

INTERNATIONAL STANDARD

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Information technology — Telecommunications and information exchange between systems — Intermediate system to Intermediate system intra-domain routing information exchange protocol for use in conjunction with the protocol for providing the connectionless-mode Network Service (ISO 8473)

AMENDMENT 1:

Implementation conformance statement proformas

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Protocole intra-domaine de routage d'un
système intermédiaire à un système intermédiaire à utiliser conjointement
avec le protocole fournissant le service de réseau en mode sans
connexion (ISO 8473)*

*AMENDEMENT 1: Proformes de déclaration de conformité de mise en
œuvre*



Reference number
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

Amendment 1 to International Standard ISO/IEC 10589:1992 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

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AMENDMENT 1:

Implementation conformance statement proformas

Page 1

Add the following as the last paragraph of Clause 1 “Scope”:

"

Annexes G, H, I and J, which are integral parts of this International Standard provide ICS proformas associated with intra-domain routing protocol management information.

"

Add the following references to clause 2 “Normative references”:

"

ISO/IEC 8825: 1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

ISO/IEC 9646-1: 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts*.

ISO/IEC 9646-2: 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification*.

NOTE – ISO/IEC 9646-1:1994 and ISO/IEC 9646-2:1994 supersede ISO/IEC 9646-1:1991 and ISO/IEC 9646-2:1991 respectively. However, when this International Standard was under development, the previous editions were valid and this International Standard is therefore based on these editions, which are listed below.

ISO/IEC 9646-1: 1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts*.

ISO/IEC 9646-2: 1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification*.

ISO/IEC 9646-7: 1995, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements*.

ISO/IEC 10165-6: 1994, *Information technology - Open Systems Interconnection - Structure of management information: Requirements and guidelines for implementation conformance statement proformas associated with OSI management*.

"

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Add the following abbreviations to subclause 4.4 "Miscellaneous":

"

MCS	management conformance summary
MICS	management information conformance statement
MOCS	managed object conformance statement
MRCS	managed relationship conformance statement

"

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Add the following after the title "12 Conformance".

"

12.1 Conformance for protocol implementation

This subclause specifies the conformance for protocol implementation of intra-domain routing protocol. The supplier of implementation for protocol implementation shall support the following specification.

NOTE – The conformance for protocol implementation is independent of the conformance for management information implementation specified in subclause 12.2.

"

Replace title number of "12.1", "12.1.1", "12.1.2", "12.1.3", "12.1.4", "12.2", "12.2.1", "12.2.2", "12.2.2.1", "12.2.3", "12.2.4", "12.2.4.1", "12.2.4.2", "12.2.4.3" and "12.2.4.4" with "12.1.1", "12.1.1.1", "12.1.1.2", "12.1.1.3", "12.1.1.4", "12.1.2", "12.1.2.1", "12.1.2.2", "12.1.2.2.1", "12.1.2.3", "12.1.2.4", "12.1.2.4.1", "12.1.2.4.2", "12.1.2.4.3" and "12.1.2.4.4", respectively.

Delete "(y)" of subclause 12.1.1.2 "Static conformance requirements for all ISs", and rename "(z)" with "(y)".

Add the following after subclause 12.1.2.4.4.

"

12.2 Conformance for management information implementation

This subclause specifies the conformance for management information implementation of intra-domain routing protocol. The supplier of implementation for management information implementation shall support the following specification.

NOTE – The conformance for management information implementation is independent of the conformance for protocol implementation specified in subclause 12.1.

12.2.1 Static conformance

The implementation shall conform to the requirements of this International Standard in the manager role, the agent role, or both roles. A claim of conformance to at least one role shall be made in Table G.1 of this International Standard.

If a claim of conformance is made for support in the manager role, the implementation shall support at least one management operation or notification or action of the managed objects specified by this International Standard. The conformance requirements in the manager role for those management operations and notifications and actions are identified in Table G.3 and further tables referenced by Annex G.

If a claim of conformance is made for support in the agent role, the implementation shall support one or more instances of the adjacency managed object class, the destination managed object class, the destination area managed object, the destination system managed object class, the reachable address managed object class and the virtual adjacency managed object class identified in Table G.4 of this International Standard and further tables referenced by Annex G.

If a claim of conformance is made for support in the agent role, the implementation shall support at least one name binding identified in Table G.8 of this International Standard for each supported managed object.

The implementation shall support the transfer syntax derived from the encoding rules specified in CCITT Rec. X.209 | ISO/IEC 8825 named {joint-iso-ccitt asn1(1) basicEncoding(1)} for the abstract data types referenced by the definitions for which support is claimed.

12.2.2 Dynamic conformance

Implementations claiming to conform to this International Standard shall support the elements of procedure and definitions of semantics corresponding to the definitions for which support is claimed.

12.2.3 Management implementation conformance statement requirements

Any MCS proforma, MICS proforma, MOCS proforma, and MRCS proforma which conform to this International Standard shall be technically identical to the proformas specified in Annexes G, H, I, and J preserving table numbering and the index numbers of items, and differing only in pagination and page headers.

The supplier of an implementation which is claimed to conform to this International Standard shall complete a copy of the management conformance summary (MCS) provided in Annex G as part of the conformance requirements together with any other ICS proformas referenced as applicable from that MCS. Any MCS, MICS, MOCS, and MRCS which conform to this International Standard shall:

- describe an implementation which conforms to this International Standard;
- have been completed in accordance with the instructions for completion given in ITU-T Rec. X.724 | ISO/IEC 10165-6;
- include the information necessary to uniquely identify both the supplier and the implementation.

12.2.4 IS level specific conformance requirements

The supplier of an implementation which is claimed to conform to this International Standard shall support at least level 1 IS identified in Table G.2 of this International Standard.

12.2.4.1 Conformance to level 1 ISs

An implementation claiming conformance to the level 1 IS of this International Standard in the agent role as a managed implementation shall support the adjacency MO and the destination system MO.

12.2.4.2 Conformance to level 2 ISs

An implementation claiming conformance to the level 2 IS of this International Standard in the agent role as a managed implementation shall support the adjacency MO, the destination system MO, the destination area MO, the virtual adjacency MO and the reachable address MO.

"

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Add the following Annexes after Annex F.

Annex G (normative)

MCS proforma¹⁾

G.1 Introduction

G.1.1 Purpose and structure

The management conformance summary (MCS) is a statement by a supplier that identifies an implementation and provides information on whether the implementation claims conformance to any of the listed set of documents that specify conformance requirements to OSI management.

The MCS proforma is a document, in the form of a questionnaire that when completed by the supplier of an implementation becomes the MCS.

G.1.2 Instructions for completing the MCS proforma to produce an MCS²⁾

The supplier of the implementation shall enter an explicit statement in each of the boxes provided. Specific instruction is provided in the text which precedes each table.

G.1.3 Symbols, abbreviations and terms

For all remaining annexes of this International Standard, the following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 and ITU-T Rec. X.296 | ISO/IEC 9646-7 are used for the Status column:

- m mandatory;
- o optional;
- c conditional;
- x prohibited;
- not applicable or out of scope.

NOTES

1 – 'c', 'm', and 'o' are prefixed by a 'c' when nested under a conditional or optional item of the same table;

2 – 'o' may be suffixed by 'N' (where N is a unique number) for mutually exclusive or selectable options among a set of status values. Support of at least one of the choices (from the items with the same values of N) is required.

For all remaining annexes of this International Standard, the following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 and ITU-T Rec. X.296 | ISO/IEC 9646-7 are used for the Support column:

- Y implemented;
- N not implemented;
- no answer required;
- Ig the item is ignored (i.e. processed syntactically but not semantically).

¹⁾ Users of this International Standard may freely reproduce the MCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MCS.

²⁾ Instructions for completing the MCS proforma are specified in ITU-T Rec.X.724 | ISO/IEC 10165-6 .

G.2 Identification of the implementation

G.2.1 Date of statement

The supplier of the implementation shall enter the date of this statement in the box below. Use the format DD-MM-YYYY.

Date of statement

G.2.2 Identification of the implementation

The supplier of the implementation shall enter information necessary to uniquely identify the implementation and the system(s) in which it may reside, in the box below.

G.2.3 Contact

The supplier of the implementation shall provide information on whom to contact if there are any queries concerning the content of the MCS, in the box below.

G.3 Identification of the International Standard in which the management information is defined

The supplier of the implementation shall enter the title, reference number and date of the publication of the International Standard which specifies the management information to which conformance is claimed, in the box below.

International Standard to which conformance is claimed

G.3.1 Technical corrigenda implemented

The supplier of the implementation shall enter the reference numbers of implemented technical corrigenda which modify the identified International Standard, in the box below.

G.3.2 Amendments implemented

The supplier of the implementation shall state the titles and reference numbers of implemented amendments to the identified International Standard, in the box below.

--

G.4 Management conformance summary

The supplier of implementation shall state the capabilities and features supported and provide summary of conformance claims to International Standards using the tables in this annex.

The supplier of the implementation shall specify the roles that are supported, in Table G.1

Table G.1 – Roles

Index	Roles supported	Status	Support	Additional information
1	Manager role support	o.1		
2	Agent role support	o.1		

The supplier of the implementation shall specify the level of IS that are supported, in Table G.2

Table G.2 – Level of IS

Index	Level supported	Status	Support	Additional information
1	Level 1 IS support	m		
2	Level 2 IS support	o		

The supplier of the implementation shall specify support for management information in the manager role, in Table G.3.

Table G.3 – Manager role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	Operations on managed objects	c1		
2	Activate action for reachableAddress	c1		
3	Deactivate action reachableAddress	c1		
4	State change notification for Adjacency managed object	c1		
5	Object creation notification for reachableAddress managed object	c1		
6	Object deletion notification for reachableAddress managed object	c1		
7	State change notification for reachableAddress managed object	c1		

c1: if G.1/1a then o.2 else -

The supplier of the implementation shall specify support for management information in the agent role, in Table G.4.

Table G.4 – Agent role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	adjacency managed object	m		
2	destinationArea managed object	c2		
3	destinationSystem managed object	m		
4	reachableAddress managed object	c2		
5	virtualAdjacency managed object	c2		

c2: if G.2/2a then m else -

NOTE – The Table reference column in the above table is the managed object class , notification, attribute or action table reference of the MOCS supplied by the supplier of the managed object which claims to import the notification or attribute from this International Standard.

Table G.5 – Logging of event records

Index		Status	Support	Additional information
1	Does the implementation support logging of event records in agent role?	c3		

c3: if G.1/2a then o else -

NOTE – Conformance to this International Standard does not require conformance to CCITT Rec. X.735 | ISO/IEC 10164-6.

The supplier of the implementation shall provide information on claims of conformance to any of the International Standards summarized in the following tables. For each International Standard that the supplier of the implementation claims conformance to, the corresponding conformance statement(s) shall be completed, or referenced by, the MCS. The supplier of the implementation shall complete the Support, Table numbers and Additional information columns.

In tables G.6, G.7, and G.8, the Status column is used to indicate whether the supplier of the implementation is required to complete the referenced tables or referenced items. Conformance requirements are as specified in the referenced tables or referenced items and are not changed by the value of the MCS Status column. Similarly, the Support column is used by the supplier of the implementation to indicate completion of the referenced tables or referenced items.

Table G.6 – MOCS support summary

Index	Identification of the document that includes the MOCS proforma	Table numbers of MOCS proforma	Description	Constraints and values	Status	Support	Table numbers of MOCS	Additional information
1	"ISO/IEC 10589"	Table I.1 - I.6	adjacency	—	m			
2	"ISO/IEC 10589"	Table I.7 - I.10	virtualAdjacency	—	c4			
3	"ISO/IEC 10589"	Table I.11 - I.14	destinationSystem	—	m			
4	"ISO/IEC 10589"	Table I.15- I.18	destinationArea	—	c5			
5	"ISO/IEC 10589"	Table I.19- I.24	reachableAddress	—	c6			
6	"ISO/IEC 10164-1"	Table C.1 - C.4	objectCreationRecord	—	c7			
7	"ISO/IEC 10164-1"	Table C.5 - C.8	objectDeletionRecord	—	c7			
8	"ISO/IEC 10164-2"	Table C.9 - C.12	stateChangeRecord	—	c8			

c4: if G.4/5a then m else -

c5: if G.4/2a then m else -

c6: if G.4/4a then m else -

c7: if G.4/4a and G.5/1a then m else -

c8: if G.5/1a then m else -

Table G.7 – MRCS support summary

Index	Identification of the document that includes the MRCS proforma	Table numbers of MRCS proforma	Description	Constraints and values	Status	Support	Table numbers of MRCS	Additional information
1	"ISO/IEC 10589"	Table J.1/1	adjacency-linkage	—	o.3			
2	"ISO/IEC 10589"	Table J.1/2	adjacency-linkage-management	—	o.3			
3	"ISO/IEC 10589"	Table J.1/3	virtualAdjacency-cLNS	—	c9			
4	"ISO/IEC 10589"	Table J.1/4	destinationSystem-cLNS	—	m			
5	"ISO/IEC 10589"	Table J.1/5	destinationArea-cLNS	—	c10			
6	"ISO/IEC 10589"	Table J.1/6	reachableAddress-linkage-imported	—	c11			
7	"ISO/IEC 10589"	Table J.1/7	reachableAddress-linkage-management	—	c11			
8	"ISO/IEC 10164-6"	Table D.1/1	logRecord-log	—	c12			

c9: if G.6/2a then m else -

c10: if G.6/4a then m else -

c11: if G.6/5a then o.4 else -

c12: G.5/1a then o else -

Table G.8 – MICS support summary

Index	Identification of the document that includes the MICS proforma	Table numbers of MICS proforma	Description	Constraints and values	Status	Support	Table numbers of MICS	Additional information
1	"ISO/IEC 10589"	Table H.1 to H.7	management operations	—	c13			
2	"ISO/IEC 10589"	Table H.8	notifications	—	c14			
3	"ISO/IEC 10589"	Table H.9	actions	—	c15			

c13: if G.3/1a then m else -

c14: if G.3/4a or G.3/5a or G.3/6a or G.3/7a then m else -

c15: if G.3/2a or G.3/3a then m else -