Recommendation E.414

INTERNATIONAL NETWORK MANAGEMENT — ORGANIZATION

1 Introduction

The required high degree of cooperation and coordination in international network management can best be achieved by efficient and effective interworking between international network management organizations in the various countries. This Recommendation specifies the organizational elements necessary for this purpose, and outlines the functions and responsibilities of each element.

Only those organizational elements vital to the network management development, planning, implementation and control of the international network are dealt with in the Recommendation. It is recognized that other functions must necessarily be carried out within the network management organization, either in support of the functions specified below or in connection with the management of the national network.

It is also recognized that Administrations may not wish to assign each element to a separate staff or create a separate organization. Administrations are, therefore, afforded the freedom to organize such functions in a manner which best suits their own situation and the level of development of network management.

2 International network management — organization

2.1 As far as international cooperation and coordination are concerned, network management should be based on an organization comprising the following elements, all of which should exist in each country practicing international network management:

a) network management planning and liaison;

b) network management implementation and control;

c) network management development.

Each element represents a set of functions and reponsibilities, and are further defined in §§ 3 to 5.

2.2 At the discretion of the Administration concerned, the elements defined in §§ 3 to 5 below can be grouped together in a single organizational entity, for example, an International Network Management Centre. This is likely to be the most convenient and efficient approach where the level of development and degree of practice of network management is high. Where such an approach is not possible, or is impractical, international network management functions could be carried out at locations where related activities are performed. § 6 offers specific guidance on the relationship between network management and network maintenance, and includes consideration for the possible combining of organizational elements involved in the two fields of activity.

2.3 Irrespective of which arrangement an Administration decides for its international network management organization, it must ensure that the functions and responsibilities of a particular organizational element are not divided between two separate locations. Administrations can then issue a list of contact point information (see § 7 for guidance) which will give telephone, telex numbers, service hours etc. for each element.

3 Network management planning and liaison

3.1 Network management planning and liaison is an element within the international network management organization. It is concerned with liaising with other Administrations to develop plans to cater for unforeseen high traffic levels and any other situation likely to adversely affect the completion of international calls.

3.2 Network management planning and liaison is responsible for the following set of functions:

a) liaising with similar points in other Administrations to determine the actions necessary to overcome unforeseen high traffic levels and other situations adversely affecting the completion of international calls;

b) producing plans to cater for the abnormal traffic levels produced by foreseen national and international events;

c) liaising with the restoration liaison officer (RLO) within the Administration concerning network management plans for failures and planned outages;

d) liaising with similar points in other Administrations to establish the required actions when plans to overcome abnormal situations cannot be implemented;

e) ensuring that the facilities and network management controls required for the rapid implementation of agreed plans are available and ready for use when required.

4 Network management implementation and control

4.1 Network management implementation and control is an element within the international network management organization. It is concerned with monitoring the performance and status of the network in real time, determining the need for network management action, and, when necessary, implementing and controlling such action.

4.2 Network management implementation and control is responsible for the following set of functions:

a) monitoring the status and performance of the network;

b) collecting and analysing network status and performance data;

c) determining the need for the control of traffic as indicated by one or more of the following conditions:

— the failure or planned outage of an international or national transmission system,

— the failure or planned outage of an international or national exchange,

— congestion in an international exchange,

— congestion in a distant network,

— congestion to an international destination,

— heavy traffic caused by an unusual situation;

d) applying or arranging for network management control action, as described in Recommendation E.411, and Recommendation E.412;

e) liaising and cooperating with similar points in other Administrations in the application of network management controls;

f) liaising with the fault report point (network)[1)] within the Administration concerning the exchange of information available at either point;

g) liaising with the restoration control point[2)] within the Administration concerning failures and planned outages;

h) disseminating information as appropriate within its own Administration concerning network management actions which have been taken.

5 Network management development

5.1 Network management development is an element within the international network management organization. It is concerned with the development and introduction of techniques and facilities for the purpose of network management surveillance and control at the international level, although it may also have similar responsibilities for the national network.

5.2 Network management development is responsible for the following set of functions:

a) developing facilities to enable the application of current network management techniques;

b) long range planning for the coordinated introduction of new network management techniques and improved network surveillance and controls;

c) evaluating the effectiveness of current plans, controls and strategies with a view to identifying the need for improved controls, control strategies and support systems, particularly those which may be required for new services and the ISDN.

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1) The fault report point (network) is a functional element in the general maintenance organization (see Recommendation M.716).

2) The restoration control point is a functional element in the general maintenance organization (see Recommendation M.725).

6 Cooperation and coordination between network management and network maintenance organizations

Considerable benefit may be obtained by close cooperation and coordination between the network management organization identified in this Recommendation and the network maintenance organization identified in the M.700 series of Recommendations. For example, reports of network difficulties received by the fault report point (network) in the maintenance organization may assist the network management implementation and control point in refining its control action. Similarly, difficulties reported to the fault report point (network) may be explained by information already available to the network management implementation and control point. For this reason, and to take into account the particular operating situation and stage of development of network management within an Administration, some of the functional elements identified in this Recommendation may be located with one of the groupings of functional elements of the network maintenance organization as outlined in Recommendation M.710.

Where it is advantageous to create a separate international management centre containing the elements defined above, care should be taken to ensure that suitable liaison and information flows occur between such a centre and the network maintenance organization.

7 Exchange of contact point information

For each of the three organizational elements in §§ 3 to 5 above, Administrations should exchange contact point information. Network management contact points should be exchanged as part of the general exchange of contact point information as specified in Recommendation M.93.