



International Telecommunication Union

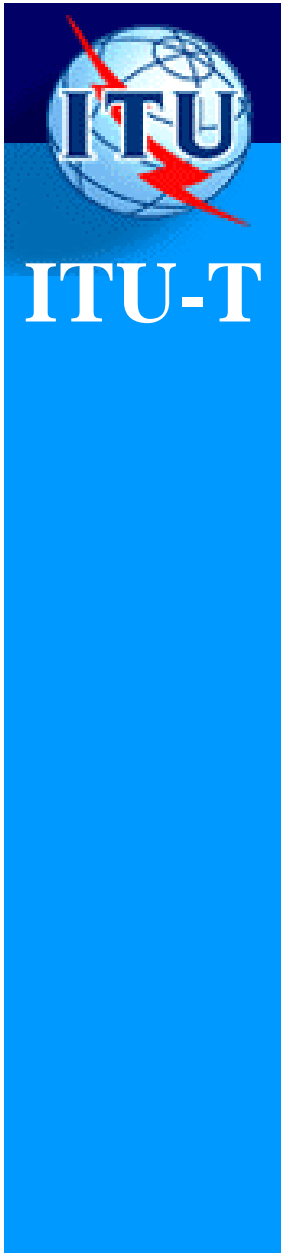


# Evolution to NGN

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Nortel Networks

ITU-T Workshop on NGN (jointly organized with IETF)  
Geneva, 1-2 May 2005



# Evolution & Revolution

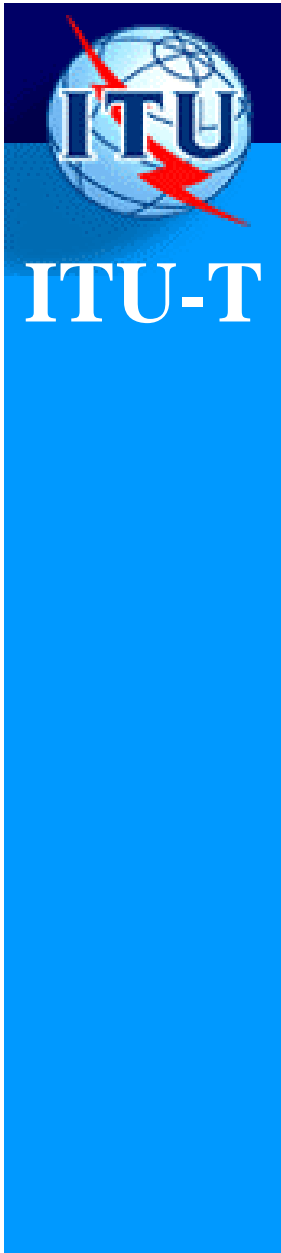
## *Evolution (Migration)*

A **gradual** process of change and development

## *Abrupt (Revolution)*

A **rapid** process of change and development





# What is Expected of the Evolution to NGN -I

- Scalability
- Higher reliability and trustworthiness
- Higher resiliency
- Security
- Robustness
- Performance
- Ubiquity
- Simplified authentication and billing





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# What is Expected of the Evolution to NGN -II

- Richness in content and application
- Common services infrastructure
- Simplified service deployment
- Higher capacity
- Interoperable
- Operable between Fixed, Mobile, Copper, Fibre, Wireless.....
- Multimedia



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# What is Expected of the Evolution to NGN -III

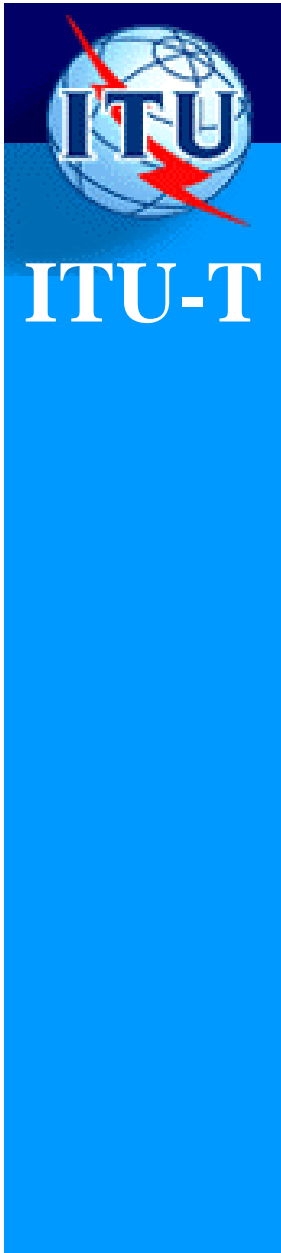
- o Mix of traditional circuit switched communication services and IP services
- o End-to-end interactivity
- o User control
- o Affordable

To achieve these expectations there is a need for:

**Compliance of Networks to Sets of Globally Recognized Open Standards**



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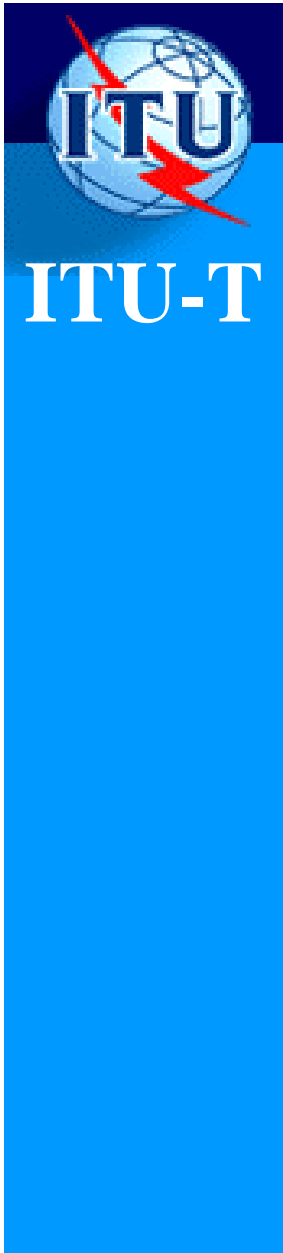
# FGNGN Evolution Working Group (WG6)

Where, at present, sets of drafts on the evolution of PSTN/ISDN to NGN are being produced

## Our mandate:

To prepare a set of standards to drive the evolution of existing networks towards NGN, taking into consideration that there are potentially different approaches. This work is undertaken based on aspect of network evolution and interworking principles.

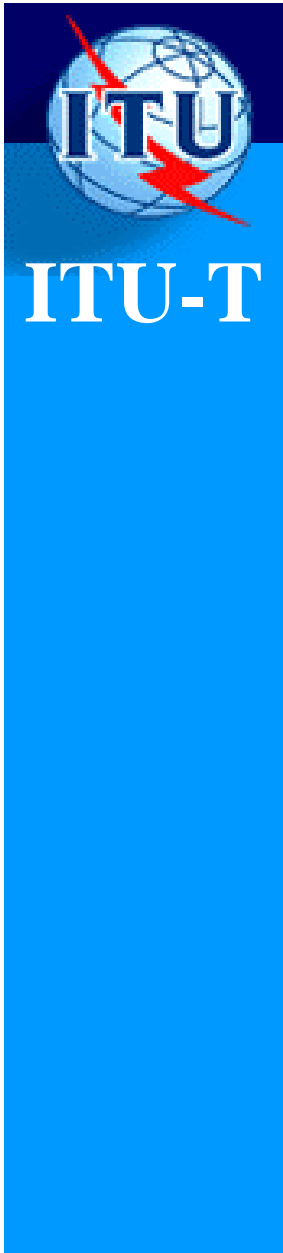




# WG6 Activities

- Evolution of networks to NGN
- PSTN/ISDN emulation
- PSTN/ISDN simulation
- Mixture of emulation and simulation
- Interworking between PSTN/ISDN and Simulated PSTN/ISDN
- Emulation and Simulation when PBXs are involved



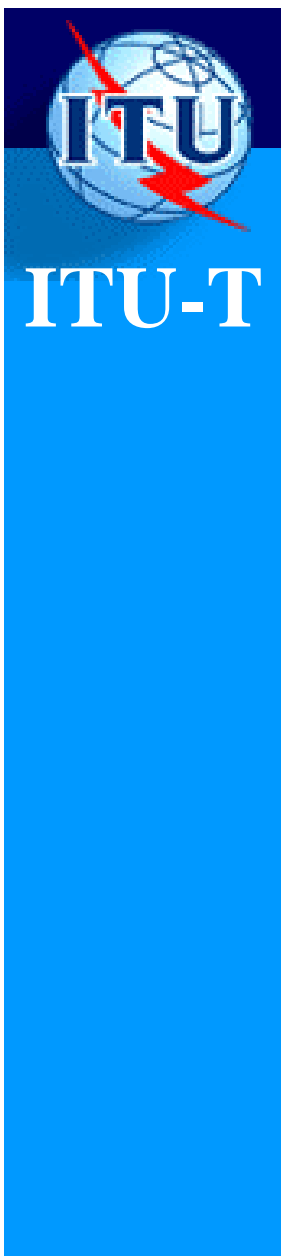


# Evolution of Networks to NGN

Major investment has been made in existing networks. Today's mix of technologies has produced different life span and thus amortization times for different parts of the networks. Thus, complete replacement of the legacy networks to NGN is neither advisable nor possible. So, a phased approach needs to be considered.







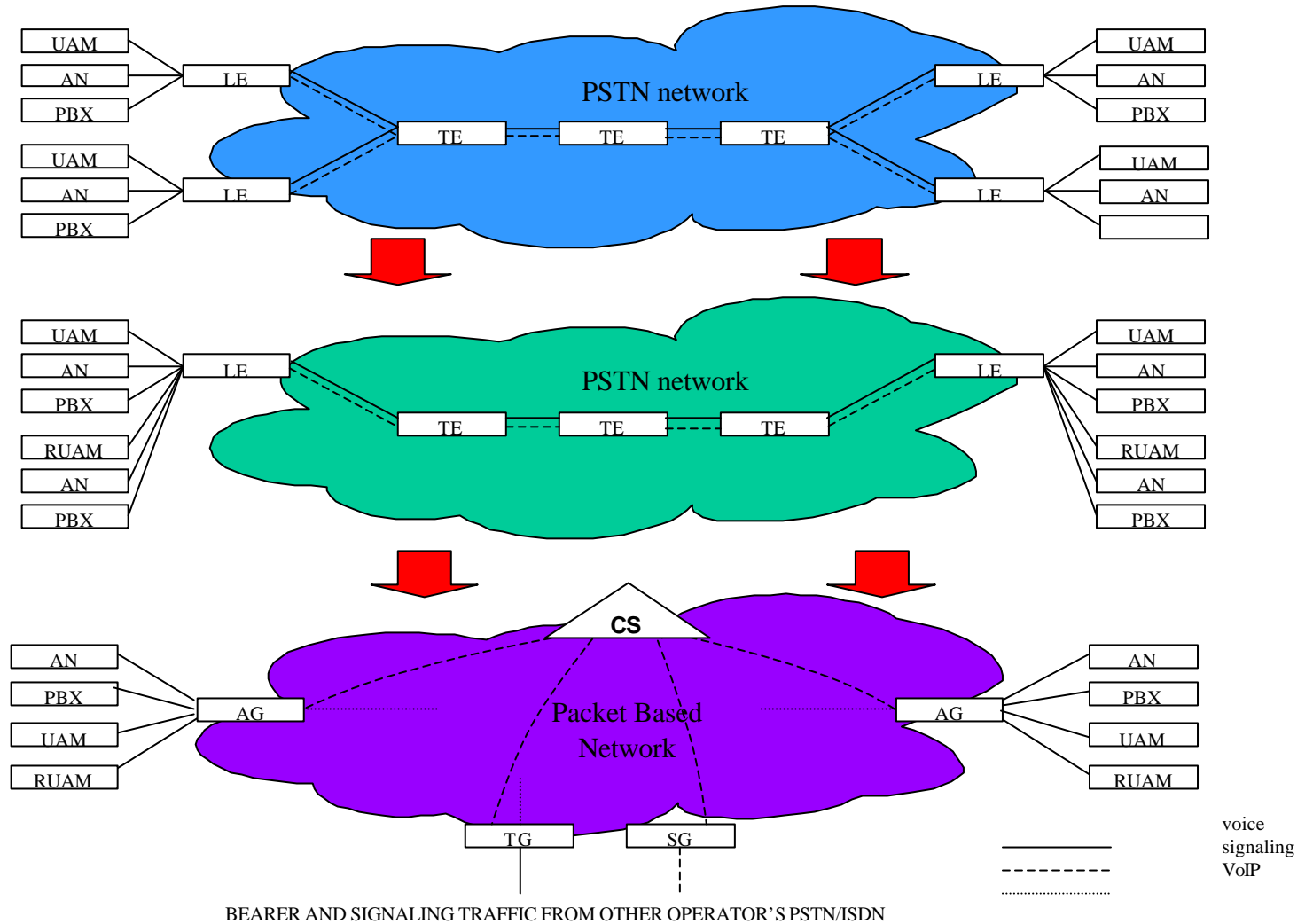
## Note on the following configurations

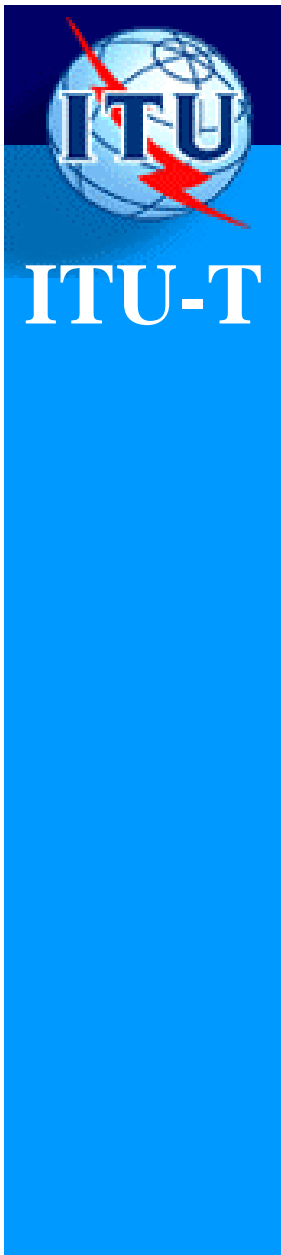
- o The following are a subset of scenarios presently under discussion in FGNGN. The relationship between the entities identified in the scenarios and those defined in the NGN framework architecture is work in progress
- o The intent is to use existing protocols to advantage. Protocol extensions or evolution would continue to be handled as they are today.



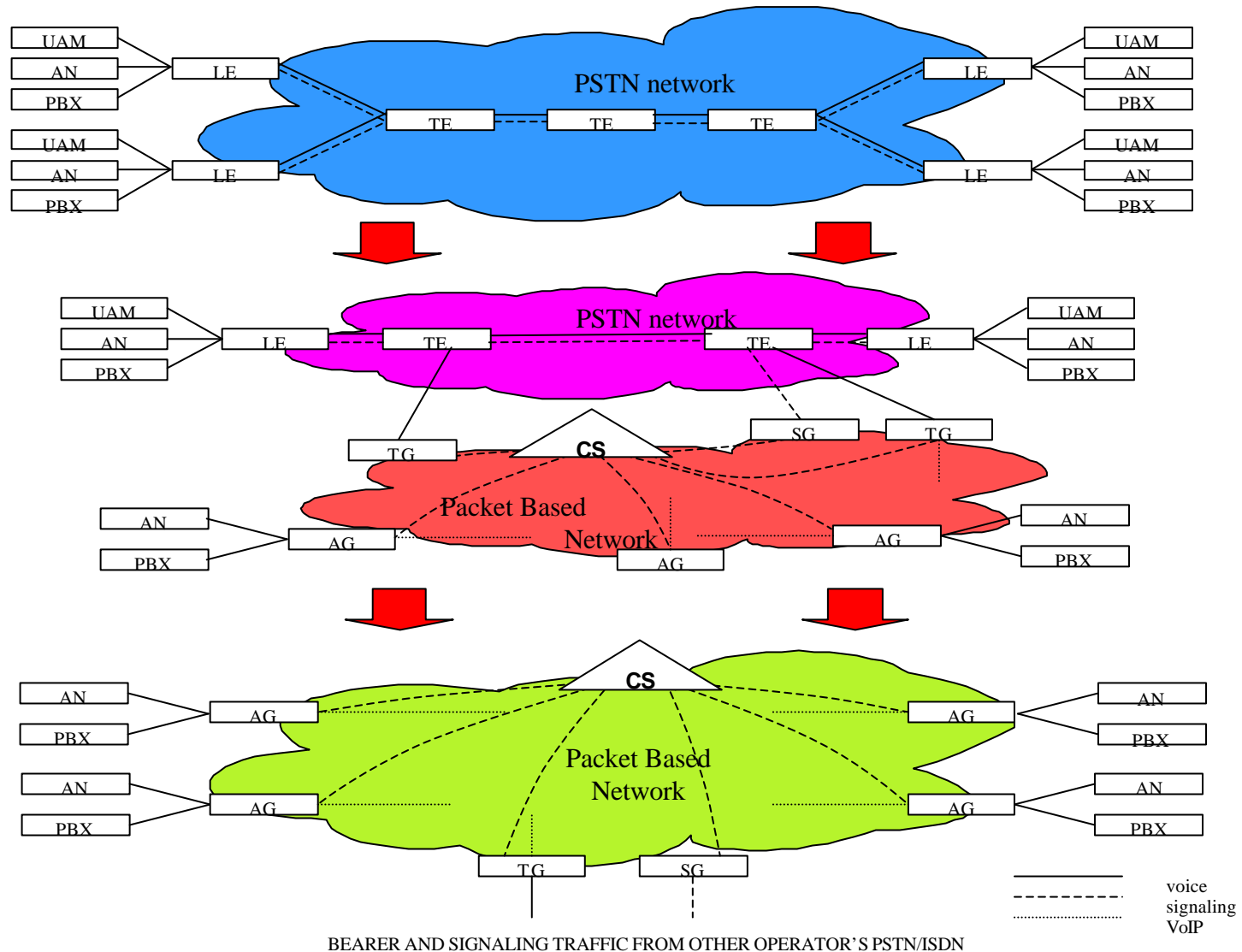


# A Step-by-Step Evolution Scenario - I

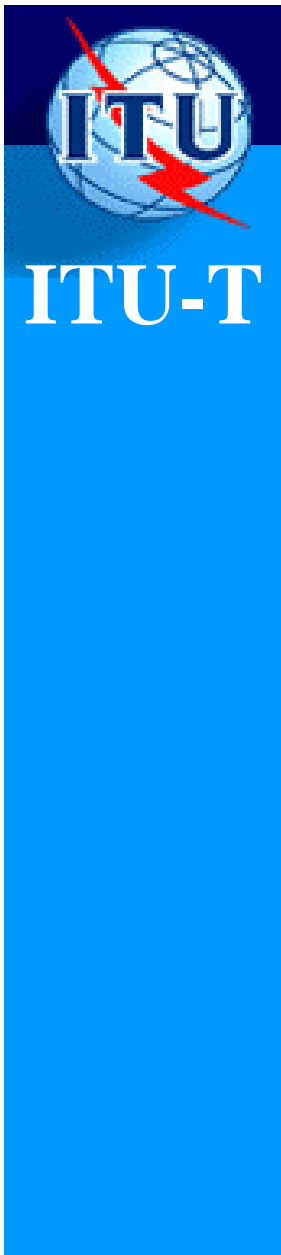




# A Step-by-Step Evolution Scenario - II



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# PSTN/ISDN Emulation & Simulation

## Emulation

- Provision of PSTN/ISDN service capabilities and interfaces using adaptation to an IP infrastructure.

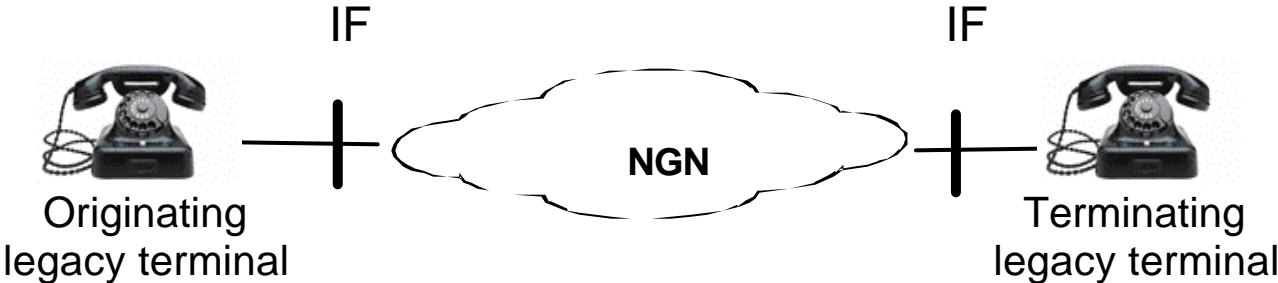
## Simulation

- Provision of PSTN/ISDN-like service capabilities using session control over IP interfaces and infrastructure





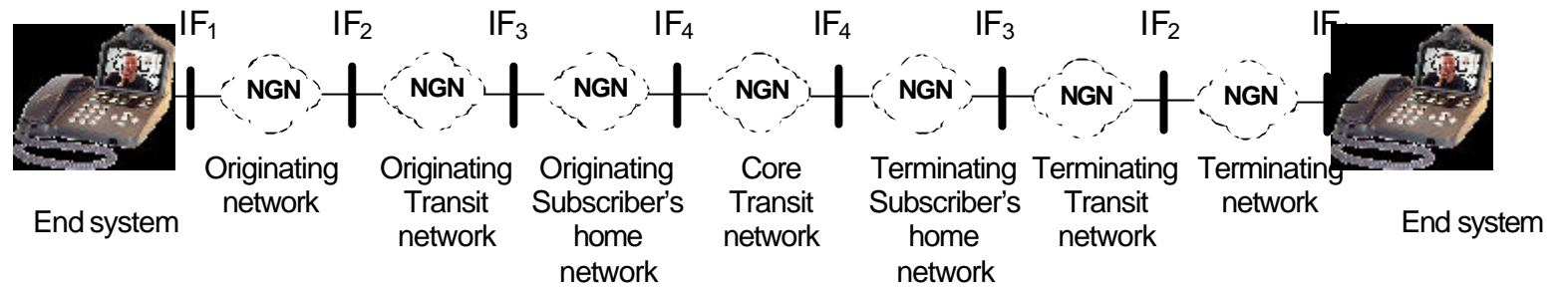
# PSTN/ISDN Emulation



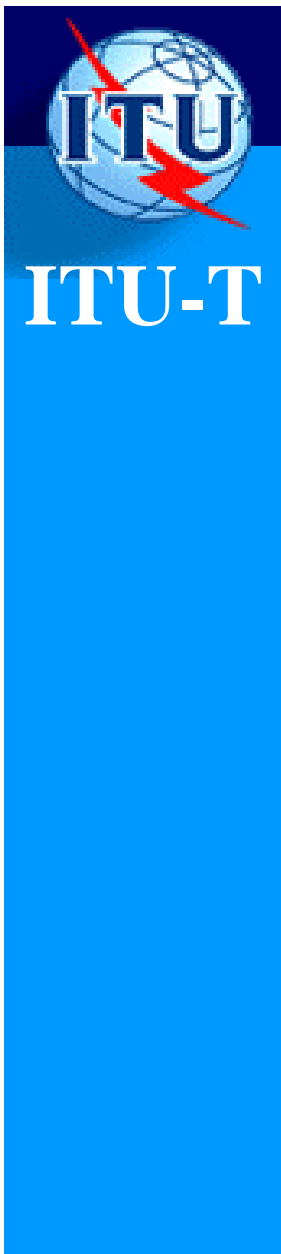
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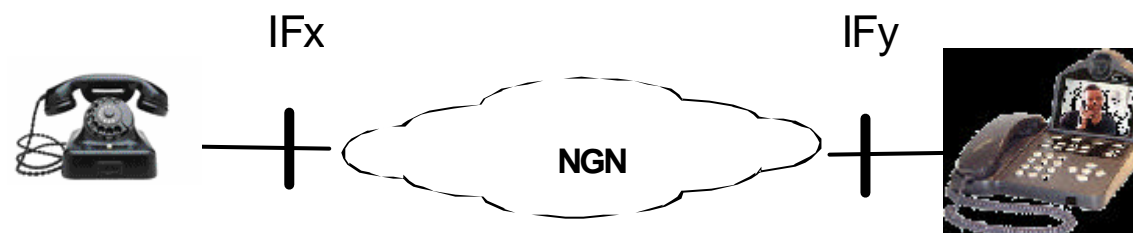
# PSTN/ISDN Simulation



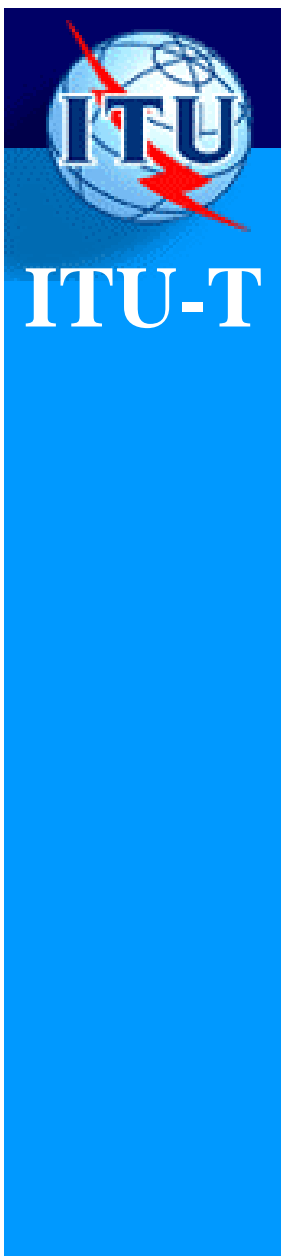
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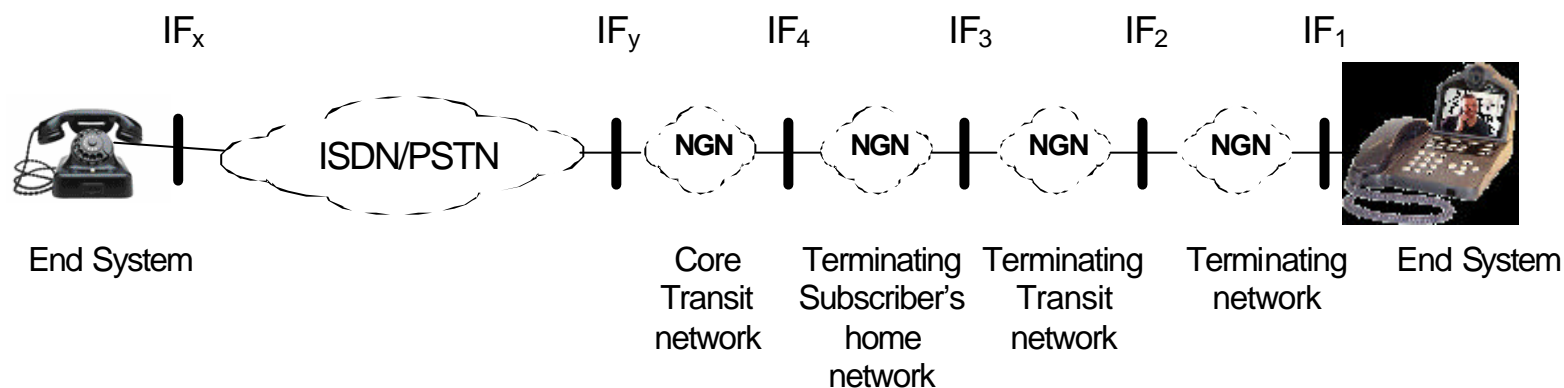
# Combination of PSTN/ISDN Emulation & Simulation



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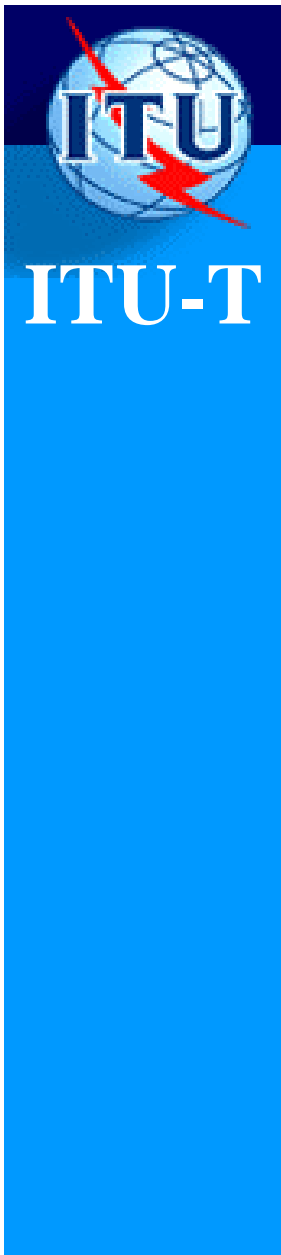


# Interworking Between PSTN/ISDN and Simulated PSTN/ISDN

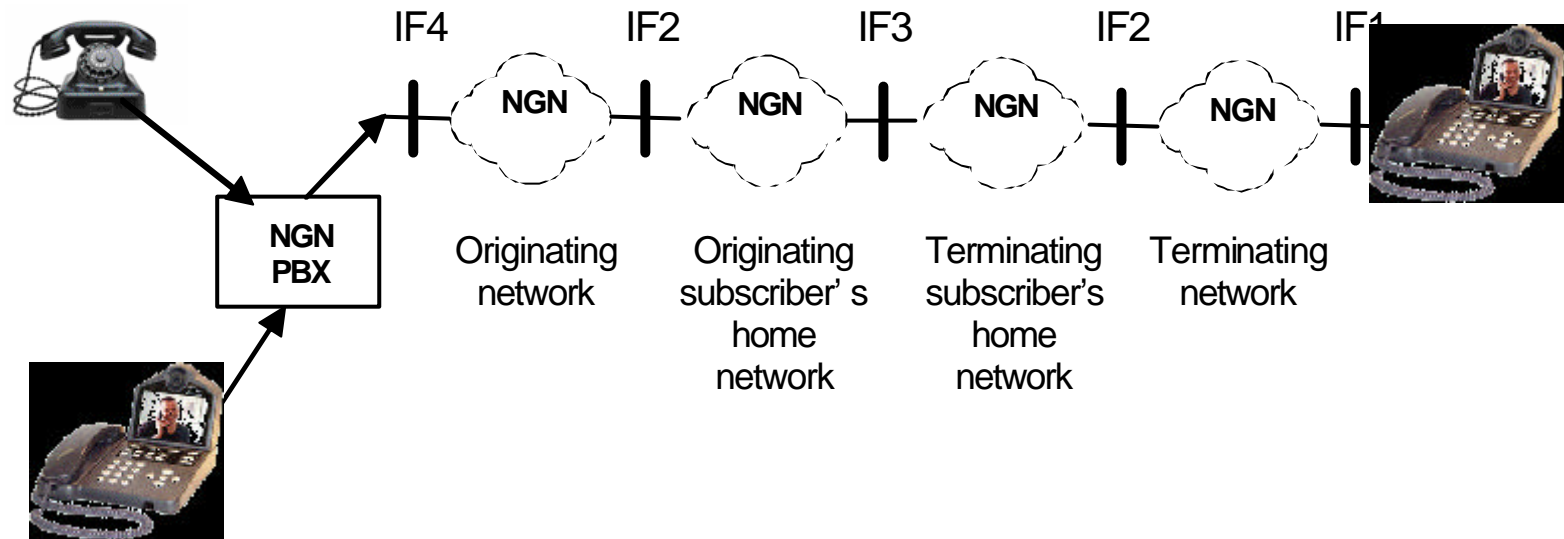


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# PSTN/ISDN Simulation Involving PBXs

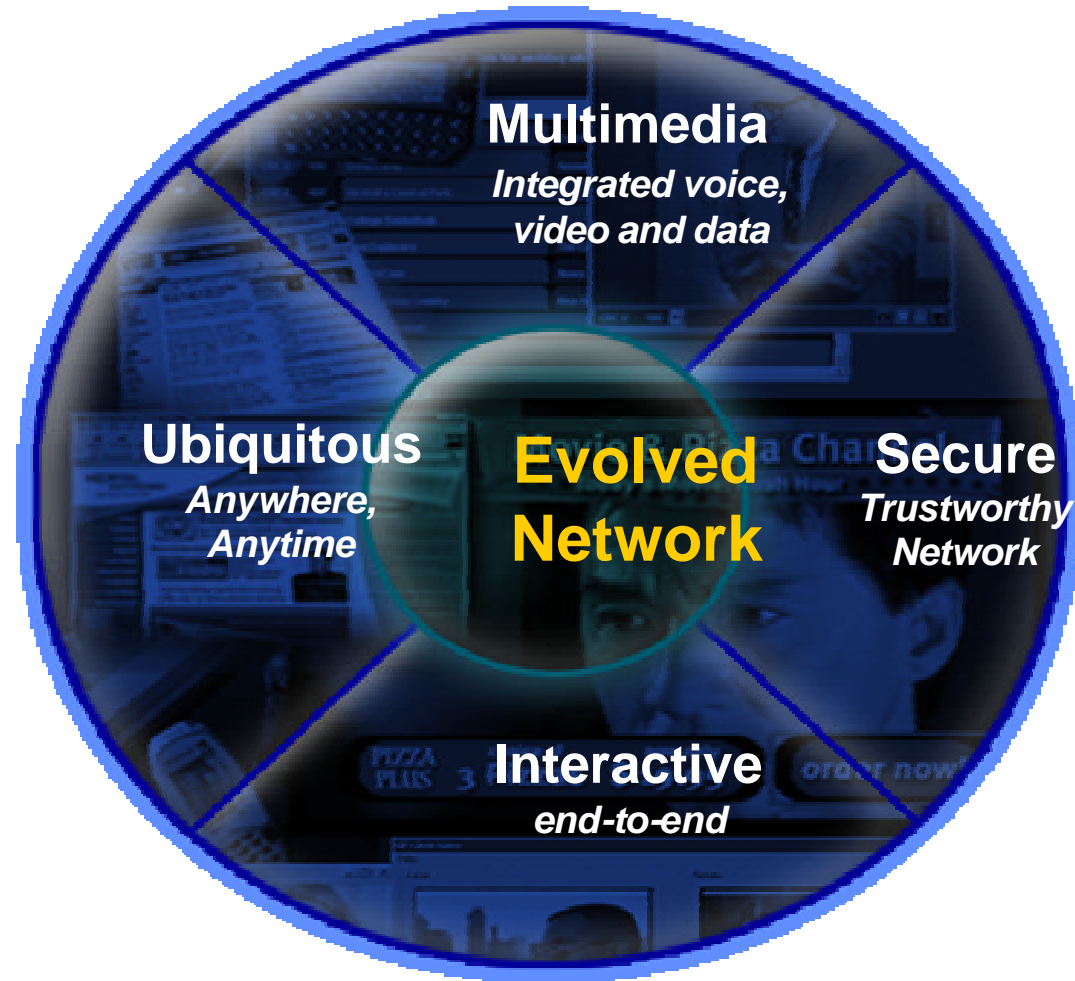


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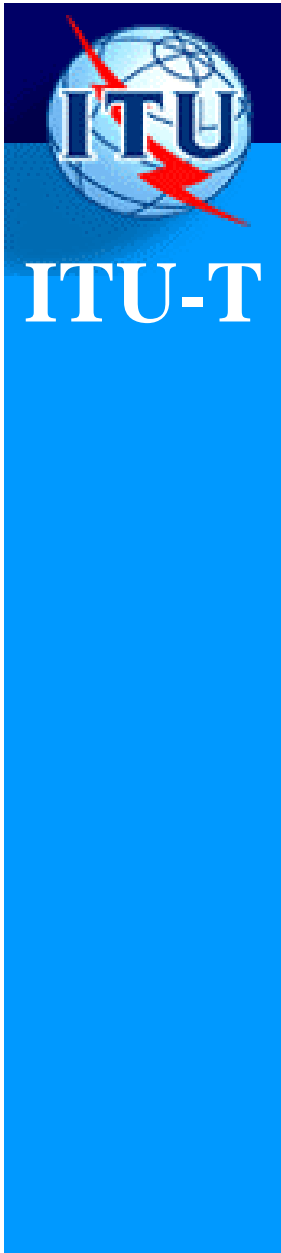


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# So, NGN Would Be!



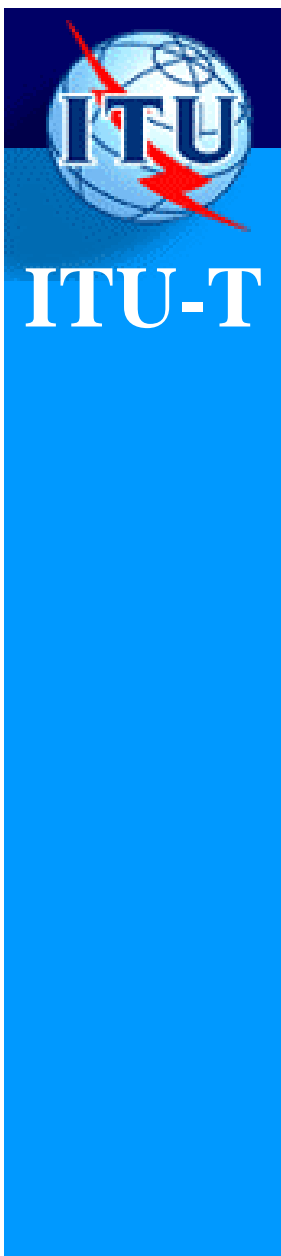
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## And Finally....

*The future is an access- and location-independent, secure, packet-based telecommunications infrastructure that synergistically delivers on maximizing the strengths of both the Internet and the Legacy Infrastructures*

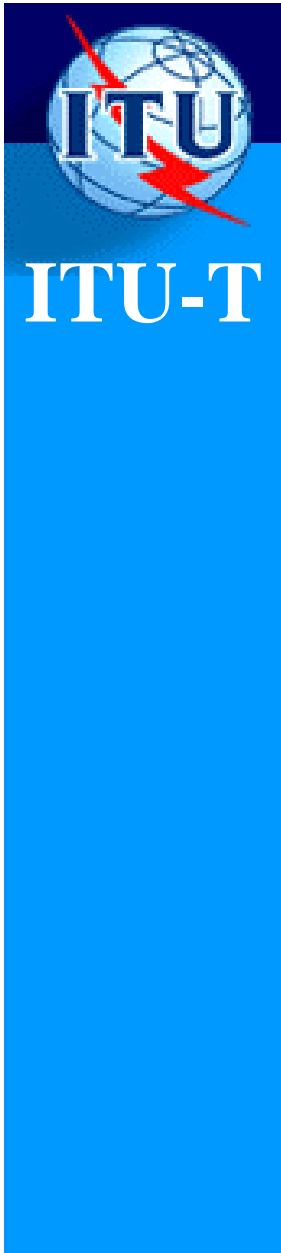




# List of Acronyms

AG	Access Gateway
AN	Access Network
CS	Call Server
ISDN	Integrated Services Digital Network
LE	Local Exchange
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
QoS	Quality of Service
RUAM	Remote User Access Module
SG	Signalling Gateway
TE	Transit Exchange
TG	Transit Gateway
UAM	User Access Module





*Thank you for your  
attention*



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