



International Telecommunication Union

Terminal Standards - SDOs' Mastermind plus Regional Flavors - Or What ?

Joachim Pomy

Senior Engineer, AVAYA GmbH



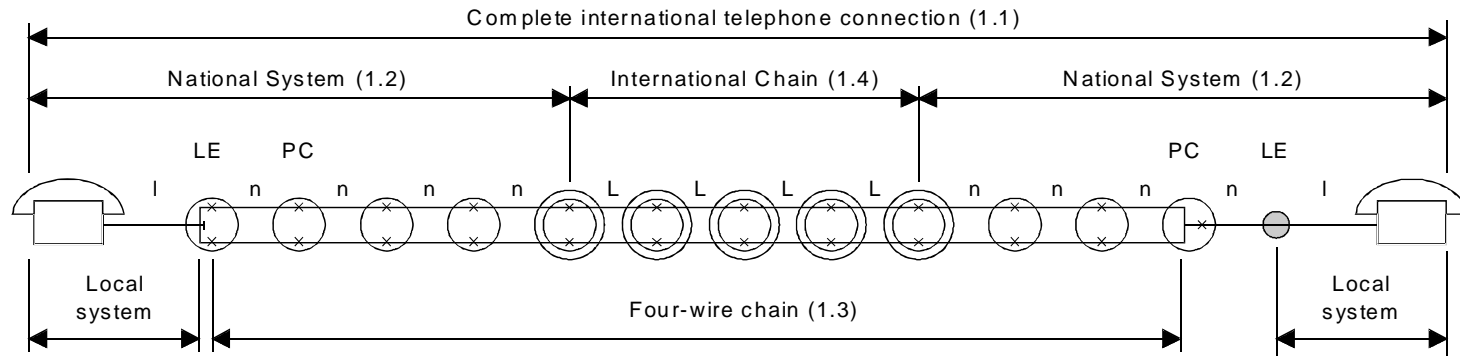
In the Past ...

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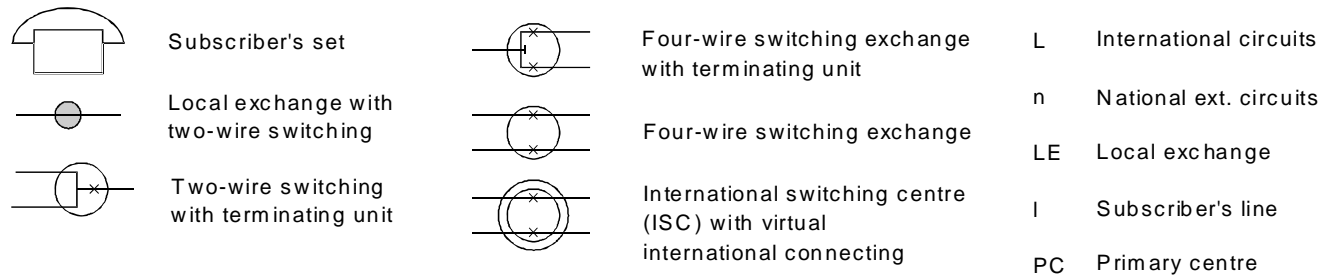
- o End-to-End QoS was defined by CCITT
- o Top-Down Approach
- o Master Plan with fixed Budget Allocation
 - Transmission Plan G.101
 - Requirements for International Chain and National Systems at both ends
- o Requirements for National Systems defined in section 1.2 of Fascicle III of Blue Book
- o CCITT in Control of the World Community's Telephone Plant

The CCITT Mastermind Approach The Transmission Plan, G.101, 1993

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T1204440-92/d06



NOTE – The arrangements shown for the national systems are examples only. The numbers given in brackets refer to the subsections of section 1 (Fascicle III.1 of the *Blue Book*) in which Recommendations may be found relevant to that part of the connection. In addition, the circuits making up this chain must individually meet the requirements of subsection 1.5.

FIGURE 6/G.101

An international connection to illustrate the nomenclature adopted

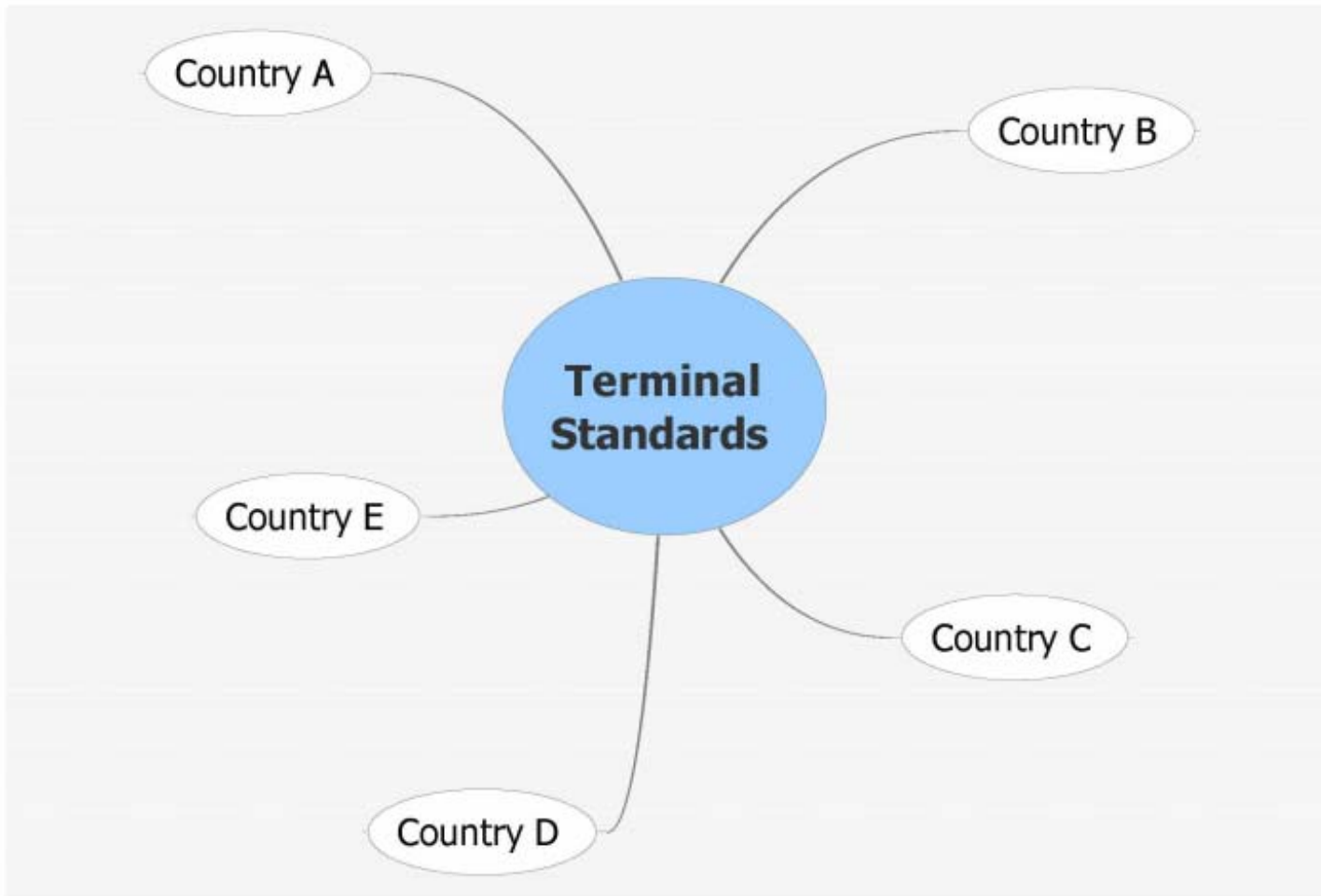


Telephone Sets in National Systems

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- o Administration of Each Country was responsible for Compliance with CCITT Recommendations
- o National Requirements for Network Elements and for Terminals were derived
- o Different Requirements for Terminals in Different Countries due to Local Considerations
- o CCITT Mastermind plus Regional Flavors resulted in controlled End-to-End QoS

Terminal Requirements per Country





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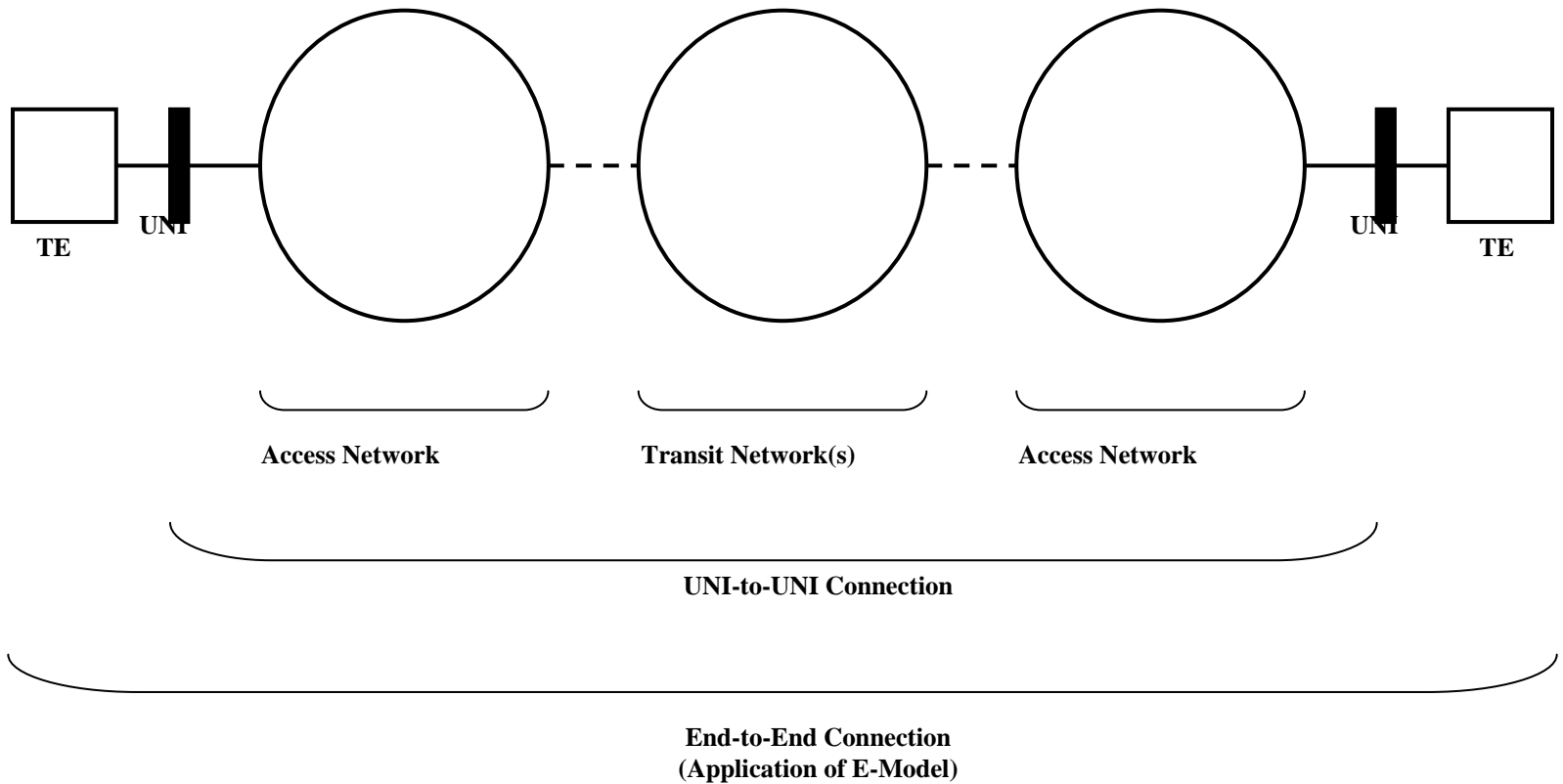
... and Today

- o End-to-End QoS is described by ITU-T
- o QoS Classes for UNI to UNI Connections
 - Updated Transmission Plan G.101
 - QoS Classes Y.1541
- o Mouth-to-Ear Quality Estimation
 - E-Model G.107, G.108, G.109
- o QoS Requirements for Terminals in an IP / NGN Environment are Country independent



The ITU-T Approach G.101, 2003

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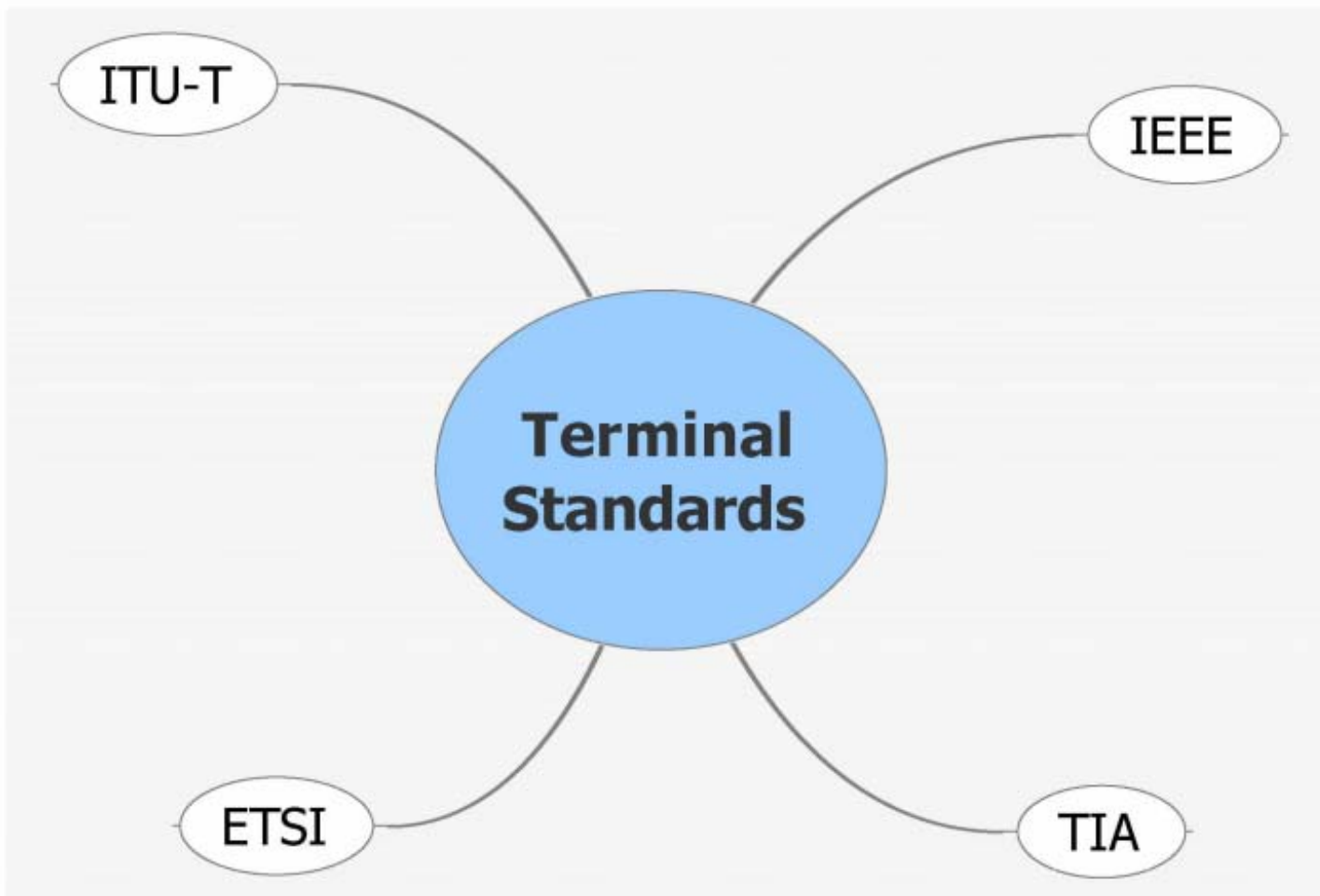


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No Regional Flavors Required, anymore

- o Different SDOs work on the same Topics of Requirements for VoIP Terminals
 - different motivation
 - protection of grandfathered equipment
 - support of short time to market
 - enabling high QoS for global communication
 - philosophy of testing methodologies
 - commercial interests
- o Lack of Global Coordination for VoIP Terminal Standards

Key SDOs involved in VoIP Terminal QoS





So, what's going on here ?

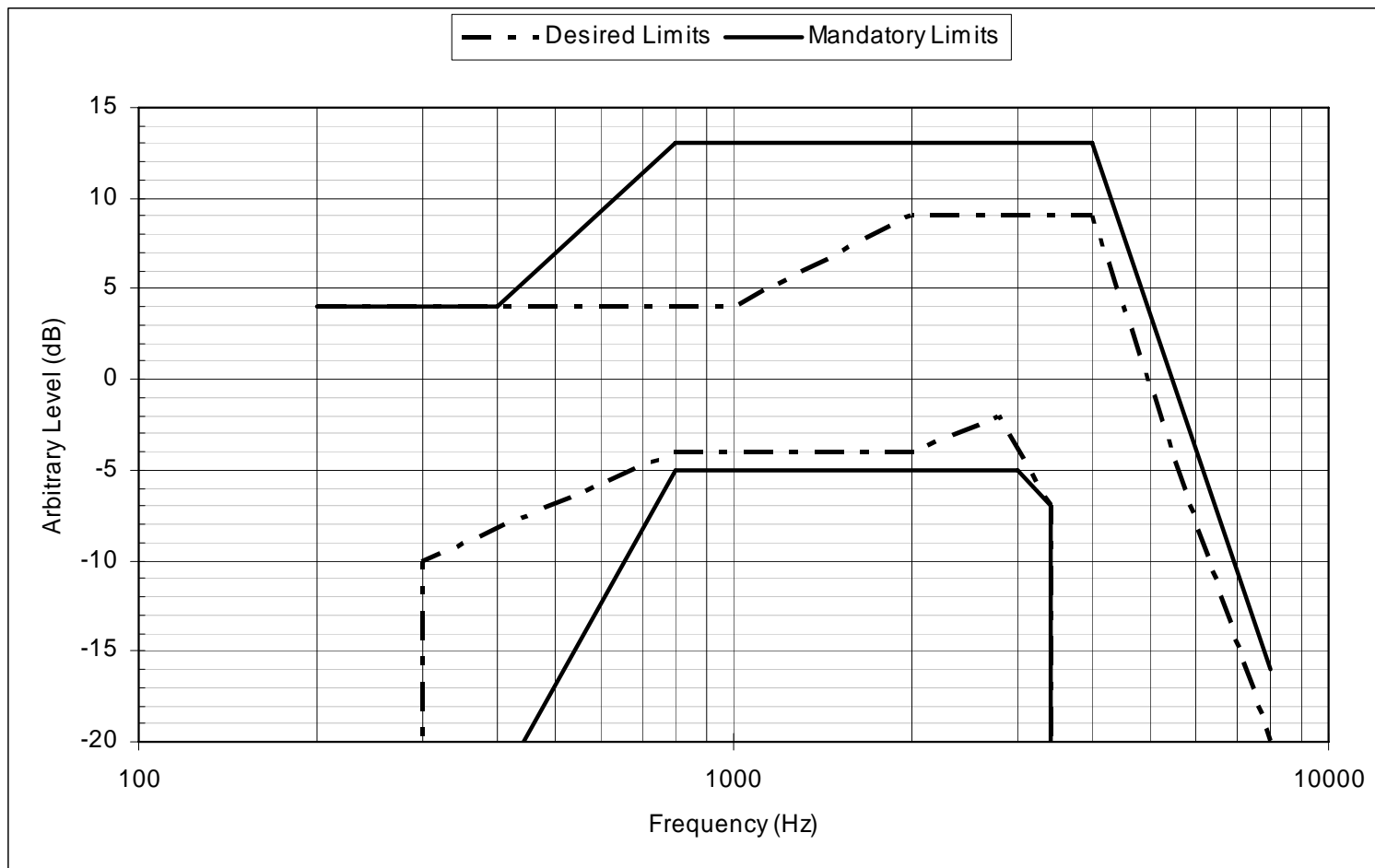
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- o The Future is All-IP
 - Therefore, Focus on VoIP Terminals
 - In Principle Unique Set of QoS Requirements possible
- o Competing SDOs
 - Competing VoIP Terminal Requirements
 - Competing Philosophical Approaches
- o Some Illustrative Examples....



Handset Receive Frequency Response Mask Digital & VoIP Terminals, Draft ANSI/TIA-810-B

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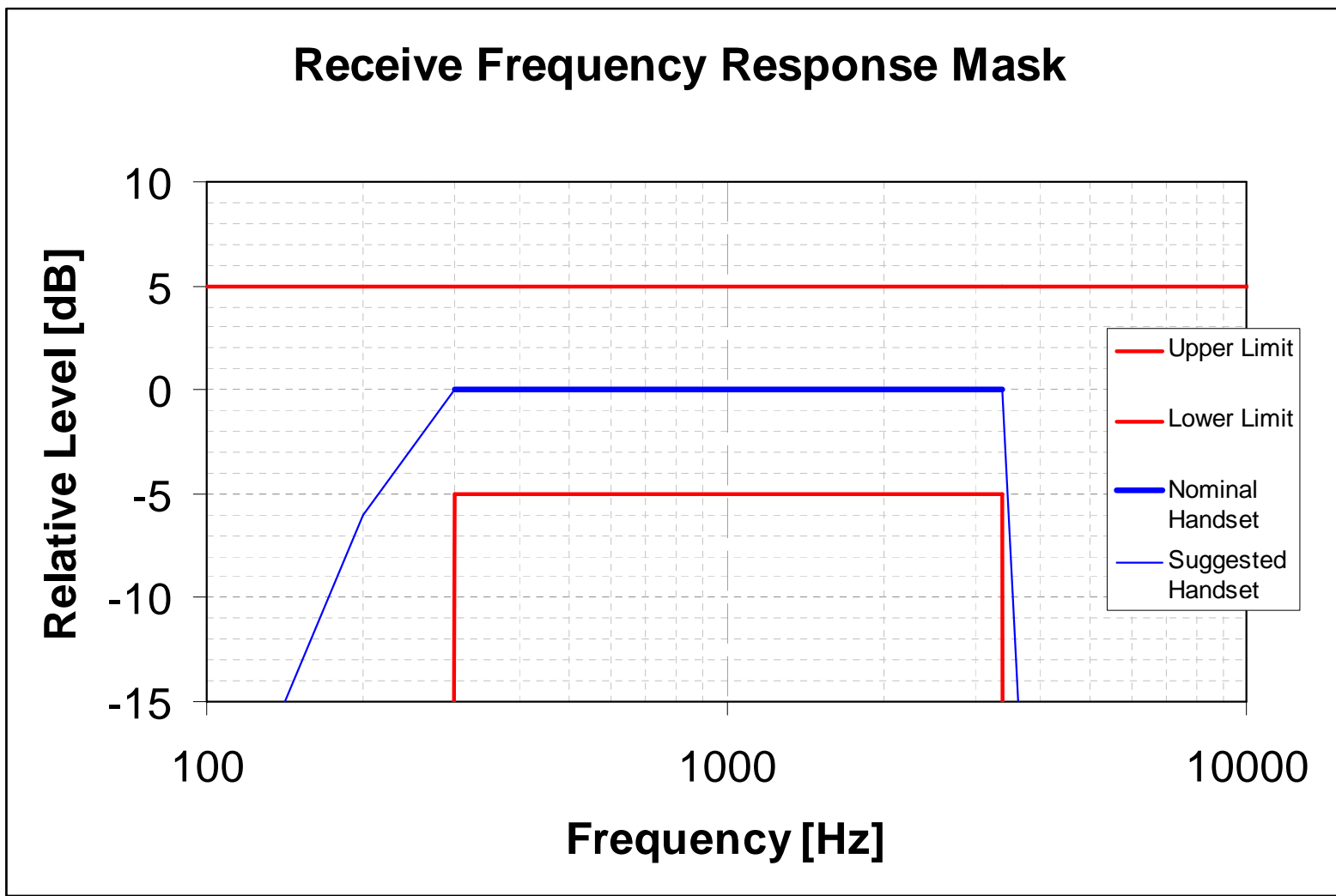




Comparison of Recent Frequency Response Masks

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- o Draft ANSI/TIA-810-B
 - Combines grandfathered Philosophy with Voice-over-IP Terminals
 - Mixed Approach: Mandatory Requirements and Desired Values as Guidance
 - Protection of Current Developments
- o Draft ETSI DES/STQ-00063
 - Linear Frequency Response
 - Multimedia & NGN - Ready





Comparison of TCLw Requirements

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- o Weighted Terminal Coupling Loss (TCLw)
 - Key QoS Parameter with respect to Echo as perceived by the User at the Far End
 - Draft ANSI/TIA 810-B
 - Requirements are Normalized to Loudness Settings at the Local User
 - Draft ETSI DES/STQ-00063
 - Requirements are in Absolute Terms as perceived by the User at the Far End



- Draft ANSI/TIA 810-B, § 6.6.2:
 - The normalized value of TCLw at the high leak position shall be greater than 52 dB for IP sets.
 - It is desirable that the normalized value of TCLw for IP sets be greater than 55 dB.

- Draft ETSI DES/STQ-00063, § 7.1.2.10
 - The minimum TCLw shall be ≥ 55 dB.



- o The Future is All-IP
 - Global Standards for NGN Networks are well Coordinated (GSI etc.)
 - Unique Set of QoS Requirements for VoIP Terminals is possible
 - Lack of Global Coordination for VoIP Terminal Standards
 - Currently QoS Requirements for VoIP Terminals are different in ITU-T, ETSI, IEEE, and TIA



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Any questions ?

