



ETRI's role and contribution for 6NET

**May 2002
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**ETRI ?
and collaboration objective**

Introduction to ETRI

◇ ETRI

- ◆ Full name – **E**lectronics and **T**elecommunications **R**esearch **I**nstitute
- ◆ **Non-profit government-funded** national research organisation over 25 years in Korea
- ◆ Overall 2000+ employees (30% of Ph.D, 50% of M.S., 20% of B.S. w/ admin staffs)

◇ Research Field

- ◆ High-Speed Network
- ◆ Mobile Telecommunication
- ◆ Radio & Broadcast
- ◆ Information Security
- ◆ Computer & Software

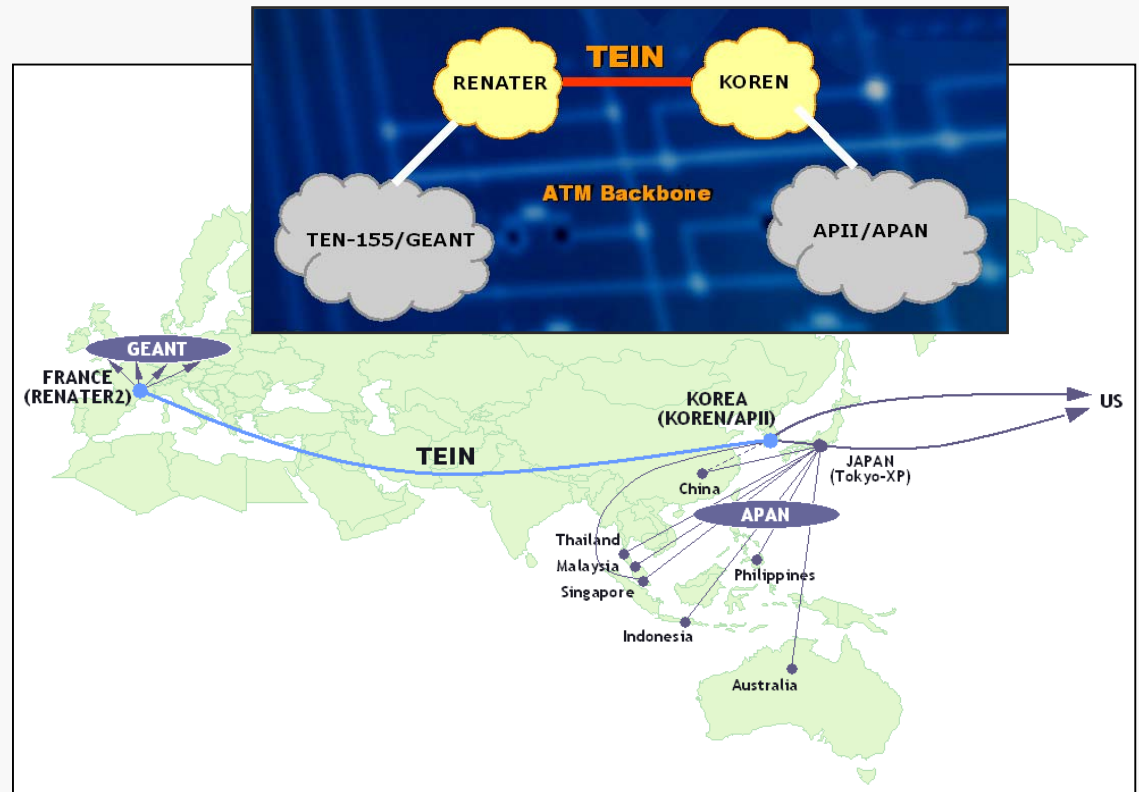
(Source: <http://www.etri.re.kr/>)

ETRI's Objectives for 6NET

- ◇ Collaboration objectives
 - ◆ Create world-wide research products by coalescing with world-leading research organisations.
 - ◆ Put/get valuable results to/from 6NET.
 - ◆ Utilise the continental network connectivity
 - ◆ Foster the world-wide research experience between European partners and ETRI.
 - ◆ Share the research experience and results internationally.

What is TEIN !

- ◇ TEIN(Trans-Eurasia Information Network) is a continental network between Korea and Europe.
 - ◆ TEIN has been established between Asia and Europe (Dec 5, 2001)





Background of ETRI in IPv6

General Background w.r.t. 6NET

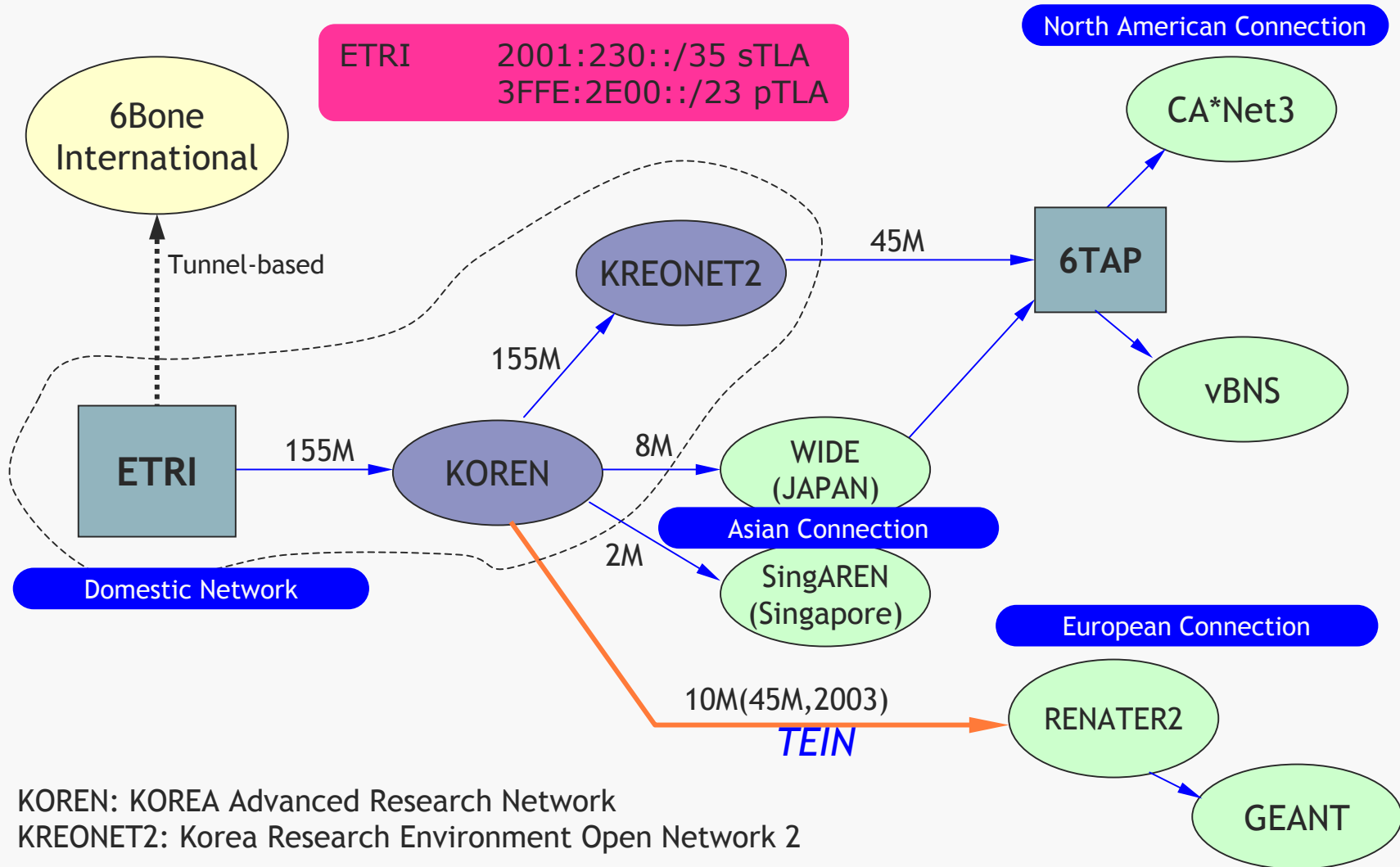
◇ ETRI Experiences on IPv6

- ◆ ETRI has managed and operated IPv6 networks (6Bone-KR) since 1996 and has connections to 6TAP/US, Renater2/EU and WIDE/Japan via KOREN.
- ◆ ETRI has gotten 1 pTLA (24 prefix) and sTLA (35 prefix) IPv6 addresses.
- ◆ ETRI is developing IPv6/IPv4 transition tools.
- ◆ ETRI has leading KRv6 project since 2000.
- ◆ ETRI is a member of the IPv6 Forum and is leading IPv6 Forum Korea.

IPv6 Activities in ETRI

- ◇ Deployment & Promotion
 - ◆ IPv6 Forum Korea (chair, Dr Yong-Jin Kim)
 - ◆ 6Bone-KR Manager
 - ◆ IPv6 Production Address Manager
- ◇ Research & Development Activities
 - ◆ National IPv6 Projects, **KRv6 Project**
 - ◆ <http://www.krv6.net>
 - ◆ 6TALK (<http://www.6talk.net>)
 - ◆ 6ANTS (<http://www.6ants.net>)
 - ◆ 6NEAT (<http://www.6neat.net>)

ETRI's IPv6 Connectivity



KOREN: KOREA Advanced Research Network
KREONET2: Korea Research Environment Open Network 2



Expected Activities in 6NET WPs

WP 2.3 Investigate IPv4 to IPv6 Transition for Site Networks

◇ Target

- ◆ Smooth & efficient transition mechanism and scenario for site network (Activity 2.3)

◇ How to

- ◆ Survey & Investigate various IPv4-IPv6 transition mechanism & Scenario
- ◆ Development & Interworking-test for the mech.
 - ◆ Smart IPv4/IPv6 Translation toolbox (e.g., 6TALK)
 - ◆ Host Translator, Enhanced Bump-in-the-API (BIA)
 - ◆ Application Transition Scenarios

WP4.1 – IPv6 Mobility

◇ Target

- ◆ Efficient IPv6 Mobility-support & deployment

◇ How to

- ◆ Survey & Investigate a efficient Mobility-support & deployment strategy
- ◆ Design & Implementation of a new Mobile IPv6 stack
 - ◆ by following of the latest standard (currently draft-ietf-mobileip-ipv6-17.txt)
- ◆ Experimental and Performance analysis

WP4.4 – IPv6 QoS

◇ Target

- ◆ Development of the Bandwidth Broker for IPv4/IPv6 DiffServ Network

◇ How to

- ◆ Survey & design BB architecture.
- ◆ Implementation of the BB based on FreeBSD Router
 - ◆ COPS-PR, PIB, Admission Control
- ◆ Test in TEIN

WP5.4 – Edge Services for IPv6

◇ Target

- ◆ VoD Service with transcoding function in the IPv6 network

◇ How to

- ◆ We have implemented the Transcoding Server which operates in IPv4.
- ◆ Modification for supporting IPv6
- ◆ It would be an application for IPv6 QoS test.

Conclusion

- ◇ Bring advantages both to existing 6NET partners and to ETRI.
 - ◆ ETRI will make every effort to 6NET based on the previous project experiences.
 - ◆ These activities will boost up the 6NET project results.
 - ◆ ETRI is good to have a large-scale international collaboration works.
- ◇ Expedite the deployment of IPv6 network in worldwide.

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