IPv6 Deployment Status in Korea

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The 1st GLOBAL IPv6 Summit in AP
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**Internet Status of Korea**

- **Tremendous Growth of Internet**
  - 28 million of Internet users (2002. 1)
    - about 60% of population
  - 8 million of subscribers of new high-speed Internet service (2002. 12)
    - xDSL, CATV subscribers
  - 94 ISPs (Currently IPv4-based services)

- **OECD(May 2001)**: “Korea is the first to realize the highest high-speed internet access penetration rate in the world OECD 30 member countries”.

- **ITU(Sep. 2001)**: “Korea ranked top in the penetration rate of High speed Internet”.
  - Especially ITU pinpoint **government-driven policy and unique residential pattern** as key success factors of Korean Internet.
Internet Status of Korea

- Increasing of New Demands
  - Wireless Internet, Home Networking, Public Wireless LAN
  - Big potential for the New Internet

![Bar chart showing high speed Internet users per 100 person](chart.png)
IPv6 Deployment Status in Korea

- Government Policy
- IPv6 Forum Korea
- Network deployment
- R&D Projects
- Trial services
- Standardization & International Cooperation
Government Policy

- *Minister of Information and Communication (MIC)* officially declared the *strong intention of IPv6 adoption* (Feb. 2001)

- *Initiated several IPv6 related projects since Feb. 2000*
  - IPv6 routers, IPv4/IPv6 translators, IPv6 Applications

- *Sponsored the setup of IPv6 forum Korea for promotion on March 2000*

- *Funding to develop IPv6-applied high speed Internet equipments*
  - It will include routers, IMT2000 terminals and information home appliances by investing 46.8 billion won of government budget and 36.8 billion won of private fund, a total of 83.6 billion won (US$ 83 M) until 2003.
IPv6 Forum Korea

- **Launched at March 17, 2000 sponsored by government**
- **A consortium participating 71 member organizations for IPv6 from industrial bodies, research Institutes, Universities, etc**

**Mission and Role**
- Promote IPv6 in Korea
- The center of IPv6 deployment in Korea
- Give inputs to policy making in Korea
- Discuss IPv6 standardization issues and strategy
- Conference for promotion (e.g. Global IPv6 Summit)
- Publishing text book, and webzin for IPv6
- Education program
Global IPv6 Summit
(July 11~12, 2002 - Seoul)

- **Global IPv6 Summit Conference**
  - Ki-shik Park

- **IPv6 Tutorials**
  - Steve Deering
  - Latif Ladid

- **Global IPv6 Summit Banquet**
  - MIC welcome address
IPv6 Network deployment

  - First IPv6 experimental network in Korea (operated by ETRI)
  - 70+ organizations has involved in 6Bone-KR

- **KOREN IPv6 (since 1999)**
  - First native IPv6 network in Korea (operated by KT/NCA)
  - R&E IPv6 network

- **TEIN IPv6 (Since 2001)**
  - TEIN: TransEurasia Information Network
  - Continental IPv6 network between Asia and Europe

- **6NGIX (Since 2001)**
  - IPv6 Internet Exchange in Korea (operated by NCA)

- **IPv6 address in Korea**
  - 6Bone: 2 pTLAs
    - **ETRI/KR**, 3ffe:2e00::/24 (98/5), APAN-KR, 3ffe:8040::/28 (99/7)
  - Production Address: 15 sTLAs
    - Most of ISPs in Korea have a IPv6 sTLA (KT, Hanaro, SKT, Hitel, etc)
6Bone-KR Service

- **Address Allocation Service**
  - IPv6 Experimental Address: [http://www.6bone.ne.kr](http://www.6bone.ne.kr)

- **IPv6 Application Service**
  - DNS Service (IPv4 DNS with IPv6 Records(AAAA))
  - IPv6 Native Web Service
  - IPv6 Video Streaming Service: [http://v6stream.6neat.net](http://v6stream.6neat.net)
  - IPv4/IP6 Translation Service based on NAT-PT
  - Tunnel Broker Service

- **Network Monitoring Service**
  - MRTG: [http://www.6bone.ne.kr/mrtg/mrtg-index.html](http://www.6bone.ne.kr/mrtg/mrtg-index.html)
  - Looking Glass
Korean IPv6 Network Status

IPv6 Forum Korea
**TransEurasia Network (TEIN)**

- **TEIN IPv6**
  - NGI infra. between Asia and Europe
  - Able to access the IPv6 R&E networks
IPv6 R&D Projects

- **KRv6 Project (since 2001)**
  - **6TALK** (ipv6 TrAnSLator of Krv6)
    - Developing the IPv6 transition strategies and translation technologies
  - **6ANTS** (www.6ants.net)
    - Developing the IPv6-based Auto-configuration Networking Technologies
  - **6NEAT** (www.6neat.net)
    - Developing the IPv6 network infrastructure and IPv6 Applications

- **Other projects**
  - IPv6 Routers, 3G, Home Networking
  - IPv6 Applications (VoIPv6, Multimedia Multicasting ..)
IPv6 Trials in Korea

- **IPv6 Application Development**
  - IPv6 Multicast Conferencing (ETRI, 2002)
  - IPv6 Video Streaming (ETRI, 2002)
  - VoIPv6 (NCA, 2002)

- **IPv6 Networking Service**
  - Public IPv6 Wireless LAN Service (ETRI, Hanaro, 2002)

- **IPv6 Showroom in Korea (**planned**)**
  - (will be operated by NCA)

- **KOREAipv6 project**
  - Global IPv6 Trail Service for real deployment in Korea
IPv6 Multicast Conferencing System

- HVCT (High-quality video conferencing tools)
  - MPEG-based Real-time Encoding and Decoding for Video/Audio
  - Multiparty Conference
  - Text Messenger support
  - Traffic Monitoring
IPv6 Multicast services over TEIN (ETRI-UCL-SNU)

- IPv6 Conferencing system
IPv6 Video Streaming

- **IPv6 Real-time Streaming**
  - MPEG-1, 2, 4 video support
  - MP3 streaming support
  - IPv6, IPv4 service

- **International Experiments**
  - 6Bone, TEIN
  - IST2002 demo (Nov 2002)
Global IPv6 Trial Service in Korea (2003~2005)
International Cooperation

- **Cooperative works with IPv6 Forum**
  - International Promotion of IPv6

- **European Cooperation**
  - Collaborative Research Works in EC-IST projects
    - 6WINT Project (2001~2002)
    - 6NET Project (2002~now)

- **Asian Cooperation**
  - KJC cooperation
    - Korea-Japan-China cooperative works (2002~)
    - Cooperative standardization works on NGI technologies (2002~)
  - Cooperative Promotion
    - with IPv6 Promotion Council, Japan (2002~)
    - with IPv6 Forum Taiwan (2002~)
Conclusion

✓ IPv6 is a Key-player to realize the Worldwide Next Generation Internet

✓ Korean Government is already aware of necessity of IPv6 in order to become a Great Power

✓ Now, it’s the time to adopt the IPv6 into the commercial domain
  ✓ (Of course, we need to consider the Business Model of IPv6 ...)

IPv6 Forum Korea