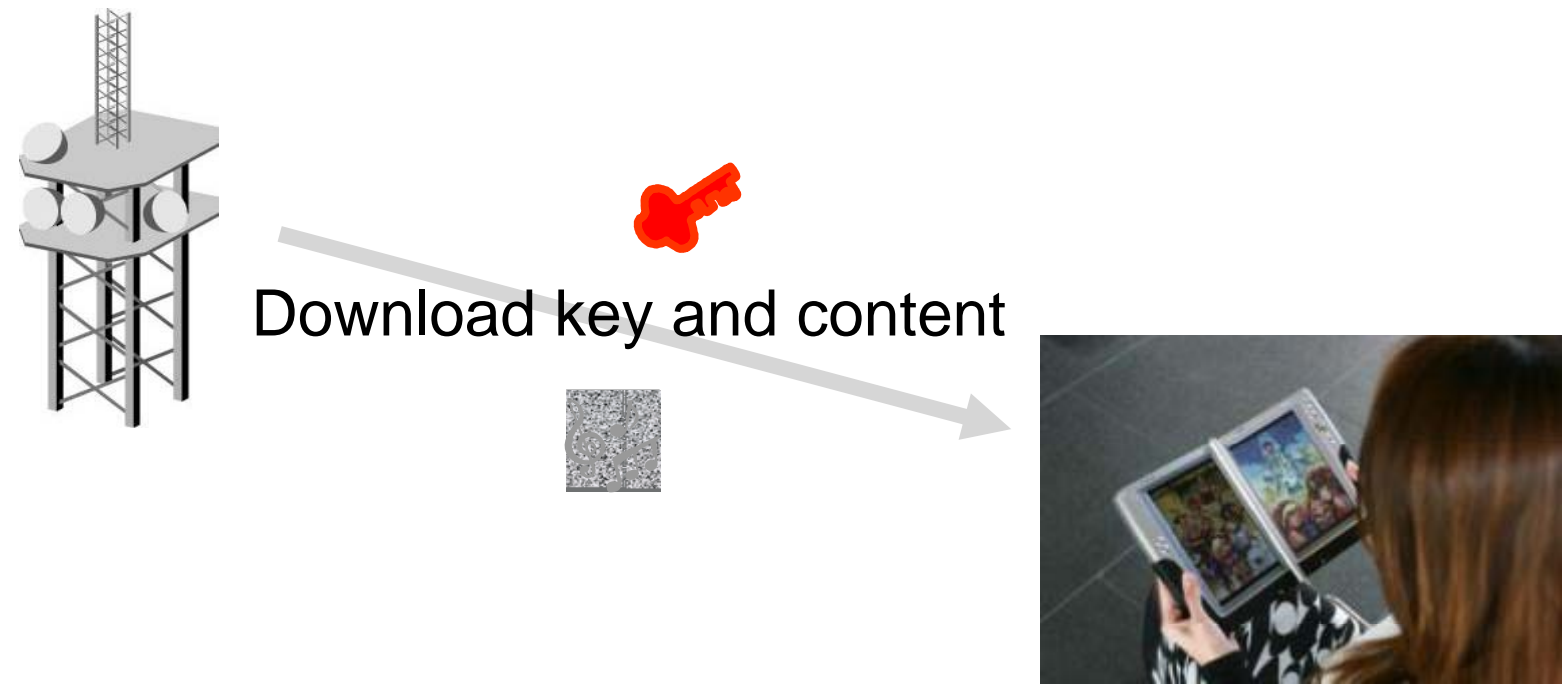
# Hybrid eBook Distribution?

**Hybrid eBook Distribution** by TranShare means an advanced, flexible and scalable brick and click distribution channel for digital content based on SD Memory Card, which combines network download at on-line shops and pre-loaded SD Memory Cards sold at stores.

**Hybrid eBook Distribution** provides innovating environment to meet user requirement, such as a sense of possession or off-line usage. Additionally Hybrid eBook Distribution will make evolution of user experiences, increase purchase opportunities and urge enlargement of content provider's offer. As a result, synergy effects in the market will grow up

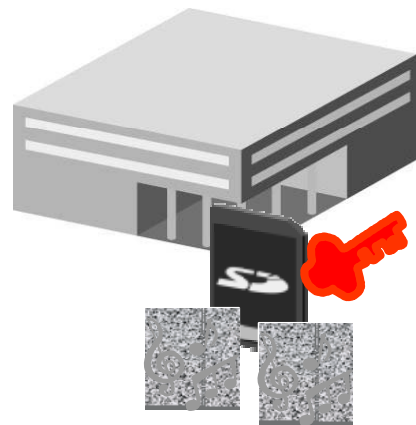


# Purchase Over The Air





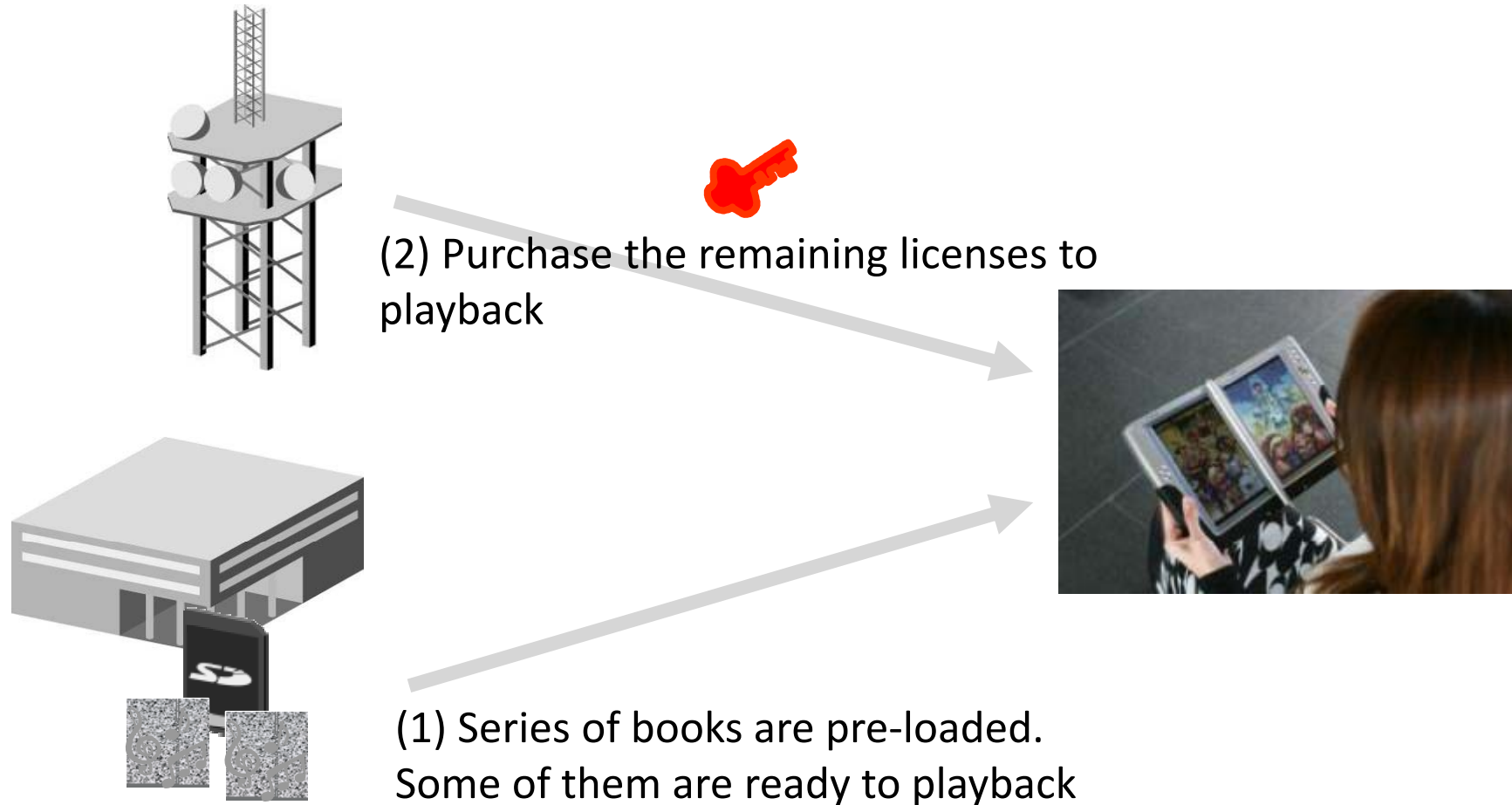
# Pre-Loaded Distribution



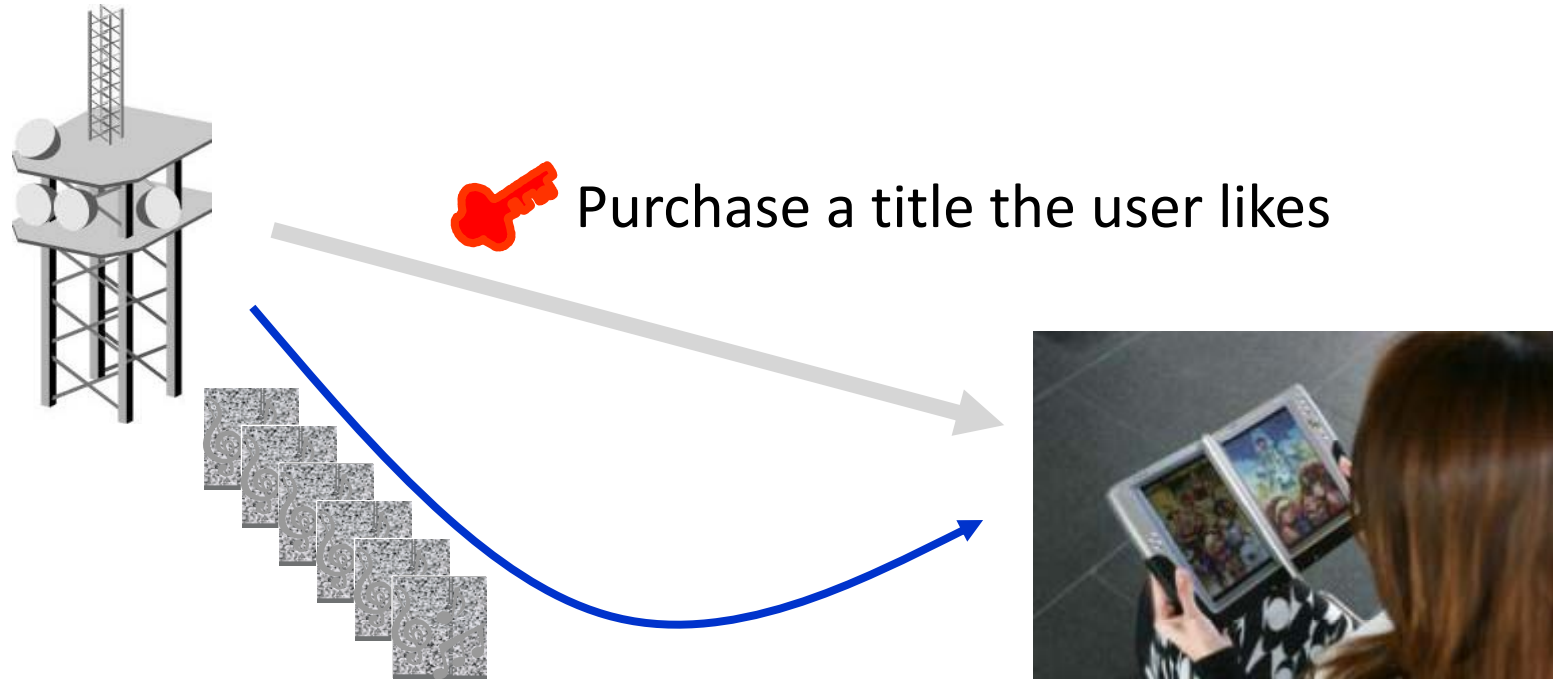
content pre-loaded



# Sold at Store and Network Purchase

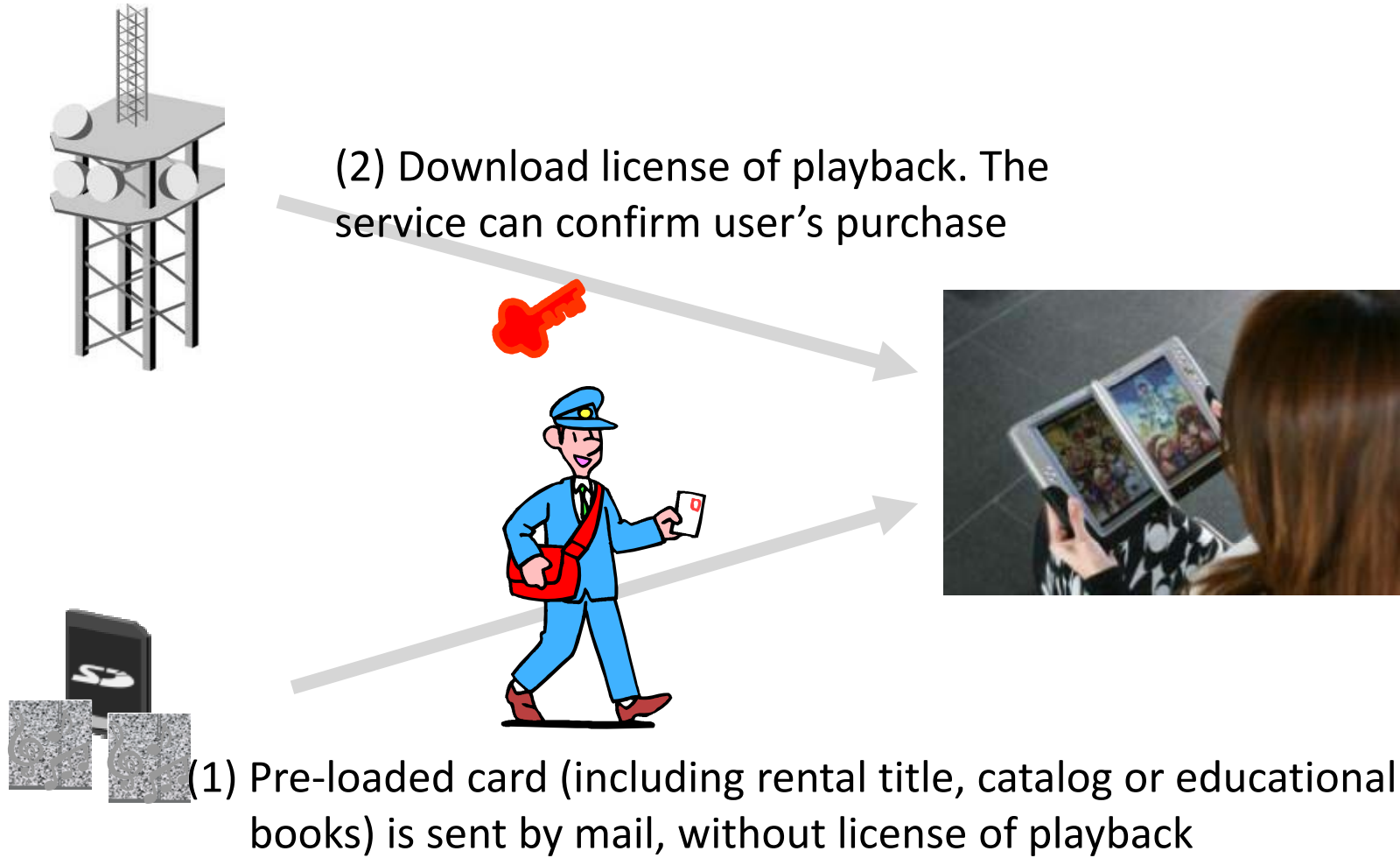


# Download at Night



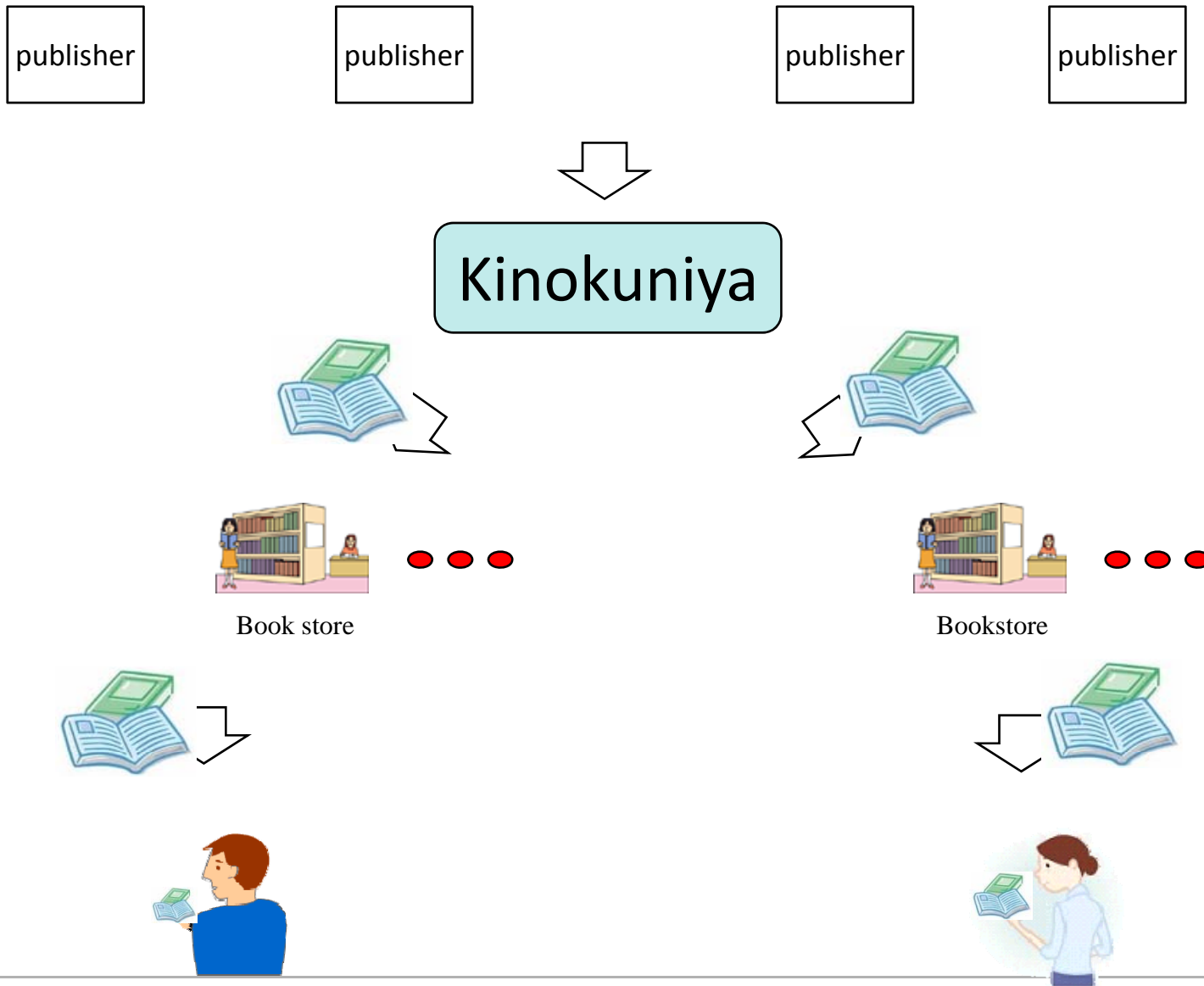
Bunch of content are downloaded during sleeping

# Send by Mail

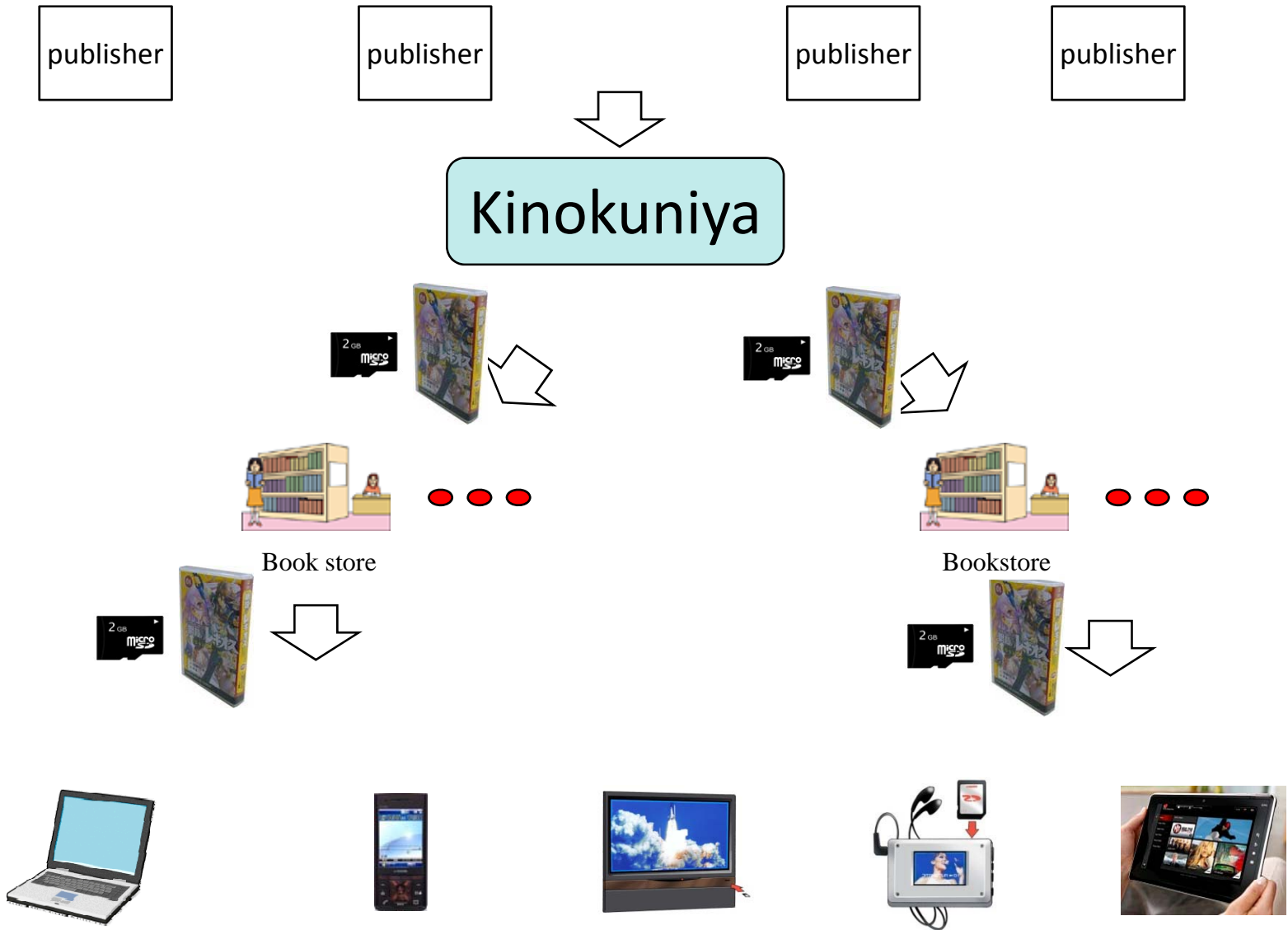


# An Example in Japan

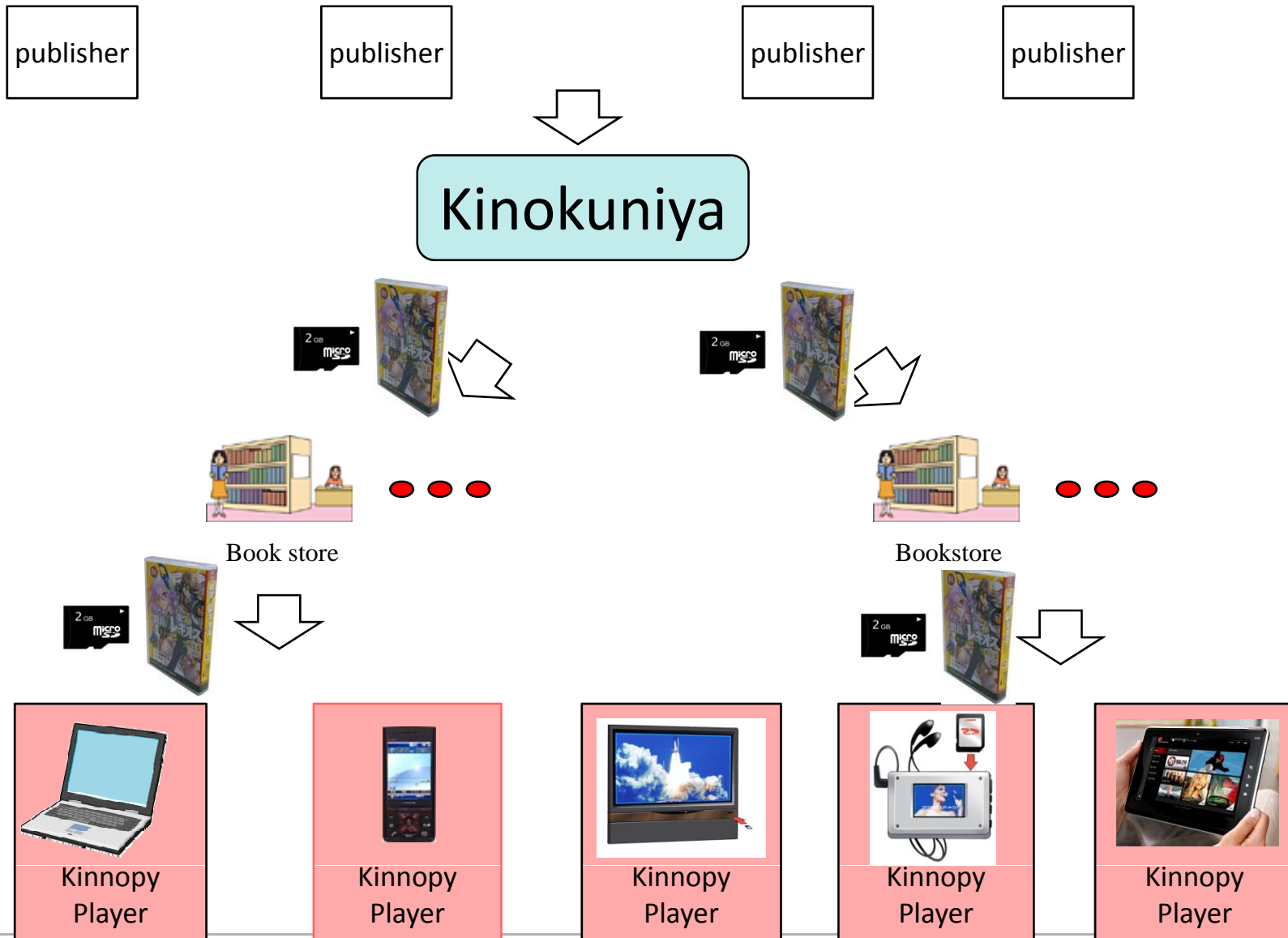
# Current distribution



# Trinity Business Model step 1

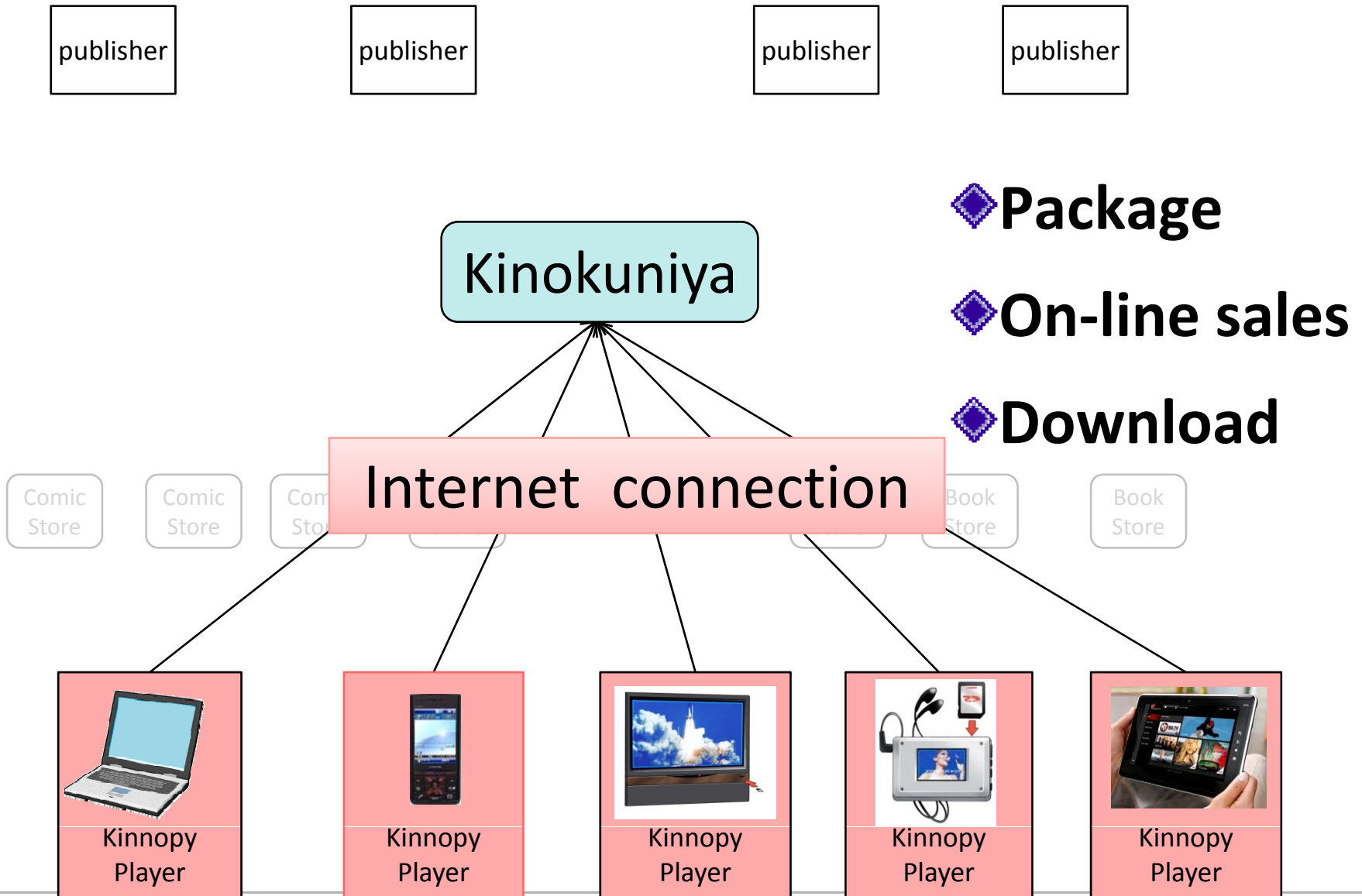


# Trinity Business Model step 2

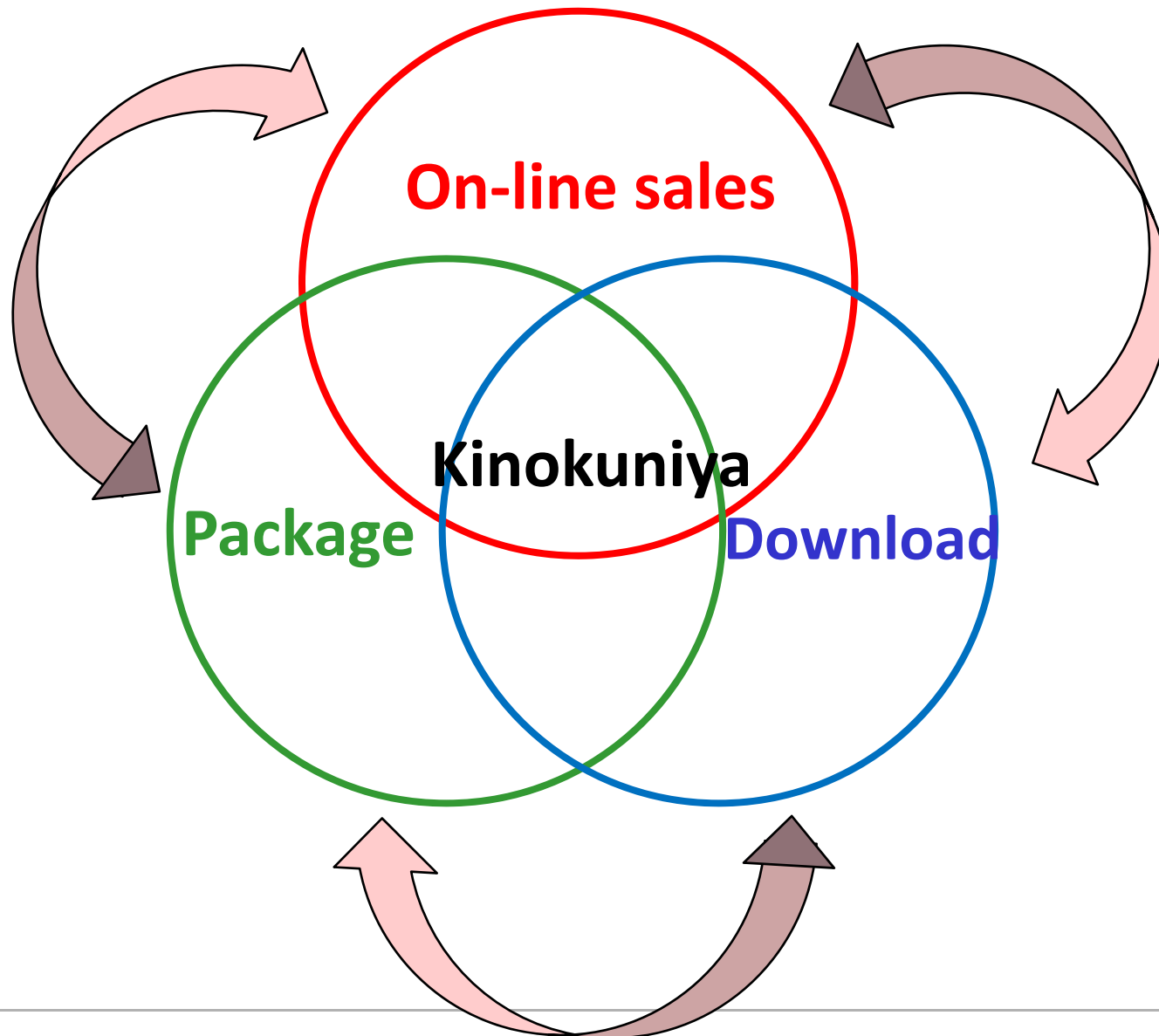




# Trinity Business Model step 3



# New Business Model



# Technical details

# SD Card Association (SDA)

---

- ◆ **SDA has been providing specifications about series of SD Memory Card products**
  - Including cards, hosts and applications on SD Memory Card
- ◆ **As the de-facto industry standard, SD technology is used by more than 400 brands across dozens of product categories and in more than 8,000 models**
- ◆ **SDA was founded by Panasonic, SanDisk and Toshiba in January 2000**

# 4C Entity, LLC

---

- ◆ **4C Entity, LLC is a leading company for content protection technology, which licenses Content Protection for Recordable Media (CPRM) or so**
  - Founders: Intel, IBM, Panasonic and Toshiba
- ◆ **Licensing Agency with a proven track record**
  - Over 10 years of global experience
  - Over 250 CPRM Adopters
  - Licensing procedures and documents in place that are accepted by the stakeholders
  - Forensics and renewal processes also in place
  - Licensee-friendly IP licensing terms set industry benchmark; now used by other groups
  - Ability to scale to large population of adopters and large key space
- ◆ **Long and successful partnership of SDA and 4C**
  - Nearly 80 million CPRM devices successfully deployed
  - History of being responsive to SDA requirements

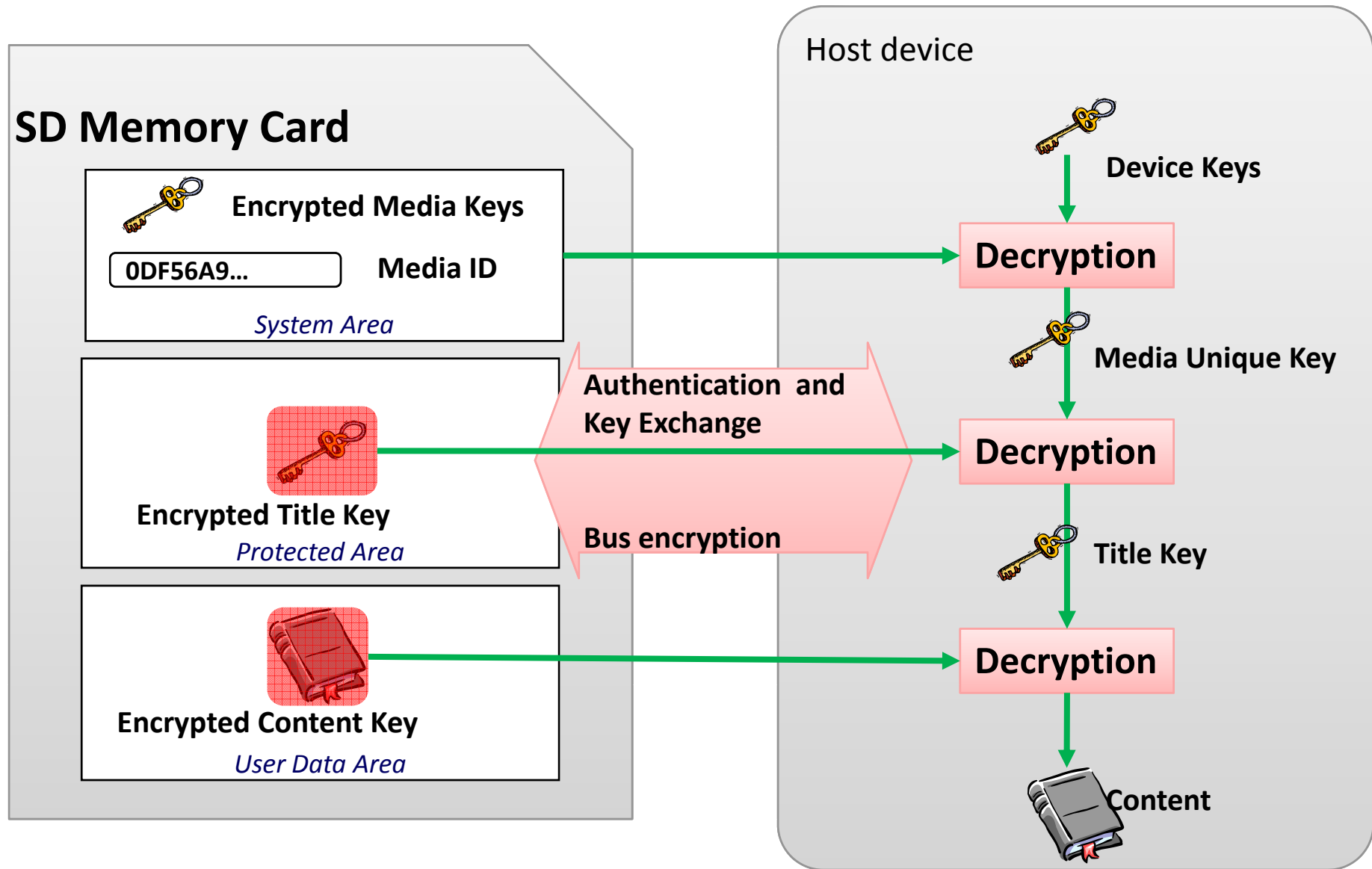
## ◆ Features

- Content encryption: data are protected by 4C's proprietary algorithm "C2"
- Media Bind: content can be bound to a specific media
- Authentication: bi-direction authentication between host and media
- Revocation: compromised devices are revocable
- Supporting common Usage Rules
  - Move, copy
  - Time based usage rules

## ◆ Adoptions

- DVD and SD Memory Card
- A authorized recording method of broadcasting content in Japan, broadly used
- Content distribution and recording in mobile phone services
- Pre-recorded content onto SD Memory Card and sold in retailer stores

# Key process for SD Card



**TOSHIBA**

**Leading Innovation >>>**