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Original

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Technical provisions for the international interconnected Railway data transmission networks

*Dispositions techniques pour l'interconnexion des réseaux internationaux de transmission de données
ferroviaires*

Technische Vorschriften für den Verbund der internationalen Eisenbahn-Datenübertragungsnetze



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Retyped in FrameMaker.

Important: the articles (points) in this leaflet have been renumbered in the new edition. The first digit of each point has been increased by one (i.e. 0 becomes 1, 1 becomes 2, and so on). Please take account of this when using cross-references from other leaflets.

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Changes due to new technology. New point 5, 6, 7 have been inserted.

The person responsible for this leaflet is named in the UIC Code

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Summary

The *UIC Leaflet 917-1* sets out the technical characteristics of an international interconnected data transmission network together with the procedures governing integration of the various national networks in this international interconnected network.

There are several solutions used by the Railways:

1. One solution is based on the *ITU-T X.75 Recommendation*. The set of X.75 configuration values that must be respected in order to achieve international connectivity among data transmission networks is defined. The Leaflet specifies the addressing scheme based on Data Network Identification Codes (DNIC).
2. Another solution is based on Internet Protocol (IP), where MPLS technology is applied. The procedure how the basic MPLS structure and configuration shall be achieved is defined in the Leaflet.

1 - Preliminary remarks

1.1 - This Leaflet sets out the technical characteristics of international interconnected data transmission networks together with the procedures governing integration of the various national networks in the international interconnected networks.

1.2 - The general principles governing the structure and operation of each national railway data transmission network and its general technical characteristics should be harmonised insofar as this harmonisation is essential to its integration in the international system.

1.3 - While respecting the independent configuration of national networks, international network links must be developed in accordance with the common rules set out in this leaflet with mandatory or recommendatory status.

1.4 - Where there is a reference in this leaflet to a certain standard, this is mandatory only for those networks, where this standard technology is adopted by the railway authorities.

2 - Configuration of the networks belonging to the international interconnected X.75 network

2.1 - The national nodes connected to the international interconnected railway data transmission network shall use packet switching and shall as a rule be a part of the highest level of the national network. Nodes shall be interconnected in an international interconnected network using *ITU-T X.75 protocol* (see Bibliography - page 13). The parameters of this protocol which apply to the international interconnected railway data transmission network are specified in Appendix A - page 9.

2.2 - The nodes in the network shall be capable of guaranteeing at least 99% uninterrupted service - including during maintenance periods - throughout the year on a round-the-clock basis.

2.3 - The national nodes shall be identified within the international interconnected network by the Data Network Identification Code (DNIC) (see List of abbreviations - page 12). Appendix B - page 11 lists the DNIC currently assigned to participating railways.

2.4 - The nodes and transmission circuits in the international interconnected data transmission network must be capable of transmitting the data flows to and from national subscribers or in transit the data flows to neighbouring national networks. This transmission must function equally well under normal circumstances and when another participating network is downgraded.