American National Standard
for Telecommunications –

Network Performance – Switched Exchange Access Network Transmission Specifications

1 Scope, purpose, and application

1.1 Scope

This standard provides performance specifications for the analog transmission parameters of a switched exchange access network covering the bi-directional transmission path between an exchange carrier's (EC) end office (EO) and an interexchange carrier's (IC) point of termination (POT) (see figure 1). Within this document the term, IC, refers to interexchange carriers and any other connecting entities. The transmission parameters included are specified in clauses 4 and 5. (Absolute round trip delay guidelines are offered for the transmission path between the NI and the POT.) At this time, transient impairments affecting voiceband data are not included. Both originating (access) and terminating (egress) switched services are covered, and are referred to in this standard simply as exchange access services. For the purposes of this standard, originating (access) refers to the bi-directional transmission channel between the calling party's serving end office and an interexchange carrier POT; terminating (egress) refers to the bi-directional transmission channel between an interexchange carrier POT and the called party's serving end office.

The performance specifications are given in terms of acceptance limits, restoral limits, and immediate action limits. In-service parameter performance will be distributed statistically. The actual parameter performance is characterized by the parameter distributions and not by the limits alone. On this basis, although the parameter distributions are not requirements of this standard, network providers and equipment vendors should take into account the parameter distributions as well as the individual trunk limits in their plans and designs. The statistics in annex A reflect an estimate of the characteristics of the statistical distributions that are expected for a large number of channels.

1.2 Purpose

This standard is intended to be used by the telecommunications industry to provide high-quality service to end users. The use of this standard helps to assure the ICs about the quality of exchange access services and to provide exchange carriers with the ability to implement and maintain the exchange access network. This standard is a product of a number of considerations. Among them are customer service perception, network architectures (see SR-TSV-002275 and GR-334-CORE. See annex C), the technical capabilities of transmission and switching systems (see TR-NPL-000037 and *Analog voice and voiceband data transmission performance characterization of exchange access plant*) and terminal equipment (as described in ANSI/EIA 470-A-1987), as well as operational and economic concerns. Some of these considerations are discussed in annex B.