

S2_2. Next Generation Media Services and Technologies

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Mobile Traffic Trend



All these devices rapidly increase mobile video traffic !



Mobile Media Service Trend

Live (Linear)	On-Demand	Semi-Live	Real-Live
Traditional TV	DVR / Streaming	Snapchat Stories	Periscope + Facebook Live
1926	1999	2013	2015 / 2016
Tune-In or	Watch on	Tune-In Within 24	Tune-In / Watch
Miss Out	Own Terms	Hours or Miss Out	on Own Terms
Mass Concurrent	Mass Disparate	Mostly Personal	Mass Audience,
Audience	Audience	Audience	yet Personal
Real-Time Buzz	Anytime Buzz	Anytime Buzz	Real Time + Anytime Buzz
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Just DVD Delivering Service



Mobile Media Market Trend



SK Media Services

- Fixed IPTV (Btv), Mobile IPTV (Oksusu) 360 VR VoD / Live, etc



SKB '8K 슈퍼 UHD IPTV' 세계 첫 공개 한 MAI 최소트립 'V에 생 수 의 UHD IPTV' 세계 첫 공개 한 MAI 최소트립 'V에 생 수 의 UHD 3300명원스 PTV 인명인 IVT의 공개원 0. 의 품은 기존 4/ UHD의 530만 최소보 위생도가 4배 뉴은 3.300만원 최소로 회원이 매우 뛰어나이, 이들 인터넷TV에 귀형원 건은 NURSE 에도 기세계 최초의...//전환 ·3/SU 프로프로 기세계 최초의...//전환 ·3/SU 프로프로



8K UHD IPTV Trial (`15.10), 4K IPTV Commercialization (`14.4)



UHD Multi-View (`16.9)



Adaptive Oksusu VR Streaming Service(`16.10)

7



SK telecom

SK broadband



Oksusu Mobile IPTV Commercialization (`17.10)











SK Media Services

- 360 VR Live Trial Services (4K, Real-time)



Media Service Flows

Media Service Delivery consisted of ①Create & Casting, ②Encoding & Value Add, ③Delivery & Publish with live and VoD types.







① [Media Infra Layer]

- Providing Media Delivery / Encoding / Storing functionalities based on virtualized, cloud system

② [Media Service Layer]

- Providing Media Uploading / Processing / Publishing / Security & Analysis functionalities

- ③ [API Layer]
 - Providing API/SDK for 3rd party B2B, B2C services and application

④ [Orchestrator]

- Providing Media Policy / Contents Flow Manage / Log Analysis functionalities



Media Delivery Infra Layer: Support s media delivery with caching, compression and streaming functions



Main Components in Delivery Layer

- Media Delivery Indicator assigns Delivery Engine (such as vCache, vStreamer) according to proper services
- MLR: Multicast Loss Recovery for IPTV Multicast Clients (e.g. Set-top)
- App. Container: **Media Service Application** is virtualized to be independently performed (Container Image is provided)



Media Processing Infra Layer: Supports Processing / Add Ads. / Analysis on delivered media. In addition, Up-scaling, AR/VR, Adaptive Casting and Personalization processing can be performed

Upload	Processing	Publisher	Security & Analysis	Value added
Cast Mgr	360 AR/VR	Broadcast Programming	Analytics	Ads. Mgmt. & Injector
Cast URL Indicator	Live/VoD Encode/Trans.	Smart URL Indicator	DRM	Chatting Injector
UpScaler	HDR/SR	StreamSwitch/ Time Shift	One time URL generator	Device/Region Detector
	Upload Cast Mgr Cast URL Indicator UpScaler	UploadProcessingCast Mgr360 AR/VRCast URL IndicatorLive/VoD Encode/Trans.UpScalerHDR/SR	UploadProcessingPublisherCast Mgr360 AR/VRBroadcast ProgrammingCast URL IndicatorLive/VoD Encode/Trans.Smart URL IndicatorUpScalerHDR/SRStreamSwitch/ Time Shift	UploadProcessingPublisherSecurity & AnalysisCast Mgr360 AR/VRBroadcast ProgrammingAnalyticsCast URL IndicatorLive/VoD Encode/Trans.Smart URL IndicatorDRMUpScalerHDR/SRStreamSwitch/ Time ShiftOne time URL generator

Upload Group

- Cast Mgr.: controls and manages servers and protocols to upload media to platforms
- Up-scaler: resizing and quality control according to network condition

Processing Group

- State-of-the-art media compression techniques can be adopted for 360 AR/VR, FHD/UHD Contents
- HDR (High Dynamic Range) and SR (Super Resolution) Techniques are added (SKT)



ling	Upload	Processing	Security & Analysis Value added		
ocess ayer	Cast Mgr	360 AR/VR	Broadcast Programming	Analytics	Ads. Mgmt. & Injector
dia Pl Infra I	Cast URL Indicator	Live/VoD Encode/Trans.	Smart URL Indicator	DRM	Chatting Injector
Mec (UpScaler	HDR/SR	StreamSwitch/ Time Shift	One time URL generator	Device/Region Detector

Publisher Group

- Publishing media with various type for customers having various NEEDS
- N-Screen with Smart URL, PIP with Stream Switch, Time Shift Broadcasting

Security & Analysis Group

- Supports media encryption by DRM or access security by One-Time URL
- Supports quality monitoring functions

Value Added Group

- Ads. Insertion, user/device location management, chatting (for game or sports channel)





Media Platform Open API

- Provides OPENAPI or SDK for B2B/B2C Services and 3rd Party Application

Media Service Management API

- Provides I/F for functional extension or essential function selection



> Orchestrator: Manages media service system



Policy

Determines service use range according to payment fee (price) or company service policy

Flow Manager

- Traffic management (ex: Sports L
- For live sports channels, this manages Live Encoding vStreamer (video quality, video resolution)

Operation Tool

Monitoring system (Web-based)

Statistics

User preference on contents, Traffic data



Q.MEA-SRA (Signaling requirement and architecture for media service entity attachment)

This draft Recommendation describes signaling requirements and architecture for attachment of media service entities. The scope of this draft Recommendation covers:





ngiyabonga **teşekkür ederim Canke**謝謝 tapadh leat dank je спасибо DV2 B mochchakkeram dziękuję go raibh maith agat arigató 풀 dakujem Sukriya kop khun krap obrigado grazie Maduati мерси 감사합니다

