Broadcasting and Telecom Convergence in Korea
- Some Issues and Problems to be solved -
| 1  | Korean ICT Industry Overview               |
| 2  | Why Convergence?                          |
| 3  | Current Status and Prospects              |
| 4  | Regulatory Systems in T. & B.             |
| 5  | Major Issues and Problems                 |
| 6  | Things to be Considered                   |
ICT Business has been leading the Korean Economy since mid 1990’s

**Broadband in Korea**

- No.1 Propagation in the world: 23.3 / 100 (persons)
  - Korea: 23.3
  - Hong Kong: 18.0
  - Canada: 14.7
  - Japan: 11.7
  - U.S.: 9.3

**Major global products**

<table>
<thead>
<tr>
<th>Product</th>
<th>Korea</th>
<th>Hong Kong</th>
<th>Canada</th>
<th>Japan</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAM</td>
<td>42%</td>
<td>30%</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFT-LCD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Annual Growth Rate of Korean ICT Biz.: 18%**
(1997~2004)

- GDP: 6.4%
- ICT Industry: 18%

- 1997: 491
- 2004: 755 (estimated)
- 241 (estimated)

**GDP and ICT Industry Growth**

(unit: KRW trillion)
1. Korean ICT Industry Overview (cont’d)

GDP of ICT Industry in 2003 was valued at 204.7 trillion won

GDP of Telecom and Broadcasting Service was 42.8 trillion won

- Telecom Service: 34.3 trillion won, 80% of the Service market
- Broadcasting Service: 8.5 trillion won, 20% of the Service market

Broadcasting Service market only occupies ¼ (a quarter) of the whole Telecom Broadcasting market

* 1 USD = 1010.5 WON
2. Why Convergence?

Customer Needs
- Speedy, Interactive, Connected, Informative

Technology
- Broadband, Interactive, Connected, Informative

Harmony

Regulation

Market

Customer Needs

Telecommunication
- Narrowband
- Interactive
- Connected

Broadcasting
- Broadband
- One way
- Informative

Tech. Innovation
- Digital tech., Network Capability, Transmission Tech. etc.

Carrier Opportunity
- Saturation in existing market, Opportunity for new services, Profitability, etc.
3. Current Status and Prospects

![Diagram showing the relationship between Mobile, Fixed, and Telecom in the context of broadcasting types such as Mobile Broadcasting, Satellite DMB, Data Broadcasting, Territorial Broadcasting, Web-casting, IP-TV, DMC, and TPS.]
3. Current Status and Prospects

Status of Telecommunication and Broadcasting Convergence

Network Level: By broadened telecommunication network and digitalized broadcasting
- Casting services by telecommunication networks: Web-casting, Mobile TV, DMB, IP-TV, etc.
- Communication services by broadcasting networks: high-speed Internet by Cable modem, etc.

Service Level: By digitalization of contents
- Web-casting, VOD, Mobile TV, DMB, Data Broadcasting, Triple Play Service, etc.
- Delay of converged services deployment due to sectional disputes over their jurisdiction

Service Provider Level

<table>
<thead>
<tr>
<th>Service</th>
<th>Telecomm. area</th>
<th>Broadcasting area</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMC</td>
<td>Hanaro Telecom</td>
<td>KDMC: Expanded its service available to major cities over the nation</td>
</tr>
<tr>
<td></td>
<td>Dacom acquired Powercom and starts BSI DMB business</td>
<td>CJ CableNet, BSI: Seoul/Gyeonggi Province</td>
</tr>
<tr>
<td>IP-TV</td>
<td>High-speed internet providers like KT, Hanaro Telecom lead the way</td>
<td>PC Vision from Powercom</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CATV carrier</td>
</tr>
<tr>
<td>Web-casting/Data Broadcasting</td>
<td>VOD service provided by high-speed internet service providers</td>
<td>Service provided by terrestrial broadcasting networks</td>
</tr>
<tr>
<td></td>
<td>Hanaro Telecom acquired the license of Data Broadcasting</td>
<td>Skytocuh from KDB (Data broadcasting)</td>
</tr>
<tr>
<td>VOD/Mobile TV</td>
<td>VOD service provided by high-speed internet service providers</td>
<td>Failure in special broadcasting service provider establishment</td>
</tr>
<tr>
<td></td>
<td>June from SKT, Fimm from KTF</td>
<td></td>
</tr>
<tr>
<td>DMB</td>
<td>SKT starts satellite DMB business</td>
<td>Terrestrial broadcasting network's DMB business participation</td>
</tr>
</tbody>
</table>

* DMC: Digital Media Center  * KDB: Korea Digital Satellite Broadcasting Corp.  * DMB: Digital Multimedia Broadcasting
### Satellite DMB

- **Transmitter:** Satellite; **Receiver:** Mobile Terminal
- **Service Provider:** TU Media Corp. (2004.12.)
- **Time Plan for Service**

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Trial</th>
<th>Demonstration</th>
<th>Regular SVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘05.1.10~3.31</td>
<td>free</td>
<td>free</td>
<td>pay</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Channel</th>
<th>9 Channel(Video3/Audio 6)</th>
<th>36 Channel (Video 14/Audio 22)</th>
</tr>
</thead>
</table>

### Tariff

<table>
<thead>
<tr>
<th>Tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subscription fee</strong></td>
</tr>
<tr>
<td>20,000won</td>
</tr>
<tr>
<td><strong>Basic Package</strong></td>
</tr>
<tr>
<td>13,000won</td>
</tr>
<tr>
<td><strong>Premium Package</strong></td>
</tr>
<tr>
<td>Additional pay</td>
</tr>
</tbody>
</table>

* 1 USD = 1010.5 WON
3. Current Status and Prospects

**Triple Play Service(1)**

- TPS is being jointly provided by CATV Carrier (System Operator : SO) and Telecomm. operator.
- Currently, 99 SOs among total 119 SOs are providing Broadband Internet Services.
- Internet service portion among total revenue of SOs has been increased from 13% in 2002 to 16% in 2003.

![Revenue Structure of System Operator (in 2002)](chart1)

- Receiving fee: 381,331,929 (48%)
- Advertising: 181,288,246 (23%)
- Facility construction: 21,947,842 (3%)
- Convert rent: 17,461,407 (2%)
- Internet: 104,118,387 (13%)
- RO: 43,417,526 (6%)
- ETC: 39,132,520 (5%)

![Revenue Structure of System Operator (in 2003)](chart2)

- Receiving fee: 516,805,211 (48%)
- Advertising: 261,599,252 (24%)
- Facility construction: 34,830,596 (3%)
- Convert rent: 17,293,003 (2%)
- Internet: 172,991,911 (16%)
- RO: 1,486,350 (0%)
- ETC: 53,111,006 (5%)
- PPV: 1,486,350 (0%)
3. Current Status and Prospects

**Triple Play Service (2)**

- 29% of total SO internet service subscribers subscribed to joint service of Broadcasting + Internet
- 38% of SO Internet service subscribers are using Internet services of their allied Telcos.
  - Allied Telcos with SOs for Internet services: Hanaro Telecom, Thrunet, Dreamline

### Subscribers of Internet Service provided by SO

**In Year 2004**
- Internet + TV: 589,519 (29%)
- Internet only: 1,414,718 (71%)

### Subscriber of Internet Service provided by Carrier

**In Year 2004**
- (allied) Telco: 756,224 (38%)
- System Operator: 1,248,013 (62%)
IP-TV service is being carried out by KT, SK Telecom/Hanaro Telecom, and Dacom as one of the BcN (Broadband Convergence Network) projects.

It aims to provide not only simple Internet access but also various up-to-date services such as HD motion picture service, flexible time broadcasting, VoD, interactive education service by connecting IP Networks and TV sets using a set top box.

Sectional disputes over the jurisdiction on IP-TV service are still going on.
3. Current Status and Prospects

- **Technology Network Equipment**
  - Independent
  - Integrated

- **Service**
  - Respective
  - Bundle (Separable)
  - Convergence (Inseparable)

- **Bundle (Separable)**
- **Integrated**
- **Convergence (Inseparable)**

- **Short-term**
- **Mid-term**
- **Long-term**

1. Independent
2. Mid-term
3. Long-term
### Telecom. and Broadcasting Convergence: Transition from the 1\textsuperscript{st} wave to the 2\textsuperscript{nd} wave

<table>
<thead>
<tr>
<th>Convergence Level</th>
<th>1\textsuperscript{st} wave (Short-term)</th>
<th>2\textsuperscript{nd} wave (Mid-term)</th>
<th>3\textsuperscript{rd} wave (Long-term)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Characteristics</td>
<td>Service Level Convergence</td>
<td>Terminal Level Convergence Platform / Network Integration</td>
<td>Complete service convergence of Telecomm. and Broadcasting</td>
</tr>
<tr>
<td>Competition Type</td>
<td>Simple service coupling</td>
<td>One-stop, seamless service convergence</td>
<td>Monopolized market, Redefined role-sharing in a big market</td>
</tr>
<tr>
<td>Regulatory Characteristics</td>
<td>Competition in a specific Biz., Strategic Alliance, Vertical Integration</td>
<td>Competition in consortium, business sector Horizontal Integration</td>
<td>Comprehensive, integrated, and weakened regulation</td>
</tr>
<tr>
<td></td>
<td>Regulation on vertical integration and transition towards monopoly, etc.</td>
<td>Regulation on horizontal integration such as M&amp;A, Dispute over jurisdiction on converged services, etc.</td>
<td></td>
</tr>
</tbody>
</table>

### Terminal Level Convergence
- Platform / Network Integration

### Contents Level Convergence
- Multi network, multi-services

### Service Level Convergence
- Convergence

### 1\textsuperscript{st} wave (Short-term)

### 2\textsuperscript{nd} wave (Mid-term)

### 3\textsuperscript{rd} wave (Long-term)

- Comprehensive, integrated, and weakened regulation
## 4. Regulatory Systems of Telecomm. and Broadcasting

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>POLICY</th>
<th>AGENCY</th>
<th>POLICY</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC (Ministry of Information and Communication)</td>
<td>Telecommunications policy-making</td>
<td>MoCT</td>
<td>Broadcasting Policy-making and promotion</td>
</tr>
<tr>
<td>Communications Commission</td>
<td>Regulation of pre/post unfair transactions</td>
<td>Broadcasting Commission</td>
<td>Basic broadcasting plan, Operation of channels and programs</td>
</tr>
<tr>
<td>Infocommunication Moral Committee</td>
<td>Regulation of contents</td>
<td>Broadcasting Commission</td>
<td>Regulation of operators, contents, financial aspects</td>
</tr>
<tr>
<td>Fair Trade Commission</td>
<td>Regulation of unfair transactions and actions of operators (e.g. M&amp;A)</td>
<td>Pictures Grading Commission</td>
<td>Regulation of picture contents</td>
</tr>
</tbody>
</table>

**Objective**
- Efficient management of telecomm. services and markets
- Responsibility for the public interest of broadcasting

**Object of Regulation**
- Telecomm. Operators (equipment + service provision)
- Broadcasters who plan broadcasting program comprehensively, or partly for some specific broadcasting areas
4. Regulatory Systems of Telecomm. and Broadcasting

<table>
<thead>
<tr>
<th>Classification of Services</th>
<th>Telecommunication</th>
<th>Broadcasting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wired vs. wireless, voice vs. data</td>
<td>By transmission network: Terrestrial Broadcasting, CATV, Satellite Broadcasting</td>
</tr>
<tr>
<td></td>
<td>No clear criteria for converged services</td>
<td>No clear criteria for other broadcasting services except those mentioned above</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulatory Systems</th>
<th>Telecommunication</th>
<th>Broadcasting</th>
</tr>
</thead>
<tbody>
<tr>
<td>common carrier : Licensing</td>
<td>Terrestrial Broadcasting : Licensing</td>
<td></td>
</tr>
<tr>
<td>special category telecommunications operator : Registration</td>
<td>CATV service : Licensing</td>
<td></td>
</tr>
<tr>
<td>value added common carrier : Application</td>
<td>Satellite Broadcasting : Licensing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Broadcasting Channel use : Registration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relayed CATV service : Licensing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transmission Network service : Registration</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Telecommunication</th>
<th>Broadcasting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement in another categorized business is permitted</td>
<td>Involvement in another categorized business is not permitted</td>
<td></td>
</tr>
</tbody>
</table>
5. Major Issues and Problems

Satellite DMB / Terrestrial DMB

Issues

- Disputes over Domain/body of regulation: Telecomm? or Broadcasting??
- Interpretation of the definition of a broadcasting operator: Addition of “Mobile multimedia broadcasting” (Revised Broadcasting Act., 2004. 3.)
- Retransmission of terrestrial broadcasting contents: permitted on a negotiation basis between operators
- Reallocation of radio frequency resources regionally
- Cross business between Telecomm. and Broadcasting sector

Problems

- Lack of an efficient and harmonized regulatory system is blocking the successful deployment of new DMB service on time. (Time-to-Market)
- Delay of the service deployment results in inefficiencies in terms of return on investment, securing global market share, and additional investments, etc.
  e.g. TU Media: paying 1.6 bil. KRW/month of satellite operation cost (Satellite life = 12years)
5. Major Issues and Problems

### IP- TV

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>'01.03</td>
<td>IP-TV Planning in BcN project</td>
</tr>
<tr>
<td>'04.03</td>
<td>Revision of Broadcasting Act</td>
</tr>
<tr>
<td>'04.08</td>
<td>1st stage of BcN project</td>
</tr>
<tr>
<td>'04.09</td>
<td>Broadcasting Commission: announced the illegality of IP-TV</td>
</tr>
<tr>
<td></td>
<td>According to the Current Telecomm. Act</td>
</tr>
<tr>
<td>'04.12</td>
<td>Telecomm. Operators requested a permission to provide IT-TV svc.</td>
</tr>
<tr>
<td></td>
<td>↔ BC &amp; CATV operators</td>
</tr>
<tr>
<td>'05.01-02</td>
<td>Review of IP-TV Business in prime Minister’s office</td>
</tr>
<tr>
<td></td>
<td>MIC renamed iP-TV as ICOD (Internet Contents on Demand) with</td>
</tr>
<tr>
<td></td>
<td>restricted scope of the service</td>
</tr>
</tbody>
</table>

### Issues

- **Rev. Broadcasting Act (2004. 3)** is not sufficient to provide any ground for the **IP- TV service** (from the end of 2004)
  - BA. Art.2 Cl.1 : Broadcasting – TV, Radio, Data, and MMB (mobile multimedia broadcasting)
  - BA. Art.2 Cl. 3&4 : Broadcasting operators – Terrestrial, CATV, Satellite, and Broadcasting channel operator
- Telecomm. Act: no ground for **IP- TV service**, (illegal according to BA.)
- Retransmission of terrestrial TV program through IP- TV: forbidden?, or just a kind of contents??

### Problems

- Rigidity of regulation → service delay → Time-to-Market, ROI, Market and new investment,…
- Consumer’s right to use any new, convenient service ??

* Recent movement to revise the BA. : to add new kind of broadcasting operators... (↔ MIC)
5. Major Issues and Problems

Conflicts and Discords between Regulatory Agencies

Korean Broadcasting Commission

- "Broadcasting and Communication Commission" establishment proposal [Mar. 11, 2002]
- Research work presentation on Convergence body and law change [Dec. 6, 2002]
- Announcing IP-TV abandonment Agreeing on consolidating regulatory agencies [Sep. 2004]

MIC/Korean Communication Commission

- Agreement on forming a Broadcasting and Communication Consultative Body (May 2002) [Mar. 12, 2002]
- Dignitary Broadcasting and Communication Policy Consultative Body establishment (November 2003) [Sep. 11, 2002]
- Broadcasting and Communication Structure Reorganization Committee establishment (March 2005) [Feb. 15, 2005]
- IP-TV designated as ICOD Disagreeing on consolidating regulatory agencies

Web-Casting
- DMB, Data Broadcasting

Mobile TV, IP-TV

What would be the appropriate regulatory system for current Korean situation?
6. Things to be Considered

- Difference in regulatory philosophy, lack of rules and regulations, or overlapped regulation etc. in newly converged area may hinder industrial development and decrease customer benefit
  - Communication area: Encouraging active competition and promoting customer benefit
  - Broadcasting area: Relatively strict regulation to secure the public benefit

- It is necessary to reform law and current regulatory system that impede revitalization of converged services already available from technical development.
  - Negative effect of applying broadcasting regulation to Fimm, June, IP- TV, VOD

- Establishing regulatory system which promotes consistent advancement of IT sector business such as IT 839 Project while maintaining the independence of broadcasting business
  - Establishing policy coordination mechanism to improve regulatory efficiency
  - Investigating the possibility of separate regulation on networks (including service) and contents respectively
Thank you !
### Personal Details:

Dr. Kishik PARK was educated at Seoul National University, in the Rep. of Korea, where he obtained a first class honours degree of B.A. in 1982 and M.A. in 1984 respectively. And he got Ph.D. Degree in the field of Telecommunications Policy in 1995. In 2004, he has got another Ph.D. Degree majoring in Internet QoS, Computer Science at Paichai University.

He joined ETRI (Electronics and Telecommunications Research Institute) in 1984, and he is currently working as a Vice President of IT Services Research Division. He has more than 20 year research experience in various divisions of ETRI including Info-Communications Technology Division, Telecommunication Systems Division, Information & Telecommunications Technology Division, and Protocol Engineering Center, etc.

He has been currently serving as the Chairman of SG3 of ITU-T after the 8 year Vice-Chairmanship of ITU TSAG (Telecommunications Standardization Advisory Group) since 1996 internationally as well as serving as a Advisory Board Member of ASTAP (Asia-pacific STAndardization Program) regionally.

Dr. Park has been also acting as a member of National R&D Evaluation committee, Vice-Chairman of Technical Assembly of Telecommunication Technology Association(TTA) of Korea, a Member of National Telecom. Standardization Committee of Korea, and the manager of W3C Korean Office. In addition, he has also actively carried out some important roles recently such as the Chairman of the 9th GSC (Global Standards collaboration) meeting, the President of IPv6 Forum Korea, the Chairman of the KRnet 2004 Operation Committee.