Future Integrated Broadband Cable Networks

Cable Television in Korea

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Cable Television in Korea

Trends of technology

Trends of service market
Evolution of cable network

- Directly access to home FTTH or fiber network access point move to maximum closing point almost nearly
  ※ about 28% (2016.08)

Smart common device

- Smart integrated broadcasting and communication common devices based on fiber
  - simplify broadcasting and communication line establish

Terrestrial UHD broadcasting

- Start terrestrial UHD broadcasting
- Direct rates continuous decease
  ※ ’05, 23.2% --> ’15, 5.3%

smart cable integrated transmission

RoIP

- Without change of existed or planned cable transmission and terminal device
- RF receiving in subscriber terminal with cost effectively
- Terrestrial retransmission device
RoIP (RF signal over IP: J.1106/1107/1108)

CMTS (internet)  
EQAM (broadcasting)

digital broadcasting  
(downstream)

OE transfer  
amplifier  
Tap-off

Cable broadcaster

STB  
(Terminal 1)

CM  
(Terminal 2)

Terminal 3

RoIP transmission of cable signal  \(\rightarrow\) Synchronized upstream transmission

- Different delay time of cable terminal makes difficult receiving normal data in CMTS
RoIP (RF signal over IP: J.1106/1107/1108)

※ CMTS: Cable Modem Termination System
EQAM: Edge QAM

Smart broadcasting and media
RoIP Headend
Digital Headend Cable device (EQAM, CMTS etc.)
Terrestrial Retransmission system
Transfer terrestrial signal to digital cable specification

Fiber transmission device
WDM MUX
SO

Upstream signal from subscriber’s STB transfer RF based signal

Broadcasting wavelength (RF Overlay)
Data wavelength

Fiber transmission device

Downstream: downstream wavelength for broadcasting transfer O/E
Upstream: RF signal transfer digital and transmission RoIP network

RoIP Terminal

Internet/ VoIP

subscriber

STB

CM

coaxial

fiber

fiber installed house
fiber based home network
fiber based cable transmission network

WDM MUX
RoIP (RF signal over IP: J.1106/1107/1108)
IFDX (In-band Full-duplex: J.1109)
### Cable TV

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016. 3</th>
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<tbody>
<tr>
<td>Pay TV</td>
<td>25,399,625</td>
<td>27,368,396</td>
<td>28,182,171</td>
<td>28,630,819</td>
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<tr>
<td>Cable TV</td>
<td>14,737,884</td>
<td>14,611,459</td>
<td>13,732,042</td>
<td>13,736,608</td>
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<tr>
<td>analogue</td>
<td>8,587,712</td>
<td>7,481,306</td>
<td>4,678,124</td>
<td>4,266,758</td>
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<td>digital</td>
<td>6,17; 30%</td>
<td>7,130,153</td>
<td>9,053,918</td>
<td>9,469</td>
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<td>satellite</td>
<td>3,066,692</td>
<td>3,090,739</td>
<td>3,091,938</td>
<td>3,104,572</td>
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<td>IPTV</td>
<td>7,595,050</td>
<td>9,666,199</td>
<td>11,358,191</td>
<td>11,789,639</td>
</tr>
</tbody>
</table>

**2017**

- **IPTV**: 45.3%
- **Cable TV**: 44.4%
Cable TV

- KT (20.67%)
- KT Skylife (10.19%)
- SK broadband (13.97%)
- LG U+ (11.41%)
- CJ Hellovision (13.02%)
- T-broad (9.86%)
- Dlive (6.45%)
- CMB (4.85%)
- Hyundai HCN (4.16%)
Cable TV

1. KT
   KT Skylife 30.86%

2. LG U+
   CJ Hellovision 24.4%

3. SK Broadband
   13.97%

remaining MSOs

   T-broad
   Dlive
   CMB
   Hyundai HCN 25.32%
Thank you