



UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

UIT-T

SECTEUR DE LA NORMALISATION
DES TÉLÉCOMMUNICATIONS
DE L'UIT

Amendement 1
X.733
(04/95)

**RÉSEAUX DE COMMUNICATION DE DONNÉES
ET COMMUNICATION ENTRE SYSTÈMES OUVERTS
APPLICATIONS OSI**

**TECHNOLOGIES DE L'INFORMATION –
INTERCONNEXION DES SYSTÈMES OUVERTS
– GESTION DES SYSTÈMES: FONCTION DE
SIGNALISATION DES ALARMES**

**AMENDEMENT 1: FORMULAIRES DE DÉCLARATION
DE CONFORMITÉ D'INSTANCE**

**Amendement 1 à la
Recommandation UIT-T X.733**

(Antérieurement «Recommandation du CCITT»)

AVANT-PROPOS

L'UIT (Union internationale des télécommunications) est une institution spécialisée des Nations Unies dans le domaine des télécommunications. Le UIT-T (Secteur de la normalisation des télécommunications) est un organe permanent de l'UIT. Au sein de l'UIT-T, qui est l'entité qui établit les normes mondiales (Recommandations) sur les télécommunications, participent quelque 179 pays membres, 84 exploitations de télécommunications reconnues, 145 organisations scientifiques et industrielles et 38 organisations internationales.

L'approbation des Recommandations par les membres de l'UIT-T s'effectue selon la procédure définie dans la Résolution n° 1 de la Conférence mondiale de normalisation des télécommunications (CMNT) (Helsinki, 1993). De plus, la CMNT, qui se réunit tous les quatre ans, approuve les Recommandations qui lui sont soumises et établit le programme d'études pour la période suivante.

Dans certains secteurs de la technologie de l'information qui correspondent à la sphère de compétence de l'UIT-T, les normes nécessaires se préparent en collaboration avec l'ISO et la CEI. Le texte de la Recommandation X.733, Amendement 1, de l'UIT-T a été approuvé le 10 avril 1995. Son texte est publié, sous forme identique, comme Norme internationale ISO/CEI 10164-4.

NOTE

Dans la présente Recommandation, l'expression «Administration» est utilisée pour désigner de façon abrégée aussi bien une administration de télécommunications qu'une exploitation reconnue.

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RECOMMANDATIONS UIT-T DE LA SÉRIE X

RÉSEAUX DE COMMUNICATION DE DONNÉES ET COMMUNICATION ENTRE SYSTÈMES OUVERTS

(Février 1994)

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Résumé

Le présente amendement contient les tableaux qui indiquent les informations de gestion obligatoires et facultatives propres à la fonction de signalisation d'alarmes. Il sera utilisé par les spécificateurs de profils, par exemple ceux qui élaborent des profils normalisés internationaux (ISP) (*international standardized profiles*), quand ils spécifient un sous-ensemble explicite de capacités afin d'assurer l'interopérabilité des applications. Les tableaux comportent aussi une colonne dans laquelle les fournisseurs d'équipements indiqueront les capacités de leurs produits en termes de profils ou de spécifications de base. La structure des tableaux est conforme aux lignes directrices contenues dans la Rec. UIT-T X.724 | ISO/CEI 10165-6 pour l'établissement des formulaires de déclaration de conformité des instances de protocole.

NORME INTERNATIONALE

RECOMMANDATION UIT-T

**TECHNOLOGIES DE L'INFORMATION – INTERCONNEXION
DES SYSTÈMES OUVERTS – GESTION DES SYSTÈMES: FONCTION
DE SIGNALISATION DES ALARMES**

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

Formulaires de déclaration de conformité d'instance

- 1) *Au 2.1, ajouter la note de bas de page suivante au premier élément de la liste:*
 «¹⁾ Tel que modifiée par la Rec. UIT-T X.701/Cor.2 | ISO/CEI 10040/Cor.2.»
- 2) *Au 2.1, ajouter la référence suivante:*
 «– Recommandation UIT-T X.724 (1993) | ISO/CEI 10165-6:1994, *Technologie de l'information – Interconnexion des systèmes ouverts – Structure de l'information de gestion: Spécifications et directives pour l'établissement des formulaires de déclaration de conformité d'instances associés à la gestion OSI.*»
- 3) *Au 2.2, ajouter les références suivantes:*
 «– Recommandation X.291 du CCITT (1992), *Cadre général et méthodologie des tests de conformité d'interconnexion des systèmes ouverts pour les Recommandations sur les protocoles pour les applications de l'UIT-T – Spécification de suites de tests abstraite.*
 ISO/CEI 9646-2:1991, *Technologies de l'information – Interconnexion de systèmes ouverts – Cadre général et méthodologie des tests de conformité OSI – Partie 2: Spécification des suites de tests abstraites.*
 – Recommandation UIT-T X.296³⁾, *Cadre général et méthodologie des tests de conformité OSI pour les Recommandations sur les protocoles pour les applications de l'UIT-T – Déclarations de conformité d'instance.*
 ISO/CEI 9646-7³⁾, *Technologies de l'information – Interconnexion de systèmes ouverts – Méthodologie générale et procédures – Partie 7: Déclarations de conformité des instances.*»
Ajouter la note de bas de page suivante:
 «³⁾ Actuellement à l'état de projet.»
- 4) *Au 3.4, faire les modifications suivantes:*
Supprimer les points c) et d).
Renommer les points e) et c) et insérer les nouveaux points suivants:
 «e) déclaration de conformité d'objet géré (MOCS);
 f) déclaration de conformité d'information de gestion (MICS);»
Les points h) à j) deviennent les éléments j) à l). Insérer les nouveaux points suivants:
 «h) formulaire MICS;
 i) formulaire MOCS;»
- 5) *Au 3.6, faire les modifications suivantes:*
Remplacer «déclaration de conformité du système» par:
 «a) formulaire PICS;
 b) déclaration de conformité d'instance de protocole;
 c) déclaration de conformité du système.»

- 6) Le paragraphe 3.7 devient 3.8. Insérer le nouveau paragraphe suivant:

3.7 «Définition des formulaires de déclaration de conformité d'instance

La présente Recommandation | Norme internationale utilise les termes suivants définis par la Rec. UIT-T X.724 | ISO/CEI 10165-6:

- a) déclaration de conformité de relation gérée (MRCS);
- b) récapitulatif de conformité de gestion (MCS);
- c) formulaire de déclaration de définition d'information de gestion (Formulaire MIDS);
- d) formulaire MCS;
- e) formulaire MRCS.»

- 7) A l'article 4, ajouter les abréviations suivantes:

«ICS	Déclaration de conformité d'instance (<i>implementation conformance statement</i>)
MCS	Récapitulatif de conformité de gestion (<i>management conformance summary</i>)
MICS	Déclaration de conformité d'information de gestion (<i>management information conformance statement</i>)
MIDS	Déclaration de définition d'information de gestion (<i>management information definition statement</i>)
MOCS	Déclaration de conformité d'objet géré (<i>managed object conformance statement</i>)
MRCS	Déclaration de conformité de relation gérée (<i>managed relationship conformance statement</i>)
PICS	Déclaration de conformité d'instance de protocole (<i>protocol implementation conformance statement</i>)»

- 8) Remplacer l'article 13 par ce qui suit:

«13 Conformité

Les instances qui se veulent conformes à la présente Recommandation | Norme internationale doivent satisfaire aux prescriptions de conformité définies aux paragraphes suivants.

13.1 Conformité statique

L'instance doit satisfaire aux prescriptions de conformité de la présente Recommandation | Norme internationale dans son rôle de gestionnaire, son rôle d'agent, ou dans les deux rôles. Une déclaration de conformité à l'un des rôles au moins sera faite au Tableau A.1.

Si une déclaration de conformité est faite pour la prise en charge du rôle de gestionnaire, l'instance doit prendre en charge l'une au moins des notifications ou l'une des opérations de gestion spécifiées dans la présente Recommandation | Norme internationale. Les prescriptions de conformité du rôle de gestionnaire à ces opérations et notifications de gestion sont identifiés au Tableau A.3 et dans d'autres tableaux référencés dans l'Annexe A.

Si une déclaration de conformité est faite pour la prise en charge du rôle d'agent, l'instance doit prendre en charge l'une au moins des notifications spécifiées dans la présente Recommandation | Norme internationale. Les prescriptions de conformité du rôle d'agent sont identifiées au Tableau A.4 et dans d'autres tableaux référencés dans l'Annexe A.

L'instance doit prendre en charge la syntaxe de transfert obtenue à partir des règles de codage spécifiées dans la Rec. X.209 du CCITT | ISO/CEI 8825 appelée {joint-iso-ccitt asn1(1) basicEncoding(1)} pour les types abstraits de données référencés par les définitions que l'instance veut prendre en charge.

NOTE – Avant publication du présent amendement, la présente Recommandation | Norme internationale identifiait des classes de conformité générale et induite. Une déclaration de conformité semblable à celle de la classe de conformité générale peut être faite en déclarant la prise en charge par le rôle de gestionnaire, le rôle d'agent ou par les deux rôles, de l'unité fonctionnelle de rapport d'alarme du Tableau A.2. Une déclaration de conformité semblable à celle de la classe de conformité induite peut être faite en déclarant la prise en charge de l'un au moins des éléments des Tableaux A.3 et A.4.

13.2 Conformité dynamique

Les instances qui se veulent conformes à la présente Recommandation | Norme internationale doivent prendre en charge les éléments de procédure et les définitions sémantiques correspondant aux définitions qu'elles veulent prendre en charge.

13.3 Prescriptions de déclaration de conformité d'information de gestion

Un formulaire MCS, MICS ou MOCS conforme à la présente Recommandation | Norme internationale doit être identique, dans son texte, aux formulaires correspondants spécifiés dans les Annexes A, B ou C, doit conserver la numérotation des tableaux et les numéros d'index des différents éléments et ne peut différer de ces formulaires que par la pagination et les en-têtes de page.

Le fournisseur d'une instance qui se veut conforme à la présente Recommandation | Norme internationale doit compléter un formulaire récapitulatif de conformité de gestion (MCS) fourni dans l'Annexe A, ce qui fait partie des prescriptions de conformité, de même que tout autre formulaire ICS référencé qui est applicable d'après le MCS. Un ICS qui se veut conforme à la présente Recommandation | Norme internationale:

- décrit une instance conforme à la présente Recommandation | Norme internationale;
- est rempli conformément aux instructions données à cet effet dans la Rec. UIT-T X.724 | ISO/CEI 10165-6;
- contient les renseignements nécessaires pour identifier sans ambiguïté le fournisseur et l'instance.

Les déclarations de conformité d'information de gestion définies dans la présente Recommandation | Norme internationale pour des classes d'objets gérés définies par ailleurs comprennent les prescriptions du formulaire MIDS des formulaires MOCS pour la classe des objets gérés.»

9) *L'Annexe A devient l'Annexe E. Insérer les annexes suivantes:*

Annexe A

Formulaire MCS⁴⁾

(Cette annexe fait partie intégrante de la présente Recommandation | Norme internationale)

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.
-------	------------------------	-------------------------	------

⁴⁾ Les utilisateurs de la présente Recommandation | Norme internationale sont autorisés à reproduire le formulaire MCS de la présente annexe pour utiliser celui-ci conformément à son objet. Ils sont également autorisés à publier le formulaire une fois celui-ci complété. Les instructions pour le formulaire MCS sont spécifiées dans la Rec. UIT-T X.724 | ISO/CEI 10165-6.

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 –.								

Annexe B

Formulaire MICS⁵⁾

(Cette annexe fait partie intégrante de la présente Recommandation | Norme internationale)

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)

⁵⁾ Les utilisateurs de la présente Recommandation | Norme internationale sont autorisés à reproduire le formulaire MICS de la présente annexe pour utiliser celui-ci conformément à son objet.

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 guage 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	allomorphs	{ 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		

Annexe C

Formulaire MOCS⁶⁾

(Cette annexe fait partie intégrante de la présente Recommandation | Norme internationale)

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}		

⁶⁾ Les utilisateurs de la présente Recommandation | Norme internationale sont autorisés à reproduire le formulaire MOCS de la présente annexe pour utiliser celui-ci conformément à son objet. Ils sont également autorisés à publier le formulaire une fois celui-ci complété. Les instructions pour le formulaire MOCS sont spécifiées dans la Rec. UIT-T X.724 | ISO/CEI 10165-6.

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	allomorphs	{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	–	–		

Annexe D

Formulaire MIDS (notification)⁷⁾

(Cette annexe fait partie intégrante de la présente Recommandation | Norme internationale)

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)

⁷⁾ Les utilisateurs de la présente Recommandation | Norme internationale sont autorisés à reproduire le formulaire MIDS de la présente annexe pour utiliser celui-ci conformément à son objet. Ils sont également autorisés à publier le formulaire une fois celui-ci complété. Les instructions pour le formulaire MIDS sont spécifiées dans la Rec. UIT-T X.724 | ISO/CEI 10165-6.

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 guage 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 guage 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.							