Broadband Networks in Korea

Insung Jun, Ph.D.
Vice President
Network Engineering Center
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Prospects of Knowledge-based Information Society

Convergence of Telecommunication, Broadcasting, and Internet

- **Government**
  - e-gov.
  - e-ballet
  - Cyber civil affairs
  - e-parliament

- **Corporate**
  - e-Commerce
  - Internet banking
  - ERP / CRM / SCM

- **Individual**
  - e-Health
  - Home network
  - VOD, P2P

- **Develop advanced tech.**
  - New growth engine for IT
  - BT, NT
  - Ubiquitous
  - Grid

**BcN**
(Broadband convergence Network)

- **Telecom**
  - Wired/wireless
  - Satellite

- **Internet**
  - FTTC + xDSL / LAN
  - FTTH / HFC

- **Broadcasting**
  - Terrestrial/satellite
  - Cable

**Advancement of digital technology**

- Digital Data 101001101
- Digitalize any form of information

**Improve networking Technology & performance**

- Expand network application

**Expand computing power**

- Low-cost, large-capacity data processing is available

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Next-generation convergence networks can provide high-quality broadband multimedia services integrating telecom, broadcasting, and Internet seamless at anywhere, anytime.
Provide core infrastructure to build Broadband IT Korea by building world-first BcN

**Build State-of-the-art IT Infrastructure**

**Provide Convergence IT Services**

**Basis of New Growth Engine for IT Industry**

**Intensify the Efforts for Knowledge-based IT Industry**

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Strategy for BcN (I)

Develop BcN standard model by government and industry, create high-end R&D network and to develop, evaluate and standardize related technologies, then spread in the Commercial Network.

**Commercial Network**
- Enhance transport network
- Expand broadband subscriber network
- Build private & home networks
- Build u-sensor networks

**High-end R&D Network**
- Develop/evaluate technology and services
- Provide pilot services
- Create demands for services/contents

**Develop Standard Model**
- Develop service model and network evolution strategy

**Develop technologies**
- Standardization
- Bring up manpower

**Refurbishing related laws/regulations**

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Link Supply-side (network building, R&D, standardization) and Demand-side (service/content development, deployment) through Role-sharing by Government and Industry

Lead the Development of New Technology by Joint Efforts of IT Service Providers/Vendors and expand the Result to enhance Competitiveness of Domestic Industry

Establish step-by-step Plans for Joint Technological Development by considering the Status of Technologies and changing IT Environment

[Gov.] Provide proper Environment for building BcN

- Provide proper environment for the service by refurbishing laws/regulations, universal services to create demands
- Joint R&D, standardization, HRD

[Indus.] Build Commercial Network and provide Services

- Strategy for BcN deployment, investment and Building BcN
- Develop/spread services/contents
- Develop commercial technologies
**Network Evolution**
- Step-by-step move to minimize risk
- Early adoption of Softswitch for active NGN progress

**Providing Services**
- QoS guaranteed POTS & IN Services
- New Video Conferencing & Various Multimedia Services

**Technical Implementation**
- Quality level of ITU-T Multimedia (Voice – MOS 4.5)
- Secure sufficient transport bandwidth and guarantee QoS

2003~2004
- Trunk Gateway Introduction
- Packet backbone network Construction

2005~2006
- Extend VoP
- Extend Application Server

2007 ~
- Based on IP VoP Service
- Complete KT-NGN to provide public service for voice, video, data

NGN Introduction

NGN Expansion

NGN Completion

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# KT’s NGN Evolution Roadmap

## Roadmap

<table>
<thead>
<tr>
<th>Stage</th>
<th>Preliminary Stage</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>~ 2002</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
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### Major Action Item

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<td><strong>Stage 1</strong></td>
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- **Stage 1 (2002 ~ 2003)**
  - NGN Foundation
    - Access G/W (v5.2)
    - VoIP (H.323/SIP)
  - Open IN Service

- **Stage 2 (2004)**
  - NGN Migration & Expansion
    - Trunk G/W
    - Softswitch (Class 4, 5)
    - VoIP (MEGACO)
  - IP-based IN Service

- **Stage 3 (2005 ~ 2006)**
  - NGN Completion
  - VoP Over QoS IP

### Major Action Item

- Introduce Access G/W
- Replace semi-electronic switching systems
- Develop/evaluate SSW
- Build packet backbone network

- Introduce trunk G/W
- Introduce soft switch (Class 4, 5)
- Build packet backbone network

- Expand VoP
  - (Increase supply of SSW)
  - Expand application service base

- Provide QoS IP-based VoP service

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Prospects for IT market

Status (Shrinking investment)
- Saturated broadband Internet market
- Insufficient income from data service
- Conservative investment in IT network

Prospects (Growing investment)
- Expand convergence-type service market as new revenue source
- Expand investment in QoS, security, etc.

Prospects of Service Market

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<th>Year</th>
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<th>Broadcasting</th>
<th>Wireless</th>
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<td>41,639</td>
<td>7,691</td>
<td>14,865</td>
<td>19,083</td>
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<tr>
<td>2007</td>
<td>50,775</td>
<td>10,127</td>
<td>16,046</td>
<td>24,602</td>
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<td>2010</td>
<td>59,784</td>
<td>13,381</td>
<td>17,074</td>
<td>29,329</td>
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AAGR: 6.3%

Prospects of Equipment Market

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AAGR: 8.4%

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AAGR: 8.4%
Expectation (Prospects of change to UNS)

By 2010, production from BcN will reach US$ 82.6 billion, Export US$ 13.5 billion and Employment 370,000 persons

Equipment
- Production US$ 7 B → $ 22.6 B (Global market 3.1% → 6.3%)
- Export $2.7B → $13.5B
- Employment 40,000 → 50,000

Service
- Production US$ 41.7B → $ 60 B
- Employment 250,000 → 320,000

BcN-related investment (US$ 58.3 Billion) (2004 ~ 2010)

- IT features will be built into all the new products to be linked to BcN
- Greatly enhance value-added of new IT services and products
- Enhance nation-wide IT application capability on the basis of BcN
- Improve national competitiveness through IT application/convergence
- Expand grass-root democracy and socio-cultural integration through BcN
- Meet the socio-cultural demand for high quality of life

* UNS : Ubiquitous Network Society

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Thank You!