



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

X.700

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

(09/92)

DATA COMMUNICATION NETWORKS

MANAGEMENT FRAMEWORK FOR OPEN SYSTEMS INTERCONNECTION (OSI) FOR CCITT APPLICATIONS



Recommendation X.700

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT 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 Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation X.700 was prepared by Study Group VII and was approved under the Resolution No. 2 procedure on the 10th of September 1992.

CCITT NOTE

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

© ITU 1993

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

CONTENTS

	<i>Page</i>
1 Scope.....	1
2 References	1
3 Definitions.....	1
4 Symbols and abbreviations	2
5 Concepts in OSI management.....	2
6 Model of OSI management.....	5
7 OSI management specifics.....	7
Annex A – Comments relating to the OSI management framework	9

11/11/2025 11:11:11 AM

INTRODUCTION

The basic reference model of Open Systems Interconnection (OSI), Recommendation X.200 [1], provides a description of the activities necessary for systems to interwork using communication media. This Recommendation provides a description of the framework and structure of OSI management in a way that supplements and clarifies the description of management contained in Recommendation X.200 [1].

The purpose of this Recommendation is to provide a common basis for the coordinated development of management standards.

It is also the purpose of this Recommendation to identify areas for developing or improving standards, and to provide a common reference for maintaining consistency of all related standards. It is not the intent of this Recommendation either to serve as an implementation specification, or to be a basis for appraising the conformance of actual implementations, or to provide a sufficient level of detail to define precisely the services and protocols of the management architecture. Rather, this Recommendation provides a conceptual and functional framework which allows independent teams of experts to work productively on the development of management standards.

This Recommendation provides an extension to Recommendation X.200 [1] and therefore assumes as a basis the concepts and terminology included therein. The objective of this document is to describe a framework for those management activities pertinent to OSI, and to identify the management services which are supported by OSI management protocols.

The description of the management framework given in this Recommendation is developed in stages:

- Clause 1 defines the scope of this Recommendation.
- Clause 2 lists related OSI standards.
- Clause 3 defines terms used in this Recommendation.
- Clause 4 defines abbreviations used in this Recommendation.
- Clause 5 provides the description of general concepts relating to management.
- Clause 6 defines a model for OSI management.
- Clause 7 introduces the areas of OSI management standardization, specifies how each of the component parts of OSI management operate and defines the form of management information exchanges.

Management is manifest in a number of ways. Management is related to activities which control or monitor the use of resources. Within open systems the resources can be those which provide data storage or processing capabilities, or they can be those which provide interconnection capabilities. It is only the latter and the communications concerning their management which fall within the scope of OSI management standardization.

Human beings are ultimately responsible for managing the OSI environment, although responsibilities may be delegated to automated processes.

Recommendation X.700**MANAGEMENT FRAMEWORK FOR OPEN SYSTEMS
INTERCONNECTION (OSI) FOR CCITT APPLICATIONS¹⁾**

(1992)

1 Scope

This Recommendation establishes a framework for coordinating the development of existing and future standards for OSI management, and is provided for reference by those Recommendations.

This Recommendation

- defines terminology of and describes concepts for OSI management;
- provides a structure for OSI management together with an overview of the objectives of, and facilities provided by, OSI management; and
- describes OSI management activities.

This Recommendation does not specify services or protocols for OSI management. It is neither an implementation specification for systems, nor a basis for appraising the conformance of implementations.

2 References

- [1] CCITT Recommendation X.200 (1988), *Reference model for Open Systems Interconnection for CCITT applications*.
- [2] CCITT Recommendation X.800 (1991), *Security architecture for Open Systems Interconnection for CCITT applications*.

3 Definitions

3.1 This Recommendation makes use of the OSI terminology defined in Recommendation X.200 [1] specifically:

- a) (N)-entity;
- b) (N)-layer;
- c) (N)-protocol;
- d) (N)-protocol-data-unit;
- e) open system;
- f) systems management.

3.2 Terms defined in Recommendation X.200 [1] which are redefined for the purposes of this Recommendation:

3.2.1 systems management application-entity

An application-entity for the purpose of systems management communication.

¹⁾ Recommendation X.700 and ISO/IEC 7498-4: Information technology – Open Systems Interconnection – Management framework were developed in close collaboration and are technically identical.