

# **The IPv6 Testbeds for Multimedia Applications**

**APAN2003, Fukuoka, Japan  
2003. 1. 22**

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# IPv6 Status in ETRI



## ■ KRv6 Project (<http://www.krv6.net>)

- 6TALK (<http://www.6talk.net>)
- 6ANTS (<http://www.6ants.net>)
- **6NEAT** (<http://www.6neat.net>)
- Production Address Allocation
  - ETRI-KRNIC-KR, 2001:230::/32 (99.11)



## ■ 6Bone-KR (<http://www.6bone.ne.kr>)

- Experimental and Tunneling IPv6 Network (over IPv4)
- 58 organizations are involved in 6Bone-KR
- ETRI/KR, 3ffe:2e00::/24 (98.5)



## ■ IPv6 Forum Korea

- Launched at March 17, 2000
- Chair : Dr. Kishik Park
- Currently 70 of organization members
- <http://www.ipv6.or.kr>





## ■ What is 6NEAT

- IPv6 Network and Application Testbed

## ■ Goal of project

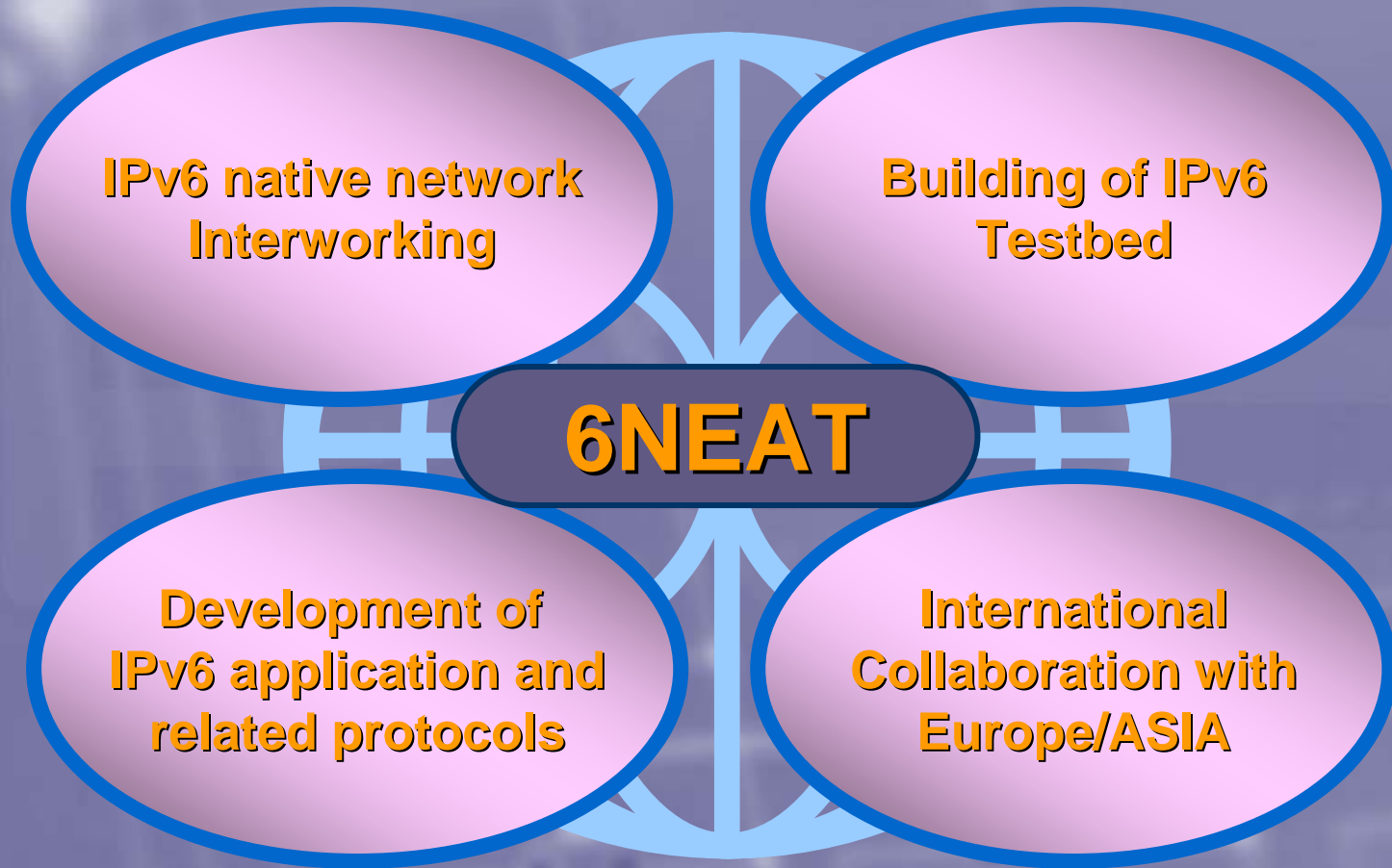
- Developing of Advanced IPv6 networking Technologies and Applications
- Verifying & Ensuring of IPv6 Implementations and Protocol suites
- Contributing to cooperation between Asia and Europe
  - ETRI is a international partner of 6WINIT and 6NET
- Over TEIN, <http://www.transeurasia.org/>



## ■ Launched by ETRI, (2001-2003)

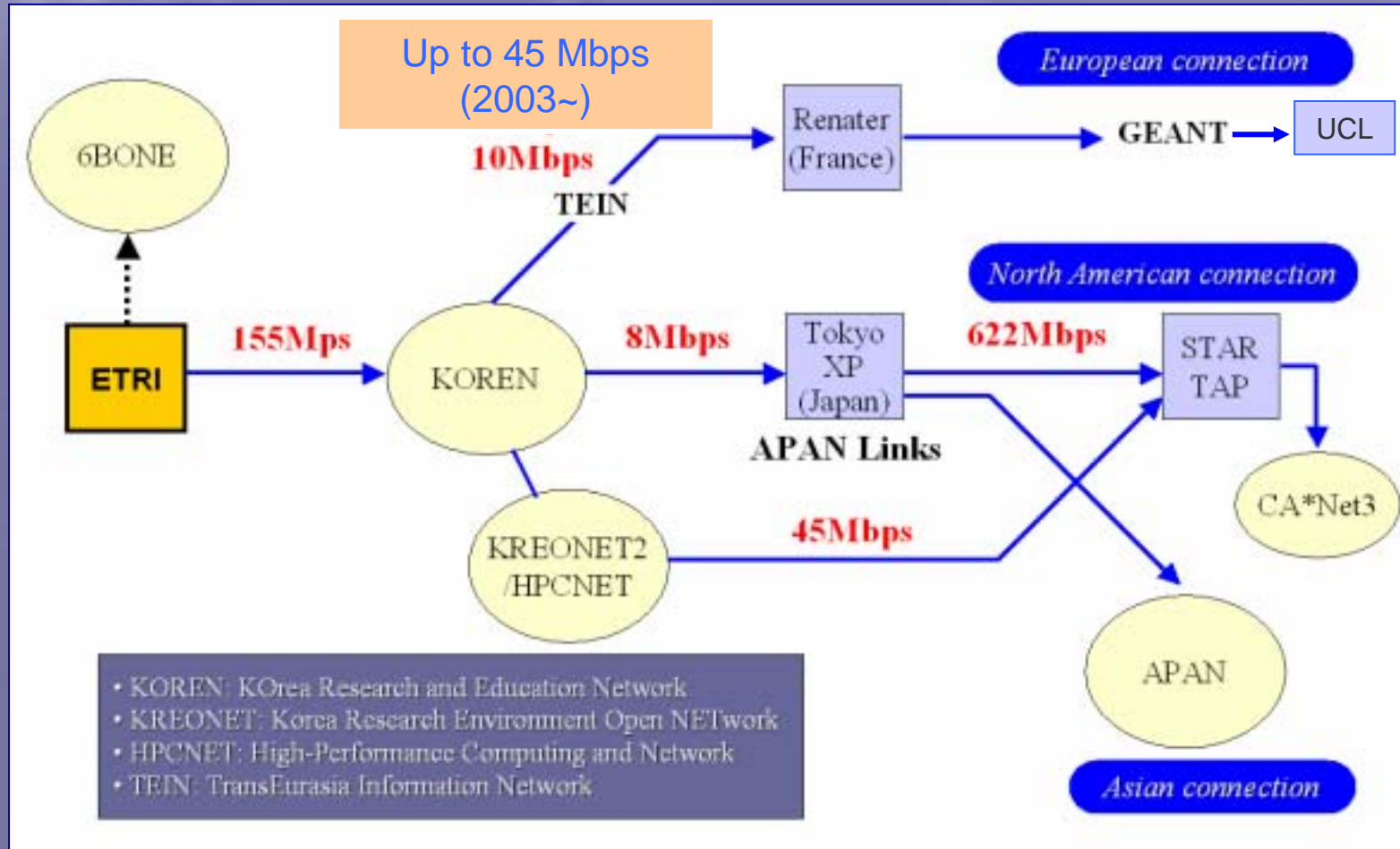
- <http://www.6neat.net>

# 6NEAT Activities



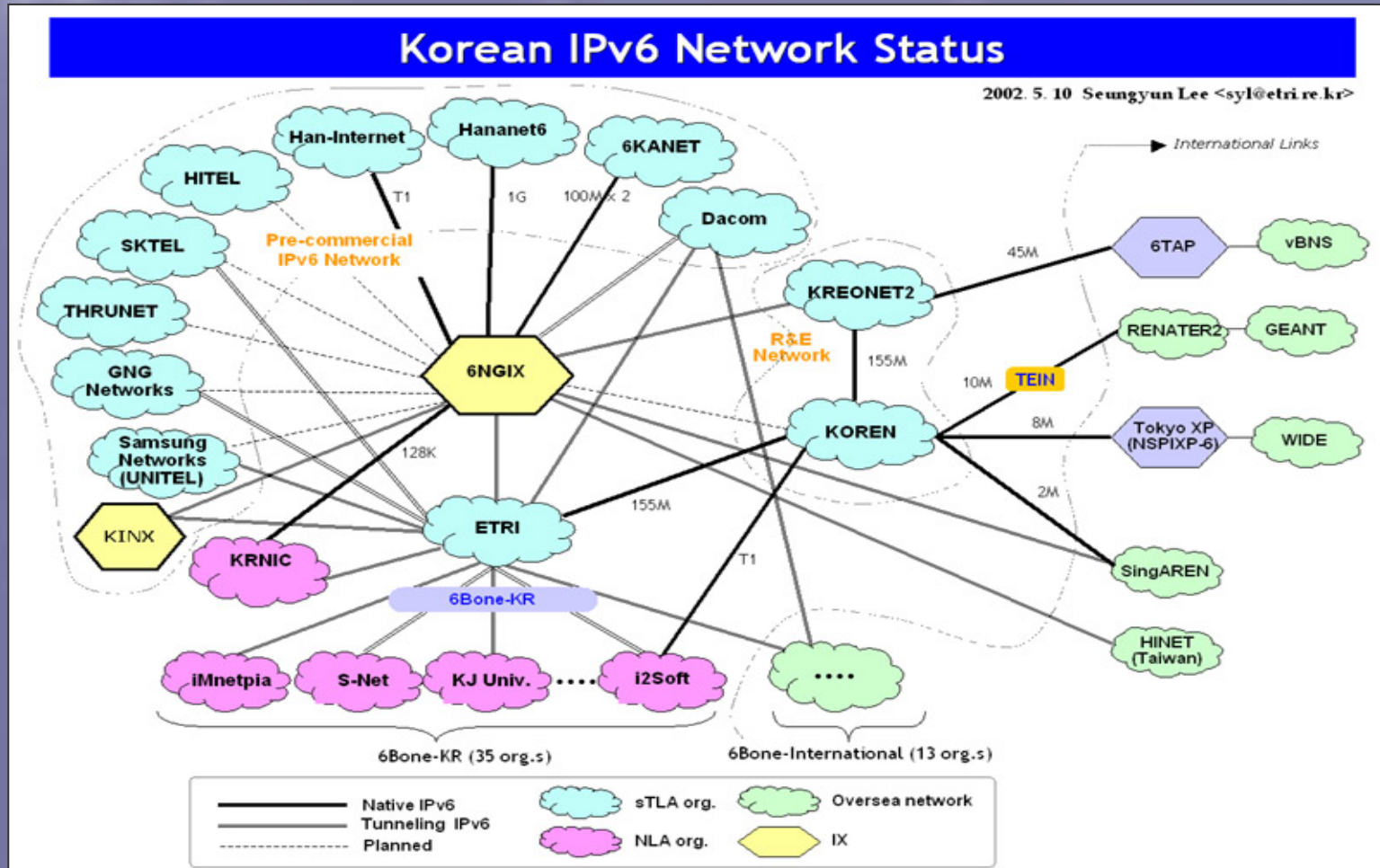
# IPv6 Connection in ETRI

## ■ Global Network Connectivity, ETRI



# IPv6 Connection in ETRI

## ■ Global IPv6 Network Connectivity, Korea



# IPv6 Multimedia Application Testbed

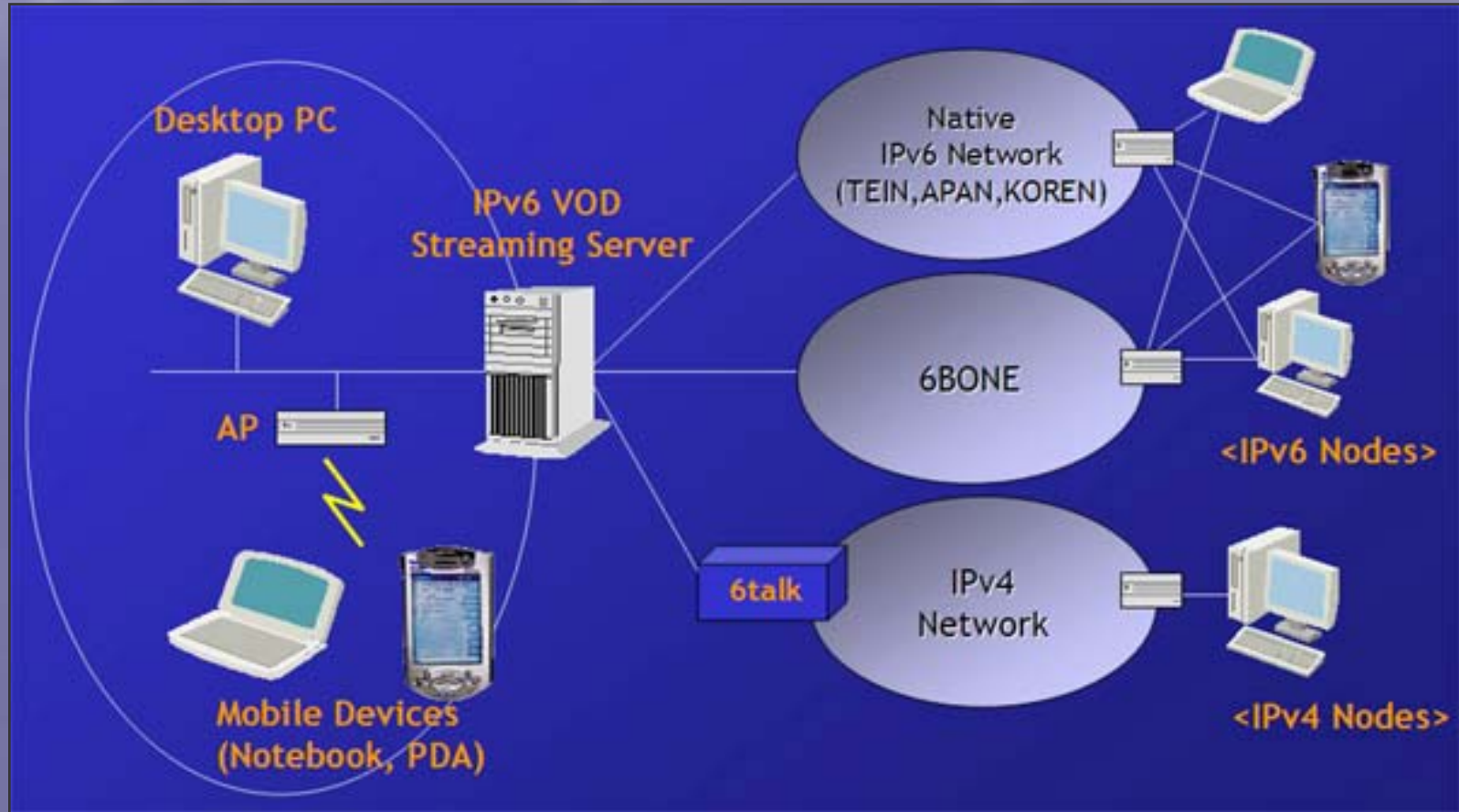
## ■ IPv6 Video Streaming

- has developed the IPv6 based video streaming which consists of on-demand video streaming engine, monitoring tool and clients.
- supports a streaming over both IPv4 and IPv6 protocol and also supports the RTP and HTTP based streaming
- Platform
  - Server : Linux based (currently running on the Kernel 2.4.18)
  - Client : Linux & Windows 2000/XP
- Supporting Type of Media
  - MPEG-1, MPEG-2(PS), MPEG-4(divx, wmv, asf)
- Web Service
  - <http://v6stream.6neat.net>



# IPv6 Multimedia Application Testbed

## ■ IPv6 Video Streaming Testbed



# IPv6 Multimedia Application Testbed

## ■ IPv6 Video Streaming – Web Service

- <http://v6stream.6neat.net>



➢ Media Player (Windows)



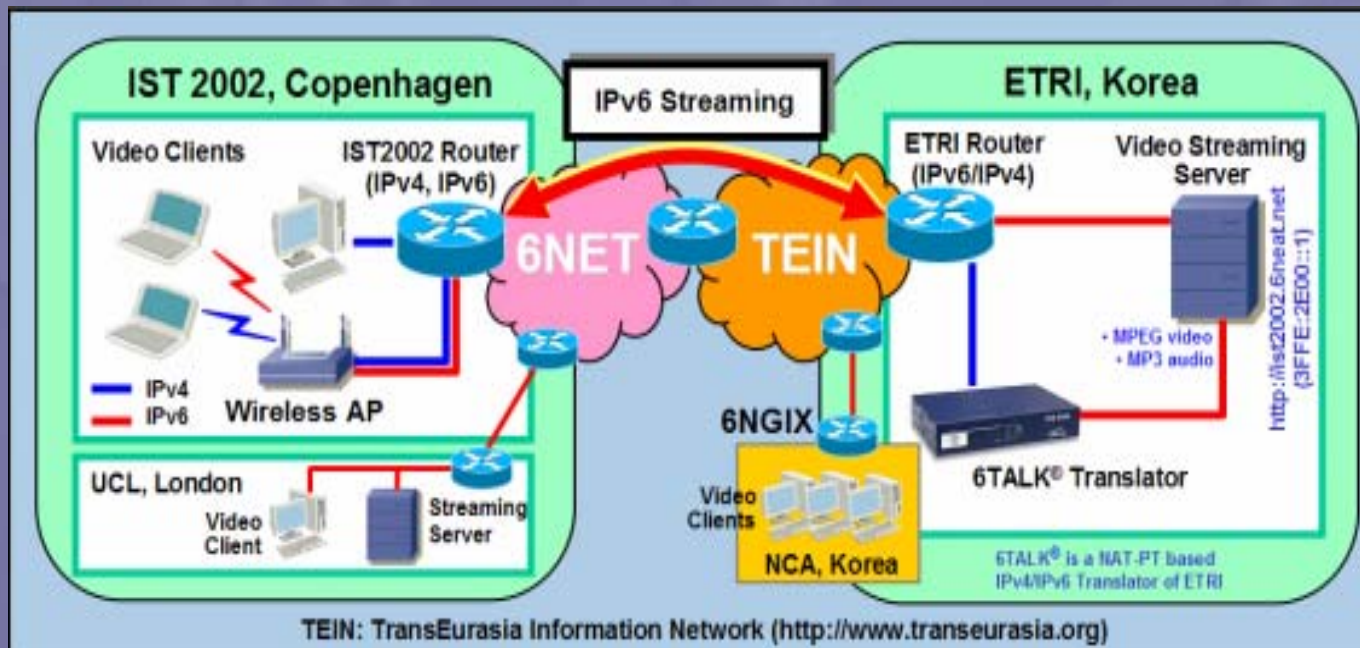
➢ Media Player (Linux)



# Experimental Works

## ■ IST2002

- with IPv6 streaming system, ETRI has joined the IST2002 demonstration event ( <http://2002.istevent.cec.eu.int> )
- <http://ist2002.6neat.net>



# IPv6 Multimedia Application Testbed

- IPv6 Video/Audio Conferencing Tool
  - has developed the MPEG-based IPv6 video/audio conferencing tool
    - HVCT : high quality video conferencing tool
    - HAT : high quality audio conferencing tool
  - In this system, we are using the MS Technology-preview version of IPv6 stack running on Windows 2000 OS.
  - Codec
    - Video : Microsoft MPEG-4 video codec v1
    - Audio : MPEG Layer-3 codec
  - Support two types of communication
    - n-to-n (multicast)
    - 1-to-1 (unicast)

# Experimental Works

- IPv6 Multicast Conferencing Experiment
  - UCL(UK), Renater2(FR), SNU(Kor), ETRI(Kor)
  - <http://6mcast.6neat.net>
    - contains the results from the test work of IPv6 multicast applications.



# Conclusions

## ■ Summary

- IPv6 in ETRI side
- IPv6 testbeds for multimedia applications
  - IPv6 Video Streaming
  - IPv6 Video/Audio Conferencing
- Experiment

## ■ Future work

- Testbeds & applications
  - For IPv6 activation, ETRI is planning the extension of testbeds and applications continuously.
- Collaboration
  - ETRI will contribute to the deployment of IPv6 in the Asia-Pacific region, as well as worldwide.

# *Thank you*

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