Subject: Marked-up IDRP GDMO

Source: C. A. Kunzinger (Project Editor)

Reference: X3S3.3/91-307 by S. Hares

This is an editorial revision of the material that Sue Hares presented in 91-307. The change bars and strike-throughs were applied relative to the existing text in CD 10747 so that you can readily identify the things that have changed.

I believe that all the changes I made are strictly editorial (capitalization, consecutive parameter numbering, removal of duplicate sections of text, etc.). I also added some change bars to denote a few differences between CD 10747 and 91-307 that were not marked as such in 91-307.

12.0 System Management and GDMO Definitions

The operation of the inter-domain routeing functions in a BIS may be monitored and controlled using System Management. This clause contains management specification for IDRP, expressed in the GDMO notation defined in ISO 10165-4.

12.1 Name Bindings

iSOxxxx-NB **NAME BINDING**

SUBORDINATE OBJECT CLASS idrp_config
NAMED BY
SUPERIOR OBJECT CLASS ″ISO/IEC xxxx″: networkEntity;
WITH ATTRIBUTE ″ISO/IEC xxxx″: idrp_config_MO_Name
CREATE with-automatic-instance-naming iSO-xxxxx-NB-pl;
DELETE on-if-no-contained-objects;
REGISTERED AS {ISO xxxxx-IDRP.nboi ISOxxxx-NB (1)};

adjacentBIS **NAME BINDING**

SUBORDINATE OBJECT CLASS adjacentBIS
NAMED BY
SUPERIOR OBJECT CLASS idrp_config
WITH ATTRIBUTE BIS-NET;
DEFINED AS This name binding attribute identifies a BIS to BIS connection information block. One of these blocks of data should exist per remote BIS that this local BIS exchanges BISPDUs with.;
REGISTERED AS {ISO xxxx-IDRP.nboi adjacentBIS (2)};

12.2 Local BIS Managed Objects for IDRP

idrp_config **MANAGED OBJECT CLASS**

DERIVED FROM ″ISO/IEC xxxxxx″: top
CHARACTERIZED BY localbispackage **PACKAGE**
BEHAVIOUR
iDRPBasicImportedAlarmNotifications-B
BEHAVIOUR DEFINED AS Imports the communicationsAlarm notification from ISO/IES 10165-2. It is used to report the following protocol events:

errorBISPDUsent: generated when a BISPDU is received with an error in its format. In addition to the parameters specified by ISO/IEC 10733, the following information will be reported in the AdditionalInformation field for the BIS Connection on which the error BISPDU was received:

a) RemoteBIS-NET for BIS-BIS connection—using the **notificationRemoteBIS-NET** parameter
b) BISPDU error code (see 7.4 and 8.19)—this reports the error code that will be sent in the ERROR PDU using the parameter **notificationBISpduerrorcode**.
c) BIS error subcode (see 7.4 and 8.19)—this reports the subcode that will be sent using the parameter **notificationBISerrorsubcode**.
d) BISPDU error information (see 7.4 and 8.19)—this reports the data from the received BISPDU that will be used to diagnose the problem for the Notification. The parameter **notificationBISpuderrorinfo** will be used to report this information.

openBISpduRDCerror: generated when an OPEN BISPDU is received from another BIS in the same routeing domain, and the remote BIS is not a member of identically the same confederations as the local BIS. In addition to the parameters specified by ISO/IEC 10733, the following information will be reported by the AdditionalInformation field for the BIS Connection on which this OPEN PDU was received:

a) Remote BIS NET for this BIS-BIS connection—using the **notificationRemoteBIS-NET** parameter.
b) Remote BIS Routeing Domain Confederation (RDC) information using the **notificationRemoteRDCconfig** parameter.
c) Local BIS Routeing Domain Confederation (RDC) information using the **notificationLocalRDCconfig** parameter.

errorBISPDUconnectionclose: generated when an ERROR PDU has been received from a remote BIS. In addition to the parameters specified by ISO/IEC 10733, the following information will be reported by the AdditionalInformation field for the BIS Connection on which this OPEN PDU was received:

a) RemoteBIS-NET for BIS-BIS connection—using the **notificationRemoteBIS-NET** parameter
b) BISPDU error code (see 7.4 and 8.19)—this reports the error code that will be sent in the ERROR PDU using the parameter **notificationBISpduerrorcode**.

! c) BIS error subcode (see 7.4 and 8.19)—this reports the subcode that will be sent using the parameter **notificationBISerrorsubcode**.

! d) BISPDU error information (see 7.4 and 8.19)—this reports the data from the received BISPDU that will be used to diagnose the problem for the Notification. The parameter **notificationBISpuderrorinfo** will be used to report this information.

! **CorruptAdjRIBIn:** generated when the local method of checking the Adj-RIB-In has found an error. All Adj-RIBs-In are being purged. In additon to the parameters specified by ISO/IEC 10733, the following information will be reported by the AdditionalInformation field for the BIS with the parameter **MaxAdjRIBIntegritycheck**.

! **packetBomb:** generated when the local BIS has been presented with a BISPDU whose source is not one of the BISs adjacent to the local BIS. Such BISPDUs are rejected by the local BIS. In additon to the parameters specified by ISO/IEC 10733, the following information will be reported by the AdditionalInformation field with the parameter Source BIS NET in the parameter **notificationSourceBis**.

! **BEHAVIOUR**
! iDRPBasicImportedInfoNotifications-B
! **BEHAVIOUR DEFINED AS** Imports the communicationsInformation notification from ISO/IES 10165-2. It is used to report the following protocol events:

! **enterFSMState:** generated when a BIS starts the IDRP FSM state machine to establish a connection with a remote BIS. The RemoteBis-NET is reported in the AdditionalInformation field using the **notificationRemoteBis-NET** parameter. The significant subparameter of each item of AdditionalInformation shall be set to ″false″ (that is, not significant) so that a managing system receiving the event report will be less likely to reject it.

! **FSMStateChange:** generated when the IDRP FSM used to communicate with another BIS transitions from one state to another. The RemoteBis-NET is reported in the AdditionalInformation field using the **notificationRemoteBis-NET** parameter. The significant sub-parameter of each item of AdditionalInformation shall be set to ″false″ (that is, not significant) so that a managing system receiving the event report will be less likely to reject it.

ATTRIBUTES
InternalBIS **GET**,
IntraIS **GET**,
ExternalBISNeighbor **GET**,
InternalSystems **GET**,
LocalRDI **GET**,
RDC-Config **GET**,
LocalSNPA **GET**,
MultiExit **GET**,
! routeserver **GET**,
maximumPDUsize **GET**,
holdTime **GET**,
oustandingPDUs **GET**,
authenticationCode **GET**,
RetransmissionTimer **GET**,
CloseWaitDelayPeriod **GET**,
RDTransitDelay **GET**,
RDLRE **GET**,
LocExpense **GET**,
RIBAttsSet **GET**,
Capacity **GET**,
Priority **GET**;
version **GET**
maxRIBIntegrityCheck **GET**
! maxIntegrityTimer **GET**
ACTIONS
startevent,
stopevent;
NOTIFICATIONS
! ~~enterFSMState,~~
! ~~FSMStateChange,~~
! ~~errorBISPDUsent,~~
! ~~openBISpduRDCerror,~~
! ~~errorBISPDUconnectionclose;~~
! ~~CorruptAdjRIBIn~~
! ~~packetbomb~~
! ″REC X.721 | ISO/IEC 10165-2:1992″:
! communicationsAlarm
! notificationRemotebis-NET
! notificationBISpduerrorcode
! notificationBISerrorssubcode
! notificationBISpduerrorinfo
! notificationRemoteRDCconfig
! notificationLocalRDCconfig
! maxAdjRibIntegritycheck
! notificationSourceBis
! ″REC X.723 | ISO/IEC 10165-5: 1992″:
! communicationsInformation

! notificationRemotebis-NET

REGISTERED AS {ISOxxxx-IDRP.moi idrp_config (1) ;;;

12.3 Adjacent BIS Peer Managed objects

adjacentBIS **MANAGED OBJECT CLASS**

DERIVED FROM ″ISO/IEC xxxxx″: top
CHARACTERIZED BY adjacentBIS **PACKAGE**
ATTRIBUTES
BIS_NET **GET**,
BIS_RDI **GET**,
BIS RDC **GET**,
BISnegotiatedversion **GET**,
BISpeerSNPAs **GET**,
Authentication_type **GET**,
State **GET**,
Lastseqnosent **GET**,
Lastseqnorecv **GET**,
Lastacksent **GET**,
Lastackrecv **GET**,
updatesIn **GET**,
updatesOut **GET**,
totalBISPDUsIn **GET**,
totalBISPDUsOut **GET**,
KeepalivesSinceLastUpdate **GET**,
! closeWaitDelayTimer **GET**,
! keepAliveTimer **GET**,
! minRouteSelectionTimer **GET**,
! maxCPUOverloadTimer **GET**,
! minRDOriginationTimer **GET**,
ATTRIBUTE GROUPS
! ″REC X.723 | ISO/IEC 10165-5″: counters
updateIN
updateOUT
totalBISPDUsIN
totalBISPDUsOUT
KeepalivesSinceLastUpdate;
! ″REC X.723 | ISO/IEC 10165-5″: state
state
lastseqnosent
lastseqnorecv
lastacksent
lastackrecv;
! ″REC X.723 | ISO/IEC 10165-5″: timer
! closeWaitDelayTimer **GET**;
! keepALivetIMER **get**;
! MinRouteSelectionTimer **GET**;
! maxCPUOverloadTimer **GET**;
! minRDUOriginationTimer **GET**;
REGISTERED AS [ISO xxxxx-IDRP.moi adjacentBIS(2);

12.4 Attribute Definitions

InternalBIS **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.BIS_group;
MATCHES FOR Equality;
BEHAVIOUR InternalBIS-B
BEHAVIOUR DEFINED AS The set of NETs which identify the BISs in this routeing domain;
REGISTERED AS {ISOXXXX-IDRP.aoi InternalBIS(1);

IntraIS **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.BIS_group;
MATCHES FOR Equality;
BEHAVIOUR IntraIS-B
BEHAVIOUR DEFINED AS The set of NETs of the ISs to which the local BIS may deliver an inbound NPDU whose destination lies within the BIS′s routeing domain. These ISs must be located on the same common subnetwork as this local BIS, and must be capable of delivering NPDUs to destinations that are located within the local BIS′s routeing domain.
REGISTERED AS {ISOXXXX-IDRP.aoi IntraBIS(2);

ExternalBISNeighbor **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.BIS_group;
MATCHES FOR Equality;
BEHAVIOUR ExternalBISNeighborB
BEHAVIOUR DEFINED AS The set of NETs which identify the BISs in adjacent routeing domain that are reachable via a single sub-network hop.
REGISTERED AS {ISOXXXX-IDRP.aoi ExternalBISNeighbor (3);

InternalSystems **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.system_id_group
MATCHES FOR Equality;
BEHAVIOUR InternalSystems-B
BEHAVIOUR DEFINED AS The set of NETs and NSAPS which identify the systems in this routeing domain which the BIS uses to construct network layer reachability information;
REGISTERED AS ISOXXXX-IDRP.aoi InternalSystems (4);

LocalRDI **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.rdi
MATCHES FOR Equality;
BEHAVIOUR LocalRDI-B
BEHAVIOUR DEFINED AS The Routing Domain Identifier for the routeing domain where this BIS is located;
REGISTERED AS ISOXXXX-IDRP.aoi LocalRDI (5);

RDC-Config **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.rdc_group
MATCHES FOR Equality;
BEHAVIOUR RDC-Config-B
BEHAVIOUR DEFINED AS All of the Routing Confederations to which the RD of this BIS

belongs and the nesting relationships that are in force between them. The nesting relationships are described as a sequence of sets of RDC Identifiers;
REGISTERED AS ISOXXXX-IDRP.aoi RDC-Config (6);

LocalSNPA **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOXXXX-IDRP.localSNPA
MATCHES FOR Equality;
BEHAVIOUR localSNPA-B
BEHAVIOUR DEFINED AS The list of SNPAs of this BIS;
REGISTERED AS ISOXXXX-IDRP.aoi LocalSNPA(7);

Multiexit **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX Boolean
MATCHES FOR Equality
BEHAVIOUR Multiexit-B
BEHAVIOUR DEFINED AS The indication whether this BIS will use the MULTI_EXIT_DISC attribute to decide between otherwise identical routes. The Multiexit parameter is used as the default value for the "multi_exit_disc" function in policy decisions;;
REGISTERED AS ISOXXXX-IDRP.aoi MultiExit(8);

maximumPDUsize **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.MaximumPDUSize;
MATCHES FOR Equality, Ordering;
BEHAVIOUR maximumPDUsize-B
BEHAVIOUR DEFINED AS The maximum number of octets that this BIS is able to handle in an incoming BISPDU;
REGISTERED AS ISOXXXXX-IDRP.aoi maximumPDUsize(9);

holdtime **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.Holdtime;
MATCHES FOR Equality, Ordering;
BEHAVIOUR holdtime-B
BEHAVIOUR DEFINED AS The maximum number of seconds that may elapse between the receipt of two successive BISPDUs of any of the following types: KEEPALIVE, UPDATE, RIB CHECKSUM PDUs or RIB REFRESH PDUs;
REGISTERED AS ISOXXXX-IDRP.aoi holdtime(10);

outstandingPdus **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.OutstandingPdus;
MATCHES FOR Equality, Ordering;
BEHAVIOUR outstandingPdus-B
BEHAVIOUR DEFINED AS The maximum number of BISPDUs that may be sent to this BIS without receiving an acknowledgement;
REGISTERED AS ISOXXXX-IDRP.aoi outstandingPdus(11);

authenticationCode **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.AuthenicationCode;
MATCHES FOR Equality, Ordering;
BEHAVIOUR authenticationCode-B
BEHAVIOUR DEFINED AS Indication of which authentication mechanism will be used;
REGISTERED AS ISOXXXX-IDRP.aoi authenticationCode (12);

RetransmissionTimer **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.retransmissiontimer
MATCHES FOR Equality, Ordering;
BEHAVIOUR RetransmissionTimer-B
BEHAVIOUR DEFINED AS The Number of seconds of between KEEPALIVE messages if no other traffic is sent;
REGISTERED AS ISOXXXX-IDRP.aoi RetransmisionTimer (13);

CloseWaitDelayPeriod **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.closewaitdelayperiod
MATCHES FOR Equality, Ordering;
BEHAVIOUR CloseWaitDelayPeriod-B
BEHAVIOUR DEFINED AS The number of seconds the local system shall stay in the CLOSE-WAIT state prior to changing to the CLOSED stated.;
REGISTERED AS ISOXXXX-IDRP.aoi CloseWaitDelayPeriod (14);

RDTransitDelay **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.RDtransitdelay
MATCHES FOR Equality, Ordering;
BEHAVIOUR RDTRansitDelay-B
BEHAVIOUR DEFINED AS The estimated average delay across a Routeing Domain in units of 500ms.
REGISTERED AS ISOXXXX-IDRP.aoi RDTransitDelay (15);

RDLRE **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.rdlre
MATCHES FOR Equality, Ordering;
BEHAVIOUR RDLRE-B
BEHAVIOUR DEFINED AS The average error rate of a Routeing Domain in units of an integer which if divided by 2**32-1 will provided the actual probability of the error.
REGISTERED AS ISOXXXX-IDRP.aoi RDLRE(16);

LocExpense **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.locexpense
MATCHES FOR Equality, Ordering;
BEHAVIOUR LocExpense-B
BEHAVIOUR DEFINED AS The monetary expense of transiting this Routeing Domain. The attribute contains an indication of cost and the units in which it is calculated;
REGISTERED AS ISOXXXX-IDRP.aoi LocExpense(17);

RIBAttsSet **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.ribattsSet
MATCHES FOR Equality;
BEHAVIOUR RIBAttsSet-B
BEHAVIOUR DEFINED AS The set of Rib Attributes supported by this BIS.;
REGISTERED AS ISOXXXX-IDRP.aoi RIBAttsSet(18);

Capacity **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.capacity
MATCHES FOR Equality, Ordering;
BEHAVIOUR Capacity-B
BEHAVIOUR DEFINED AS The traffic carrying capacity of this Routeing Domain.
REGISTERED AS ISOXXXX-IDRP.aoi Capacity(19);

Priority **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.priority
MATCHES FOR Equality, Ordering;
BEHAVIOUR Priority-B
BEHAVIOUR DEFINED AS The lowest value of ISO 8473 priority parameter that this RD will provide forwarding services for;
REGISTERED AS ISOXXXX-IDRP.aoi Priority(20);

BIS_NET **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.bis_net;
MATCHES FOR Equality;
BEHAVIOUR BIS_NET-B
BEHAVIOUR DEFINED AS The NET of the remote BIS of this BIS to BIS connection.;
REGISTERED AS {ISO-IDRP.aoi BIS_NET (21)};

BIS_RDI **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.rdi;
MATCHES FOR Equality;
BEHAVIOUR BIS_RDI-B
BEHAVIOUR DEFINED AS The RDI of the remote BIS of this BIS to BIS connection.;
REGISTERED AS {ISO-IDRP.aoi BIS_RDI (22)};

BIS_RDC **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.rdc_group
MATCHES FOR Equality;
BEHAVIOUR BIS_RDC-B

BEHAVIOUR DEFINED AS The RDC the remote BIS belongs to in this BIS to BIS connection.;

REGISTERED AS {ISO-IDRP.aoi BIS_RDC (23)};

BISnegotiatedversion **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.bisnegotiatedvesion;
MATCHES FOR Equality, Ordering;
BEHAVIOUR BISnegotiatedversion-B

.
BEHAVIOUR DEFINED AS The negotiated version of IDRP protocol this BIS to BIS connection is using.;
REGISTERED AS {ISOxxxx-IDRP.aoi BISnegotiatedversion (24)};

BISpeerSNPAs **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.bispeersSNPAs
MATCHES FOR Equality;
BEHAVIOUR BISpeerSNPAs-B
BEHAVIOUR DEFINED AS The SNPAs announced by the remote BIS of this BIS to BIS connection.
REGISTERED AS {ISOxxxx-IDRP.aoi BISpeerSNPAs (25)};

Authentication_type **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.auth_type
MATCHES FOR Equality, Ordering;
BEHAVIOUR authentication_type-B
BEHAVIOUR DEFINED AS The authentication type the remote BIS sent in the OPEN BISPDU in this BIS to BIS connection.
REGISTERED AS {ISOxxxx-IDRP.aoi Authentication_type (26)};

State **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISOxxxx-IDRP.state
MATCHES FOR Equality, Ordering;
BEHAVIOUR state-B
BEHAVIOUR DEFINED AS The current state of BIS to BIS communication in the local BIS.
REGISTERED AS {ISOxxxx-IDRP.aoi state (27)};

Lastseqnosent **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.lastseqnosent
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR Lastseqnosent-B
BEHAVIOUR DEFINED AS The last sequence number sent to the remote BIS from this local BIS on this BIS to BIS connection.

REGISTERED AS {ISOxxxx-IDRP.aoi
Lastseqnosent (28)};

Lastseqnorecv **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
ISOxxxx-IDRP.lastseqnorecv
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR Lastseqnorecv-B
BEHAVIOUR DEFINED AS The last sequence number received from the remote BIS by this local BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxx-IDRP.aoi
Lastseqnorecv (29)};

Lastacksent **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.lastacksent
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR Lastacksent-B
BEHAVIOUR DEFINED AS The number of the last ack sent to the remote BIS from this local BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxxx-IDRP.aoi Lastacksent
(30};

Lastackrecv **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.lastackrecv
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR Lastacksent-B
BEHAVIOUR DEFINED AS The number of the last ack received from the remote BIS by this local BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxxx-IDRP.aoi Lastackrecv
(31)};

updatesIn **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.updatesin
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR updatesIn-B
BEHAVIOUR DEFINED AS The number of UPDATE BISPDUs received by this BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxx-IDRP.aoi updatesIn
(32)};

updatesOut **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.updatesout
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR updatesOut-B
BEHAVIOUR DEFINED AS The number of UPDATE BISPDUs sent by this BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxx-IDRP.aoi updatesOut
(33)};

totalBISPDUsIn **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.totalbispdusin
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR totalBISPDUsIn-B
BEHAVIOUR DEFINED AS The number of BISPDUS received by this BIS from the remote BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxx-IDRP.aoi
totalBISPDUsIn (34)};

totalBISPDUsOut **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.totalbispdusout
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR totalBISPDUsOut-B
BEHAVIOUR DEFINED AS The number of BISPDUS received by this BIS from the remote BIS on this BIS to BIS connection.
REGISTERED AS {ISO xxxx-IDRP.aoi
totalBISPDUsOut (35)};

KeepalivesSinceLastUpdate **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxxx-IDRP.keepaliveSincelastupdate
DERIVED FROM nonWrappingCounter;
MATCHES FOR Equality, Ordering;
BEHAVIOUR KeepalivesSinceLastUpdate-B
BEHAVIOUR DEFINED AS The number of KEEPALIVE BISPDUS received by this BIS from the remote BIS since this last UPDATE BISPDU.
REGISTERED AS {ISO xxxx-IDRP.aoi
KeepAlivesSinceLastUpdate (36)};

version **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.version
MATCHES FOR Equality, Ordering;
BEHAVIOUR version-B
BEHAVIOUR DEFINED AS The version of IDRP protocol this machine defaults to using.;
REGISTERED AS {ISO xxxx-IDRP.aoi version (37)};

maxRIBIntegrityCheck**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO
xxxx-IDRP.maxribintegritycheck
MATCHES FOR Equality, Ordering;
BEHAVIOUR maxRIBIntegrityCheck-B
BEHAVIOUR DEFINED AS The maximum time in seconds between checking of the Adj-RIBs-In by a local mechanism. If corrupt

Adj-RIB-In is detected, the BIS shall purge the offending Adj-RIB-In;
REGISTERED AS {ISO xxxx-IDRP.aoi
! MaxRIBIntegrityCheck(38)};

maxRIBIntegrityTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.ribintegritytimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR RIBIntegritytimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time remaining until the Adj-RIBs-In must be checked by a local mechanism. If a corrupt Adj-RIB-In is detected, the BIS shall purge the offending Adj-RIB-In;
REGISTERED AS {ISO xxxx-IDRP.aoi
! MaxRIBIntegrityTimer(39)};

closeWaitDelayTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.waitdelaytimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR CloseWaitDelaytimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time that has elapsed since the BIS FSM entered the CLOSE-WAIT state. Upon timer expiration, the BIS FSM will enter the CLOSED state;
REGISTERED AS {ISO xxxx-IDRP.aoi
! CloseWaitDelayTimer(40)};

keepAliveTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.keepalivetimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR Keepalivetimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time that has elapsed since the previous KEEPALIVE PDU was received by the local BIS. Upon its expiration, the BIS will send a BISPDU to its peer BIS;
REGISTERED AS {ISO xxxx-IDRP.aoi
! KeepAliveTimer(41)};

minRouteSelectionTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.routeselectiontimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR Routeselectiontimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time that has elapsed since the advertisement by the local BIS of a better route that was received from a BIS located in another routeing domain. See clause -- Heading ′MINSEL′ unknown --;
REGISTERED AS {ISO xxxx-IDRP.aoi
! MinRouteSelectiontimer(42)};

minRDOriginationTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.rdoriginationtimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR RDOriginationtimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time that has elapsed since the advertisement by the local BIS of an UPDATE PDU that reported changes within the local BIS′s routeing domain. See clause -- Heading ′MINORG′ unknown --;
REGISTERED AS {ISO xxxx-IDRP.aoi
! MinRDOriginationtimer(43)};

maxCPUOverloadTimer**ATTRIBUTE**

WITH ATTRIBUTE SYNTAX ISO xxxx-IDRP.maxcpuoverloadtimer
DERIVED FROM timer
MATCHES FOR Equality, Ordering;
BEHAVIOUR MaxCPUOverloadTimer-B
BEHAVIOUR DEFINED AS The timer that measures in seconds the time that has elapsed since the local BIS has detected that its CPU has become overloaded. See Annex -- Heading ′CPUOLD′ unknown --;
REGISTERED AS {ISO xxxx-IDRP.aoi
! MaxCPUOverloadtimer(44)};

routeserver **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX Boolean;
MATCHES FOR Equality
BEHAVIOUR routeserver-B
BEHAVIOUR DEFINED AS The indication whether this BIS may set the ″IDRP_Server_Allowed″ field in the NEXT_HOP attribute to X″FF″ for BIS to BIS UPDATE BISPDUs. If this variable is true then in accordance with local policy, the IDRP_Server_Allowed field may be set on some UPDATE BISPDUs that this BIS sends. If this attribute is set to false, then no UPDATE BISPDUs will be sent by this BIS with NEXT_HOP attributes containing an ″IDRP_Server flag″ equal to X″FF″.;
! **REGISTERED AS** ISOXXXX-IDRP.aoi
! routeserver(45);

12.5 Action Definitions

~~minRDOriginationTimer**ATTRIBUTE**~~

~~**WITH ATTRIBUTE SYNTAX** ISO xxxx-IDRP.rdoriginationtimer~~
~~**MATCHES FOR** Equality, Ordering;~~
~~**BEHAVIOUR** RDOriginationtimer-B~~
~~**BEHAVIOUR DEFINED AS** The timer that measures in seconds the time that has elapsed since the advertisement by the local BIS of an UPDATE PDU that reported changes within the local BIS's routeing domain. See clause -- Heading 'MINORG' unknown --;~~
~~**REGISTERED AS** {ISO xxxx-IDRP.aoi~~
! ~~MinRDOriginationtimer(40)};~~

startevent **Action**

BEHAVIOUR
startevent **BEHAVIOUR**
MODE CONFIRMED;
CONTEXT ACTION-INFO;
WITH INFORMATION SYNTAX ISO xxxx-idrp.Actioninfo;
WITH REPLY SYNTAX ISO xxxx-idrp.Startevenreply;
DEFINED AS The request to start communication with a remote BIS peer;
PARAMETERS Remotebis-NET;
MODE CONFIRMED;
REGISTERED AS ISO xxxxx-IDRP.aci startevent (1);

Stopevent **Action**

BEHAVIOUR
stopevent **BEHAVIOUR**
MODE CONFIRMED;
CONTEXT ACTION-INFO;
WITH INFORMATION SYNTAX ISO xxxx-idrp.Actioninfo;
WITH REPLY SYNTAX ISO xxxx-idrp.Stopevenreply;
PARAMETERS Remotebis-NET;
MODE CONFIRMED;
DEFINED AS The request to stop communication with a remote BIS peer;
REGISTERED AS ISO xxxxx-IDRP.aci stopevent (2);

12.6 Notification Definitions

enterFSMstatemachine **NOTIFICATON**

BEHAVIOUR enterFSMstatemachine-B
BEHAVIOUR DEFINED AS The indication of starting the FSM state machine to establish a connection with a remote BIS.;
MODE NON-CONFIRMED
PARAMETERS Remotebis-NET;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi enterFSMstatemachine (1);

FSMstatechange **NOTIFICATION**

BEHAVIOUR FSMstatechange-B
BEHAVIOUR DEFINED AS The indication of transiting from one state to another in the IDRP connection state machine in communication with another BIS.;
MODE NON-CONFIRMED
PARAMETERS remoteBIS-NET, state;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi FSMstatechange(2);

errorBISPDUsent **NOTFICATION**

BEHAVIOUR errorBISPDUsent-B
BEHAVIOUR DEFINED AS The indication of an error in the format of BISPDU.;
MODE NON-CONFIRMED
PARAMETERS Remotebis-NET, BISpduerrorcode, BISerrorsubcode, BISpduerrorinfo;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo **REGISTERED AS** ISOxxxx-IDRP.noi errorBISPDUsent (3);;

openBISpduRDCerror **NOTIFICATION**

BEHAVIOUR openBISpduRDCerror-B
BEHAVIOUR DEFINED AS The indication that an OPEN PDU has been received with the RDC Config for remote BIS and this BIS do not indicate that the two BIS trying to establish a connection are a part of the same confederations;
MODE NON-CONFIRMED
PARAMETERS Remotebis-NET, RemoteRDCconfig, LocalRDCConfig;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi errorpduRDCerror(4);

errorBISPDUconnectionclose **NOTIFICATION**

BEHAVIOUR errorBISPDUconnectionclose-B
BEHAVIOUR DEFINED AS The indication that an ERROR BISPDU has been received from a remote BIS;
MODE NON-CONFIRMED
PARAMETERS Remotebis-NET, bispduerrorcode, bispduerrorsubcode,bispduinfo;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi errorBISPDUconnectionclose(5);;

CorruptAdjRIBIn **NOTIFICATION**

BEHAVIOUR corruptAdjRIBIn-B
BEHAVIOUR DEFINED AS The indication that the local method of checking the Adj-RIB-In has found an error. All Adj-RIBs-In are being purged.
MODE NON-CONFIRMED
PARAMETERS maxAdjRibIntegritycheck;
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi corruptAdjRIBIn(6);;

packetBomb **NOTIFICATION**

BEHAVIOUR packetBomb-B
BEHAVIOUR DEFINED AS The indication that the local BIS has been presented with a BISPDU whose source is not one of the BISs adjacent to the local BIS. Such BISPDUs are rejected by the local BIS.
MODE NON-CONFIRMED
WITH INFORMATION SYNTAX ISOxxxx-IDRP.NotificationInfo
REGISTERED AS ISOxxxx-IDRP.noi packetBomb(7);;

12.7 Parameter Definitions

! notificationRemoteBIS-NET **PARAMETER**

CONTEXT ACTION-REPLY;
WITH SYNTAX ISOxxxx-IDRP.remoteBIS-NET;
BEHAVIOUR RemoteBIS-NET-B
PARAMETER DEFINED AS The NET of the Remote BIS that this local BIS is starting IDRP protocol communication with.;
REGISTERED AS ISOxxx-IDRP.proi RemoteBIS-NET(1);

! ~~Remotebis-NET **PARAMETER**~~

! ~~**CONTEXT** EVENT-INFO;~~
! ~~**WITH SYNTAX** ISOxxxx-IDRP.remoteBIS-NET;~~
! ~~**BEHAVIOUR** Remotebis-NET-B~~
! ~~**PARAMETER DEFINED AS** The NET of the~~
! ~~Remote BIS that this local BIS is starting~~
! ~~IDRP protocol communication with.;~~
! ~~**REGISTERED AS** ISOxxxx-IDRP.proi~~
! ~~Remotebis-NET(1);~~

! notificationSTATE **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.state
BEHAVIOUR ISOxxx-IDRP.STATE-B
PARAMETER DEFINED AS The state of the local BIS Finite State machine.;
REGISTERED AS ISOxxxx-IDRP.prio STATE(1);

! notificationBISpduerrorcode **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.bispduerrorcode
BEHAVIOUR ISOxxxx-IDRP.BISpduerrorcode-B
BEHAVIOUR DEFINED AS The error code indicating what type of error occurred in the BIS PDU.;
REGISTERED AS ISOxxxx-IDRP.prio BISpduerrorcode(2)

! notificationBISpduerrorsubcode **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.bispduerrorsubcode
BEHAVIOUR ISOxxxx-IDRP.BISpduerrorcode-B
BEHAVIOUR DEFINED AS The error code indicating what type of error within the major error type occurred in the BIS PDU.;
REGISTERED AS ISOxxxx-IDRP.prio BISpduerrorsubcode(3)

! notificationBISpduerrorinfo **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.bispduerrorinfo
BEHAVIOUR ISOxxxx-IDRP.BISpduerrorinfo-B
BEHAVIOUR DEFINED AS The additional information from original pdu that indicated an error in the BIS PDU.;
REGISTERED AS ISOxxxx-IDRP.prio BISpduerrorinfo(4);

! notificationRemoteRDCconfig **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.remoteRDCconfig;
BEHAVIOUR ISOxxxx-IDRP.RemoteRDCconfig-B
BEHAVIOUR DEFINED AS The Routing Domain Confederation (RDC) information from the remote BIS on this BIS to BIS communication.;
REGISTERED AS ISOxxxx-IDRP.prio RemoteRDCconfig(5);

! notificationLocalRDCconfig **PARAMETER**

CONTEXT EVENT-INFO;
WITH SYNTAX ISOxxxx-IDRP.localRDCconfig;
BEHAVIOUR ISOxxx-IDRP.LocalRDCconfig-B
BEHAVIOUR DEFINED AS The Routing Domain Confederation (RDC) information from this local BIS on this BIS to BIS communcation.;
REGISTERED AS ISOxxxx-IDRP.prio LocalRDCconfig(6);

12.8 Attribute Groups

counters **ATTRIBUTE** group

DESCRIPTION The group of all counter per BIS connection
REGISTERED AS {ISO xxxxx-IDRP.agoi counters [1]};

stateinfo **ATTRIBUTE** group

DESCRIPTION The group of all state information per BIS connection
REGISTERED AS {ISO xxxx-IDRP.agoi stateinfo[2]};

! bistimer **ATTRIBUTE** group

! **DESCRIPTION** The group of all timers per BIS
! connection
! **REGISTERED AS** {ISO xxxx-IDRP.agoi
! bistimer[2]};

12.9 ASN.1 MODULES

! ISO 10747-IDRP(tbd1) **DEFINITIONS::=BEGIN**
-- object identifier definitions
sc6 **OBJECT IDENTIFIER** ::= {joint-iso-ccitt sc6(?)}
-- value to be assigned by SC21 secretariat
! idrpoi **OBJECT IDENTIFIER** ::= {sc6 iso 10747(?)}
-- value to be assigned by SC6 secretariat
! sseoi **OBJECT IDENTIFIER** ::{idrpoi
! standSpecificExtensions(0)}
moi **OBJECT IDENTIFIER** ::= {idrpoi objectClass (3)}
poi **OBJECT IDENTIFIER** ::= {idrpoi package (4)}
proi **OBJECT IDENTIFIER** ::={idrpoi parameter(5)}
nboi **OBJECT IDENTIFIER** ::={idrpoi nameBinding (6)}
aoi **OBJECT IDENTIFIER** ::={idrpoi attribute (7)}
agoi **OBJECT IDENTIFIER** ::={idrpoi attributeGroup (8)}
aoi **OBJECT IDENTIFIER** ::={idrpoi action (9)}
noi **OBJECT IDENTIFIER** ::={idrpoi action (10)}
!
! --
! --object identifiers for notification parameters
! --
!
! OBJECT IDENTIFIER ::={sseoi
! SpecificProblems(3)?}
!
! errorBISPDUsent OBJECT IDENTIFIER ::= {se
! errorBISPDU(0)}
! openBISpduRDCerror OBJECT IDENTIFIER ::= {se
! errorBISPDU(1)}
! errorBISPDUconnectionclose OBJECT IDENTIFIER
! ::= {se errorBISPDU(2)}
! CorruptAdjRIBIn OBJECT IDENTIFIER ::= {se
! errorBISPDU(3)}
! packetBomb OBJECT IDENTIFIER ::= {se
! errorBISPDU(4)}
! enterFSMstate OBJECT IDENTIFIER ::= {se
! errorBISPDU(5)}
! FSMStateChange OBJECT IDENTIFIER ::= {se
! errorBISPDU(6)}
!
! --
! --ASN1 Types and Values
! --
!

ActionInfo ::=**SET OF** Parameter
ActionReply ::= **SEQUENCE** {
responseCode **OBJECT IDENTIFIER**
responseArgs **SET** of Parameter **OPTIONAL**}
AuthenticationCode ::=**ENUMERATED**{
integrityOnly(0),
integrityPlusAuthentication(1)}
auth_type ::=AuthenticationCode
BIS_group ::= **SET OF** {NetworkEntityTitle}
bis_net::= NetworkEntityTitle
bisnegotiatedversion ::=version
bispduerrorcode::= **ENUMERATED** {
OPEN_PDU_Error (1),
UPDATE_PDU_Error (2),
Hold_timer_Expired (3),
bispduerrorsubcode ::= **SET OF** {
openerrorsubcode,
updateerrorsubcode}
bispduerrorinfo ::=**OCTETSTRING**(1...50)
bispeersSNPAs ::= SNPAAddresses
Boolean ::= **BOOLEAN**
capacity ::==**INTEGER**(1...255)
closewaitdelayperiod ::=**INTEGER**(150)
! destinationspecificqos ::=ribattsec
! destinationspecificsecurity ::=ribattsec
! expensevalue ::=localexpense
Holdtime ::=**INTEGER**(1...65 535)
keepaliveSincelastupdupdate ::=**INTEGER**(1...65 535)
keepalivetimer ::= timer
lastseqnosent ::=**INTEGER**(1...(4 294 967 295))
lastseqnorecv ::=**INTEGER**(1...(4 294 967 295))
lastacksent ::=**INTEGER**(1...(4 294 967 295))
lastackrecv ::=**INTEGER**(1...(4 294 967 295))
locexpense ::= **INTEGER**(1...65 535)
localRDCconfig ::=rdc_group
local_SNPAs ::= SNPAaddresses
MaximumPDUSize ::=**INTEGER**(1..65 535)
! Metriclength ::=**INTEGER(1...255)**
! Metricvalue ::=**OCTETSTRING(SIZE(1...255))**
! NSAPprefixLength ::=**INTEGER(1...160)**
! NSAPprefix ::= BITSTRING(SIZE(1...160)
NetworkEntityTitle ::=**OCTETSTRING**(SIZE(1...20))
NotificationInfo ::=**SET OF** Parameter
openerrorsubcode ::=**ENUMERATED** {
UnsupportedVersion_number (1),
Bad_Max_PDU_size (2),
Bad_Outstanding_PDUs (3),
Bad_Peer_RD (4),
Unsupported_Authentication_code (5),
Authentication_Failure (6),
Bad_RIB-AttrsSet (7),
RDC_mismatch (8)}
OutstandingPdus ::=**INTEGER**(0...255)
Parameter ::= **SEQUENCE** {
paramID **OBJECTIDENTIFIER**
paramInfo **ANY DEFINED BY** ParmID}
priority ::=**INTEGER**(0...14)
! priorityvalue ::=priority
! QOSlength ::= **INTEGER**(1...255)
! QOSvalue ::= **OCTETSTRING**(SIZE(1...255))
rdi ::=**OCTETSTRING**(SIZE(1...20));

--assigned from the NSAP address space
rdc_group::=**SEQUENCE**{**SEQUENCE**
rdc_set_id,**SET OF** {rdi}}}
rdc_set_id ::=**INTEGER**(1..255)
RDtransitDelay ::=**INTEGER**(0...65 535)
rdlre ::=**INTEGER**(0...(4 294 967 295))
! retransmission_timer ::= **INTEGER**(0...65535)
remoteBIS-NET ::=NetworkEntityTitle
remoteRDCconfig ::=rdc_group
ribattsSet ::=SEQUENCE {
SEQUENCE {
ribsetid,
ribsetcount,
SET OF {rib_attributes}}
ribsetid ::=**INTEGER**(1..255)
ribsetcount ::=**INTEGER**(0..255)
rib_attributes ::= **SEQUENCE OF** {
rib_attribute,
rib_value}
rib_attribute ::= **ENUMERATED** {
! TRANSIT_DELAY (9),
! RESIDUAL_ERROR (10),
! EXPENSE (11),
! SourceSpecificQOS (12),
! DestinationSpecificQOS (13),
! SourceSpecificSecurity (17),
! DestinationSpecificSecurity(18),
! Capacity (19),
! Priority (20)}
! ~~rib_value :: = **OCTETSTRING**~~
! ~~-- This octetstring may vary according to the~~
! ~~-- rib_attribute value. Source Specific QOS,~~
! ~~-- Destination SPecific QOS, SOurce Specific~~
! ~~-- Security, Destination Specific Security,~~
! ~~-- may have varying lengths of rib attribute~~
! ~~values.~~
! ~~-- See the appropriate subclause of 8.12~~
! ~~-- for more details~~
! rib_value ::= **SEQUENCE OF**{ribattlength,
! ribattvalue}
! ribattlength ::= **INTEGER**
! ribattvalue ::= **CHOICE OF{**
! transitdelayvalue,
! residualerrorvalue,
! expensevalue,
! sourcespecificqos,
! destinationspecificqos,
! sourcespecificsecurity,
! destinationspecificsecurity,
! capacityvalue,
! priorityvalue}
! ribattqos ::= **SEQUENCE OF**{
! NSAPprefixlength,
! NSAPprefix,
! QOSlength,
! QOSvalue,
! metriclength,
! metricvalue}
! ribattsec ::= **SEQUENCE OF**{
! NSAPprefixlength,
! NSAPprefix,
! securitylength,
! securitylevel}
! securitylength ::= **INTEGER**(0...255)
! securitylevel ::= **OCTETSTRING**(SIZE(1...255))
! ~~routeselectiontimer ::= timer~~
! ~~rdoriginationtimer ::= timer~~
SNPAAddress ::=**SET OF** {
SNPA_Type, SNPAaddress}
SNPAaddress ::= **SEMIOCTET STRING**
(**FROM**
('1'H|'2'H|'3'H|'4'H|'5'H|'6'H|'7'H|'8'H|'9'H|
'A'H|'B'H|'C'H|'D'H|'E'H|'F'H))
--integral number of hexadecimal digits
SNPAaddresses ::= **SET OF** SNPAAddress
state ::= **ENUMERATED** {
closed (0),
open-recv(1),
established(2),
open-sent(3),
close-wait(4)}
system_id_group ::= **SEQUENCE OF** {
SET OF {NetworkEntityTitle},
SET OF {EndSystemNSAPs}}
! ~~timer ::=**SEQUENCE** {~~
! ~~exponent [1] INTEGER (-62...63)~~
! ~~mantissa [2] INTEGER (0...65 535)~~
updateerrorsubcode ::=**ENUMERATED** {
Malformed_Attribute_list (1),
Unrecognized_Well-known_Attribute (2),
Missing_Well-known_Attribute (3),
Attribute_Flags_Error (4),
Attribute_Length_Error (5),
RD_Routeing_Loop (6),
Invalid_NEXT_HOP_Attribute (7),
Optional_Attribute_error (8),
Invalid_Reachability_Information (9),
Misconfigured_RDCs (10)}
updatesin ::=**INTEGER**(1...4 294 967 295)
updatesout ::=**INTEGER**(1...4 294 967 295)
totalbispdusin ::=**INTEGER**(1..4 294 967 295)
totalbispdusout ::=**INTEGER**(1..4 294 967 295)
version ::=**INTEGER** (1...255)
waitdelattimer ::= timer