

Specification for

**Electronic messaging
enabling the
application of
BS ISO/IEC 10021 in the
United Kingdom**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Information Systems Technology Standards Policy Committee (IST/-) to Technical Committee IST/18, upon which the following bodies were represented:

- British Computer Society
- British Facsimile Industry Consultative Committee
- British Photographic Association
- British Printing Industries Federation
- British Telecommunications plc
- Computing Services Association
- Department of Trade and Industry (Information Technology Division)
- EEA (the Association of Electronics, Telecommunications and Business Equipment Industries)
- HM Treasury (Central Computer and Telecommunications Agency)
- Her Majesty's Stationery Office
- Institute of Information Scientists
- Joint Network Team
- Ministry of Defence
- National Computer Users' Forum
- National Computing Centre Ltd.
- National Health Services
- SGML Users' Group
- University of London
- User Standards Forum for Information Technology (Institute of Data Processing Management)

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Foreword

This British Standard has been produced under the direction of the Information Systems Technology Standards Policy Committee (IST/-).

The multi-part International Standard ISO/IEC 10021, which has been implemented in the United Kingdom as BS ISO/IEC 10021:1990, leaves certain aspects of a Message Handling service open for decision by individual countries as a national matter. This British Standard incorporates the decisions that have been made relating to the application of BS ISO/IEC 10021 in the United Kingdom.

ISO/IEC 10021 was produced as a joint text document with the 1988 CCITT X.400 series of Recommendations, and the decisions apply equally to the CCITT version, except where indicated in notes to the normative text.

Three appendices are included to provide background information. Appendix A explains the terms that are referenced in clause 2 as defined in other standards. Appendix B discusses the reasoning behind the national decisions. Appendix C describes some aspects of O/R address attributes and the relationships between the Registration Authorities that support the United Kingdom Message Handling Services.

BS 7521 will not have any explicit regulatory role unless specified by the Office of Telecommunications (Of tel), under pertinent Licence conditions.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 24, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Section 1. General

0 Introduction

BS ISO/IEC 10021 defines a common architecture and set of protocols for an international messaging service. However, this service will be subject to differing regulatory regimes in each of the countries in which it operates, and the International Standard has had to provide the means by which it can be adapted to suit local conditions. The result is a series of options on each of which the country has to make a national decision.

The relationship between the clauses and subclauses in the International Standard that explicitly require a national decision, and the decisions recorded in this standard is shown in Table 1 and Table 2.

Table 1 — Cross-reference to BS ISO/IEC 10021-2

BS ISO/IEC 10021-2:1990 clause	BS 7521 clause
15	10.1
18.3.1	4.1.2
18.3.21	5.1
18.3.9	6.1
18.4, note 2	8

Table 2 — Cross-reference to BS ISO/IEC 10021-4

BS ISO/IEC 10021-4:1990 clause	BS 7521 clause
8.5.2	5.2.3

In the UK, the Department of Trade and Industry (DTI) is the telecommunications Administration and thus the CCITT Administration for Message Handling Systems (MHS). As the responsible authority, the DTI has granted Public Telecommunications Operator's (PTO) Licences to certain organizations, and has also granted the Branch Systems General Licence (BSGL), and the now obsolescent Value Added Data Services (VADS) Licences to classes of persons defined in those Licences. The PTO Licences and the PTO Associates' Licence determine how public telecommunications operators and their associates may offer services, including message handling services. All other providers of message handling services operate under either the BSGL or the VADS licence.

This British Standard has therefore been produced in order to record a coherent set of national decisions within the regulatory framework imposed by the PTO Licence, the BSGL, and the VADS Licence.

To provide compatibility with the style used in BS ISO/IEC 10021-4 the names and values of the parameters of the MTS Abstract Service and the MTA Abstract Service are printed in **bold**.

Section 2 of this British Standard specifies the rules for the assignment of originator/recipient (O/R) addresses that include a country-name identifying the United Kingdom. In association with BS 7453-1, these rules ensure uniqueness of O/R addresses between Management Domains (MDs) by providing a registration scheme for Administration Management Domain (ADMD) and Private Management Domain (PRMD) names; to simplify matters, registration is performed using a single Name Space for MHS Management Domain names.

Section 3 specifies the roles and responsibilities of UK ADMDs and PRMDs. It should be noted that under UK legislation, any provider of message handling services may operate as an ADMD and, because of this, the definition of an ADMD in the United Kingdom contained within this standard differs from that given in the International Standard (see **A.1**).

1 Scope

1.1 This British Standard specifies the United Kingdom requirements for those matters that BS ISO/IEC 10021 leaves open for national decision, namely:

- whether UK Private Management Domain (PRMD) names are to be nationally unique, or unique only within the scope of an Administration Management Domain (see **5.1**);
- whether UK Organization names are to be nationally unique, or unique only within the scope of a Management Domain (see **6.1**);
- whether UK ADMDs are to be required to form a National Message Transfer Backbone, i.e. should they be interconnected (see **10.1**);
- whether the users of PRMDs registered with more than one UK ADMD will have to have multiple alias O/R addresses, each relative to one of those ADMDs, or whether ADMDs will be required to recognize the reserved value of the single space (" ") to identify the union of all UK ADMDs [see **4.2.3 b**];
- whether equivalence rules are to be imposed regarding those O/R address Standard Attributes represented as Teletex Strings and their Printable String equivalents (see clause **8**);
- whether the Private Domain Identifier is identical with the Private Domain name (see **5.2.3**).

It thereby enables the application of BS ISO/IEC 10021 in the United Kingdom.

NOTE 1 In some cases, the need for a national decision is explicitly identified by BS ISO/IEC 10021, while in others, e.g. the use of the **country-name** standard attribute, the need is implicit.

NOTE 2 The background to the national decisions is described in Appendix B.

1.2 This British Standard also specifies the procedures to be followed by BS ISO/IEC 10021 Management Domains subordinate to the UK Name Registration Authority (see BS 7453-1).

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions and abbreviations

2.1 Definitions

2.1.1 The following terms are used in this British Standard and are defined in BS ISO 7498-3:

name;
naming authority.

2.1.2 The following terms are used in this British Standard and are defined in BS ISO/IEC 10021-2:

administration-domain-name;
administration management domain;
attribute;
country-name;
conditional;
delivery;
distribution list;
management domain;
message;
message handling;
message handling system;
message transfer agent;
network-address;
non-delivery;
non-delivery report;
O/R address;
optional;
organization-name;
organizational-unit-names;
originator;
P1;
private-domain-name;
private management domain;
probe;
receipt;
recipient;

report;
routing;
transfer;
user;
user agent.

2.1.3 The following terms are used in this British Standard and are defined in BS ISO/IEC 10021-4:

criticality;
global-domain-identifier.

2.1.4 The following terms are used in this British Standard and are defined in BS ISO/IEC 9834-1:

registration;
registration authority;
registration procedures.

2.1.5 The following term is used in this British Standard and is defined in BS ISO/IEC 8824:

object identifier.

2.1.6 For the purposes of this British Standard, the following additional definitions apply.

2.1.6.1

UK Administration management domain

a Management Domain that has registered its MHS Management Domain name with the UK Name Registration Authority (see BS 7453-1), and which has performed the procedures specified in **10.3** to become part of the UK National Message Transfer Backbone

2.1.6.2

UK Private management domain

a Management Domain that has registered its MHS Management Domain name with the UK Name Registration Authority (see BS 7453-1)

2.1.6.3

interconnection agreement

a contract between two Management Domains that enables them to exchange messages, probes and reports

2.1.6.4

message transfer backbone

a number of Management Domains that together provide the facility that any Management Domain that has an interconnection agreement with at least one member of the message transfer backbone, can transfer messages, probes or reports to any other Management Domain that has an interconnection agreement with at least one member of that message transfer backbone

2.1.6.5**UK national message transfer backbone**

the message transfer backbone formed by UK ADMDs

2.1.6.6**international message transfer backbone**

the message transfer backbone formed by all ADMDs

NOTE See also clause 15 of BS ISO/IEC 10021-2:1990.

2.1.6.7**reachable**

the property of an MD that messages may be transferred to it either directly or indirectly

2.1.6.8**UK organization**

an organization owning UAs and/or DLs located in a UK PRMD and/or a UK ADMD

2.1.6.9**intermediate MD**

- a) A Management Domain that handles a message or probe when neither the originator, nor the recipient is located in that Management Domain.
- b) A Management Domain that handles a report when neither the point at which the report was generated, nor the destination of the report, is located in that Management Domain.

2.1.6.10**originating MD**

for a message or probe, the MD in which the originator of that message or probe is located; for a report, the MD in which the report was generated

2.1.6.11**delivering MD**

for a recipient of a message or probe, the MD in which that recipient is located; for a report, the MD in which the originator of the corresponding message or probe is located

2.1.6.12**MHS management domain name**

a name registered by the UK Name Registration Authority (see BS 7453-1) for use as either an **administration-domain-name** or a **private-domain-name**

2.1.6.13**organizational-unit-name**

an identifier that identifies an organizational unit relative to a superior organizational unit, or the organization as a whole. It is a component of the **organizational-unit-names** standard attribute

2.2 Abbreviations

The following abbreviations are used in this British Standard.

ADMD	Administration Management Domain
DL	Distribution List
MD	Management Domain
MHS	Message Handling System
MS	Message Store
MTA	Message Transfer Agent
MTS	Message Transfer System
O/R	Originator/Recipient
PRMD	Private Management Domain
UA	User Agent

Section 2. Naming and addressing

3 The Country Name

3.1 National implementation

Implementations shall be capable of recognizing any of the following values of the **country-name** standard attribute as a **country-name** identifying the United Kingdom.

- a) *Alphabetic form*: the combination of the two BS 4730 (identical with ISO 646) characters 4/7 (or 6/7) and 4/2 (or 6/2) encoded as an ASN.1 PRINTABLE STRING (see BS ISO/IEC 8824), i.e. "GB" in any combination of upper or lower case as specified by BS 5374 (identical with ISO 3166).
- b) *Numeric form*: the following combinations of three BS 4730 characters encoded as an ASN.1 NUMERIC STRING (see BS ISO/IEC 8824).

- 1) 3/2, 3/3 and 3/4 (i.e. CCITT Recommendation X.121 DCC value "234").
- 2) 3/2, 3/3 and 3/5 (i.e. CCITT Recommendation X.121 DCC value "235").
- 3) 3/2, 3/3 and 3/6 (i.e. CCITT Recommendation X.121 DCC value "236").
- 4) 3/2, 3/3 and 3/7 (i.e. CCITT Recommendation X.121 DCC value "237").

NOTE 1 The alphabetic form is recommended.

NOTE 2 The values of the Data Country Codes (DCC) shown are those currently allocated to the United Kingdom. This places no limitation on the use of further DCCs that may be allocated to the United Kingdom in the future.

3.2 Use

3.2.1 Restrictions on use

A **country-name** that identifies the United Kingdom shall be used only in names assigned to objects subordinate to the UK Name Registration Authority, whose registration procedures are described in BS 7453-1. When such a name contains an **administration-domain-name** and/or a **private-domain-name** these shall be registered as MHS Management Domain names by the UK Name Registration Authority.

3.2.2 Significance of numeric form

When the numeric form is used, no significance shall be attached to the actual value chosen from the list in 3.1 b). There shall be no implied relationship between the value of the **country-name** and the public network(s) that may be used for communication with and between MTAs in UK Management Domains.

4 The Administration Domain Name

4.1 National implementation

4.1.1 ADMD name registration

An ADMD shall register its **administration-domain-name** as an MHS Management Domain name according to the registration procedures described in BS 7453-1; this MHS Management Domain name shall be registered with an indication that the owner is preparing to operate an ADMD in conformance with this British Standard. When used in association with a country-name that identifies the United Kingdom (see clause 3), the **administration-domain-name** shall identify the UK ADMD.

NOTE 1 When an MHS Management Domain name registered with the UK Name Registration Authority is used as an **administration-domain-name** in conjunction with a **country-name** other than that for the United Kingdom, it cannot be assumed to identify the same ADMD.

NOTE 2 An ADMD may have alias **administration-domain-names**.

4.1.2 Single space convention

The **administration-domain-name** consisting only of the BS 4730 character 2/0, i.e. a single space, shall be reserved and has a special meaning [see 4.2.3 b) and 4.2.5].

4.1.3 Single zero convention

The **administration-domain-name** consisting only of the BS 4730 character 3/0, i.e. a single zero, shall be reserved and have a special meaning [see 4.2.3 c)].

4.2 Use

4.2.1 Restrictions on use

An **administration-domain-name** registered as specified in 4.1.1 shall be used only to identify an ADMD operating in conformance with this British Standard.

4.2.2 Use by UK ADMD Naming Authorities

When a UK ADMD acts as the Naming Authority for UAs and DLs attached to MTAs that are part of the ADMD, and for associated organizations (see 6.2), then all O/R addresses assigned by an ADMD Naming Authority directly, or by a subordinate Naming Authority (see clauses 6 and 7) shall include an **administration-domain-name** registered as specified in 4.1.1 and assigned to that ADMD, and a **country-name** that identifies the United Kingdom.

NOTE Clause 4.2 of CCITT Recommendation F.401 is not applicable to the UK MHS, i.e. there is no requirement in this British Standard for an ADMD to act as a Naming Authority for **private-domain-names**.

4.2.3 Use by UK PRMD Naming Authorities

When a UK PRMD acts as a Naming Authority (see 5.2.2), then all O/R addresses assigned by a PRMD Naming Authority directly, or by a subordinate Naming Authority (see clauses 6 and 7) shall include an **administration-domain-name** that satisfies one of the following cases.

a) The **administration-domain-name** has been registered as specified in 4.1.1 and assigned by the UK Name Registration Authority to a UK ADMD with which the PRMD has an interconnection agreement (see 10.2), either on its own or in association with another PRMD. Use of this **administration-domain-name** shall signify that the PRMD is reachable from the UK National Message Transfer Backbone, and that the identified ADMD is an MD, but not necessarily the only MD, through which messages, probes and reports may be transferred to the PRMD.

NOTE This does not imply that the ADMD acts as the Naming Authority for the PRMD.

b) The **administration-domain-name** takes the reserved value consisting of the BS 4730 character 2/0, i.e. a single space, which shall signify that the PRMD has an interconnection agreement with one or more UK ADMDs (see 10.2), either on its own, or in association with another PRMD, and is hence reachable from the UK National Message Transfer Backbone.

c) The **administration-domain-name** takes the reserved value consisting of the BS 4730 character 3/0, i.e. a single zero, which shall signify that the PRMD does not have an interconnection agreement with any ADMD and is hence not reachable from the UK National Message Transfer Backbone.

NOTE 1 For a reachable PRMD, the choice between a) and b) is a matter for the PRMD alone.

NOTE 2 A PRMD is uniquely identified by its **private-domain-name** which is always present in each O/R Address it assigns, regardless of the above choice (see 5.1).

4.2.4 Use in the Global Domain Identifier for an ADMD

The **global-domain-identifier** that identifies a UK ADMD shall be generated using an **administration-domain-name** registered as specified in 4.1.1 and assigned to that ADMD, and a **country-name** that identifies the United Kingdom; neither the single space convention nor the single zero convention shall be used.

NOTE Where the ADMD has alias **administration-domain-names**, the ADMD should consistently use the same **administration-domain-name** in the **global-domain-identifier**.

4.2.5 Use in the Global Domain Identifier for a PRMD

The **global-domain-identifier** that identifies a UK PRMD shall include an **administration-domain-name** that satisfies 4.2.3 a), 4.2.3 b), or 4.2.3 c).

NOTE 1 An **administration-domain-name** value that satisfies 4.2.3 b), i.e. a single space is recommended.

NOTE 2 See also 5.2.3.

5 The Private Domain Name

5.1 National implementation

The **private-domain-name** of a UK PRMD shall be unique within the UK. The **private-domain-name** shall be registered according to the registration procedures for an MHS Management Domain name described in BS 7453-1. When used in association with a **country-name** that identifies the United Kingdom (see clause 3), it shall then identify the PRMD.

NOTE 1 When an MHS Management Domain name registered with the UK Name Registration Authority is used as a **private-domain-name** in conjunction with a **country-name** other than that for the United Kingdom it cannot be assumed to identify the same PRMD.

NOTE 2 A PRMD may have alias **private-domain-names**.

5.2 Use

5.2.1 Restrictions on use

A **private-domain-name** registered as specified in 5.1 shall be used only to identify a PRMD operating in conformance with this British Standard.

5.2.2 By UK PRMD Naming Authorities

When a UK PRMD acts as the Naming Authority for UAs and DLs attached to the MTAs that are part of the PRMD, and for associated organizations (see 6.1), then all O/R addresses assigned to UAs and DLs located in the PRMD shall include a **private-domain-name** registered as specified in 5.1 and assigned to that PRMD, and a **country-name** that identifies the United Kingdom.

NOTE The value of the **administration-domain-name** component of a so assigned O/R address is specified in 4.2.3. This field may be used as an indication of whether the UA or DL is reachable from the UK National Message Transfer Backbone, and additionally to identify a point of attachment. It has no further significance.

5.2.3 Use in the Global Domain Identifier for a UK PRMD

The **global-domain-identifier** that identifies a UK PRMD shall be generated using a **country-name** that identifies the United Kingdom, and, as the value of the **private-domain-identifier**, a **private-domain-name**, which is registered as specified in 5.1 and assigned to that PRMD.