

Workshop for Web-based Signage

Electronics and Telecommunications Research Institute



Sunghan Kim

2012.06.15

Contents

Service Cases in Korea

Standardization : ITU-T SG16

Apartment Elevator :



Subway - Sync



Sub-TV : Subway Line 1,3,4



Bus Shelter : Seoul U-shelter



Beauty Store: Myung-dong, Target Lady



GS Caltex –Card customer



In-store Media

- . E-mart
- . House keeper



Shelf media



CGV Theater (CJ)

- . Touch screen
- . Web Camera
- . Internet/Bluetooth



Digital View (Daum)

- VOIP
- Location based :Map App



Golf field

- Hyundai IT
- Incheon golf club



Everland – Outdoor

- Heating Problem



DSS

DS service features

Interactivity

Customization

Targeting

...

Challenge

Need interoperability among different vendors

Need define high-level requirement, generic architecture, functionality, interface

DS Activity in ITU-T SG16

History

- Q.13 / SG16
- Consent progress, May 2012

Original Document:

- H.FDSS : “Digital signage: Service requirements and IPTV-based architecture”

Editors:

- Kazunori Tanikawa , NEC, Japan

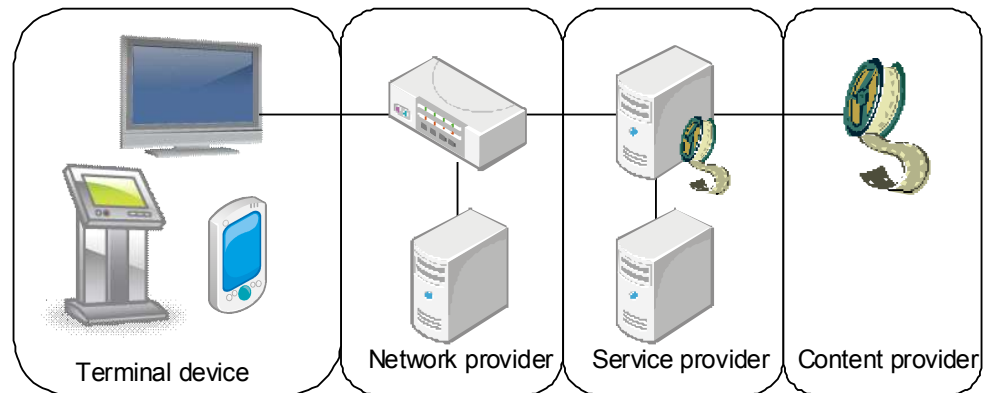
Scope

Addresses the high level requirements, architecture and mechanisms for dealing with the aspects of digital signage contents, network, metadata and terminal devices on the basis of IPTV architecture [ITU-T Y.1910].

Generic DS Domain

Digital signage (DS) is a system that sends information, advertising and other messages to electronic devices (e.g., displays, speakers)

. in accordance with the time of day and the location of the display, or the actions of audience.



Service Categorization

Class A: the services in public spaces (e.g., railways, convention centres);

Class B: the services in major distributors and service industry (e.g., banks, supermarkets)

Class C: the services in relatively small offices and retailer shops;

Class D: the services in the home as communication tools

Example of Services

Information services

- schedule of transportation, map/directory

Advertisements/Promotion

- commercial messages, details of products/services;
- shopping coupon

Space decoration:

- ornaments / coordination samples of products

Interactive services:

- user interaction for service navigation such as finding a nearest restaurant;
- information presentations based on audience measurement

Advanced services:

- Context awareness: Messages are delivered to the terminal devices according to the attributes of audience (e.g., subscribed specific services, location, date, age)

- **Types of terminal devices**

- **Wall screen:**

- wall-mounted/ceiling-mounted/projector

- **Self-standing screen;**

- for outdoor installation

- **Mobile terminal:**

- Mobile phone/ Smartphone
- Portable information terminal

Separation type vs All-in-one type

Requirements

General Requirement

Content management

Content delivery

Security

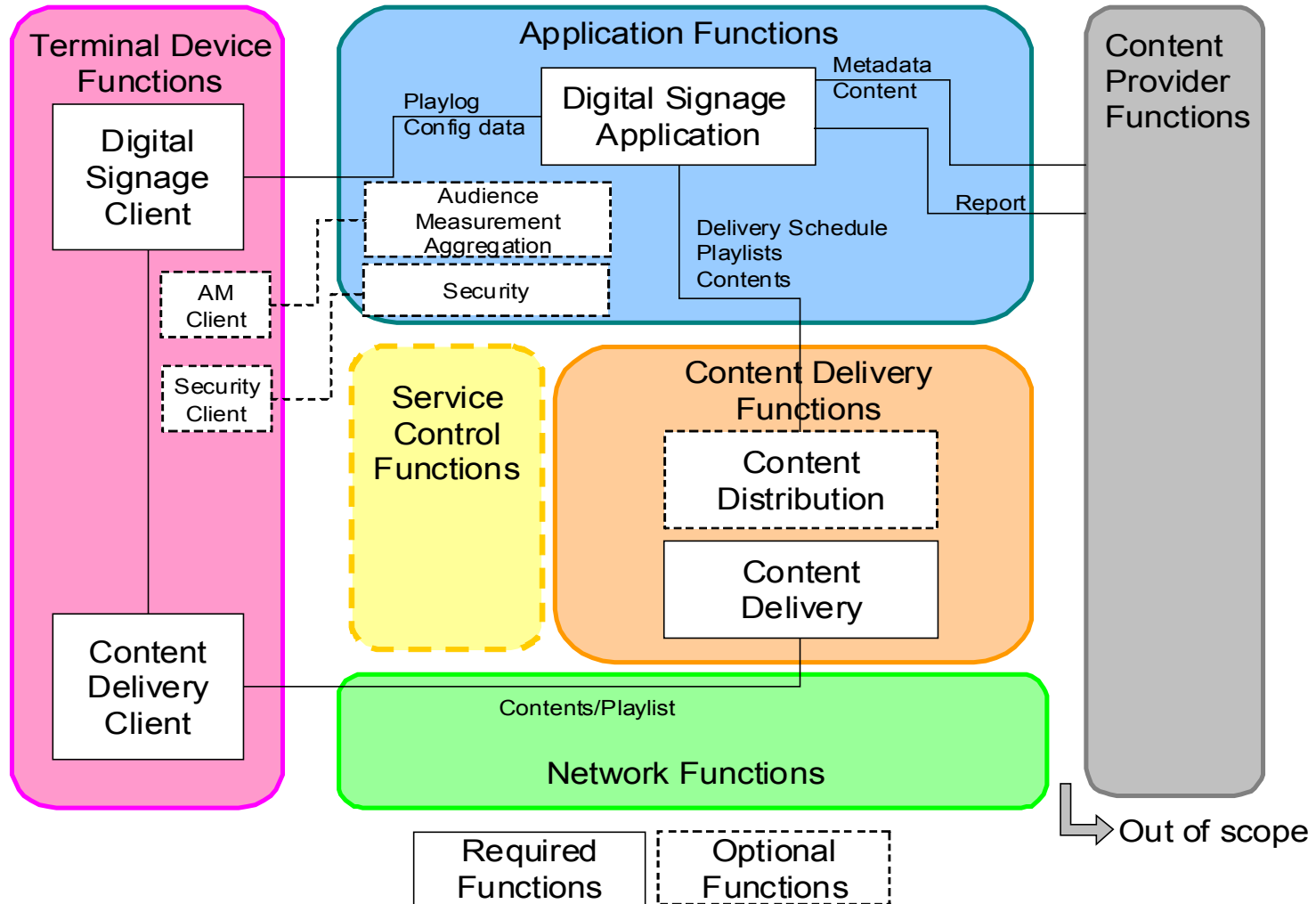
Network

Terminal Device

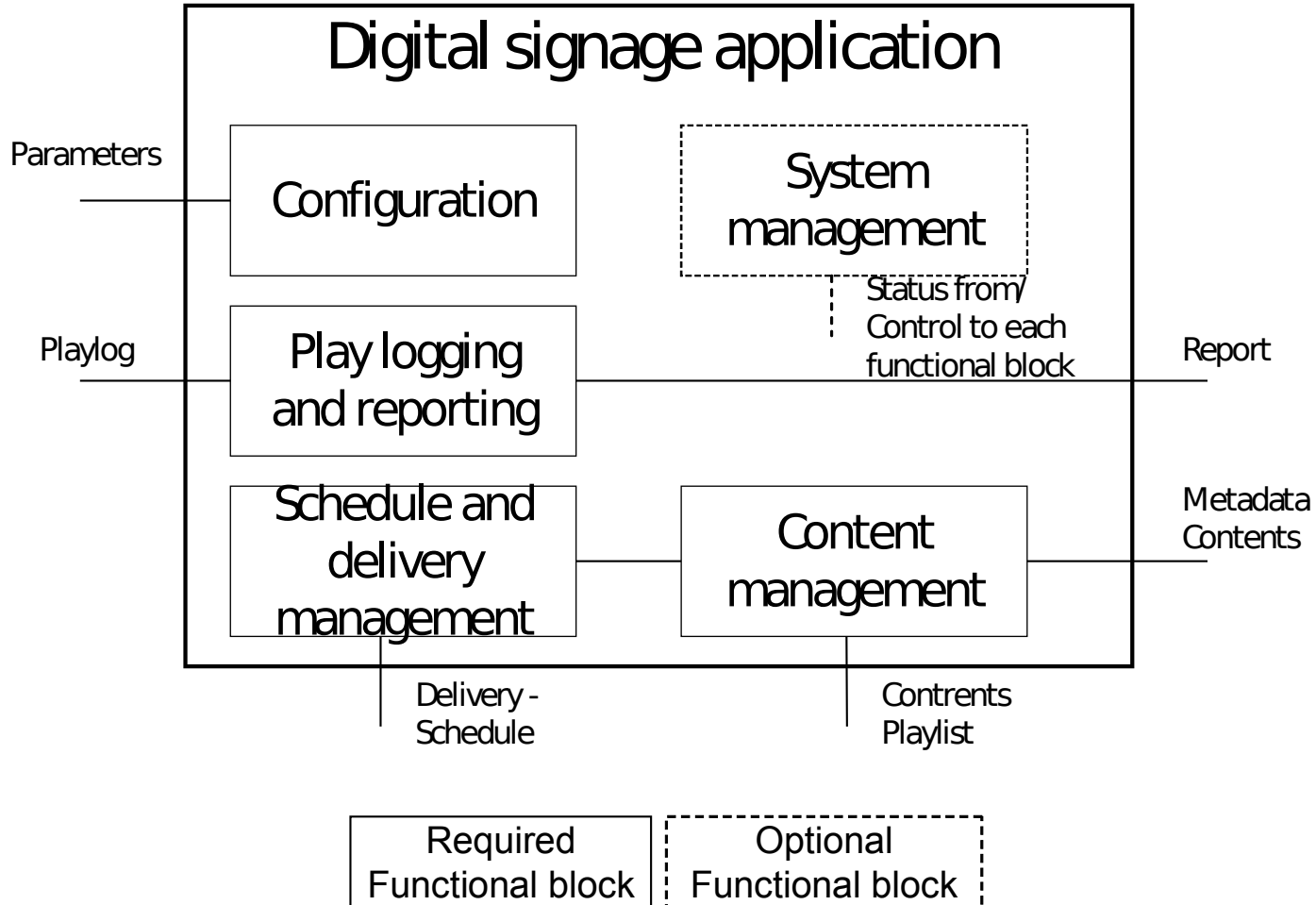
- Terminal functions
- Display functions
- Management functions

Accessibility

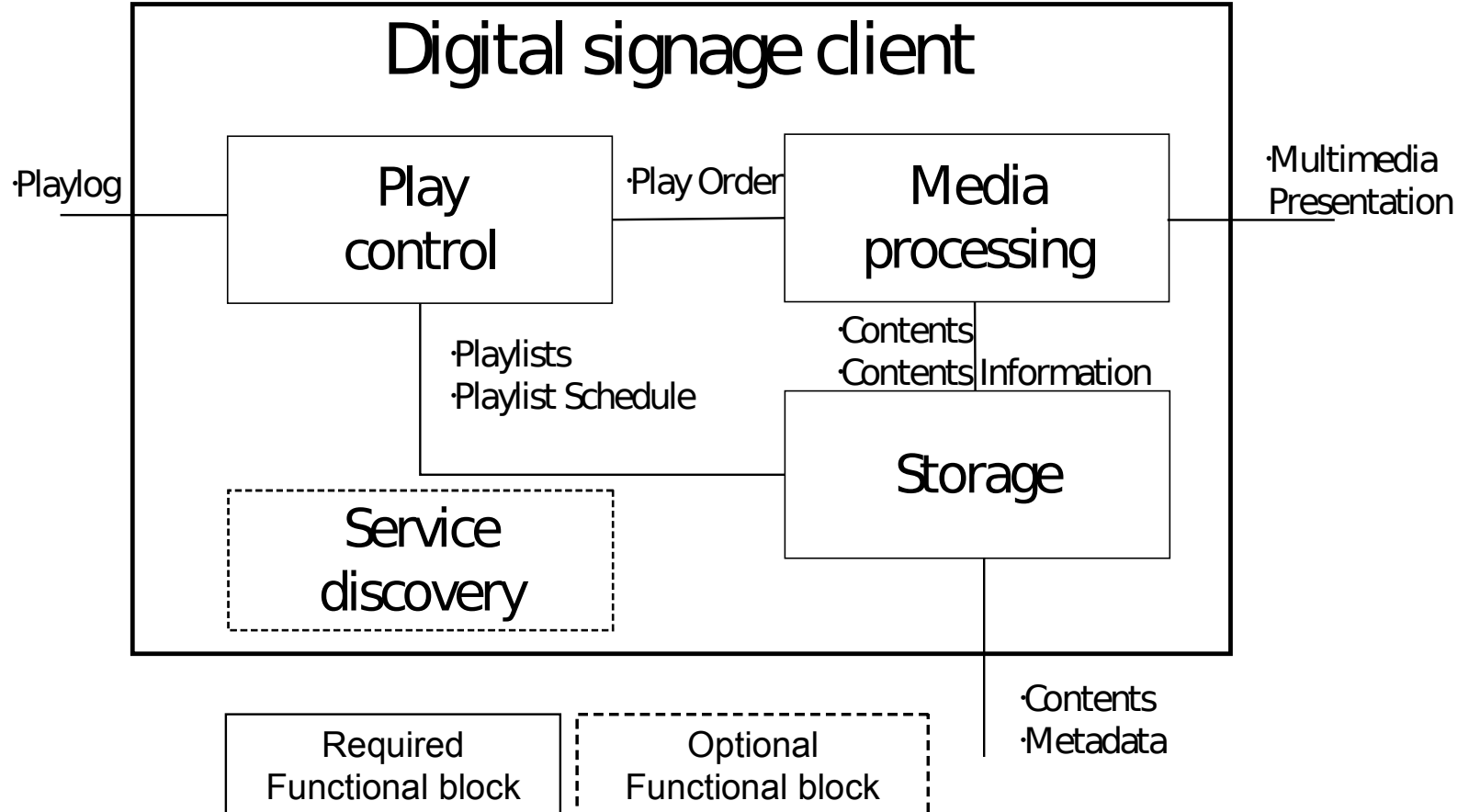
Architecture Overview



Functional Architecture : Application



Digital Signage Clients



Codecs and data formats for DSS (Appendix)

Table II.1: Standards of codecs and data formats

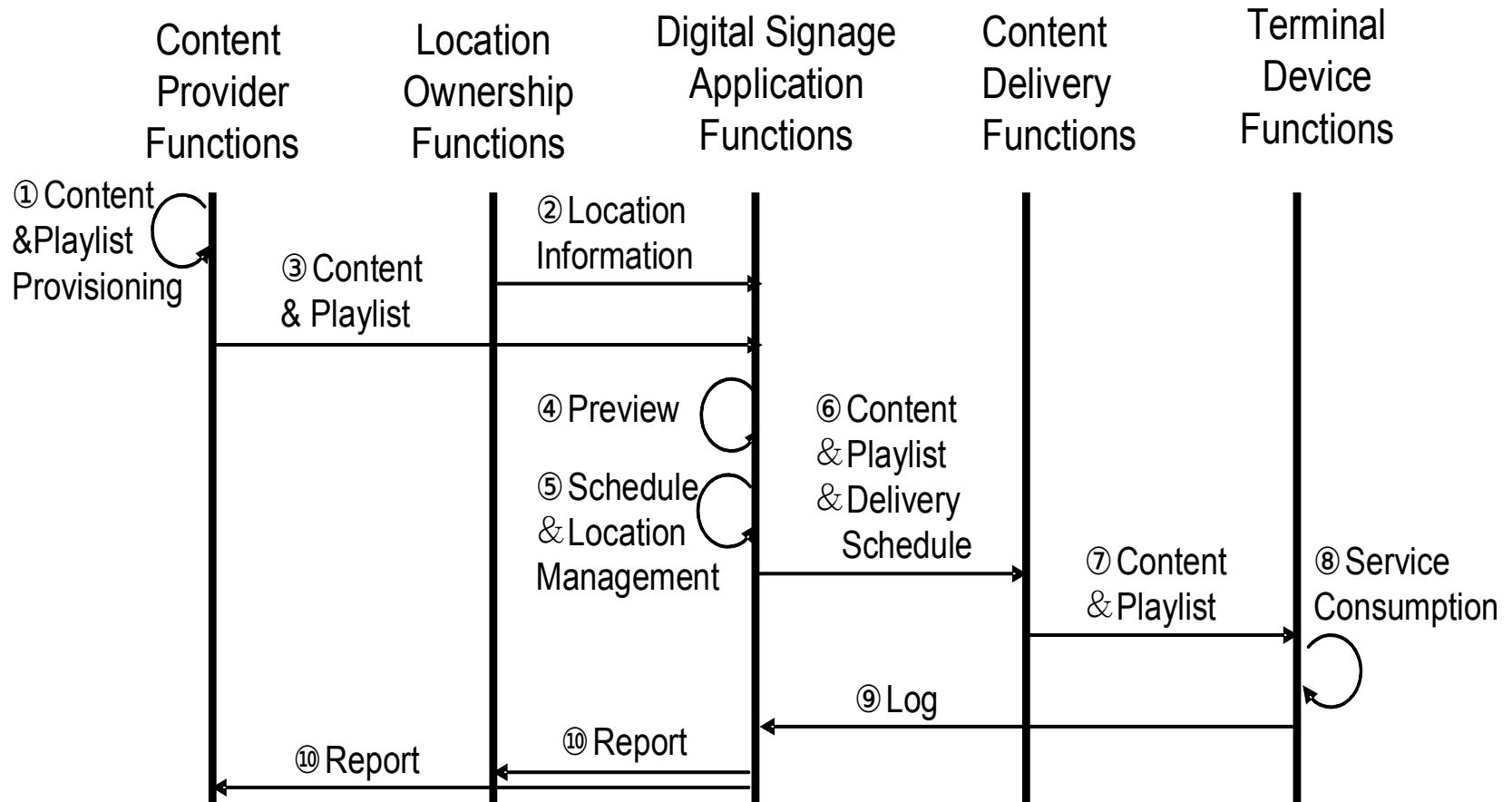
Type	Standards
Audio	MPEG-1 Audio Layer-3 [b-ISO/IEC 11172-3], Dolby AC3 [b-ETSI TS 102 366], MPEG-2 AAC [b-ISO/IEC 13818-7], MPEG-4 HE AAC v1 [b-ISO-IEC 14496-3], A-law/ μ -law [b-ITU-T G.711]
Still Image	JPG [b-ITU-T T.81], .PNG [b-ISO/IEC 15948]

Type	Standards
Vector Graphic (NOTE 1)	SVG [b-W3C SVG 1.1]
Video	MPEG-2 [b-ITU-T H.262], H.264 [b-ITU-T H.264]

Table II.2: Standards of data wrapping

Type	Standards
Wrapper	MPEG-4 part 14(MP4) [b-ISO/IEC 14496-14], MPEG-2 TS/PS [b-ITU-T H.222.0]

Use-case of digital signage : Advertisement



Done:

Briefly reviewed ITU-T DS standardization activity.

So :

W3C need cooperation with ITU-T DS activity ?

Scope of Web-based signage in W3C ?

Thanks