Platforms for the Development of Digital Television Broadcasting and the Internet in Japan
(Figures)

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Applications development

Optimal state

Present state

Copyright protection

Figure 1: Tradeoff of Copyright Protection and Applications Development
Price of a news copy

Demand curve

Supply curve

Number of news copies

Revenue

Revenue curve

Number of news copies

Figure 2a: An Example of Transaction of Copies of DTV News
Descriptor of Video Copy for Transaction

1. Video Characteristics
   Title: Morning News            Class.: General News
   Broadcast by: XYZ Network, Inc.  at: Tokyo and other locations
      on: 02/15/2005
      time: 9:00-10:00AM
      duration: 45 min
   Commercials: not included

2. Supply-Price Schedule
   Price per Copy (yen)               No. of Copies registered for sale
   1.000 ~5,000
   700  ~1,000
   500  ~2,000
   310  ~5,000
   220  ~10,000
   160  ~20,000
   100  ~50,000
   80   50,000 ~

3. Current Registration for Purchasing a Copy
   No. of Copies for Effective Purchase: 2513
   No. of Copies Delivered: 0
   Price Currently Bid: 310 yen
   Closing Time of Current Offer: Noon, 2/16/2005

4. Conditions for Copy Utilization
   a. Must use equipment with B-CAS compliance
   b. Utilization Type: A2
      (1) May retain single copy for viewing;
          Duplicate copies not allowed.
      (2) May cut and use any portion(s) of video, but only one cut is allowed.
          Duplicating cut portion(s) not allowed.
          Cut portion(s) will be removed from the original video; the original
          video will be shortened by the (total) length of cut portion(s).
      (3) Any video to which cut portion(s) of the original video are pasted may not
          be duplicated; such shall be used under the copy-once restriction.

Figure 2b: Example of Descriptor of News Video for Sale
### Figure 3: The Layers Structure of the Services for Information Transmission

<table>
<thead>
<tr>
<th>Services</th>
<th>Telephony</th>
<th>Internet</th>
<th>Cable TV</th>
<th>Broadcast</th>
<th>Mode of Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contents</td>
<td>(Contents of telephone and fax)</td>
<td>E-mails, Web</td>
<td>Broadcast Contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking</td>
<td>Voice Transmission</td>
<td>IP-Packet Transmission</td>
<td>Cable Transmission</td>
<td>Broadcasting</td>
<td></td>
</tr>
<tr>
<td>Media</td>
<td>Electric current, Optical rays</td>
<td></td>
<td></td>
<td>Spectrum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Twisted and coaxial cables, Optical fibers</td>
<td></td>
<td></td>
<td>(Antennas)</td>
<td></td>
</tr>
<tr>
<td>Equipment Structures and Spaces</td>
<td>Tunnels, Tubes, Poles, etc.</td>
<td></td>
<td></td>
<td>Terrestrial spectrum spaces</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Wired</td>
<td></td>
<td></td>
<td>Wireless</td>
<td></td>
</tr>
</tbody>
</table>
Figure 4: Equilibrium Price of Infrastructure Service
<table>
<thead>
<tr>
<th>Services</th>
<th>Economic units</th>
<th>Mode of supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final demand</td>
<td>Consumers, Firms, Governments, Public entities, etc</td>
<td></td>
</tr>
<tr>
<td>Content supply</td>
<td>Content suppliers (newspapers, publishers, producers of music and video contents, news agencies, advertising agencies, etc.)</td>
<td>Web, E-mails, and other data</td>
</tr>
<tr>
<td>Information Transmission</td>
<td>Network-service providers (broadcast, telephone, access, backbone, Internet, etc.)</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Supply of infrastructure for information transmission (wired, wireless)</td>
<td>Monopolized</td>
</tr>
</tbody>
</table>

**Figure 5: The Structure of IT Industries under Vertical Separation**