CEPT - European Conference of Postal and Telecommunications Administrations
ECTRA - European Committee for Telecommunications Regulatory Affairs

CEPT / ECTRA Recommendation of 12 March 1998

on a Set of Guidelines on Responsibilities for ensuring maintenance of Network Integrity (NI) in an interconnected environment

(ECTRA/REC(98)01)

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As Chairman of the European Committee for Telecommunications Regulatory Affairs (ECTRA), I hereby confirm that this recommendation was approved in Paris on 12 March 1998 at the XXVth ECTRA Plenary Meeting.

Frédéric Riehl
ECTRA Chairman
25.03.1998

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BACKGROUND

♦ The Interconnect directive (97/33/EC - OJT 26/7/97) defines network integrity as one of the essential requirements, and requires that member states in CEC countries take all necessary steps to ensure that it is fully maintained. It also indicates that network integrity does not constitute a valid reason for refusal to negotiate interconnect and that NRAs must ensure that any interconnect conditions relating to protection of NI must be proportionate, non discriminatory and objective.

♦ Concerns have been expressed in the past about the potential for interconnect negotiations to become delayed or perhaps even blocked because one of the interconnecting parties believes that the interconnecting facilities of the other party could pose a threat to their network integrity. Strong technical arguments could be introduced to support these concerns and NRAs would be faced with having to determine the validity and soundness of technical arguments relating to integrity. NRAs would be concerned if the growth of the interconnect market was subjected to undue delays or hindrance because of a lack of clarity on what constitutes NI or because of a lack of basic guidelines on how network operators are expected to maintain NI in an interconnected environment.

♦ Operators would in general wish to protect themselves from all potential threats introduced into their networks whether introduced intentionally or unintentionally. Operators can and do to a large extent introduce self protect measures into their networks but they also ensure that the facilities of those parties seeking interconnection are subject to extensive pre operational and integrity test procedures. The consequences of integrity damage resulting from a failure to protect or to initially ascertain the threat potential from other sources might be service interruption or perhaps degraded service quality.

♦ In most countries the operators with significant market power are responsible for the degree of testing that needs to be implemented during the pre operational phase to ensure operational and integrity aspects are maintained. It is important that the parties negotiating interconnection do not set unreasonably complex or cumbersome test requirements which could result in significant delays to the successful establishment of interconnection.

♦ There is a need to balance the justifiable concern of incumbent operators in wanting to protect the integrity of their networks from potential threats of new operators and the need not to hinder the interconnect market by imposing unreasonably costly and time consuming solutions in the name of network integrity on new operators and providers.

♦ It is therefore important to ensure that the issues concerning network integrity are clarified from the perspective of NRAs in the ECTRA countries, and that a set of basic guidelines clarifying the responsibilities of the network operators in respect to maintaining network integrity in an interconnection environment would be helpful to both ECTRA and European industry. The following recommendations constitute the proposed ECTRA guidelines.

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The European Conference of Postal and Telecommunications Administrations,

CONSIDERING

a) The maintenance of network integrity is the protection of the physical and functional operation of a network against disruption and degradation and its resistance to breakdown caused by electrical conditions, signalling protocols or traffic loads, which can be induced via interfaces between terminals and networks or between different networks.

b) The ability of interconnected networks to maintain their network integrity includes their ability:

      i)   to resist harm that may be caused by other networks
      ii)   not themselves to cause harm to other networks.

c) The maintenance of network integrity is an essential requirement under Directive 97/51/EEC of the European Parliament and of the Council amending Council Directive 90/387/EEC for the Purpose of Adaptation to a Competitive Environment in Telecommunications, on the basis of which conditions may be imposed by NRAs on networks and services.

d) Interconnected networks may be disconnected if network integrity is affected.

e) NRAs may have to resolve disputes between operators concerning the maintenance of network integrity.

f)   Risks to network integrity may arise from:

- technical incompatibilities between interconnected exchanges and their software that affect other exchanges in the networks
- technical incompatibilities between networks and terminal equipment that affect services to other networks or terminal equipment
- unusually high traffic demands that result in failures of network control and management
- deliberate actions by third parties, which are not addressed in this Recommendation

TAKING INTO ACCOUNT

i.   The risk of integrity problems due to network interconnections has been reported by the EIF (European Interconnect Forum, recently changed to European Telecommunication Platform - ETP) as being much lower in Europe than in the United States, however there has been some instances of network integrity disturbance occurring in some European networks but as a consequence of network upgrades rather than network interconnection.

ii.   Many new market entrants procure network equipment that conforms to European standards, that has been subjected to interworking testing, and is already in use in other networks.

iii.   Network operators have an incentive to ensure that they do not harm their own or other operators' network integrity.

iv.   Each network operator needs to advise other interconnecting operators of any specific technical requirements necessary to avoid affecting its network integrity.

v.   Solutions to technical and operational problems are best achieved through voluntary agreements; detailed a priori technical regulations should only be employed if these other measures prove ineffective.

vi.   Networks should increasingly become self protecting.

vii.   Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on Interconnection in Telecommunications with regard to ensuring Universal Service and Interoperability through the application of the principles of Open Network Provision (ONP).

viii.   ETO report for the Commission of the European Union entitled "Harmonising Essential Requirements" (Work Order 48372).

RECOMMENDS

1. That NRAs shall avoid detailed a priori technical and operational regulations concerning network integrity as far as possible unless there are special circumstances or factors.

2. That NRAs shall encourage network operators to implement interconnection standards which incorporate necessary network integrity protection mechanisms. Where appropriate NRAs shall encourage standardisation bodies to take account of such mechanisms in the development or review of standards.

3. That NRAs be guided by the following principles:

   a. Network operators should make available to other network operators that are seeking interconnection the technical information necessary to enable interconnected networks to interwork correctly and to avoid endangering each other's network integrity.

   b. Network operators should not refuse to establish new interconnections on the ground of possible risks to network integrity unless significant problems have been demonstrated during pre-operational testing.

   c. Network operators should not determine unilaterally the level of pre-operational testing. The level of such testing should be determined either with the consent of the other network operator or the consent of the NRA. Where pre-operational testing has been carried out between a combination of exchange and software types for one interconnection point, the degree to which such testing should be repeated at other interconnection points that use the same combination of exchanges and software should be minimised.

   d. Network operators should not disconnect other networks unless problems that affect network integrity have been experienced in practice.

   e. Network operators that disconnect or refuse to connect another network on the grounds of network integrity should ensure that all networks that have or are seeking interconnection are informed within two weeks of the detailed technical measures needed to avoid such problems.