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SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

Public data networks – Network aspects

International routing principles and routing plan for Public Data Networks

ITU-T Recommendation X.110

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ITU-T Recommendation X.110

International routing principles and routing plan for Public Data Networks

Summary

This Recommendation provides high level general principles and guidelines that should be applied by Network Operators for the routing of international data traffic across interconnected public data networks. The aim of this Recommendation is to provide network operators with the necessary information to ensure that data traffic can be effectively and economically routed across interconnected public data networks making best use of the available network resources. Although this Recommendation is focused towards packet switched data networks (such as X.25 and Frame Relay), the principles are applicable to both circuit-switched and packet-switched public data networks.

Source

ITU-T Recommendation X.110 was revised by ITU-T Study Group 17 (2001-2004) and approved under the WTSA Resolution 1 procedure on 13 April 2002.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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ITU-T Recommendation X.110

International routing principles and routing plan for Public Data Networks

1 Introduction

This Recommendation specifies the high level routing principles and guidelines that should be applied for the establishment of calls across interconnecting public data networks. Although this Recommendation is focused towards packet switched data networks (such as X.25 and Frame Relay), the principles are applicable to both circuit-switched and packet-switched public data networks.

2 Scope

2.1 The scope of this Recommendation is the provision of general principles and guidelines that should be applied by Network Operators for the routing of international data traffic across interconnected public data networks. The aim of this Recommendation is to provide network operators with the necessary information to ensure that data traffic can be effectively and economically routed across interconnected public data networks utilizing the available network resources. It is recognized that the guidelines will need to be reviewed periodically to ensure that it is in step with actual practice taking place within the international public data networks.

A model of the international public data network is illustrated in Figure 1. This model consists of a set of national public networks and shows the interconnection of national public data networks and International Data Switching Exchanges (IDSEs) and reflects the manner in which public data networks have evolved in different ways in many countries. The model shown illustrates six types of networks that have evolved as follows:

- a) Some countries may have more than one PDN and also more than one IDSE. See country A in Figure 1.
- b) Some countries may have one IDSE which stands alone from that country's PDN. See country B in Figure 1.
- c) Some countries may have one PDN and gain international access through one IDSE. See country C in Figure 1.
- d) Some countries may not have a PDN but utilize an IDSE for international connections. See country D in Figure 1.
- e) Some countries may have more than one PDN each with its own IDSE. See country E in Figure 1.
- f) Some countries may have more than one PDN each sharing one or more IDSE. See country F in Figure 1.

2.2 Circuits between IDSEs in the same country are not classed as international links.

2.3 A list of the terms and definitions used in this Recommendation are recorded in Annex A.

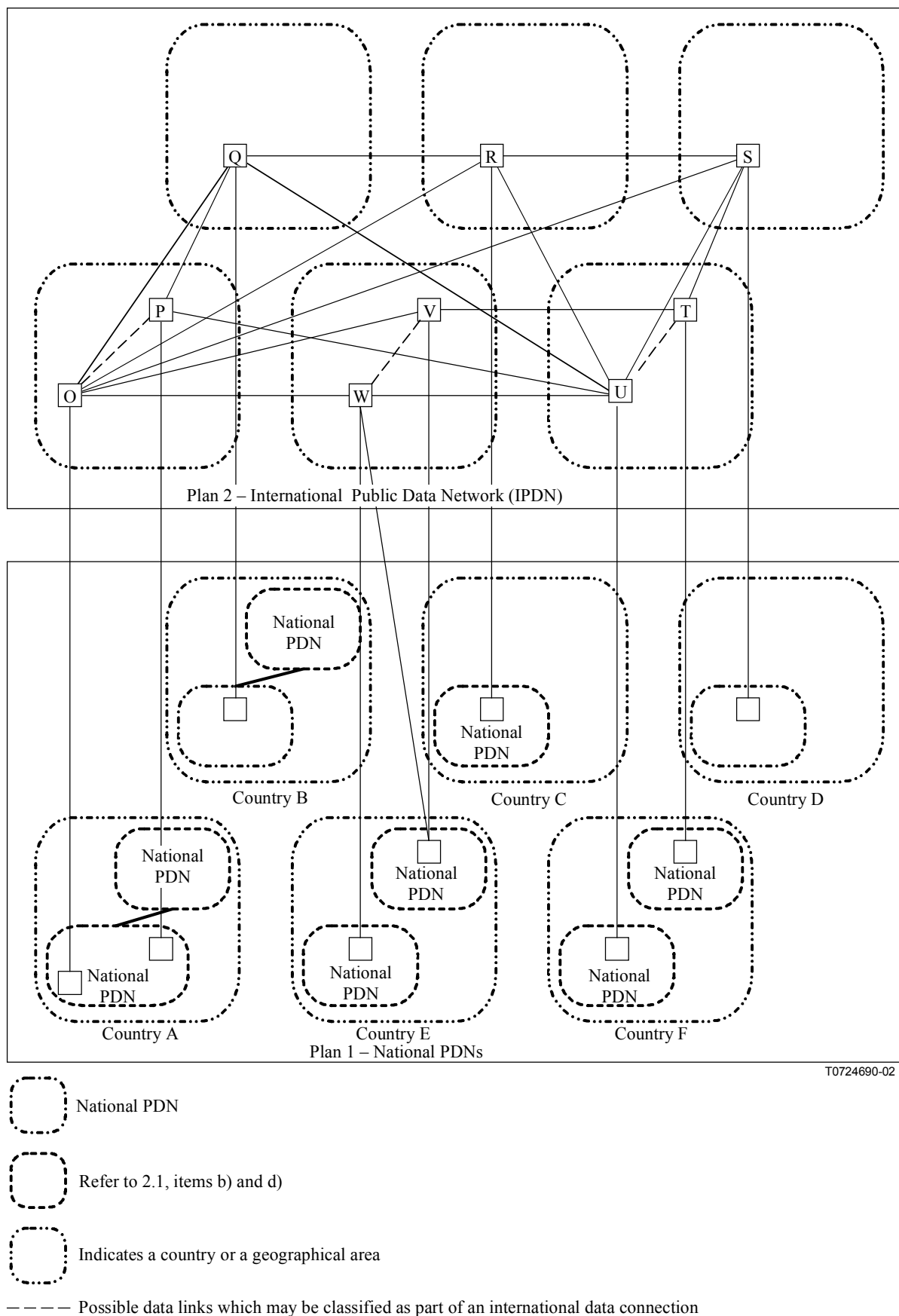


Figure 1/X.110 – International public data network model