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UNION INTERNATIONALE DES TÉLÉCOMMUNICATIONS

UIT-T

SECTEUR DE LA NORMALISATION
DES TÉLÉCOMMUNICATIONS
DE L'UIT

X.283

(11/93)

**RÉSEAUX DE COMMUNICATION DE DONNÉES
ET COMMUNICATIONS ENTRE SYSTÈMES
OUVERTS**

**INTERCONNEXION DES SYSTÈMES OUVERTS –
OBJETS GÉRÉS DE COUCHE**

**ÉLÉMENTS D'INFORMATION DE GESTION
RELATIFS À LA COUCHE RÉSEAU
DE L'INTERCONNEXION DE SYSTÈMES
OUVERTS**

Recommandation UIT-T X.283

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(Antérieurement «Recommandation du CCITT»)

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AVANT-PROPOS

L'UIT-T (Secteur de la normalisation des télécommunications) est un organe permanent de l'Union internationale des télécommunications (UIT). Il est chargé de l'étude des questions techniques, d'exploitation et de tarification, et émet à ce sujet des Recommandations en vue de la normalisation des télécommunications à l'échelle mondiale.

La Conférence mondiale de normalisation des télécommunications (CMNT), qui se réunit tous les quatre ans, détermine les thèmes d'études à traiter par les Commissions d'études de l'UIT-T lesquelles élaborent en retour des Recommandations sur ces thèmes.

L'approbation des Recommandations par les Membres de l'UIT-T s'effectue selon la procédure définie dans la Résolution n° 1 de la CMNT (Helsinki, 1^{er}-12 mars 1993).

La Recommandation UIT-T X.283, que l'on doit à la Commission d'études 7 (1993-1996) de l'UIT-T, a été approuvée le 16 novembre 1993 selon la procédure définie dans la Résolution n° 1 de la CMNT.

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 de télécommunications.

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TABLE DES MATIÈRES

	<i>Page</i>
1 Champ d'application.....	1
2 Références normatives	1
2.1 Recommandations Normes internationales identiques.....	1
2.2 Paires de Recommandations Normes internationales équivalentes par leur contenu technique	2
2.3 Références additionnelles	2
3 Définitions.....	3
3.1 Modèle de référence	3
3.2 Modèle d'information.....	3
3.3 Directives pour la définition des objets gérés (GDMO) (<i>guidelines for the definition of managed objects</i>).....	4
3.4 Cadre général de gestion.....	4
4 Symboles et abréviations.....	4
5 Éléments d'information de gestion relatifs à la structure de la couche réseau.....	5
5.1 Hiérarchie des objets gérés	5
5.2 Classes prédéfinies de comportements communs.....	9
5.3 L'objet géré sous-système de couche réseau	11
5.4 L'objet géré entité de couche réseau	12
5.5 L'objet géré point NSAP	14
5.6 L'objet géré service de couche réseau en mode sans connexion.....	16
5.7 L'objet géré lien	23
5.8 L'objet géré service de couche réseau en mode connexion.....	34
5.9 L'objet géré connexion de couche réseau	36
5.10 Les objets gérés entité PLE X.25 et analogues	38
5.11 Les objets gérés circuit virtuel et analogues	70
6 Modules en notation ASN.1	87
6.1 Définitions des identificateurs d'objet.....	87
6.2 Autres définitions.....	88
7 Conformité	92
7.1 Conditions de conformité à l'ISO 10733.....	92
7.2 Conditions de conformité spécifiques au protocole	92
Annexe A – Affectation des identificateurs d'objet.....	93
Appendice I – Description abrégée des objets gérés	100
Appendice II – Exemples d'utilisation d'attributs relationnels.....	122
Index.....	127

Remplacée par une version plus récente

RÉSUMÉ

La présente Recommandation fournit les spécifications des informations de gestion relatives à la couche réseau de l'OSI, y compris la définition de la classe des objets de gestion de la couche réseau, la relation entre objets de gestion et attributs avec le fonctionnement de la couche et avec les autres objets et attributs de la couche les opérations de type action sur les attributs des objets de gestion de la couche réseau.

INTRODUCTION

La présente Recommandation fait partie d'un ensemble de Recommandations qui ont été établies pour faciliter l'interconnexion de systèmes ouverts. Cet ensemble de Recommandations traite des services, des protocoles et des informations de gestion qui sont nécessaires pour réaliser une telle interconnexion.

Les couches définies dans le Modèle de référence pour l'interconnexion de systèmes ouverts (voir la Recommandation X.200 situent la présente Recommandation, qui traite en particulier de la définition des informations de gestion dans la couche réseau, par rapport aux autres Recommandations du même ensemble.

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Recommandation X.283

ÉLÉMENTS D'INFORMATION DE GESTION RELATIFS À LA COUCHE RÉSEAU DE L'INTERCONNEXION DE SYSTÈMES OUVERTS¹⁾

(Genève, 1993)

1 Champ d'application

La présente Recommandation spécifie les informations de gestion relatives aux opérations de la couche OSI réseau à l'intérieur d'un système ouvert. Les détails de mise en œuvre de la gestion de la couche réseau sont hors du champ d'application de la présente Recommandation. On définira les attributs d'information de gestion relatifs à la structure de la couche réseau en spécifiant ce qui suit:

- la définition d'une classe d'objets gérés conformément aux directives énoncées dans la «*Structure des informations de gestion*» (voir les Recommandations X.720-X.723) pour les objets gérés de la couche réseau;
- la relation des objets gérés et des attributs avec le fonctionnement de cette couche ainsi qu'avec d'autres objets et attributs de la couche; et
- les opérations de type «action» effectuées sur les attributs des objets gérés de la couche réseau qui sont soumis à la gestion des systèmes OSI.

2 Références normatives

Les Recommandations et les Normes internationales suivantes contiennent des dispositions qui, par suite de la référence qui y est faite, constituent des dispositions valables pour la présente Recommandation. Au moment de la publication, les éditions indiquées étaient en vigueur. Toute Recommandation ou Norme est sujette à révision et les parties prenantes aux accords fondés sur la présente Recommandation sont invitées à rechercher la possibilité d'appliquer les éditions les plus récentes des Recommandations et Normes indiquées ci-après. Les Membres de la CEI et de l'ISO possèdent le registre des Normes internationales en vigueur. Le Bureau de la normalisation des télécommunications tient à jour une liste des Recommandations du UIT-T en vigueur.

2.1 Recommandations | Normes internationales identiques

- Recommandation X.213 du CCITT (1992) | ISO/CEI 8348:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Définition du service de réseau.*
- Recommandation X.233 de l'UIT-T (1993) | ISO/CEI 8473:1993, *Technologies de l'information – Spécification du protocole pour le service OSI de réseau en mode sans connexion.*
- Recommandation X.701 du CCITT (1992) | ISO/CEI 10040:1992, *Technologies de l'information – Interconnexion de systèmes ouverts – Aperçu général de la gestion de systèmes.*
- Recommandation X.720 du CCITT (1992) | ISO/CEI 10165-1:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Services d'information de gestion – Structure des informations de gestion – Modèle d'information de gestion.*
- Recommandation X.721 du CCITT (1992) | ISO/CEI 10165-2:1992, *Technologies de l'information – Interconnexion de systèmes ouverts – Services d'information de gestion – Structure des informations de gestion – Définition des informations de gestion.*
- Recommandation X.722 du CCITT (1992) | ISO/CEI 10165-4:1992, *Technologies de l'information – Interconnexion de systèmes ouverts – Services d'information de gestion – Structure des informations de gestion – Directives pour la définition des objets gérés.*
- Recommandation X.723 de l'UIT-T (1993) | ISO/CEI 10165-5:1994, *Technologies de l'information – Interconnexion de systèmes ouverts – Services d'information de gestion – Structure des informations de gestion – Informations génériques de gestion.*

¹⁾ La présente Recommandation et l'ISO/CEI 10733, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Éléments d'information de gestion relatifs à la structure de la couche OSI réseau*, sont des normes qui ont été élaborées en étroite collaboration et qui sont techniquement identiques.

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- Recommandation X.730 du CCITT (1992) | ISO/CEI 10164-1:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Gestion des systèmes – Fonction de gestion des objets.*
- Recommandation X.731 du CCITT (1992) | ISO/CEI 10164-2:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Gestion des systèmes – Fonction de gestion des états.*
- Recommandation X.732 du CCITT (1992) | ISO/CEI 10164-3:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Gestion des systèmes – Attributs pour représenter les relations.*
- Recommandation X.733 du CCITT (1992) | ISO/CEI 10164-4:1992, *Technologies de l'information – Interconnexion de systèmes ouverts – Gestion des systèmes – Fonction rapport d'alarme.*
- Recommandation X.734 du CCITT (1992) | ISO/CEI 10164-5:1993, *Technologies de l'information – Interconnexion de systèmes ouverts – Gestion des systèmes – Fonction de gestion des rapports d'événements.*

2.2 Paires de Recommandations | Normes internationales équivalentes par leur contenu technique

- Recommandation X.200 du CCITT (1988), *Modèle de référence pour l'interconnexion des systèmes ouverts pour les applications du CCITT.*
ISO/CEI 7498:1984, *Systèmes de traitement de l'information – Interconnexion de systèmes ouverts – Modèle de référence de base.*
- Recommandation X.208 du CCITT (1988), *Spécification de la syntaxe abstraite numéro un (ASN.1).*
ISO/CEI 8824:1990, *Technologies de l'information – Interconnexion de systèmes ouverts – Spécification de la syntaxe abstraite numéro un (ASN.1).*
- Recommandation X.223 de l'UIT-T (1993), *Utilisation du protocole X.25 pour mettre en œuvre le service de réseau en mode connexion de l'OSI pour les applications du CCITT.*
ISO/CEI 8878:1992, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Utilisation du protocole X.25 pour fournir le service de réseau OSI en mode connexion.*
- Recommandation X.700 du CCITT (1992), *Définition du cadre de gestion pour l'interconnexion de systèmes ouverts (OSI) pour les applications du CCITT.*
ISO/CEI 7498-4:1989, *Systèmes de traitement de l'information – Interconnexion de systèmes ouverts – Modèle de référence de base – Partie 4: Cadre général de gestion.*
- Recommandation X.710 du CCITT (1991), *Définition du service commun de transfert d'informations de gestion pour les applications du CCITT.*
ISO/CEI 9595:1991, *Technologies de l'information – Interconnexion de systèmes ouverts – Définition du service commun d'informations de gestion.*
- Recommandation X.711 du CCITT (1991), *Spécification du protocole commun de transfert d'informations de gestion pour les applications du CCITT.*
ISO/CEI 9596-1:1991, *Technologies de l'information – Interconnexion de systèmes ouverts – Protocole commun d'informations de gestion – Partie 1: Spécification.*

2.3 Références additionnelles

- Recommandation D.10 du CCITT (1991), *Principes généraux de tarification à appliquer aux services publics internationaux de communication de données.*
- Recommandation D.11 du CCITT (1991), *Principes spéciaux de tarification à appliquer aux services publics internationaux de communication de données à commutation par paquets assurés au moyen de la communication virtuelle.*
- Recommandation D.12 du CCITT (1988), *Unité de mesure pour la taxation du volume d'informations transmises dans le service international de communication de données avec commutation par paquets.*
- Recommandation E.164 du CCITT (1991), *Plan de numérotage pour l'ère du RNIS.*
- Recommandation X.2 de l'UIT-T (1993), *Services internationaux de transmission de données et services complémentaires offerts aux usagers des réseaux publics pour données et des réseaux numériques avec intégration des services (RNIS).*

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- Recommandation X.25 de l'UIT-T (1993), *Interface entre équipement terminal de traitement de données (ETTD) et équipement de terminaison du circuit de données (ETCD) pour terminaux fonctionnant en mode paquet et raccordés à des réseaux publics pour données par circuit spécialisé.*
- Recommandation X.121 du CCITT (1992), *Plan de numérotage international pour les réseaux publics pour données.*
- ISO/CEI 8208:1993, *Technologies de l'information - Communication de données – Protocole X.25 de couche paquet pour terminal de données.*
- ISO 8648:1988, *Systèmes de traitement de l'information – Interconnexion de systèmes ouverts – Organisation interne de la couche réseau.*
- ISO/CEI 8880-1:1990, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Combinaisons de protocoles pour fournir et supporter le service réseau OSI – Partie 1: Principes généraux.*
- ISO/CEI 8880-2:1993, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Combinaisons de protocoles pour fournir et supporter le service réseau OSI – Partie 2: Fourniture et support du service de réseau en mode connexion.*
- ISO/CEI 8880-3: 1990, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Combinaisons de protocoles pour fournir et supporter le service réseau OSI – Partie 3: Fourniture et support du service de réseau en mode sans connexion.*
- ISO/CEI 8881:1989, *Systèmes de traitement de l'information – Communication de données – Emploi du protocole X.25 au niveau paquet dans des réseaux locaux.*
- ISO 9542:1988, *Systèmes de traitement de l'information – Télécommunications et échange d'informations entre systèmes – Protocole de routage d'un système d'extrémité à un système intermédiaire à utiliser conjointement avec le protocole fournissant le service de réseau en mode sans connexion (ISO 8473).*
- ISO TR 9577:1990, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Identification de protocoles dans la couche réseau.*
- ISO/CEI 10589:1992, *Technologies de l'information – Télécommunications et échange d'informations entre systèmes – Protocole intra-domaine de routage d'un système intermédiaire à un système intermédiaire, à utiliser conjointement avec le protocole fournissant le service de réseau en mode sans connexion (ISO 8473).*

3 Définitions

3.1 Modèle de référence

La présente Recommandation utilise les termes suivants, qui sont définis dans le Modèle de référence OSI (voir la Rec. X.200 du CCITT | ISO 7498):

- a) système ouvert;
- b) point d'accès au service réseau (NSAP);
- c) couche réseau;
- d) protocole de réseau;
- e) gestion de couche;
- f) gestion de systèmes.

3.2 Modèle d'information

La présente Recommandation utilise les termes suivants, qui sont définis dans la *Structure des informations de gestion – Modèle d'information de gestion* (voir la Rec. X.720 du CCITT | ISO/CEI 10165-1):

- a) attributs;
- b) type d'attribut;
- c) confinement;

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- d) nom distinctif;
- e) héritage;
- f) objet géré;
- g) opérations de gestion;
- h) notifications;
- i) classe d'objets;
- j) nom distinctif relatif;
- k) sous-classe;
- l) superclasse.

3.3 Directives pour la définition des objets gérés (GDMO) (*guidelines for the definition of managed objects*)

La présente Recommandation utilise les termes suivants, qui sont définis dans la *Structure des informations de gestion – Directives pour la définition des objets gérés* (voir la Rec. X.722 du CCITT | ISO/CEI 10165-4):

- a) définition d'une classe d'objets gérés;
- b) modèle (classe prédéfinie);
- c) paramètre.

3.4 Cadre général de gestion

La présente Recommandation utilise le terme suivant, qui est défini dans le *Cadre de gestion pour l'interconnexion de systèmes ouverts* (voir la Rec. X.700 du CCITT | ISO/CEI 7498-4):

- information de gestion

4 Symboles et abréviations

Dans le cadre des définitions d'objets gérés et des modèles de directives pour la définition des objets gérés (GDMO), les abréviations suivantes sont utilisées comme attribut de dénomination normal pour l'identification d'un document, lorsque l'on fait référence à d'autres documents:

DMI	Définition des informations de gestion (<i>definition of management information</i>) Rec. X.721 du CCITT ISO/CEI 10165-2
GMI	Informations génériques de gestion (<i>generic management information</i>) Rec. UIT-T X.723 ISO/CEI 10165-5

La présente Recommandation utilise les symboles et abréviations ci-après:

BCUG	Groupe fermé d'utilisateurs bilatéral (<i>bilateral closed user group</i>)
CLNP	Protocole de couche réseau en mode sans connexion (<i>connectionless-mode network protocol</i>)
CLNS	Service de couche réseau en mode sans connexion (<i>connectionless-mode network service</i>)
CMIP	Protocole de transfert d'informations communes de gestion (<i>common management information protocol</i>)
CMIS	Définition du service de transfert d'informations communes de gestion (<i>common management information service definition</i>)
CONS	Service de couche réseau en mode connexion (<i>connection-mode network service</i>)
CUG	Groupe fermé d'utilisateur (<i>closed user group</i>)
ES	Système d'extrémité (<i>end system</i>)
ESH	Appel du système d'extrémité (<i>end system hello</i>)
ER PDU	Unités de données de protocole de signalisation d'erreur (<i>error report protocol data unit</i>)
IS	Système intermédiaire (<i>intermediate system</i>)
ISH	Appel du système intermédiaire (<i>intermediate system hello</i>)
IVMO	Objet géré valeurs initiales (<i>initial values managed object</i>)
LCN	Numéro de canal logique (<i>logical channel number</i>)

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MO	Objet géré (<i>managed object</i>)
NSAP	Point d'accès à des services de couche réseau (<i>network service access point</i>)
NSE	Attribut de service de couche réseau (<i>network service element</i>)
NUI	Identification de l'utilisateur de la couche réseau (<i>network user identification</i>)
PLE	Entité de couche paquet (<i>packet layer entity</i>)
PVC	Circuit virtuel permanent (<i>permanent virtual circuit</i>)
RD PDU	Unité de données de protocole de réacheminement (<i>redirect protocol data unit</i>)
RDN	Nom distinctif relatif (<i>relative distinguished name</i>)
SNDCF	Fonction de convergence des sous-réseaux (<i>subnetwork dependent convergence function</i>)
SNPA	Point de rattachement au sous-réseau (<i>subnetwork point of attachment</i>)
VC	Communication virtuelle (<i>virtual call</i>)

5 Eléments d'information de gestion relatifs à la structure de la couche réseau

5.1 Hiérarchie des objets gérés

5.1.1 Liste des objets gérés

L'ensemble suivant de classes d'objets gérés est défini pour la couche OSI réseau:

- l'objet géré sous-système de couche réseau (voir 5.3).
- l'objet géré entité de couche réseau (voir 5.4).
- l'objet géré point NSAP (voir 5.5).
- l'objet géré service de couche réseau en mode sans connexion (voir 5.6).
- l'objet géré lien (voir 5.7).
- l'objet géré service de couche réseau en mode connexion (voir 5.8).
- l'objet géré connexion de couche réseau (voir 5.9).
- l'objet géré ETTD d'entité PLE X.25 (voir 5.10.3).
- l'objet géré ETCD d'entité PLE X.25 (voir 5.10.4).
- l'objet géré valeurs initiales d'ETTD d'entité PLE X.25 (voir 5.10.5).
- l'objet géré valeurs initiales d'ETCD d'entité PLE X.25 (voir 5.10.6).
- l'objet géré ETTD de circuit virtuel permanent (voir 5.11.4).
- l'objet géré ETCD de circuit virtuel permanent (voir 5.11.5).
- l'objet géré valeurs initiales de communication virtuelle (voir 5.11.6).
- l'objet géré ETTD de communication virtuelle (voir 5.11.7).
- l'objet géré ETCD de communication virtuelle (voir 5.11.8).
- l'objet géré décomptes selon série de Recommandations D (voir 5.11.9).

Les classes d'objets gérés suivantes ne sont jamais instanciées mais n'existent que pour engendrer des sous-classes:

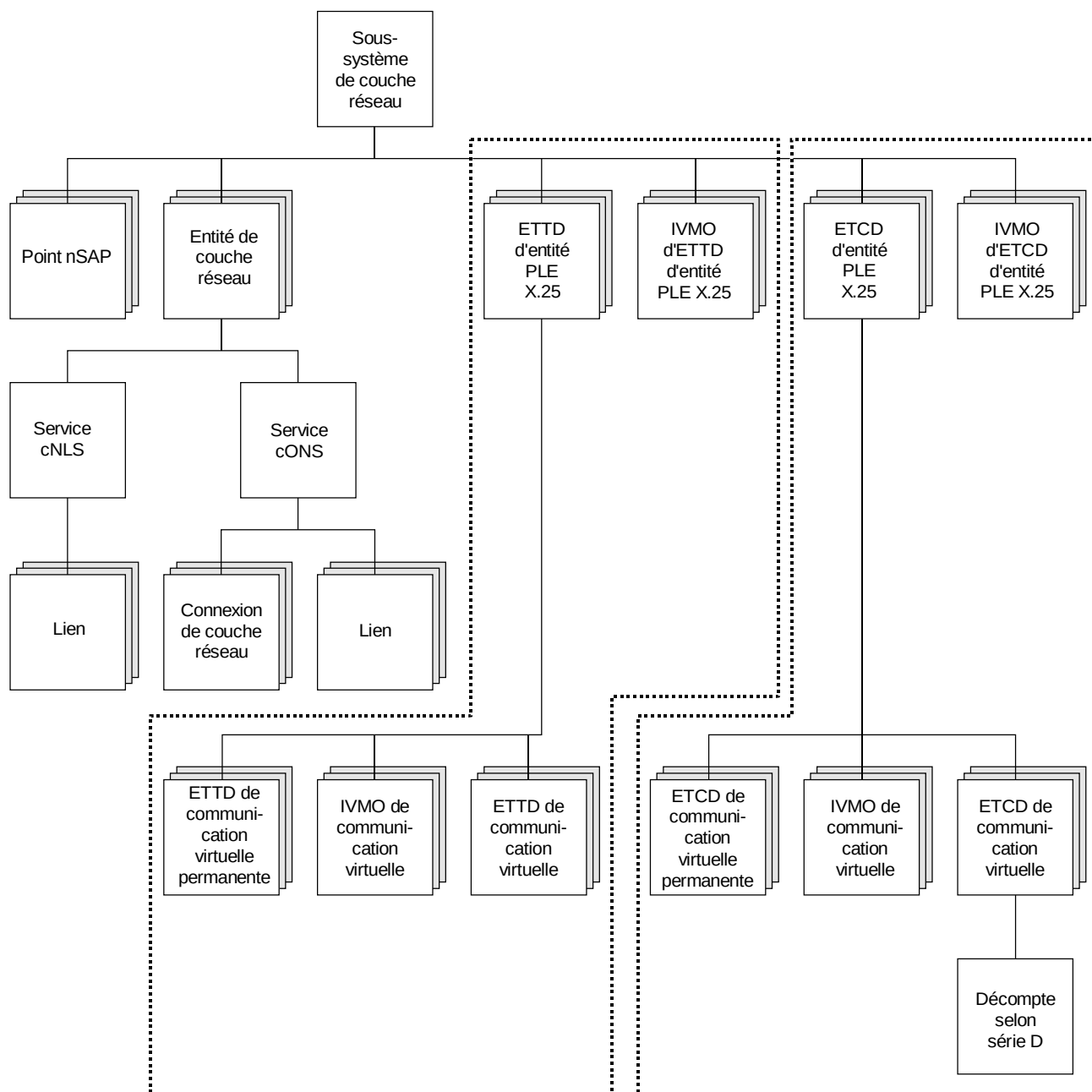
- l'objet géré entité PLE X.25 (voir 5.10.1).
- l'objet géré valeurs initiales d'entité PLE X.25 (voir 5.10.2).
- l'objet géré circuit virtuel (voir 5.11.1).
- l'objet géré ETTD de circuit virtuel (voir 5.11.2).
- l'objet géré ETCD de circuit virtuel (voir 5.11.3).

Ces objets gérés représentent la vue par la gestion OSI des attributs de système ouvert qui supportent le service de couche OSI réseau soumis aux opérations de gestion OSI.

5.1.2 Hiérarchie de confinement

La hiérarchie de confinement est décrite à la Figure 1. Les objets gérés qui peuvent avoir des instances multiples sont repérés par des cases (multiples) ombrées. Ces objets sont définis en détail dans les paragraphes suivants.

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FIGURE 1/X.283

Hiérarchie de confinement dans la couche réseau

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L'objet géré (MO) sous-système de couche réseau est subordonné à l'objet géré système de couche réseau. Les objets gérés entité PLE X.25 et IVMO d'entité PLE X.25 sont des exemples de ce qu'on appelle «objets gérés de point SNPA», qui sont des objets gérés spécifiques d'un sous-réseau. On prévoit l'apparition future d'un certain nombre d'objets gérés additionnels de type point SNPA, par exemple pour les RNIS.

L'objet géré point SNPA se rapporte au protocole utilisé pour accéder à un sous-réseau. Il existe par exemple un objet géré point SNPA pour chaque entité PLE X.25. L'objet géré service cLNS se rapporte aux fonctions des protocoles de service CLNS (selon la Rec. X.233 de l'UIT-T | ISO/CEI 8473-1, l'ISO 9542 et l'ISO/CEI 10589). Ces fonctions sont applicables au fonctionnement général du protocole dans son ensemble plutôt que dans ses relations avec des points de rattachement individuels. L'objet géré lien se rapporte, pour sa part, aux fonctions de convergence des sous-réseaux (SND CF). L'objet géré service CONS et ses objets gérés lien associés sont de même applicables aux protocoles associés au service CONS (selon la Rec. X.223 de l'UIT-T | ISO/CEI 8878, la Rec. X.612 du CCITT | ISO/CEI 9574, l'ISO 10030, l'ISO/CEI 10177, etc.).

Pour les directives concernant les objets gérés contenus dans l'arbre de confinement qui doivent être instanciés pour une mise en œuvre conforme, voir les clauses applicables de la déclaration de conformité de cette instance.

5.1.3 Relations

5.1.3.1 Considération générale

Les paragraphes suivants décrivent chaque type de relation. L'utilisation d'attributs relationnels est illustrée par des exemples dans l'Appendice II.

5.1.3.2 Liens

Il existe une relation entre les objets gérés lien et point SNPA (les attributs sN-ServiceProvider et sN-SAP pointent tous les deux vers le même objet géré). Par exemple, un lien relatif à l'opération de la fonction SND CF selon la Rec. X.233 de l'UIT-T | ISO/CEI 8473-1 pour le protocole X.25 possède une relation avec un objet géré ET TD d'entité PLE X.25. La relation d'un lien ne correspond qu'à un seul point SNPA. Dans le cas d'une entité de couche réseau contenant une seule machine protocole selon la Rec. X.233 de l'UIT-T | ISO/CEI 8473-1 opérant sur un certain nombre d'entités PLE X.25, il existera donc un certain nombre d'objets gérés lien, reliés chacun à un objet géré ET TD d'entité PLE X.25 différent. Bien qu'un seul lien ne corresponde qu'à un seul point SNPA, il est possible qu'un certain nombre d'autres liens soient en correspondance avec le même point SNPA. Il peut par exemple exister des liens de service CONS et des liens de service cLNS qui utilisent le même ET TD d'entité PLE X.25 et donc le même objet géré point SNPA.

Dans certains cas d'exploitation de la couche réseau, il peut n'y avoir aucun protocole d'accès spécifique. Par exemple, la Rec. X.233 de l'UIT-T | ISO/CEI 8473-1 contient une fonction SND CF pour usage direct dans le service de liaison de données. Dans de tels cas, le lien possède des relations (attributs sN-ServiceProvider et sN-SAP pointant vers différents objets gérés) non pas avec un point SNPA mais avec des objets gérés appropriés dans la couche liaison de données.

5.1.3.3 Points NSAP

Il existe une relation (par l'attribut localSAPNames) entre un objet géré entité de couche réseau et un objet géré point nSAP. Chaque objet géré nSAP ne se rapporte qu'à une seule entité de couche réseau, bien qu'une même entité de couche réseau puisse être reliée à plusieurs objets gérés point nSAP.

5.1.3.4 Clients de couche n+1

L'objet géré point nSAP possède un ensemble de relations (par l'attribut userEntityName) avec les clients de couche n+1 (normalement l'entité de couche Transport, qui possède une relation (par l'attribut actualNSAP) avec l'objet géré point nSAP).

5.1.3.5 Services de couche n-1

Les objets gérés lien comme Entité PLE X.25 ont tous les deux des relations (par les attributs sN-ServiceProvider et sN-SAP) avec les objets gérés de couche liaison de données appropriés.

5.1.3.6 Connexions

Il existe une relation (par l'attribut underlyingConnectionNames) entre un objet géré connexion de transport et son objet géré sous-jacent connexion de couche réseau (s'il en existe un), ainsi qu'entre l'objet géré connexion de couche réseau et l'objet géré sous-jacent ET TD de communication virtuelle. La relation entre l'objet géré ET TD de communication

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virtuelle et un quelconque objet géré sous-jacent couche liaison de données est implicitement présente en tant que résultat des relations, avec la couche liaison de données, des objets gérés connexes ETDD d'entité PLE X.25 ou ETCD d'entité PLE X.25, comme décrit plus haut.

Il existe en outre une relation (par l'objet géré point NSAP local) entre l'objet géré connexion de couche réseau et l'objet géré correspondant point nSAP.

5.1.4 Capacités minimales de filtrage d'événements

Les définitions relatives à la gestion de la couche réseau, contenues dans la présente Recommandation, impliquent l'émission fréquente, sinon excessive, de notifications pendant les opérations normales de couche. Ces notifications sont particulièrement utiles pour une gestion efficace des dérangements car elles facilitent la recherche et la localisation des situations d'erreur. Pour éviter une dissémination excessive de ces rapports d'événement dans les conditions normales d'exploitation, il est souhaitable qu'un système géré possède, au moins, la capacité d'effectuer une sélection sur la base:

- a) de la classe d'objets gérés d'origine;
- b) des valeurs d'identification d'objets contenues dans les champs cause probable et problèmes spécifiques des messages d'alarme relatifs à la communication et sur la base des informations de communication contenues dans le champ type de communication.

5.1.5 Utilisation des champs facultatifs

Lorsque la présente Recommandation fait référence à la syntaxe ASN.1 définie dans la Rec. X.723 | ISO/CEI 10165-5 ou dans la Rec. X.721 | ISO/CEI 10165-2, seuls les champs suivants doivent être employés:

- a) ceux qui ne sont pas dénotés comme étant «OPTIONAL» dans la syntaxe ASN.1;
- b) ceux qui sont «OPTIONAL» mais dont l'usage est explicitement prescrit par la présente Recommandation;
- c) ceux qui sont «OPTIONAL» mais du type ASN.1 «SET OF ManagementExtension».

L'utilisation de quelconques autres champs est interdite.

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5.2 Classes prédéfinies de comportements communs

commonCreationDeletion-B BEHAVIOUR

DEFINED AS

!Managed object class imports the ISO/IEC 10165-2 objectCreation and objectDeletion notifications. Used as follows:

objectCreation - Generated whenever an instance of the managed object class is created. Implementations may optionally include the sourceIndicator parameter in the notification.

If creation occurred as a result of internal operation of the resource, the value 'resourceOperation' is used. If creation occurred in response to a management operation, the value 'managementOperation' is used. A value of 'unknown' may be returned if it is not possible to determine the source of the operation. None of the other optional parameters are used.

objectDeletion - Generated whenever an instance of the managed object class is deleted. Implementations may optionally include the sourceIndicator parameter in the notification.

If deletion occurred as a result of internal operation of the resource, the value 'resourceOperation' is used. If deletion occurred in response to a management operation, the value 'managementOperation' is used. A value of 'unknown' may be returned if it is not possible to determine the source of the operation. None of the other optional parameters are used.!

commonStateChange-B BEHAVIOUR

DEFINED AS

!Managed object class imports the ISO/IEC 10165-2 stateChange notification.

Used to report the changes to the operationalState attribute, and where present, the administrativeState attribute. A

single parameter set is included in the State change definition field.

Only the (mandatory) attributeId and (optional) newAttributeValue parameters are used.!

octetsSentReceivedCounter-B BEHAVIOUR

DEFINED AS

The octetsSentCounter and octetsReceivedCounter shall count only user data octets in valid data packets. They shall not count user data octets in data packets which are rejected for any reason, nor user data octets in non data packets;

successfulConnectionEstablishment-B BEHAVIOUR

DEFINED AS

This Package imports the communicationsInformation notification from "GMI".

It is used to report the following events.

successfulConnectionEstablishment: Generated when a connection is successfully established. However, the precise synchronization between the notification and the corresponding protocol and service interface interactions is not defined by this Specification.

The value NLM.successfulConnectionEstablishment shall be reported in the informationType field.;

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deactivateConnection-B BEHAVIOUR

DEFINED AS

The Deactivate action causes the connection to be terminated. The termination should occur as rapidly as practical, but no particular time constraints are implied. Typically, this action simulates a disconnect request received across the service interface. If a more rapid means for terminating the connection exists, then this should be used. The termination shall occur in conformance to the protocol standard. The Managed Object remains in existence after completion of the Deactivate action. It is subsequently deleted when the connection is terminated, in the same way as if the connection has been terminated by other means. A deactivate action may fail (with the ProcessingError response) if it is temporarily not possible to terminate the connection.;

resettingTimer-B BEHAVIOUR

DEFINED AS

This attribute specifies the interval between certain events in the operation of the protocol state machine. If the value of this attribute is changed to a new value while the protocol state machine is in operation, the implementation shall take the necessary steps to ensure that for any time interval which was in progress when the corresponding attribute was changed, the next expiration of that interval takes place no later than the expiration of the interval in progress or the specified interval whichever is the sooner. The precision with which this time shall be implemented shall be the same as that associated with the basic operation of the timer attribute;

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5.3 L'objet géré sous-système de couche réseau

-- *Objet géré pour sous-système de couche réseau*
--
-- *Un système comporte exactement un seul objet géré de ce type. Sa fonction est de contenir*
-- *les objets gérés entité de couche réseau, point nSAP ainsi que point SNPA comme décrit*
-- *dans les paragraphes suivants.*
--
-- *L'objet géré sous-système de couche réseau ne peut ni être créé ni être supprimé*
-- *explicitement par une opération de gestion. Son existence est inhérente à celle*
-- *d'un système.*
--

```
networkSubsystem MANAGED OBJECT CLASS
    DERIVED FROM "GMI":subsystem;
    CHARACTERIZED BY networkSubsystem-P PACKAGE
    ATTRIBUTES
        "GMI":subsystemId
        INITIAL VALUE NLM.networkSubsystemId-Value
        GET;

REGISTERED AS { NLM.moi networkSubsystem (1) };

-- Corrélations de noms

networkSubsystem-system NAME BINDING
    SUBORDINATE OBJECT CLASS networkSubsystem AND SUBCLASSES;
    NAMED BY
        SUPERIOR OBJECT CLASS "DMI":system AND SUBCLASSES;
        WITH ATTRIBUTE "GMI":subsystemId;
REGISTERED AS { NLM.nboi networkSubsystem-system (1) };
```

Remplacée par une version plus récente

5.4 L'objet géré entité de couche réseau

- Il peut exister plusieurs instances de cet objet géré dans un système.
- Sa définition permet de le supprimer et de le créer explicitement au moyen d'une
- opération de gestion; ou de le créer et de le supprimer automatiquement dans le
- cadre d'une opération du système.

```
networkEntity MANAGED OBJECT CLASS
    DERIVED FROM "GMI":communicationsEntity;
    CHARACTERIZED BY networkEntity-P PACKAGE
        BEHAVIOUR commonCreationDeletion-B;
    ATTRIBUTES
        networkEntityTitles
            GET-REPLACE
            ADD-REMOVE,
        systemTypes GET;
    NOTIFICATIONS
        "DMI":objectDeletion,
        "DMI":objectCreation;
    ;;
REGISTERED AS { NLM.moi networkEntity (22) };

-- Corrélations de noms

networkEntity-networkSubsystem-Automatic NAME BINDING
    SUBORDINATE OBJECT CLASS networkEntity AND SUBCLASSES;
    NAMED BY
        SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
        WITH ATTRIBUTE "GMI":communicationsEntityId;
    BEHAVIOUR networkEntity-networkSubsystem-Automatic-B BEHAVIOUR
        DEFINED AS This name binding shall be used when the
            networkEntity MO is created automatically by the operation
            of the system. The details of these operations are outside
            the scope of this Specification.;;
REGISTERED AS { NLM.nboi networkEntity-networkSubsystem-Automatic (27) };

networkEntity-networkSubsystem-Management NAME BINDING
    SUBORDINATE OBJECT CLASS networkEntity AND SUBCLASSES;
    NAMED BY
        SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
        WITH ATTRIBUTE "GMI":communicationsEntityId;
    BEHAVIOUR networkEntity-networkSubsystem-Management-B BEHAVIOUR
        DEFINED AS This name binding shall be used when the
            networkEntity MO is created automatically by system management.
    ;;
    CREATE;
    DELETE;
REGISTERED AS { NLM.nboi networkEntity-networkSubsystem-Management (28) };
```

Remplacée par une version plus récente

-- *Attributs*

networkEntityTitles ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.NAddresses;

MATCHES FOR EQUALITY;

BEHAVIOUR networkEntityTitles-B BEHAVIOUR

DEFINED AS The set of Network Entity Titles

(having the same abstract syntax as an NSAP address),

which unambiguously identify the Network Entity in

an End or Intermediate System. The value may be entered by a system

management operation or it may be derived by some local means, for example by autoconfiguration.;;

REGISTERED AS { NLM.aoi networkEntityTitles (3) };

systemTypes ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.SystemTypes;

MATCHES FOR EQUALITY;

BEHAVIOUR systemTypes-B BEHAVIOUR

DEFINED AS The set of system roles supported by this Network Entity.

This may be End System, Intermediate System or both. The actual

role in which a particular instance of the protocol machine

is operating is determined by the operationalSystemType attribute

of the cLNS or cONS MO.;;

REGISTERED AS { NLM.aoi systemTypes (108) };

Remplacée par une version plus récente

5.5 L'objet géré point NSAP

--
-- Il existe un seul objet géré point nSAP pour chaque ensemble de points NSAP supporté
-- par le sous-système de couche réseau associé à un client donné de la couche transport.
-- Chaque objet géré point NSAP correspond à un ensemble d'un ou de plusieurs points
-- NSAP supporté(s) par le sous-système de couche réseau.
--
-- Il n'existe pas plus d'un seul client de couche transport associé à un même objet géré
-- point nSAP mais il peut exister plus d'un seul objet géré point nSAP (avec les ensembles
-- correspondants de points NSAP) associé à un même client de couche transport.
-- La définition de cet objet permet de le créer et de le supprimer explicitement au moyen
-- d'une opération de gestion ou de le créer et de le supprimer automatiquement dans le
-- cadre d'une opération du système.
--

nSAP MANAGED OBJECT CLASS

DERIVED FROM "GMI":sap2;
CHARACTERIZED BY nSAP-P PACKAGE
BEHAVIOUR commonCreationDeletion-B;
ATTRIBUTES
 "GMI":sap2Address
 INITIAL VALUE DERIVATION RULE nAddressesIV-B
 GET;
NOTIFICATIONS
 "DMI":objectDeletion,
 "DMI":objectCreation;

;;

REGISTERED AS { NLM.moi nSAP (4) };

-- Comportements

nAddressesIV-B BEHAVIOUR

DEFINED AS If the package is created using the nSAP-networkSubsystem-Automatic
name binding the initial value of this attribute is not constrained by this
Specification. However, if the package is created using the
nSAP-networkSubsystem-Management name binding the initial value shall
be specified in the CMIP create;

-- Corrélations de noms

nSAP-networkSubsystem-Automatic NAME BINDING

SUBORDINATE OBJECT CLASS nSAP AND SUBCLASSES;
NAMED BY
 SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
 WITH ATTRIBUTE "GMI":sapld;

BEHAVIOUR nSAP-networkSubsystem-Automatic-B BEHAVIOUR

DEFINED AS This name binding shall be used when the nSAP MO is created automatically by the
operation of the network entity. For example, by the use of autoconfiguration or dynamic
NSAP Address assignment techniques. The details of the operation of these techniques are
outside the scope of this Specification.;;

REGISTERED AS { NLM.nboi nSAP-networkSubsystem-Automatic (4) };

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nSAP-networkSubsystem-Management NAME BINDING
SUBORDINATE OBJECT CLASS nSAP AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
WITH ATTRIBUTE "GMI":sapId;
BEHAVIOUR nSAP-networkSubsystem-Management-B BEHAVIOUR
DEFINED AS This name binding shall be used when the nSAP MO is created by system
management.
The value of the sap2Address attribute shall be specified in the CMIP create;;
CREATE;
DELETE;
REGISTERED AS { NLM.nboi nSAP-networkSubsystem-Management (5) };

Remplacée par une version plus récente

5.6 L'objet gère service de couche réseau en mode sans connexion

--
-- Il n'existe pas plus d'un seul de ces objets gérés par entité de couche réseau.
-- La définition de ce type d'objet permet de le créer et de le supprimer explicitement
-- au moyen d'une opération de gestion mais, dans certains systèmes, il existera de façon
-- intrinsèque et aucune création ou suppression par opération de gestion Ne sera possible.
-- Des corrélations de noms sont définies pour ce deux cas.
--
-- Lorsque la machine protocole est exploitable, le paramètre *operationalState*
-- doit avoir la valeur «enabled»; sinon, il doit avoir la valeur «disabled».
-- Les transitions du paramètre *operationalState* doivent être signalées au moyen
-- de la notification *stateChange*. Un objet géré service cLNS peut être créé
-- dans l'état d'exploitation «enabled».
--

cLNS MANAGED OBJECT CLASS

```
DERIVED FROM "GMI":cIProtocolMachine;
CHARACTERIZED BY cLNS-P PACKAGE
  BEHAVIOUR commonStateChange-B,
    commonCreationDeletion-B;
ATTRIBUTES
  "DMI":administrativeState GET-REPLACE,
  "GMI":cIProtocolMachineld
    INITIAL VALUE NLM.cLNSId-Value
    GET,
  supportedProtocols GET,
  operationalSystemType
    INITIAL VALUE DERIVATION RULE operationalSystemTypeIV-B
    GET;
ATTRIBUTE GROUPS
  "DMI":state
    "DMI":administrativeState
    "DMI":operationalState;
ACTIONS
  "GMI":activate,
  "GMI":deactivate;
NOTIFICATIONS
  "DMI":objectCreation,
  "DMI":objectDeletion,
  "DMI":stateChange;
;;
CONDITIONAL PACKAGES
  cLNS8473-P
    PRESENT IF The protocol defined in ITU-T Rec. X.233 | ISO/IEC 8473-1 is used to implement
    the CLNS,
  cLNSChecksum-P
    PRESENT IF The ITU-T Rec. X.233 | ISO/IEC 8473-1 Generate Checksum option is implemented,
```

Remplacée par une version plus récente

-- Les lots suivants sont associés à l'ISO/CEI 10589

"ISO/IEC 10589":cLNSISISBasic-P

PRESENT IF The system is an ISO 10589 IS,

"ISO/IEC 10589":cLNSISISAuthentication-P

PRESENT IF The system is an ISO 10589 IS

and the authentication procedures are implemented,

"ISO/IEC 10589":cLNSISISPartitionRepair-P

PRESENT IF The system is an ISO 10589 Level 2 IS

and the partition repair procedures are implemented,

"ISO/IEC 10589":cLNSISISLevel2-P

PRESENT IF The system is an ISO 10589 Level 2 IS,

"ISO/IEC 10589":cLNSISISLevel2Authentication-P

PRESENT IF The system is an ISO 10589 Level 2 IS

and the authentication procedures are implemented;

REGISTERED AS { NLM.moi cLNS (21) };

-- Lots prédéfinis

cLNS8473-P PACKAGE

BEHAVIOUR cLNS8473-P-B BEHAVIOUR

DEFINED AS Present when ITU-T Rec. X.233 | ISO/IEC 8473-1 is used to provide the CLNS;;

cLNS8473PImportedNotifications-B,

cLNS8473PImportedCounters-B;

ATTRIBUTES

"DMI":octetsSentCounter GET,

"DMI":octetsReceivedCounter GET,

segmentsReceived GET,

segmentsSent GET,

segmentsDiscarded GET,

assemblingSegmentsDiscarded GET,

errorReportsReceived GET,

pDUDiscards GET,

congestionDiscards GET,

maximumLifetime GET-REPLACE;

ATTRIBUTE GROUPS

"GMI":counters

"DMI":octetsSentCounter

"DMI":octetsReceivedCounter

segmentsReceived

segmentsDiscarded

assemblingSegmentsDiscarded

errorReportsReceived

pDUDiscards

congestionDiscards;

NOTIFICATIONS

"DMI":communicationsAlarm

notificationPDUHeader;

REGISTERED AS { NLM.poi cLNS8473-P (20) };

Remplacée par une version plus récente

cLNSChecksum-P PACKAGE

BEHAVIOUR cLNSChecksum-P-B BEHAVIOUR

DEFINED AS When present checksum generation is controlled by the enableChecksum attribute;;

ATTRIBUTES

enableChecksum REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.false

GET-REPLACE;

REGISTERED AS { NLM.poi cLNSChecksum-P (1) };

-- *Comportements*

cLNS8473PImportedCounters-B BEHAVIOUR

DEFINED AS The cLNS8473-P package imports octetsSentCounter and octetsReceivedCounter from ISO/IEC 10165-2. They are used to count the number of octets of data transmitted or received by the local network entity in ITU-T Rec. X.233 | ISO/IEC 8473-1 Data PDUs. (i.e. those which have a source or destination N-Address, respectively, which corresponds to that one of those of the local network entity.)

cLNS8473PImportedNotifications-B BEHAVIOUR

DEFINED AS The cLNS8473-P package imports the communicationsAlarm notification from Rec. 721 | ISO/IEC 10165-2.

It is used to report the following cLNS managed object events.

pDUDiscard:

Generated when a data NPDU is discarded due to any of the reasons specified in ITU-T Rec. X.233 | ISO/IEC 8473-1 Table 7, with the exception of 'PDU Discarded due to Congestion' The header of the PDU in error shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationPDUHeader parameters.

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.pDUDiscard and that corresponding to the Reason For Discard shall both be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the AdditionalInformation field.

A PDU which does not contain one of the protocol identifiers defined in ITU-T Rec. X.233 | ISO/IEC 8473-1 shall not cause this event.

A PDU with a protocol ID 1000 0001 shall not cause this event if it does not also contain the Version/Protocol Identifier extension in 7.2.4 of ITU-T Rec. X.233 | ISO/IEC 8473-1.

If an error report PDU is generated, the PDU header and Discard Reason in the error report shall be the same as those in the corresponding notification.

;

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operationalSystemTypeIV-B BEHAVIOUR

DEFINED AS If the MO is created by management operation (using the cLNS-networkEntity-Management or cONS-networkEntity-Management name binding), the initial value of the operationalSystemType attribute shall be specified in the CMIP create. Otherwise, the value shall be determined in an implementation specific manner. The value shall be one of those present in the systemTypes attribute of the superior Network Entity MO.

-- *Corrélations de noms*

cLNS-networkEntity-Management NAME BINDING

SUBORDINATE OBJECT CLASS cLNS AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS networkEntity AND SUBCLASSES;

WITH ATTRIBUTE "GMI":clProtocolMachineld;

BEHAVIOUR cLNS-networkEntity-Management-B BEHAVIOUR

DEFINED AS The name binding that applies when the cLNS managed object can be created and deleted by management;;

CREATE;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS { NLM.nboi cLNS-networkEntity-Management (3) };

cLNS-networkEntity-Automatic NAME BINDING

SUBORDINATE OBJECT CLASS cLNS AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS networkEntity AND SUBCLASSES;

WITH ATTRIBUTE "GMI":clProtocolMachineld;

BEHAVIOUR cLNS-networkEntity-Automatic-B BEHAVIOUR

DEFINED AS The name binding that applies when the cLNS managed object cannot be created or deleted by management;;

REGISTERED AS { NLM.nboi cLNS-networkEntity-Automatic (16) };

-- *Attributs*

assemblingSegmentsDiscarded ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR assemblingSegmentsDiscarded-B BEHAVIOUR

DEFINED AS Counter of segments discarded due to reassembly time expiry.

This is the number of data and error report NPDUs discarded due to reassembly time expiry;;

REGISTERED AS { NLM.aoi assemblingSegmentsDiscarded (8) };

congestionDiscards ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR congestionDiscards-B BEHAVIOUR

DEFINED AS Counter of PDUs discarded due to congestion.

This is the number of data or error report PDUs discarded due to congestion.

This counter is incremented irrespective of the setting of the Error Report bit in the received PDU;;

REGISTERED AS { NLM.aoi congestionDiscards (11) };

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enableChecksum ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR enableChecksum-B **BEHAVIOUR**

DEFINED AS When True, the generation of checksums is enabled.;;

REGISTERED AS { NLM.aoi enableChecksum (4) };

errorReportsReceived ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR errorReportsReceived-B **BEHAVIOUR**

DEFINED AS Counter of received error reports.

This is the number of error report NPDUs received which were addressed to the local network entity.;;

REGISTERED AS { NLM.aoi errorReportsReceived (9) };

maximumLifetime ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Lifetime;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR maximumLifetime-B **BEHAVIOUR**

DEFINED AS Maximum PDU lifetime (in half seconds).

This attribute controls the maximum value (in half seconds) which may be placed in the lifetime field of any ITU-T Rec. X.233 | ISO/IEC 8473-1 data or error report PDU generated by the local network entity.

It does not affect the lifetime field of any PDUs not generated by this network entity, for example those relayed by this system acting as an Intermediate System. PDUs generated by the local network entity are permitted to have a lower value of lifetime field than this attribute, but shall not have a larger value. The means by which the value of the lifetime field is determined for an individual PDU is outside the scope of this Specification, provided that it meets the above constraints.;;

REGISTERED AS { NLM.aoi maximumLifetime (102) };

operationalSystemType ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.SystemType;

MATCHES FOR EQUALITY;

BEHAVIOUR operationalSystemType-B **BEHAVIOUR**

DEFINED AS The system role in which this instance is operating.

A value of ES indicates that the system shall perform no forwarding operations upon non-local PDUs.

A value of IS indicates that the system is permitted to perform forwarding operations, but the decision to forward individual PDUs, or not to forward them, shall be taken on the basis of the available routing information.;;

REGISTERED AS { NLM.aoi operationalSystemType (109) };

Remplacée par une version plus récente

pDUDiscards ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR pDUDiscards-B BEHAVIOUR

DEFINED AS Counter of PDUs discarded (except for congestion).

This is the number of data or error report PDUs discarded for any of the reasons specified in ITU-T Rec. X.233 | ISO/IEC 8473-1 Table 7 with the exception of 'PDU discarded due to congestion'.

This counter is incremented irrespective of the setting of the Error Report bit in the received PDU;;

-- NOTE – Ce compteur cumule donc le nombre de notifications de type

-- communicationsAlarm contenant une valeur specificProblem de l'attribut

-- pDUDiscard -- (contrairement aux événements du protocole CMIP,

-- où cette valeur peut être supprimée)

-- comme prescrit par le paragraphe 9.8.5 (document N4852 SC 21)

-- conformément aux directives pour la définition des objets gérés (GDMO).

REGISTERED AS { NLM.aoi pDUDiscards (10) };

segmentsDiscarded ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR segmentsDiscarded-B BEHAVIOUR

DEFINED AS Counter of segments discarded.

This is the number of data and error report NPDUs discarded without being delivered to a Network Service user or forwarded. This includes segments discarded for any reason except reassembly time expiry;;

REGISTERED AS { NLM.aoi segmentsDiscarded (7) };

segmentsReceived ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR segmentsReceived-B BEHAVIOUR

DEFINED AS Counter of segments received.

This is the number of data and error report NPDUs received

prior to reassembly, including those which may subsequently be discarded;;

REGISTERED AS { NLM.aoi segmentsReceived (6) };

segmentsSent ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR segmentsSent-B BEHAVIOUR

DEFINED AS Counter of segments Sent.

This is the number of data and error report NPDUs sent

after segmentation processing occurs;;

REGISTERED AS { NLM.aoi segmentsSent (118) };

supportedProtocols ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.SupportedProtocols;

MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR supportedProtocols-B BEHAVIOUR

DEFINED AS The set of Connectionless Network protocols supported

by this instance of the cLNS protocol machine, expressed except

where otherwise indicated (for example because there are more

than one protocol described in a single International Standard)

as the registered object identifiers of the relevant

International Standard. The operation of a particular protocol

over a particular linkage is determined by the linkage

operationalProtocols attribute. The value of the

supportedProtocols attribute is determined by the implementation.;;

REGISTERED AS { NLM.aoi supportedProtocols (110) };

Remplacée par une version plus récente

-- Paramètres

notificationPDUHeader PARAMETER

CONTEXT EVENT-INFO;

WITH SYNTAX NLM.OctetString;

BEHAVIOUR notificationPDUHeader-B BEHAVIOUR

DEFINED AS The header of the data NPDU header which caused this event;;

REGISTERED AS { NLM.proi notificationPDUHeader (1) };

Remplacée par une version plus récente

5.7 L'objet géré lien

-- *Objet géré lien*
--
-- *Il existe un seul de ces objets gérés par fourniture distincte du service sous-jacent*
-- *à la machine protocole supérieure. Sa définition permet de le créer et de le supprimer*
-- *explicitement au moyen d'une opération de gestion. Mais dans certains systèmes*
-- *il aura une existence intrinsèque et aucune opération de gestion ne pourra le créer.*
-- *ou le supprimer. Des corrélations de noms sont définies pour ces deux cas.*
--
-- *Lorsque le lien peut être mis en œuvre, l'attribut operationalState doit avoir la valeur*
-- *«activé»; sinon, il doit avoir la valeur «inactivé». Les transitions d'état de l'attribut*
-- *operationalState doivent être signalées au moyen de la notification stateChange.*
-- *Un objet géré lien peut être créé dans l'état opérationnel «activé».*
--

linkage MANAGED OBJECT CLASS

```
DERIVED FROM "DMI":top;
CHARACTERIZED BY linkage-P PACKAGE
    BEHAVIOUR commonCreationDeletion-B,
               commonStateChange-B;
ATTRIBUTES
    linkageld GET,
    "DMI":operationalState GET,
    "DMI":administrativeState GET-REPLACE,
    sN-ServiceProvider
        INITIAL VALUE DERIVATION RULE sN-ServiceProviderIV-B
        GET,
    sN-SAP GET,
    operationalProtocols
        INITIAL VALUE DERIVATION RULE operationalProtocolIV-B
        GET;
ATTRIBUTE GROUPS
    "DMI":state
        "DMI":administrativeState
        "DMI":operationalState;
ACTIONS
    "GMI":activate,
    "GMI":deactivate;
NOTIFICATIONS
    "DMI":stateChange,
    "DMI":objectCreation,
    "DMI":objectDeletion;
;;
CONDITIONAL PACKAGES
    linkage-ISO9542IS-P
        PRESENT IF support for ISO 9542 operating as an IS,
    linkage-ISO9542ES-P
        PRESENT IF support for ISO 9542 operating as an ES,
    linkage-ISO9542Checksum-P
        PRESENT IF support for ISO 9542 PDU Header Checksum Generation function,
    linkageInitialMinimumTimer-P
```

Remplacée par une version plus récente

PRESENT IF support for the initial minimum timer attribute of the ITU-T Rec. X.233 | ISO/IEC 8473-1 SNDCF when operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over an ISO/IEC 8208 or ITU-T Rec.X.25 or CO Datalink Service,

linkageReserveTimer-P

PRESENT IF support for the reserve timer attribute of the ITU-T Rec. X.233 | ISO/IEC 8473-1 SNDCF when operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over an ISO/IEC 8208 or ITU-T Rec. X.25 or CO Datalink Service,

linkageIdleTimer-P

PRESENT IF support for the idle timer attribute of the ITU-T Rec. X.233 | ISO/IEC 8473-1 SNDCF when operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over an ISO/IEC 8208 or ITU-T Rec. X.25 or CO Datalink Service,

linkage-ITU-T Rec. X.233 | ISO/IEC 8473-1-ISO8208SNDCF-P

PRESENT IF operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over ISO/IEC 8208 or ITU-T Rec. X.25 or,

linkageCODLService-P

PRESENT IF operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over the CO Datalink Service,

-- Les lots prédéfinis suivants sont associés à l'ISO/CEI 10589

"ISO/IEC 10589":linkageSISBasic-P

PRESENT IF the system is an ISO 10589 IS,

"ISO/IEC 10589":linkageSISAuthentication-P

PRESENT IF the authentication procedures are implemented on an ISO 10589 IS,

"ISO/IEC 10589":linkageSISBroadcast-P

PRESENT IF the linkage is a broadcast circuit on an ISO 10589 IS,

"ISO/IEC 10589":linkageSISDASCallEstablishmentMetricIncrement-P

PRESENT IF the linkage is a DA Circuit and support is implemented for call establishment metric increment values greater than zero on an ISO/IEC 10589 IS,

"ISO/IEC 10589":linkageSISPtToPt-P

PRESENT IF the linkage is a point to point circuit on an ISO 10589 IS,

"ISO/IEC 10589":linkageSISStatic-P

PRESENT IF the linkage is an X.25 static circuit (IN or OUT) on an ISO 10589 IS,

"ISO/IEC 10589":linkageSISLevel2-P

PRESENT IF the system is an ISO/IEC 10589 level 2 IS,

"ISO/IEC 10589":linkageSISlevel2Broadcast-P

PRESENT IF the linkage is a broadcast circuit on an ISO 10589 level 2 IS;

REGISTERED AS { NLM.moi linkage (23) };

-- Lots prédéfinis

linkageCODLService-P PACKAGE

BEHAVIOUR linkageCODLService-P-B BEHAVIOUR

DEFINED AS Controls the operation of CO Datalink as an SNDCF for ITU-T Rec. X.233 | ISO/IEC 8473-1;;

ATTRIBUTES

callsPlaced GET;

callsFailed GET;

ATTRIBUTE GROUPS

"GMI":counters

callsPlaced

callsFailed;

REGISTERED AS { NLM.poi linkageCODLService-P (9) };

Remplacée par une version plus récente

linkageIdleTimer-P PACKAGE

BEHAVIOUR linkageIdleTimer-P-B BEHAVIOUR

DEFINED AS Controls the ability, when implemented, of an ISO/IEC 8208 or ITU-T Rec. X.25 or CO Datalink SNDCF for ITU-T Rec. X.233 | ISO/IEC 8473-1 to close an established Virtual Call when it is idle. ;;

ATTRIBUTES

idleTimer REPLACE-WITH-DEFAULT

GET-REPLACE;

REGISTERED AS { NLM.poi linkageIdleTimer-P (5) };

linkageInitialMinimumTimer-P PACKAGE

BEHAVIOUR linkageInitialMinimumTimer-P-B BEHAVIOUR

DEFINED AS Controls the ability, when implemented, of an ISO/IEC 8208 or ITU-T Rec. X.25 or CO Datalink SNDCF for ITU-T Rec. X.233 | ISO/IEC 8473-1 to close an established Virtual Call when it is idle, but only after a minimum time after its establishment;;

ATTRIBUTES

initialMinimumTimer REPLACE-WITH-DEFAULT

GET-REPLACE;

REGISTERED AS { NLM.poi linkageInitialMinimumTimer-P (7) };

linkage-ITU-T Rec. X.233 | ISO/IEC 8473-1-ISO/IEC8208 or ITU-T Rec. X.25SNDCF-P PACKAGE

BEHAVIOUR linkage-ISO8473-ISO8208SNDCF-P-B BEHAVIOUR

DEFINED AS Controls the operation of ISO/IEC 8208 or ITU-T Rec. X.25 as an SNDCF for ITU-T Rec. X.233 | ISO/IEC 8473-1;;

ATTRIBUTES

callsPlaced GET,

callsFailed GET;

ATTRIBUTE GROUPS

"GMI":counters

callsPlaced

callsFailed;

REGISTERED AS { NLM.poi linkage-ITU-T Rec. X.233 | ISO/IEC 8473-1-ISO/IEC8208 or ITU-T Rec. X.25SNDCF-P (4) };

linkage-ISO9542Checksum-P PACKAGE

BEHAVIOUR linkage-ISO9542Checksum-P-B BEHAVIOUR

DEFINED AS When present, checksum generation is controlled by the enableChecksum attribute;;

ATTRIBUTES

enableChecksum REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.false

GET-REPLACE;

REGISTERED AS { NLM.poi linkage-ISO9542Checksum-P(17) };

linkage-ISO9542ES-P PACKAGE

BEHAVIOUR

linkage-ISO9542ES-P-B BEHAVIOUR

DEFINED AS Controls the operation of ISO 9542 on an End System;;

linkage-ISO9542ImportedAlarmNotifications-B,

linkage-ISO9542ISReachabilityChange-B,

linkage-ISO9542ESReachabilityChange-B;

ATTRIBUTES

ISO9542OperationalSubsets GET-REPLACE,

holdingTimerMultiplier

REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.holdingTimerMultiplierDefault

Remplacée par une version plus récente

PERMITTED VALUES NLM.HoldingTimerMultiplierPermitted
REQUIRED VALUES NLM.HoldingTimerMultiplierRequired
GET-REPLACE,
manualISSNPAAddress REPLACE-WITH-DEFAULT
GET-REPLACE ADD-REMOVE,
defaultESConfigTimer REPLACE-WITH-DEFAULT
GET-REPLACE,
activeESConfigTimer GET,
iSReachabilityChanges GET,
invalid9542PDUs GET;
ATTRIBUTE GROUPS
"GMI":counters
iSReachabilityChanges
invalid9542PDUs;
NOTIFICATIONS
"DMI":communicationsAlarm,
"GMI":communicationsInformation
reachabilityChange;
REGISTERED AS { NLM.poi linkage-ISO9542ES-P (21) };
linkage-ISO9542IS-P PACKAGE
BEHAVIOUR linkage-ISO9542IS-P-B BEHAVIOUR
DEFINED AS Controls the operation of ISO 9542 on an Intermediate System;;
linkage-ISO9542ImportedAlarmNotifications-B,
linkage-ISO9542ISReachabilityChange-B,
linkage-ISO9542ESReachabilityChange-B;
ATTRIBUTES
ISO9542OperationalSubsets GET-REPLACE,
holdingTimerMultiplier
REPLACE-WITH-DEFAULT
DEFAULT VALUE NLM.holdingTimerMultiplierDefault
PERMITTED VALUES NLM.HoldingTimerMultiplierPermitted
REQUIRED VALUES NLM.HoldingTimerMultiplierRequired
GET-REPLACE,
iSConfigurationTimer REPLACE-WITH-DEFAULT
DEFAULT VALUE NLM.iSConfigurationTimerDefault
GET-REPLACE,
suggestedESConfigurationTimer REPLACE-WITH-DEFAULT
DEFAULT VALUE NLM.suggestedESConfigurationTimerDefault
GET-REPLACE,
redirectHoldingTime
REPLACE-WITH-DEFAULT
DEFAULT VALUE NLM.redirectHoldingTime-Default
PERMITTED VALUES NLM.RedirectHoldingTime-Permitted
GET-REPLACE,

Remplacée par une version plus récente

eSReachabilityChanges GET,
invalid9542PDUs GET;

ATTRIBUTE GROUPS

"GMI":counters
eSReachabilityChanges
invalid9542PDUs;

NOTIFICATIONS

"DMI":communicationsAlarm,
"GMI":communicationsInformation
reachabilityChange;

REGISTERED AS { NLM.poi linkage-ISO9542IS-P (22) };

linkageReserveTimer-P PACKAGE

BEHAVIOUR linkageReserveTimer-P-B BEHAVIOUR

DEFINED AS Controls the ability, when implemented, of an ISO/IEC 8208 or ITU-T Rec. X.25 or
CO Datalink SND CF
for ITU-T Rec. X.233 | ISO/IEC 8473-1 to close an established Virtual Call when it is idle, but
retain resources for its
re-establishment ;;

ATTRIBUTES

reserveTimer REPLACE-WITH-DEFAULT
GET-REPLACE;

REGISTERED AS { NLM.poi linkageReserveTimer-P (6) };

-- *Comportements*

linkage-ISO9542ISReachabilityChange-B BEHAVIOUR

DEFINED AS

This package imports the communicationsInformation notification
from Rec. X.723 | ISO/IEC 10165-5.
It is used to report the following events.

iSReachabilityChange:

Generated when an ES or IS detects a change
in the reachability of a neighbouring IS.
The value NLM.iSReachabilityChange shall be reported in the
informationType field.
The new State, NET of the IS concerned, snpaAddress (where
available) and the reason for the change shall be reported
in the informationData field using the reachabilityChange
PARAMETER.

linkage-ISO9542ESReachabilityChange-B BEHAVIOUR

DEFINED AS

This package imports the communicationsInformation notification
from Rec. X.723 | ISO/IEC 10165-5.
It is used to report the following events.

Remplacée par une version plus récente

eSReachabilityChange:

Generated when an ES or IS detects a change in the reachability of a neighboring ES.
The value NLM.eSReachabilityChange shall be reported in the informationType field.
The new State, set of NSAPAddresses of the IS concerned, the snpaAddress (where available) and the reason for the change shall be reported in the informationData field using the reachabilityChange PARAMETER.

;

linkage-ISO9542ImportedAlarmNotifications-B BEHAVIOUR

DEFINED AS This package imports the communicationsAlarm notification from Rec. X.721 (1992) | ISO/IEC 10165-2.
It is used to report the following events.

invalid9542PDU:

Generated when an ISO 9542 PDU is received which is discarded as result of the PDU Header Error Detection or Protocol Error Processing Functions specified in ISO 9542.
The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.
The value NLM.iso9542PDUDiscard shall be reported in the specificProblems parameter.
The probableCause shall be set to NLM.communicationsProtocolError.
The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.
No other fields or parameters shall be used, with the exception of further parameters in the AdditionalInformation field.

operationalProtocolIV-B BEHAVIOUR

DEFINED AS If the linkage MO is created by management operation (using the linkage-cLNS-Management name binding), the initial value of the operationalProtocols attribute shall be specified in the CMIP create.
Otherwise, the value shall be determined in an implementation specific manner;

sN-ServiceProviderIV-B BEHAVIOUR

DEFINED AS If the linkage MO is created by management operation (using the linkage-cONS-Management or linkage-cONS-Management name bindings), the initial value of the sN-ServiceProvider attribute shall be specified in the CMIP create.
Otherwise, the value shall be determined in an implementation specific manner;

Remplacée par une version plus récente

-- *Corrélations de noms*

linkage-cLNS-Management NAME BINDING

**SUBORDINATE OBJECT CLASS linkage AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS cLNS AND SUBCLASSES;
WITH ATTRIBUTE linkageld;
BEHAVIOUR sN-ServiceProviderIV-B, operationalProtocolIV-B,
linkage-cLNS-Management-B BEHAVIOUR
DEFINED AS The name binding which applies when the linkage managed object
can be created and deleted by management as a subordinate object of the cLNS
managed object class;;
CREATE WITH-REFERENCE-OBJECT;
DELETE;**

REGISTERED AS { NLM.nboi linkage-cLNS-Management (20) };

linkage-cONS-Management NAME BINDING

**SUBORDINATE OBJECT CLASS linkage AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS cONS AND SUBCLASSES;
WITH ATTRIBUTE linkageld;
BEHAVIOUR sN-ServiceProviderIV-B,
linkage-cONS-Management-B BEHAVIOUR
DEFINED AS The name binding which applies when the linkage managed object
can be created and deleted by management as a subordinate object of the cONS
managed object class;;
CREATE WITH-REFERENCE-OBJECT;
DELETE;**

REGISTERED AS { NLM.nboi linkage-cONS-Management (21) };

linkage-cLNS-Automatic NAME BINDING

**SUBORDINATE OBJECT CLASS linkage AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS cLNS AND SUBCLASSES;
WITH ATTRIBUTE linkageld;
BEHAVIOUR sN-ServiceProviderIV-B, operationalProtocolIV-B,
linkage-cLNS-Automatic-B BEHAVIOUR
DEFINED AS The name binding which applies when the linkage managed object
cannot be created and deleted by management as a subordinate object of the cLNS
managed object class;;**

REGISTERED AS { NLM.nboi linkage-cLNS-Automatic (22) };

linkage-cONS-Automatic NAME BINDING

**SUBORDINATE OBJECT CLASS linkage AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS cONS AND SUBCLASSES;
WITH ATTRIBUTE linkageld;
BEHAVIOUR sN-ServiceProviderIV-B,
linkage-cONS-Automatic-B BEHAVIOUR
DEFINED AS The name binding which applies when the linkage managed object
cannot be created and deleted by management as a subordinate object of the cONS
managed object class;;**

REGISTERED AS { NLM.nboi linkage-cONS-Automatic (23) };

Remplacée par une version plus récente

-- *Attributs*

activeESConfigTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR activeESConfigTimer-B BEHAVIOUR

DEFINED AS Currently active value for the ISO 9542 ES configuration timer
in seconds.;;

REGISTERED AS { NLM.aoi activeESConfigTimer (22) };

callsFailed ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR callsFailed-B BEHAVIOUR

DEFINED AS Counter of the number of X.25 call failures
while attempting establishment by the SNDCF;;

REGISTERED AS { NLM.aoi callsFailed (30) };

callsPlaced ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR callsPlaced-B BEHAVIOUR

DEFINED AS Counter of the number of X.25 VCs successfully established
by the SNDCF;;

REGISTERED AS { NLM.aoi callsPlaced (29) };

defaultESConfigTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR resettingTimer-B, defaultESConfigTimer-B BEHAVIOUR

DEFINED AS Default value for the ISO 9542 ES configuration timer
in seconds. This value is used when the ES has not received,
or has not chosen to accept, a suggested configuration timer
value from an Intermediate System;;

REGISTERED AS { NLM.aoi defaultESConfigTimer (21) };

eSReachabilityChanges ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR eSReachabilityChanges-B BEHAVIOUR

DEFINED AS Count of the number of changes in reachability of End Systems
from this system;;

REGISTERED AS { NLM.aoi eSReachabilityChanges (27) };

holdingTimerMultiplier ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Integer;

BEHAVIOUR holdingTimerMultiplier-B BEHAVIOUR

DEFINED AS The factor to derive holding timer from configuration timer.

This value, when multiplied by a configuration timer yields the value of
the holding timer parameter issued with configuration information. The semantics of
this parameter are such that it is permissible to also add a delta value to the result to
compensate for possible delays and imprecision of timers. The result of the calculation
is truncated, upon overflow, to the maximum value for the parameter permitted by the
protocol (65535);;

REGISTERED AS { NLM.aoi holdingTimerMultiplier (20) };

Remplacée par une version plus récente

idleTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR idleTimer-B BEHAVIOUR

DEFINED AS Time in seconds before release of an idle call.

This timer determines the interval (in seconds) for which a call is permitted to remain idle (i.e. no data traffic in either direction) before being released by the SNDCEF;;

REGISTERED AS { NLM.aoi idleTimer (31) };

initialMinimumTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR initialMinimumTimer-B BEHAVIOUR

DEFINED AS Minimum time in seconds to retain call after establishment.

This timer determines the interval (in seconds) that a call shall remain connected after being established, irrespective of traffic. (NOTE – This should be set small enough so that the call is cleared before the start of the next charging interval.);;

REGISTERED AS { NLM.aoi initialMinimumTimer (33) };

invalid9542PDUs ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR invalid9542PDUs-B BEHAVIOUR

DEFINED AS Counter of invalid 9542 PDUs received.

This is the number of ISO 9542 PDUs received which are discarded as a result of the PDU Header Error Detection or Protocol Error Processing Functions specified in ISO 9542;;

-- NOTE – Ce compteur cumulera donc le nombre de notifications

-- de type communicationsAlarm qui ont été émises avec une valeur

-- NLM.ISO9542PDUDiscard dans l'attribut specificProblem.

REGISTERED AS { NLM.aoi invalid9542PDUs (101) };

iSConfigurationTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR resettingTimer-B, iSConfigurationTimer-B BEHAVIOUR

DEFINED AS Value in seconds for the ISO 9542 IS configuration timer.

It is used to determine how often an IS reports configuration information to ESs;;

REGISTERED AS { NLM.aoi iSConfigurationTimer (24) };

iSO9542OperationalSubsets ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.ISO9542Subsets;

MATCHES FOR EQUALITY;

BEHAVIOUR iSO9542OperationalSubsets-B BEHAVIOUR

DEFINED AS The set of ISO 9542 subsets operational on this linkage.;;

REGISTERED AS { NLM.aoi iSO9542OperationalSubsets (115) };

iSReachabilityChanges ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR iSReachabilityChanges-B BEHAVIOUR

DEFINED AS Counter of the number of changes in reachability of Intermediate Systems from this system;;

REGISTERED AS { NLM.aoi iSReachabilityChanges (23) };

Remplacée par une version plus récente

linkageId ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.GraphicString;

MATCHES FOR EQUALITY, SUBSTRINGS;

BEHAVIOUR linkageId-B **BEHAVIOUR**

DEFINED AS The naming attribute of the linkage MO instance;;

REGISTERED AS { NLM.aoi linkageId (17) };

manualISSNPAAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.ManualISSNPAAddress;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR manualISSNPAAddress-B **BEHAVIOUR**

DEFINED AS The set of SNPA Addresses to which calls associated with the SND CF are to be established in the absence of any other information. The maximum set cardinality shall be implementation specific. An attempt to set the value of an element of this set to a type of SNPAAddress which is not supported by this linkage shall result in a failure of the SET operation.;;

REGISTERED AS { NLM.aoi manualISSNPAAddress (28) };

operationalProtocols ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.SupportedProtocols;

MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR operationalProtocols-B **BEHAVIOUR**

DEFINED AS The set of network layer protocols supported by this instance of the linkage MO, expressed as the registered object identifiers of the relevant International Standard.;;

REGISTERED AS { NLM.aoi operationalProtocols (111) };

redirectHoldingTime ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.RedirectHoldingTime;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR redirectHoldingTime-B **BEHAVIOUR**

DEFINED AS The holding time (in seconds) to be specified in Redirect PDUs generated by this system.;;

REGISTERED AS { NLM.aoi redirectHoldingTime (26) };

reserveTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR reserveTimer-B **BEHAVIOUR**

DEFINED AS Time in seconds to reserve resources for call re-establishment.

This timer determines the interval (in seconds) for which an attempt shall be made to retain those resources, as determined by the implementation, whose retention will increase the probability of successful re-establishment of an idled VC.;;

REGISTERED AS { NLM.aoi reserveTimer (32) };

Remplacée par une version plus récente

sN-SAP ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.LocalDistinguishedName;

MATCHES FOR EQUALITY;

BEHAVIOUR sN-SAP-B BEHAVIOUR

DEFINED AS Distinguished name of the service provider SAP MO
(if present).

This is obtained via an internal interface when the linkage is enabled. The sN-SAP may be a relationship to an SAP MO in the Datalink Layer, or it may be a relationship to another Managed Object within the Network Layer which is not an SAP MO.

For example, when operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over the ISO/IEC 8208 or ITU-T Rec. X.25 Sndcf,

it is a relationship to the same x25PLE-DTE MO which is pointed to by the sN-ServiceProvider Attribute. ;;

REGISTERED AS { NLM.aoi sN-SAP (18) };

sN-ServiceProvider ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.LocalDistinguishedName;

MATCHES FOR EQUALITY;

BEHAVIOUR sN-ServiceProvider-B BEHAVIOUR

DEFINED AS Distinguished name of the SN service provider MO.

This attribute identifies the subnetwork entity to be used to support the linkage, when enabled. The subnetwork service provider may be in the Datalink Layer, or it may be in the Network Layer

(for example when operating ITU-T Rec. X.233 | ISO/IEC 8473-1 over the ISO/IEC 8208 or ITU-T Rec. X.25 Sndcf).;;

REGISTERED AS { NLM.aoi sN-ServiceProvider (19) };

suggestedESConfigurationTimer ATTRIBUTE

DERIVED FROM "GMI":timer;

BEHAVIOUR resettingTimer-B, suggestedESConfigurationTimer-B BEHAVIOUR

DEFINED AS Value to be used for the ISO 9542 suggested ES configuration timer value (in seconds),

advertised in IS hellos generated by this network entity;;

REGISTERED AS { NLM.aoi suggestedESConfigurationTimer (25) };

-- Paramètres

reachabilityChange PARAMETER

CONTEXT EVENT-INFO;

WITH SYNTAX NLM.ReachabilityChangeSyntax;

REGISTERED AS { NLM.proi reachabilityChange (12) };

Remplacée par une version plus récente

5.8 L'objet géré service de couche réseau en mode connexion

--
-- Il n'existe pas plus d'un seul de ces objets gérés par entité de couche réseau.
-- La définition de cet objet permet de créer et de supprimer explicitement celui-ci
-- au moyen d'une opération de gestion. Mais dans certains systèmes, il aura une existence
-- intrinsèque et il ne sera pas possible de le créer ou de le supprimer par une opération
-- de gestion. Des corrélations de noms sont définies pour ces deux cas.
--
-- Lorsque la machine protocole est exploitable, l'attribut operationalState doit avoir
-- la valeur «activé»; sinon il doit avoir la valeur «désactivé». Les transitions d'état
-- de l'attribut operationalState doivent être signalées au moyen de la
-- notification stateChange. Un objet géré service cONS peut être créé dans
-- l'état opérationnel «activé».
--

cONS MANAGED OBJECT CLASS

```
DERIVED FROM "GMI":coProtocolMachine;
CHARACTERIZED BY cONS-P PACKAGE
  BEHAVIOUR commonStateChange-B,
             commonCreationDeletion-B;
ATTRIBUTES
  "DMI":administrativeState GET-REPLACE,
  "GMI":coProtocolMachinelId
    INITIAL VALUE NLM.cONSId-Value
    GET,
  operationalSystemType
    INITIAL VALUE DERIVATION RULE operationalSystemTypeIV-B
    GET;
ATTRIBUTE GROUPS
  "DMI":state
    "DMI":administrativeState
    "DMI":operationalState;
ACTIONS
  "GMI":activate,
  "GMI":deactivate,
  "GMI":deactivateWhenNoUsers;
NOTIFICATIONS
  "DMI":objectCreation,
  "DMI":objectDeletion,
  "DMI":stateChange;
;;
REGISTERED AS { NLM.moi cONS (24) };
```


Remplacée par une version plus récente

-- *Corrélations de noms*

cONS-networkEntity-Management NAME BINDING

**SUBORDINATE OBJECT CLASS cONS AND SUBCLASSES;
NAMED BY**

**SUPERIOR OBJECT CLASS networkEntity AND SUBCLASSES;
WITH ATTRIBUTE "GMI":coProtocolMachineld;**

BEHAVIOUR cONS-networkEntity-Management-B BEHAVIOUR

DEFINED AS The name binding that applies when the cONS managed object
can be created and deleted by management;;

CREATE;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS { NLM.nboi cONS-networkEntity-Management (8) };

cONS-networkEntity-Automatic NAME BINDING

**SUBORDINATE OBJECT CLASS cONS AND SUBCLASSES;
NAMED BY**

**SUPERIOR OBJECT CLASS networkEntity AND SUBCLASSES;
WITH ATTRIBUTE "GMI":coProtocolMachineld;**

BEHAVIOUR cONS-networkEntity-Automatic-B BEHAVIOUR

DEFINED AS The name binding that applies when the cONS managed object
cannot be created or deleted by management;;

REGISTERED AS { NLM.nboi cONS-networkEntity-Automatic (17) };

Remplacée par une version plus récente

5.9 L'objet géré connexion de couche réseau

```
--
-- Il existe une seule instance de cet objet géré par connexion de couche réseau.
-- Cet objet est créé et supprimé au moyen d'une opération de la
-- machine protocole.
--
-- Dans certaines configurations, l'attribut de couche sous-jacente ConnectionNames
-- peut contenir plusieurs noms distinctifs. Dans ce cas, le type d'objet géré
-- sous-jacent (et donc la ressource sous-jacente correspondante)
-- ne peut être déterminé que par examen de l'objet géré
-- vers lequel ce nom distinctif pointe.
--

networkConnection MANAGED OBJECT CLASS
  DERIVED FROM "GMI":singlePeerConnection;
  CHARACTERIZED BY networkConnection-P PACKAGE
  BEHAVIOUR
    commonCreationDeletion-B,
    successfulConnectionEstablishment-B,
    deactivateConnection-B,
    networkConnection-P-B BEHAVIOUR
  DEFINED AS The "GMI":underlyingConnectionNames
    attribute shall contain the distinguished name(s) of the
    other MO(s) which represent the resources used to support
    this connection. In the case of the CONS operating
    directly over X.25, this shall be the single distinguished
    name of the underlying virtual call or permanent
    virtual circuit MO;;
  ATTRIBUTES
    localNSAPMO GET,
    remoteNSAPAddress GET;
  ACTIONS
    "GMI":deactivate;
  NOTIFICATIONS
    "DMI":objectCreation,
    "DMI":objectDeletion,
    "GMI":communicationsInformation;
;;
REGISTERED AS { NLM.moi networkConnection (13) };

-- Corrélations de noms

networkConnection-cONS NAME BINDING
  SUBORDINATE OBJECT CLASS networkConnection AND SUBCLASSES;
  NAMED BY
    SUPERIOR OBJECT CLASS cONS AND SUBCLASSES;
  WITH ATTRIBUTE "GMI":connectionId;
  DELETE;
REGISTERED AS { NLM.nboi networkConnection-cONS (19) };
```

Remplacée par une version plus récente

-- *Attributs*

localINSAPMO ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.LocalDistinguishedName;

MATCHES FOR EQUALITY;

BEHAVIOUR localINSAPMO-B **BEHAVIOUR**

DEFINED AS Pointer to local nSAP MO.

This is a relationship attribute which points to the

local nSAP MO which is associated with the connection;;

REGISTERED AS { NLM.aoi localINSAPMO (106) };

remoteNSAPAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.NAddress;

MATCHES FOR EQUALITY;

BEHAVIOUR remoteNSAPAddress-B **BEHAVIOUR**

DEFINED AS The remote NSAP Address

associated with the connection;;

REGISTERED AS { NLM.aoi remoteNSAPAddress (107) };

Remplacée par une version plus récente

5.10 Les objets gérés entité PLE X.25 et analogues

5.10.1 L'objet géré entité PLE X.25

- Cette classe d'objets gérés n'est jamais instanciée. Elle sert d'objet géré générique
- entité PLE X.25 dont héritent les deux classes d'objets gérés ETCD d'entité PLE X.25 et
- ETCD d'entité PLE X.25.
-
- Noter qu'il est nécessaire que les valeurs de l'attribut de dénomination pour
- l'identification de l'entité PLE X.25 (x25PLEId) soient uniques dans toutes les instances
- des objets gérés qui en sont dérivés et qui ont une entité supérieure commune.
-

x25PLE MANAGED OBJECT CLASS

DERIVED FROM "DMI":top;

CHARACTERIZED BY x25PLE-P PACKAGE

BEHAVIOUR commonStateChange-B,

commonCreationDeletion-B,

logicalChannelAssignmentsX25PLE-P-B BEHAVIOUR

DEFINED AS The logicalChannelAssignments attribute shall not be replaceable
when the value of the operationalState attribute is 'enabled';;

ATTRIBUTES

x25PLEId GET,

"DMI":operationalState GET,

"DMI":administrativeState GET-REPLACE,

protocolVersionSupported GET,

localDTEAddress GET-REPLACE,

x25PLEMode GET-REPLACE,

defaultThroughputClasses REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

flowControlParameterNegotiation REPLACE-WITH-DEFAULT

GET-REPLACE,

defaultPacketSizes REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

defaultWindowSizees REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

throughputClassNegotiation REPLACE-WITH-DEFAULT

GET-REPLACE,

sN-ServiceProvider REPLACE-WITH-DEFAULT

GET-REPLACE,

sN-SAP GET,

logicalChannelAssignments GET-REPLACE;

ATTRIBUTE GROUPS

"DMI":state

Remplacée par une version plus récente

```
"DMI":administrativeState  
"DMI":operationalState;
```

ACTIONS

```
"GMI":activate,  
"GMI":deactivate;
```

NOTIFICATIONS

```
"DMI":stateChange,  
"DMI":objectCreation,  
"DMI":objectDeletion;
```

```
::  
,,
```

```
REGISTERED AS { NLM.moi x25PLE (25) };
```

Remplacée par une version plus récente

5.10.2 L'objet géré valeurs initiales d'entité PLE X.25

- Cette classe d'objets gérés n'est jamais instanciée. Elle sert d'objet IVMO d'entité PLE
- X.25 dont héritent les deux classes d'objets gérés IVMO d'ETTD d'entité PLE X.25 et
- IVMO d'ETCD d'entité PLE X.25.
-
- Noter qu'il est nécessaire que les valeurs de l'attribut de dénomination pour
- l'identification de l'objet IVMO d'entité PLE X.25 (x25PLEIVMOld) soient uniques dans
- toutes les instances des objets gérés qui en sont dérivés et qui ont une entité supérieure
- commune.

x25PLEIVMO MANAGED OBJECT CLASS

DERIVED FROM "DMI":top;

CHARACTERIZED BY x25PLEIVMO-P PACKAGE

BEHAVIOUR commonCreationDeletion-B;

ATTRIBUTES

defaultPacketSizes REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

defaultThroughputClasses REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

defaultWindowSizes REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullBidirectionalValues

GET-REPLACE,

flowControlParameterNegotiation REPLACE-WITH-DEFAULT

GET-REPLACE,

localDTEAddress GET-REPLACE,

logicalChannelAssignments GET-REPLACE,

sN-ServiceProvider GET-REPLACE,

throughputClassNegotiation REPLACE-WITH-DEFAULT

GET-REPLACE,

x25PLEIVMOld GET,

x25PLEIMode GET-REPLACE;

NOTIFICATIONS

"DMI":objectCreation,

"DMI":objectDeletion;

;;

REGISTERED AS { NLM.moi x25PLEIVMO (26) };

Remplacée par une version plus récente

5.10.3 L'objet géré ETTD d'entité PLE X.25

- Il peut exister plusieurs instances de ces objets gérés à l'intérieur d'un système,
- correspondant à de multiples entités PLE X.25.
-
- La définition de cet objet géré permet de le créer et de le supprimer explicitement
- ou automatiquement, au moyen d'une opération du système. Lorsqu'une instance de cet
- objet géré est créée automatiquement, on peut utiliser une instance de l'IVMO d'ETTD
- d'entité PLE X.25 comme origine des valeurs initiales pour les attributs de cet objet
- géré.
-
- Lorsque l'entité PLE X.25 est exploitable, l'attribut operationalState doit avoir la valeur
- «activé»; sinon, il doit avoir la valeur «inactivé». Les transitions d'état de l'attribut
- operationalState doivent être signalées au moyen de la notification stateChange.

x25PLE-DTE MANAGED OBJECT CLASS

DERIVED FROM x25PLE;

CHARACTERIZED BY x25PLE-DTE-P PACKAGE

BEHAVIOUR

x25PLEImportedNotifications-B;

ATTRIBUTES

callDeflectionSubscription REPLACE-WITH-DEFAULT

GET-REPLACE,

callRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.callRequestResponseTimerDefault

GET-REPLACE,

extendedPacketSequenceNumbering REPLACE-WITH-DEFAULT

GET-REPLACE,

maxActiveCircuits REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullChoiceInteger

GET-REPLACE,

minimumRecallTimer REPLACE-WITH-DEFAULT

GET-REPLACE,

resetRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.resetRequestResponseTimerDefault

GET-REPLACE,

restartRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.restartRequestRetransmissionCountDefault

GET-REPLACE,

restartRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.restartRequestResponseTimerDefault

GET-REPLACE,

clearRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.clearRequestResponseTimerDefault

GET-REPLACE,

interruptResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.interruptResponseTimerDefault

GET-REPLACE,

resetRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.resetRequestRetransmissionCountDefault

GET-REPLACE,

Remplacée par une version plus récente

```
clearRequestRetransmissionCount REPLACE-WITH-DEFAULT
    DEFAULT VALUE NLM.clearRequestRetransmissionCountDefault
    GET-REPLACE,
callAttempts GET,
protocolErrorsDetectedLocally GET,
protocolErrorsAccusedOf GET,
callEstablishmentRetryCountsExceeded GET;
ATTRIBUTE GROUPS
    "GMI":counters
        callAttempts
        protocolErrorsDetectedLocally
        protocolErrorsAccusedOf
        callEstablishmentRetryCountsExceeded;
NOTIFICATIONS
    "DMI":communicationsAlarm
        notificationData;
;;
CONDITIONAL PACKAGES
dTEX25PLECounters-P
    PRESENT IF the instance supports the dTEX25PLECounters-P
        capabilities,
receivingWindowRotationRecoveryProcedures-P
    PRESENT IF The optional window rotation recovery procedures
        are implemented at a receiving DTE,
transmittingWindowRotationRecoveryProcedures-P
    PRESENT IF The optional window rotation recovery procedures
        are implemented at a transmitting DTE,
packetRetransmissionProcedures-P
    PRESENT IF The optional packet retransmission procedures
        are implemented,
onlineRegistration-P
    PRESENT IF The optional online registration facility
        is implemented;
REGISTERED AS { NLM.moi x25PLE-DTE (17) };
```


Remplacée par une version plus récente

5.10.4 L'objet géré ETCD d'entité PLE X.25

- Il peut exister plusieurs instances de ces objets gérés à l'intérieur d'un système,
- correspondant à de multiples entités PLE X.25.
-
- La définition de cet objet géré permet de le créer et de le supprimer explicitement
- ou automatiquement, au moyen d'une opération du système. Lorsqu'une instance de cet
- objet géré est créée automatiquement, on peut utiliser une instance d'IVMO d'ETCD
- d'entité PLE X.25 comme origine des valeurs initiales pour les attributs de cet objet
- géré.
-
- Lorsque l'entité PLE X.25 est exploitable, l'attribut operationalState doit avoir la valeur
- «activé»; sinon, il doit avoir la valeur «inactivé». Les transitions d'état de l'attribut
- operationalState doivent être signalées au moyen de la notification stateChange.

x25PLE-DCE MANAGED OBJECT CLASS

DERIVED FROM x25PLE;

CHARACTERIZED BY x25PLE-DCE-P PACKAGE

ATTRIBUTES

callAttempts GET,

callsConnected GET,

cUG REPLACE-WITH-DEFAULT

GET-REPLACE,

fastSelectAcceptance REPLACE-WITH-DEFAULT

GET-REPLACE,

incomingCallsBarred REPLACE-WITH-DEFAULT

GET-REPLACE,

oneWayLogicalChannelOutgoing REPLACE-WITH-DEFAULT

GET-REPLACE,

outgoingCallsBarred REPLACE-WITH-DEFAULT

GET-REPLACE;

ATTRIBUTE GROUPS

"GMI":counters

callAttempts

callsConnected;

::

CONDITIONAL PACKAGES

dCECommonVirtualCircuitCounters-P

PRESENT IF the instance supports the dCECommonVirtualCircuitCounters capabilities,

dCEX25PLEFacilities-P

PRESENT IF the instance supports the dCEX25PLEFacilities capabilities,

dCEX25PLETimers-P

PRESENT IF the instance supports the dCEX25PLETimers capabilities;

REGISTERED AS { NLM.moi x25PLE-DCE (27) };

Remplacée par une version plus récente

5.10.5 L'objet géré valeurs initiales d'ETTD d'entité PLE X.25

- Il peut exister plusieurs instances de l'objet géré valeurs initiales d'ETTD d'entité PLE
- X.25 dans un système. On peut utiliser cet objet pour donner des valeurs initiales aux
- attributs de l'objet géré ETTD d'entité PLE X.25.
- Différentes instances de l'objet géré valeurs initiales d'ETTD d'entité PLE X.25 peuvent
- contenir différentes valeurs initiales.

--

- La définition de cet objet permet de le créer et de le supprimer explicitement au moyen
- d'une opération de gestion.

--

x25PLEIVMO-DTE MANAGED OBJECT CLASS

DERIVED FROM x25PLEIVMO;

CHARACTERIZED BY x25PLEIVMO-DTE-P PACKAGE

ATTRIBUTES

callDeflectionSubscription REPLACE-WITH-DEFAULT

GET-REPLACE,

callRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.callRequestResponseTimerDefault

GET-REPLACE,

clearRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.clearRequestResponseTimerDefault

GET-REPLACE,

clearRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.clearRequestRetransmissionCountDefault

GET-REPLACE,

extendedPacketSequenceNumbering REPLACE-WITH-DEFAULT

GET-REPLACE,

interruptResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.interruptResponseTimerDefault

GET-REPLACE,

maxActiveCircuits REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.nullChoiceInteger

GET-REPLACE,

minimumRecallTimer REPLACE-WITH-DEFAULT

GET-REPLACE,

resetRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.resetRequestResponseTimerDefault

GET-REPLACE,

resetRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.resetRequestRetransmissionCountDefault

GET-REPLACE,

restartRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.restartRequestResponseTimerDefault

GET-REPLACE,

restartRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.restartRequestRetransmissionCountDefault

GET-REPLACE;

::

Remplacée par une version plus récente

CONDITIONAL PACKAGES

receivingWindowRotationRecoveryProcedures-P

PRESENT IF The optional window rotation recovery procedures are implemented at a receiving DTE,

transmittingWindowRotationRecoveryProcedures-P

PRESENT IF The optional window rotation recovery procedures are implemented at a transmitting DTE,

packetRetransmissionProcedures-P

PRESENT IF The optional packet retransmission procedures are implemented, onlineRegistration-P

PRESENT IF The optional online registration facility is implemented;

REGISTERED AS { NLM.moi x25PLEIVMO-DTE (20) };

Remplacée par une version plus récente

5.10.6 L'objet géré valeurs initiales d'ETCD d'entité PLE X.25

- Il peut exister plusieurs instances de l'objet géré valeurs initiales d'ETCD d'entité PLE
- X.25 dans un système. On peut utiliser cet objet pour donner des valeurs initiales aux
- attributs de l'objet géré ETCD d'entité PLE X.25.
- Différentes instances de l'objet géré valeurs initiales d'ETCD d'entité PLE X.25 peuvent
- contenir différentes valeurs initiales.

-
- La définition de cet objet permet de le créer et de le supprimer explicitement au moyen
- d'une opération de gestion.
-

x25PLEIVMO-DCE MANAGED OBJECT CLASS

DERIVED FROM x25PLEIVMO;

REGISTERED AS { NLM.moi x25PLEIVMO-DCE (28) };

-- Lots prédéfinis

dCECommonVirtualCircuitCounters-P PACKAGE

BEHAVIOUR dCECommonVirtualCircuitCounters-P-B BEHAVIOUR

DEFINED AS provides the set of common counters used in the normal operation of a DCE environment, as defined in the appropriate clauses,;

octetsSentReceivedCounter-B;

ATTRIBUTES

dataPacketsReceived GET,
dataPacketsSent GET,
interruptPacketsReceived GET,
interruptPacketsSent GET,
interruptTimerExpiries GET,
"DMI":octetsReceivedCounter GET,
"DMI":octetsSentCounter GET,
providerInitiatedDisconnects GET,
providerInitiatedResets GET,
remotelyInitiatedRestarts GET,
remotelyInitiatedResets GET,
resetTimeouts GET,
x25SegmentsReceived GET,
x25SegmentsSent GET;

ATTRIBUTE GROUPS

"GMI":counters
dataPacketsReceived
dataPacketsSent
interruptPacketsReceived
interruptPacketsSent
interruptTimerExpiries
"DMI":octetsReceivedCounter
"DMI":octetsSentCounter
providerInitiatedDisconnects
providerInitiatedResets
remotelyInitiatedRestarts
remotelyInitiatedResets
resetTimeouts
x25SegmentsReceived
x25SegmentsSent;

REGISTERED AS { NLM.poi dCECommonVirtualCircuitCounters-P (23) };

Remplacée par une version plus récente

dCEX25PLEFacilities-P PACKAGE

BEHAVIOUR dCEX25PLEFacilities-P-B BEHAVIOUR

DEFINED AS provides the set of Facilities which are optional, and may be implemented in a DCE environment, as defined in the appropriate clauses;;

ATTRIBUTES

bilateralCUG REPLACE-WITH-DEFAULT

GET-REPLACE,

bilateralCUGWithOutgoingAccess REPLACE-WITH-DEFAULT

GET-REPLACE,

callDeflectionSubscription REPLACE-WITH-DEFAULT

GET-REPLACE,

callRedirection REPLACE-WITH-DEFAULT

GET-REPLACE,

chargingInformation REPLACE-WITH-DEFAULT

GET-REPLACE,

cUGWithIncomingAccess REPLACE-WITH-DEFAULT

GET-REPLACE,

cUGWithOutgoingAccess REPLACE-WITH-DEFAULT

GET-REPLACE,

dBitModification REPLACE-WITH-DEFAULT

GET-REPLACE,

defaultThroughputClassesAssignment REPLACE-WITH-DEFAULT

GET-REPLACE,

extendedPacketSequenceNumbering REPLACE-WITH-DEFAULT

GET-REPLACE,

huntGroup REPLACE-WITH-DEFAULT

GET-REPLACE,

incomingCallBarredWithinCUG REPLACE-WITH-DEFAULT

GET-REPLACE,

localChargingPrevention REPLACE-WITH-DEFAULT

GET-REPLACE,

nonStandardDefaultPacketSizes REPLACE-WITH-DEFAULT

GET-REPLACE,

nonStandardDefaultWindowSize REPLACE-WITH-DEFAULT

GET-REPLACE,

nUIOverride REPLACE-WITH-DEFAULT

GET-REPLACE,

nUISubscription REPLACE-WITH-DEFAULT

GET-REPLACE,

oneWayLogicalChannellIncoming REPLACE-WITH-DEFAULT

GET-REPLACE,

onlineFacilityRegistration REPLACE-WITH-DEFAULT

GET-REPLACE,

outgoingCallBarredWithinCUG REPLACE-WITH-DEFAULT

GET-REPLACE,

packetRetransmission REPLACE-WITH-DEFAULT

GET-REPLACE,

reverseChargingAcceptance REPLACE-WITH-DEFAULT

GET-REPLACE,

rPOASubscription REPLACE-WITH-DEFAULT

GET-REPLACE;

REGISTERED AS { NLM.poi dCEX25PLEFacilities-P (26) };

Remplacée par une version plus récente

dCEX25PLETimers-P PACKAGE

BEHAVIOUR dCEX25PLETimers-P-B BEHAVIOUR

DEFINED AS provides the set of timers used during the normal operation in a DCE environment, as defined in the appropriate clauses ;;

ATTRIBUTES

clearIndication GET-REPLACE,

-- *Temporisateur T13.*

incomingCall GET-REPLACE,

-- *Temporisateur T11.*

resetIndication GET-REPLACE,

-- *Temporisateur T12.*

restartIndication GET-REPLACE;

-- *Temporisateur T10.*

REGISTERED AS { NLM.poi dCEX25PLETimers-P (25) };

dTEX25PLECounters-P PACKAGE

BEHAVIOUR dTEX25PLECounters-P-B BEHAVIOUR

DEFINED AS Provides the set of counters which may be associated with the x25PLE-DTE MO.,, octetsSentReceivedCounter-B;

ATTRIBUTES

"DMI":octetsReceivedCounter GET,

-- *Noter que la définition des informations DMI est exprimée en octets de données d'utilisateur.*

"DMI":octetsSentCounter GET,

-- *Noter que la définition des informations DMI est exprimée en octets de données d'utilisateur.*

callTimeouts GET,

callsConnected GET,

clearCountsExceeded GET,

clearTimeouts GET,

dataPacketsReceived GET,

dataPacketsSent GET,

-- *Noter que l'attribut "DMI":PDUsSentCounter*

-- *ne peut pas être utilisé ici puisqu'il est défini comme représentant le nombre total d'unités PDU émises et non pas seulement le nombre d'unités PDU de données.*

dataRetransmissionTimerExpiries GET,

providerInitiatedResets GET,

providerInitiatedDisconnects GET,

remotelyInitiatedResets GET,

remotelyInitiatedRestarts GET,

resetTimeouts GET,

restartCountsExceeded GET;

ATTRIBUTE GROUPS

"GMI":counters

"DMI":octetsSentCounter

"DMI":octetsReceivedCounter

callTimeouts

callsConnected

clearCountsExceeded

Remplacée par une version plus récente

```
clearTimeouts
dataPacketsReceived
dataPacketsSent
dataRetransmissionTimerExpiries
providerInitiatedDisconnects
providerInitiatedResets
remotelyInitiatedResets
remotelyInitiatedRestarts
resetTimeouts
restartCountsExceeded;
REGISTERED AS { NLM.poi dTEX25PLECounters-P (18) };

packetRetransmissionProcedures-P PACKAGE
  BEHAVIOUR packetRetransmissionProcedures-P-B BEHAVIOUR
    DEFINED AS Controls the operation of the optional packet retransmission procedures
      as described in 13.4 of ISO/IEC 8208 or ITU-T Rec. X.25 (2nd Edition);;
  ATTRIBUTES
    rejectResponseTimer REPLACE-WITH-DEFAULT
      DEFAULT VALUE NLM.rejectResponseTimerDefault
      GET-REPLACE,
    rejectRetransmissionCount REPLACE-WITH-DEFAULT
      DEFAULT VALUE NLM.rejectRetransmissionCountDefault
      GET-REPLACE;
REGISTERED AS { NLM.poi packetRetransmissionProcedures-P (14) };

receivingWindowRotationRecoveryProcedures-P PACKAGE
  BEHAVIOUR
    receivingWindowRotationRecoveryProcedures-P-B BEHAVIOUR
      DEFINED AS Controls the operation of the optional window rotation recovery procedures
        at a receiving DTE as described in 11.2.2 of ISO/IEC 8208 or ITU-T Rec. X.25 (2nd Edition);;
  ATTRIBUTES
    windowStatusTransmissionTimer REPLACE-WITH-DEFAULT
      DEFAULT VALUE NLM.windowStatusTransmissionTimerDefault
      GET-REPLACE;
REGISTERED AS { NLM.poi receivingWindowRotationRecoveryProcedures-P (12) };

transmittingWindowRotationRecoveryProcedures-P PACKAGE
  BEHAVIOUR
    transmittingWindowRotationRecoveryProcedures-P-B BEHAVIOUR
      DEFINED AS Controls the operation of the optional window rotation recovery procedures
        at a transmitting DTE as described in 11.2.1 of ISO/IEC 8208 or ITU-T Rec. X.25 (2nd Edition);;
  ATTRIBUTES
    windowRotationTimer REPLACE-WITH-DEFAULT
      DEFAULT VALUE
        NLM.windowRotationTimerDefault
      GET-REPLACE,
    dataPacketRetransmissionCount REPLACE-WITH-DEFAULT
      DEFAULT VALUE NLM.dataPacketRetransmissionCountDefault
      GET-REPLACE;
REGISTERED AS { NLM.poi transmittingWindowRotationRecoveryProcedures-P (13) };
```

Remplacée par une version plus récente

onlineRegistration-P PACKAGE

BEHAVIOUR onlineRegistration-P-B BEHAVIOUR

DEFINED AS Controls the operation of the optional online registration facility as described in 13.1 of ISO/IEC 8208 or ITU-T Rec. X.25 (2nd Edition);;

ATTRIBUTES

registrationRequestResponseTimer REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.registrationRequestResponseTimerDefault

GET-REPLACE,

registrationRequestRetransmissionCount REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.registrationRequestRetransmissionCountDefault

GET-REPLACE,

registrationPermitted REPLACE-WITH-DEFAULT

DEFAULT VALUE NLM.registrationPermittedDefault

GET-REPLACE;

REGISTERED AS { NLM.poi onlineRegistration-P (11) };

-- *Comportements*

x25PLEImportedNotifications-B BEHAVIOUR

DEFINED AS The x25PLE-P package imports the communicationsAlarm notification from Rec. X.721 (1992) | ISO/IEC 10165-2.

It is used to report the following x25PLE managed object events.

providerInitiatedDisconnect:

Issued upon receipt of a clear packet with a cause code other than 'DTE originated'.

The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER.

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.providerInitiatedDisconnect shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

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remotelyInitiatedReset:

Issued upon occurrence of a remotely initiated reset.
This event is issued in lieu of a 'providerInitiatedReset' when operating in a DTE-DXE environment.
The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER
The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.
The value NLM.remotelyInitiatedDisconnect shall be reported in the specificProblems parameter.
The probableCause shall be set to NLM.communicationsProtocolError.
The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.
No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

providerInitiatedReset:

Issued upon occurrence of a provider initiated reset.
This event is issued when operating in a DTE-DCE environment.
The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER
The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.
The value NLM.providerInitiatedReset shall be reported in the specificProblems parameter.
The probableCause shall be set to NLM.communicationsProtocolError.
The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.
No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

remotelyInitiatedRestart:

Issued upon receipt of a remotely (including provider) initiated restart.
The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER
The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.
The value NLM.remotelyInitiatedRestart shall be reported in the specificProblems parameter.
The probableCause shall be set to NLM.communicationsProtocolError.
The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.
No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

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restartCountExceeded:

Issued on restart failure due to restart count (R20) exceeded.

The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.restartCountExceeded shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

protocolErrorDetectedLocally:

Issued upon receipt of a packet which causes the "A=Error" action in the ISO/IEC 8208 or ITU-T Rec. X.25 state tables to be taken.

The information relating to the packet shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER. The values of cause and diagnostic codes shall be those which would have been placed in a diagnostic packet had one been generated by the DTE (i.e. as if it were a DTE). The actual generation of such a packet is not required.

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.communicationsProtocolErrorDetectedLocally shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

accusedOfProtocolError:

Issued upon receipt of a diagnostic packet or a clear, reset or restart packet with a cause code equal to one of the following:

- Remote Procedure Error,
- Incompatible Destination,
- Invalid Facility Request,
- Local Procedure Error.

No other x25PLE communication alarm shall be generated as a result of this particular instance of packet.

The information relating to the packet shall be reported as a

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parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.accusedOfProtocolError shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

callEstablishmentRetryCountExceeded:

Issued on retry failure during call establishment due to retry limit exceeded.

The information relating to the call shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.callEstablishmentRetryCountExceeded shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

clearCountExceeded:

Issued on retry failure due to clear limit (R23) exceeded.

The information relating to the call shall be reported as a parameter in the additionalInformation field of the communicationsAlarm, using the notificationData PARAMETER

The significance sub-parameter of each item of additionalInformation shall be set to the value 'False' (i.e. not significant) so that a managing system receiving the event report will be less likely to reject it.

The value NLM.clearCountExceeded shall be reported in the specificProblems parameter.

The probableCause shall be set to NLM.communicationsProtocolError.

The perceivedSeverity shall be set to 'Minor'. A subsequent communicationsAlarm with a perceivedSeverity value of 'Cleared' shall not be generated.

No other fields or parameters shall be used, with the exception of further parameters in the additionalInformation field.

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-- *Corrélations de noms*

```
x25PLEIVMO-networkSubsystem NAME BINDING
  SUBORDINATE OBJECT CLASS x25PLEIVMO AND SUBCLASSES;
  NAMED BY
    SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
    WITH ATTRIBUTE x25PLEIVMOId;
  CREATE WITH-REFERENCE-OBJECT;
  DELETE;
REGISTERED AS { NLM.nboi x25PLEIVMO-networkSubsystem (10) };

x25PLE-networkSubsystem-Management NAME BINDING
  SUBORDINATE OBJECT CLASS x25PLE AND SUBCLASSES;
  NAMED BY
    SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
    WITH ATTRIBUTE x25PLEId;
  BEHAVIOUR x25PLE-networkSubsystem-Management-B BEHAVIOUR
    DEFINED AS The name binding that applies when the x25PLE Managed Object
      or its subclasses are created by management operation.;;
  CREATE WITH-REFERENCE-OBJECT;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS { NLM.nboi x25PLE-networkSubsystem-Management (9) };

x25PLE-networkSubsystem-Automatic NAME BINDING
  SUBORDINATE OBJECT CLASS x25PLE AND SUBCLASSES;
  NAMED BY
    SUPERIOR OBJECT CLASS networkSubsystem AND SUBCLASSES;
    WITH ATTRIBUTE x25PLEId;
  BEHAVIOUR x25PLE-networkSubsystem-Automatic-B BEHAVIOUR
    DEFINED AS The name binding that applies when the x25PLE Managed Object
      or its subclasses are created by automatic operation of the system.
      The creation of an instance of the x25PLE MO or its subclass
      using this name binding may reference an instance of the x25PLEIVMO
      (or of its subclass). The means by which such an instance (if any)
      of the x25PLEIVMO (or its subclass) is identified a local matter.
      When this occurs,
      some of the initial values of the attributes of the instance
      of the x25PLE MO (or its subclass) may be supplied by the values of the
      attributes in the specified instance of the x25PLEIVMO. However, any
      such value may be overridden by a value supplied by local means (for
      example across an internal interface). Where values are supplied by the
      IVMO, the initial value of an attribute of the x25PLE MO (or its subclass)
      shall be the value of the corresponding attribute in the x25PLEIVMO
      (that is, which has the same attribute template label). The naming
      attribute of the x25PLE MO (or its subclass) is assigned a value
      according to local mechanisms;;
  DELETE;
REGISTERED AS { NLM.nboi x25PLE-networkSubsystem-Automatic (18) };
```

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-- *Attributs*

bilateralCUG ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR bilateralCUG-B **BEHAVIOUR**

DEFINED AS The subscription of the bilateral closed user group facility as described in ITU-T Recommendation X.2. Expressed as a boolean where a value of 'True' indicates subscription and a value of 'False' indicates non-subscription;;

REGISTERED AS { NLM.aoi bilateralCUG (125) };

bilateralCUGWithOutgoingAccess ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR bilateralCUGWithOutgoingAccess-B **BEHAVIOUR**

DEFINED AS The subscription of the bilateral CUG with outgoing access facility as described in ITU-T Recommendation X.2. Expressed as a boolean where a value of 'True' indicates subscription and a value of 'False' indicates non-subscription;;

REGISTERED AS { NLM.aoi bilateralCUGWithOutgoingAccess (127) };

callAttempts ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR callAttempts-B **BEHAVIOUR**

DEFINED AS Counter of the total number of calls attempted;;

REGISTERED AS { NLM.aoi callAttempts (52) };

callDeflectionSubscription ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR callDeflectionSubscription-B **BEHAVIOUR**

DEFINED AS The subscription of the call deflection facility as described in ITU-T Recommendation X.2. Expressed as a boolean where a value of 'True' indicates subscription and a value of "False" indicates non-subscription;;

REGISTERED AS { NLM.aoi callDeflectionSubscription (114) };

callEstablishmentRetryCountsExceeded ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR callEstablishmentRetryCountsExceeded-B **BEHAVIOUR**

DEFINED AS Counter associated with the callEstablishmentRetryCountExceeded event which generates a communications alarm notification.;;

REGISTERED AS { NLM.aoi callEstablishmentRetryCountsExceeded (65) };

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callRedirection ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR callRedirection-B BEHAVIOUR
DEFINED AS The subscription of the call redirection facility
as described in ITU-T Recommendation X.2 Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi callRedirection (129) };

callRequestResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR callRequestResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T21 (Call Request Response Timer)
in seconds;;
REGISTERED AS { NLM.aoi callRequestResponseTimer (77) };

callTimeouts ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR callTimeouts-B BEHAVIOUR
DEFINED AS Counter of the number of times timer T21 expiry is experienced
by the PLE;;
REGISTERED AS { NLM.aoi callTimeouts (55) };

callsConnected ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR callsConnected-B BEHAVIOUR
DEFINED AS Counter of the total number of calls which have reached the open state;;
REGISTERED AS { NLM.aoi callsConnected (53) };

chargingInformation ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR chargingInformation-B BEHAVIOUR
DEFINED AS The subscription of the charging information facility
as described in ITU-T Recommendation X.2.
Expressed as a boolean where a value of 'True' indicates
subscription and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi chargingInformation (132) };

clearCountsExceeded ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR clearCountsExceeded-B BEHAVIOUR
DEFINED AS Counter associated with the clearCountExceeded event
which generates a communications alarm notification.;;
REGISTERED AS { NLM.aoi clearCountsExceeded (66) };

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clearIndication ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR clearIndication-B BEHAVIOUR
DEFINED AS Value for the Clear Indication, T13 timer, in seconds;;
REGISTERED AS { NLM.aoi clearIndication (133) };

clearRequestResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR clearRequestResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T23 (Clear Request Response Timer)
in seconds;;
REGISTERED AS { NLM.aoi clearRequestResponseTimer (79) };

clearRequestRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR clearRequestRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R23 (Clear Request Retransmission Count);;
REGISTERED AS { NLM.aoi clearRequestRetransmissionCount (81) };

clearTimeouts ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR clearTimeouts-B BEHAVIOUR
DEFINED AS Counter of the number of times timer T23 expiry is experienced
by the PLE;;
REGISTERED AS { NLM.aoi clearTimeouts (56) };

cUG ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR cUG-B BEHAVIOUR
DEFINED AS The subscription of the closed user group facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi cUG (134) };

cUGWithIncomingAccess ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR cUGWithIncomingAccess-B BEHAVIOUR
DEFINED AS The subscription of the closed user group with incoming access facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi cUGWithIncomingAccess (136) };

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cUGWithOutgoingAccess ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR cUGWithOutgoingAccess-B BEHAVIOUR
DEFINED AS The subscription of the CUG with outgoing access facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi cUGWithOutgoingAccess (137) };

dBitModification ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR dBitModification-B BEHAVIOUR
DEFINED AS The subscription of the D bit modification facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi dBitModification (139) };

dataPacketRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR dataPacketRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R25 (Data Packet Retransmission Count);;
REGISTERED AS { NLM.aoi dataPacketRetransmissionCount (85) };

dataPacketsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR dataPacketsReceived-B BEHAVIOUR
DEFINED AS Counter of the total number of data packets received;;
REGISTERED AS { NLM.aoi dataPacketsReceived (51) };

dataPacketsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR dataPacketsSent-B BEHAVIOUR
DEFINED AS Counter of the total number of data packets sent;;
REGISTERED AS { NLM.aoi dataPacketsSent (50) };

dataRetransmissionTimerExpiries ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR dataRetransmissionTimerExpiries-B BEHAVIOUR
DEFINED AS Counter of the number of expiries of timer T25.
Returns zero if the option is not implemented;;
REGISTERED AS { NLM.aoi dataRetransmissionTimerExpiries (58) };

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defaultPacketSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY;
BEHAVIOUR defaultPacketSizes-B BEHAVIOUR
DEFINED AS The default value of the packet sizes.
A value of NULL indicates the ISO/IEC 8208 or ITU-T Rec. X.25 default value of 128. Any other value indicates the value agreed by the nonstandard default packet sizes facility.;;
REGISTERED AS { NLM.aoi defaultPacketSizes (103) };

defaultThroughputClasses ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY;
BEHAVIOUR defaultThroughputClasses-B BEHAVIOUR
DEFINED AS The default throughput class values.
A value of NULL indicates the normal default.
Any other value indicates the value agreed by the defaultThroughputClassesAssignment facility.;;
REGISTERED AS { NLM.aoi defaultThroughputClasses (112) };

defaultThroughputClassesAssignment ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.DefaultTCA;
MATCHES FOR EQUALITY;
BEHAVIOUR defaultThroughputClassesAssignment-B BEHAVIOUR
DEFINED AS The subscription of the default throughput classes assignment facility as described in ITU-T Recommendation X.2. Expressed as a boolean where a value of 'True' indicates subscription and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi defaultThroughputClassesAssignment (144) };

defaultWindowSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY;
BEHAVIOUR defaultWindowSizes-B BEHAVIOUR
DEFINED AS The default value of the window sizes.
A value of NULL indicates the ITU-T Recommendation | International Standard default value of 2. Any other value indicates the value agreed by the nonstandard default window sizes facility.;;
REGISTERED AS { NLM.aoi defaultWindowSizes (104) };

extendedPacketSequenceNumbering ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.PacketSequencing;
MATCHES FOR EQUALITY;
BEHAVIOUR extendedPacketSequenceNumbering-B BEHAVIOUR
DEFINED AS The modulo of the packet sequence number space.
Expressed as an integer. The ITU-T Recommendation | International Standard only requires support for at least one of the two values 8 and 128, but it is possible that some future revision may extend the range. A system is only required to support the setting of values which are also required by the protocol standard. A system shall return an error when an attempt is made to set the value to a value which is not supported by that system.;;
REGISTERED AS { NLM.aoi extendedPacketSequenceNumbering (49) };

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fastSelectAcceptance ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR fastSelectAcceptance-B BEHAVIOUR
DEFINED AS The subscription of the fast select acceptance
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi fastSelectAcceptance (145) };

flowControlParameterNegotiation ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR flowControlParameterNegotiation-B BEHAVIOUR
DEFINED AS The subscription of the flow control parameter negotiation facility
as described in ITU-T Recommendation X.2.
When this has the value 'true', the use of flow control
parameter negotiation (by specifying values for the window
and packet size in call request and accept packets) is
permitted. When it has the value 'false', no such values
shall be specified in call request and accept packets, and
any values specified in an IVMO or via an internal interface
shall be ignored.;;
REGISTERED AS { NLM.aoi flowControlParameterNegotiation (119) };

huntGroup ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR huntGroup-B BEHAVIOUR
DEFINED AS The subscription of the hunt group facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi huntGroup (146) };

incomingCall ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR incomingCall-B BEHAVIOUR
DEFINED AS Value for the Incoming Call, T11 timer, in seconds.;;
REGISTERED AS { NLM.aoi incomingCall (147) };

incomingCallBarredWithinCUG ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR incomingCallBarredWithinCUG-B BEHAVIOUR
DEFINED AS The subscription of the incoming call barred within a CUG facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and
a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi incomingCallBarredWithinCUG (149) };

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incomingCallsBarred ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR incomingCallsBarred-B BEHAVIOUR
DEFINED AS The subscription of the incoming calls barred facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi incomingCallsBarred (148) };

interruptPacketsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR interruptPacketsReceived-B BEHAVIOUR
DEFINED AS Counter of the number of interrupt packets received
by the PLE or over the PVC/VC;;
REGISTERED AS { NLM.aoi interruptPacketsReceived (68) };

interruptPacketsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR interruptPacketsSent-B BEHAVIOUR
DEFINED AS Counter of the number of interrupt packets sent
by the PLE or over the PVC/VC;;
REGISTERED AS { NLM.aoi interruptPacketsSent (67) };

interruptResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR interruptResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T26 (Interrupt Response Timer) in seconds;;
REGISTERED AS { NLM.aoi interruptResponseTimer (82) };

interruptTimerExpiries ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR interruptTimerExpiries-B BEHAVIOUR
DEFINED AS Counter of the number of expiries of timer T26
experienced by the PLE or over the PVC/VC;;
REGISTERED AS { NLM.aoi interruptTimerExpiries (69) };

localChargingPrevention ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR localChargingPrevention-B BEHAVIOUR
DEFINED AS The subscription of the local charging prevention facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi localChargingPrevention (150) };

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localDTEAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.DTEAddress;

MATCHES FOR EQUALITY;

BEHAVIOUR localDTEAddress-B **BEHAVIOUR**

DEFINED AS The full DTE address of this PLE

expressed as an X.121, E.164, etc. address;;

REGISTERED AS { NLM.aoi localDTEAddress (39) };

logicalChannelAssignments ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.LogicalChannelAssignments;

MATCHES FOR EQUALITY;

BEHAVIOUR logicalChannelAssignments-B **BEHAVIOUR**

DEFINED AS Represents the logical channel assignments of this PLE,

expressed as a four-tuple where the values represent

the set (with maximum permitted cardinality (LIC - 1), minimum required

cardinality of zero) of PVC channels (with maximum value (LIC - 1),

and minimum value 1) assigned,

the incoming channel range,

the two-way channel range,

the outgoing channel range,

respectively.

The presence of each of the ranges shall be optional. Absence of a particular range

shall signify that there are no channels of that type assigned. Within each range, the

low value shall be less than or equal to the high value, and there shall be no value in any

set or range which is greater than or equal to a value in a subsequent range when ordered

as above.

This attribute is subject to the rules for logical assignments described in 3.7 of

ISO/IEC 8208 or ITU-T Rec. X.25.;;

REGISTERED AS { NLM.aoi logicalChannelAssignments (48) };

maxActiveCircuits ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.MaxActiveCircuits;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR maxActiveCircuits-B **BEHAVIOUR**

DEFINED AS The maximum number of active circuits permitted on this PLE.

When the NULL value is specified, the maximum number of active circuits

shall be limited only by the resources available to the entity;;

REGISTERED AS { NLM.aoi maxActiveCircuits (41) };

minimumRecallTimer ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Integer;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR minimumRecallTimer-B **BEHAVIOUR**

DEFINED AS Minimum time in seconds before recall permitted.

This timer determines the minimum interval (in seconds) which shall elapse

following an unsuccessful first call attempt before a subsequent call attempt is

permitted;;

REGISTERED AS { NLM.aoi minimumRecallTimer (43) };

Remplacée par une version plus récente

nonStandardDefaultPacketSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.NonStandardDPS;
MATCHES FOR EQUALITY;
BEHAVIOUR nonStandardDefaultPacketSizes-B BEHAVIOUR
DEFINED AS The subscription of the non standard default packet sizes facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi nonStandardDefaultPacketSizes (151) };

nonStandardDefaultWindowSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.NonStandardDWS;
MATCHES FOR EQUALITY;
BEHAVIOUR nonStandardDefaultWindowSizes-B BEHAVIOUR
DEFINED AS The subscription of the non standard default window sizes facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi nonStandardDefaultWindowSizes (152) };

nUIOverride ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR nUIOverride-B BEHAVIOUR
DEFINED AS The subscription of the NUI override facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi nUIOverride (154) };

nUISubscription ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR nUISubscription-B BEHAVIOUR
DEFINED AS The subscription of the NUI subscription facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi nUISubscription (153) };

oneWayLogicalChannelIncoming ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR oneWayLogicalChannelIncoming-B BEHAVIOUR
DEFINED AS The subscription of the one way logical channel incoming facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi oneWayLogicalChannelIncoming (156) };

Remplacée par une version plus récente

oneWayLogicalChannelOutgoing ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR oneWayLogicalChannelOutgoing-B BEHAVIOUR
DEFINED AS The subscription of the one way logical channel outgoing facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi oneWayLogicalChannelOutgoing (157) };

onlineFacilityRegistration ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR onlineFacilityRegistration-B BEHAVIOUR
DEFINED AS The subscription of the on-line facility registration facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non subscription;;
REGISTERED AS { NLM.aoi onlineFacilityRegistration (158) };

outgoingCallBarredWithinCUG ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR outgoingCallBarredWithinCUG-B BEHAVIOUR
DEFINED AS The subscription of the outgoing call barred within a CUG facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi outgoingCallBarredWithinCUG (160) };

outgoingCallsBarred ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR outgoingCallsBarred-B BEHAVIOUR
DEFINED AS The subscription of the outgoing calls barred facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi outgoingCallsBarred (159) };

packetRetransmission ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR packetRetransmission-B BEHAVIOUR
DEFINED AS The subscription of the packet retransmissions facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription. If non-subscription,
then the attributes for rejectTimer and rejectCount
will have NULL values.;;
REGISTERED AS { NLM.aoi packetRetransmission (161) };

Remplacée par une version plus récente

protocolErrorsAccusedOf ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR protocolErrorsAccusedOf-B BEHAVIOUR
DEFINED AS Counter associated with the accusedOfProtocolError event
which generates a communications alarm notification.;;
REGISTERED AS { NLM.aoi protocolErrorsAccusedOf (64) };

protocolErrorsDetectedLocally ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR protocolErrorsDetectedLocally-B BEHAVIOUR
DEFINED AS Counter associated with the protocolErrorDetectedLocally event
which generates a communications alarm notification.;;
REGISTERED AS { NLM.aoi protocolErrorsDetectedLocally (63) };

protocolVersionSupported ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.ProtocolVersion;
MATCHES FOR EQUALITY;
BEHAVIOUR protocolVersionSupported-B BEHAVIOUR
DEFINED AS The supported ITU-T Recommendation | International Standard protocol version
available on the PLE interface;;
REGISTERED AS { NLM.aoi protocolVersionSupported (38) };

providerInitiatedDisconnects ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR providerInitiatedDisconnects-B BEHAVIOUR
DEFINED AS Counter for the providerInitiatedDisconnect events
which generate communication alarm notifications.;;
REGISTERED AS { NLM.aoi providerInitiatedDisconnects (54) };

providerInitiatedResets ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR providerInitiatedResets-B BEHAVIOUR
DEFINED AS Counter associated with the providerInitiatedReset event
which generates a communication alarm notification.;;
REGISTERED AS { NLM.aoi providerInitiatedResets (59) };

rOASubscription ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR rOASubscription-B BEHAVIOUR
DEFINED AS The subscription of the ROA Subscription facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription and a value
of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi rOASubscription (167) };

registrationPermitted ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR registrationPermitted-B BEHAVIOUR
DEFINED AS When true, the use of online facility registration is permitted.;;
REGISTERED AS { NLM.aoi registrationPermitted (105) };

Remplacée par une version plus récente

registrationRequestResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR registrationRequestResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T28 (Registration Request Response Timer) in seconds;;
REGISTERED AS { NLM.aoi registrationRequestResponseTimer (44) };

registrationRequestRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR registrationRequestRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R28 (Registration Request Retransmission Count);;
REGISTERED AS { NLM.aoi registrationRequestRetransmissionCount (46) };

rejectResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR rejectResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T27 (Reject Response Timer) in seconds;;
REGISTERED AS { NLM.aoi rejectResponseTimer (86) };

rejectRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR rejectRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R27 (Reject Retransmission Count);;
REGISTERED AS { NLM.aoi rejectRetransmissionCount (87) };

remotelyInitiatedResets ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR remotelyInitiatedResets-B BEHAVIOUR
DEFINED AS Counter associated with the remotelyInitiatedReset event
which generates a communication alarm notification.;;
REGISTERED AS { NLM.aoi remotelyInitiatedResets (57) };

remotelyInitiatedRestarts ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR remotelyInitiatedRestarts-B BEHAVIOUR
DEFINED AS Counter of the number of remotely initiated restarts.
This is the total number of remotely initiated (including provider initiated) restarts
experienced by the PLE, excluding the
restart associated with bringing up the PLE interface;;
REGISTERED AS { NLM.aoi remotelyInitiatedRestarts (61) };

resetIndication ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR resetIndication-B BEHAVIOUR
DEFINED AS Value for the Reset Indication, T12 timer, in seconds.;;
REGISTERED AS { NLM.aoi resetIndication (163) };

Remplacée par une version plus récente

resetRequestResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR resetRequestResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T22 (Reset Request Response Timer) in seconds;;
REGISTERED AS { NLM.aoi resetRequestResponseTimer (78) };

resetRequestRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR resetRequestRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R22 (Reset Request Retransmission Count);;
REGISTERED AS { NLM.aoi resetRequestRetransmissionCount (80) };

resetTimeouts ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR resetTimeouts-B BEHAVIOUR
DEFINED AS Counter of the number of timer T22 expiries experienced
by the PLE;;
REGISTERED AS { NLM.aoi resetTimeouts (60) };

restartCountsExceeded ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR restartCountsExceeded-B BEHAVIOUR
DEFINED AS Counter associated with the restartCountExceeded event
which generates a communication alarm notification.;;
REGISTERED AS { NLM.aoi restartCountsExceeded (62) };

restartIndication ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR restartIndication-B BEHAVIOUR
DEFINED AS Value for the Restart Indication, T10 timer, in seconds.;;
REGISTERED AS { NLM.aoi restartIndication (164) };

restartRequestResponseTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR restartRequestResponseTimer-B BEHAVIOUR
DEFINED AS Value for Timer T20 (Restart Request Response Timer) in seconds;;
REGISTERED AS { NLM.aoi restartRequestResponseTimer (42) };

restartRequestRetransmissionCount ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR restartRequestRetransmissionCount-B BEHAVIOUR
DEFINED AS Value for count R20 (Restart Request Retransmission Count);;
REGISTERED AS { NLM.aoi restartRequestRetransmissionCount (45) };

Remplacée par une version plus récente

reverseChargingAcceptance ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR reverseChargingAcceptance-B BEHAVIOUR
DEFINED AS The subscription of the reverse charging acceptance facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi reverseChargingAcceptance (165) };

throughputClassNegotiation ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR throughputClassNegotiation-B BEHAVIOUR
DEFINED AS The subscription of the throughput class negotiation facility
as described in ITU-T Recommendation X.2. Expressed as a boolean
where a value of 'True' indicates subscription
and a value of 'False' indicates non-subscription;;
REGISTERED AS { NLM.aoi throughputClassNegotiation (168) };

windowRotationTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR windowRotationTimer-B BEHAVIOUR
DEFINED AS Default for Timer T25 (Window Rotation Timer) in seconds;;
REGISTERED AS { NLM.aoi windowRotationTimer (84) };

windowStatusTransmissionTimer ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR windowStatusTransmissionTimer-B BEHAVIOUR
DEFINED AS Value for Timer T24 (Window Status Transmission Timer) in seconds;;
REGISTERED AS { NLM.aoi windowStatusTransmissionTimer (83) };

x25PLEId ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.GraphicString;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR x25PLEId-B BEHAVIOUR
DEFINED AS The name of this instance of x25PLE MO;;
REGISTERED AS { NLM.aoi x25PLEId (36) };

x25PLEMode ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.X25PLEMode;
MATCHES FOR EQUALITY;
BEHAVIOUR x25PLEMode-B BEHAVIOUR
DEFINED AS The DCE/DTE mode in which the X.25 PLE is currently operating.
One of the following modes of operation may be indicated.
(0) DTE mode applying to both ITU-T Rec. X.25 and ISO/IEC 8208 operation,
(1) DCE mode applying to ITU-T Rec. X.25 operation only, and
(2) DTE acting as a DCE applying to ISO/IEC 8208 operation only.;;
REGISTERED AS { NLM.aoi x25PLEMode (120) };

Remplacée par une version plus récente

x25PLEIVMOld ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.GraphicString;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR x25PLEIVMOld-B BEHAVIOUR
DEFINED AS The name of this instance of x25PLE IVMO;;
REGISTERED AS { NLM.aoi x25PLEIVMOld (37) };

x25SegmentsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR x25SegmentsReceived-B BEHAVIOUR
DEFINED AS Value for count of X.25 Segments Received.;;
REGISTERED AS { NLM.aoi x25SegmentsReceived (171) };

x25SegmentsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR x25SegmentsSent-B BEHAVIOUR
DEFINED AS Value for count of X.25 Segments Sent.;;
REGISTERED AS { NLM.aoi x25SegmentsSent (170) };

-- Paramètres

notificationData PARAMETER
CONTEXT EVENT-INFO;
WITH SYNTAX NLM.NotificationDataSyntax;
BEHAVIOUR notificationData-B BEHAVIOUR
DEFINED AS Information relating to the call
which resulted in the notification;;
REGISTERED AS { NLM.proi notificationData (7) };

Remplacée par une version plus récente

5.11 Les objets gérés circuit virtuel et analogues

5.11.1 L'objet géré circuit virtuel

-- Cette classe d'objets gérés n'est jamais instanciée. Elle sert d'objet géré générique
-- circuit virtuel duquel héritent les deux objets gérés ETTD de circuit virtuel et ETCD de
-- circuit virtuel.
-- Noter que les valeurs de l'attribut de dénomination virtualCircuitId doivent
-- être uniques dans toutes les instances des objets gérés issus de celui-ci, qui ont une
-- entité supérieure commune.
--

```
virtualCircuit MANAGED OBJECT CLASS
  DERIVED FROM "DMI":top;
  CHARACTERIZED BY virtualCircuit-P PACKAGE
    BEHAVIOUR
      commonCreationDeletion-B,
      virtualCircuitNaming-B;
  ATTRIBUTES
    virtualCircuitId GET,
    logicalChannel GET,
    packetSizes GET,
    throughputClasses GET,
    windowSizes GET;
  NOTIFICATIONS
    "DMI":objectCreation,
    "DMI":objectDeletion;
  ;;
REGISTERED AS { NLM.moi virtualCircuit (14) };
```

Remplacée par une version plus récente

5.11.2 L'objet géré ETTD de circuit virtuel

- Cette classe d'objets gérés n'est jamais instanciée. Elle sert d'objet géré générique
- ETTD de circuit virtuel duquel héritent les deux objets gérés ETTD de communication
- virtuelle et ETTD de circuit virtuel permanent. Noter que les valeurs de l'attribut de
- dénomination virtualCircuitId doivent être uniques dans toutes les instances des objets
- gérés issus de celui-ci, qui ont une entité supérieure commune.
-

virtualCircuit-DTE MANAGED OBJECT CLASS

DERIVED FROM virtualCircuit;

CONDITIONAL PACKAGES

dTEVirtualCircuitCounters-P

PRESENT IF the instance supports the dTEVirtualCircuitCounters capabilities;

REGISTERED AS { NLM.moi virtualCircuit-DTE (18) };

5.11.3 L'objet géré ETCD de circuit virtuel

- Cette classe d'objets gérés n'est jamais instanciée. Elle sert d'objet géré générique
- ETCD de circuit virtuel duquel héritent les deux objets gérés ETCD de communication
- virtuelle et ETCD de circuit virtuel permanent. Noter que les valeurs de l'attribut de
- dénomination virtualCircuitId doivent être uniques dans toutes les instances des objets
- gérés issus de celui-ci, qui ont une entité supérieure commune.
-

virtualCircuit-DCE MANAGED OBJECT CLASS

DERIVED FROM virtualCircuit;

CONDITIONAL PACKAGES

dCECommonVirtualCircuitCounters-P

PRESENT IF the instance supports the dCECommonVirtualCircuitCounters capabilities

;

REGISTERED AS { NLM.moi virtualCircuit-DCE (29) };

Remplacée par une version plus récente

5.11.4 L'objet géré ETTD de circuit virtuel permanent

--
-- *Une instance de cet objet géré existe pour chaque circuit virtuel permanent.*
-- *Cet objet peut être aussi bien créé que supprimé par la gestion.*
--

```
permanentVirtualCircuit-DTE MANAGED OBJECT CLASS
  DERIVED FROM virtualCircuit-DTE;
  CHARACTERIZED BY permanentVirtualCircuit-DTE-P PACKAGE
    BEHAVIOUR permanentVirtualCircuit-DTE-P-B BEHAVIOUR
      DEFINED AS When the MO is created, the protocol machine
        shall be reinitialized and a reset PDU with a cause
        code of DTE originated (encoded as 00000000) and a
        diagnostic code of DTE operational (161) shall be
        transmitted. When the MO is deleted, the protocol machine
        shall be reinitialized and a reset PDU with a cause
        code of DTE originated (encoded as 00000000) and a
        diagnostic code of DTE not operational (162) shall be
        transmitted.;
  ATTRIBUTES
    logicalChannel INITIAL VALUE DERIVATION RULE logicalChannelIV-B,
    packetSizes INITIAL VALUE DERIVATION RULE optionalCMIPV-B,
    throughputClasses INITIAL VALUE DERIVATION RULE optionalCMIPV-B,
    windowSizes INITIAL VALUE DERIVATION RULE optionalCMIPV-B;
  ;;
REGISTERED AS { NLM.moi permanentVirtualCircuit-DTE (19) };
```

Remplacée par une version plus récente

5.11.5 L'objet géré ETCD de circuit virtuel permanent

-- Une instance de cet objet géré existe pour chaque circuit virtuel permanent. Cet objet
-- peut être aussi bien créé que supprimé par gestion.
--

```
permanentVirtualCircuit-DCE MANAGED OBJECT CLASS
  DERIVED FROM virtualCircuit-DCE;
  CHARACTERIZED BY permanentVirtualCircuit-DCE-P PACKAGE
    BEHAVIOUR permanentVirtualCircuit-DCE-P-B BEHAVIOUR
      DEFINED AS When the MO is created, the protocol machine shall be re-initialized
        and a reset PDU shall be transmitted. A cause code of remote DTE Operational
        (encoded as X000 1001) or Network Operational (encoded as X000 1111) may,
        for example, be included. When the MO is deleted the protocol machine shall
        be reinitialized and a reset PDU shall be transmitted. A cause code of
        Out of Order (encoded as X000 0001) or Network Out of Order
        (encoded as X001 1101) may, for example, be included.;;
      commonStateChange-B;

  ATTRIBUTES
    chargingDirection GET,
    logicalChannel INITIAL VALUE DERIVATION RULE logicalChannelIV-B,
    packetSizes INITIAL VALUE DERIVATION RULE optionalCMIPV-B,
    throughputClasses INITIAL VALUE DERIVATION RULE optionalCMIPV-B,
    windowSizes INITIAL VALUE DERIVATION RULE optionalCMIPV-B,
    "DMI":operationalState GET,
    remoteDTEAddress GET,
    remoteLogicalChannel GET;
  ATTRIBUTE GROUPS
    "DMI":state
      "DMI":operationalState;
  NOTIFICATIONS
    "DMI":stateChange;
  ;;
REGISTERED AS { NLM.moi permanentVirtualCircuit-DCE (30) };
```

Remplacée par une version plus récente

5.11.6 L'objet géré valeurs initiales de communication virtuelle

- Dans un système, il peut y avoir plusieurs instances de l'objet géré valeurs initiales
- (IVMO) de communication virtuelle. Un tel objet peut servir à fournir des valeurs initiales
- aux attributs des objets gérés ETTD ou ETCD de communication virtuelle.
- Différentes instances de l'objet IVMO de communication virtuelle peuvent contenir des
- valeurs initiales différentes.
-
- La définition de cet objet permet de le créer et de le supprimer explicitement par
- opération de gestion.

```
virtualCallIVMO MANAGED OBJECT CLASS
  DERIVED FROM "DMI":top;
  CHARACTERIZED BY virtualCallIVMO-P PACKAGE
  BEHAVIOUR commonCreationDeletion-B;
  ATTRIBUTES
    virtualCallIVMOId GET,
    fastSelect REPLACE-WITH-DEFAULT
      GET-REPLACE,
    packetSizes REPLACE-WITH-DEFAULT
      GET-REPLACE,
    reverseCharging REPLACE-WITH-DEFAULT
      GET-REPLACE,
    throughputClasses REPLACE-WITH-DEFAULT
      GET-REPLACE,
    windowSizes REPLACE-WITH-DEFAULT
      GET-REPLACE;
  NOTIFICATIONS
    "DMI":objectCreation,
    "DMI":objectDeletion;
  ;;
```

```
REGISTERED AS { NLM.moi virtualCallIVMO (15) };
```


Remplacée par une version plus récente

5.11.7 L'objet géré ETTD de communication virtuelle

- Il existe une instance de cet objet géré pour chaque communication virtuelle.
- Cet objet n'est pas créé par gestion mais par opération de la machine à états de protocole.
- Une instance existante peut toutefois être désactivée par action de gestion, ce qui
- provoquera la libération de la communication virtuelle associée.
-
- Une instance de cet objet géré, une fois créée, existera aussi longtemps que les
- ressources réelles seront consommées par l'existence de la communication virtuelle.
- La détermination du moment, pendant l'établissement de l'appel, où les ressources
- réelles sont consommées et, inversement, la détermination du moment où, pendant la
- libération de l'appel, les ressources sont libérées, relèvent de la mise en œuvre de
- l'application.

```
virtualCall-DTE MANAGED OBJECT CLASS
  DERIVED FROM virtualCircuit-DTE;
  CHARACTERIZED BY virtualCall-DTE-P PACKAGE
  BEHAVIOUR
    deactivateConnection-B,
    successfulConnectionEstablishment-B;
  ATTRIBUTES
    callingAddressExtension GET,
    calledAddressExtension GET,
    direction GET,
    fastSelect GET,
    originallyCalledAddress GET,
    redirectReason GET,
    remoteDTEAddress GET,
    reverseCharging GET;
  ACTIONS
    "GMI":deactivate;
  NOTIFICATIONS
    "GMI":communicationsInformation;
  ;;
REGISTERED AS { NLM.moi virtualCall-DTE (16) };
```

Remplacée par une version plus récente

5.11.8 L'objet géré ETCD de communication virtuelle

- Une instance de cet objet géré, une fois créée, existera aussi longtemps que les
- ressources réelles seront consommées par l'existence de la communication virtuelle.
- La détermination du moment, pendant l'établissement de l'appel, où les ressources
- réelles sont consommées et, inversement, la détermination du moment où, pendant la
- libération de l'appel, les ressources sont libérées, relèvent de la mise en œuvre de
- l'application.

virtualCall-DCE MANAGED OBJECT CLASS

DERIVED FROM virtualCircuit-DCE;

CHARACTERIZED BY virtualCall-DCE-P PACKAGE

BEHAVIOUR

deactivateConnection-B,
successfulConnectionEstablishment-B;

ATTRIBUTES

chargingDirection GET,
cUGSelection GET,
direction GET,
fastSelect GET,
remoteDTEAddress GET,
transitDelaySelectionAndIndication GET;

ACTIONS

"GMI":deactivate;

NOTIFICATIONS

"GMI":communicationsInformation;

;;

CONDITIONAL PACKAGES

dCEVirtualCallFacilities-P

PRESENT IF the instance supports the dCEVirtualCallFacilities capabilities;

REGISTERED AS { NLM.moi virtualCall-DCE (31) };

Remplacée par une version plus récente

5.11.9 L'objet géré décomptes selon série de Recommandations D

- Il existe une seule instance de cet objet géré, créée par action de gestion ou
- automatiquement, pour chaque instance d'une communication virtuelle soumise aux
- principes tarifaires applicables aux services de communications de données sur des
- réseaux publics pour données spécialisés. Les Recommandations D.10, D.11 et D.12
- définissent les dispositions applicables aux principes tarifaires.

dSeriesCounts MANAGED OBJECT CLASS

DERIVED FROM "DMI":top;

CHARACTERIZED BY dSeriesCounts-P PACKAGE

BEHAVIOUR dSeriesCounts-P-B BEHAVIOUR

DEFINED AS provides the set of packet and segment counts required to collect the charges levied according to the tariff principles contained in Recommendations D.10, D.11 and D.12 for international packet switched public data communications services. The values collected are reported at object deletion.;;

ATTRIBUTES

dSeriesId GET,
dSeriesResetRequestIndicationPackets GET,
dSeriesSegmentsSent GET,
dSeriesSegmentsReceived GET;

ATTRIBUTE GROUPS

"GMI":counters
dSeriesResetRequestIndicationPackets
dSeriesSegmentsSent
dSeriesSegmentsReceived;

NOTIFICATIONS

"DMI":objectCreation,
"DMI":objectDeletion;

;;

REGISTERED AS { NLM.moi dSeriesCounts (32) };

-- Lots prédéfinis

dTEVirtualCircuitCounters-P PACKAGE

BEHAVIOUR

octetsSentReceivedCounter-B;

ATTRIBUTES

"DMI":octetsSentCounter GET,

- Noter que la définition des informations de gestion (DMI) s'effectue en termes d'octets de données
- d'utilisateur.

"DMI":octetsReceivedCounter GET,

- Noter que la définition des informations de gestion (DMI) s'effectue en termes d'octets de données
- d'utilisateur.

dataPacketsReceived GET,

dataPacketsSent GET,

- Noter que le compteur "DMI":PDUsSentCounter
- ne peut pas être utilisé ici puisqu'il est défini comme représentant le nombre total des unités PDU
- envoyées et non pas seulement le nombre d'unités PDU de données.

dataRetransmissionTimerExpiries GET,

interruptPacketsReceived GET,

interruptPacketsSent GET,

interruptTimerExpiries GET,

providerInitiatedResets GET,

remotelyInitiatedResets GET,

Remplacée par une version plus récente

```
resetTimeouts GET;
ATTRIBUTE GROUPS
"GMI":counters
    "DMI":octetsReceivedCounter
    "DMI":octetsSentCounter
    dataPacketsReceived
    dataPacketsSent
    dataRetransmissionTimerExpiries
    interruptPacketsReceived
    interruptPacketsSent
    interruptTimerExpiries
    providerInitiatedResets
    remotelyInitiatedResets
    resetTimeouts;
REGISTERED AS { NLM.poi dTEVirtualCircuitCounters-P (19) };

dCEVirtualCallFacilities-P PACKAGE
    BEHAVIOUR dCEVirtualCallFacilities-P-B BEHAVIOUR
        DEFINED AS provides the set of optional facilities used during the normal operation of a
            DCE, as defined in the appropriate clauses ;;
    ATTRIBUTES
        bilateralCUGSelection GET,
        callRedirectionDeflectionNotification GET,
        calledLineAddressModifiedNotification GET,
        cUGWithOutgoingAccessSelection GET,
        nUISelection GET,
        reverseCharging GET,
        rPOASelection GET;
REGISTERED AS { NLM.poi dCEVirtualCallFacilities-P (24) };

-- Comportements

logicalChannelIV-B BEHAVIOUR
    DEFINED AS The initial value of the logical channel attribute
        shall be specified in the CMIP create;

optionalCMIPV-B BEHAVIOUR
    DEFINED AS The initial value of this attribute may be supplied
        in the CMIP create. When not so supplied, the default
        value shall be used;

virtualCircuitNaming-B BEHAVIOUR
    DEFINED AS A system shall ensure that all instances of MOs derived
        from the virtualCircuit MO which have a common x25PLE or subclass
        as their superior MO, shall have unique values for the
        virtualCircuitId attribute. This applies to both automatically
        generated names and those supplied by means of a CMIP create.;
```

Remplacée par une version plus récente

-- *Corrélations de noms*

permanentVirtualCircuit-DTE-x25PLE-DTE NAME BINDING
SUBORDINATE OBJECT CLASS permanentVirtualCircuit-DTE AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE-DTE AND SUBCLASSES;
WITH ATTRIBUTE virtualCircuitId;
BEHAVIOUR logicalChannelIV-B;
CREATE WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE;
REGISTERED AS { NLM.nboi permanentVirtualCircuit-DTE-x25PLE-DTE (26) };

permanentVirtualCircuit-DCE-x25PLE-DCE NAME BINDING
SUBORDINATE OBJECT CLASS permanentVirtualCircuit-DCE AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE-DCE AND SUBCLASSES;
WITH ATTRIBUTE virtualCircuitId;
BEHAVIOUR logicalChannelIV-B;
CREATE WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE;
REGISTERED AS { NLM.nboi permanentVirtualCircuit-DCE-x25PLE-DCE (29) };

virtualCall-DTE-x25PLE-DTE NAME BINDING
SUBORDINATE OBJECT CLASS virtualCall-DTE AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE-DTE AND SUBCLASSES;
WITH ATTRIBUTE virtualCircuitId;
BEHAVIOUR virtualCall-DTE-x25PLE-DTE-B BEHAVIOUR
DEFINED AS Created only by the operation of the protocol or local interface. The instance name is derived automatically (as for CREATE WITH-AUTOMATIC-INSTANCE-NAMING). The creation of an instance of the virtualCall-DTE MO using this name binding may reference an instance of the virtualCallIVMO. The means by which such an instance (if any) of the virtualCallIVMO is identified is a local matter. When this occurs, some of the initial values of the attributes of the instance of the virtualCall-DTE MO may be supplied by the values of the attributes in the specified instance of the virtualCallIVMO. However, any such value may be overridden by a value supplied by local means (for example, across an internal interface). Where values are supplied by the IVMO, the initial value of an attribute of the virtualCall-DTE MO shall be the value of the corresponding attribute in the virtualCallIVMO (that is, which has the same attribute template label). The naming attribute of the virtualCall-DTE is assigned a value according to local mechanisms.;;
REGISTERED AS { NLM.nboi virtualCall-DTE-x25PLE-DTE (24) };

Remplacée par une version plus récente

virtualCall-DCE-x25PLE-DCE-Automatic NAME BINDING
SUBORDINATE OBJECT CLASS virtualCall-DCE AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE-DCE AND SUBCLASSES;
WITH ATTRIBUTE virtualCircuitId;
BEHAVIOUR virtualCall-DCE-x25PLE-DCE-Automatic-B BEHAVIOUR
DEFINED AS The name binding that applies when the virtualCall-DCE Managed Object is created automatically by the operation of the system. The instance name is derived automatically (as for CREATE WITH-AUTOMATIC-INSTANCE-NAMING). The creation of an instance of the virtualCall-DCE MO using this name binding may reference an instance of the virtualCallIVMO. The means by which such an instance (if any) of the virtualCallIVMO is identified is a local matter. When this occurs, some of the initial values of the attributes of the instance of the virtualCall-DCE MO may be supplied by the values of the attributes in the specified instance of the virtualCallIVMO. However, any such value may be overridden by a value supplied by local means (for example, across an internal interface). Where values are supplied by the IVMO, the initial value of an attribute of the virtualCall-DCE MO shall be the value of the corresponding attribute in the virtualCallIVMO (that is, which has the same attribute template label). The naming attribute of the virtualCall-DCE is assigned a value according to local mechanisms.;;
DELETE;
REGISTERED AS { NLM.nboi virtualCall-DCE-x25PLE-DCE-Automatic (30) };

virtualCall-DCE-x25PLE-DCE-Management NAME BINDING
SUBORDINATE OBJECT CLASS virtualCall-DCE AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE-DCE AND SUBCLASSES;
WITH ATTRIBUTE virtualCircuitId;
BEHAVIOUR virtualCall-DCE-x25PLE-DCE-Management-B BEHAVIOUR
DEFINED AS The name binding that applies when the virtualCall-DCE Managed Object is created by management operation.;;
CREATE WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE;
REGISTERED AS { NLM.nboi virtualCall-DCE-x25PLE-DCE-Management (31) };

virtualCallIVMO-x25PLE NAME BINDING
SUBORDINATE OBJECT CLASS virtualCallIVMO AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS x25PLE AND SUBCLASSES;
WITH ATTRIBUTE virtualCallIVMOId;
CREATE;
DELETE;
REGISTERED AS { NLM.nboi virtualCallIVMO-x25PLE (25) };

Remplacée par une version plus récente

dSeriesCounts-virtualCall-DCE-Automatic NAME BINDING
SUBORDINATE OBJECT CLASS dSeriesCounts AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS virtualCall-DCE AND SUBCLASSES;
WITH ATTRIBUTE dSeriesId;
BEHAVIOUR dSeriesCounts-virtualCall-DCE-Automatic-B BEHAVIOUR
DEFINED AS Created only by the operation of the protocol or local interface. The instance name is derived automatically (as for CREATE WITH-AUTOMATIC-INSTANCE-NAMING);;
DELETE;
REGISTERED AS { NLM.nboi dSeriesCounts-virtualCall-DCE-Automatic (32) };

dSeriesCounts-virtualCall-DCE-Management NAME BINDING
SUBORDINATE OBJECT CLASS dSeriesCounts AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS virtualCall-DCE AND SUBCLASSES;
WITH ATTRIBUTE dSeriesId;
BEHAVIOUR dSeriesCounts-virtualCall-DCE-Management-B BEHAVIOUR
DEFINED AS The name binding that applies when the dSeriesCounts Managed Object is created by management operation.;;
DELETE;
REGISTERED AS { NLM.nboi dSeriesCounts-virtualCall-DCE-Management (33) };

-- *Attributs*

bilateralCUGSelection ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR bilateralCUGSelection-B BEHAVIOUR
DEFINED AS Indicates the use of the bilateral closed user group selection facility for that call.;;
REGISTERED AS { NLM.aoi bilateralCUGSelection (126) };

calledAddressExtension ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.NAddress;
-- *Dans le contexte OSI, ce sera toujours une adresse de point NSAP mais*
-- *dans d'autres contextes ce pourra être une autre adresse. Cet attribut peut toujours*
-- *prendre une valeur null, par*
-- *exemple lorsqu'il est utilisé*
-- *par un système selon la*
-- *Rec. X.233 de l'UIT-T | ISO/CEI 8473-1.*
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR calledAddressExtension-B BEHAVIOUR
DEFINED AS The contents of the called address extension field.;;
REGISTERED AS { NLM.aoi calledAddressExtension (100) };

calledLineAddressModifiedNotification ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR calledLineAddressModifiedNotification-B BEHAVIOUR
DEFINED AS Indicates the use of the called line address modified notification facility for that call.;;
REGISTERED AS { NLM.aoi calledLineAddressModifiedNotification (128) };

Remplacée par une version plus récente

callingAddressExtension ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.NAddress;

- Dans le contexte OSI, ce sera toujours une adresse de point NSAP
- mais dans d'autres contextes ce pourra être une autre adresse. Cet
- attribut peut toujours prendre une valeur null, par exemple lorsqu'il
- est utilisé par un système selon la Rec. X.233 de l'UIT-T | ISO/CEI 8473-1.

MATCHES FOR EQUALITY, SUBSTRINGS;

BEHAVIOUR callingAddressExtension-B BEHAVIOUR

DEFINED AS The contents of the calling address extension field.;;

REGISTERED AS { NLM.aoi callingAddressExtension (99) };

callRedirectionDeflectionNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR callRedirectionDeflectionNotification-B BEHAVIOUR

DEFINED AS Indicates the use of the call redirection deflection notification facility
for that call.;;

REGISTERED AS { NLM.aoi callRedirectionDeflectionNotification (130) };

chargingDirection ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR chargingDirection-B BEHAVIOUR

DEFINED AS Indicates the use of the charging direction facility
for that call.;;

REGISTERED AS { NLM.aoi chargingDirection (131) };

cUGSelection ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR cUGSelection-B BEHAVIOUR

DEFINED AS Indicates the use of the closed user group selection facility
for that call.;;

REGISTERED AS { NLM.aoi cUGSelection (135) };

cUGWithOutgoingAccessSelection ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR cUGWithOutgoingAccessSelection-B BEHAVIOUR

DEFINED AS Indicates the use of the Closed User Group With Outgoing Access Selection facility
for that call. It may only take the value 'True' if the DTE
does not have a preferential closed user group, as described
in ITU-T Recommendation X.25 and ISO/IEC 8208.;;

REGISTERED AS { NLM.aoi cUGWithOutgoingAccessSelection (138) };

dSeriesId ATTRIBUTE

WITH ATTRIBUTE SYNTAX NLM.GraphicString;

MATCHES FOR EQUALITY, SUBSTRINGS;

BEHAVIOUR dSeriesId-B BEHAVIOUR

DEFINED AS The name of this instance of the dSeriesCounts MO.;;

REGISTERED AS { NLM.aoi dSeriesId (140) };

Remplacée par une version plus récente

dSeriesResetRequestIndicationPackets ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR dSeriesResetRequestIndicationPackets-B BEHAVIOUR
DEFINED AS Value for count of Reset Request or Indication Packets
with restrictions defined in Recommendation D.11 ;;
REGISTERED AS { NLM.aoi dSeriesResetRequestIndicationPackets (141) };

dSeriesSegmentsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR dSeriesSegmentsReceived-B BEHAVIOUR
DEFINED AS Value for count of Segments Received, in 64 octets,
as per Recommendation D.12;;
REGISTERED AS { NLM.aoi dSeriesSegmentsReceived (143) };

dSeriesSegmentsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR dSeriesSegmentsSent-B BEHAVIOUR
DEFINED AS Value for count of Segments Sent, in 64 octets,
as per Recommendation D.12;;
REGISTERED AS { NLM.aoi dSeriesSegmentsSent (142) };

direction ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Direction;
-- Enuméré (appel entrant, appel sortant)
MATCHES FOR EQUALITY;
BEHAVIOUR direction-B BEHAVIOUR
DEFINED AS The direction (incoming or outgoing) of the call;;
REGISTERED AS { NLM.aoi direction (92) };

fastSelect ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.FastSelect;
-- Enuméré (non spécifié, sélection rapide, sélection rapide avec
-- réponse restreinte, pas de sélection rapide)
MATCHES FOR EQUALITY;
BEHAVIOUR fastSelect-B BEHAVIOUR
DEFINED AS Type of fast select used or to be used for call.
In the case of an IVMO, this specifies that one of 'fast select',
'fast select with restricted response', or no fast select
facility is to be used for the call. It includes a value
'not specified' which indicates that no preference is expressed
in the IVMO. In the case of a non-IVMO MO, this specifies that one
of 'fast select' or 'no fast select' was used for the call.;;
REGISTERED AS { NLM.aoi fastSelect (76) };

logicalChannel ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.LogicalChannelId;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR logicalChannel-B BEHAVIOUR
DEFINED AS The actual Logical Channel ID used for the call;;
REGISTERED AS { NLM.aoi logicalChannel (89) };

Remplacée par une version plus récente

nUISelection ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR nUISelection-B BEHAVIOUR
DEFINED AS Indicates the use of the network user identification selection facility
for that call.;;
REGISTERED AS { NLM.aoi nUISelection (155) };

originallyCalledAddress ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.DTEAddress;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR originallyCalledAddress-B BEHAVIOUR
DEFINED AS The originally called address;;
REGISTERED AS { NLM.aoi originallyCalledAddress (98) };

packetSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY;
BEHAVIOUR packetSizes-B BEHAVIOUR
DEFINED AS The packet sizes for this VC.
In the case of an IVMO MO it is the proposed value of the
packet sizes (incoming and outgoing) to be used when establishing
the virtual call, expressed in octets. The value of NULL
indicates that the default packet size for that direction
(as indicated by the defaultPacketSizes attribute of the
containing X.25 PLE MO), is to be used.
In the case of a non-IVMO MO it is the actual packet sizes
in use for this VC;;
REGISTERED AS { NLM.aoi packetSizes (121) };

redirectReason ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.RedirectReason;
MATCHES FOR EQUALITY;
BEHAVIOUR redirectReason-B BEHAVIOUR
DEFINED AS The reason why the call has been redirected.
This is the reason why the call has been offered or has been
connected to an address different from the originally
called address.
That is, the value of the first octet of the Facility
Parameter Field of the CRCDN or CLAMN facility, indicating
the reason for call redirection or call deflection.
The zero value indicates that the call was not redirected;;
REGISTERED AS { NLM.aoi redirectReason (97) };

Remplacée par une version plus récente

remoteDTEAddress ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.DTEAddress;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR remoteDTEAddress-B BEHAVIOUR
DEFINED AS The DTE Address of the remote DTE.
In the case of an outgoing call, this is the remote DTE address
from the called address of the transmitted call request packet.
In the case of an incoming call, it is the calling address from
the received call request packet.;;
REGISTERED AS { NLM.aoi remoteDTEAddress (93) };

remoteLogicalChannel ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.LogicalChannelId;
-- *Identification de canal à 12 attributs binaires*
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR remoteLogicalChannel-B BEHAVIOUR
DEFINED AS The Remote Logical Channel ID for the Permanent Virtual Circuit.;;
REGISTERED AS { NLM.aoi remoteLogicalChannel (162) };

reverseCharging ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR reverseCharging-B BEHAVIOUR
DEFINED AS Use of reverse charging.
When 'True' for an outgoing call, it shall be (for an IVMO), or was
(for a non-IVMO), initiated requesting reverse charging. When
'True' for an incoming call associated with a virtualCall MO,
it indicates that reverse charging was accepted.;;
REGISTERED AS { NLM.aoi reverseCharging (75) };

rOASelection ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR rOASelection-B BEHAVIOUR
DEFINED AS Indicates the use of the registered operating agency selection
facility for that call.;;
REGISTERED AS { NLM.aoi rOASelection (166) };

throughputClasses ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR throughputClasses-B BEHAVIOUR
DEFINED AS The throughput classes in use or to be used.
For an IVMO, this is the throughput classes to be proposed.
For a non-IVMO it is the actual throughput classes in use.
For Virtual Calls this is the result of negotiation.;;
REGISTERED AS { NLM.aoi throughputClasses (96) };

Remplacée par une version plus récente

transitDelaySelectionAndIndication ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR transitDelaySelectionAndIndication-B BEHAVIOUR
DEFINED AS Indicates the use of the transit delay selection and
indication facility for that call.;;
REGISTERED AS { NLM.aoi transitDelaySelectionAndIndication (169) };

virtualCallIVMOld ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.GraphicString;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR virtualCallIVMOld-B BEHAVIOUR
DEFINED AS The name of this instance of virtualCallIVMO;;
REGISTERED AS { NLM.aoi virtualCallIVMOld (117) };

virtualCircuitId ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.GraphicString;
MATCHES FOR EQUALITY, SUBSTRINGS;
BEHAVIOUR virtualCircuitId-B BEHAVIOUR
DEFINED AS The name of this instance of virtualCircuit MO or subclass;;
REGISTERED AS { NLM.aoi virtualCircuitId (116) };

windowSizes ATTRIBUTE
WITH ATTRIBUTE SYNTAX NLM.BidirectionalValues;
MATCHES FOR EQUALITY;
BEHAVIOUR windowSizes-B BEHAVIOUR
DEFINED AS The actual window sizes in use for this VC;;
REGISTERED AS { NLM.aoi windowSizes (124) };

Remplacée par une version plus récente

6 Modules en notation ASN.1

```
NLM { joint-iso-ccitt network-layer (13) management (0) nLM(2) asn1Module (2) 0 }  
DEFINITIONS IMPLICIT TAGS::= BEGIN  
EXPORTS everything  
IMPORTS communicationsProtocolError  
FROM Attribute-ASN1Module { joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1 };
```

6.1 Définitions des identificateurs d'objet

6.1.1 Abréviations

```
network-layer OBJECT IDENTIFIER ::= { joint-iso-ccitt network-layer (13) }  
nl OBJECT IDENTIFIER ::= { network-layer management (0) }  
nloi OBJECT IDENTIFIER ::= { nl nLM(2) }  
sseoi OBJECT IDENTIFIER ::= { nloi standardSpecificExtensions (0) }  
moi OBJECT IDENTIFIER ::= { nloi managedObjectClass (3) }  
poi OBJECT IDENTIFIER ::= { nloi package (4) }  
proi OBJECT IDENTIFIER ::= { nloi parameter (5) }  
nboi OBJECT IDENTIFIER ::= { nloi nameBinding (6) }  
aoi OBJECT IDENTIFIER ::= { nloi attribute (7) }  
agoi OBJECT IDENTIFIER ::= { nloi attributeGroup (8) }  
acoi OBJECT IDENTIFIER ::= { nloi action (9) }  
noi OBJECT IDENTIFIER ::= { nloi notification (10) }
```

6.1.2 Autres abréviations

-- affectation de valeurs à l'attribut *specificProblems*

```
pDUDiscard OBJECT IDENTIFIER ::= { sseoi specificProblems(3) pDUDiscard(1) }  
pDUDiscardReasonNotSpecified OBJECT IDENTIFIER ::= { pDUDiscard  
    reasonNotSpecified(0) }  
pDUDiscardProtocolProcedureError OBJECT IDENTIFIER ::= { pDUDiscard  
    protocolProcedureError(1) }  
pDUDiscardIncorrectChecksum OBJECT IDENTIFIER ::= { pDUDiscard  
    incorrectChecksum(2) }  
pDUDiscardHeaderSyntaxError OBJECT IDENTIFIER ::= { pDUDiscard  
    headerSyntaxError(4) }  
pDUDiscardSegmentationNeededButNotPermitted OBJECT IDENTIFIER ::= { pDUDiscard  
    segmentationNeededButNotPermitted(5) }  
pDUDiscardIncompletePDURceived OBJECT IDENTIFIER ::= { pDUDiscard  
    incompletePDURceived(6) }  
pDUDiscardDuplicateOption OBJECT IDENTIFIER ::= { pDUDiscard  
    duplicateOption(7) }  
pDUDiscardDestinationAddressUnreachable OBJECT IDENTIFIER ::= { pDUDiscard  
    destinationAddressUnreachable(128) }  
pDUDiscardDestinationAddressUnknown OBJECT IDENTIFIER ::= { pDUDiscard  
    destinationAddressUnknown(129) }  
pDUDiscardUnspecifiedSourceRouteingError OBJECT IDENTIFIER ::= { pDUDiscard  
    unspecifiedSourceRouteingError(144) }  
pDUDiscardSyntaxErrorInSourceRouteingField OBJECT IDENTIFIER ::= { pDUDiscard  
    syntaxErrorInSourceRouteingField(145) }
```

Remplacée par une version plus récente

pDUDiscardUnknownAddressInSourceRouteingField OBJECT IDENTIFIER ::= { pDUDiscard
unknownAddressInSourceRouteingField(146) }

pDUDiscardPathNotAcceptable OBJECT IDENTIFIER ::= { pDUDiscard
pathNotAcceptable(147) }

pDUDiscardLifetimeExpiredWhileDataUnitInTransit OBJECT IDENTIFIER ::= { pDUDiscard
lifetimeExpiredWhileDataUnitInTransit(160) }

pDUDiscardLifetimeExpiredDuringReassembly OBJECT IDENTIFIER ::= { pDUDiscard
lifetimeExpiredDuringReassembly(161) }

pDUDiscardUnsupportedOptionNotSpecified OBJECT IDENTIFIER ::= { pDUDiscard
unsupportedOptionNotSpecified(176) }

pDUDiscardUnsupportedProtocolVersion OBJECT IDENTIFIER ::= { pDUDiscard
unsupportedProtocolVersion(177) }

pDUDiscardUnsupportedSecurityOption OBJECT IDENTIFIER ::= { pDUDiscard
unsupportedSecurityOption(178) }

pDUDiscardUnsupportedSourceRouteingOption OBJECT IDENTIFIER ::= { pDUDiscard
unsupportedSourceRouteingOption(179) }

pDUDiscardUnsupportedRecordingOfRouteOption OBJECT IDENTIFIER ::= { pDUDiscard
unsupportedRecordingOfRouteOption(180) }

pDUDiscardReassemblyInterference OBJECT IDENTIFIER ::= { pDUDiscard
reassemblyInterference(181) }

iSO9542PDUDiscard OBJECT IDENTIFIER ::= { sseoi specificProblems(3) iSO9542PDUDiscard(2) }

-- pour la notification d'informations de communication

iSReachabilityChange OBJECT IDENTIFIER ::= {
sseoi informationtype(4) iSReachabilityChange(1) }

eSReachabilityChange OBJECT IDENTIFIER ::= {
sseoi informationtype(4) eSReachabilityChange(2) }

successfulConnectionEstablishment OBJECT IDENTIFIER ::= {
sseoi informationtype(4) successfulConnectionEstablishment (3) }

-- pour le type d'adresse de point SNPA

sNPADTEAddress OBJECT IDENTIFIER ::= {
sseoi sNPAAAddressType(5) dTEAddress(1) }

sNPAMACAddress OBJECT IDENTIFIER ::= {
sseoi sNPAAAddressType(5) mACAddress(2) }

6.2 Autres définitions

BidirectionalValues ::= SEQUENCE {
incoming [0] ChoiceInteger,
outgoing[1] ChoiceInteger }

Boolean ::= BOOLEAN

callRequestResponseTimerDefault INTEGER ::= 200

ChoiceInteger ::= CHOICE {
[0] IMPLICIT NULL, -- The 'I don't care' value
[1] IMPLICIT INTEGER }

clearRequestRetransmissionCountDefault INTEGER ::= 1

clearRequestResponseTimerDefault INTEGER ::= 180

cLNSId-Value GRAPHIC STRING ::= "CLNS"

cONSId-Value GRAPHIC STRING ::= "CONS"

Remplacée par une version plus récente

```

DefaultTCA ::= SEQUENCE {
    subscription [0] BOOLEAN,
    supportedThroughClasses [1] SET OF INTEGER OPTIONAL,
    selectedThroughputClasses [2] BidirectionalValues OPTIONAL }
dataPacketRetransmissionCountDefault INTEGER ::= 0
windowRotationTimerDefault INTEGER ::= 200
DTEAddress ::= SEQUENCE {
    numberingPlanId [0] ENUMERATED { unknown (0), x121(1), e164(2) },
    addressDigits [1] OCTET STRING }
NUMERICSTRING(FROM("0"|"1"|"2"|"3"|"4"|"5"|"6"|"7"|"8"|"9"))(SIZE(0..15))
-- Jusqu'à 15 chiffres 0..9
Direction ::= ENUMERATED {
    incoming(0),
    outgoing(1) }
DiscardReason ::= INTEGER(0..255)
EndToEndDelay ::= INTEGER(0..65535)
-- Noter que conformément à l'ISO/CEI 8208 ou Rec. X.25 de l'UIT-T une valeur de 65535
-- indique que le délai n'est pas connu ou dépasse 65534 ms.
false BOOLEAN ::= FALSE
False ::= BOOLEAN (FALSE)
FastSelect ::= ENUMERATED {
    notSpecified(0),
    fastSelect(1),
    fastSelectWithRestrictedResponse(2),
    noFastSelect(3) }
GraphicString ::= GRAPHICSTRING
holdingTimerMultiplierDefault INTEGER ::= 3
HoldingTimerMultiplierPermitted ::= INTEGER(2..63)
HoldingTimerMultiplierRequired ::= INTEGER(3)
Integer ::= INTEGER
interruptResponseTimerDefault INTEGER ::= 180
iSConfigurationTimerDefault INTEGER ::= 10
ISO9542Subsets ::= BITSTRING { configuration(0), redirection(1) }
Lifetime ::= INTEGER(1..255)
LocalDistinguishedName ::= DMI.ObjectInstance
LocalDistinguishedNames ::= DMI.GroupObjects
LogicalChannelAssignments ::= SEQUENCE {
    pVC [0] SET OF LogicalChannelId,
    incoming [1] LogicalChannelRange OPTIONAL,
    twoWay [2] LogicalChannelRange OPTIONAL,
    outgoing [3] LogicalChannelRange OPTIONAL }
LogicalChannelId ::= INTEGER (1..4095)
LogicalChannelRange ::= SEQUENCE {
    low [1] LogicalChannelId,
    high [2] LogicalChannelId }
ManualISSNPAAAddress ::= SET OF SNPAAAddress
MaxActiveCircuits ::= ChoiceInteger
NotificationDataSyntax ::= SEQUENCE {
    channel [1] LogicalChannelId OPTIONAL,
    packetHeader [2] OCTET STRING,
    diagnosticCode [3] OCTET
    causeCode [4] OCTET }
NAddress ::= OCTETSTRING(SIZE(0..20))
-- Jusqu'à 20 octets
NAddresses ::= SET OF NAddress
networkSubsystemId-Value GRAPHIC STRING ::= "NetworkSubsystem"

```

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```

NonStandardDPS ::= SEQUENCE {
    subscription                [0] BOOLEAN,
    supportedPacketSizes        [1] SET OF INTEGER OPTIONAL,
    selectedPacketSizes         [2] BidirectionalValues OPTIONAL }
NonStandardDWS ::= SEQUENCE {
    subscription                [0] BOOLEAN,
    supportedWindowSizes        [1] SET OF INTEGER OPTIONAL,
    selectedWindowSizes         [2] BidirectionalValues OPTIONAL }
NUI ::= OctetString(SIZE(0..255))
nullBidirectionalValues BidirectionalValues ::= { NULL, NULL }
nullChoiceInteger ChoiceInteger ::= NULL
OctetString ::= OCTETSTRING
PacketSequencing ::= INTEGER
PDUFormatErrorSyntax ::= PDUHeader
PDUHeader ::= OCTETSTRING(SIZE(1..255))
PDUOtherErrorSyntax ::= SEQUENCE {
    errorCode                   [1] INTEGER(0..255),
    header                      [2] PDUHeader }
ProtocolVersion ::= ENUMERATED {
    ISO8208V1 (0),
    ISO8208V2 (1),
    x2584 (2),
    x2588 (3) }
ReachabilityChangeSyntax ::= SEQUENCE {
    newState                    [1] ENUMERATED { down(0), up(1) },
    nAddresses                  [2] SET OF NAddress,
    sNPAAAddress                [3] SNPAAAddress OPTIONAL,
    reason                      [4] ENUMERATED
        { holdingTimerExpired(0),
          circuitDisabled(1) } OPTIONAL } -- Interrompu seulement

RedirectHoldingTime ::= INTEGER(1..65535)
redirectHoldingTime-Default INTEGER ::= 600
RedirectHoldingTime-Permitted ::= INTEGER(1..65535)
RedirectReason ::= INTEGER(0..127)
registrationRequestRetransmissionCountDefault INTEGER ::= 1
registrationRequestResponseTimerDefault INTEGER ::= 300
registrationPermittedDefault BOOLEAN ::= FALSE
rejectRetransmissionCountDefault INTEGER ::= 0
rejectResponseTimerDefault INTEGER ::= 60
resetRequestRetransmissionCountDefault INTEGER ::= 1
resetRequestResponseTimerDefault INTEGER ::= 180
restartRequestRetransmissionCountDefault INTEGER ::= 1
restartRequestResponseTimerDefault INTEGER ::= 180
ROASequence ::= SEQUENCE OF NUMERICSTRING(SIZE(0..4))
    -- Chaque chaîne numérique est limitée à 4 chiffres décimaux.
    -- Une séquence vide est autorisée.
SDUSize ::= INTEGER (0..65535)
SNPAAAddress ::= SEQUENCE {
    type                        [1] OBJECT IDENTIFIER,
    address                     [2] OCTET STRING }
suggestedESConfigurationTimerDefault INTEGER ::= 600
SupportedProtocol ::= SEQUENCE {
    protocol                    [1] OBJECT IDENTIFIER,

```


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```
versions [2] SET OF ProtocolVersion;
defectsRepaired [3] SET OF OBJECT IDENTIFIER OPTIONAL }
SupportedProtocols ::= SET OF SupportedProtocol
SystemType ::= ENUMERATED { eS(1), iS(2) }
SystemTypes ::= SET OF SystemType
windowStatusTransmissionTimerDefault INTEGER ::= 60
X25PLEMode ::= ENUMERATED {
    dTE(0),
    dCE(1),
    dTEasDCE(2) }
END
```

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7 Conformité

7.1 Conditions de conformité à l'ISO 10733

Une mise en œuvre réputée conforme à cette Norme internationale en tant que mise en œuvre gérée doit:

- a) supporter les objets gérés du sous-système de couche réseau;
- b) supporter, pour chaque objet géré pris en charge, au moins une corrélation des noms, définis dans cette Norme internationale, dont cet objet géré est l'entité subordonnée.

7.2 Conditions de conformité spécifiques au protocole

7.2.1 Une mise en œuvre réputée conforme à l'opération de gestion du service CLNS en tant que mise en œuvre gérée doit:

- a) être conforme à l'ISO/CEI 10733 comme indiqué en 7.1 ci-dessus;
- b) supporter l'objet géré entité de couche réseau, l'objet géré service CLNS, l'objet géré point NSAP et l'objet géré lien.

7.2.2 Une mise en œuvre réputée conforme à l'opération de gestion du service CONS en tant que mise en œuvre gérée doit:

- a) être conforme à l'ISO/CEI 10733 comme indiqué en 7.1 ci-dessus;
- b) supporter l'objet géré entité de couche réseau, l'objet géré service CONS, l'objet géré point NSAP, l'objet géré connexion et l'objet géré lien.

7.2.3 Une mise en œuvre réputée conforme à l'opération de gestion d'ETTD X.25 en tant que mise en œuvre gérée doit:

- a) être conforme à l'ISO/CEI 10733 comme indiqué en 7.1 ci-dessus;
- b) supporter l'objet géré ETTD d'entité PLE X.25 et au moins une classe issue de l'objet ETTD de circuit virtuel.

7.2.4 Une mise en œuvre réputée conforme à l'opération de gestion d'ETCD X.25 en tant que mise en œuvre gérée doit:

- a) être conforme à l'ISO/CEI 10733 comme indiqué en 7.1 ci-dessus;
- b) supporter l'objet géré ETCD d'entité PLE X.25 et au moins une classe issue de l'objet ETCD de circuit virtuel.

NOTE – Les clauses relatives au comportement figurant dans cette Norme ne pourront pas toujours faire l'objet de tests. Lors de la définition de suites de tests de comportements, il y aura lieu de veiller à ne pas ajouter de nouvelles contraintes à celles qui sont définies dans cette Norme pour les mises en œuvre.

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Annexe A

Affectation des identificateurs d'objet

(Cette annexe fait partie intégrante de la présente Recommandation)

Les identificateurs d'objet ci-après ont été affectés par la présente Recommandation. Les identificateurs d'objet qui avaient été affectés lorsque l'équivalent de la présente Recommandation se trouvait à l'étape du projet de norme internationale (DIS) à l'ISO/CEI n'ont pas été réaffectés. En cas de modification quelconque, autre qu'un changement apporté à l'article relatif aux comportements, d'un modèle quelconque affecté à un identificateur d'objet, le nouveau modèle a été affecté à un nouvel identificateur d'objet et l'ancien identificateur d'objet [dénoté ainsi: *obsolete (1)*] ne doit pas être réutilisé.

- joint-iso-ccitt
 - ms (9)
 - smi (3)
 - part2 (2)
 - asn1Module (2)
 - (1)
- network-layer (13)
 - management (0)
 - nLM (2)
 - standardSpecificExtensions (0)
 - specificProblems (3)
 - pDUDiscard (1)
 - reasonNotSpecified (0)
 - protocolProcedureError (1)
 - incorrectChecksum (2)
 - headerSyntaxError (4)
 - segmentationNeededButNotPermitted (5)
 - incompletePDUReceived (6)
 - duplicateOption (7)
 - destinationAddressUnreachable (128)
 - destinationAddressUnknown (129)
 - unspecifiedSourceRouteingError (144)
 - syntaxErrorInSourceRouteingField (145)
 - unknownAddressInSourceRouteingField (146)
 - pathNotAcceptable (147)
 - lifetimeExpiredWhileDataUnitInTransit (160)
 - lifetimeExpiredDuringReassembly (161)
 - unsupportedOptionNotSpecified (176)
 - unsupportedProtocolVersion (177)
 - unsupportedSecurityOption (178)
 - unsupportedSourceRouteingOption (179)
 - unsupportedRecordingOfRouteOption (180)
 - reassemblyInterference (181)

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- ISO9542PDUDiscard (2)
- informationtype (4)
 - iSReachabilityChange (1)
 - eSReachabilityChange (2)
 - successfulConnectionEstablishment (3)
- sNPAAddressType (5)
 - dTEAddress (1)
 - mACAddress (2)
- asn1Module (2)
 - (0)
- managedObjectClass (3)
 - networkSubsystem (1)
 - obsolete* (2)
 - obsolete* (3)
 - nSAP (4)
 - obsolete* (5)
 - obsolete* (6)
 - obsolete* (7)
 - obsolete* (8)
 - obsolete* (9)
 - obsolete* (10)
 - obsolete* (11)
 - obsolete* (12)
 - networkConnection (13)
 - virtualCircuit (14)
 - virtualCallIVMO (15)
 - virtualCall-DTE (16)
 - x25PLE-DTE (17)
 - virtualCircuit-DTE (18)
 - permanentVirtualCircuit-DTE (19)
 - x25PLEIVMO-DTE (20)
 - cLNS (21)
 - networkEntity (22)
 - linkage (23)
 - cONS (24)
 - x25PLE (25)
 - x25PLEIVMO (26)
 - x25PLE-DCE (27)
 - x25PLEIVMO-DCE (28)
 - virtualCircuit-DCE (29)
 - permanentVirtualCircuit-DCE (30)
 - virtualCall-DCE (31)
 - dSeriesCounts (32)
- package (4)
 - cLNSChecksum-P (1)
 - obsolete* (2)
 - obsolete* (3)
 - linkage-ISO8473-ISO8208SNDCE-P (4)
 - linkageIdleTimer-P (5)
 - linkageReserveTimer-P (6)
 - linkageInitialMinimumTimer-P (7)
 - obsolete* (8)
 - linkageCODLService-P (9)
 - obsolete* (10)
 - onlineRegistration-P (11)
 - receivingWindowRotationRecoveryProcedures-P (12)

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transmittingWindowRotationRecoveryProcedures-P (13)
packetRetransmissionProcedures-P (14)
obsolete (15)
obsolete (16)
linkage-ISO9542Checksum-P (17)
dTEX25PLECounters-P (18)
dTEVirtualCircuitCounters-P (19)
cLNS8473-P (20)
linkage-ISO9542ES-P (21)
linkage-ISO9542IS-P (22)
dCECommonVirtualCircuitCounters-P (23)
dCEVirtualCallFacilities-P (24)
dCEX25PLETimers-P (25)
dCEX25PLEFacilities-P (26)
parameter (5)
notificationPDUHeader (1)
obsolete (2)
obsolete (3)
obsolete (4)
obsolete (5)
obsolete (6)
notificationData (7)
obsolete (8)
obsolete (9)
obsolete (10)
obsolete (11)
reachabilityChange (12)
nameBinding (6)
networkSubsystem-system (1)
obsolete (2)
cLNS-networkEntity-Management (3)
nSAP-networkSubsystem-Automatic (4)
nSAP-networkSubsystem-Management (5)
obsolete (6)
obsolete (7)
cONS-networkEntity-Management (8)
x25PLE-networkSubsystem-Management (9)
x25PLEIVMO-networkSubsystem (10)
obsolete (11)
obsolete (12)
obsolete (13)
obsolete (14)
obsolete (15)
cLNS-networkEntity-Automatic (16)
cONS-networkEntity-Automatic (17)
x25PLE-networkSubsystem-Automatic (18)
networkConnection-cONS (19)
linkage-cLNS-Management (20)
linkage-cONS-Management (21)
linkage-cLNS-Automatic (22)
linkage-cONS-Automatic (23)
virtualCall-DTE-x25PLE-DTE (24)
virtualCallIVMO-x25PLE (25)
permanentVirtualCircuit-DTE-x25PLE-DTE (26)
networkEntity-networkSubsystem-Automatic (27)
networkEntity-networkSubsystem-Management (28)

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permanentVirtualCircuit-DCE-x25PLE-DCE (29)
virtualCall-DCE-x25PLE-DCE-Automatic (30)
virtualCall-DCE-x25PLE-DCE-Management (31)
dSeriesCounts-virtualCall-DCE-Automatic (32)
dSeriesCounts-virtualCall-DCE-Management (33)
attribute (7)
 obsolete (1)
 obsolete (2)
 networkEntityTitles (3)
 enableChecksum (4)
 obsolete (5)
 segmentsReceived (6)
 segmentsDiscarded (7)
 assemblingSegmentsDiscarded (8)
 errorReportsReceived (9)
 pDUDiscards (10)
 congestionDiscards (11)
 obsolete (12)
 obsolete (13)
 obsolete (14)
 obsolete (15)
 obsolete (16)
 linkageId (17)
 sN-SAP (18)
 sN-ServiceProvider (19)
 holdingTimerMultiplier (20)
 defaultESConfigTimer (21)
 activeESConfigTimer (22)
 iSReachabilityChanges (23)
 iSConfigurationTimer (24)
 suggestedESConfigurationTimer (25)
 redirectHoldingTime (26)
 eSReachabilityChanges (27)
 manualISSNPAAAddress (28)
 callsPlaced (29)
 callsFailed (30)
 idleTimer (31)
 reserveTimer (32)
 initialMinimumTimer (33)
 obsolete (34)
 obsolete (35)
 x25PLEId (36)
 x25PLEIVMOld (37)
 protocolVersionSupported (38)
 localDTEAddress (39)
 obsolete (40)
 maxActiveCircuits (41)
 restartRequestResponseTimer (42)
 minimumRecallTimer (43)
 registrationRequestResponseTimer (44)
 restartRequestRetransmissionCount (45)
 registrationRequestRetransmissionCount (46)
 obsolete (47)
 logicalChannelAssignments (48)
 extendedPacketSequenceNumbering (49)
 dataPacketsSent (50)

Remplacée par une version plus récente

dataPacketsReceived (51)
callAttempts (52)
callsConnected (53)
providerInitiatedDisconnects (54)
callTimeouts (55)
clearTimeouts (56)
remotelyInitiatedResets (57)
dataRetransmissionTimerExpiries (58)
providerInitiatedResets (59)
resetTimeouts (60)
remotelyInitiatedRestarts (61)
restartCountsExceeded (62)
protocolErrorsDetectedLocally (63)
protocolErrorsAccusedOf (64)
callEstablishmentRetryCountsExceeded (65)
clearCountsExceeded (66)
interruptPacketsSent (67)
interruptPacketsReceived (68)
interruptTimerExpiries (69)
obsolete (70)
obsolete (71)
obsolete (72)
obsolete (73)
obsolete (74)
reverseCharging (75)
fastSelect (76)
callRequestResponseTimer (77)
resetRequestResponseTimer (78)
clearRequestResponseTimer (79)
resetRequestRetransmissionCount (80)
clearRequestRetransmissionCount (81)
interruptResponseTimer (82)
windowStatusTransmissionTimer (83)
windowRotationTimer (84)
dataPacketRetransmissionCount (85)
rejectResponseTimer (86)
rejectRetransmissionCount (87)
obsolete (88)
logicalChannel (89)
obsolete (90)
obsolete (91)
direction (92)
remoteDTEAddress (93)
obsolete (94)
obsolete (95)
throughputClasses (96)
redirectReason (97)
originallyCalledAddress (98)
callingAddressExtension (99)
calledAddressExtension (100)
invalid9542PDUs (101)
maximumLifetime (102)
defaultPacketSizes (103)
defaultWindowSizees (104)
registrationPermitted (105)
localINSAPMO (106)

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remoteNSAPAddress (107)
systemTypes (108)
operationalSystemType (109)
supportedProtocols (110)
operationalProtocols (111)
defaultThroughputClasses (112)
obsolete (113)
callDeflectionSubscription (114)
iSO9542OperationalSubsets (115)
virtualCircuitId (116)
virtualCallIVMOld (117)
segmentsSent (118)
flowControlParameterNegotiation (119)
x25PLEMode (120)
packetSizes (121)
obsolete (122)
obsolete (123)
windowSizes (124)
bilateralCUG (125)
bilateralCUGSelection (126)
bilateralCUGWithOutgoingAccess (127)
calledLineAddressModifiedNotification (128)
callRedirection (129)
callRedirectionDeflectionNotification (130)
chargingDirection (131)
chargingInformation (132)
clearIndication (133)
cUG (134)
cUGSelection (135)
cUGWithIncomingAccess (136)
cUGWithOutgoingAccess (137)
cUGWithOutgoingAccessSelection (138)
dBitModification (139)
dSeriesId (140)
dSeriesResetRequestIndicationPackets (141)
dSeriesSegmentsSent (142)
dSeriesSegmentsReceived (143)
defaultThroughputClassesAssignment (144)
fastSelectAcceptance (145)
huntGroup (146)
incomingCall (147)
incomingCallsBarred (148)
incomingCallBarredWithinCUG (149)
localChargingPrevention (150)
nonStandardDefaultPacketSizes (151)
nonStandardDefaultWindowSizes (152)
nUISubscription (153)
nUIOverride (154)
nUISelection (155)
oneWayLogicalChannelIncoming (156)
oneWayLogicalChannelOutgoing (157)
onlineFacilityRegistration (158)
outgoingCallsBarred (159)
outgoingCallBarredWithinCUG (160)
packetRetransmission (161)
remoteLogicalChannel (162)

Remplacée par une version plus récente

resetIndication (163)
restartIndication (164)
reverseChargingAcceptance (165)
rPOASelection (166)
rPOASubscription (167)
throughputClassNegotiation (168)
transitDelaySelectionAndIndication (169)
x25SegmentsSent (170)
x25SegmentsReceived (171)
attributeGroup (8)
action (9)
notification (10)

END

Remplacée par une version plus récente

Appendice I

Description abrégée des objets gérés

(Cet appendice ne fait pas partie intégrante de la présente Recommandation)

Les informations contenues dans le présent appendice n'ont pour objet que de présenter les grandes lignes de la spécification relative à la gestion de la couche réseau. Bien que les renseignements donnés ci-dessous soient issus du texte normatif des Directives pour la gestion des objets gérés (GDMO) figurant dans le corps de la présente Recommandation, il y a lieu de traiter ces informations avec précaution car elles peuvent contenir des erreurs.

Les abréviations suivantes sont utilisées pour décrire les listes de propriétés des attributs:

G	Get (obtention)
R	Replace (remplacement)
RWD	Replace With Default (remise à la valeur par défaut)
A	Add (adjonction)
RM	Remove (suppression)

Les abréviations suivantes sont utilisées pour décrire les références aux étiquettes externes:

DMI:	«Rec. X.721 du CCITT ISO/CEI 10165-2»
GMI:	«Rec. X.723 du CCITT ISO/CEI 10165-5»

Les types de modèles affectés d'un astérisque en suffixe (par exemple ATTRIBUTE*) sont définis dans des lots conditionnels prédéfinis. Tous les modèles hérités, à l'exception de ceux qui héritent du sommet, font partie de chaque classe d'objets gérés.

La hiérarchie d'héritage est décrite à la Figure I.1.

Remplacée par une version plus récente

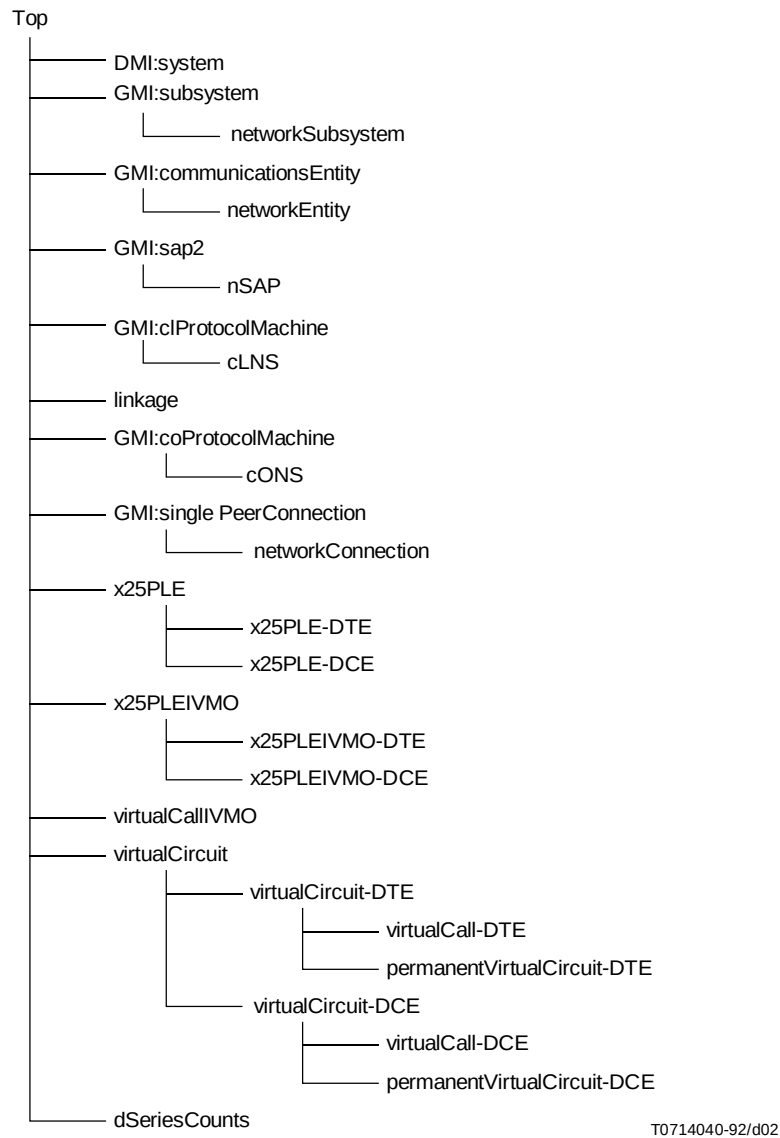


FIGURE I.1/X.283

Hiérarchie d'héritage dans la couche réseau

MANAGED OBJECT CLASS networkSubsystem DERIVED FROM (GMI:subsystem) CONTAINED IN (DMI:system)
GMI:subsystemId ATTRIBUTE (G)
END MANAGED OBJECT CLASS networkSubsystem

Remplacée par une version plus récente

MANAGED OBJECT CLASS networkEntity DERIVED FROM (GMI:communicationsEntity) CONTAINED IN (networkSubsystem)

- DMI:objectCreation NOTIFICATION
- DMI:objectDeletion NOTIFICATION
- networkEntityTitles ATTRIBUTE (G, R, A, RM)
 - The set of Network Entity Titles
- systemTypes ATTRIBUTE (G)
 - The set of system roles supported by this Network Entity.

END MANAGED OBJECT CLASS networkEntity

MANAGED OBJECT CLASS nSAP DERIVED FROM (GMI:sap2) CONTAINED IN (networkSubsystem)

- DMI:objectCreation NOTIFICATION
- DMI:objectDeletion NOTIFICATION
- GMI:sap2Address ATTRIBUTE (G)

END MANAGED OBJECT CLASS nSAP

MANAGED OBJECT CLASS cLNS DERIVED FROM (GMI:clProtocolMachine) CONTAINED IN (networkEntity)

- DMI:administrativeState ATTRIBUTE (G, R)
- DMI:communicationsAlarm NOTIFICATION*
- DMI:objectCreation NOTIFICATION
- DMI:objectDeletion NOTIFICATION
- DMI:octetsReceivedCounter ATTRIBUTE* (G)
- DMI:octetsSentCounter ATTRIBUTE* (G)
- DMI:stateChange NOTIFICATION
- GMI:activate ACTION
- GMI:clProtocolMachinelId ATTRIBUTE (G)
- GMI:deactivate ACTION
- assemblingSegmentsDiscarded ATTRIBUTE* (G)
 - Counter of segments discarded due to reassembly time expiry.
- congestionDiscards ATTRIBUTE* (G)
 - Counter of PDUs discarded due to congestion.
- enableChecksum ATTRIBUTE* (G, R, RWD)
 - When True, the generation of checksums is enabled.
- errorReportsReceived ATTRIBUTE* (G)
 - Counter of received error reports.
- maximumLifetime ATTRIBUTE* (G, R)
 - Maximum PDU lifetime (in half seconds).
- operationalSystemType ATTRIBUTE (G)
 - The system role in which this instance is operating.
- pDUDiscards ATTRIBUTE* (G)
 - Counter of PDUs discarded (except for congestion).
- segmentsDiscarded ATTRIBUTE* (G)
 - Counter of segments discarded.
- segmentsReceived ATTRIBUTE* (G)
 - Counter of segments received.
- segmentsSent ATTRIBUTE* (G)
 - Counter of segments Sent.
- supportedProtocols ATTRIBUTE (G)
 - The set of Connectionless Network protocols supported

END MANAGED OBJECT CLASS cLNS

Remplacée par une version plus récente

MANAGED OBJECT CLASS linkage DERIVED FROM (DMI:top) CONTAINED IN (cONS, cLNS)

- DMI:administrativeState ATTRIBUTE (G, R)
- DMI:communicationsAlarm NOTIFICATION*
- DMI:objectCreation NOTIFICATION
- DMI:objectDeletion NOTIFICATION
- DMI:operationalState ATTRIBUTE (G)
- DMI:stateChange NOTIFICATION
- GMI:activate ACTION
- GMI:communicationsInformation NOTIFICATION*
- GMI:deactivate ACTION
- activeESConfigTimer ATTRIBUTE* (G)
 - Currently active value for the ISO 9542 ES configuration timer
- callsFailed ATTRIBUTE* (G)
 - Counter of the number of X.25 call failures
- callsPlaced ATTRIBUTE* (G)
 - Counter of the number of X.25 VCs successfully established
- defaultESConfigTimer ATTRIBUTE* (G, R, RWD)
 - Default value for the ISO 9542 ES configuration timer
- eSReachabilityChanges ATTRIBUTE* (G)
 - Count of the number of changes in reachability of End Systems
- enableChecksum ATTRIBUTE* (G, R, RWD)
 - When True, the generation of checksums is enabled.
- holdingTimerMultiplier ATTRIBUTE* (G, R, RWD)
 - The factor to derive holding timer from configuration timer.
- iSConfigurationTimer ATTRIBUTE* (G, R, RWD)
 - Value in seconds for the ISO 9542 IS configuration timer.
- ISO9542OperationalSubsets ATTRIBUTE* (G, R)
 - The set of ISO 9542 subsets operational on this linkage.
- iSReachabilityChanges ATTRIBUTE* (G)
 - Counter of the number of changes in reachability of Intermediate Systems
- idleTimer ATTRIBUTE* (G, R, RWD)
 - Time in seconds before release of an idle call.
- initialMinimumTimer ATTRIBUTE* (G, R, RWD)
 - Minimum time in seconds to retain call after establishment.
- invalid9542PDUs ATTRIBUTE* (G)
 - Counter of invalid 9542 PDUs received.
- linkageId ATTRIBUTE (G)
 - The naming attribute of the linkage MO instance
- manualISSNPAAddress ATTRIBUTE* (G, R, RWD, A, RM)
 - The set of SNPA Addresses to which calls associated with the SND CF are to be established
- operationalProtocols ATTRIBUTE (G)
 - The set of network layer protocols supported
- redirectHoldingTime ATTRIBUTE* (G, R, RWD)
 - The holding time (in seconds) to be specified in Redirect PDUs
- reserveTimer ATTRIBUTE* (G, R, RWD)
 - Time in seconds to reserve resources for call re-establishment.
- sN-SAP ATTRIBUTE (G)
 - Distinguished name of the service provider SAP MO
- sN-ServiceProvider ATTRIBUTE (G)
 - Distinguished name of the SN service provider MO.
- suggestedESConfigurationTimer ATTRIBUTE* (G, R, RWD)
 - Value to be used for the ISO 9542 suggested ES configuration timer

END MANAGED OBJECT CLASS linkage

Remplacée par une version plus récente

MANAGED OBJECT CLASS cONS DERIVED FROM (GMI:coProtocolMachine) CONTAINED IN (networkEntity)

DMI:administrativeState ATTRIBUTE (G, R)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:stateChange NOTIFICATION

GMI:activate ACTION

GMI:coProtocolMachineld ATTRIBUTE (G)

GMI:deactivate ACTION

GMI:deactivateWhenNoUsers ACTION

operationalSystemType ATTRIBUTE (G)

The system role in which this instance is operating.

END MANAGED OBJECT CLASS cONS

MANAGED OBJECT CLASS networkConnection DERIVED FROM (GMI:singlePeerConnection) CONTAINED IN (cONS)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

GMI:communicationsInformation NOTIFICATION

GMI:deactivate ACTION

localNSAPMO ATTRIBUTE (G)

Pointer to local nSAP MO.

remoteNSAPAddress ATTRIBUTE (G)

The remote NSAP Address

END MANAGED OBJECT CLASS networkConnection

Remplacée par une version plus récente

MANAGED OBJECT CLASS x25PLE DERIVED FROM (DMI:top) CONTAINED IN (networkSubsystem)

- DMI:administrativeState ATTRIBUTE (G, R)
- DMI:objectCreation NOTIFICATION
- DMI:objectDeletion NOTIFICATION
- DMI:operationalState ATTRIBUTE (G)
- DMI:stateChange NOTIFICATION
- GMI:activate ACTION
- GMI:deactivate ACTION
- defaultPacketSizes ATTRIBUTE (G, R, RWD)
 - The default value of the packet sizes.
- defaultThroughputClasses ATTRIBUTE (G, R, RWD)
 - The default throughput class values.
- defaultWindowSizes ATTRIBUTE (G, R, RWD)
 - The default value of the window sizes.
- flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)
 - The subscription of the flow control parameter negotiation facility
- localDTEAddress ATTRIBUTE (G, R)
 - The full DTE address of this PLE
- logicalChannelAssignments ATTRIBUTE (G, R)
 - Represents the logical channel assignments of this PLE,
- protocolVersionSupported ATTRIBUTE (G)
 - The supported Recommendation | International Standard protocol version
- sN-SAP ATTRIBUTE (G)
 - Distinguished name of the service provider SAP MO
- sN-ServiceProvider ATTRIBUTE (G, R, RWD)
 - Distinguished name of the SN service provider MO.
- throughputClassNegotiation ATTRIBUTE (G, R, RWD)
 - The subscription of the throughput class negotiation facility
- x25PLEId ATTRIBUTE (G)
 - The name of this instance of x25PLE MO
- x25PLEMode ATTRIBUTE (G, R)
 - The DCE/DTE mode in which the X.25 PLE is currently operating.

END MANAGED OBJECT CLASS x25PLE

Remplacée par une version plus récente

MANAGED OBJECT CLASS x25PLEIVMO DERIVED FROM (DMI:top) CONTAINED IN (networkSubsystem)
DMI:objectCreation NOTIFICATION
DMI:objectDeletion NOTIFICATION
defaultPacketSizes ATTRIBUTE (G, R, RWD)
The default value of the packet sizes.
defaultThroughputClasses ATTRIBUTE (G, R, RWD)
The default throughput class values.
defaultWindowSizes ATTRIBUTE (G, R, RWD)
The default value of the window sizes.
flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)
The subscription of the flow control parameter negotiation facility
localDTEAddress ATTRIBUTE (G, R)
The full DTE address of this PLE
logicalChannelAssignments ATTRIBUTE (G, R)
Represents the logical channel assignments of this PLE,
sN-ServiceProvider ATTRIBUTE (G, R)
Distinguished name of the SN service provider MO.
throughputClassNegotiation ATTRIBUTE (G, R, RWD)
The subscription of the throughput class negotiation facility
x25PLEIVMOId ATTRIBUTE (G)
The name of this instance of x25PLE IVMO
x25PLEMode ATTRIBUTE (G, R)
The DCE/DTE mode in which the X.25 PLE is currently operating.
END MANAGED OBJECT CLASS x25PLEIVMO

Remplacée par une version plus récente

MANAGED OBJECT CLASS x25PLE-DTE DERIVED FROM (x25PLE)

DMI:administrativeState ATTRIBUTE (G, R)

DMI:communicationsAlarm NOTIFICATION

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:octetsReceivedCounter ATTRIBUTE* (G)

DMI:octetsSentCounter ATTRIBUTE* (G)

DMI:operationalState ATTRIBUTE (G)

DMI:stateChange NOTIFICATION

GMI:activate ACTION

GMI:deactivate ACTION

callAttempts ATTRIBUTE (G)

Counter of the total number of calls attempted

callDeflectionSubscription ATTRIBUTE (G, R, RWD)

The subscription of the call deflection facility

callEstablishmentRetryCountsExceeded ATTRIBUTE (G)

Counter associated with the callEstablishmentRetryCountExceeded event

callRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T21 (Call Request Response Timer)

callTimeouts ATTRIBUTE* (G)

Counter of the number of times timer T21 expiry is experienced

callsConnected ATTRIBUTE* (G)

Counter of the total number of calls which have reached the open state

clearCountsExceeded ATTRIBUTE* (G)

Counter associated with the clearCountExceeded event

clearRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T23 (Clear Request Response Timer)

clearRequestRetransmissionCount ATTRIBUTE (G, R, RWD)

Value for count R23 (Clear Request Retransmission Count)

clearTimeouts ATTRIBUTE* (G)

Counter of the number of times timer T23 expiry is experienced

dataPacketRetransmissionCount ATTRIBUTE* (G, R, RWD)

Value for count R25 (Data Packet Retransmission Count)

dataPacketsReceived ATTRIBUTE* (G)

Counter of the total number of data packets received

dataPacketsSent ATTRIBUTE* (G)

Counter of the total number of data packets sent

dataRetransmissionTimerExpiries ATTRIBUTE* (G)

Counter of the number of expiries of timer T25.

defaultPacketSizes ATTRIBUTE (G, R, RWD)

The default value of the packet sizes.

defaultThroughputClasses ATTRIBUTE (G, R, RWD)

The default throughput class values.

defaultWindowSizes ATTRIBUTE (G, R, RWD)

The default value of the window sizes.

extendedPacketSequenceNumbering ATTRIBUTE (G, R, RWD)

The modulo of the packet sequence number space.

flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the flow control parameter negotiation facility

interruptResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T26 (Interrupt Response Timer) in seconds

localDTEAddress ATTRIBUTE (G, R)

The full DTE address of this PLE

logicalChannelAssignments ATTRIBUTE (G, R)

Represents the logical channel assignments of this PLE,

maxActiveCircuits ATTRIBUTE (G, R, RWD)

Remplacée par une version plus récente

The maximum number of active circuits permitted on this PLE.
minimumRecallTimer ATTRIBUTE (G, R, RWD)
Minimum time in seconds before recall permitted.
protocolErrorsAccusedOf ATTRIBUTE (G)
Counter associated with the accusedOfProtocolError event
protocolErrorsDetectedLocally ATTRIBUTE (G)
Counter associated with the protocolErrorDetectedLocally event
protocolVersionSupported ATTRIBUTE (G)
The supported Recommendation | International Standard protocol version
providerInitiatedDisconnects ATTRIBUTE* (G)
Counter for the providerInitiatedDisconnect events
providerInitiatedResets ATTRIBUTE* (G)
Counter associated with the providerInitiatedReset event
registrationPermitted ATTRIBUTE* (G, R, RWD)
When true, the use of online facility registration is permitted.
registrationRequestResponseTimer ATTRIBUTE* (G, R, RWD)
Value for Timer T28 (Registration Request Response Timer) in seconds
registrationRequestRetransmissionCount ATTRIBUTE* (G, R, RWD)
Value for count R28 (Registration Request Retransmission Count)
rejectResponseTimer ATTRIBUTE* (G, R, RWD)
Value for Timer T27 (Reject Response Timer) in seconds
rejectRetransmissionCount ATTRIBUTE* (G, R, RWD)
Value for count R27 (Reject Retransmission Count)
remotelyInitiatedResets ATTRIBUTE* (G)
Counter associated with the remotelyInitiatedReset event
remotelyInitiatedRestarts ATTRIBUTE* (G)
Counter of the number of remotely initiated restarts.
resetRequestResponseTimer ATTRIBUTE (G, R, RWD)
Value for Timer T22 (Reset Request Response Timer) in seconds
resetRequestRetransmissionCount ATTRIBUTE (G, R, RWD)
Value for count R22 (Reset Request Retransmission Count)
resetTimeouts ATTRIBUTE* (G)
Counter of the number of timer T22 expiries experienced
restartCountsExceeded ATTRIBUTE* (G)
Counter associated with the restartCountExceeded event
restartRequestResponseTimer ATTRIBUTE (G, R, RWD)
Value for Timer T20 (Restart Request Response Timer) in seconds
restartRequestRetransmissionCount ATTRIBUTE (G, R, RWD)
Value for count R20 (Restart Request Retransmission Count)
sN-SAP ATTRIBUTE (G)
Distinguished name of the service provider SAP MO
sN-ServiceProvider ATTRIBUTE (G, R, RWD)
Distinguished name of the N service provider MO.
throughputClassNegotiation ATTRIBUTE (G, R, RWD)
The subscription of the throughput class negotiation facility
windowRotationTimer ATTRIBUTE* (G, R, RWD)
Default for Timer T25 (Window Rotation Timer) in seconds
windowStatusTransmissionTimer ATTRIBUTE* (G, R, RWD)
Value for Timer T24 (Window Status Transmission Timer) in seconds
x25PLEId ATTRIBUTE (G)
The name of this instance of x25PLE MO
x25PLEMode ATTRIBUTE (G, R)
The DCE/DTE mode in which the X.25 PLE is currently operating.
END MANAGED OBJECT CLASS x25PLE-DTE

Remplacée par une version plus récente

MANAGED OBJECT CLASS x25PLE-DCE DERIVED FROM (x25PLE)

DMI:administrativeState ATTRIBUTE (G, R)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:octetsReceivedCounter ATTRIBUTE* (G)

DMI:octetsSentCounter ATTRIBUTE* (G)

DMI:operationalState ATTRIBUTE (G)

DMI:stateChange NOTIFICATION

GMI:activate ACTION

GMI:deactivate ACTION

bilateralCUG ATTRIBUTE* (G, R, RWD)

The subscription of the bilateral closed user group facility

bilateralCUGWithOutgoingAccess ATTRIBUTE* (G, R, RWD)

The subscription of the bilateral CUG with outgoing access facility

cUG ATTRIBUTE (G, R, RWD)

The subscription of the closed user group facility

cUGWithIncomingAccess ATTRIBUTE* (G, R, RWD)

The subscription of the closed user group with incoming access facility

cUGWithOutgoingAccess ATTRIBUTE* (G, R, RWD)

The subscription of the CUG with outgoing access facility

callAttempts ATTRIBUTE (G)

Counter of the total number of calls attempted

callDeflectionSubscription ATTRIBUTE* (G, R, RWD)

The subscription of the call deflection facility

callRedirection ATTRIBUTE* (G, R, RWD)

The subscription of the call redirection facility

callsConnected ATTRIBUTE (G)

Counter of the total number of calls which have reached the open state

chargingInformation ATTRIBUTE* (G, R, RWD)

The subscription of the charging information facility

clearIndication ATTRIBUTE* (G, R)

Value for the Clear Indication, T13 timer, in seconds.

dBitModification ATTRIBUTE* (G, R, RWD)

The subscription of the D bit modification facility

dataPacketsReceived ATTRIBUTE* (G)

Counter of the total number of data packets received

dataPacketsSent ATTRIBUTE* (G)

Counter of the total number of data packets sent

defaultPacketSizes ATTRIBUTE (G, R, RWD)

The default value of the packet sizes.

defaultThroughputClasses ATTRIBUTE (G, R, RWD)

The default throughput class values.

defaultThroughputClassesAssignment ATTRIBUTE* (G, R, RWD)

The subscription of the default throughput classes assignment facility

defaultWindowSizes ATTRIBUTE (G, R, RWD)

The default value of the window sizes.

extendedPacketSequenceNumbering ATTRIBUTE* (G, R, RWD)

The modulo of the packet sequence number space.

fastSelectAcceptance ATTRIBUTE (G, R, RWD)

The subscription of the fast select acceptance

flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the flow control parameter negotiation facility

huntGroup ATTRIBUTE* (G, R, RWD)

The subscription of the hunt group facility

incomingCall ATTRIBUTE* (G, R)

Value for the Incoming Call, T11 timer, in seconds.

Remplacée par une version plus récente

incomingCallBarredWithinCUG ATTRIBUTE* (G, R, RWD)
The subscription of the incoming call barred within a CUG facility

incomingCallsBarred ATTRIBUTE (G, R, RWD)
The subscription of the incoming calls barred facility

interruptPacketsReceived ATTRIBUTE* (G)
Counter of the number of interrupt packets received

interruptPacketsSent ATTRIBUTE* (G)
Counter of the number of interrupt packets sent

interruptTimerExpiries ATTRIBUTE* (G)
Counter of the number of expiries of timer T26

localChargingPrevention ATTRIBUTE* (G, R, RWD)
The subscription of the local charging prevention facility

localIDTEAddress ATTRIBUTE (G, R)
The full DTE address of this PLE

logicalChannelAssignments ATTRIBUTE (G, R)
Represents the logical channel assignments of this PLE,

nUIOverride ATTRIBUTE* (G, R, RWD)
The subscription of the NUI override facility

nUISubscription ATTRIBUTE* (G, R, RWD)
The subscription of the NUI subscription facility

nonStandardDefaultPacketSizes ATTRIBUTE* (G, R, RWD)
The subscription of the non standard default packet sizes facility

nonStandardDefaultWindowSizees ATTRIBUTE* (G, R, RWD)
The subscription of the non standard default window sizes facility

oneWayLogicalChannelIncoming ATTRIBUTE* (G, R, RWD)
The subscription of the one way logical channel incoming facility

oneWayLogicalChannelOutgoing ATTRIBUTE (G, R, RWD)
The subscription of the one way logical channel outgoing facility

onlineFacilityRegistration ATTRIBUTE* (G, R, RWD)
The subscription of the on-line facility registration facility

outgoingCallBarredWithinCUG ATTRIBUTE* (G, R, RWD)
The subscription of the outgoing call barred with a CUG facility

outgoingCallsBarred ATTRIBUTE (G, R, RWD)
The subscription of the outgoing calls barred facility

packetRetransmission ATTRIBUTE* (G, R, RWD)
The subscription of the packet retransmissions facility

protocolVersionSupported ATTRIBUTE (G)
The supported Recommendation | International Standard protocol version

providerInitiatedDisconnects ATTRIBUTE* (G)
Counter for the providerInitiatedDisconnect events

providerInitiatedResets ATTRIBUTE* (G)
Counter associated with the providerInitiatedReset event

rPOASubscription ATTRIBUTE* (G, R, RWD)
The subscription of the RPOA Subscription facility

remotelyInitiatedResets ATTRIBUTE* (G)
Counter associated with the remotelyInitiatedReset event

remotelyInitiatedRestarts ATTRIBUTE* (G)
Counter of the number of remotely initiated restarts.

resetIndication ATTRIBUTE* (G, R)
Value for the Reset Indication, T12 timer, in seconds.

resetTimeouts ATTRIBUTE* (G)
Counter of the number of timer T22 expiries experienced

restartIndication ATTRIBUTE* (G, R)
Value for the Restart Indication, T10 timer, in seconds.

reverseChargingAcceptance ATTRIBUTE* (G, R, RWD)
The subscription of the reverse charging acceptance facility

Remplacée par une version plus récente

sN-SAP ATTRIBUTE (G)

Distinguished name of the service provider SAP MO

sN-ServiceProvider ATTRIBUTE (G, R, RWD)

Distinguished name of the SN service provider MO.

throughputClassNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the throughput class negotiation facility

x25PLEId ATTRIBUTE (G)

The name of this instance of x25PLE MO

x25PLEMode ATTRIBUTE (G, R)

The DCE/DTE mode in which the X.25 PLE is currently operating.

x25SegmentsReceived ATTRIBUTE* (G)

Value for count of X.25 Segments Received.

x25SegmentsSent ATTRIBUTE* (G)

Value for count of X.25 Segments Sent.

END MANAGED OBJECT CLASS x25PLE-DCE

Remplacée par une version plus récente

MANAGED OBJECT CLASS x25PLEIVMO-DTE DERIVED FROM (x25PLEIVMO)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

callDeflectionSubscription ATTRIBUTE (G, R, RWD)

The subscription of the call deflection facility

callRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T21 (Call Request Response Timer)

clearRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T23 (Clear Request Response Timer)

clearRequestRetransmissionCount ATTRIBUTE (G, R, RWD)

Value for count R23 (Clear Request Retransmission Count)

dataPacketRetransmissionCount ATTRIBUTE* (G, R, RWD)

Value for count R25 (Data Packet Retransmission Count)

defaultPacketSizes ATTRIBUTE (G, R, RWD)

The default value of the packet sizes.

defaultThroughputClasses ATTRIBUTE (G, R, RWD)

The default throughput class values.

defaultWindowSizes ATTRIBUTE (G, R, RWD)

The default value of the window sizes.

extendedPacketSequenceNumbering ATTRIBUTE (G, R, RWD)

The modulo of the packet sequence number space.

flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the flow control parameter negotiation facility

interruptResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T26 (Interrupt Response Timer) in seconds

localDTEAddress ATTRIBUTE (G, R)

The full DTE address of this PLE

logicalChannelAssignments ATTRIBUTE (G, R)

Represents the logical channel assignments of this PLE,

maxActiveCircuits ATTRIBUTE (G, R, RWD)

The maximum number of active circuits permitted on this PLE.

minimumRecallTimer ATTRIBUTE (G, R, RWD)

Minimum time in seconds before recall permitted.

registrationPermitted ATTRIBUTE* (G, R, RWD)

When true, the use of online facility registration is permitted.

registrationRequestResponseTimer ATTRIBUTE* (G, R, RWD)

Value for Timer T28 (Registration Request Response Timer) in seconds

registrationRequestRetransmissionCount ATTRIBUTE* (G, R, RWD)

Value for count R28 (Registration Request Retransmission Count)

rejectResponseTimer ATTRIBUTE* (G, R, RWD)

Value for Timer T27 (Reject Response Timer) in seconds

rejectRetransmissionCount ATTRIBUTE* (G, R, RWD)

Value for count R27 (Reject Retransmission Count)

resetRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T22 (Reset Request Response Timer) in seconds

resetRequestRetransmissionCount ATTRIBUTE (G, R, RWD)

Value for count R22 (Reset Request Retransmission Count)

restartRequestResponseTimer ATTRIBUTE (G, R, RWD)

Value for Timer T20 (Restart Request Response Timer) in seconds

restartRequestRetransmissionCount ATTRIBUTE (G, R, RWD)

Value for count R20 (Restart Request Retransmission Count)

sN-ServiceProvider ATTRIBUTE (G, R)

Distinguished name of the SN service provider MO.

Remplacée par une version plus récente

throughputClassNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the throughput class negotiation facility

windowRotationTimer ATTRIBUTE* (G, R, RWD)

Default for Timer T25 (Window Rotation Timer) in seconds

windowStatusTransmissionTimer ATTRIBUTE* (G, R, RWD)

Value for Timer T24 (Window Status Transmission Timer) in seconds

x25PLEIVMOld ATTRIBUTE (G)

The name of this instance of x25PLE IVMO

x25PLEMode ATTRIBUTE (G, R)

The DCE/DTE mode in which the X.25 PLE is currently operating.

END MANAGED OBJECT CLASS x25PLEIVMO-DTE

MANAGED OBJECT CLASS x25PLEIVMO-DCE DERIVED FROM (x25PLEIVMO)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

defaultPacketSizes ATTRIBUTE (G, R, RWD)

The default value of the packet sizes.

defaultThroughputClasses ATTRIBUTE (G, R, RWD)

The default throughput class values.

defaultWindowSizes ATTRIBUTE (G, R, RWD)

The default value of the window sizes.

flowControlParameterNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the flow control parameter negotiation facility

localDTEAddress ATTRIBUTE (G, R)

The full DTE address of this PLE

logicalChannelAssignments ATTRIBUTE (G, R)

Represents the logical channel assignments of this PLE,

sN-ServiceProvider ATTRIBUTE (G, R)

Distinguished name of the SN service provider MO.

throughputClassNegotiation ATTRIBUTE (G, R, RWD)

The subscription of the throughput class negotiation facility

x25PLEIVMOld ATTRIBUTE (G)

The name of this instance of x25PLE IVMO

x25PLEMode ATTRIBUTE (G, R)

The DCE/DTE mode in which the X.25 PLE is currently operating.

END MANAGED OBJECT CLASS x25PLEIVMO-DCE

Remplacée par une version plus récente

```
MANAGED OBJECT CLASS virtualCircuit DERIVED FROM (DMI:top)
  DMI:objectCreation NOTIFICATION
  DMI:objectDeletion NOTIFICATION
  logicalChannel ATTRIBUTE (G)
    The actual Logical Channel ID used for the call
  packetSizes ATTRIBUTE (G)
    The packet sizes for this VC.
  throughputClasses ATTRIBUTE (G)
    The throughput classes in use or to be used.
  virtualCircuitId ATTRIBUTE (G)
    The name of this instance of virtualCircuit MO or subclass
  windowSizes ATTRIBUTE (G)
    The actual window sizes in use for this VC
END MANAGED OBJECT CLASS virtualCircuit

MANAGED OBJECT CLASS virtualCircuit-DTE DERIVED FROM (virtualCircuit)
  DMI:objectCreation NOTIFICATION
  DMI:objectDeletion NOTIFICATION
  DMI:octetsReceivedCounter ATTRIBUTE* (G)
  DMI:octetsSentCounter ATTRIBUTE* (G)
  dataPacketsReceived ATTRIBUTE* (G)
    Counter of the total number of data packets received
  dataPacketsSent ATTRIBUTE* (G)
    Counter of the total number of data packets sent
  dataRetransmissionTimerExpiries ATTRIBUTE* (G)
    Counter of the number of expiries of timer T25.
  interruptPacketsReceived ATTRIBUTE* (G)
    Counter of the number of interrupt packets received
  interruptPacketsSent ATTRIBUTE* (G)
    Counter of the number of interrupt packets sent
  interruptTimerExpiries ATTRIBUTE* (G)
    Counter of the number of expiries of timer T26
  logicalChannel ATTRIBUTE (G)
    The actual Logical Channel ID used for the call
  packetSizes ATTRIBUTE (G)
    The packet sizes for this VC.
  providerInitiatedResets ATTRIBUTE* (G)
    Counter associated with the providerInitiatedReset event
  remotelyInitiatedResets ATTRIBUTE* (G)
    Counter associated with the remotelyInitiatedReset event
  resetTimeouts ATTRIBUTE* (G)
    Counter of the number of timer T22 expiries experienced
  throughputClasses ATTRIBUTE (G)
    The throughput classes in use or to be used.
  virtualCircuitId ATTRIBUTE (G)
    The name of this instance of virtualCircuit MO or subclass
  windowSizes ATTRIBUTE (G)
    The actual window sizes in use for this VC
END MANAGED OBJECT CLASS virtualCircuit-DTE
```


Remplacée par une version plus récente

MANAGED OBJECT CLASS virtualCircuit-DCE DERIVED FROM (virtualCircuit)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:octetsReceivedCounter ATTRIBUTE* (G)

DMI:octetsSentCounter ATTRIBUTE* (G)

dataPacketsReceived ATTRIBUTE* (G)

Counter of the total number of data packets received

dataPacketsSent ATTRIBUTE* (G)

Counter of the total number of data packets sent

interruptPacketsReceived ATTRIBUTE* (G)

Counter of the number of interrupt packets received

interruptPacketsSent ATTRIBUTE* (G)

Counter of the number of interrupt packets sent

interruptTimerExpiries ATTRIBUTE* (G)

Counter of the number of expiries of timer T26

logicalChannel ATTRIBUTE (G)

The actual Logical Channel ID used for the call

packetSizes ATTRIBUTE (G)

The packet sizes for this VC.

providerInitiatedDisconnects ATTRIBUTE* (G)

Counter for the providerInitiatedDisconnect events

providerInitiatedResets ATTRIBUTE* (G)

Counter associated with the providerInitiatedReset event

remotelyInitiatedResets ATTRIBUTE* (G)

Counter associated with the remotelyInitiatedReset event

remotelyInitiatedRestarts ATTRIBUTE* (G)

Counter of the number of remotely initiated restarts.

resetTimeouts ATTRIBUTE* (G)

Counter of the number of timer T22 expiries experienced

throughputClasses ATTRIBUTE (G)

The throughput classes in use or to be used.

virtualCircuitId ATTRIBUTE (G)

The name of this instance of virtualCircuit MO or subclass

windowSizes ATTRIBUTE (G)

The actual window sizes in use for this VC

x25SegmentsReceived ATTRIBUTE* (G)

Value for count of X.25 Segments Received.

x25SegmentsSent ATTRIBUTE* (G)

Value for count of X.25 Segments Sent.

END MANAGED OBJECT CLASS virtualCircuit-DCE

Remplacée par une version plus récente

MANAGED OBJECT CLASS permanentVirtualCircuit-DTE DERIVED FROM (virtualCircuit-DTE) CONTAINED IN (x25PLE-DTE)

DMI:objectCreation NOTIFICATION
DMI:objectDeletion NOTIFICATION
DMI:octetsReceivedCounter ATTRIBUTE* (G)
DMI:octetsSentCounter ATTRIBUTE* (G)
dataPacketsReceived ATTRIBUTE* (G)
 Counter of the total number of data packets received
dataPacketsSent ATTRIBUTE* (G)
 Counter of the total number of data packets sent
dataRetransmissionTimerExpiries ATTRIBUTE* (G)
 Counter of the number of expiries of timer T25.
interruptPacketsReceived ATTRIBUTE* (G)
 Counter of the number of interrupt packets received
interruptPacketsSent ATTRIBUTE* (G)
 Counter of the number of interrupt packets sent
interruptTimerExpiries ATTRIBUTE (G)
 Counter of the number of expiries of timer T26
logicalChannel ATTRIBUTE (G)
 The actual Logical Channel ID used for the call
packetSizes ATTRIBUTE (G)
 The packet sizes for this VC.
providerInitiatedResets ATTRIBUTE* (G)
 Counter associated with the providerInitiatedReset event
remotelyInitiatedResets ATTRIBUTE* (G)
 Counter associated with the remotelyInitiatedReset event
resetTimeouts ATTRIBUTE (G)
 Counter of the number of timer T22 expiries experienced
throughputClasses ATTRIBUTE (G)
 The throughput classes in use or to be used.
virtualCircuitId ATTRIBUTE (G)
 The name of this instance of virtualCircuit MO or subclass
windowSizes ATTRIBUTE (G)
 The actual window sizes in use for this VC

END MANAGED OBJECT CLASS permanentVirtualCircuit-DTE

Remplacée par une version plus récente

MANAGED OBJECT CLASS permanentVirtualCircuit-DCE DERIVED FROM (virtualCircuit-DCE) CONTAINED IN (x25PLE-DCE)

DMI:objectCreation NOTIFICATION
DMI:objectDeletion NOTIFICATION
DMI:octetsReceivedCounter ATTRIBUTE* (G)
DMI:octetsSentCounter ATTRIBUTE* (G)
DMI:operationalState ATTRIBUTE (G)
DMI:stateChange NOTIFICATION
chargingDirection ATTRIBUTE (G)
 Indicates the use of the charging direction facility
dataPacketsReceived ATTRIBUTE* (G)
 Counter of the total number of data packets received
dataPacketsSent ATTRIBUTE* (G)
 Counter of the total number of data packets sent
interruptPacketsReceived ATTRIBUTE* (G)
 Counter of the number of interrupt packets received
interruptPacketsSent ATTRIBUTE* (G)
 Counter of the number of interrupt packets sent
interruptTimerExpiries ATTRIBUTE (G)
 Counter of the number of expiries of timer T26
logicalChannel ATTRIBUTE (G)
 The actual Logical Channel ID used for the call
packetSizes ATTRIBUTE (G)
 The packet sizes for this VC.
providerInitiatedDisconnects ATTRIBUTE* (G)
 Counter for the providerInitiatedDisconnect events
providerInitiatedResets ATTRIBUTE* (G)
 Counter associated with the providerInitiatedReset event
remoteDTEAddress ATTRIBUTE (G)
 The DTE Address of the remote DTE.
remoteLogicalChannel ATTRIBUTE (G)
 The Remote Logical Channel ID for the Permanent Virtual Circuit.
remotelyInitiatedResets ATTRIBUTE* (G)
 Counter associated with the remotelyInitiatedReset event
remotelyInitiatedRestarts ATTRIBUTE* (G)
 Counter of the number of remotely initiated restarts.
resetTimeouts ATTRIBUTE (G)
 Counter of the number of timer T22 expiries experienced
throughputClasses ATTRIBUTE (G)
 The throughput classes in use or to be used.
virtualCircuitId ATTRIBUTE (G)
 The name of this instance of virtualCircuit MO or subclass
windowSizes ATTRIBUTE (G)
 The actual window sizes in use for this VC
x25SegmentsReceived ATTRIBUTE* (G)
 Value for count of X.25 Segments Received.
x25SegmentsSent ATTRIBUTE* (G)
 Value for count of X.25 Segments Sent.

END MANAGED OBJECT CLASS permanentVirtualCircuit-DCE

Remplacée par une version plus récente

MANAGED OBJECT CLASS virtualCallIVMO DERIVED FROM (DMI:top) CONTAINED IN (x25PLE)
DMI:objectCreation NOTIFICATION
DMI:objectDeletion NOTIFICATION
fastSelect ATTRIBUTE (G, R, RWD)
Type of fast select used or to be used for call.
packetSizes ATTRIBUTE (G, R, RWD)
The packet sizes for this VC.
reverseCharging ATTRIBUTE (G, R, RWD)
Use of reverse charging.
throughputClasses ATTRIBUTE (G, R, RWD)
The throughput classes in use or to be used.
virtualCallIVMOld ATTRIBUTE (G)
The name of this instance of virtualCallIVMO
windowSizes ATTRIBUTE (G, R, RWD)
The actual window sizes in use for this VC
END MANAGED OBJECT CLASS virtualCallIVMO

Remplacée par une version plus récente

MANAGED OBJECT CLASS virtualCall-DTE DERIVED FROM (virtualCircuit-DTE) CONTAINED IN (x25PLE-DTE)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:octetsReceivedCounter ATTRIBUTE* (G)

DMI:octetsSentCounter ATTRIBUTE* (G)

GMI:communicationsInformation NOTIFICATION

GMI:deactivate ACTION

calledAddressExtension ATTRIBUTE (G)

The contents of the called address extension field.

callingAddressExtension ATTRIBUTE (G)

The contents of the calling address extension field.

dataPacketsReceived ATTRIBUTE* (G)

Counter of the total number of data packets received

dataPacketsSent ATTRIBUTE* (G)

Counter of the total number of data packets sent

dataRetransmissionTimerExpiries ATTRIBUTE* (G)

Counter of the number of expiries of timer T25.

direction ATTRIBUTE (G)

The direction (incoming or outgoing) of the call

fastSelect ATTRIBUTE (G)

Type of fast select used or to be used for call.

interruptPacketsReceived ATTRIBUTE* (G)

Counter of the number of interrupt packets received

interruptPacketsSent ATTRIBUTE* (G)

Counter of the number of interrupt packets sent

interruptTimerExpiries ATTRIBUTE* (G)

Counter of the number of expiries of timer T26

logicalChannel ATTRIBUTE (G)

The actual Logical Channel ID used for the call

originallyCalledAddress ATTRIBUTE (G)

The originally called address

packetSizes ATTRIBUTE (G)

The packet sizes for this VC.

providerInitiatedResets ATTRIBUTE* (G)

Counter associated with the providerInitiatedReset event

redirectReason ATTRIBUTE (G)

The reason why the call has been redirected.

remoteDTEAddress ATTRIBUTE (G)

The DTE Address of the remote DTE.

remotelyInitiatedResets ATTRIBUTE* (G)

Counter associated with the remotelyInitiatedReset event

resetTimeouts ATTRIBUTE* (G)

Counter of the number of timer T22 expiries experienced

reverseCharging ATTRIBUTE (G)

Use of reverse charging.

throughputClasses ATTRIBUTE (G)

The throughput classes in use or to be used.

virtualCircuitId ATTRIBUTE (G)

The name of this instance of virtualCircuit MO or subclass

windowSizes ATTRIBUTE (G)

The actual window sizes in use for this VC

END MANAGED OBJECT CLASS virtualCall-DTE

Remplacée par une version plus récente

MANAGED OBJECT CLASS virtualCall-DCE DERIVED FROM (virtualCircuit-DCE) CONTAINED IN (x25PLE-DCE)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

DMI:octetsReceivedCounter ATTRIBUTE* (G)

DMI:octetsSentCounter ATTRIBUTE* (G)

GMI:communicationsInformation NOTIFICATION

GMI:deactivate ACTION

bilateralCUGSelection ATTRIBUTE* (G)

Indicates the use of the bilateral closed user group selection facility

cUGSelection ATTRIBUTE (G)

Indicates the use of the closed user group selection facility

cUGWithOutgoingAccessSelection ATTRIBUTE* (G)

Indicates the use of the Closed User Group With Outgoing Access Selection facility

callRedirectionDeflectionNotification ATTRIBUTE* (G)

Indicates the use of the call redirection deflection notification facility

calledLineAddressModifiedNotification ATTRIBUTE* (G)

Indicates the use of the called line address modified notification facility

chargingDirection ATTRIBUTE (G)

Indicates the use of the charging direction facility

dataPacketsReceived ATTRIBUTE* (G)

Counter of the total number of data packets received

dataPacketsSent ATTRIBUTE* (G)

Counter of the total number of data packets sent

direction ATTRIBUTE (G)

The direction (incoming or outgoing) of the call

fastSelect ATTRIBUTE (G)

Type of fast select used or to be used for call.

interruptPacketsReceived ATTRIBUTE* (G)

Counter of the number of interrupt packets received

interruptPacketsSent ATTRIBUTE* (G)

Counter of the number of interrupt packets sent

interruptTimerExpiries ATTRIBUTE* (G)

Counter of the number of expiries of timer T26

logicalChannel ATTRIBUTE (G)

The actual Logical Channel ID used for the call

nUISelection ATTRIBUTE* (G)

Indicates the use of the network user identification selection facility

packetSizes ATTRIBUTE (G)

The packet sizes for this VC.

providerInitiatedDisconnects ATTRIBUTE* (G)

Counter for the providerInitiatedDisconnect events

providerInitiatedResets ATTRIBUTE* (G)

Counter associated with the providerInitiatedReset event

rOASelection ATTRIBUTE* (G)

Indicates the use of the registered operating agency selection

remoteDTEAddress ATTRIBUTE (G)

The DTE Address of the remote DTE.

remotelyInitiatedResets ATTRIBUTE* (G)

Counter associated with the remotelyInitiatedReset event

remotelyInitiatedRestarts ATTRIBUTE* (G)

Counter of the number of remotely initiated restarts.

resetTimeouts ATTRIBUTE* (G)

Counter of the number of timer T22 expiries experienced

reverseCharging ATTRIBUTE* (G)

Use of reverse charging.

throughputClasses ATTRIBUTE (G)

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The throughput classes in use or to be used.
transitDelaySelectionAndIndication ATTRIBUTE (G)
Indicates the use of the transit delay selection and
virtualCircuitId ATTRIBUTE (G)

The name of this instance of virtualCircuit MO or subclass
windowSizes ATTRIBUTE (G)

The actual window sizes in use for this VC
x25SegmentsReceived ATTRIBUTE* (G)

Value for count of X.25 Segments Received.
x25SegmentsSent ATTRIBUTE* (G)

Value for count of X.25 Segments Sent.

END MANAGED OBJECT CLASS virtualCall-DCE

MANAGED OBJECT CLASS dSeriesCounts DERIVED FROM (DMI:top) CONTAINED IN (virtualCall-DCE)

DMI:objectCreation NOTIFICATION

DMI:objectDeletion NOTIFICATION

dSeriesId ATTRIBUTE (G)

The name of this instance of the dSeriesCounts MO.

dSeriesResetRequestIndicationPackets ATTRIBUTE (G)

Value for count of Reset Request or Indication Packets

dSeriesSegmentsReceived ATTRIBUTE (G)

Value for count of Segments Received, in 64 octets,

dSeriesSegmentsSent ATTRIBUTE (G)

Value for count of Segments Sent, in 64 octets,

END MANAGED OBJECT CLASS dSeriesCounts

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Appendice II

Exemples d'utilisation d'attributs relationnels

(Cet appendice ne fait pas partie intégrante de la présente Recommandation)

Le présent appendice donne des exemples d'utilisation d'attributs relationnels, aussi bien à l'intérieur de la couche réseau qu'entre celle-ci et ses couches adjacentes. Ces exemples ne visent pas l'exhaustivité. On pourra construire de façon analogue des relations pour d'autres combinaisons de protocoles. Une mise en œuvre particulière peut gérer plusieurs protocoles simultanément, par exemple des connexions de transport dans le service CONS en même temps que des connexions de transport dans le service CLNS. De telles possibilités n'ont été omises que pour des raisons de concision.

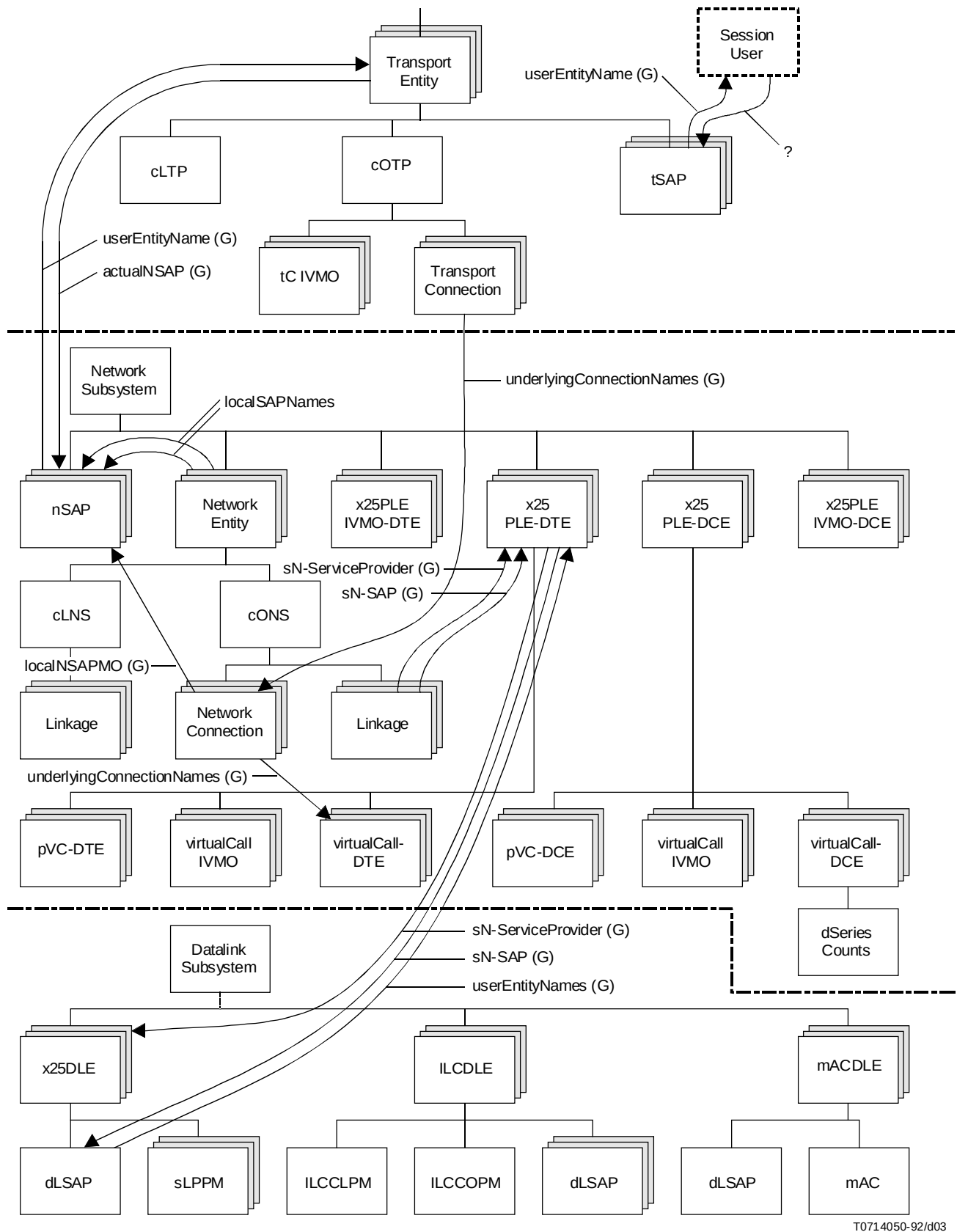
Pour illustrer l'utilisation de relations inter-couches, il a été nécessaire d'insérer des schémas (voir les Figures II.1 à II.3) montrant les objets gérés de couche transport et de couche liaison de données. Mais ces schémas n'ont qu'une valeur indicative et il y a lieu de consulter les Recommandations relatives à la gestion de la couche en question pour trouver des détails précis sur ces objets gérés.

Il est à noter que certaines relations sont impliquées par confinement. Aucun attribut relationnel explicite n'est alors requis. Il n'existe par exemple aucune relation entre un objet géré communication virtuelle et un objet géré connexion par protocole SLP sous-jacent. Cette relation peut se déduire de l'attribut sN-ServiceProvider de l'objet géré entité PLE X.25 associé. La relation entre l'objet géré point TSAP et son objet géré associé entité de transport est un autre exemple.

Les exemples donnés sont les suivants:

- Figure II.1 – Protocole COTP par service CONS sur réseau X.25.
- Figure II.2 – Protocole COTP par service CLNS sur réseau X.25 dans l'exploitation par le service CLNS, l'attribut underlyingConnectionNames de la connexion de transport a une valeur d'ensemble vide. Noter également que, lorsqu'un lien est exploité par un objet géré point SNPA dans la couche réseau par opposition à l'exploitation directe dans la couche liaison de données, les deux attributs relationnels sN-ServiceProvider et sN-SAPLinkage pointent sur le même objet géré dans la couche réseau.
- Figure II.3 – Protocole COTP par service CLNS sur réseau local à accès multiple avec détection de porteuse et de collision (CSMA/CD).

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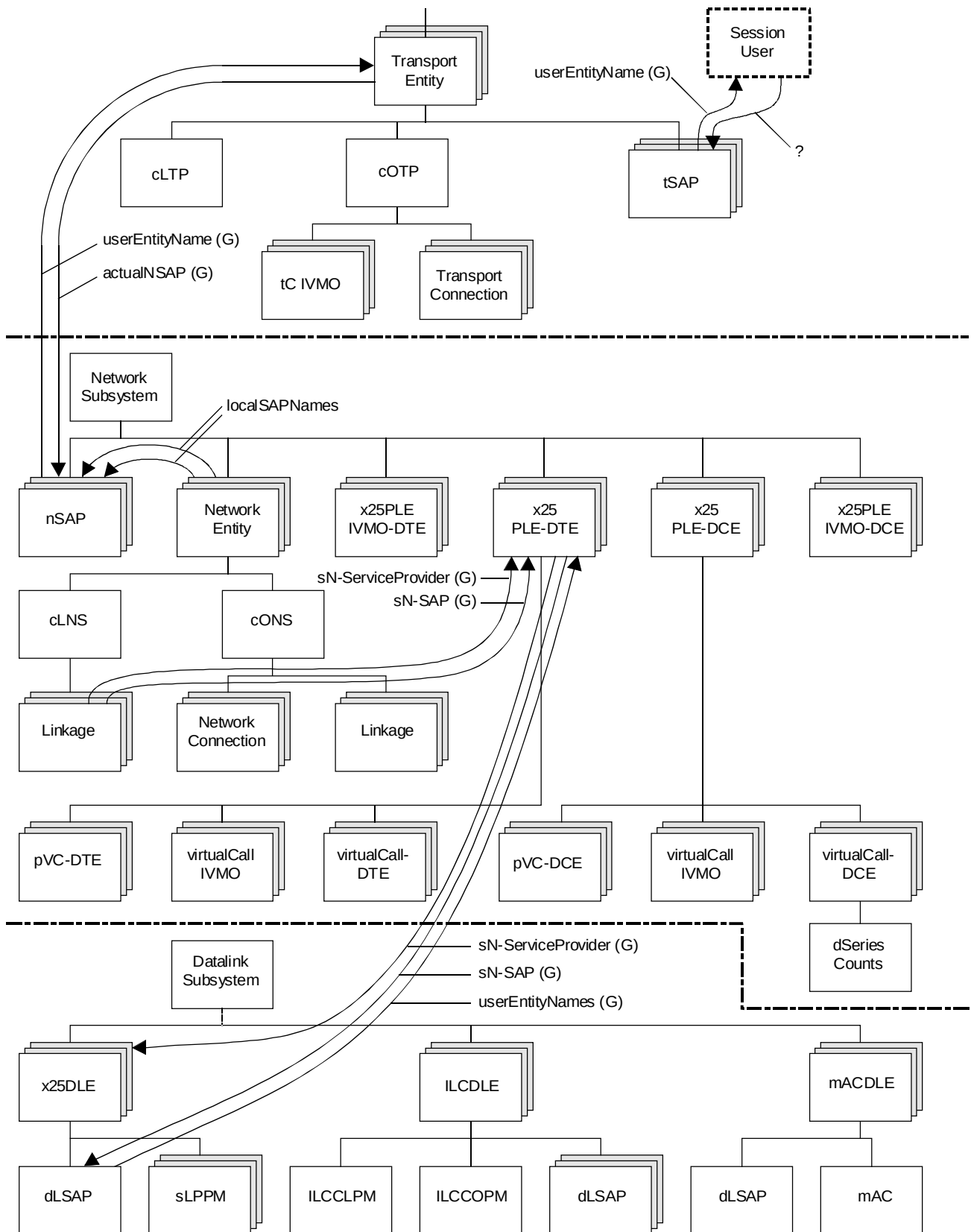


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FIGURE II.1/X.283

Protocole COTP par service CONS sur réseau X.25

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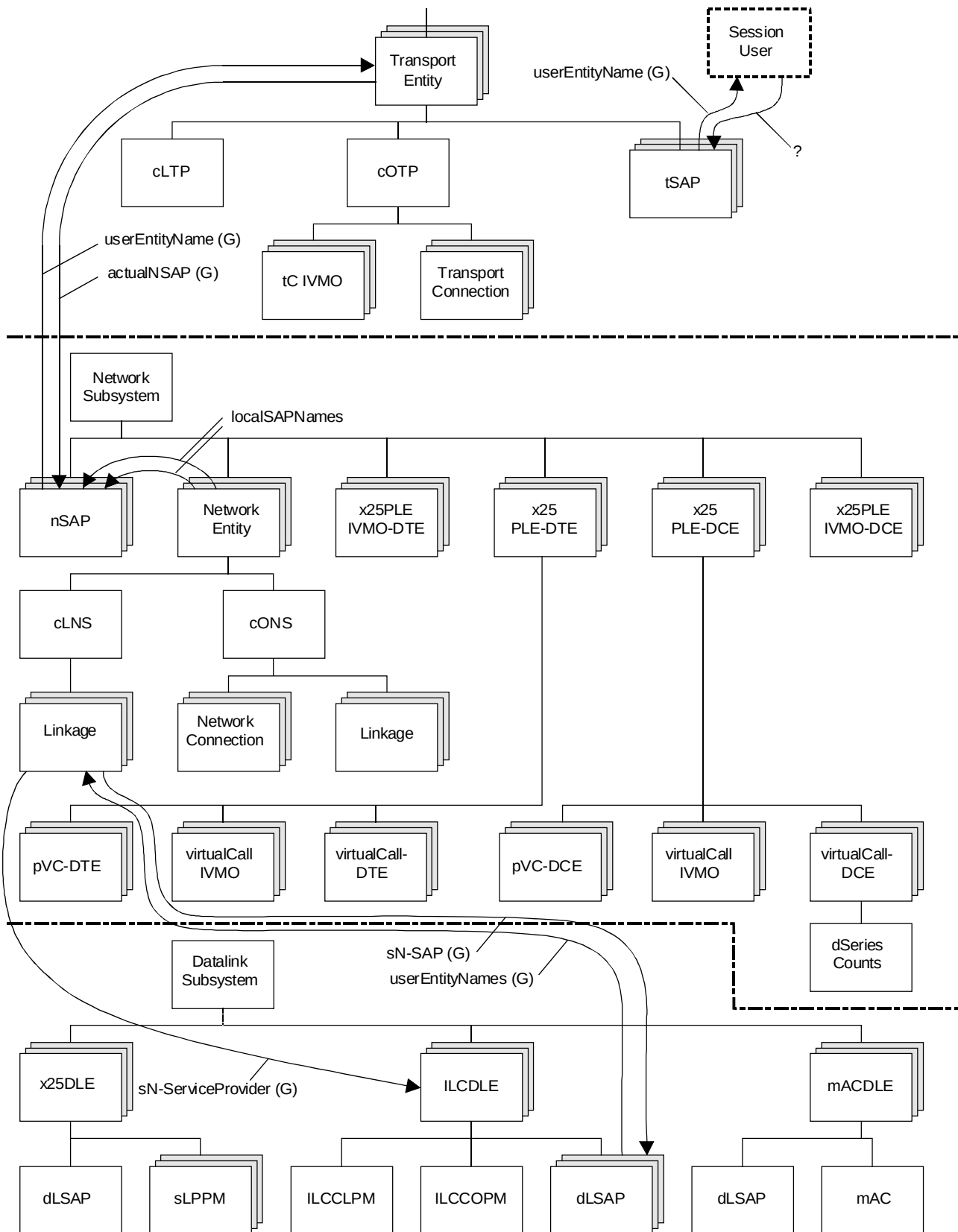


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FIGURE II.2/X.283

Protocole COTP par service CLNS sur réseau X.25

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FIGURE II.3/X.283

Protocole COTP par service CLNS sur CSMA/CD

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Index

A

activeESConfigTimer, 33, 37
assemblingSegmentsDiscarded, 24, 26

B

bilateralCUG, 54, 62
bilateralCUGSelection, 85, 88
bilateralCUGWithOutgoingAccess, 54, 62

C

callAttempts, 49, 50, 62
callDeflectionSubscription, 48, 51, 54, 62
calledAddressExtension, 82, 88
calledLineAddressModifiedNotification, 85, 89
callEstablishmentRetryCountsExceeded, 49, 62
callingAddressExtension, 82, 89
callRedirection, 54, 63
callRedirectionDeflectionNotification, 85, 89
callRequestResponseTimer, 48, 51, 63
callsConnected, 50, 55, 63
callsFailed, 31, 32, 37
callsPlaced, 31, 32, 37
callTimeouts, 55, 63
chargingDirection, 80, 83, 89
chargingInformation, 54, 63
clearCountsExceeded, 55, 63
clearIndication, 55, 64
clearRequestResponseTimer, 48, 51, 64
clearRequestRetransmissionCount, 49, 51, 64
clearTimeouts, 55, 56, 64
cLNS, 23, 26, 36
cLNSChecksum-P, 23, 25
cLNS-networkEntity-Automatic, 26
cLNS-networkEntity-Management, 26
cLNS-P, 23
cLNS8473PImportedCounters-B, 24, 25
cLNS8473PImportedNotifications-B, 24, 25
cLNS8473-P, 23, 24
commonCreationDeletion-B, 16, 19, 21, 23, 30, 41, 43, 45, 47, 77, 81
commonStateChange-B, 16, 23, 30, 41, 45, 80
congestionDiscards, 24, 26
cONS, 36, 41, 42, 43
cONS-networkEntity-Automatic, 42
cONS-networkEntity-Management, 42
cONS-P, 41
cUG, 50, 64
cUGSelection, 83, 89
cUGWithIncomingAccess, 54, 64
cUGWithOutgoingAccess, 54, 65
cUGWithOutgoingAccessSelection, 85, 89

D

dataPacketRetransmissionCount, 56, 65
dataPacketsReceived, 53, 55, 56, 65, 84, 85

dataPacketsSent, 53, 55, 56, 65, 84, 85
dataRetransmissionTimerExpiries, 55, 56, 65, 84, 85
dBitModification, 54, 65
dCECommonVirtualCircuitCounters-P, 50, 53, 78
dCEVirtualCallFacilities-P, 83, 85
dCEX25PLEFacilities-P, 50, 54
dCEX25PLETimers-P, 50, 55
deactivateConnection-B, 17, 43, 82, 83
defaultESConfigTimer, 33, 37
defaultPacketSizes, 45, 47, 66
defaultThroughputClasses, 45, 47, 66
defaultThroughputClassesAssignment, 54, 66
defaultWindowSizes, 45, 47, 66
direction, 82, 83, 90
dSeriesCounts, 84, 88
dSeriesCounts-P, 84
dSeriesCounts-virtualCall-DCE-Automatic, 88
dSeriesCounts-virtualCall-DCE-Management, 88
dSeriesId, 84, 88, 89
dSeriesResetRequestIndicationPackets, 84, 90
dSeriesSegmentsReceived, 84, 90
dSeriesSegmentsSent, 84, 90
dTEVirtualCircuitCounters-P, 78, 84
dTEX25PLECounters-P, 49, 55

E

enableChecksum, 25, 27, 32
errorReportsReceived, 24, 27
eSReachabilityChanges, 34, 37
extendedPacketSequenceNumbering, 48, 51, 54, 66

F

fastSelect, 81, 82, 83, 90
fastSelectAcceptance, 50, 67
flowControlParameterNegotiation, 45, 47, 67

H

holdingTimerMultiplier, 32, 33, 37
huntGroup, 54, 67

I

idleTimer, 32, 38
incomingCall, 55, 67
incomingCallBarredWithinCUG, 54, 67
incomingCallsBarred, 50, 68
initialMinimumTimer, 32, 38
interruptPacketsReceived, 53, 68, 84, 85
interruptPacketsSent, 53, 68, 84, 85
interruptResponseTimer, 48, 51, 68
interruptTimerExpiries, 53, 68, 84, 85
invalid9542PDUs, 33, 34, 38
iSConfigurationTimer, 33, 38
iSO9542OperationalSubsets, 32, 33, 38
iSReachabilityChanges, 33, 38

Remplacée par une version plus récente

L

linkage, **30**, **36**
linkageCODLService-P, **31**
linkageId, **30**, **36**, **39**
linkageIdleTimer-P, **31**, **32**
linkageInitialMinimumTimer-P, **30**, **32**
linkageReserveTimer-P, **31**, **34**
linkage-cLNS-Automatic, **36**
linkage-cLNS-Management, **36**
linkage-cONS-Automatic, **36**
linkage-cONS-Management, **36**
linkage-ISO8473-ISO8208SNDCE-P, **31**, **32**
linkage-ISO9542Checksum-P, **30**, **32**
linkage-ISO9542ESReachabilityChange-B, **32**, **33**, **34**
linkage-ISO9542ES-P, **30**, **32**
linkage-ISO9542ImportedAlarmNotifications-B, **32**, **33**, **35**
linkage-ISO9542ISReachabilityChange-B, **32**, **33**, **34**
linkage-ISO9542IS-P, **30**, **33**
linkage-P, **30**
localChargingPrevention, **54**, **68**
localDTEAddress, **45**, **47**, **69**
localNSAPMO, **43**, **44**
logicalChannel, **77**, **90**
logicalChannelAssignments, **45**, **47**, **69**
logicalChannelIV-B, **79**, **80**, **85**, **86**

M

manualISSNPAAddress, **33**, **39**
maxActiveCircuits, **48**, **51**, **69**
maximumLifetime, **24**, **27**
minimumRecallTimer, **48**, **51**, **69**

N

nAddressesIV-B, **21**
networkConnection, **43**
networkConnection-cONS, **43**
networkConnection-P, **43**
networkEntity, **19**, **26**, **42**
networkEntityTitles, **19**, **20**
networkEntity-networkSubsystem-Automatic, **19**
networkEntity-networkSubsystem-Management, **19**
networkEntity-P, **19**
networkSubsystem, **18**, **19**, **21**, **22**, **61**
networkSubsystem-P, **18**
networkSubsystem-system, **18**
nonStandardDefaultPacketSizes, **54**, **70**
nonStandardDefaultWindowSizees, **54**, **70**
notificationData, **49**, **76**
notificationPDUHeader, **24**, **29**
nSAP, **21**, **22**
nSAP-networkSubsystem-Automatic, **21**
nSAP-networkSubsystem-Management, **22**
nSAP-P, **21**
nUIOverride, **54**, **70**
nUISelection, **85**, **91**
nUISubscription, **54**, **70**

O

octetsSentReceivedCounter-B, **16**, **53**, **55**, **84**
oneWayLogicalChannelIncoming, **54**, **70**
oneWayLogicalChannelOutgoing, **50**, **71**
onlineFacilityRegistration, **54**, **71**
onlineRegistration-P, **49**, **52**, **57**
operationalProtocolIV-B, **30**, **35**, **36**
operationalProtocols, **30**, **39**
operationalSystemType, **23**, **27**, **41**
operationalSystemTypeIV-B, **23**, **26**, **41**
optionalCMIPV-B, **79**, **80**, **85**
originallyCalledAddress, **82**, **91**
outgoingCallBarredWithinCUG, **54**, **71**
outgoingCallsBarred, **50**, **71**

P

packetRetransmission, **54**, **71**
packetRetransmissionProcedures-P, **49**, **52**, **56**
packetSizes, **77**, **81**, **91**
pDUDiscards, **24**, **28**
permanentVirtualCircuit-DCE, **80**, **86**
permanentVirtualCircuit-DCE-P, **80**
permanentVirtualCircuit-DCE-x25PLE-DCE, **86**
permanentVirtualCircuit-DTE, **79**, **86**
permanentVirtualCircuit-DTE-P, **79**
permanentVirtualCircuit-DTE-x25PLE-DTE, **86**
protocolErrorsAccusedOf, **49**, **72**
protocolErrorsDetectedLocally, **49**, **72**
protocolVersionSupported, **45**, **72**
providerInitiatedDisconnects, **53**, **55**, **56**, **72**
providerInitiatedResets, **53**, **55**, **56**, **72**, **84**, **85**

R

reachabilityChange, **33**, **34**, **40**
receivingWindowRotationRecoveryProcedures-P, **49**, **52**, **56**
redirectHoldingTime, **33**, **39**
redirectReason, **82**, **91**
registrationPermitted, **57**, **72**
registrationRequestResponseTimer, **57**, **73**
registrationRequestRetransmissionCount, **57**, **73**
rejectResponseTimer, **56**, **73**
rejectRetransmissionCount, **56**, **73**
remoteDTEAddress, **80**, **82**, **83**, **92**
remoteLogicalChannel, **80**, **92**
remotelyInitiatedResets, **53**, **55**, **56**, **73**, **84**, **85**
remotelyInitiatedRestarts, **53**, **55**, **56**, **73**
remoteNSAPAddress, **43**, **44**
reserveTimer, **34**, **39**
resetIndication, **55**, **73**
resetRequestResponseTimer, **48**, **51**, **74**
resetRequestRetransmissionCount, **48**, **51**, **74**
resetTimeouts, **53**, **55**, **56**, **74**, **85**
resettingTimer-B, **17**, **37**, **38**, **40**
restartCountsExceeded, **55**, **56**, **74**
restartIndication, **55**, **74**
restartRequestResponseTimer, **48**, **51**, **74**
restartRequestRetransmissionCount, **48**, **51**, **74**

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reverseCharging, 81, 82, 85, **92**
reverseChargingAcceptance, 54, **75**
rOASelection, 85, **92**
rOASubscription, 54, **72**

S

segmentsDiscarded, 24, **28**
segmentsReceived, 24, **28**
segmentsSent, 24, **28**
sN-SAP, 30, **40**, 45
sN-ServiceProvider, 30, **40**, 45, 47
sN-ServiceProviderIV-B, 30, **35**, 36
successfulConnectionEstablishment-B, **16**, 43, 82, 83
suggestedESConfigurationTimer, 33, **40**
supportedProtocols, 23, **28**
systemTypes, 19, **20**

T

throughputClasses, 77, 81, **92**
throughputClassNegotiation, 45, 47, **75**
transitDelaySelectionAndIndication, 83, **93**
transmittingWindowRotationRecoveryProcedures-P,
49, 52, **56**

V

virtualCallIVMO, **81**, 87
virtualCallIVMOId, 81, 87, **93**
virtualCallIVMO-P, **81**
virtualCallIVMO-x25PLE, **87**
virtualCall-DCE, **83**, 87, 88
virtualCall-DCE-P, **83**
virtualCall-DCE-x25PLE-DCE-Automatic, **87**
virtualCall-DCE-x25PLE-DCE-Management, **87**
virtualCall-DTE, **82**, 86
virtualCall-DTE-P, **82**

virtualCall-DTE-x25PLE-DTE, **86**
virtualCircuit, 77, 78
virtualCircuitId, 77, 86, 87, **93**
virtualCircuitNaming-B, 77, **85**
virtualCircuit-DCE, **78**, 80, 83
virtualCircuit-DTE, **78**, 79, 82
virtualCircuit-P, 77

W

windowRotationTimer, 56, **75**
windowSizes, 77, 81, **93**
windowStatusTransmissionTimer, 56, **75**

X

x25PLE, **45**, 48, 50, 61, 87
x25PLEId, 45, 61, **75**
x25PLEIVMO, **47**, 51, 53, 61
x25PLEIVMOId, 47, 61, **76**
x25PLEIVMO-DCE, **53**
x25PLEIVMO-DTE, **51**
x25PLEIVMO-DTE-P, **51**
x25PLEIVMO-networkSubsystem, **61**
x25PLEIVMO-P, **47**
x25PLEMode, 45, 47, **75**
x25PLEPImportedNotifications-B, 48, **57**
x25PLE-DCE, **50**, 86, 87
x25PLE-DCE-P, **50**
x25PLE-DTE, **48**, 86
x25PLE-DTE-P, **48**
x25PLE-networkSubsystem-Automatic, **61**
x25PLE-networkSubsystem-Management, **61**
x25PLE-P, **45**
x25SegmentsReceived, 53, **76**
x25SegmentsSent, 53, **76**