



UNIÓN INTERNACIONAL DE TELECOMUNICACIONES

**UIT-T**

SECTOR DE NORMALIZACIÓN  
DE LAS TELECOMUNICACIONES  
DE LA UIT

**Enmienda 1**  
**X.733**

(04/95)

**REDES DE DATOS Y COMUNICACIÓN  
ENTRE SISTEMAS ABIERTOS**

**GESTIÓN DE INTERCONEXIÓN  
DE SISTEMAS ABIERTOS**

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**TECNOLOGÍA DE LA INFORMACIÓN –  
INTERCONEXIÓN DE SISTEMAS ABIERTOS –  
GESTIÓN DE SISTEMAS: FUNCIÓN  
SEÑALADORA DE ALARMAS**

**ENMIENDA 1: FORMULARIOS DE DECLARACIÓN  
DE CONFORMIDAD DE REALIZACIÓN**

**Enmienda 1 a la  
Recomendación UIT-T X.733**

(Anteriormente «Recomendación del CCITT»)

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## PREFACIO

La UIT (Unión Internacional de Telecomunicaciones) es el organismo especializado de las Naciones Unidas en el campo de las telecomunicaciones. El UIT-T (Sector de Normalización de las Telecomunicaciones de la UIT) es un órgano permanente de la UIT. En el UIT-T, que es la entidad que establece normas mundiales (Recomendaciones) sobre las telecomunicaciones, participan unos 179 países miembros, 84 empresas de explotación de telecomunicaciones, 145 organizaciones científicas e industriales y 38 organizaciones internacionales.

Las Recomendaciones las aprueban los Miembros del UIT-T de acuerdo con el procedimiento establecido en la Resolución N.º 1 de la CMNT (Helsinki, 1993). Adicionalmente, la Conferencia Mundial de Normalización de las Telecomunicaciones (CMNT), que se celebra cada cuatro años, aprueba las Recomendaciones que para ello se le sometan y establece el programa de estudios para el periodo siguiente.

En ciertos sectores de la tecnología de la información que corresponden a la esfera de competencia del UIT-T, se preparan las normas necesarias en colaboración con la ISO y la CEI. El texto de la Recomendación UIT-T X.733, Enmienda 1, se aprobó el 10 de abril de 1995. Su texto se publica también, en forma idéntica, como Norma Internacional ISO/CEI 10164-4.

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### NOTA

En esta Recomendación, la expresión «Administración» se utiliza para designar, en forma abreviada, tanto una administración de telecomunicaciones como una empresa de explotación reconocida de telecomunicaciones.

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RECOMENDACIONES UIT-T DE LA SERIE X  
**REDES DE DATOS Y COMUNICACIÓN ENTRE SISTEMAS ABIERTOS**

(Febrero de 1994)

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## Resumen

Esta enmienda contiene cuadros que documentan la información de gestión obligatoria y facultativa específica de la función señaladora de alarmas. Esta enmienda será utilizada por los especificadores de perfiles, por ejemplo, los que elaboran perfiles normalizados internacionales (ISP, *international standardised profiles*), para definir un subconjunto explícito de capacidades que permitirá la interoperabilidad entre realizaciones. Los cuadros tienen también una columna para que los proveedores de equipos indiquen la capacidad de sus productos desde el punto de vista de los perfiles o especificación básica. Las estructuras de los cuadros cumplen las Directrices para los formularios de declaración de conformidad de realización, especificados en la Rec. UIT-T X.724 | ISO/CEI 10165-6.



## NORMA INTERNACIONAL

## RECOMENDACIÓN UIT-T

**TECNOLOGÍA DE LA INFORMACIÓN – INTERCONEXIÓN DE SISTEMAS  
ABIERTOS – GESTIÓN DE SISTEMAS: FUNCIÓN SEÑALADORA DE ALARMAS**

**ENMIENDA 1  
(a la Rec. UIT-T X.733 | ISO/CEI 10164-4)**

**Formularios de declaración de conformidad de realización**

- 1) *Añádase la siguiente nota de pie de página a la primera referencia de 2.1:*  
«<sup>1)</sup> Modificada por la Rec. UIT-T X.701/Corr.2 | ISO/CEI 10040/Corr.2.»
- 2) *Añádase la siguiente referencia a 2.1:*  
«← Recomendación UIT-T X.724 (1993) | ISO/CEI 10165-6: (1994), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de información de gestión: Requisitos y directrices para los formularios de declaración de conformidad de realización asociados con la gestión de la interconexión de sistemas abiertos.*»
- 3) *Añádanse las siguientes referencias a 2.2:*  
«← Recomendación X.291 del CCITT (1992), *Metodología y marco de las pruebas de conformidad de interconexión de sistemas abiertos de las Recomendaciones sobre los protocolos para aplicaciones del CCITT – Especificación de sucesiones de pruebas abstractas.*  
ISO/CEI 9646-2: 1991, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 2: Abstract test suite specification.*  
– Recomendación UIT-T X.296<sup>3)</sup>, *Metodología y marco de las pruebas de conformidad de interconexión de sistemas abiertos de las Recomendaciones sobre los protocolos para aplicaciones del UIT-T – Declaraciones de conformidad de realización.*  
ISO/CEI 9646-7<sup>3)</sup>, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements.*»  
*Añádase la siguiente nota de pie de página:*  
«<sup>3)</sup> Actualmente en estado de proyecto.»
- 4) *Introduzcanse los siguientes cambios en 3.4:*  
*Supresión de los elementos cuyos indicativos son c) y d).*  
*Cambio del indicativo e) por el indicativo c) del elemento correspondiente e inserción de los siguientes nuevos elementos:*  
«e) declaración de conformidad de objeto gestionado (MOCS);  
f) declaración de conformidad de información de gestión (MICS);»  
*Cambio de indicativos de los elementos h) a j) para que pasen a ser j) a l) e inserción de los siguientes nuevos elementos:*  
«h) formulario MICS;  
i) formulario MOCS;»
- 5) *Introduzca el siguiente cambio en 3.6:*  
*Sustitución de «declaración de conformidad de sistema.» por lo siguiente:*  
«a) formulario PICS;  
b) declaración de conformidad de realización de protocolo;  
c) declaración de conformidad de sistema.»

6) *Renúmérese 3.7 como 3.8 e insértese la nueva subcláusula siguiente:*

### «3.7 Definiciones del formulario de declaración de conformidad de realización

En esta Recomendación | Norma Internacional se utilizan los siguientes términos definidos en la Rec. UIT-T X.724 | ISO/CEI 10165-6:

- a) declaración de conformidad de relación gestionada (MRCS);
- b) resumen de conformidad de gestión (MCS);
- c) formulario de declaración de definición de información de gestión (MIDS);
- d) formulario MCS;
- e) formulario MRCS.»

7) *Añádanse las siguientes abreviaturas a la cláusula 4:*

«ICS	Declaración de conformidad de realización ( <i>implementation conformance statement</i> )
MCS	Resumen de conformidad de gestión ( <i>management conformance summary</i> )
MICS	Declaración de conformidad de información de gestión ( <i>management information conformance statement</i> )
MIDS	Declaración de definición de información de gestión ( <i>management information definition statement</i> )
MOCS	Declaración de conformidad de objeto gestionado ( <i>managed object conformance statement</i> )
MRCS	Declaración de conformidad de relación gestionada ( <i>managed relationship conformance statement</i> )
PICS	Declaración de conformidad de realización de protocolo ( <i>protocol implementation conformance statement</i> )»

8) *Sustitúyase la cláusula 13 por lo siguiente:*

## «13 Conformidad

Las realizaciones que aleguen conformidad con esta Recomendación | Norma Internacional cumplirán los requisitos de conformidad que se definen en las subcláusulas siguientes.

### 13.1 Conformidad estática

La realización cumplirá los requisitos de esta Recomendación | Norma Internacional en el cometido de gestor, en el cometido de agente o en ambos cometidos. Se hará una alegación de conformidad con al menos uno de los cometidos en el Cuadro A.1.

Si se hace una alegación de conformidad para el soporte en el cometido de gestor, la realización soportará por lo menos una de las notificaciones o una de las operaciones de gestión especificadas en esta Recomendación | Norma Internacional. Los requisitos de conformidad en el cometido de gestor para esas operaciones de gestión y notificaciones se identifican en el Cuadro A.3 y cuadros sucesivos referenciados por Anexo A.

Si se hace una alegación de conformidad para el soporte en el cometido de agente, la realización soportará por lo menos una de las notificaciones especificadas en esta Recomendación | Norma Internacional. Los requisitos de conformidad en el cometido de agente se identifican en el Cuadro A.4 y cuadros sucesivos referenciados por Anexo A.

Las realizaciones soportarán la sintaxis de transferencia obtenida de las reglas de codificación especificadas en la Rec. X.209 del CCITT | ISO/CEI 8825, denominadas {joint-iso-ccitt asn1(1) basicEncoding(1)} para los tipos de datos abstractos referenciados por las definiciones cuyo soporte se alega.

NOTA – Antes de la publicación de esta enmienda, la presente Recomendación | Norma Internacional identificaba clases de conformidad general y dependiente. Puede hacerse una alegación de conformidad similar a la clase de conformidad general declarando soporte en el cometido de gestor, en el cometido de agente o en ambos cometidos, para la unidad funcional objectEvents del Cuadro A.2. Puede hacerse una alegación de conformidad similar a la clase de conformidad dependiente declarando soporte para al menos uno de los elementos (ítems) de los Cuadros A.3 o A.4.



### 13.2 Conformidad dinámica

Las realizaciones que aleguen conformidad con esta Recomendación | Norma Internacional deberán soportar los elementos de procedimiento y las definiciones de semántica correspondientes a las definiciones cuyo soporte se alegue.

### 13.3 Requisitos de la declaración de conformidad de realización de gestión

Cualquier formulario MCS, MICS y MOCS conforme a esta Recomendación | Norma Internacional será técnicamente idéntico a los formularios especificados en los Anexos A, B y C preservando la numeración de los cuadros y los números de índice de los elementos y difiriendo solamente en la paginación y los títulos de las páginas.

El proveedor de una realización que alegue ser conforme a esta Recomendación | Norma Internacional deberá rellenar un ejemplar del resumen de conformidad de gestión (MCS) que figura en el Anexo A como parte de los requisitos de conformidad junto con cualquiera de los formularios ICS referenciados como aplicables en esa MCS. Una ICS que se ajuste a la presente Recomendación | Norma Internacional deberá:

- describir una realización conforme a esta Recomendación | Norma Internacional;
- haber sido rellenado de acuerdo con las instrucciones que se dan al respecto en la Rec. UIT-T X.724 | ISO/CEI 10165-6;
- incluir la información necesaria para identificar inequívocamente tanto al proveedor como a la realización.

Las alegaciones de conformidad con la información de gestión definida en esta Recomendación | Norma Internacional, en clases de objetos gestionados definidos en otro lugar, deberán incluir los requisitos del formulario MIDS, especificado en el Anexo D, en la MOCS para la clase de objeto gestionado.»

9) *Sustitúyase la denominación de Anexo A por la de Anexo E e insértense los siguientes anexos:*

## Anexo A

### Formulario de MCS<sup>4)</sup>

(Este anexo es parte integrante de esta Recomendación | Norma Internacional)

#### A.1 Introduction

##### A.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.

##### A.1.2 Instructions for completing the MCS proforma to produce a MCS

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.

##### A.1.3 Symbols, abbreviations and terms

For all annexes of this Recommendation | 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 "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 selectable options among a set of status values. Support of at least one of the choices (from the items with the same value of N) is required.

For all annexes of this Recommendation | 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).

##### A.1.4 Table format

Some of the tables in this Recommendation | International Standard have been split because the information is too wide to fit on the page. Where this occurs, the index number of the first block of columns are the index numbers of the corresponding rows of the remaining blocks of columns. A complete table reconstructed from the constituent parts should have the following layout:

Index	First block of columns	Second block of columns	Etc.
-------	------------------------	-------------------------	------

<sup>4)</sup> Los usuarios de esta Recomendación | Norma Internacional pueden reproducir libremente el formulario de MCS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MCS cumplimentado. En la Rec. UIT-T X.724 | ISO/CEI 10165-6 se especifican las instrucciones para rellenar el formulario de MCS.

In this Recommendation | International Standard the constituent parts of the table appear consecutively, starting with the first block of columns.

When a table with sub-rows is too wide to fit on a page, the continuation table(s) have been constructed with index numbers identical to the index numbers in the corresponding rows of the first table, and with sub-index numbers corresponding to the sub-rows within each indexed row. For example, if Table X.1 has 2 rows and the continuation of Table X.1 has 2 sub-rows for each row, the tables are presented as follows:

**Table X.1 – Title**

Index	A	B	C	D	Support		G
					E	F	
1	a	b	–				
2	a	b	–				

**Table X.1 (continued) – Title**

Index	Sub-index	H	I	J	K	L
1	1.1	h	i	j		
	1.2	h	i	j		
2	2.1	h	i	j		
	2.2	h	i	j		

A complete table reconstructed from the constituent parts should have the following layout:

Index	A	B	C	D	Support		G	Sub-index	H	I	J	K	L
					E	F							
1	a	b	–					1.1	h	i	j		
								1.2	h	i	j		
2	a	b	–					2.1	h	i	j		
								2.2	h	i	j		

References made to cells within tables shall be interpreted as references within reconstructed tables. In the examples, above, the reference X.1/1d corresponds to the blank cell in column G for row with Index 1, and X.1/1.2b corresponds to the blank cell in column L for row with Sub-index 1.2.

**A.2 Identification of the implementation**

**A.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
-------------------

**A.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.

**A.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 or any referenced conformance statement, in the box below.

**A.3 Identification of the Recommendations | International Standards 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 Recommendations | International Standards which specify the management information to which conformance is claimed, in the box below.

Recommendations | International Standards to which conformance is claimed

**A.3.1 Technical corrigenda implemented**

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

**A.3.2 Amendments implemented**

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

**A.4 Management conformance summary**

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

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

**Table A.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 support for the systems management functional unit, in Table A.2.

**Table A.2 – Systems management functional unit**

Index	Systems management functional unit name	Manager		Agent		Additional information
		Status	Support	Status	Support	
1	alarm reporting functional unit	c1		c2		
c1: if A.1/1a then o else –. c2: if A.1/2a then o else –.						

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

**Table A.3 – Manager role minimum conformance requirement**

Index	Item	Status	Support	Additional information
1	Communications alarm notification	c3		
2	Environmental alarm notification	c3		
3	Equipment alarm notification	c3		
4	Processing error alarm notification	c3		
5	Quality of service alarm notification	c3		
6	Operations on managed objects	c4		
c3: if A.2/1a then m else (if A.1/1a then o.2 else –). c4: if A.2/1a then o else (if A.1/1a then o.2 else –). NOTE – Manager role minimum conformance requires support for at least one of the items identified in this table. Support for the functional unit identified in Table A.2 mandates support for some of those items. Conditions c3 and c4 express both of these requirements.				

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

**Table A.4 – Agent role minimum conformance requirement**

Index	Item	Status	Support	Table reference	Additional information
1	Communications alarm notification	c5			
2	Environmental alarm notification	c5			
3	Equipment alarm notification	c5			
4	Processing error alarm notification	c5			
5	Quality of service alarm notification	c5			
6	Alarm record managed object class	c6		–	
c5: if A.2/1b then m else (if A.1/2a then o.3 else –). c6: if A.1/2a and A.5/1a then m else –. NOTES 1 Condition c6 makes it mandatory, if logging is supported, to support the event log records associated with the notifications supported. 2 The Table reference column in this table is the notification reference of the MOCS supplied by the supplier of the managed object which claims to import the notification from this Recommendation   International Standard.					

**Table A.5 – Logging of event records**

Index		Status	Support	Additional information
1	Does the implementation support logging of event records in agent role?	c7		
c7: if A.1/2a then o else –.				

NOTE 1 – Conformance to this Recommendation | 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 Recommendations | International Standards summarized in Tables A.6 to A.9. For each Recommendation | 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 A.6 to A.9, 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 A.6 – PICS support summary**

Index	Identification of the document that includes the PICS proforma	Table numbers of PICS proforma	Description	Constraints and values	Status	Support	Table numbers of PICS	Additional information
1	CCITT Rec. X.730   ISO/IEC 10164-1	Annex E all tables	SM application context	OBJECT IDENTIFIER	m			

NOTE 2 – Conformance to the MAPDUs defined in this Recommendation | International Standard can be claimed by completing the corresponding tables in the MICS and MOCS annexes of the referenced Recommendations | International Standards.

**Table A.7 – 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	CCITT Rec. X.733   ISO/IEC 10164-4	Annex C all tables	alarmRecord	–	c8			
c8: if A.4/6a then m else –.								

**Table A.8 – 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	CCITT Rec. X.735   ISO/IEC 10164-6	Item D.1/1	logRecord-log name binding	–	c9			
c9: if A.5/1a then o else –.								

**Table A.9 – 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	CCITT Rec. X.733   ISO/IEC 10164-4	Table B.1	notifications	–	c10			
2	CCITT Rec. X.733   ISO/IEC 10164-4	Tables B.2 and B.3	management operations	–	c11			
c10: if A.3/1a or A.3/2a or A.3/3a or A.3/4a or A.3/5a then m else –.								
c11: if A.3/6a then m else –.								

**Anexo B**

**Formulario de MICS<sup>5)</sup>**

(Este anexo es parte integrante de esta Recomendación | Norma Internacional)

**B.1 Introduction**

The purpose of this MICS proforma is to provide a mechanism for a supplier of an implementation which claims conformance, in the manager role, to management information specified in this Recommendation | International Standard, to provide conformance information in a standard form.

**B.2 Instructions for completing the MICS proforma to produce a MICS**

The MICS proforma contained in this annex is comprised of information in tabular form, in accordance with ITU-T Rec. X.724 | ISO/IEC 10165-6. In addition to the general guidance given in ITU-T Rec. X.724 | ISO/IEC 10165-6, the Additional information column shall be used to identify the object classes for which the management operations are supported. The supplier of the implementation shall state which items are supported in the tables below and if necessary, provide additional information.

**B.3 Symbols, abbreviations and terms**

The following abbreviations are used throughout the MICS proforma:

- dmi-att      joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7)
- dmi-not      joint-iso-ccitt ms(9) smi(3) part2(2) notification(10)

The notations used for the Status and Support columns are specified in A.1.3.

**B.4 Statement of conformance to the management information**

**B.4.1 Notifications**

The specifier of a manager role implementation that claims to support the notifications specified in this Recommendation | International Standard shall import a copy of Table B.1 and complete it.

**Table B.1 – Notification support**

Index	Notification type template label	Value of object identifier for the notification type	Constraints and values	Status	Support		Additional information
					Confirmed	Non-confirmed	
1	communicationsAlarm	{dmi-not 2}	–	c1			
2	environmentalAlarm	{dmi-not 3}	–	c2			
3	equipmentAlarm	{dmi-not 4}	–	c3			
4	processingErrorAlarm	{dmi-not 10}	–	c4			
5	qualityOfServiceAlarm	{dmi-not 11}	–	c5			
c1: if A.3/1a then m else –. c2: if A.3/2a then m else –. c3: if A.3/3a then m else –. c4: if A.3/4a then m else –. c5: if A.3/5a then m else –.							

*(continued)*

<sup>5)</sup> Los usuarios de esta Recomendación | Norma Internacional pueden reproducir libremente el formulario de MICS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MICS cumplimentado.



Table B.1 (continued) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
1	1.1	probableCause	{dmi-att 18}	–	m		
	1.1.1	globalValue	–	OBJECT IDENTIFIER	m		
	1.1.2	localValue	–	INTEGER	m		
	1.2	specificProblems	{dmi-att 27}	required for some objects	m		
	1.2.1	global	–	OBJECT IDENTIFIER	m		
	1.2.2	local	–	INTEGER	m		
	1.3	perceivedSeverity	{dmi-att 17}	ENUMERATED 0 to 5	m		
	1.4	backedUpStatus	{dmi-att 11}	required for some objects	m		
	1.5	backUpObject	{dmi-att 40}	for backUp relationships	m		
	1.5.1	distinguishedName	–	–	m		
	1.5.2	nonSpecificForm	–	–	m		
	1.5.3	localDistinguishedName	–	–	m		
	1.6	trendIndication	{dmi-att 30}	ENUMERATED 0 to 2	m		
	1.7	thresholdInfo	{dmi-att 29}	for threshold attributes	m		
	1.7.1	triggeredThreshold	–	–	m		
	1.7.2	observedValue	–	–	m		
	1.7.2.1	integer	–	–	m		
	1.7.2.2	real	–	required for some objects	m		
	1.7.3	thresholdLevel	–	–	m		
	1.7.3.1	up	–	–	m		
	1.7.3.1.1	high	–	–	m		
	1.7.3.1.1.1	integer	–	–	m		
	1.7.3.1.1.2	real	–	required for some objects	m		
	1.7.3.1.2	low	–	for guage thresholds	m		
	1.7.3.1.2.1	integer	–	–	m		
	1.7.3.1.2.2	real	–	required for some objects	m		
	1.7.3.2	down	–	–	m		
	1.7.3.2.1	high	–	–	m		
	1.7.3.2.1.1	integer	–	–	m		
	1.7.3.2.1.2	real	–	required for some objects	m		
	1.7.3.2.2	low	–	–	m		
	1.7.3.2.2.1	integer	–	–	m		
	1.7.3.2.2.2	real	–	required for some objects	m		
	1.7.4	armTime	–	–	m		
	1.8	notificationIdentifier	{dmi-att 16}	INTEGER	m		
	1.9	correlatedNotifications	{dmi-att 12}	–	m		
	1.9.1	correlatedNotifications	–	–	m		
	1.9.2	sourceObjectInst	–	–	m		
	1.9.2.1	distinguishedName	–	–	m		
	1.9.2.2	nonSpecificForm	–	–	m		
1.9.2.3	localDistinguishedName	–	–	m			

(continued)

Table B.1 (continued) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information	
1	1.10	stateChangeDefinition	{dmi-att 28}	required for some objects	m			
	1.10.1	attributeId	–	–	m			
	1.10.1.1	global	–	OBJECT IDENTIFIER	m			
	1.10.1.2	local	–	INTEGER	m			
	1.10.2	oldAttributeValue	–	–	m			
	1.10.3	newAttributeValue	–	–	m			
	1.11	monitoredAttributes	{dmi-att 15}	required for some objects	m			
	1.12	proposedRepairActions	{dmi-att 19}	required for some objects	m			
	1.12.1	global	–	OBJECT IDENTIFIER	m			
	1.12.2	local	–	INTEGER	m			
	1.13	additionalText	{dmi-att 7}	–	m			
	1.14	additionalInformation	{dmi-att 6}	required for some objects	m			
	2	2.1	probableCause	{dmi-att 18}	–	m		
		2.1.1	globalValue	–	OBJECT IDENTIFIER	m		
2.1.2		localValue	–	INTEGER	m			
2.2		specificProblems	{dmi-att 27}	required for some objects	m			
2.2.1		global	–	OBJECT IDENTIFIER	m			
2.2.2		local	–	INTEGER	m			
2.3		perceivedSeverity	{dmi-att 17}	ENUMERATED 0 to 5	m			
2.4		backedUpStatus	{dmi-att 11}	required for some objects	m			
2.5		backUpObject	{dmi-att 40}	for backUp relationships	m			
2.5.1		distinguishedName	–	–	m			
2.5.2		nonSpecificForm	–	–	m			
2.5.3		localDistinguishedName	–	–	m			
2.6		trendIndication	{dmi-att 30}	ENUMERATED 0 to 2	m			
2.7		thresholdInfo	{dmi-att 29}	for threshold attributes	m			
2.7.1		triggeredThreshold	–	–	m			
2.7.2		observedValue	–	–	m			
2.7.2.1		integer	–	–	m			
2.7.2.2		real	–	required for some objects	m			
2.7.3		thresholdLevel	–	–	m			
2.7.3.1		up	–	–	m			
2.7.3.1.1		high	–	–	m			
2.7.3.1.1.1		integer	–	–	m			
2.7.3.1.1.2		real	–	required for some objects	m			
2.7.3.1.2		low	–	for guage thresholds	m			
2.7.3.1.2.1		integer	–	–	m			
2.7.3.1.2.2		real	–	required for some objects	m			
2.7.3.2		down	–	–	m			
2.7.3.2.1		high	–	–	m			
2.7.3.2.1.1		integer	–	–	m			
2.7.3.2.1.2		real	–	required for some objects	m			
2.7.3.2.2		low	–	–	m			
2.7.3.2.2.1		integer	–	–	m			
2.7.3.2.2.2		real	–	required for some objects	m			

(continued)

**Table B.1 (continued) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
2	2.7.4	armTime	–	–	m		
	2.8	notificationIdentifier	{ dmi-att 16}	INTEGER	m		
	2.9	correlatedNotifications	{ dmi-att 12}	–	m		
	2.9.1	correlatedNotifications	–	–	m		
	2.9.2	sourceObjectInst	–	–	m		
	2.9.2.1	distinguishedName	–	–	m		
	2.9.2.2	nonSpecificForm	–	–	m		
	2.9.2.3	localDistinguishedName	–	–	m		
	2.10	stateChangeDefinition	{ dmi-att 28}	required for some objects	m		
	2.10.1	attributeId	–	–	m		
	2.10.1.1	global	–	OBJECT IDENTIFIER	m		
	2.10.1.2	local	–	INTEGER	m		
	2.10.2	oldAttributeValue	–	–	m		
	2.10.3	newAttributeValue	–	–	m		
	2.11	monitoredAttributes	{ dmi-att 15}	required for some objects	m		
	2.12	proposedRepairActions	{ dmi-att 19}	required for some objects	m		
	2.12.1	global	–	OBJECT IDENTIFIER	m		
	2.12.2	local	–	INTEGER	m		
	2.13	additionalText	{ dmi-att 7}	–	m		
	2.14	additionalInformation	{ dmi-att 6}	required for some objects	m		
3	3.1	probableCause	{ dmi-att 18}	–	m		
	3.1.1	globalValue	–	OBJECT IDENTIFIER	m		
	3.1.2	localValue	–	INTEGER	m		
	3.2	specificProblems	{ dmi-att 27}	required for some objects	m		
	3.2.1	global	–	OBJECT IDENTIFIER	m		
	3.2.2	local	–	INTEGER	m		
	3.3	perceivedSeverity	{ dmi-att 17}	ENUMERATED 0 to 5	m		
	3.4	backedUpStatus	{ dmi-att 11}	required for some objects	m		
	3.5	backUpObject	{ dmi-att 40}	for backUp relationships	m		
	3.5.1	distinguishedName	–	–	m		
	3.5.2	nonSpecificForm	–	–	m		
	3.5.3	localDistinguishedName	–	–	m		
	3.6	trendIndication	{ dmi-att 30}	ENUMERATED 0 to 2	m		
	3.7	thresholdInfo	{ dmi-att 29}	for threshold attributes	m		
	3.7.1	triggeredThreshold	–	–	m		
	3.7.2	observedValue	–	–	m		
	3.7.2.1	integer	–	–	m		
	3.7.2.2	real	–	required for some objects	m		
	3.7.3	thresholdLevel	–	–	m		
	3.7.3.1	up	–	–	m		
	3.7.3.1.1	high	–	–	m		
	3.7.3.1.1.1	integer	–	–	m		
	3.7.3.1.1.2	real	–	required for some objects	m		
	3.7.3.1.2	low	–	for gauge thresholds	m		
	3.7.3.1.2.1	integer	–	–	m		
	3.7.3.1.2.2	real	–	required for some objects	m		

(continued)

Table B.1 (continued) — Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information	
3	3.7.3.2	down	–	–	m			
	3.7.3.2.1	high	–	–	m			
	3.7.3.2.1.1	integer	–	–	m			
	3.7.3.2.1.2	real	–	required for some objects	m			
	3.7.3.2.2	low	–	–	m			
	3.7.3.2.2.1	integer	–	–	m			
	3.7.3.2.2.2	real	–	required for some objects	m			
	3.7.4	armTime	–	–	m			
	3.8	notificationIdentifier	{dmi-att 16}	INTEGER	m			
	3.9	correlatedNotifications	{dmi-att 12}	–	m			
	3.9.1	correlatedNotifications	–	–	m			
	3.9.2	sourceObjectInst	–	–	m			
	3.9.2.1	distinguishedName	–	–	m			
	3.9.2.2	nonSpecificForm	–	–	m			
	3.9.2.3	localDistinguishedName	–	–	m			
	3.10	stateChangeDefinition	{dmi-att 28}	required for some objects	m			
	3.10.1	attributeId	–	–	m			
	3.10.1.1	global	–	OBJECT IDENTIFIER	m			
	3.10.1.2	local	–	INTEGER	m			
	3.10.2	oldAttributeValue	–	–	m			
	3.10.3	newAttributeValue	–	–	m			
	3.11	monitoredAttributes	{dmi-att 15}	required for some objects	m			
	3.12	proposedRepairActions	{dmi-att 19}	required for some objects	m			
	3.12.1	global	–	OBJECT IDENTIFIER	m			
	3.12.2	local	–	INTEGER	m			
	3.13	additionalText	{dmi-att 7}	–	m			
	3.14	additionalInformation	{dmi-att 6}	required for some objects	m			
	4	4.1	probableCause	{dmi-att 18}	–	m		
		4.1.1	globalValue	–	OBJECT IDENTIFIER	m		
		4.1.2	localValue	–	INTEGER	m		
		4.2	specificProblems	{dmi-att 27}	required for some objects	m		
		4.2.1	global	–	OBJECT IDENTIFIER	m		
		4.2.2	local	–	INTEGER	m		
		4.3	perceivedSeverity	{dmi-att 17}	ENUMERATED 0 to 5	m		
4.4		backedUpStatus	{dmi-att 11}	required for some objects	m			
4.5		backUpObject	{dmi-att 40}	for backUp relationships	m			
4.5.1		distinguishedName	–	–	m			
4.5.2		nonSpecificForm	–	–	m			
4.5.3		localDistinguishedName	–	–	m			
4.6		trendIndication	{dmi-att 30}	ENUMERATED 0 to 2	m			
4.7		thresholdInfo	{dmi-att 29}	for threshold attributes	m			
4.7.1		triggeredThreshold	–	–	m			
4.7.2		observedValue	–	–	m			
4.7.2.1		integer	–	–	m			
4.7.2.2		real	–	required for some objects	m			

(continued)

Table B.1 (continued) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
4	4.7.3	thresholdLevel	–	–	m		
	4.7.3.1	up	–	–	m		
	4.7.3.1.1	high	–	–	m		
	4.7.3.1.1.1	integer	–	–	m		
	4.7.3.1.1.2	real	–	required for some objects	m		
	4.7.3.1.2	low	–	for gauge thresholds	m		
	4.7.3.1.2.1	integer	–	–	m		
	4.7.3.1.2.2	real	–	required for some objects	m		
	4.7.3.2	down	–	–	m		
	4.7.3.2.1	high	–	–	m		
	4.7.3.2.1.1	integer	–	–	m		
	4.7.3.2.1.2	real	–	required for some objects	m		
	4.7.3.2.2	low	–	–	m		
	4.7.3.2.2.1	integer	–	–	m		
	4.7.3.2.2.2	real	–	required for some objects	m		
	4.7.4	armTime	–	–	m		
	4.8	notificationIdentifier	{ dmi-att 16 }	INTEGER	m		
	4.9	correlatedNotifications	{ dmi-att 12 }	–	m		
	4.9.1	correlatedNotifications	–	–	m		
	4.9.2	sourceObjectInst	–	–	m		
	4.9.2.1	distinguishedName	–	–	m		
	4.9.2.2	nonSpecificForm	–	–	m		
	4.9.2.3	localDistinguishedName	–	–	m		
	4.10	stateChangeDefinition	{ dmi-att 28 }	required for some objects	m		
	4.10.1	attributeId	–	–	m		
	4.10.1.1	global	–	OBJECT IDENTIFIER	m		
	4.10.1.2	local	–	INTEGER	m		
4.10.2	oldAttributeValue	–	–	m			
4.10.3	newAttributeValue	–	–	m			
4.11	monitoredAttributes	{ dmi-att 15 }	required for some objects	m			
4.12	proposedRepairActions	{ dmi-att 19 }	required for some objects	m			
4.12.1	global	–	OBJECT IDENTIFIER	m			
4.12.2	local	–	INTEGER	m			
4.13	additionalText	{ dmi-att 7 }	–	m			
4.14	additionalInformation	{ dmi-att 6 }	required for some objects	m			
5	5.1	probableCause	{ dmi-att 18 }	–	m		
	5.1.1	globalValue	–	OBJECT IDENTIFIER	m		
	5.1.2	localValue	–	INTEGER	m		
	5.2	specificProblems	{ dmi-att 27 }	required for some objects	m		
	5.2.1	global	–	OBJECT IDENTIFIER	m		
	5.2.2	local	–	INTEGER	m		
	5.3	perceivedSeverity	{ dmi-att 17 }	ENUMERATED 0 to 5	m		
	5.4	backedUpStatus	{ dmi-att 11 }	required for some objects	m		
	5.5	backUpObject	{ dmi-att 40 }	for backUp relationships	m		
5.5.1	distinguishedName	–	–	m			

(continued)

Table B.1 (concluded) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
5	5.5.2	nonSpecificForm	–	–	m		
	5.5.3	localDistinguishedName	–	–	m		
	5.6	trendIndication	{dmi-att 30}	ENUMERATED 0 to 2	m		
	5.7	thresholdInfo	{dmi-att 29}	for threshold attributes	m		
	5.7.1	triggeredThreshold	–	–	m		
	5.7.2	observedValue	–	–	m		
	5.7.2.1	integer	–	–	m		
	5.7.2.2	real	–	required for some objects	m		
	5.7.3	thresholdLevel	–	–	m		
	5.7.3.1	up	–	–	m		
	5.7.3.1.1	high	–	–	m		
	5.7.3.1.1.1	integer	–	–	m		
	5.7.3.1.1.2	real	–	required for some objects	m		
	5.7.3.1.2	low	–	for guage thresholds	m		
	5.7.3.1.2.1	integer	–	–	m		
	5.7.3.1.2.2	real	–	required for some objects	m		
	5.7.3.2	down	–	–	m		
	5.7.3.2.1	high	–	–	m		
	5.7.3.2.1.1	integer	–	–	m		
	5.7.3.2.1.2	real	–	required for some objects	m		
	5.7.3.2.2	low	–	–	m		
	5.7.3.2.2.1	integer	–	–	m		
	5.7.3.2.2.2	real	–	required for some objects	m		
	5.7.4	armTime	–	–	m		
	5.8	notificationIdentifier	{dmi-att 16}	INTEGER	m		
	5.9	correlatedNotifications	{dmi-att 12}	–	m		
	5.9.1	correlatedNotifications	–	–	m		
	5.9.2	sourceObjectInst	–	–	m		
	5.9.2.1	distinguishedName	–	–	m		
	5.9.2.2	nonSpecificForm	–	–	m		
	5.9.2.3	localDistinguishedName	–	–	m		
	5.10	stateChangeDefinition	{dmi-att 28}	required for some objects	m		
	5.10.1	attributeId	–	–	m		
	5.10.1.1	global	–	OBJECT IDENTIFIER	m		
5.10.1.2	local	–	INTEGER	m			
5.10.2	oldAttributeValue	–	–	m			
5.10.3	newAttributeValue	–	–	m			
5.11	monitoredAttributes	{dmi-att 15}	required for some objects	m			
5.12	proposedRepairActions	{dmi-att 19}	required for some objects	m			
5.12.1	global	–	OBJECT IDENTIFIER	m			
5.12.2	local	–	INTEGER	m			
5.13	additionalText	{dmi-att 7}	–	m			
5.14	additionalInformation	{dmi-att 6}	required for some objects	m			

**B.4.2 Attributes**

The specifier of a manager role implementation that claims to support management operations on the attributes specified in this Recommendation | International Standard shall import a copy of Table B.2 and complete it.

**Table B.2 – Attribute support**

Index	Attribute template label	Value of object identifier for the attribute	Constraints and values	Set by create		Get	
				Status	Support	Status	Support
1	objectClass	{dmi-att 65}	–	–		o.4	
2	nameBinding	{dmi-att 63}	–	–		o.4	
3	packages	{dmi-att 66}	–	–		o.4	
4	allomorpha	{dmi-att 50}	–	–		o.4	
5	logRecordId	{dmi-att 3}	–	–		o.4	
6	loggingTime	{dmi-att 59}	–	–		o.4	
7	managedObjectClass	{dmi-att 60}	–	–		o.4	
8	managedObjectInstance	{dmi-att 61}	–	–		o.4	
9	eventType	{dmi-att 14}	–	–		o.4	
10	eventTime	{dmi-att 13}	–	–		o.4	
11	notificationIdentifier	{dmi-att 16}	–	–		o.4	
12	correlatedNotifications	{dmi-att 12}	–	–		o.4	
13	additionalText	{dmi-att 7}	–	–		o.4	
14	additionalInformation	{dmi-att 6}	–	–		o.4	
15	probableCause	{dmi-att 18}	–	–		o.4	
16	perceivedSeverity	{dmi-att 17}	–	–		o.4	
17	specificProblems	{dmi-att 27}	–	–		o.4	
18	backedUpStatus	{dmi-att 11}	–	–		o.4	
19	backUpObject	{dmi-att 40}	–	–		o.4	
20	trendIndication	{dmi-att 30}	–	–		o.4	
21	thresholdInformation	{dmi-att 29}	–	–		o.4	
22	stateChangeDefinition	{dmi-att 28}	–	–		o.4	
23	monitoredAttributes	{dmi-att 15}	–	–		o.4	
24	proposedRepairActions	{dmi-att 19}	–	–		o.4	

*(continued)*

**Table B.2 (concluded) – Attribute support**

Index	Replace		Add		Remove		Set to default		Additional information
	Status	Support	Status	Support	Status	Support	Status	Support	
1	–		–		–		–		
2	–		–		–		–		
3	–		–		–		–		
4	–		–		–		–		
5	–		–		–		–		
6	–		–		–		–		
7	–		–		–		–		
8	–		–		–		–		
9	–		–		–		–		
10	–		–		–		–		
11	–		–		–		–		
12	–		–		–		–		
13	–		–		–		–		
14	–		–		–		–		
15	–		–		–		–		
16	–		–		–		–		
17	–		–		–		–		
18	–		–		–		–		
19	–		–		–		–		
20	–		–		–		–		
21	–		–		–		–		
22	–		–		–		–		
23	–		–		–		–		
24	–		–		–		–		

**B.4.3 Create and delete management operations**

The specifier of a manager role implementation that claims to support the create or delete management operations on the managed objects specified in this Recommendation | International Standard shall import a copy of Table B.3 and complete it.

**Table B.3 – Create and delete support**

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	x		
1.1	Create with reference object	–	–		
2	Delete support	alarmRecord managed object	o.4		



## Anexo C

### Formulario de MOCS<sup>6)</sup>

(Este anexo es parte integrante de esta Recomendación | Norma Internacional)

#### C.1 Introduction

The purpose of this MOCS proforma is to provide a mechanism for a supplier of an implementation which claims conformance to a managed object class, to provide conformance information in a standard form.

#### C.2 Instructions for completing the MOCS proforma to produce a MOCS

The MOCS proforma contained in this annex is comprised of information in tabular form, in accordance with ITU-T Rec. X.724 | ISO/IEC 10165-6. The supplier of the implementation shall state which items are supported in the tables below and if necessary, provide additional information.

#### C.3 Symbols, abbreviations and terms

The following abbreviations are used throughout the MOCS proforma:

dmi-att	joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7)
dmi-moc	joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3)
dmi-nb	joint-iso-ccitt ms(9) smi(3) part2(2) nameBinding(6)
dmi-not	joint-iso-ccitt ms(9) smi(3) part2(2) notification(10)
dmi-pkg	joint-iso-ccitt ms(9) smi(3) part2(2) package(4)

The notations used for the Status and Support columns are specified in A.1.3.

The following conditional expression is commonly used throughout this MOCS proforma:

c1: if C.3/3a or C.3/6a or C.3/7a or C.3/8a or C.3/9a or C.3/10a or C.3/12a or C.3/13a or C.3/14a or C.3/15a or C.3/16a or C.3/17a or C.3/18a or C.3/19a then m else –.

#### C.4 Alarm record managed object class

##### C.4.1 Statement of conformance to the managed object class

The supplier of the implementation shall state whether or not all mandatory features of the alarm record managed object class are supported, and if the actual class supported is the same as the managed object class to which conformance is claimed, in Table C.1.

**Table C.1 – Managed object class support**

Index	Managed object class template label	Value of object identifier for the managed object class	Does the implementation support all mandatory features? (Y/N)	Is the actual class the same as the managed object class to which conformance is claimed? (Y/N)
1	alarmRecord	{dmi-moc 1}		

<sup>6)</sup> Los usuarios de esta Recomendación | Norma Internacional pueden reproducir libremente el formulario de MOCS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MOCS cumplimentado. En la Rec. UIT-T X.724 | ISO/CEI 10165-6 se especifican las instrucciones para rellenar el formulario de MOCS.

**ISO/CEI 10164-4 : 1992/Enm.1 : 1995 (S)**

If the answer to the actual class question in the managed object class support table is “N”, the supplier of the implementation shall supply the actual class support details, in Table C.2.

**Table C.2 – Actual class support**

Index	Actual managed object class template label	Value of object identifier for the managed object class	Additional information
1			

**C.4.2 Packages**

See Table C.3.

**Table C.3 – Package support**

Index	Package template label	Value of object identifier for the package	Constraints and values	Status	Support	Additional information
1	topPackage	–	–	m		
2	packagesPackage	{dmi-pkg 16}	–	c1		
3	allomorphicPackage	{dmi-pkg 17}	–	c2		
4	logRecordPackage	–	–	m		
5	eventLogRecordPackage	–	–	m		
6	eventTimePackage	{dmi-pkg 11}	–	o		
7	notificationIdentifierPackage	{dmi-pkg 24}	–	o		
8	correlatedNotificationsPackage	{dmi-pkg 23}	–	o		
9	additionalTextPackage	{dmi-pkg 19}	–	o		
10	additionalInformationPackage	{dmi-pkg 18}	–	o		
11	alarmRecordPackage	–	–	m		
12	specificProblemsPackage	{dmi-pkg 1}	–	o		
13	backedUpStatusPackage	{dmi-pkg 2}	–	o		
14	backUpObjectStatusPackage	{dmi-pkg 3}	–	o		
15	trendIndocationPackage	{dmi-pkg 4}	–	o		
16	thresholdInformationPackage	{dmi-pkg 5}	–	o		
17	stateChangeDefinitionPackage	{dmi-pkg 6}	–	o		
18	monitoredAttributesPackage	{dmi-pkg 7}	–	o		
19	proposedRepairActionsPackage	{dmi-pkg 8}	–	o		
c2: if C.1/1b then – else m.						

## C.4.3 Attributes

See Table C.4.

Table C.4 – Attribute support

Index	Attribute template label	Value of object identifier for the attribute	Constraints and values	Set by create		Get	
				Status	Support	Status	Support
1	objectClass	{dmi-att 65}	–	x		m	
2	nameBinding	{dmi-att 63}	–	x		m	
3	packages	{dmi-att 66}	–	x		c1	
4	allomorpha	{dmi-att 50}	–	x		c3	
5	logRecordId	{dmi-att 3}	–	x		m	
6	loggingTime	{dmi-att 59}	–	x		m	
7	managedObjectClass	{dmi-att 60}	–	x		m	
8	managedObjectInstance	{dmi-att 61}	–	x		m	
9	eventType	{dmi-att 14}	–	x		m	
10	eventTime	{dmi-att 13}	–	x		c4	
11	notificationIdentifier	{dmi-att 16}	–	x		c5	
12	correlatedNotifications	{dmi-att 12}	–	x		c6	
13	additionalText	{dmi-att 7}	–	x		c7	
14	additionalInformation	{dmi-att 6}	–	x		c8	
15	probableCause	{dmi-att 18}	–	x		m	
16	perceivedSeverity	{dmi-att 17}	–	x		m	
17	specificProblems	{dmi-att 27}	–	x		c9	
18	backedUpStatus	{dmi-att 11}	–	x		c10	
19	backUpObject	{dmi-att 40}	–	x		c11	
20	trendIndication	{dmi-att 30}	–	x		c12	
21	thresholdInformation	{dmi-att 29}	–	x		c13	
22	stateChangeDefinition	{dmi-att 28}	–	x		c14	
23	monitoredAttributes	{dmi-att 15}	–	x		c15	
24	proposedRepairActions	{dmi-att 19}	–	x		c16	
c3: if C.3/3a then m else –. c4: if C.3/6a then m else –. c5: if C.3/7a then m else –. c6: if C.3/8a then m else –. c7: if C.3/9a then m else –. c8: if C.3/10a then m else –. c9: if C.3/12a then m else –. c10: if C.3/13a then m else –. c11: if C.3/14a then m else –. c12: if C.3/15a then m else –. c13: if C.3/16a then m else –. c14: if C.3/17a then m else –. c15: if C.3/18a then m else –. c16: if C.3/19a then m else –.							

(continued)

Table C.4 (concluded) – Attribute support

Index	Replace		Add		Remove		Set to default		Additional information
	Status	Support	Status	Support	Status	Support	Status	Support	
1	x		–		–		–		
2	x		–		–		–		
3	x		x		x		–		
4	x		x		x		–		
5	x		–		–		–		
6	x		–		–		–		
7	x		–		–		–		
8	x		–		–		–		
9	x		–		–		–		
10	x		–		–		–		
11	x		–		–		–		
12	x		x		x		–		
13	x		–		–		–		
14	x		x		x		–		
15	x		–		–		–		
16	x		–		–		–		
17	x		–		–		–		
18	x		–		–		–		
19	x		–		–		–		
20	x		–		–		–		
21	x		–		–		–		
22	x		x		x	–	–		
23	x		x		x	–	–		
24	x		x		x	–	–		

## Anexo D

### Formulario de MIDS (notificación)<sup>7)</sup>

(Este anexo es parte integrante de esta Recomendación | Norma Internacional)

#### D.1 Symbols, abbreviations and terms

The following abbreviations are used throughout this MIDS proforma:

dmi-att        joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7)

dmi-not        joint-iso-ccitt ms(9) smi(3) part2(2) notification(10)

The notations used for the Status and Support columns are specified in A.1.3.

#### D.2 Notifications

The specifier of a managed object class that claims to support the notifications specified by CCITT Rec. X.733 | ISO/IEC 10164-4 shall import a copy of this annex and complete it according to the instructions specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

**Table D.1 – Notification support**

Index	Notification type template label	Value of object identifier for the notification type	Constraints and values	Status	Support		Additional information
					Confirmed	Non-confirmed	
1	communicationsAlarm	{dmi-not 2}	–				
2	environmentalAlarm	{dmi-not 3}	–				
3	equipmentAlarm	{dmi-not 4}	–				
4	processingErrorAlarm	{dmi-not 10}	–				
5	qualityOfServiceAlarm	{dmi-not 11}	–				

**Table D.1 (continued) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
1	1.1	probableCause	{dmi-att 18}	–	m		
	1.1.1	globalValue	–	OBJECT IDENTIFIER	o.5		
	1.1.2	localValue	–	INTEGER	o.5		
	1.2	specificProblems	{dmi-att 27}	required for some objects	o		
	1.2.1	global	–	OBJECT IDENTIFIER	c:o.6		
	1.2.2	local	–	INTEGER	c:o.6		
	1.3	perceivedSeverity	{dmi-att 17}	ENUMERATED 0 to 5	m		
	1.4	backedUpStatus	{dmi-att 11}	required for some objects	o		

(continued)

<sup>7)</sup> Los usuarios de esta Recomendación | Norma Internacional pueden reproducir libremente el formulario de MIDS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MIDS cumplimentado. En la Rec. UIT-T X.724 | ISO/CEI 10165-6 se especifican las instrucciones para rellenar el formulario de MIDS.

**Table D.1 (continued) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
1	1.5	backUpObject	{ dmi-att 40 }	for backUp relationships	o		
	1.5.1	distinguishedName	–	–	c:o.7		
	1.5.2	nonSpecificForm	–	–	c:o.7		
	1.5.3	localDistinguishedName	–	–	c:o.7		
	1.6	trendIndication	{ dmi-att 30 }	ENUMERATED 0 to 2	o		
	1.7	thresholdInfo	{ dmi-att 29 }	for threshold attributes	o		
	1.7.1	triggeredThreshold	–	–	c:m		
	1.7.2	observedValue	–	–	c:m		
	1.7.2.1	integer	–	–	c:o.8		
	1.7.2.2	real	–	required for some objects	c:o.8		
	1.7.3	thresholdLevel	–	–	c:o		
	1.7.3.1	up	–	–	c:o.9		
	1.7.3.1.1	high	–	–	c:m		
	1.7.3.1.1.1	integer	–	–	c:o.10		
	1.7.3.1.1.2	real	–	required for some objects	c:o.10		
	1.7.3.1.2	low	–	for guage thresholds	c:o		
	1.7.3.1.2.1	integer	–	–	c:o.11		
	1.7.3.1.2.2	real	–	required for some objects	c:o.11		
	1.7.3.2	down	–	–	c:o.9		
	1.7.3.2.1	high	–	–	c:m		
	1.7.3.2.1.1	integer	–	–	c:o.12		
	1.7.3.2.1.2	real	–	required for some objects	c:o.12		
	1.7.3.2.2	low	–	–	c:m		
	1.7.3.2.2.1	integer	–	–	c:o.13		
	1.7.3.2.2.2	real	–	required for some objects	c:o.13		
	1.7.4	armTime	–	–	c:o		
	1.8	notificationIdentifier	{ dmi-att 16 }	INTEGER	c1		
	1.9	correlatedNotifications	{ dmi-att 12 }	–	o		
	1.9.1	correlatedNotifications	–	–	c:m		
	1.9.2	sourceObjectInst	–	–	c:o		
	1.9.2.1	distinguishedName	–	–	c:o.14		
	1.9.2.2	nonSpecificForm	–	–	c:o.14		
	1.9.2.3	localDistinguishedName	–	–	c:o.14		
	1.10	stateChangeDefinition	{ dmi-att 28 }	required for some objects	o		
	1.10.1	attributeId	–	–	c:m		
	1.10.1.1	global	–	OBJECT IDENTIFIER	c:o.15		
	1.10.1.2	local	–	INTEGER	c:o.15		
	1.10.2	oldAttributeValue	–	–	c:o		
	1.10.3	newAttributeValue	–	–	c:m		
	1.11	monitoredAttributes	{ dmi-att 15 }	required for some objects	o		
	1.12	proposedRepairActions	{ dmi-att 19 }	required for some objects	o		
1.12.1	global	–	OBJECT IDENTIFIER	c:o.16			
1.12.2	local	–	INTEGER	c:o.16			
1.13	additionalText	{ dmi-att 7 }	–	o			

c1: if D.1/1.9a then m else o.

(continued)

**Table D.1 (continued) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
1	1.14	additionalInformation	{ dmi-att 6 }	required for some objects	o		
2	2.1	probableCause	{ dmi-att 18 }	–	m		
	2.1.1	globalValue	–	OBJECT IDENTIFIER	o.17		
	2.1.2	localValue	–	INTEGER	o.17		
	2.2	specificProblems	{ dmi-att 27 }	required for some objects	o		
	2.2.1	global	–	OBJECT IDENTIFIER	c:o.18		
	2.2.2	local	–	INTEGER	c:o.18		
	2.3	perceivedSeverity	{ dmi-att 17 }	ENUMERATED 0 to 5	m		
	2.4	backedUpStatus	{ dmi-att 11 }	required for some objects	o		
	2.5	backUpObject	{ dmi-att 40 }	for backUp relationships	o		
	2.5.1	distinguishedName	–	–	c:o.19		
	2.5.2	nonSpecificForm	–	–	c:o.19		
	2.5.3	localDistinguishedName	–	–	c:o.19		
	2.6	trendIndication	{ dmi-att 30 }	ENUMERATED 0 to 2	o		
	2.7	thresholdInfo	{ dmi-att 29 }	for threshold attributes	o		
	2.7.1	triggeredThreshold	–	–	c:m		
	2.7.2	observedValue	–	–	c:m		
	2.7.2.1	integer	–	–	c:o.20		
	2.7.2.2	real	–	required for some objects	c:o.20		
	2.7.3	thresholdLevel	–	–	c:o		
	2.7.3.1	up	–	–	c:o.21		
	2.7.3.1.1	high	–	–	c:m		
	2.7.3.1.1.1	integer	–	–	c:o.22		
	2.7.3.1.1.2	real	–	required for some objects	c:o.22		
	2.7.3.1.2	low	–	for guage thresholds	c:o		
	2.7.3.1.2.1	integer	–	–	c:o.23		
	2.7.3.1.2.2	real	–	required for some objects	c:o.23		
	2.7.3.2	down	–	–	c:o.21		
	2.7.3.2.1	high	–	–	c:m		
	2.7.3.2.1.1	integer	–	–	c:o.24		
	2.7.3.2.1.2	real	–	required for some objects	c:o.24		
	2.7.3.2.2	low	–	–	c:m		
	2.7.3.2.2.1	integer	–	–	c:o.25		
	2.7.3.2.2.2	real	–	required for some objects	c:o.25		
	2.7.4	armTime	–	–	c:o		
2.8	notificationIdentifier	{ dmi-att 16 }	INTEGER	c2			
2.9	correlatedNotifications	{ dmi-att 12 }	–	o			
2.9.1	correlatedNotifications	–	–	c:m			
2.9.2	sourceObjectInst	–	–	c:o			
2.9.2.1	distinguishedName	–	–	c:o.26			
2.9.2.2	nonSpecificForm	–	–	c:o.26			
2.9.2.3	localDistinguishedName	–	–	c:o.26			

c2: if D.1/2.9a then m else o.

(continued)

Table D.1 (continued) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information	
2	2.10	stateChangeDefinition	{ dmi-att 28 }	required for some objects	o			
	2.10.1	attributeId	–	–	c:m			
	2.10.1.1	global	–	OBJECT IDENTIFIER	c:o.27			
	2.10.1.2	local	–	INTEGER	c:o.27			
	2.10.2	oldAttributeValue	–	–	c:o			
	2.10.3	newAttributeValue	–	–	c:m			
	2.11	monitoredAttributes	{ dmi-att 15 }	required for some objects	o			
	2.12	proposedRepairActions	{ dmi-att 19 }	required for some objects	o			
	2.12.1	global	–	OBJECT IDENTIFIER	c:o.28			
	2.12.2	local	–	INTEGER	c:o.28			
	2.13	additionalText	{ dmi-att 7 }	–	o			
	2.14	additionalInformation	{ dmi-att 6 }	required for some objects	o			
	3	3.1	probableCause	{ dmi-att 18 }	–	m		
		3.1.1	globalValue	–	OBJECT IDENTIFIER	o.29		
3.1.2		localValue	–	INTEGER	o.29			
3.2		specificProblems	{ dmi-att 27 }	required for some objects	o			
3.2.1		global	–	OBJECT IDENTIFIER	c:o.30			
3.2.2		local	–	INTEGER	c:o.30			
3.3		perceivedSeverity	{ dmi-att 17 }	ENUMERATED 0 to 5	m			
3.4		backedUpStatus	{ dmi-att 11 }	required for some objects	o			
3.5		backUpObject	{ dmi-att 40 }	for backUp relationships	o			
3.5.1		distinguishedName	–	–	c:o.31			
3.5.2		nonSpecificForm	–	–	c:o.31			
3.5.3		localDistinguishedName	–	–	c:o.31			
3.6		trendIndication	{ dmi-att 30 }	ENUMERATED 0 to 2	o			
3.7		thresholdInfo	{ dmi-att 29 }	for threshold attributes	o			
3.7.1		triggeredThreshold	–	–	c:m			
3.7.2		observedValue	–	–	c:m			
3.7.2.1		integer	–	–	c:o.32			
3.7.2.2		real	–	required for some objects	c:o.32			
3.7.3		thresholdLevel	–	–	c:o			
3.7.3.1		up	–	–	c:o.33			
3.7.3.1.1		high	–	–	c:m			
3.7.3.1.1.1		integer	–	–	c:o.34			
3.7.3.1.1.2		real	–	required for some objects	c:o.34			
3.7.3.1.2		low	–	for gauge thresholds	c:o			
3.7.3.1.2.1		integer	–	–	c:o.35			
3.7.3.1.2.2		real	–	required for some objects	c:o.35			
3.7.3.2		down	–	–	c:o.33			
3.7.3.2.1		high	–	–	c:m			
3.7.3.2.1.1		integer	–	–	c:o.36			
3.7.3.2.1.2		real	–	required for some objects	c:o.36			
3.7.3.2.2		low	–	–	c:m			
3.7.3.2.2.1		integer	–	–	c:o.37			
3.7.3.2.2.2		real	–	required for some objects	c:o.37			
3.7.4	armTime	–	–	c:o				

(continued)



**Table D.1 (continued) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
	3.8	notificationIdentifier	{dmi-att 16}	INTEGER	c3		
	3.9	correlatedNotifications	{dmi-att 12}	–	o		
	3.9.1	correlatedNotifications	–	–	c:m		
	3.9.2	sourceObjectInst	–	–	c:o		
	3.9.2.1	distinguishedName	–	–	c:o.38		
	3.9.2.2	nonSpecificForm	–	–	c:o.38		
	3.9.2.3	localDistinguishedName	–	–	c:o.38		
	3.10	stateChangeDefinition	{dmi-att 28}	required for some objects	o		
	3.10.1	attributeId	–	–	c:m		
	3.10.1.1	global	–	OBJECT IDENTIFIER	c:o.39		
	3.10.1.2	local	–	INTEGER	c:o.39		
	3.10.2	oldAttributeValue	–	–	c:o		
	3.10.3	newAttributeValue	–	–	c:m		
	3.11	monitoredAttributes	{dmi-att 15}	required for some objects	o		
	3.12	proposedRepairActions	{dmi-att 19}	required for some objects	o		
	3.12.1	global	–	OBJECT IDENTIFIER	c:o.40		
	3.12.2	local	–	INTEGER	c:o.40		
	3.13	additionalText	{dmi-att 7}	–	o		
	3.14	additionalInformation	{dmi-att 6}	required for some objects	o		
4	4.1	probableCause	{dmi-att 18}	–	m		
	4.1.1	globalValue	–	OBJECT IDENTIFIER	o.41		
	4.1.2	localValue	–	INTEGER	o.41		
	4.2	specificProblems	{dmi-att 27}	required for some objects	o		
	4.2.1	global	–	OBJECT IDENTIFIER	c:o.42		
	4.2.2	local	–	INTEGER	c:o.42		
	4.3	perceivedSeverity	{dmi-att 17}	ENUMERATED 0 to 5	m		
	4.4	backedUpStatus	{dmi-att 11}	required for some objects	o		
	4.5	backUpObject	{dmi-att 40}	for backUp relationships	o		
	4.5.1	distinguishedName	–	–	c:o.43		
	4.5.2	nonSpecificForm	–	–	c:o.43		
	4.5.3	localDistinguishedName	–	–	c:o.43		
	4.6	trendIndication	{dmi-att 30}	ENUMERATED 0 to 2	o		
	4.7	thresholdInfo	{dmi-att 29}	for threshold attributes	o		
	4.7.1	triggeredThreshold	–	–	c:m		
	4.7.2	observedValue	–	–	c:m		
	4.7.2.1	integer	–	–	c:o.44		
	4.7.2.2	real	–	required for some objects	c:o.44		
	4.7.3	thresholdLevel	–	–	c:o		
	4.7.3.1	up	–	–	c:o.45		
	4.7.3.1.1	high	–	–	c:m		
	4.7.3.1.1.1	integer	–	–	c:o.46		
	4.7.3.1.1.2	real	–	required for some objects	c:o.46		
c3: if D.1/3.9a then m else o.							

(continued)

Table D.1 (continued) – Notification support

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
4	4.7.3.1.2	low	–	for gauge thresholds	c:o		
	4.7.3.1.2.1	integer	–	–	c:o.47		
	4.7.3.1.2.2	real	–	required for some objects	c:o.47		
	4.7.3.2	down	–	–	c:o.45		
	4.7.3.2.1	high	–	–	c:m		
	4.7.3.2.1.1	integer	–	–	c:o.48		
	4.7.3.2.1.2	real	–	required for some objects	c:o.48		
	4.7.3.2.2	low	–	–	c:m		
	4.7.3.2.2.1	integer	–	–	c:o.49		
	4.7.3.2.2.2	real	–	required for some objects	c:o.49		
	4.7.4	armTime	–	–	c:o		
	4.8	notificationIdentifier	{ dmi-att 16 }	INTEGER	c4		
	4.9	correlatedNotifications	{ dmi-att 12 }	–	o		
	4.9.1	correlatedNotifications	–	–	c:m		
	4.9.2	sourceObjectInst	–	–	c:o		
	4.9.2.1	distinguishedName	–	–	c:o.50		
	4.9.2.2	nonSpecificForm	–	–	c:o.50		
	4.9.2.3	localDistinguishedName	–	–	c:o.50		
	4.10	stateChangeDefinition	{ dmi-att 28 }	required for some objects	o		
	4.10.1	attributeId	–	–	c:m		
	4.10.1.1	global	–	OBJECT IDENTIFIER	c:o.51		
	4.10.1.2	local	–	INTEGER	c:o.51		
	4.10.2	oldAttributeValue	–	–	c:o		
	4.10.3	newAttributeValue	–	–	c:m		
	4.11	monitoredAttributes	{ dmi-att 15 }	required for some objects	o		
	4.12	proposedRepairActions	{ dmi-att 19 }	required for some objects	o		
	4.12.1	global	–	OBJECT IDENTIFIER	c:o.52		
	4.12.2	local	–	INTEGER	c:o.52		
4.13	additionalText	{ dmi-att 7 }	–	o			
4.14	additionalInformation	{ dmi-att 6 }	required for some objects	o			
5	5.1	probableCause	{ dmi-att 18 }	–	m		
	5.1.1	globalValue	–	OBJECT IDENTIFIER	o.53		
	5.1.2	localValue	–	INTEGER	o.53		
	5.2	specificProblems	{ dmi-att 27 }	required for some objects	o		
	5.2.1	global	–	OBJECT IDENTIFIER	c:o.54		
	5.2.2	local	–	INTEGER	c:o.54		
	5.3	perceivedSeverity	{ dmi-att 17 }	ENUMERATED 0 to 5	m		
	5.4	backedUpStatus	{ dmi-att 11 }	required for some objects	o		
	5.5	backUpObject	{ dmi-att 40 }	for backUp relationships	o		
	5.5.1	distinguishedName	–	–	c:o.55		
	5.5.2	nonSpecificForm	–	–	c:o.55		
	5.5.3	localDistinguishedName	–	–	c:o.55		
5.6	trendIndication	{ dmi-att 30 }	ENUMERATED 0 to 2	o			

c4: if D.1/4.9a then m else o.

(continued)

**Table D.1 (concluded) – Notification support**

Index	Sub-index	Notification field name label	Value of object identifier for the attribute type associated with the field	Constraints and values	Status	Support	Additional information
5	5.7	thresholdInfo	{ dmi-att 29 }	for threshold attributes	o		
	5.7.1	triggeredThreshold	–	–	c:m		
	5.7.2	observedValue	–	–	c:m		
	5.7.2.1	integer	–	–	c:o.56		
	5.7.2.2	real	–	required for some objects	c:o.57		
	5.7.3	thresholdLevel	–	–	c:o		
	5.7.3.1	up	–	–	c:o.58		
	5.7.3.1.1	high	–	–	c:m		
	5.7.3.1.1.1	integer	–	–	c:o.59		
	5.7.3.1.1.2	real	–	required for some objects	c:o.59		
	5.7.3.1.2	low	–	for guage thresholds	c:o		
	5.7.3.1.2.1	integer	–	–	c:o.60		
	5.7.3.1.2.2	real	–	required for some objects	c:o.60		
	5.7.3.2	down	–	–	c:o.58		
	5.7.3.2.1	high	–	–	c:m		
	5.7.3.2.1.1	integer	–	–	c:o.61		
	5.7.3.2.1.2	real	–	required for some objects	c:o.61		
	5.7.3.2.2	low	–	–	c:m		
	5.7.3.2.2.1	integer	–	–	c:o.62		
	5.7.3.2.2.2	real	–	required for some objects	c:o.62		
	5.7.4	armTime	–	–	c:o		
	5.8	notificationIdentifier	{ dmi-att 16 }	INTEGER	c5		
	5.9	correlatedNotifications	{ dmi-att 12 }	–	o		
	5.9.1	correlatedNotifications	–	–	c:m		
	5.9.2	sourceObjectInst	–	–	c:o		
	5.9.2.1	distinguishedName	–	–	c:o.63		
	5.9.2.2	nonSpecificForm	–	–	c:o.63		
	5.9.2.3	localDistinguishedName	–	–	c:o.63		
	5.10	stateChangeDefinition	{ dmi-att 28 }	required for some objects	o		
	5.10.1	attributeId	–	–	c:m		
	5.10.1.1	global	–	OBJECT IDENTIFIER	c:o.64		
5.10.1.2	local	–	INTEGER	c:o.64			
5.10.2	oldAttributeValue	–	–	c:o			
5.10.3	newAttributeValue	–	–	c:m			
5.11	monitoredAttributes	{ dmi-att 15 }	required for some objects	o			
5.12	proposedRepairActions	{ dmi-att 19 }	required for some objects	o			
5.12.1	global	–	OBJECT IDENTIFIER	c:o.65			
5.12.2	local	–	INTEGER	c:o.65			
5.13	additionalText	{ dmi-att 7 }	–	o			
5.14	additionalInformation	{ dmi-att 6 }	required for some objects	o			
c5: if D.1/5.9a then m else o.							