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TECHNICAL CORRIGENDUM 1

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Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements

Part 1AX:
Link aggregation

TECHNICAL CORRIGENDUM 1

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseaux locaux et métropolitains — Exigences spécifiques

Partie 1AX: Agrégation de lien

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO/IEC/IEEE 8802-1AX:2016/Cor 1 was prepared by the LAN/MAN of the IEEE Computer Society (as IEEE Std 802.1AX-2014/Cor 1-2017) and drafted in accordance with its editorial rules. It was adopted, under the "fast-track procedure" defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC6, *Telecommunications and information exchange between systems*.

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IEEE Standard for
Local and metropolitan area networks—

Link Aggregation—Corrigendum 1:
Technical and editorial corrections

Sponsor

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of the
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Approved 14 February 2017
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Abstract: Technical and editorial corrections are provided in this corrigendum to IEEE Std 802.1AX-2014.

Keywords: Aggregated Link, Aggregator, corrigendum, Distributed Resilient Network Interconnect, DRNI, IEEE 802®, IEEE 802.1AX™, interconnect, Link Aggregation, Link Aggregation Group, local area network, management, Network-Network Interface, NNI

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Introduction

This introduction is not part of IEEE Std 802.1AX-2014/Cor 1-2017, IEEE Standard for Local and metropolitan area networks—Link Aggregation—Corrigendum 1.

This standard contains state-of-the-art material. The area covered by this standard is undergoing evolution. Revisions are anticipated within the next few years to clarify existing material, to correct possible errors, and to incorporate new related material. Information on the current revision state of this and other IEEE 802 standards may be obtained from

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**IEEE Standard for
Local and metropolitan area networks—**

Link Aggregation—Corrigendum 1: Technical and editorial corrections

NOTE—The editing instructions contained in this corrigendum define how to merge the material contained therein into the existing base standard. The editing instructions are shown in ***bold italic***. Four editing instructions are used: change, delete, insert, and replace. ***Change*** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strikethrough~~ (to remove old material) and underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Deletions and insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.

6. Link Aggregation

6.1 Overview

6.1.1 Goals and objectives

Change item o) as follows:

o) **Multipoint Aggregations**—The mechanisms specified in this clause ~~do not~~ support a~~ggregations among more than two~~ System~~s~~ that forms a Link Aggregation Group with another individual System or with a Portal consisting of up to three Systems. (See Clause 9~~, Distributed Resilient Network Interconnect,~~ for ~~aggregations among two Portals each consisting of up to three Systems~~ mechanisms that support a Portal forming a Link Aggregation group with an individual System or with another Portal.)

6.4.2 LACPDU structure and encoding

6.4.2.1 Transmission and representation of octets

Change item d) as follows:

d) When consecutive octets are used to represent a MAC address, the least significant bit of the first octet is assigned the value of the first bit of the MAC address, the next most significant bit the value of the second bit of the MAC address, and so on through the eighth bit. Similarly, the least significant through most significant bits of the second octet are assigned the value of the ninth through ~~seventeenth~~sixteenth bits of the MAC address, and so on for all the octets of the MAC address.

6.4.2.4 Version 2 TLVs

Change 6.4.2.4.1 as follows:

6.4.2.4.1 Port Algorithm TLV

This TLV is required to support the Conversation-sensitive LACP operation (6.6.2) and shall be present on all Version 2 LACPDU exchanges. The Port Algorithm TLV structure shall be as shown in Figure 6-9 and as further described in the following field definitions:

TLV_type = Port Algorithm	1
Port_Algortithm_Length = 6	1
Actor_Port_Algorithm	4

Figure 6-9—Port Algorithm TLV

a) *TLV_type = Port Algorithm.* This field indicates the nature of the information carried in this TLV-tuple. The Port Algorithm TLV is identified by the integer value 0x04.
b) *Port_Algorithm_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Algorithm TLV uses a length value of 6 (0x06).
c) *Actor_Port_Algorithm.* This field contains the value of the Actor_Oper_Port_Algorithm ~~algorithm~~ used to assign frames to Port Conversation IDs. It consists of the 3-octet organizationally unique identifier (OUI) or Company Identifier (CID) identifying the organization that is responsible for this

algorithm and one following octet used to identify the Port Algorithm by that organization. ~~always set equal to aAggPortAlgorithm (7.3.1.1.33).~~ Table 6-4 provides the IEEE 802.1 OUI (00-80-C2) Port Algorithm encodings.

Table 6-4—IEEE Port Algorithms

Port Algorithm field	Value
Unspecified distribution algorithm	00-80-C2-00 ~~0~~
Distribution based on C-VIDs	00-80-C2-01 ~~1~~
Distribution based on S-VIDs	00-80-C2-02 ~~2~~
Distribution based on I-SIDs	00-80-C2-03 ~~3~~
Distribution based on TE-SIDs	00-80-C2-04 ~~4~~
Distribution based on ECMP Flow Hash	00-80-C2-05 ~~5~~
Reserved	00-80-C2-06 through 00-80-C2-FF ~~6–255~~

Change 6.4.2.4.2 as follows:

6.4.2.4.2 Port Conversation ID Digest TLV

This TLV is required to support the Conversation-sensitive LACP operation (6.6.2) and shall be present on all Version 2 LACPDU exchanges. The Port Conversation ID Digest TLV structure shall be as shown in Figure 6-10 and as further described in the following field definitions:

TLV_type = Port Conversation ID Digest	1
Port_Conversation_ID_Digest_Length = 20	1
Link_Number_ID	2
Actor_Conversation_LinkList_Digest	16

Figure 6-10—Port Conversation ID Digest TLV

a) *TLV_type = Port Conversation ID Digest.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation ID Digest TLV is identified by the integer value 0x05.

b) *Port_Conversation_ID_Digest_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation ID Digest TLV uses a length value of 2 (0x14).

c) *Link_Number_ID.* This field contains the operational value of the Link_Number_ID that is assigned to this Aggregation Port in order to identify Link_Number_ID configuration errors.

d) *Actor_Conversation_LinkList_Digest.* This field contains the value of the MD5 digest ~~Actor_Conversation_LinkList_Digest ()~~ Actor_Oper_Conversation_LinkList_Digest for exchange with the Partner System.

Change 6.4.2.4.3 as follows:

6.4.2.4.3 Port Conversation Mask TLVs

There are four Port Conversation Mask TLVs, as follows:

a) Port Conversation Mask-1 TLV
b) Port Conversation Mask-2 TLV
c) Port Conversation Mask-3 TLV
d) Port Conversation Mask-4 TLV

If any of the Port Conversation Mask TLVs are to be carried in an LACPDU then When LongLACPDUtransmit is TRUE, all four shall be carried together, and placed in the same order as the preceding list, and include the Port_Oper_Conversation_Mask_1 field in the Port Conversation Mask-1 TLV. When LongLACPDUtransmit is FALSE, only the Port Conversation Mask-1, without the Port_Oper_Conversation_Mask_1 field, shall be present. These TLVs are required to support the Conversation-sensitive LACP operation (6.6.2), and they shall be present on all Long LACPDU exchanges.

The Port Conversation Mask-1 TLV structure shall be as shown in Figure 6-11 and as further described in the following field definitions:

TLV_type = Port Conversation Mask-1	1
Port_Conversation_Mask_1_Length = 3 or 131	1
Port_Conversation_Mask_State	1
Port_Oper_Conversation_Mask_1 (if LongLACPDUtransmit == TRUE)	128

Figure 6-11—Port Conversation Mask-1 TLV

e) *TLV_type = Port Conversation Mask-1.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation Mask-1 TLV is identified by the integer value 0x06.

f) *Port_Conversation_Mask_1_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation Mask-1 TLV uses a length value of either 3 (0x03) or 131 (0x83).

g) *Port_Conversation_Mask_State.* The Port Conversation Mask state variables for the Aggregation Port, encoded as individual bits within a single octet, as follows and as illustrated in Figure 6-12:

1) *ActPar_Sync* is encoded in bit 0. This flag indicates if the Port Conversation Mask used by the Actor's Frame Distributor is the same or not as that used by the Partner's Frame Distributor. TRUE (encoded as a 1) if Partner_Oper_Conversation_Mask == Port_Oper_Conversation_Mask. Its value is otherwise FALSE (encoded as a 0);

2) *Portal System Isolated (PSI)* is encoded in bit 1. This flag is only applicable for Portal Systems (Clause 9) and is used to indicate if the Portal System is isolated from the other Portal Systems within the Portal (). TRUE (encoded as a 1) if DRF_Neighbor_Oper_DRCP_State.IPP_Activity == FALSE on all IPPs on this Portal System. Its value is otherwise FALSE (encoded as a 0);

3) *Discard Wrong Conversation (DWC)* is encoded in bit 2. This flag is used to indicate if the Aggregator will discard frames with incorrect Port Conversation IDs. When the Aggregation Port is ready to activate the link (i.e., Actor_Oper_Port_State.Synchronization is TRUE), it It is encoded as a 1 if Discard_Wrong_Conversation == TRUE and as 0 otherwise. When the Aggregation Port is not ready to activate the link (i.e., Actor_Oper_Port_State.Synchronization is FALSE), this bit is transmitted as 0;

4) All other bits in the octet are reserved for future use. They are transmitted as zero and are ignored on receipt.

BIT 0	1	2	3	4	5	6	7
ActPar_Sync	PSI	DWC	Reserved	Reserved	Reserved	Reserved	Reserved

NOTE—Bit ordering within this field is as specified in 6.4.2.1.

Figure 6-12—Bit encoding of the Conversation_Mask_State fields

h) *Port_Oper_Conversation_Mask_1.* ~~This~~ If LongLACPDUtransmit is TRUE, this field contains the Boolean values of the mask for the first 1024 indexed Port Conversation IDs of the Port_Oper_Conversation_Mask Boolean vector encoded in increasing Port Conversation ID order starting from Port Conversation ID 0 up to Port Conversation ID 1023.

The Port Conversation Mask-2 TLV structure shall be as shown in Figure 6-13 and as further described in the following field definitions:

TLV_type = Port Conversation Mask-2	1
Port_Conversation_Mask_2_Length = 130	1
Port_Oper_Conversation_Mask_2	128

Figure 6-13—Port Conversation Mask-2 TLV

i) *TLV_type = Port Conversation Mask-2.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation Mask-2 TLV is identified by the integer value 0x07.

j) *Port_Conversation_Mask_2_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation Mask-2 TLV uses a length value of 130 (0x82).

k) *Port_Oper_Conversation_Mask_2.* This field contains the Boolean values of the mask for the second 1024 indexed Port Conversation IDs of the Port_Oper_Conversation_Mask Boolean vector encoded in increasing Port Conversation ID order starting from Port Conversation ID 1024 up to Port Conversation ID 2047.

The Port Conversation Mask-3 TLV structure shall be as shown in Figure 6-14 and as further described in the following field definitions:

TLV_type = Port Conversation Mask-3	1
Port_Conversation_Mask_3_Length = 130	1
Port_Oper_Conversation_Mask_3	128

Figure 6-14—Port Conversation Mask-3 TLV

l) *TLV_type = Port Conversation Mask-3.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation Mask-3 TLV is identified by the integer value 0x08.

m) *Port_Conversation_Mask_3_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation Mask-3 TLV uses a length value of 130 (0x82).

n) *Port_Oper_Conversation_Mask_3.* This field contains the Boolean values of the mask for the third 1024 indexed Port Conversation IDs of the Port_Oper_Conversation_Mask Boolean vector encoded in increasing Port Conversation ID order starting from Port Conversation ID 2048 up to Port Conversation ID 3071.

The Port Conversation Mask-4 TLV structure shall be as shown in Figure 6-15 and as further described in the following field definitions:

TLV_type = Port Conversation Mask-4	1
Port_Conversation_Mask_4_Length = 130	1
Port_Oper_Conversation_Mask_4	128

Figure 6-15—Port Conversation Mask-4 TLV

o) *TLV_type = Port Conversation Mask-4.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation Mask-4 TLV is identified by the integer value 0x09.

p) *Port_Conversation_Mask_4_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation Mask-4 TLV uses a length value of 130 (0x82).

q) *Port_Oper_Conversation_Mask_4.* This field contains the Boolean values of the mask for the final 1024 indexed Port Conversation IDs of the Port_Oper_Conversation_Mask Boolean vector encoded in increasing Port Conversation ID order starting from Port Conversation ID 3072 up to Port Conversation ID 4095.

Change 6.4.2.4.4 as follows:

6.4.2.4.4 Port Conversation Service Mapping TLV

This TLV is only required when the Service IDs are different from the Conversation ID. The Port Conversation Service Mapping TLV structure shall be as shown in Figure 6-16 and as further described in the following field definitions:

TLV_type = Port Conversation Service Mapping Digest	1
Port_Conversation_Service_Mapping_Digest_Length = 18	1
Actor_Conversation_Service_Mapping_Digest	16

Figure 6-16—Port Conversation Service Mapping TLV

a) *TLV_type = Port Conversation Service Mapping Digest.* This field indicates the nature of the information carried in this TLV-tuple. The Port Conversation Service Mapping TLV is identified by the integer value 0x0A.

b) *Port_Conversation_Service_Mapping_Digest_Length.* This field indicates the length (in octets) of this TLV-tuple. The Port Conversation Service Mapping TLV uses a length value of 18 (0x12).

c) *Actor_Conversation_Service_Mapping_Digest.* This field contains the value of the MD5 digest computed from aAggAdminServiceConversationMap[] (7.3.1.1.38) Actor_Oper_Conversation_Service_Mapping_Digest for exchange with the Partner System.

6.4.7 Variables associated with each Aggregation Port

Change the name and definition of the variable enable_long_pdu_xmit as follows:

enable_long_pdu_xmit Enable_Long_PDU_Xmit
    A variable An administrative control indicating that Long LACPDUs can be transmitted. TRUE when Long LACPDUs can be transmitted, FALSE when only fixed sized LACPDUs (110 octets) can be transmitted. The variable is only applicable to Version 2 or higher implementations of the protocol.

Value: Boolean

6.4.8 Variables used for managing the operation of the state machines

Change the definition of the variable LACP_Enabled as follows:

LACP_Enabled
This variable indicates that the Aggregation Port is operating the LACP. If the link is not a point-to-point link, or the LACP operation is disabled, the value of LACP_Enabled shall be FALSE. Otherwise, the value of LACP_Enabled shall be TRUE.
Value: Boolean

6.4.9 Functions

Change the description of recordDefault as follows:

recordDefault
This function records the default parameter values for the Partner carried in the Partner Admin parameters (Partner_Admin_Port_Number, Partner_Admin_Port_Priority, Partner_Admin_System, Partner_Admin_System_Priority, Partner_Admin_Key, and Partner_Admin_Port_State) as the current Partner operational parameter values (Partner_Oper_Port_Number, Partner_Oper_Port_Priority, Partner_Oper_System, Partner_Oper_System_Priority, Partner_Oper_Key, and Partner_Oper_Port_State) and sets Actor_Oper_Port_State.Defaulted and Partner_Oper_Port_State.Synchronization to TRUE. It also sets the variables Link_Number_ID and Partner_Link_Number_ID to the value of Admin_Link_Number_ID.

Change the description of Enable_Collecting as follows:

Enable_Collecting
This function causes the Aggregator Parser of the Aggregator to which the Aggregation Port is attached to start collecting frames from the Aggregation Port. When Conversation-sensitive collection and distribution is supported, this function also calls the updatePartnerDistributionAlgorithm function (6.6.2.4).

Change the description of Enable_Collecting_Distributing as follows:

Enable_Collecting_Distributing
This function causes the Aggregator Parser of the Aggregator to which the Aggregation Port is attached to start collecting frames from the Aggregation Port, and the Aggregator Multiplexer to start distributing frames to the Aggregation Port. When Conversation-sensitive collection and distribution is supported, this function also calls the updatePartnerDistributionAlgorithm function (6.6.2.4).

Change the description of recordVersionNumber as follows:

recordVersionNumber
This function records the Partner's LACP implementation version as carried in the received LACPDU's *Version Number* field and updates the value of the variable Partner_LACPDU_Version_Number with the received value. If Partner_LACPDU_Version_Number is 1:
The variables Link_Number_ID and Partner_Link_Number_ID are both set to the value of Admin_Link_Number_ID.
This function is only applicable to Version 2 or higher implementations of this protocol.

6.4.12 Receive machine

Replace Figure 6-18 with the following:
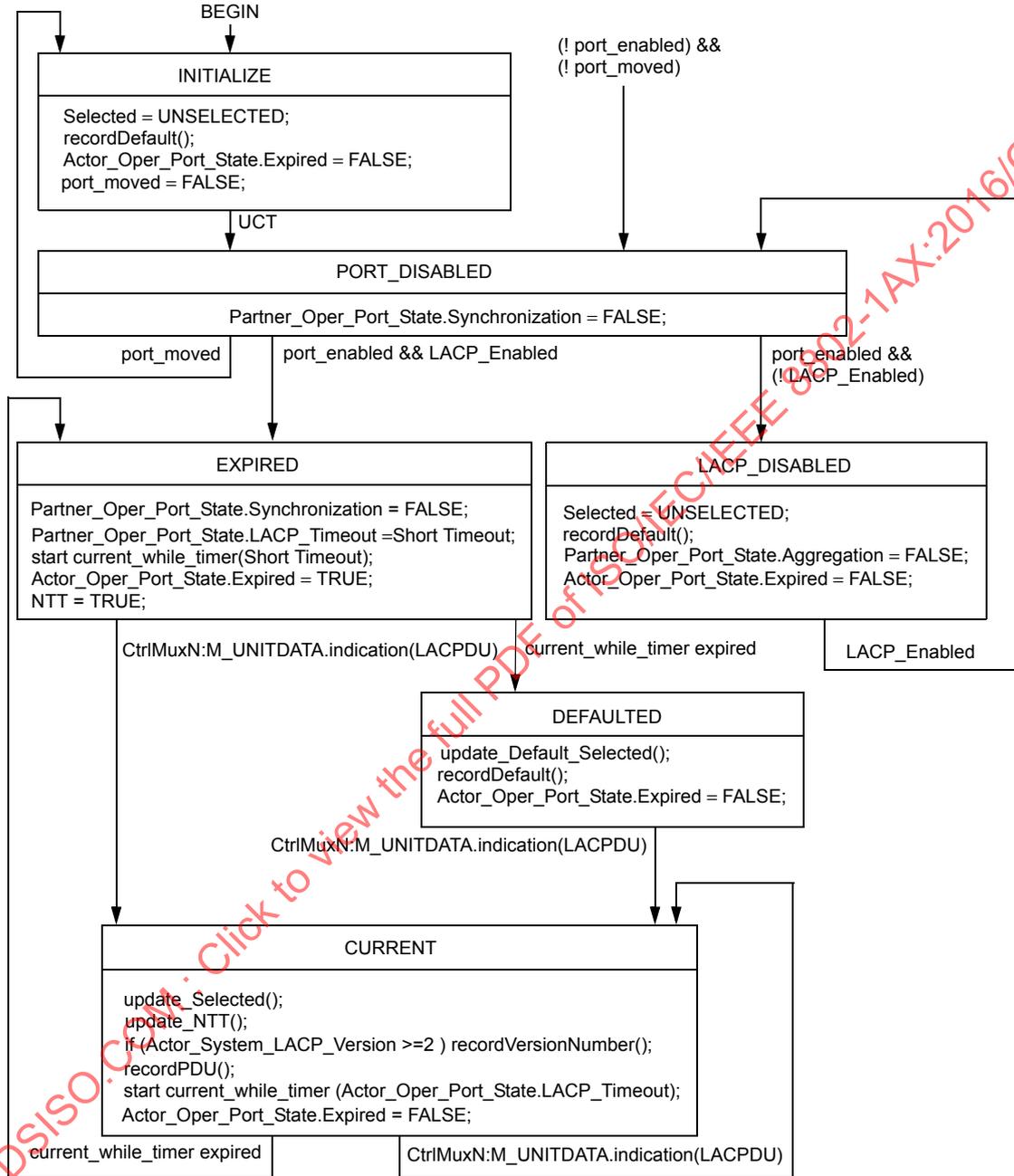
Figure 6-18—Receive machine state diagram

Change 6.4.14.2 as follows:

6.4.14.2 Selection Logic—Recommended default operation

The recommended default behavior provides an element of determinism (i.e., history independence) in the assignment of Aggregation Ports to Aggregators. It also has the characteristic that no additional MAC addresses are needed, over and above those already assigned to the set of underlying MACs.

NOTE—This standard does not specify any alternative selection rules beyond the recommended set. A wide variety of selection rules are possible within the scope of the requirements stated in 6.4.14.1. In particular, it is possible within these requirements to support implementations that provide fewer Aggregators than Aggregation Ports, as well as implementations designed to minimize configuration changes at the expense of less deterministic behavior.

~~Each Aggregation Port has an Aggregator associated with it, (i.e., the number of Aggregators in the System equals the number of Aggregation Ports supported). Each Aggregation Port/Aggregator pair is assigned the same operational Key and Port Number. When there are multiple Aggregation Ports in an aggregation, the Aggregator that the set of Aggregation Ports selects is the Aggregator with the same Port Number as the lowest-numbered Aggregation Port in the aggregation. Note that this lowest-numbered Aggregation Port may not be in a state that allows data transfer across the link; however, it has selected the Aggregator in question. This is illustrated in Figure 6-20.~~ In the default configuration, each Aggregation Port has an Aggregator associated with it (i.e., the number of Aggregators in the System equals the number of Aggregation Ports supported), and each Aggregation Port and each Aggregator is assigned the same operational Key value. This configuration may be altered to assign either of the following:

a) Different Key values to different sets of Aggregation Ports when it is not possible or not desirable to place Aggregation Ports from the different sets into the same Link Aggregation Group, or

b) A given Key value to fewer Aggregators than Aggregation Ports (e.g., to support dual-homed configurations described in 6.7.5).
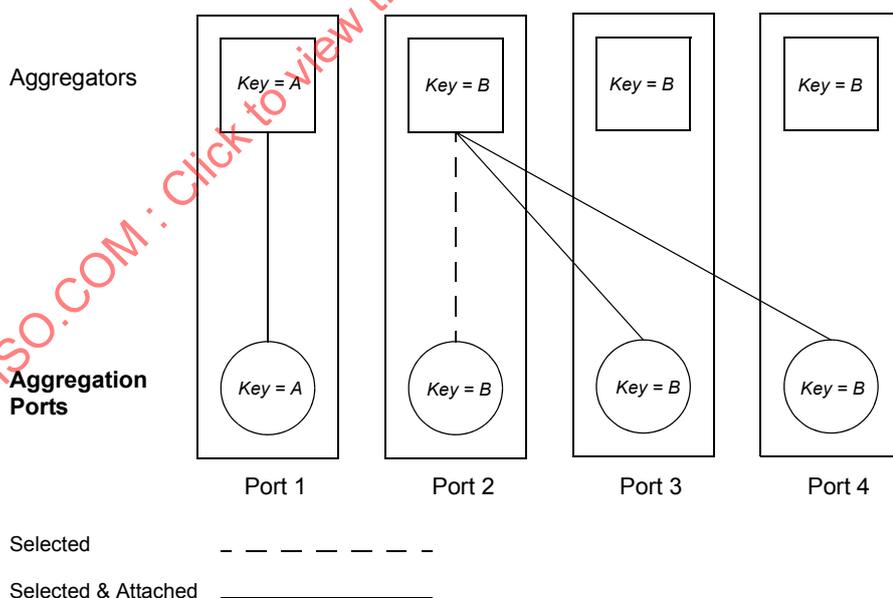
Figure 6-20—Selection of Aggregators

If the Aggregation Port is Individual, then the Aggregator selected is always the Aggregation Port's own Aggregator. Otherwise, an Aggregator is selected from the set of Aggregators ~~corresponding to the set of Aggregation Ports that will form the aggregation~~with the same operational Key value as the Aggregation Port. ~~The Aggregator selected is the lowest numbered Aggregator with the same selection parameters as those of the Aggregation Port~~When multiple Aggregation Ports have the same selection parameters they will select the same Aggregator. These selection parameters are as follows:

a) Actor's System ID
b) Actor's operational Key
c) Partner's System ID
d) Partner's operational Key
e) Individual_Aggregator state (which has to be FALSE)

Whenever possible, the Aggregator selected is the Aggregator associated with the lowest numbered Aggregation Port in the set with the same selection parameters. Note that this lowest Numbered Aggregation Port may not be in a state that allows data transfer across the link; however, it has selected the Aggregator in question. This is illustrated in Figure 6-20. If it is not possible to select the Aggregator associated with the lowest numbered Aggregation Port (e.g., if the lowest numbered Aggregation Port and its associated Aggregator have different operational Key values), then the Aggregator selected can be any Aggregator with a matching Key value that has not been selected by any Aggregation Ports with Port_Enabled set to True. If such an Aggregator cannot be found, then the Aggregation Port does not select an Aggregator until the situation changes and an appropriate Aggregator can be found.

Change 6.4.16 as follows:

6.4.16 Transmit machine

When the Transmit machine creates a LACPDU for transmission, it shall fill in the following fields with the corresponding operational values for this Aggregation Port:

a) Actor_Port and Actor_Port_Priority
b) Actor_System and Actor_System_Priority
c) Actor_Key
d) Actor_State
e) Partner_Port and Partner_Port_Priority
f) Partner_System and Partner_System_Priority
g) Partner_Key
h) Partner_State
i) CollectorMaxDelay

When the Periodic machine is in the NO_PERIODIC state, the Transmit machine shall

— Not transmit any LACPDUs, and
— Set the value of NTT to FALSE.

When the LACP_Enabled variable is TRUE and the NTT (6.4.7) variable is TRUE, the Transmit machine shall ensure that a properly formatted LACPDU (6.4.2) is transmitted [i.e., issue a CtrlMuxN:M_UNITDATA.Request(LACPDU) service primitive], subject to the restriction that no more than three LACPDUs may be transmitted in any Fast_Periodic_Time interval. If NTT is set to TRUE when this limit is in force, the transmission shall be delayed until such a time as the restriction is no longer in force. The NTT variable shall be set to FALSE when the Transmit machine has transmitted a LACPDU.

If the transmission of a LACPDU is delayed due to the preceding restriction, the information sent in the LACPDU corresponds to the operational values for the Aggregation Port at the time of transmission, not at the time when NTT was first set to TRUE. In other words, the LACPDU transmission model is based upon the transmission of state information that is current at the time an opportunity to transmit occurs, as opposed to queuing messages for transmission.

When the LACP_Enabled variable is FALSE, the Transmit machine shall not transmit any LACPDUs and shall set the value of NTT to FALSE.

In a Version 2 implementation, ~~when enable_long_pdu_xmit and LongLACPDUtransmit are TRUE~~ the transmitted LACPDU ~~will be a Long LACPDU~~ shall include the Version 2 TLVs, formatted as defined in 6.4.2.4 ~~6.4.2 and including the Port Conversation Mask TLVs (6.4.2.4.3)~~. When LongLACPDUtransmit is TRUE, the LACPDU contains all four Port_Oper_Conversation_Mask TLVs including the Port_Oper_Conversation_Mask_1 field in the Port Conversation Mask-1 TLV. When LongLACPDUtransmit is FALSE, the LACPDU contains the Port Conversation Mask-1 TLV without the Port_Oper_Conversation_Mask_1 field, and does not contain the Port Conversation Mask-2 TLV, Port Conversation Mask-3 TLV, or Port Conversation Mask-4 TLV.

Delete 6.4.18 in its entirety.

6.6 Conversation-sensitive frame collection and distribution

Change item d) as follows:

  d)   TLVs included in LACPDUs allow the Frame Distributor to specify which Conversation IDs are being transmitted on each Aggregation Port. ~~The Frame Collector stores this information in the Collection_Conversation_Mask.~~

6.6.1 Conversation-sensitive collection and distribution state diagrams

6.6.1.1.1 Variables

Insert a new Admin_Discard_Wrong_Conversation variable as follows:

  Admin_Discard_Wrong_Conversation
       Provides administrative control over the Discard_Wrong_Conversation parameter that determines whether the Frame Collector discards any frame received from an Aggregation Port with a Port Conversation ID not set in Collection_Conversation_Mask. The variable is set equal to aAggAdminDiscardWrongConversation (7.3.1.1.37) and the default value is AUTO. Values:
         FORCE_TRUE: The value of Discard_Wrong_Conversation is always TRUE.
         FORCE_FALSE: The value of Discard_Wrong_Conversation is always FALSE.
         AUTO: The value of Discard_Wrong_Conversation is TRUE if all of Differ_Port_Algorithms, Differ_Port_Conversation_Digests, and Differ_Conversation_Service_Digests are FALSE, and is FALSE otherwise.

Change the description of Discard_Wrong_Conversation as follows:

Discard_Wrong_Conversation

Discard frames with incorrect Port Conversation IDs flag. If TRUE, the Frame Collector discards any frame received from an Aggregation Port with a Port Conversation ID not set in Collection_Conversation_Mask, and the Frame Distributor uses only the frame distribution algorithm selected by the aAggPortAlgorithm (7.3.1.1.33). If FALSE, the Frame Collector does not filter frames received from the Aggregation Ports. The variable is set to TRUE if Admin_Discard_Wrong_Conversation is FORCE_TRUE, or if Admin_Discard_Wrong_Conversation is AUTO and all of the variables Differ_Port_Algorithms, Differ_Port_Conversation_Digests, and Differ_Conversation_Service_Digests are FALSE, and is set to FALSE otherwise, equal to aAggAdminDiscardWrongConversation (7.3.1.1.37).

Value: Boolean

6.6.1.5 State diagram

Replace Figure 6-29 with the following:
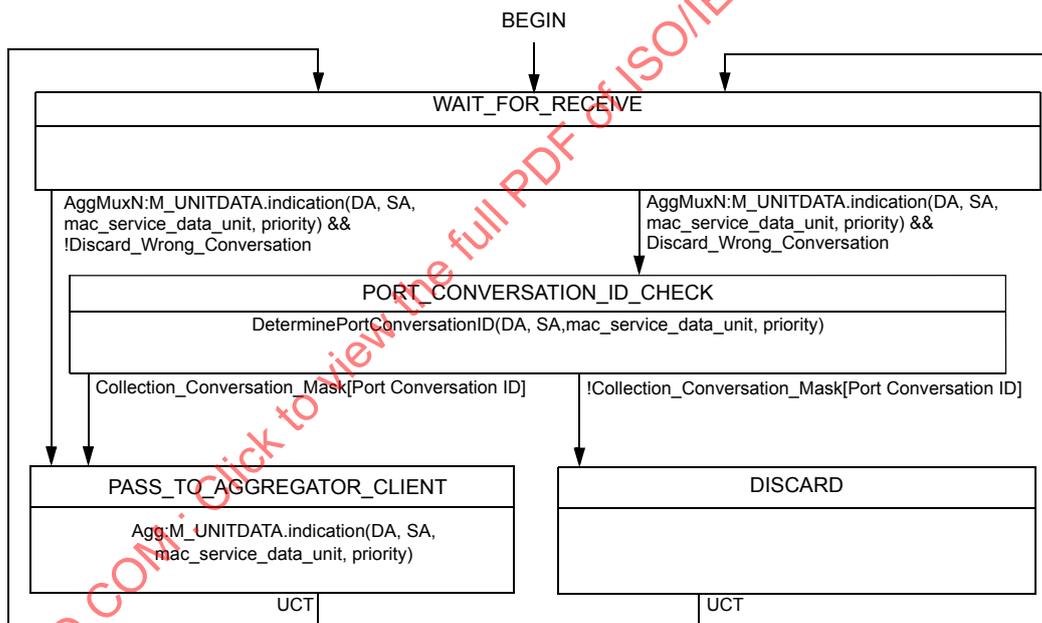
Figure 6-29—Conversation-sensitive collection state diagram

6.6.2 Conversation-sensitive LACP state diagrams

6.6.2.1 Per-Aggregator Variables

Change the description of Conversation_PortList[] as follows:

Conversation_PortList[]

This array holds the mapping of Port Conversation IDs to Aggregation Ports inside the System or Portal, derived from the primary aAggConversationAdminLink[] managed object. An array of 4096 lists, indexed by Conversation ID, that determines which Aggregation Port ~~in this System (or Portal)~~ attached to this Aggregator carries which Conversation ID. Each item in the array is a list of the Port IDs (6.3.4) of the Aggregation Ports in this System (or in this Portal, if this Aggregator is attached to a DR Function [9.3]), in priority order from most desired to least desired, for carrying the indexed Conversation ID. This variable is updated by the updateConversationPortList function, which is always invoked when a new aAggConversationAdminLink[] (7.3.1.1.35) or new aAggPortLinkNumberID (7.3.2.1.27) operator command is issued.
Value: sequence of Port IDs (6.3.4)

Change the description of Partner_Admin_Port_Algorithm as follows:

Partner_Admin_Port_Algorithm
The value for the algorithm of the Partner System, assigned by administrator or System policy for use when the Partner's information is unknown. Its default value is set to ~~NULL~~ "Unspecified" (Table 6-1).
Value: 4-octet (3-octet OUI or CID identifying the organization that is responsible for defining this algorithm followed by one octet identifying this specific algorithm).

Change the description of Partner_Conversation_PortList_Digest as follows:

Partner_Conversation_PortList_Digest
The ~~last-received digest of the Partner System's prioritized Port Conversation ID-to-Aggregation Port assignments~~ most recently modified value of Partner_Oper_Conversation_PortList_Digest for any Aggregation Port active on this Aggregator.
Value: MD5 digest

Change the description of Partner_Conversation_Service_Mapping_Digest as follows:

Partner_Conversation_Service_Mapping_Digest
The ~~last received digest of the Partner System's Port Conversation ID to Service ID assignments~~ most recently modified value of Partner_Oper_Conversation_Service_Mapping_Digest for any Aggregation Port active on this Aggregator.
Value: MD5 digest

Change the description of Partner_Port_Algorithm as follows:

Partner_Port_Algorithm
The ~~last-received value of the algorithm used by the Partner System to assign frames to Port Conversation IDs~~ most recently modified value of Partner_Oper_Port_Algorithm for any Aggregation Port active on this Aggregator.

Value: 4-octet (3-octet OUI or CID identifying the organization that is responsible for defining this algorithm followed by one octet identifying this specific algorithm).

6.6.2.2 Variables associated with each Aggregation Port

Change the description of ChangeActorOperDist as follows:

ChangeActorOperDist
This variable tracks the variable Actor_Oper_Port_State.Distributing. ~~It sets the WTR_timer to aAggPortWTRTime~~ and is set to TRUE when the Actor_Oper_Port_State.Distributing changes ~~from FALSE to TRUE and there is at least one Aggregation Port in the same LAG having a non NULL Port_Oper_Conversation_Mask. The variable is set to TRUE when the WTR_timer is not running and the Actor_Oper_Port_State.Distributing changes from TRUE to FALSE or when the WTR_timer expires and Actor_Oper_Port_State.Distributing is TRUE~~. This variable is also set to TRUE if new values for the aAggConversationAdminLink[] (7.3.1.1.35) or aAggAdminServiceConversationMap[] (7.3.1.1.38) are initiated. When the variable is set to TRUE, updateLocal is set to TRUE on all other Aggregation Ports attached to the same Aggregator. ChangeActorOperDist is set to FALSE by the updateConversationMask function.
Value: Boolean

Delete the variable Partner_Admin_Link_Number_ID.

Change the description of Partner_DWC as follows:

Partner_DWC
The ~~last received~~ most recently recorded value of the Partner System's DWC value.
Value: Boolean

Insert the descriptions of the following variables:

Actor_Oper_Conversation_PortList_Digest
The prioritized Port Conversation ID-to-Aggregation Port assignments of the Aggregator to which this Aggregation Port was most recently attached. The default value for an Aggregation Port that has not yet been attached to an Aggregator is NULL.
Value: MD5 digest
Actor_Oper_Conversation_Service_Mapping_Digest
The Port Conversation ID-to-Service ID assignments of the Aggregator to which this Aggregation Port was most recently attached. The default value for an Aggregation Port that has not yet been attached to an Aggregator is NULL.
Value: MD5 digest
Actor_Oper_Port_Algorithm
The algorithm to assign frames to Port Conversation IDs used by the Aggregator to which this Aggregation Port was most recently attached. The default value for an Aggregation Port that has not yet been attached to an Aggregator is "Unspecified" (Table 6-1).
Value: 4-octet (3-octet OUI or CID identifying the organization that is responsible for defining this algorithm followed by one octet identifying this specific algorithm).

Partner_Oper_Conversation_PortList_Digest
> The most recently recorded digest of the Partner System's prioritized Port Conversation ID-to-Aggregation Port assignments.
> Value: MD5 digest

Partner_Oper_Conversation_Service_Mapping_Digest
> The most recently recorded digest of the Partner System's Port Conversation ID-to-Service ID assignments.
> Value: MD5 digest

Partner_Oper_Port_Algorithm
> The most recently recorded value of the algorithm used by the Partner System to assign frames to Port Conversation IDs.
> Value: 4-octet (3-octet OUI or CID identifying the organization that is responsible for defining this algorithm followed by one octet identifying this specific algorithm).

6.6.2.4 Functions

Change the description of recordReceivedConversationMaskTLV as follows:

recordReceivedConversationMaskTLV
> This function records the parameter value for the *ActPar_Sync, DWC, and PSI* carried in a received Port Conversation Mask-1 TLV (6.4.2.4.3) as the current operational parameter values for the Partner_ActPar_Sync, Partner_DWC, and Partner_PSI respectively.
>
> This function also concatenates the value of *Port_Oper_Conversation_Mask_1*, *Port_Oper_Conversation_Mask_2*, *Port_Oper_Conversation_Mask_3*, and *Port_Oper_Conversation_Mask_4* carried by the Port Conversation Mask-1 TLV, ..., etc. (6.4.2.4.3), and it records the concatenation as the current value for the Partner_Oper_Conversation_Mask variable. If this function is implemented by a Portal System (Clause 9), it also records the parameter value for the PSI carried in a received Port Conversation Mask-1 TLV (6.4.2.4.3) as the current operational parameter value for the Partner_PSI.
>
> It then compares the variable Port_Oper_Conversation_Mask to the Partner_Oper_Conversation_Mask and, if they are different:
> > It sets ActPar_Sync to FALSE;
> > It sets updateLocal to TRUE;
>
> Else:
> > It sets ActPar_Sync to TRUE;
> > If Partner_ActPar_Sync is FALSE, sets updateLocal to TRUE.

Change the description of recordConversationPortDigestTLV as follows:

recordConversationPortDigestTLV
> This function records the parameter value for the *Link_Number_ID* and the Actor_Conversation_LinkList_Digest carried in a received Port Conversation ID Digest TLV (6.4.2.4.2) as the current operational parameter value for the Partner_Link_Number_ID and the Partner_Conversation_PortList_Digest respectively.
>
> It compares the newly updated value of the Partner_Link_Number_ID to the value of Link_Number_ID and if they are different, then:

~~The reportToManagement function is invoked to alert the Manager to the existence of a configuration error in the Aggregation ports selection choices for the Port Conversation IDs between the Systems or Portals at the ends of the LAG. In addition if this System's or Portal's Identifier is numerically larger than the Partner's, then~~

> ~~Link_Number_ID == Partner_Link_Number_ID; and~~
> ~~The function updateConversationPortList is invoked.~~

If this System's or Portal's Identifier is numerically larger than the Partner's, then Link_Number_ID = Partner_Link_Number_ID; otherwise, Link_Number_ID = Admin_Link_Number_ID. If this results in a change to the value of Link_Number_ID while Actor_Oper_Port_State.Distributing is TRUE, then ChangeActorOperDist is set to TRUE so that the function updateConversationPortList will be invoked.

This function also records the *Actor_Conversation_LinkList_Digest* carried in a received Port Conversation ID Digest TLV (6.4.2.4.2) as the current operational parameter value Partner_Oper_Conversation_PortList_Digest. If this results in a change to the value of Partner_Oper_Conversation_PortList_Digest and this Aggregation Port is ready to activate the link (i.e., if Actor_Oper_Port_State.Synchronization is TRUE), then the newly recorded value of Partner_Oper_Conversation_PortList_Digest is copied to the Aggregator's Partner_Conversation_PortList_Digest variable. The ~~It then compares the~~ newly updated value of the Partner_Conversation_PortList_Digest is then compared to the value of Actor_Conversation_LinkList_Digest and, if they are different:

> The variable Differ_Port_Conversation_Digests is set to TRUE.

Otherwise:

> The variable Differ_Port_Conversation_Digests is set to FALSE.

Change the description of recordConversationServiceMappingDigestTLV as follows:

recordConversationServiceMappingDigestTLV

> This function records the parameter value for the *Actor_Conversation_Service_Mapping_Digest* carried in a received Port Conversation Service Mapping TLV (6.4.2.4.4) as the current operational parameter value for ~~Partner_Conversation_Service_Mapping_Digest~~ Partner_Oper_Conversation_Service_Mapping_Digest.

> If this results in a change to the value of Partner_Oper_Conversation_Service_Mapping_Digest and this Aggregation Port is ready to activate the link (i.e., if Actor_Oper_Port_State.Synchronization is TRUE), then the newly recorded value of Partner_Oper_Conversation_Service_Mapping_Digest is copied to the Aggregator's Partner_Conversation_Service_Mapping_Digest variable. The ~~It then compares the~~ newly updated value of the Partner_Conversation_Service_Mapping_Digest is then compared to the value of Actor_Conversation_Service_Mapping_Digest and, if they are different:

> > The variable Differ_Conversation_Service_Digests is set to TRUE.

> Otherwise:

> > The variable Differ_Conversation_Service_Digests is set to FALSE.

Change the description of recordDefaultConversationPortDigest as follows:

recordDefaultConversationPortDigest

This function records the default parameter ~~values~~ value for the Partner ~~as foll ows:~~provided by the Partner_Admin_Conversation_PortList_Digest as the current Partner operational parameter value for Partner_Conversation_PortList_Digest.
~~Partner_Admin_Conversation_PortList_Digest~~
~~== Partner_Admin_Conversation_PortList_Digest;~~
~~Partner_Link_Number_ID == Partner_Admin_Link_Number_ID.~~
~~It also initializes Link_Number_ID to its configured value as follows:~~
~~Link_Number_ID == Admin_Link_Number_ID.~~
It also sets Differ_Port_Conversation_Digests to FALSE.

Change the description of recordDefaultConversationServiceMappingDigest as follows:

recordDefaultConversationServiceMappingDigest
This function records the default parameter value for the Partner provided by the Partner_Admin_Conversation_Service_Mapping_Digest as the current Partner operational parameter value for Partner_Conversation_Service_Mapping_Digest.
It also sets Differ_Conversation_Service_Digests to FALSE.

Change the description of recordDefaultPortAlgorithm as follows:

recordDefaultPortAlgorithm
This function records the default parameter value for the Partner provided by the Partner_Admin_Port_Algorithm as the current Partner operational parameter value for Partner_Port_Algorithm.
It also sets Differ_Port_Algorithms to FALSE.

Change the description of recordPortAlgorithmTLV as follows:

recordPortAlgorithmTLV
This function records the parameter value for the *Actor_Port_Algorithm* carried in a received Port Algorithm TLV (6.4.2.4.1) as the current operational parameter value for ~~Partner_Port_Algorithm~~ Partner_Oper_Port_Algorithm.

If this results in a change to the value of Partner_Oper_Port_Algorithm and this Aggregation Port is ready to activate the link (i.e., if Actor_Oper_Port_State.Synchronization is TRUE), then the newly recorded value of Partner_Oper_Port_Algorithm is copied to the Aggregator's Partner_Port_Algorithm variable. The ~~It then compares the~~ newly updated value of the Partner_Port_Algorithm is then compared to the value of Actor_Port_Algorithm and if they are different or any of them has the value ~~0~~ "Unspecified" (Table 6-1):
The variable Differ_Port_Algorithms is set to TRUE.
Otherwise:
The variable Differ_Port_Algorithms is set to FALSE.

Change the description of updateConversationMask as follows:

updateConversationMask

This function computes a new value for the Port_Oper_Conversation_Mask based on the Conversation_PortList[].

It first computes a new Boolean vector for the Comp_Oper_Conversation_Mask to be used by this Aggregation Port as follows: For every indexed Port Conversation ID, the selection priority list for all Aggregation Ports in the same LAG, which is provided by Conversation_PortList[], is checked to identify and exclude all Aggregation Ports for which the Actor_Oper_Port_State.Distributing = FALSE (condition that covers the cases where the associated Aggregation Ports are either non operable (port_enabled = FALSE), or in an EXPIRED state, or not in the LAG) and all Aggregation Ports for which the WTR_timer is running. The new Boolean vector for the Comp_Oper_Conversation_Mask to be used by this Aggregation Port is computed based on this modified priority list by setting TRUE for every indexed Port Conversation ID that has the highest selection priority for this Aggregation Port. If this function is implemented by a Portal System (Clause 9), with its DRF_Portal_System_Number value set to a value that is different than 1, its Portal's System Identifier set to a value that is numerically lower than the Partner's System Identifier, and PSI == Partner_PSI == TRUE, then Comp_Oper_Conversation_Mask is set to NULL. Such functionality is set to prohibit network partition when the Portal Systems in both interconnected Portals become isolated.

It then compares the value of Port_Oper_Conversation_Mask to the new value of Comp_Oper_Conversation_Mask. If they are different:
    It updates Collection_Conversation_Mask as follows:
        If ChangeAggregationPorts == TRUE or, updateAllLocal == TRUE, or, when the function is implemented by a Portal System, IppAllUpdate == TRUE;
    It sets the Collection_Conversation_Mask to the Boolean vector corresponding to the result of the logical AND operation between the Comp_Oper_Conversation_Mask and the current Collection_Conversation_Mask;
        Otherwise if ChangeAggregationPorts == FALSE and updateAllLocal == TRUE and, when the function is implemented by a Portal System, IppAllUpdate == FALSE;
            It sets Collection_Conversation_Mask = Comp_Oper_Conversation_Mask;
    It updates the Port_Oper_Conversation_Mask to the new value of Boolean vector corresponding to the result of the logical AND operation between the Comp_Oper_Conversation_Mask and the current Port_Oper_Conversation_Mask, and sets ActPar_Sync to FALSE;
Otherwise:
    it leaves Port_Oper_Conversation_Mask and Collection_Conversation_Mask unmodified.

Finally, it sets ChangeActorOperDist to FALSE and if enable_long_pdu_xmit If enable_long_pdu_xmit Enable_Long_PDU_Xmit is TRUE, and Partner_LACPDU_Version_Number is greater than or equal to 2, and ActPar_Sync or Partner_ActPar_Sync is FALSE, it starts the current_while_Long_LACP_timer, using Slow_Periodic_Time (6.4.4) as the start value; sets NTT to TRUE; and keeps the variable LongLACPDUtransmit TRUE until the timer's expiration.

Finally, it sets ChangeActorOperDist to FALSE.

Change the name of updateConvesationPortList as follows:

updateConversationPortList

Insert the following description of updatePartnerDistributionAlgorithm at the end of the subclause:

updatePartnerDistributionAlgorithm

If Actor_Oper_Port_State.Defaulted is TRUE or if Partner_LACPDU_Version_Number is 1:

The current values of Partner_Admin_Port_Algorithm, Partner_Admin_Conversation_PortList_Digest, and Partner_Admin_Conversation_Service_Mapping_Digest are copied to the selected Aggregator's Partner_Port_Algorithm, Partner_Conversation_PortList_Digest, and Partner_Conversation_Service_Mapping_Digest variables respectively.

Otherwise, if selected is SELECTED and Partner_Oper_Port_State.Synchronization is TRUE:

The current values of Partner_Oper_Port_Algorithm, Partner_Oper_Conversation_PortList_Digest, and Partner_Oper_Conversation_Service_Mapping_Digest are copied to the selected Aggregator's Partner_Port_Algorithm, Partner_Conversation_PortList_Digest, and Partner_Conversation_Service_Mapping_Digest variables respectively.

The value of the Partner_Port_Algorithm is compared to the value of Actor_Port_Algorithm and if they are different or any of them has the value "Unspecified" (Table 6-1):

The variable Differ_Port_Algorithms is set to TRUE.

Otherwise:

The variable Differ_Port_Algorithms is set to FALSE.

The value of the Partner_Conversation_PortList_Digest is compared to the value of Actor_Conversation_LinkList_Digest and, if they are different:

The variable Differ_Port_Conversation_Digests is set to TRUE.

Otherwise:

The variable Differ_Port_Conversation_Digests is set to FALSE.

The value of the Partner_Conversation_Service_Mapping_Digest is compared to the value of Actor_Conversation_Service_Mapping_Digest and, if they are different:

The variable Differ_Conversation_Service_Digests is set to TRUE.

Otherwise:

The variable Differ_Conversation_Service_Digests is set to FALSE.

6.6.2.5 Timers

Change 6.6.2.5 as follows:

current_while_Long_LACP_timer

This timer is used to indicate the transmission of Long LACPDUs. It is always started with the value Slow_Periodic_Time (6.4.4).

actor_CDS_churn_timer

This timer is used to detect Actor CDS churn states. It is started using the value Churn_Detection_Time (see 6.4.4).

partner_CDS_churn_timer

This timer is used to detect Partner CDS churn states. It is started using the value Churn_Detection_Time (see 6.4.4).

~~WTR_timer~~

~~This timer is used to prevent frequent distribution changes due to an intermittent defect. It allows for a fixed period of time to elapse when the Actor_Oper_Port_State.Distributing changes from FALSE to TRUE before updating the Port_Oper_Conversation_Mask. It is started using the value aAggPortWTRTime (7.3.2.1.29). There is one per Aggregation Port.~~

The timers specified in this subclause have an implementation tolerance of ± 250 ms.

6.6.2.7 State diagrams

Replace Figure 6-34 with the following:
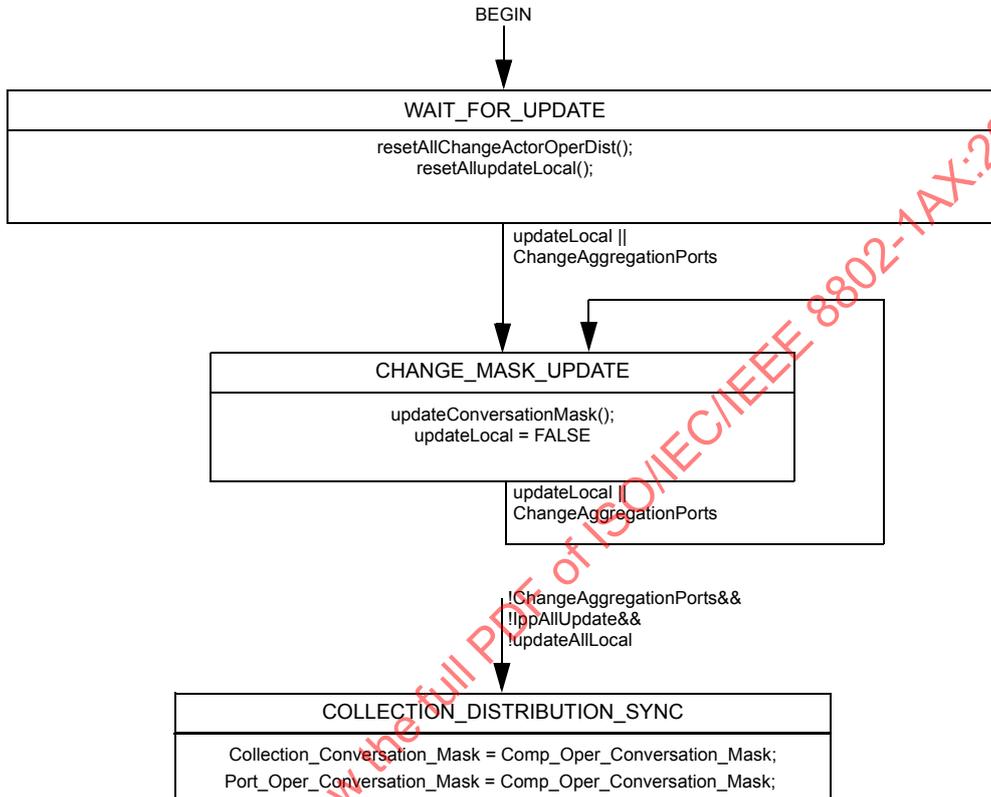
Figure 6-34—Update Mask state diagram

Insert new subclause 6.7.5 as follows:

6.7.5 LACP configuration for dual-homed Systems

A Link Aggregation System is said to be dual-homed (or multi-homed) when it has a set of Aggregation Ports intended to be connected to two (or more) Partner Systems with the restriction that only one LAG is formed from that set of Aggregation Ports. This restriction is achieved by configuring the Administrative Keys, and assigning the Operational Keys, such that:

a) All Aggregation Ports in the set are allocated the same Operational Key value, and that value is different than the Operational Key value allocated to any Aggregation Ports that are not in the set; and

b) Only one Aggregator has an Operational Key value that is the same as the Operational Key value of the Aggregation Ports in the set.

The result is that only one Aggregator is available for the set of Aggregation Ports.

Figure 6-37 shows two examples of dual-homed systems. In Figure 6-37(a), the dual-homed System is connected to two different Partner Systems. In this case, the two Aggregation Ports cannot select the same Aggregator, and only one Aggregator is available, so the selection logic causes only one Aggregation Port of the set to be selected. The result is a single Link Aggregation Group that includes only one link and connects to only one of the Partner Systems. The Aggregation Port that is not initially selected is held in reserve. Should the link attached to the initially selected Aggregation Port fail, the other Aggregation Port will be selected for a new Link Aggregation Group that again includes only one link but connects to the other Partner System.
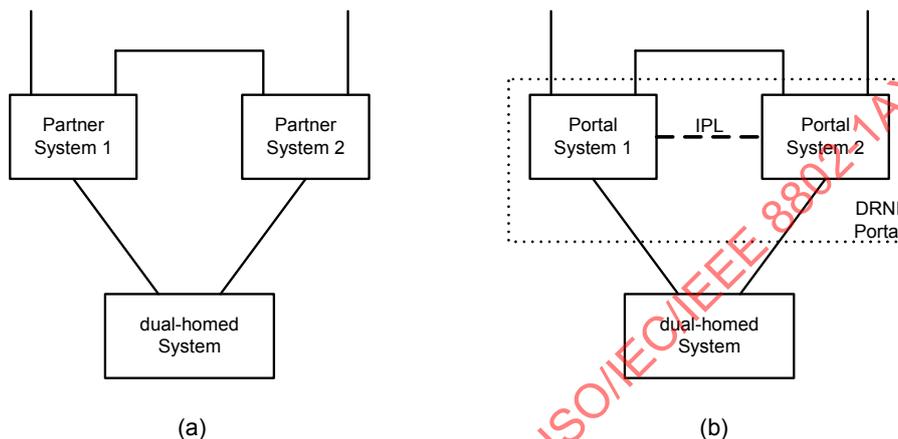
Figure 6-37—Dual-homed System examples

In Figure 6-37(b), the dual-homed System is connected to two different Portal Systems in a DRNI Portal (9.1). The normal DRNI operation allows both Portal Systems to present themselves as a single Partner System with the same Operational Key value on both links, resulting in both links become active in a single LAG. If the Intra-Portal Link (IPL) fails, however, the two Portal Systems will use different Operational Key values, which prevents both links from forming a single LAG. In this case, the restriction that the dual-homed system only has a single Aggregator available for these Aggregation Ports results in one Aggregation Port being SELECTED and the other UNSELECTED.

In both cases, the recommended default configuration of 6.4.14.2 would cause both links to become active in separate LAGs, with the resulting possibility of forming a data loop. Using the restricted configuration for a dual-homed System guarantees that no loop is formed without relying on any external loop prevention protocol.

7. Management

Replace Table 7-1 with the following:

.

Table 7–1—Link Aggregation capabilities

Object name	Object type	Operations supported	Basic package (mandatory)	Mandatory package (mandatory)	Recommended package (optional)	Optional package (optional)	Aggregation Port statistics (optional)	Aggregation Port debug information (optional)	Per-Service Frame Distribution package (optional)	DRNI package (optional)	IPP statistics (optional)	IPP debug information (optional)
oAggregator (7.3.1)												
aAggID	ATTRIBUTE	GET	X									
aAggDescription	ATTRIBUTE	GET		X								
aAggName	ATTRIBUTE	GET-SET		X								
aAggActorSystemID	ATTRIBUTE	GET-SET		X								
aAggActorSystemPriority	ATTRIBUTE	GET-SET		X								
aAggAggregateOrIndividual	ATTRIBUTE	GET		X								
aAggActorAdminKey	ATTRIBUTE	GET-SET		X								
aAggActorOperKey	ATTRIBUTE	GET		X								
aAggMACAddress	ATTRIBUTE	GET		X								
aAggPartnerSystemID	ATTRIBUTE	GET		X								
aAggPartnerSystemPriority	ATTRIBUTE	GET		X								
aAggPartnerOperKey	ATTRIBUTE	GET		X								
aAggAdminState	ATTRIBUTE	GET-SET		X								
aAggOperState	ATTRIBUTE	GET		X								
aAggTimeOfLastOperChange	ATTRIBUTE	GET		X								
aAggDataRate	ATTRIBUTE	GET		X								
aAggOctetsTxOK	ATTRIBUTE	GET			X							
aAggOctetsRxOK	ATTRIBUTE	GET			X							
aAggFramesTxOK	ATTRIBUTE	GET			X							
aAggFramesRxOK	ATTRIBUTE	GET			X							
aAggMulticastFramesTxOK	ATTRIBUTE	GET				X						
aAggMulticastFramesRxOK	ATTRIBUTE	GET				X						
aAggBroadcastFramesTxOK	ATTRIBUTE	GET				X						
aAggBroadcastFramesRxOK	ATTRIBUTE	GET				X						
aAggFramesDiscardedOnTx	ATTRIBUTE	GET			X							
aAggFramesDiscardedOnRx	ATTRIBUTE	GET			X							

Table 7–1—Link Aggregation capabilities *(continued)*

Object name	Object type	Operations supported	Basic package (mandatory)	Mandatory package (mandatory)	Recommended package (optional)	Optional package (optional)	Aggregation Port statistics (optional)	Aggregation Port debug information (optional)	Per-Service Frame Distribution package (optional)	DRNI package (optional)	IPP statistics (optional)	IPP debug information (optional)
aAggFramesWithTxErrors	ATTRIBUTE	GET			X							
aAggFramesWithRxErrors	ATTRIBUTE	GET			X							
aAggUnknownProtocolFrames	ATTRIBUTE	GET			X							
aAggLinkUpDownNotificationEnable	ATTRIBUTE	GET-SET		X								
nAggLinkUpNotification	NOTIFICATION			X								
nAggLinkDownNotification	NOTIFICATION			X								
aAggPortList	ATTRIBUTE	GET		X								
aAggCollectorMaxDelay	ATTRIBUTE	GET-SET		X								
aAggPortAlgorithm	ATTRIBUTE	GET-SET							X			
aAggPartnerAdminPortAlgorithm	ATTRIBUTE	GET-SET							X			
aAggConversationAdminLink[]	ATTRIBUTE	GET-SET							X			
aAggPartnerAdminPortConversationListDigest	ATTRIBUTE	GET-SET							X			
aAggAdminDiscardWrongConversation	ATTRIBUTE	GET-SET							X			
aAggAdminServiceConversationMap[]	ATTRIBUTE	GET-SET							X			
aAggPartnerAdminConvServiceMappingDigest	ATTRIBUTE	GET-SET							X			
aAggPortEnableLongLACPDUXmit	ATTRIBUTE	GET-SET							X			
oAggregationPort (7.3.2)												
aAggPortID	ATTRIBUTE	GET	X									
aAggPortActorSystemPriority	ATTRIBUTE	GET-SET		X								
aAggPortActorSystemID	ATTRIBUTE	GET		X								
aAggPortActorAdminKey	ATTRIBUTE	GET-SET		X								
aAggPortActorOperKey	ATTRIBUTE	GET		X								
aAggPortPartnerAdminSystemPriority	ATTRIBUTE	GET-SET		X								
aAggPortPartnerOperSystemPriority	ATTRIBUTE	GET		X								
aAggPortPartnerAdminSystemID	ATTRIBUTE	GET-SET		X								
aAggPortPartnerOperSystemID	ATTRIBUTE	GET		X								
aAggPortPartnerAdminKey	ATTRIBUTE	GET-SET		X								
aAggPortPartnerOperKey	ATTRIBUTE	GET		X								
aAggPortSelectedAggID	ATTRIBUTE	GET		X								
aAggPortAttachedAggID	ATTRIBUTE	GET		X								
aAggPortActorPort	ATTRIBUTE	GET		X								
aAggPortActorPortPriority	ATTRIBUTE	GET-SET		X								
aAggPortPartnerAdminPort	ATTRIBUTE	GET-SET		X								

Table 7–1—Link Aggregation capabilities *(continued)*

Object name	Object type	Operations supported	Basic package (mandatory)	Mandatory package (mandatory)	Recommended package (optional)	Optional package (optional)	Aggregation Port statistics (optional)	Aggregation Port debug information (optional)	Per-Service Frame Distribution package (optional)	DRNI package (optional)	IPP statistics (optional)	IPP debug information (optional)
									DTE			
aAggPortPartnerOperPort	ATTRIBUTE	GET		X								
aAggPortPartnerAdminPortPriority	ATTRIBUTE	GET-SET		X								
aAggPortPartnerOperPortPriority	ATTRIBUTE	GET		X								
aAggPortActorAdminState	ATTRIBUTE	GET-SET		X								
aAggPortActorOperState	ATTRIBUTE	GET		X								
aAggPortPartnerAdminState	ATTRIBUTE	GET-SET		X								
aAggPortPartnerOperState	ATTRIBUTE	GET		X								
aAggPortAggregateOrIndividual	ATTRIBUTE	GET		X								
aAggPortOperConversationPasses	ATTRIBUTE	GET							X			
aAggPortOperConversationCollected	ATTRIBUTE	GET							X			
aAggPortLinkNumberID	ATTRIBUTE	GET-SET							X			
aAggPortPartnerAdminLinkNumberID	ATTRIBUTE	GET-SET							X			
aAggPortWTRTime	ATTRIBUTE	GET-SET							X			
aAggPortProtocolDA	ATTRIBUTES	GET-SET		X								
oAggPortStats (7.3.3)												
aAggPortStatsID	ATTRIBUTE	GET					X					
aAggPortStatsLACPDUsRx	ATTRIBUTE	GET					X					
aAggPortStatsMarkerPDUsRx	ATTRIBUTE	GET					X					
aAggPortStatsMarkerResponsePDUsRx	ATTRIBUTE	GET					X					
aAggPortStatsUnknownRx	ATTRIBUTE	GET					X					
aAggPortStatsIllegalRx	ATTRIBUTE	GET					X					
aAggPortStatsLACPDUsTx	ATTRIBUTE	GET					X					
aAggPortStatsMarkerPDUsTx	ATTRIBUTE	GET					X					
aAggPortStatsMarkerResponsePDUsTx	ATTRIBUTE	GET					X					
oAggPortDebugInformation (7.3.4)												
aAggPortDebugInformationID	ATTRIBUTE	GET						X				
aAggPortDebugRxState	ATTRIBUTE	GET						X				
aAggPortDebugLastRxTime	ATTRIBUTE	GET						X				
aAggPortDebugMuxState	ATTRIBUTE	GET						X				
aAggPortDebugMuxReason	ATTRIBUTE	GET						X				
aAggPortDebugActorChurnState	ATTRIBUTE	GET						X				
aAggPortDebugPartnerChurnState	ATTRIBUTE	GET						X				
aAggPortDebugActorChurnCount	ATTRIBUTE	GET						X				

Table 7–1—Link Aggregation capabilities *(continued)*

Object name	Object type	Operations supported	Basic package (mandatory)	Mandatory package (mandatory)	Recommended package (optional)	Optional package (optional)	Aggregation Port statistics (optional)	Aggregation Port debug information (optional)	Per-Service Frame Distribution package (optional)	DRNI package (optional)	IPP statistics (optional)	IPP debug information (optional)
								DTE				
aAggPortDebugPartnerChurnCount	ATTRIBUTE	GET						X				
aAggPortDebugActorSyncTransitionCount	ATTRIBUTE	GET						X				
aAggPortDebugPartnerSyncTransitionCount	ATTRIBUTE	GET						X				
aAggPortDebugActorChangeCount	ATTRIBUTE	GET						X				
aAggPortDebugPartnerChangeCount	ATTRIBUTE	GET						X				
aAggPortDebugActorCDSChurnState	ATTRIBUTE	GET						X				
aAggPortDebugPartnerCDSChurnState	ATTRIBUTE	GET						X				
aAggPortDebugActorCDSChurnCount	ATTRIBUTE	GET						X				
aAggPortDebugPartnerCDSChurnCount	ATTRIBUTE	GET						X				
oDistributedRelay (7.4.1)												
aDrniID	ATTRIBUTE	GET								X		
aDrniDescription	ATTRIBUTE	GET								X		
aDrniName	ATTRIBUTE	GET-SET								X		
aDrniPortalAddr	ATTRIBUTE	GET-SET								X		
aDrniPortalPriority	ATTRIBUTE	GET-SET								X		
aDrniThreePortalSystem	ATTRIBUTE	GET-SET								X		
aDrniPortalSystemNumber	ATTRIBUTE	GET-SET								X		
aDrniIntraPortalLinkList	ATTRIBUTE	GET-SET								X		
aDrniAggregator	ATTRIBUTE	GET-SET								X		
aDrniConvAdminGateway[]	ATTRIBUTE	GET-SET								X		
aDrniNeighborAdminConvGatewayListDigest	ATTRIBUTE	GET-SET								X		
aDrniNeighborAdminConvPortListDigest	ATTRIBUTE	GET-SET								X		
aDrniGatewayAlgorithm	ATTRIBUTE	GET-SET								X		
aDrniNeighborAdminGatewayAlgorithm	ATTRIBUTE	GET-SET								X		
aDrniNeighborAdminPortAlgorithm	ATTRIBUTE	GET-SET								X		
aDrniNeighborAdminDRCPState	ATTRIBUTE	GET-SET								X		
aDrniEncapsulationMethod	ATTRIBUTE	GET-SET								X		
aDrniIPLEncapMap	ATTRIBUTE	GET-SET								X		
aDrniNetEncapMap	ATTRIBUTE	GET-SET								X		
aDrniDRPortConversationPasses	ATTRIBUTE	GET								X		
aDrniDRGatewayConversationPasses	ATTRIBUTE	GET								X		
aDrniPSI	ATTRIBUTE	GET								X		
aDrniPortConversationControl	ATTRIBUTES	GET-SET								X		

Table 7–1—Link Aggregation capabilities *(continued)*

Object name	Object type	Operations supported	Basic package (mandatory)	Mandatory package (mandatory)	Recommended package (optional)	Optional package (optional)	Aggregation Port statistics (optional)	Aggregation Port debug information (optional)	Per-Service Frame Distribution package (optional)	DRNI package (optional)	IPP statistics (optional)	IPP debug information (optional)
aDrniIntraPortalPortProtocolDA	ATTRIBUTES	GET-SET								X		
oDistributedRelayIPP (7.4.2)												
aIPPID	ATTRIBUTE	GET								X		
aIPPPortConversationPasses	ATTRIBUTE	GET								X		
aIPPGatewayConversationDirection	ATTRIBUTE	GET								X		
aIPPAdminState	ATTRIBUTE	GET-SET								?		
aIPPOperState	ATTRIBUTE	GET								?		
aIPPTimeOfLastOperChange	ATTRIBUTE	GET								?		
oIPPStats (7.4.3)												
aIPPStatsID	ATTRIBUTE	GET									X	
aIPPStatsDRCPDUsRx	ATTRIBUTE	GET									X	
aIPPStatsIllegalRx	ATTRIBUTE	GET									X	
aIPPStatsDRCPDUsTx	ATTRIBUTE	GET									X	
oIPPDebugInformation (7.4.4)												
aIPPDebugInformationID	ATTRIBUTE	GET										X
aIPPDebugDRCPRxState	ATTRIBUTE	GET										X
aIPPDebugLastRxTime	ATTRIBUTE	GET										X
aIPPDebugDifferPortalReason	ATTRIBUTE	GET										X
Common Attributes Template												
aCMCounter	ATTRIBUTE	GET	X	X	X	X	X				X	X

7.3 Management for Link Aggregation

Change 7.3.1.1.34 as follows:

7.3.1.1.34 aAggPartnerAdminPortAlgorithm

ATTRIBUTE

APPROPRIATE SYNTAX

A SEQUENCE OF OCTETS consisting of a 3-octet OUI or CID and one following octet.

BEHAVIOR DEFINED AS

> This object identifies the value for the algorithm of the Partner System, assigned by administrator or System policy for use when the Partner's information is unknown. Table 6-1 provides the IEEE 802.1 OUI (00-80-C2) Port Algorithm encodings. Its default value is set to ~~NULL~~ "Unspecified" (Table 6-4).

Change 7.3.1.1.35 as shown:

7.3.1.1.35 aAggConversationAdminLink[]

ATTRIBUTE

APPROPRIATE SYNTAX

> An array of SEQUENCE OF INTEGERs that match the syntax of a Link Number ID ().

BEHAVIOR DEFINED AS

> There are 4096 aAggConversationAdminLink[] variables, aAggConversationAdminLink[0] through aAggConversationAdminLink[4095], indexed by Port Conversation ID. Each contains administrative values of the link selection priority list for the referenced Port Conversation ID. This selection priority list is a sequence of Link Number IDs for each Port Conversation ID, in the order of preference, highest to lowest, for the corresponding link to carry that Port Conversation ID. A 16-bit zero value is used to indicate that no link is assigned to carry the associated Port Conversation ID.

NOTE 1—This mapping of Port Conversation IDs to Link Number IDs is the fundamental administrative input. An equivalent mapping of Port Conversation IDs to Port IDs [Conversation_PortList[] ()] is derived from this and used internally.

NOTE 2—When a network administrator issues a command for selection rules, provided by aAggConversationAdminLink[], ~~and accompanied with a non-zero value for aAggPortWTRTime (7.3.2.1.29) for all associated Aggregation Ports,~~ the ChangeActorOperDist is set as specified in 6.6.2.2. ~~A value of 100 for the aAggPortWTRTime indicates a non-revertive mode of operation, and the WTR_timer will be kept to the value 100.~~

Change 7.3.1.1.37 as follows:

7.3.1.1.37 aAggAdminDiscardWrongConversation

ATTRIBUTE

APPROPRIATE SYNTAX

> ~~BOOLEAN~~INTEGER {
>   FORCE_TRUE (1),
>   FORCE_FALSE (2),
>   AUTO (3)
> }

BEHAVIOR DEFINED AS

The administrative value that determines ~~what~~ whether the Aggregator ~~does with~~ discards a frame that is received from an Aggregation Port with a Port Conversation ID that is not included in the Collection_Conversation_Mask. The value "FORCE_TRUE" indicates that such frames are to be discarded, ~~and~~ the value "FORCE_FALSE" indicates that ~~they~~ such frames are to be forwarded, and the value AUTO indicates that such frames are to be discarded only when the actor and partner agree on the algorithms and

mapping tables used to map frames to Aggregation Ports. ~~This variable needs to be set to "TRUE," if bidirectional congruity (8.2.1) is required.~~ Its value is set to "~~TRUE~~AUTO" by default.

Change 7.3.2.1.28 as follows:

7.3.2.1.28 aAggPortPartnerAdminLinkNumberID

ATTRIBUTE
APPROPRIATE SYNTAX
    INTEGER, 0 to 65535
BEHAVIOUR DEFINED AS:
    This object has been deprecated. ~~The value for the Link Number ID of the Partner System for this Aggregation Port, assigned by administrator or System policy for use when the Partner's information is unknown. Its default value is set to 0.~~

Insert a new managed object at the end of 7.3.2.1 as follows:

7.3.2.1.30 aAggPortEnableLongPDUXmit

ATTRIBUTE
APPROPRIATE SYNTAX
    BOOLEAN
BEHAVIOUR DEFINED AS:
    The value "TRUE" allows LACPDUs longer than 110 octets to be transmitted. The value "FALSE" allows the transmission of only fixed-size 110 octet LACPDUs. The default value is "TRUE"

9. Distributed Resilient Network Interconnect

9.2 Distributed Relay

Change the number of Figure 9-1—Distributed Relay: as seen by Systems A and B to Figure 9-3 as follows:

Figure 9-3—Distributed Relay: as seen by Systems A and B

9.3 Distributed Relay operation and procedures

9.3.2 Intra-Portal Link

Insert the following paragraph to the end of 9.3.2 (prior to 9.3.2.1):

The operation of the DR Function state machines and Control Protocol specified in the following subclauses ensures that if a loss of connectivity via the IPL results in a Portal System being unable to communicate with other Portal Systems in the Portal, those Portal Systems will use different Operational Key values in LACPDUs exchanged on the Aggregation Links attached to the Portal Systems. This prevents Aggregation Links attached to Portal Systems that cannot communicate via an IPL from being selected for the same LAG. It is possible that these Aggregation Links could become operational in separate LAGs, however, potentially creating a communication loop through the LACP partner of the Portal Systems. To prevent this loop it is essential that the LACP partner of the DRNI Portal be configured such that there is one and only one Aggregator with the same key value as the Aggregation Ports connected to the DRNI Portal (6.7.5).

9.4 Distributed Relay Control Protocol

9.4.3 DRCPDU structure and encoding

9.4.3.1 Transmission and representation of octets

Change item d) as follows:

d) When consecutive octets are used to represent a MAC address, the least significant bit of the first octet is assigned the value of the first bit of the MAC address, the next most significant bit the value of the second bit of the MAC address, and so on through the eighth bit. Similarly, the least significant through most significant bits of the second octet are assigned the value of the ninth through ~~seventeenth~~ sixteenth bits of the MAC address, and so on for all the octets of the MAC address.

9.4.14 DRCPDU Receive machine

Replace Figure 9-23 with the following:

IEEE Std 802.1AX-2014/Cor 1-2017
IEEE Standard for Local and Metropolitan Area Networks—Link Aggregation—Corrigendum 1

BEGIN||
!IPP_port_enabled||
!DRCP_Enabled

INITIALIZE

recordDefaultDRCPDU();
DRF_Neighbor_Oper_DRCP_State.IPP_Activity = FALSE

IPP_port_enabled &&
DRCP_Enabled

EXPIRED

DRF_Neighbor_Oper_DRCP_State.IPP_Activity = FALSE;
DRF_Neighbor_Oper_DRCP_State.DRCP_Timeout = Short Timeout;
start DRCP_current_while_timer(Short Timeout);
DRF_Home_Oper_DRCP_State.Expired = TRUE

DRCPCtrlMuxN:M_UNITDATA.indication(DRCPDU)   DRCP_current_while_timer expired

PORTAL_CHECK

recordPortalValues();

DEFAULTED

DRF_Home_Oper_DRCP_State.Expired = TRUE;
recordDefaultDRCPDU();
reportToManagement();

DRCPCtrlMuxN:M_UNITDATA.indication(DRCPDU)

!Differ_Portal   Differ_Portal

COMPATIBILITY_CHECK

recordPortalConfValues();

!Differ_Conf_Portal   Differ_Conf_Portal

DISCARD

DRCPCtrlMuxN:M_UNITDATA.indication(DRCPDU)

DRCP_current_while_timer expired

CURRENT

recordNeighborState();
updateNTT();
start DRCP_current_while_timer(DRF_Home_Oper_DRCP_State.DRCP_Timeout)
DRF_Home_Oper_DRCP_State.Expired = FALSE;

DRCPCtrlMuxN:M_UNITDATA.indication(DRCPDU)   DRCP_current_while_timer expired

Figure 9-23—DRCPDU Receive machine state diagram

Annex D

(normative)

SMIv2 MIB definitions for Link Aggregation[1]

Replace Table D.1 with the following:.

Table D.1—Managed object cross reference table

Definition in Clause 7	MIB object
7.3.1.1.1 aAggID	ifIndex value
7.3.1.1.4 aAggActorSystemID	dot3adAggActorSystemID
7.3.1.1.5 aAggActorSystemPriority	dot3adAggActorSystemPriority
7.3.1.1.6 aAggAggregateOrIndividual	dot3adAggAggregateOrIndividual
7.3.1.1.7 aAggActorAdminKey	dot3adAggActorAdminKey
7.3.1.1.8 aAggActorOperKey	dot3adAggActorOperKey
7.3.1.1.10 aAggPartnerSystemID	dot3adAggPartnerSystemID
7.3.1.1.11 aAggPartnerSystemPriority	dot3adAggPartnerSystemPriority
7.3.1.1.12 aAggPartnerOperKey	dot3adAggPartnerOperKey
7.3.1.1.30 aAggPortList	dot3adAggPortListTable
7.3.1.1.32 aAggCollectorMaxDelay	dot3adAggCollectorMaxDelay
7.3.1.1.33 aAggPortAlgorithm	dot3adAggPortAlgorithm
7.3.1.1.34 aAggPartnerAdminPortAlgorithm	dot3adAggPartnerAdminPortAlgorithm
7.3.1.1.35 aAggConversationAdminLink[]	dot3adAggConversationAdminLinkTable
7.3.1.1.36 aAggPartnerAdminPortConversationListDigest	dot3adAggPartnerAdminPortConversationListDigest
7.3.1.1.37 aAggAdminDiscardWrongConversation	dot3adAggAdminDiscardWrongConversation2
7.3.1.1.38 aAggAdminServiceConversationMap[]	dot3adAggAdminServiceConversationMapTable
7.3.1.1.39 aAggPartnerAdminConvServiceMappingDigest	dot3adAggPartnerAdminConvServiceMappingDigest
7.3.2.1.1 aAggPortID	ifIndex value
7.3.2.1.2 aAggPortActorSystemPriority	dot3adAggPortActorSystemPriority
7.3.2.1.3 aAggPortActorSystemID	dot3adAggPortActorSystemID
7.3.2.1.4 aAggPortActorAdminKey	dot3adAggPortActorAdminKey
7.3.2.1.5 aAggPortActorOperKey	dot3adAggPortActorOperKey

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[1]*Copyright release for SMIv2 MIB:* Users of this standard may freely reproduce the SMIv2 MIB in this annex so it can be used for its intended purpose

Table D.1—Managed object cross reference table *(continued)*

Definition in Clause 7	MIB object
7.3.2.1.6 aAggPortPartnerAdminSystemPriority	dot3adAggPortPartnerAdminSystemPriority
7.3.2.1.7 aAggPortPartnerOperSystemPriority	dot3adAggPortPartnerOperSystemPriority
7.3.2.1.8 aAggPortPartnerAdminSystemID	dot3adAggPortPartnerAdminSystemID
7.3.2.1.9 aAggPortPartnerOperSystemID	dot3adAggPortPartnerOperSystemID
7.3.2.1.10 aAggPortPartnerAdminKey	dot3adAggPortPartnerAdminKey
7.3.2.1.11 aAggPortPartnerOperKey	dot3adAggPortPartnerOperKey
7.3.2.1.12 aAggPortSelectedAggID	dot3adAggPortSelectedAggID
7.3.2.1.13 aAggPortAttachedAggID	dot3adAggPortAttachedAggID
7.3.2.1.14 aAggPortActorPort	dot3adAggPortActorPort
7.3.2.1.15 aAggPortActorPortPriority	dot3adAggPortActorPortPriority
7.3.2.1.16 aAggPortPartnerAdminPort	dot3adAggPortPartnerAdminPort
7.3.2.1.17 aAggPortPartnerOperPort	dot3adAggPortPartnerOperPort
7.3.2.1.18 aAggPortPartnerAdminPortPriority	dot3adAggPortPartnerAdminPortPriority
7.3.2.1.19 aAggPortPartnerOperPortPriority	dot3adAggPortPartnerOperPortPriority
7.3.2.1.20 aAggPortActorAdminState	dot3adAggPortActorAdminState
7.3.2.1.21 aAggPortActorOperState	dot3adAggPortActorOperState
7.3.2.1.22 aAggPortPartnerAdminState	dot3adAggPortPartnerAdminState
7.3.2.1.23 aAggPortPartnerOperState	dot3adAggPortPartnerOperState
7.3.2.1.24 aAggPortAggregateOrIndividual	dot3adAggPortAggregateOrIndividual
7.3.2.1.25 aAggPortOperConversationPasses	dot3adAggPortOperConversationPasses
7.3.2.1.26 aAggPortOperConversationCollected	dot3adAggPortOperConversationCollected
7.3.2.1.27 aAggPortLinkNumberID	dot3adAggPortLinkNumberId
7.3.2.1.28 aAggPortPartnerAdminLinkNumberID	dot3adAggPortPartnerAdminLinkNumberId
7.3.2.1.29 aAggPortWTRTime	dot3adAggPortWTRTime
7.3.2.1.30 aAggPortEnableLongPDUXmit	dot3adAggPortEnableLongPDUXmit
7.3.2.2.1 aAggPortProtocolDA	dot3adAggPortProtocolDA
7.3.3.1.1 aAggPortStatsID	ifIndex value
7.3.3.1.2 aAggPortStatsLACPDUsRx	dot3adAggPortStatsLACPDUsRx
7.3.3.1.3 aAggPortStatsMarkerPDUsRx	dot3adAggPortStatsMarkerPDUsRx
7.3.3.1.4 aAggPortStatsMarkerResponsePDUsRx	dot3adAggPortStatsMarkerResponsePDUsRx
7.3.3.1.5 aAggPortStatsUnknownRx	dot3adAggPortStatsUnknownRx
7.3.3.1.6 aAggPortStatsIllegalRx	dot3adAggPortStatsIllegalRx
7.3.3.1.7 aAggPortStatsLACPDUsTx	dot3adAggPortStatsLACPDUsTx

Table D.1—Managed object cross reference table *(continued)*

Definition in Clause 7	MIB object
7.3.3.1.8 aAggPortStatsMarkerPDUsTx	dot3adAggPortStatsMarkerPDUsTx
7.3.3.1.9 aAggPortStatsMarkerResponsePDUsTx	dot3adAggPortStatsMarkerResponsePDUsTx
7.3.4.1.1 aAggPortDebugInformationID	ifIndex value (see IETF RFC 2863) of the port
7.3.4.1.2 aAggPortDebugRxState	dot3adAggPortDebugRxState
7.3.4.1.3 aAggPortDebugLastRxTime	dot3adAggPortDebugLastRxTime
7.3.4.1.4 aAggPortDebugMuxState	dot3adAggPortDebugMuxState
7.3.4.1.5 aAggPortDebugMuxReason	dot3adAggPortDebugMuxReason
7.3.4.1.6 aAggPortDebugActorChurnState	dot3adAggPortDebugActorChurnState
7.3.4.1.7 aAggPortDebugPartnerChurnState	dot3adAggPortDebugPartnerChurnState
7.3.4.1.8 aAggPortDebugActorChurnCount	dot3adAggPortDebugActorChurnCount
7.3.4.1.9 aAggPortDebugPartnerChurnCount	dot3adAggPortDebugPartnerChurnCount
7.3.4.1.10 aAggPortDebugActorSyncTransitionCount	dot3adAggPortDebugActorSyncTransitionCount
7.3.4.1.11 aAggPortDebugPartnerSyncTransitionCount	dot3adAggPortDebugPartnerSyncTransitionCount
7.3.4.1.12 aAggPortDebugActorChangeCount	dot3adAggPortDebugActorChangeCount
7.3.4.1.13 aAggPortDebugPartnerChangeCount	dot3adAggPortDebugPartnerChangeCount
7.3.4.1.14 aAggPortDebugActorCDSChurnState	dot3adAggPortDebugActorCDSChurnState
7.3.4.1.15 aAggPortDebugPartnerCDSChurnState	dot3adAggPortDebugPartnerCDSChurnState
7.3.4.1.16 aAggPortDebugActorCDSChurnCount	dot3adAggPortDebugActorCDSChurnCount
7.3.4.1.17 aAggPortDebugPartnerCDSChurnCount	dot3adAggPortDebugPartnerCDSChurnCount
7.4.1.1.1 aDrniID	ifIndex value
7.4.1.1.2 aDrniDescription	dot3adDrniDescription
7.4.1.1.3 aDrniName	dot3adDrniName
7.4.1.1.4 aDrniPortalAddr	dot3adDrniPortalAddr
7.4.1.1.5 aDrniPortalPriority	dot3adDrniPortalPriority
7.4.1.1.6 aDrniThreePortalSystem	dot3adDrniThreePortalSystem
7.4.1.1.7 aDrniPortalSystemNumber	dot3adDrniPortalSystemNumber
7.4.1.1.8 aDrniIntraPortalLinkList	dot3adDrniIntraPortalLinkList
7.4.1.1.9 aDrniAggregator	dot3adDrniAggregator
7.4.1.1.10 aDrniConvAdminGateway[]	dot3adDrniConvAdminGatewayTable
7.4.1.1.11 aDrniNeighborAdminConvGatewayListDigest	dot3adDrniNeighborAdminConvGatewayListDigest
7.4.1.1.12 aDrniNeighborAdminConvPortListDigest	dot3adDrniNeighborAdminConvPortListDigest
7.4.1.1.13 aDrniGatewayAlgorithm	dot3adDrniGatewayAlgorithm
7.4.1.1.14 aDrniNeighborAdminGatewayAlgorithm	dot3adDrniNeighborAdminGatewayAlgorithm

Table D.1—Managed object cross reference table *(continued)*

Definition in Clause 7	MIB object
7.4.1.1.15 aDrniNeighborAdminPortAlgorithm	dot3adDrniNeighborAdminPortAlgorithm
7.4.1.1.16 aDrniNeighborAdminDRCPState	dot3adDrniNeighborAdminDRCPState
7.4.1.1.17 aDrniEncapsulationMethod	dot3adDrniEncapsulationMethod
7.4.1.1.18 aDrniIPLEncapMap	dot3adDrniIPLEncapMapTable
7.4.1.1.19 aDrniNetEncapMap	dot3adDrniNetEncapMapTable
7.4.1.1.20 aDrniDRPortConversationPasses	dot3adDrniDRPortConversationPasses
7.4.1.1.21 aDrniDRGatewayConversationPasses	dot3adDrniDRGatewayConversationPasses
7.4.1.1.22 aDrniPSI	dot3adDrniPSI
7.4.1.1.23 aDrniPortConversationControl	dot3adDrniPortConversationControl
7.4.1.1.24 aDrniIntraPortalPortProtocolDA	dot3adDrniIntraPortalPortProtocolDA
7.4.2.1.2 aIPPPortConversationPasses	dot3adIPPPortConversationPasses
7.4.2.1.3 aIPPGatewayConversationDirection	dot3adIPPGatewayConversationDirection
7.4.2.1.4 aIPPAdminState	dot3adDrniIPPAdminState
7.4.2.1.5 aIPPOperState	dot3adDrniIPPOperState
7.4.2.1.6 aIPPTimeOfLastOperChange	dot3adDrniIPPTimeOfLastOperChange
7.4.3.1.1 aIPPStatsID	ifIndex value
7.4.3.1.2 aIPPStatsDRCPDUsRx	dot3adDrniIPPStatsDRCPDUsRx
7.4.3.1.3 aIPPStatsIllegalRx	dot3adDrniIPPStatsIllegalRx
7.4.3.1.4 aIPPStatsDRCPDUsTx	dot3adDrniIPPStatsDRCPDUsTx
7.4.4.1.1 aIPPDebugInformationID	ifIndex value
7.4.4.1.2 aIPPDebugDRCPRxState	dot3adDrniIPPDebugDRCPRxState
7.4.4.1.3 aIPPDebugLastRxTime	dot3adDrniIPPDebugLastRxTime
7.4.4.1.4 aIPPDebugDifferPortalReason	dot3adIPPDebugDifferPortalReason

D.6 Definitions for Link Aggregation MIB

Change the MIB as follows:

```
IEEE8023-LAG-MIB DEFINITIONS ::= BEGIN

-- ----------------------------------------------------------------
-- IEEE 802.1AX MIB
-- ----------------------------------------------------------------


IMPORTS
    MODULE-IDENTITY, OBJECT-TYPE, Counter32, Counter64, Integer32,
            TimeTicks, NOTIFICATION-TYPE
        FROM SNMPv2-SMI
    DisplayString, MacAddress, TEXTUAL-CONVENTION, TruthValue
        FROM SNMPv2-TC
    MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP
        FROM SNMPv2-CONF
    InterfaceIndex
        FROM IF-MIB
    PortList
        FROM Q-BRIDGE-MIB
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    ;


lagMIB MODULE-IDENTITY
    LAST-UPDATED "201412180000Z" "201610120000Z"
    ORGANIZATION "IEEE 802.1 Working Group"
    CONTACT-INFO
         "  WG-URL: http://grouper.ieee.org/groups/www.ieee802.org/1/
index.html
        WG-EMail: stds-802-1@ieee.org

        Contact: IEEE 802.1 Working Group Chair
         Postal: C/O IEEE 802.1 Working Group
                 IEEE Standards Association
                 445 Hoes Lane
                 P.O. Box 1331
                 Piscataway
                 NJ 08854 5-1331
                 USA
         E-mail: STDS-802-1-L@LISTSERV.IEEE.ORG"
    DESCRIPTION
        "The Link Aggregation module for managing IEEE 802.1AX-2014 as
         updated by IEEE 802.1AX-2014-Cor1."
    REVISION "201610120000Z"
    DESCRIPTION
        "The Link Aggregation module for managing IEEE 802.1AX-REV."
    REVISION "201412180000Z"
    DESCRIPTION
        "The Link Aggregation module for managing IEEE 802.1AX."
    REVISION "201201160000Z"
    DESCRIPTION
        "Updated for IEEE 802.1AXbk"
    REVISION "200706290000Z"
```

```
    DESCRIPTION
        "References updated 04 Jun 2007 for IEEE 802.1AX"
    REVISION "200006270000Z"
    DESCRIPTION
        "Original publication IEEE 802.3ad"
    ::= { iso(1) member-body(2) us(840) ieee802dot3(10006) snmpmibs(300)
43 }




-- ---------------------------------------------------------------
-- Textual Conventions
-- ---------------------------------------------------------------


LacpKey ::= TEXTUAL-CONVENTION
    DISPLAY-HINT "d"
    STATUS       current
    DESCRIPTION
        "The Actor or Partner Key value."
    SYNTAX       Integer32 (0..65535)

LacpState ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "The Actor and Partner State values from the LACPDU."
    REFERENCE
        "7.3.2.1.20"
    SYNTAX       BITS {
                    lacpActivity(0),
                    lacpTimeout(1),
                    aggregation(2),
                    synchronization(3),
                    collecting(4),
                    distributing(5),
                    defaulted(6),
                    expired(7)
                }

DrcpState ::= TEXTUAL-CONVENTION
    STATUS       current
    DESCRIPTION
        "Administrative values of DRCP state."
    SYNTAX       BITS {
                    homeGateway(0),
                    neighborGateway(1),
                    otherGateway(2),
                    ippActivity(3),
                    timeout(4),
                    gatewaySync(5),
                    portSync(6),
                    expired(7)
                }

ChurnState ::= TEXTUAL-CONVENTION
```

```
        STATUS      current
        DESCRIPTION
            "The state of the Churn Detection machine."
        SYNTAX      INTEGER {
                        noChurn(1),
                        churn(2),
                        churnMonitor(3) -- deprecated
}

AggState ::= TEXTUAL-CONVENTION
        STATUS      current
        DESCRIPTION
            "The state of the object entry."
        SYNTAX      INTEGER {
                        up(1),
                        down(2)
                    }

DrniConvAdminGatewayList ::= TEXTUAL-CONVENTION
        DISPLAY-HINT "1x,"
        STATUS      current
        DESCRIPTION
            "The three elements of the octet string represent the
            three portal system numbers in order of priority with
            highest priority first."
        SYNTAX      OCTET STRING (SIZE (3))

PortalLinkList ::= TEXTUAL-CONVENTION
        DISPLAY-HINT "4d,"
        STATUS      current
        DESCRIPTION
            "Each four octets of the octet string represent an
            ifIndex for an Intra-Port Link. The first ifIndex is
            to Portal System 1, the second ifIndex is to Portal
            System 2 and the third ifIndex is to portal System 3.
            The ifIndex of the current portal system is set to zero."
        SYNTAX      OCTET STRING (SIZE (12))

ServiceIdList ::= TEXTUAL-CONVENTION
        DISPLAY-HINT "4d,"
        STATUS      current
        DESCRIPTION
            "A list which contains, in general, a set of Service IDs
            (8.2.2). If the Service IDs are representing VIDs, only a
            single VID is applicable, while in the case that Service IDs
            are representing I-SIDs, more than one I-SIDs are possible.
            Each four octets represent a Service ID which may either be
            I-SID or VID. An empty set is represented as an octet string
            of size zero."
        SYNTAX      OCTET STRING

-- ------------------------------------------------------------
-- subtrees in the LAG MIB
-- ------------------------------------------------------------
```

```
lagMIBNotifications OBJECT IDENTIFIER   ::= { lagMIB 0 }
lagMIBObjects OBJECT IDENTIFIER         ::= { lagMIB 1 }
dot3adAggConformance OBJECT IDENTIFIER  ::= { lagMIB 2 }

dot3adAgg OBJECT IDENTIFIER                 ::= { lagMIBObjects 1 }
dot3adAggPort OBJECT IDENTIFIER             ::= { lagMIBObjects 2 }
dot3adDrni OBJECT IDENTIFIER                ::= { lagMIBObjects 4 }
dot3adIPP OBJECT IDENTIFIER                 ::= { lagMIBObjects 5 }


-- ----------------------------------------------------------------
-- The Tables Last Changed Object
-- ----------------------------------------------------------------

dot3adTablesLastChanged OBJECT-TYPE
    SYNTAX      TimeTicks
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This object indicates the time of the
        most recent change to the dot3adAggTable,
        dot3adAggPortTable, dot3adDrniTable and
        dot3adIPPAttributeTable."

::= { lagMIBObjects 3 }

-- ----------------------------------------------------------------
-- The Aggregator Configuration Table
-- ----------------------------------------------------------------

dot3adAggTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Dot3adAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains information about every
        Aggregator that is associated with this System."
    REFERENCE
        "7.3.1"
    ::= { dot3adAgg 1 }

dot3adAggEntry OBJECT-TYPE
    SYNTAX      Dot3adAggEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of the Aggregator parameters. This is indexed
        by the ifIndex of the Aggregator."
    INDEX { dot3adAggIndex }
    ::= { dot3adAggTable 1 }

Dot3adAggEntry ::=
    SEQUENCE {
        dot3adAggIndex
```

```
                InterfaceIndex,
        dot3adAggMACAddress
            MacAddress,
        dot3adAggActorSystemPriority
            Integer32,
        dot3adAggActorSystemID
            MacAddress,
        dot3adAggAggregateOrIndividual
            TruthValue,
        dot3adAggActorAdminKey
            LacpKey,
        dot3adAggActorOperKey
            LacpKey,
        dot3adAggPartnerSystemID
            MacAddress,
        dot3adAggPartnerSystemPriority
            Integer32,
        dot3adAggPartnerOperKey
            LacpKey,
        dot3adAggCollectorMaxDelay
            Integer32
        }

dot3adAggIndex OBJECT-TYPE
    SYNTAX        InterfaceIndex
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "The unique identifier allocated to this Aggregator by the
        local System. This attribute identifies an Aggregator instance
        among the subordinate managed objects of the containing object.
        This value is read-only. NOTE-The aAggID is represented in the
        SMIv2 MIB as an ifIndex-see D.4.1."
    REFERENCE
        "7.3.1.1.1"
    ::= { dot3adAggEntry 1 }


dot3adAggMACAddress OBJECT-TYPE
    SYNTAX        MacAddress
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A 6-octet read-only value carrying the individual
        MAC address assigned to the Aggregator."
    REFERENCE
        "7.3.1.1.9"
    ::= { dot3adAggEntry 2 }


dot3adAggActorSystemPriority OBJECT-TYPE
    SYNTAX        Integer32 (0..65535)
    MAX-ACCESS    read-write
    STATUS        current
```

```
    DESCRIPTION
        "A 2-octet read-write value indicating the priority value
        associated with the Actor's System ID."
    REFERENCE
        "7.3.1.1.5"
    ::= { dot3adAggEntry 3 }


dot3adAggActorSystemID OBJECT-TYPE
    SYNTAX        MacAddress
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "A 6-octet read-write MAC address value used as a unique
        identifier for the System that contains this Aggregator.
        NOTE-From the perspective of the Link Aggregation
        mechanisms described in Clause 6, only a single
        combination of Actor's System ID and System Priority are
        considered, and no distinction is made between the
        values of these parameters for an Aggregator and the
        port(s) that are associated with it; i.e., the protocol
        is described in terms of the operation of aggregation
        within a single System. However, the managed objects
        provided for the Aggregator and the port both allow
        management of these parameters. The result of this is to
        permit a single piece of equipment to be configured by
        management to contain more than one System from the
        point of view of the operation of Link Aggregation. This
        may be of particular use in the configuration of
        equipment that has limited aggregation capability (see 6.7)."
    REFERENCE
        "7.3.1.1.4"
    ::= { dot3adAggEntry 4 }


dot3adAggAggregateOrIndividual OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A read-only Boolean value indicating whether the
        Aggregator represents an Aggregate ('TRUE') or
        an Individual link ('FALSE')."
    REFERENCE
        "7.3.1.1.6"
    ::= { dot3adAggEntry 5 }


dot3adAggActorAdminKey OBJECT-TYPE
    SYNTAX        LacpKey
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The current administrative value of the Key for the
```

```
        Aggregator. The administrative Key value may differ from the
        operational Key value for the reasons discussed in 6.7.2. This
        is a 16-bit read-write value. The meaning of particular Key
        values is of local significance. For an Aggregator that is
        associated with a Portal, the aAggActorAdminKey has to be
        different for each Portal System. Specifically the two most
        significant bits are set to aDrniPortalSystemNumber
        (7.4.1.1.7). The lower 14 bits may be any value, have
        to be the same in each Portal System within the same Portal,
            and have a default of zero."
    REFERENCE
        "7.3.1.1.7"
    ::= { dot3adAggEntry 6 }


dot3adAggActorOperKey OBJECT-TYPE
    SYNTAX       LacpKey
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The current operational value of the Key for the Aggregator.
        The administrative Key value may differ from the operational
        Key value for the reasons discussed in 6.7.2. This is a 16-bit
        read-only value. The meaning of particular Key values is of
        local significance."
    REFERENCE
        "7.3.1.1.8"
    ::= { dot3adAggEntry 7 }


dot3adAggPartnerSystemID OBJECT-TYPE
    SYNTAX       MacAddress
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A 6-octet read-only MAC address value consisting of the
        unique identifier for the current protocol Partner of this
        Aggregator. A value of zero indicates that there is no known
        Partner. If the aggregation is manually configured, this
        System ID value will be a value assigned by the local System."
    REFERENCE
        "7.3.1.1.10"
    ::= { dot3adAggEntry 8 }


dot3adAggPartnerSystemPriority OBJECT-TYPE
    SYNTAX       Integer32 (0..65535)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A 2-octet read-only value that indicates the priority
        value associated with the Partner's System ID. If the
        aggregation is manually configured, this System Priority value
        will be a value assigned by the local System."
```

```
    REFERENCE
        "7.3.1.1.11"
    ::= { dot3adAggEntry 9 }


dot3adAggPartnerOperKey OBJECT-TYPE
    SYNTAX      LacpKey
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The current operational value of the Key for the
        Aggregator's current protocol Partner. This is a 16-bit
        read-only value. If the aggregation is manually configured,
        this Key value will be a value assigned by the local System."
    REFERENCE
        "7.3.1.1.12"
    ::= { dot3adAggEntry 10 }


dot3adAggCollectorMaxDelay OBJECT-TYPE
    SYNTAX      Integer32 (0..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The value of this 16-bit read-write attribute defines
        the maximum delay, in tens of microseconds, that
        may be imposed by the Frame Collector between
        receiving a frame from an Aggregator Parser, and
        either delivering the frame to its Aggregator Client
        or discarding the frame (see 6.2.3.1.1)."
    REFERENCE
        "7.3.1.1.32"
    ::= { dot3adAggEntry 11 }

-- ----------------------------------------------------------------
-- The Aggregation Port List Table
-- ----------------------------------------------------------------


dot3adAggPortListTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Dot3adAggPortListEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains a list of all the ports
        associated with each Aggregator."
    REFERENCE
        "7.3.1.1.30"
    ::= { dot3adAgg 2 }

dot3adAggPortListEntry OBJECT-TYPE
    SYNTAX      Dot3adAggPortListEntry
    MAX-ACCESS  not-accessible
```

```
            STATUS        current
            DESCRIPTION
                "A list of the ports associated with a given Aggregator.
                This is indexed by the ifIndex of the Aggregator."
            INDEX { dot3adAggIndex }
            ::= { dot3adAggPortListTable 1 }

    Dot3adAggPortListEntry ::=
            SEQUENCE {
                dot3adAggPortListPorts
                    PortList
            }

    dot3adAggPortListPorts OBJECT-TYPE
            SYNTAX        PortList
            MAX-ACCESS    read-only
            STATUS        current
            DESCRIPTION
                "The complete set of ports currently associated with
                this Aggregator.  Each bit set in this list represents
                an Actor Port member of this Link Aggregation."
            REFERENCE
                "7.3.1.1.30"
            ::= { dot3adAggPortListEntry 1 }

    -- -------------------------------------------------------------
    -- The Aggregation Extension Table
    -- -------------------------------------------------------------

    dot3adAggXTable OBJECT-TYPE
            SYNTAX        SEQUENCE OF Dot3adAggXEntry
            MAX-ACCESS    not-accessible
            STATUS        current
            DESCRIPTION
                "A table that extends dot3adAggTable."
            REFERENCE
                "7.3.1.1"
            ::= { dot3adAgg 3 }

    dot3adAggXEntry OBJECT-TYPE
            SYNTAX        Dot3adAggXEntry
            MAX-ACCESS    not-accessible
            STATUS        current
            DESCRIPTION
                "A list of extension parameters for the Aggregator
                Configuration Table"
            AUGMENTS { dot3adAggEntry }
            ::= { dot3adAggXTable 1 }

    Dot3adAggXEntry ::=
            SEQUENCE {
                dot3adAggDescription
                    DisplayString,
                dot3adAggName
```

```
        DisplayString,
    dot3adAggAdminState
        AggState,
    dot3adAggOperState
        AggState,
    dot3adAggTimeOfLastOperChange
        Integer32,
    dot3adAggDataRate
        Integer32,
    dot3adAggOctetsTxOK
        Counter64,
    dot3adAggOctetsRxOK
        Counter64,
    dot3adAggFramesTxOK
        Counter64,
    dot3adAggFramesRxOK
        Counter64,
    dot3adAggMulticastFramesTxOK
        Counter64,
    dot3adAggMulticastFramesRxOK
        Counter64,
    dot3adAggBroadcastFramesTxOK
        Counter64,
    dot3adAggBroadcastFramesRxOK
        Counter64,
    dot3adAggFramesDiscardedOnTx
        Counter64,
    dot3adAggFramesDiscardedOnRx
        Counter64,
    dot3adAggFramesWithTxErrors
        Counter64,
    dot3adAggFramesWithRxErrors
        Counter64,
    dot3adAggUnknownProtocolFrames
        Counter64,
    dot3adAggLinkUpDownNotificationEnable
        Integer32,
    dot3adAggPortAlgorithm
        OCTET STRING,
    dot3adAggPartnerAdminPortAlgorithm
        OCTET STRING,
    dot3adAggPartnerAdminPortConversationListDigest
        OCTET STRING,
    dot3adAggAdminDiscardWrongConversation
        TruthValue,
    dot3adAggPartnerAdminConvServiceMappingDigest
        OCTET STRING,
    dot3adAggAdminDiscardWrongConversation2
        INTEGER
}

dot3adAggDescription OBJECT-TYPE
    SYNTAX      DisplayString
    MAX-ACCESS  read-only
```

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```
        STATUS        current
        DESCRIPTION
            "A human-readable text string containing information about
            the Aggregator. This string could include information about
            the distribution algorithm in use on this Aggregator; for
            example, 'Aggregator 1, Dist Alg=Dest MAC address.' This
            string is read-only. The contents are vendor specific."
        REFERENCE
            "7.3.1.1.2"
        ::= { dot3adAggXEntry 1 }

    dot3adAggName OBJECT-TYPE
        SYNTAX        DisplayString
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "A human-readable text string containing a locally significant
            name for the Aggregator. This string is read-write."
        REFERENCE
            "7.3.1.1.3"
        ::= { dot3adAggXEntry 2 }

    dot3adAggAdminState OBJECT-TYPE
        SYNTAX        AggState
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "This read-write value defines the administrative state of
            the Aggregator. A value of 'up' indicates that the operational
            state of the Aggregator (aAggOperState) is permitted to be
            either up or down. A value of 'down' forces the operational
            state of the Aggregator to be down. Changes to the
            administrative state affect the operational state of the
            Aggregator only, not the operational state of the Aggregation
            Ports that are attached to the Aggregator. A GET operation
            returns the current administrative state. A SET operation
            changes the administrative state to a new value."
        REFERENCE
            "7.3.1.1.13"
        ::= { dot3adAggXEntry 3 }

    dot3adAggOperState OBJECT-TYPE
        SYNTAX        AggState
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "This read-only value defines the operational state of the
            Aggregator. An operational state of 'up' indicates that the
            Aggregator is available for use by the Aggregator Client;
            a value of 'down' indicates that the Aggregator is not
            available for use by the Aggregator Client."
        REFERENCE
            "7.3.1.1.14"
        ::= { dot3adAggXEntry 4 }
```

```
dot3adAggTimeOfLastOperChange OBJECT-TYPE
    SYNTAX        Integer32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The time at which the interface entered its current
        operational state, in terms of centiseconds since the
        system was last reset. If the current state was entered
        prior to the last reinitialization of the local network
        management subsystem, then this object contains a value of
        zero. The ifLastChange object in the Interfaces MIB defined
        in IETF RFC 2863 is a suitable object for supplying a value
        for aAggTimeOfLastOperChange. This value is read-only.
            NOTE - aAggTimeOfLastOperChange was defined in terms of
        the aTimeSinceSystemReset variable of IEEE Std 802.3-2008,
        F.2.1, in earlier versions of this standard.
        aTimeSinceSystemReset and ifLastChange have the same meaning."
    REFERENCE
        "7.3.1.1.15"
    ::= { dot3adAggXEntry 5 }

dot3adAggDataRate OBJECT-TYPE
    SYNTAX        Integer32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The current data rate, in bits per second, of the aggregate
        link. The value is calculated as the sum of the data rate of
        each link in the aggregation. This attribute is read-only."
    REFERENCE
        "7.3.1.1.16"
    ::= { dot3adAggXEntry 6 }

dot3adAggOctetsTxOK OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "octets"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of the data and padding octets transmitted by this
        Aggregator on all Aggregation Ports that are (or have been)
        members of the aggregation. The count does not include octets
        transmitted by the Aggregator in frames that carry LACPDUs or
        Marker PDUs (7.3.3.1.7, 7.3.3.1.8, 7.3.3.1.9). However, it
        includes frames discarded by the Frame Distribution function of
        the Aggregator (7.3.1.1.25). This value is read-only."
    REFERENCE
        "7.3.1.1.17"
    ::= { dot3adAggXEntry 7 }

dot3adAggOctetsRxOK OBJECT-TYPE
    SYNTAX        Counter64
```

55

```
UNITS
    "octets"
MAX-ACCESS   read-only
STATUS       current
DESCRIPTION
    "A count of the data and padding octets received by this
    Aggregator, from the Aggregation Ports that are (or have been)
    members of the aggregation. The count does not include octets
    received in frames that carry LACP or Marker PDUs (7.3.3.1.2,
    7.3.3.1.3, 7.3.3.1.4), or frames discarded by the Frame
    Collection function of the Aggregator (7.3.1.1.26). This value
    is read-only."
REFERENCE
    "7.3.1.1.18"
::= { dot3adAggXEntry 8 }

dot3adAggFramesTxOK OBJECT-TYPE
    SYNTAX       Counter64
    UNITS
        "frames"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A count of the data frames transmitted by this Aggregator on
        all Aggregation Ports that are (or have been) members of the
        aggregation. The count does not include frames transmitted by
        the Aggregator that carry LACP or Marker PDUs (7.3.3.1.7,
        7.3.3.1.8, 7.3.3.1.9). However, it includes frames discarded
        by the Frame Distribution function of the Aggregator
        (7.3.1.1.25). This value is read-only."
    REFERENCE
        "7.3.1.1.19"
    ::= { dot3adAggXEntry 9 }

dot3adAggFramesRxOK OBJECT-TYPE
    SYNTAX       Counter64
    UNITS
        "frames"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A count of the data frames received by this Aggregator, from
        the Aggregation Ports that are (or have been) members of the
        aggregation. The count does not include frames that carry LACP
        or Marker PDUs (7.3.3.1.2, 7.3.3.1.3, 7.3.3.1.4), or frames
        discarded by the Frame Collection function of the Aggregator
        (7.3.1.1.26). This value is read-only."
    REFERENCE
        "7.3.1.1.20"
    ::= { dot3adAggXEntry 10 }

dot3adAggMulticastFramesTxOK OBJECT-TYPE
    SYNTAX       Counter64
    UNITS
```

```
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of the data frames transmitted by this Aggregator on
        all Aggregation Ports that are (or have been) members of the
        aggregation, to a group DA other than the broadcast address.
        The count does not include frames transmitted by the
        Aggregator that carry LACP or Marker PDUs (7.3.3.1.7,
        7.3.3.1.8, 7.3.3.1.9). However, it includes frames discarded
        by the Frame Distribution function of the Aggregator
        (7.3.1.1.25). This value is read-only."
    REFERENCE
        "7.3.1.1.21"
    ::= { dot3adAggXEntry 11 }

dot3adAggMulticastFramesRxOK OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of the data frames received by this Aggregator, from
        the Aggregation Ports that are (or have been) members of the
        aggregation, that were addressed to an active group address
        other than the broadcast address. The count does not include
        frames that carry LACP or Marker PDUs (7.3.3.1.2, 7.3.3.1.3,
        7.3.3.1.4), or frames discarded by the Frame Collection
        function of the Aggregator (7.3.1.1.26). This value is
        read-only."
    REFERENCE
        "7.3.1.1.22"
    ::= { dot3adAggXEntry 12 }

dot3adAggBroadcastFramesTxOK OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of the broadcast data frames transmitted by this
        Aggregator on all Aggregation Ports that are (or have been)
        members of the aggregation. The count does not include frames
        transmitted by the Aggregator that carry LACP or Marker PDUs
        (7.3.3.1.7, 7.3.3.1.8, 7.3.3.1.9). However, it includes frames
        discarded by the Frame Distribution function of the Aggregator
        (7.3.1.1.25). This value is read-only."
    REFERENCE
        "7.3.1.1.23"
    ::= { dot3adAggXEntry 13 }

dot3adAggBroadcastFramesRxOK OBJECT-TYPE
```

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```
        SYNTAX      Counter64
        UNITS
            "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A count of the broadcast data frames received by this
            Aggregator, from the Aggregation Ports that are (or have been)
            members of the aggregation. The count does not include frames
            that carry LACP or Marker PDUs (7.3.3.1.2, 7.3.3.1.3,
            7.3.3.1.4), illegal or unknown protocol frames (7.3.3.1.5,
            7.3.3.1.6), or frames discarded by the Frame Collection
            function of the Aggregator (7.3.1.1.26). This value is
            read-only."
        REFERENCE
            "7.3.1.1.24"
        ::= { dot3adAggXEntry 14 }

    dot3adAggFramesDiscardedOnTx OBJECT-TYPE
        SYNTAX      Counter64
        UNITS
            "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A count of data frames requested to be transmitted by this
            Aggregator that were discarded by the Frame Distribution
            function of the Aggregator when conversations are reallocated
            to different Aggregation Ports, due to the requirement to
            ensure that the conversations are flushed on the old
            Aggregation Ports in order to maintain proper frame ordering
            (B.3), or discarded as a result of excessive collisions by
            Aggregation Ports that are (or have been) members of the
            aggregation. This value is read-only."
        REFERENCE
            "7.3.1.1.25"
        ::= { dot3adAggXEntry 15 }

    dot3adAggFramesDiscardedOnRx OBJECT-TYPE
        SYNTAX      Counter64
        UNITS
            "frames"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
            "A count of data frames, received on all Aggregation Ports
            that are (or have been) members of the aggregation, that
            were discarded by the Frame Collection function of the
            Aggregator as they were received on Aggregation Ports whose
            Frame Collection function was disabled. This value is
            read-only."
        REFERENCE
            "7.3.1.1.26"
        ::= { dot3adAggXEntry 16 }
```

```
dot3adAggFramesWithTxErrors OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of data frames requested to be transmitted by this
        Aggregator that experienced transmission errors on Aggregation
        Ports that are (or have been) members of the aggregation. This
        count does not include frames discarded due to excess
        collisions. This value is read-only."
    REFERENCE
        "7.3.1.1.27"
    ::= { dot3adAggXEntry 17 }


dot3adAggFramesWithRxErrors OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of data frames discarded on reception by all
        Aggregation Ports that are (or have been) members of the
        aggregation, or that were discarded by the Frame Collection
        function of the Aggregator, or that were discarded by the
        Aggregator due to the detection of an illegal Slow Protocols
        PDU (7.3.3.1.6). This value is read-only."
    REFERENCE
        "7.3.1.1.28"
    ::= { dot3adAggXEntry 18 }


dot3adAggUnknownProtocolFrames OBJECT-TYPE
    SYNTAX        Counter64
    UNITS
        "frames"
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A count of data frames discarded on reception by all
        Aggregation Ports that are (or have been) members of the
        aggregation, due to the detection of an unknown Slow Protocols
        PDU (7.3.3.1.5). This value is read-only."
    REFERENCE
        "7.3.1.1.29"
    ::= { dot3adAggXEntry 19 }


dot3adAggLinkUpDownNotificationEnable OBJECT-TYPE
    SYNTAX        INTEGER {
                    enabled(1),
                    disabled(2)
                  }
```

```
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "When set to 'enabled', Link Up and Link Down notifications are
        enabled for this Aggregator. When set to 'disabled', Link Up
        and Link Down notifications are disabled for this Aggregator.
        This value is read-write."
    REFERENCE
        "7.3.1.1.31"
    ::= { dot3adAggXEntry 20 }

dot3adAggPortAlgorithm OBJECT-TYPE
    SYNTAX       OCTET STRING (SIZE (4))
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "This object identifies the algorithm used by the Aggregator to
        assign frames to a Port Conversation ID. Table 6-4 provides the
        IEEE 802.1 OUI (00-80-C2) Port Algorithm encodings. A SEQUENCE
            OF OCTETS consisting of a 3-octet OUI or CID and one
        following octet."
    REFERENCE
        "7.3.1.1.33"
    ::= { dot3adAggXEntry 21 }

dot3adAggPartnerAdminPortAlgorithm OBJECT-TYPE
    SYNTAX       OCTET STRING (SIZE (4))
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "This object identifies the value for the algorithm of the
        Partner System, assigned by administrator or System policy
        for use when the Partner's information is unknown. Table 6-4
        provides the IEEE 802.1 OUI (00-80-C2) Port Algorithm
        encodings. Its default value is set to NULLthe
        'Unspecified' value in Table 6-4. A SEQUENCE OF OCTETS consisting
        of a 3-octet OUI or CID and one following octet."
    REFERENCE
        "7.3.1.1.34"
    DEFVAL { '0080C200'H }
    ::= { dot3adAggXEntry 22 }

dot3adAggPartnerAdminPortConversationListDigest OBJECT-TYPE
    SYNTAX       OCTET STRING (SIZE (16))
    MAX-ACCESS read-write
    STATUS       current
    DESCRIPTION
        "The value for the digest of the prioritized Port Conversation
        ID-to-Link Number ID assignments of the Partner System, assigned
        by administrator or System policy for use when the Partner's
        information is unknown. Its default value is set to NULL."
    REFERENCE
        "7.3.1.1.36"
    DEFVAL { ''H }
```

```
        ::= { dot3adAggXEntry 23 }


dot3adAggAdminDiscardWrongConversation OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      deprecatedcurrent
    DESCRIPTION
        "The administrative value that determines what the Aggregator
            does with a frame that is received from an Aggregation Port
            with a Port Conversation ID that is not included in the
        Collection_Conversation_Mask. The value 'TRUE' indicates that
            such frames are to be discarded, and the value 'FALSE' that
            they are to be forwarded. This variable needs to be set to
            'TRUE', if bidirectional congruity (8.2.1) is required. Its
            value is set to 'TRUE' by default."
            This object has been replaced by
            dot3adAggAdminDiscardWrongConversation2.

    REFERENCE
        "7.3.1.1.37"
    ::= { dot3adAggXEntry 24 }

dot3adAggPartnerAdminConvServiceMappingDigest OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE (16))
    MAX-ACCESS read-write
    STATUS      current
    DESCRIPTION
        "The value for the digest of the Port Conversation ID-to-Service
        ID assignments of the Partner System, assigned by administrator
          or System policy for use when the Partner's information is
unknown.
        Its default value is set to NULL."
    REFERENCE
        "7.3.1.1.39"
    DEFVAL  { ''H }
    ::= { dot3adAggXEntry 25 }

dot3adAggAdminDiscardWrongConversation2 OBJECT-TYPE
SYNTAX      INTEGER {
                forceTrue(1),
                forceFalse(2)
                auto(3)
                }
    MAX-ACCESS  read-write
    STATUS      current
DESCRIPTION
        "The administrative value that determines whether an Aggregator
            discards a frame that is received from an Aggregation Port
            with a Port Conversation ID that is not included in the
            Collection Conversation Mask. The value 'forceTrue'
            indicates that such frames are to be discarded, the value
            'forceFalse' indicates that such frames are to be
            forwarded, and the value 'auto' indicates that such frames
            are to be forwarded only when the actor and partner agree
```

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```
                       on the algorithms and mapping tables used to map frames to
                       Aggregation Ports. Its value is set to 'auto' by default."
             REFERENCE
                   "7.3.1.1.37"
               DEFVAL { auto }
            ::= { dot3adAggXEntry 26 }



-- ----------------------------------------------------------------
-- The Aggregation Conversation Admin Link Table
-- ----------------------------------------------------------------

dot3adAggConversationAdminLinkTable OBJECT-TYPE
     SYNTAX         SEQUENCE OF Dot3adAggConversationAdminLinkEntry
     MAX-ACCESS     not-accessible
     STATUS         current
     DESCRIPTION
         "There are 4096 aAggConversationAdminPort[] variables,
         aAggConversationAdminLink[0] through
         aAggConversationAdminLink[4095], indexed by Port Conversation
         ID. Each contains administrative values of the link selection
         priority list for the referenced Port Conversation ID. This
         selection priority list is a sequence of Link-Number IDs for
         each Port Conversation ID, in the order of preference, highest
         to lowest, for the corresponding link to carry that Port
         Conversation ID. A 16-bit zero value is used to indicate
         that no link is assigned to carry the associated Port
         Conversation ID. NOTE - This mapping of Port Conversation
         IDs to Link Number IDs is the fundamental administrative input.
         An equivalent mapping of Port Conversation IDs to Port
         IDs [Conversation_PortList[]] is derived from this and
         used internally. NOTE - When a network administrator
         issues a command for selection rules, provided by
         aAggConversationAdminLink[], and accompanied with a non zero
         value for aAggPortWTRTime (7.3.2.1.29) for all associated
         Aggregation Ports, the ChangeActorOperDist is set as specified
         in 6.6.2.2. A value of 100 for the aAggPortWTRTime indicates
         a non revertive mode of operation, and the WTR_timer will be
         kept to the value 100."
     REFERENCE
         "7.3.1.1.35"
     ::= { dot3adAgg 4 }

dot3adAggConversationAdminLinkEntry OBJECT-TYPE
     SYNTAX         Dot3adAggConversationAdminLinkEntry
     MAX-ACCESS     not-accessible
     STATUS         current
     DESCRIPTION
         "An entry contains administrative values of the link selection
         priority list for the referenced Port Conversation ID. This
         selection priority list is a sequence of Link-Number IDs for
         each Port Conversation ID, in the order of preference, highest
         to lowest, for the corresponding link to carry that Port
         Conversation ID. A 16 bit zero value is used to indicate
```

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```
        that no link is assigned to carry the associated Port
        Conversation ID."
    REFERENCE
        "7.3.1.1.35"
    INDEX { dot3adAggConversationAdminLinkId, dot3adAggIndex}
    ::= { dot3adAggConversationAdminLinkTable 1 }


Dot3adAggConversationAdminLinkEntry ::=
    SEQUENCE {
        dot3adAggConversationAdminLinkId
            Integer32,
        dot3adAggConversationAdminLinkList
            OCTET STRING
    }

dot3adAggConversationAdminLinkId OBJECT-TYPE
    SYNTAX      Integer32 (0..4095)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "An identifier for Port Conversation."
    ::= { dot3adAggConversationAdminLinkEntry 1 }


dot3adAggConversationAdminLinkList OBJECT-TYPE
    SYNTAX      OCTET STRING
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Each two octets of the octet string represent the agreed
        Link Number ID that is assigned to an Aggregation Port
        (7.3.2.1.27). The list is in the order of preference,
        highest to lowest, for corresponding preferred link to
        carry that Port Conversation ID."
    REFERENCE
        "7.3.1.1.35"
    ::= { dot3adAggConversationAdminLinkEntry 2 }

-- -----------------------------------------------------------
-- The Aggregation Admin Service Conversation Map Table
-- -----------------------------------------------------------

dot3adAggAdminServiceConversationMapTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Dot3adAggAdminServiceConversationMapEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "There are 4096 aAggAdminServiceConversationMap[] variables,
        aAggAdminServiceConversationMap[0] through
        aAggAdminServiceConversationMap[4095], indexed by Port
        Conversation ID. Each contains, in general, a set of Service
        IDs (8.2.2), unique within the array. If the Service IDs are
        representing VIDs, only a single VID is used, while in the case
```

```
            that Service IDs are representing I-SIDs, more than one I-SIDs
            are possible. Service IDs not contained in the map are not
            mapped to any Port Conversation ID and will be discarded."
        REFERENCE
            "7.3.1.1.38"
        ::= { dot3adAgg 5 }

dot3adAggAdminServiceConversationMapEntry OBJECT-TYPE
        SYNTAX Dot3adAggAdminServiceConversationMapEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "An entry contains, in general, a set of Service IDs (8.2.2),
            unique within the array. If the Service IDs are representing
            VIDs, only a single VID is applicable, while in the case that
            Service IDs are representing I-SIDs, more than one I-SIDs are
            possible."
        REFERENCE
            "7.3.1.1.38"
        INDEX { dot3adAggAdminServiceConversationMapId, dot3adAggIndex }
        ::= { dot3adAggAdminServiceConversationMapTable 1 }


Dot3adAggAdminServiceConversationMapEntry ::=
        SEQUENCE {
            dot3adAggAdminServiceConversationMapId
                Integer32,
            dot3adAggAdminServiceConversationServiceIDList
                ServiceIdList
        }

dot3adAggAdminServiceConversationMapId OBJECT-TYPE
        SYNTAX       Integer32 (0..4095)
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "The Port Conversation ID used to index Conversation Map
            entries."
        ::= { dot3adAggAdminServiceConversationMapEntry 1}

dot3adAggAdminServiceConversationServiceIDList OBJECT-TYPE
        SYNTAX       ServiceIdList
        MAX-ACCESS   read-write
        STATUS       current
        DESCRIPTION
            "A list contains, in general, a set of Service IDs (8.2.2),
            unique within the array."
        ::= { dot3adAggAdminServiceConversationMapEntry 2}


-- -----------------------------------------------------------
-- The Aggregation Port Table
-- -----------------------------------------------------------
```

```
dot3adAggPortTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Dot3adAggPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains Link Aggregation Control
        configuration information about every
        Aggregation Port associated with this device.
        A row appears in this table for each physical port."
    REFERENCE
        "7.3.2"
    ::= { dot3adAggPort 1 }


dot3adAggPortEntry OBJECT-TYPE
    SYNTAX      Dot3adAggPortEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of Link Aggregation Control configuration
        parameters for each Aggregation Port on this device."
    INDEX       { dot3adAggPortIndex }
    ::= { dot3adAggPortTable 1 }


Dot3adAggPortEntry ::=
    SEQUENCE {
        dot3adAggPortIndex
            InterfaceIndex,
        dot3adAggPortActorSystemPriority
            Integer32,
        dot3adAggPortActorSystemID
            MacAddress,
        dot3adAggPortActorAdminKey
            LacpKey,
        dot3adAggPortActorOperKey
            LacpKey,
        dot3adAggPortPartnerAdminSystemPriority
            Integer32,
        dot3adAggPortPartnerOperSystemPriority
            Integer32,
        dot3adAggPortPartnerAdminSystemID
            MacAddress,
        dot3adAggPortPartnerOperSystemID
            MacAddress,
        dot3adAggPortPartnerAdminKey
            LacpKey,
        dot3adAggPortPartnerOperKey
            LacpKey,
        dot3adAggPortSelectedAggID
            InterfaceIndex,
        dot3adAggPortAttachedAggID
            InterfaceIndex,
```

```
            dot3adAggPortActorPort
                Integer32,
            dot3adAggPortActorPortPriority
                Integer32,
            dot3adAggPortPartnerAdminPort
                Integer32,
            dot3adAggPortPartnerOperPort
                Integer32,
            dot3adAggPortPartnerAdminPortPriority
                Integer32,
            dot3adAggPortPartnerOperPortPriority
                Integer32,
            dot3adAggPortActorAdminState
                LacpState,
            dot3adAggPortActorOperState
                LacpState,
            dot3adAggPortPartnerAdminState
                LacpState,
            dot3adAggPortPartnerOperState
                LacpState,
            dot3adAggPortAggregateOrIndividual
                TruthValue
        }


    dot3adAggPortIndex OBJECT-TYPE
        SYNTAX        InterfaceIndex
        MAX-ACCESS    not-accessible
        STATUS        current
        DESCRIPTION
            "The unique identifier allocated to this Aggregation Port by
            the local System. This attribute identifies an Aggregation
            Port instance among the subordinate managed objects of the
            containing object. This value is read-only. NOTE-The aAggPortID
            is represented in the SMIv2 MIB as an ifIndex-see D.4.1."
        REFERENCE
            "7.3.2.1.1"
        ::= { dot3adAggPortEntry 1 }


    dot3adAggPortActorSystemPriority OBJECT-TYPE
        SYNTAX        Integer32 (0..25565535)
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "A 2-octet read-write value used to define the priority
            value associated with the Actor's System ID."
        REFERENCE
            "7.3.2.1.2"
        ::= { dot3adAggPortEntry 2 }


    dot3adAggPortActorSystemID OBJECT-TYPE
        SYNTAX        MacAddress
```

```
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A 6-octet read-only MAC address value that defines the
        value of the System ID for the System that contains this
        Aggregation Port."
    REFERENCE
        "7.3.2.1.3"
    ::= { dot3adAggPortEntry 3 }


dot3adAggPortActorAdminKey OBJECT-TYPE
    SYNTAX       LacpKey
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "The current administrative value of the Key for the
        Aggregation Port. This is a 16-bit read-write value.
        The meaning of particular Key values is of local significance."
    REFERENCE
        "7.3.2.1.4"
    ::= { dot3adAggPortEntry 4 }



dot3adAggPortActorOperKey OBJECT-TYPE
    SYNTAX       LacpKey
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The current operational value of the Key for the
        Aggregation Port. This is a 16-bit read-only value.
        The meaning of particular Key values is of local significance."
    REFERENCE
        "7.3.2.1.5"
    ::= { dot3adAggPortEntry 5 }



dot3adAggPortPartnerAdminSystemPriority OBJECT-TYPE
    SYNTAX       Integer32 (0..25565535)
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "A 2-octet read-write value used to define the administrative
        value of priority associated with the Partner's System ID. The
        assigned value is used, along with the value of
        aAggPortPartnerAdminSystemID, aAggPortPartnerAdminKey,
        aAggPortPartnerAdminPort, and aAggPortPartnerAdminPortPriority,
        in order to achieve manually configured aggregation."
    REFERENCE
        "7.3.2.1.6"
    ::= { dot3adAggPortEntry 6 }
```

```
dot3adAggPortPartnerOperSystemPriority OBJECT-TYPE
    SYNTAX       Integer32 (0..25565535)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A 2-octet read-only value indicating the operational value
        of priority associated with the Partner's System ID. The
        value of this attribute may contain the manually configured
        value carried in aAggPortPartnerAdminSystemPriority if there
        is no protocol Partner."
    REFERENCE
        "7.3.2.1.7"
    ::= { dot3adAggPortEntry 7 }


dot3adAggPortPartnerAdminSystemID OBJECT-TYPE
    SYNTAX       MacAddress
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "A 6-octet read-write MACAddress value representing
        the administrative value of the Aggregation Port's protocol
        Partner's System ID. The assigned value is used, along with
        the value of aAggPortPartnerAdminSystemPriority,
        aAggPortPartnerAdminKey, aAggPortPartnerAdminPort,
        and aAggPortPartnerAdminPortPriority, in order to
        achieve manually configured aggregation."
    REFERENCE
        "7.3.2.1.8"
    ::= { dot3adAggPortEntry 8 }


dot3adAggPortPartnerOperSystemID OBJECT-TYPE
    SYNTAX       MacAddress
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "A 6-octet read-only MACAddress value representing
        the current value of the Aggregation Port's protocol Partner's
        System ID. A value of zero indicates that there is no known
        protocol Partner. The value of this attribute may contain the
        manually configured value carried in
        aAggPortPartnerAdminSystemID if there is no protocol Partner."
    REFERENCE
        "7.3.2.1.9"
    ::= { dot3adAggPortEntry 9 }


dot3adAggPortPartnerAdminKey OBJECT-TYPE
    SYNTAX       LacpKey
    MAX-ACCESS   read-write
```

```
        STATUS        current
        DESCRIPTION
            "The current administrative value of the Key for the
            protocol Partner. This is a 16-bit read-write value.
            The assigned value is used, along with the value of
            aAggPortPartnerAdminSystemPriority,
            aAggPortPartnerAdminSystemID, aAggPortPartnerAdminPort,
            and aAggPortPartnerAdminPortPriority, in order to achieve
            manually configured aggregation."
        REFERENCE
            "7.3.2.1.10"
        ::= { dot3adAggPortEntry 10 }


dot3adAggPortPartnerOperKey OBJECT-TYPE
        SYNTAX        LacpKey
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The current operational value of the Key for the
            protocol Partner. The value of this attribute may contain
            the manually configured value carried in
            aAggPortPartnerAdminKey if there is no protocol Partner.
            This is a 16-bit read-only value."
        REFERENCE
            "7.3.2.1.11"
        ::= { dot3adAggPortEntry 11 }


dot3adAggPortSelectedAggID OBJECT-TYPE
        SYNTAX        InterfaceIndex
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The identifier value of the Aggregator that this Aggregation
            Port has currently selected. Zero indicates that the
            Aggregation Port has not selected an Aggregator, either because
            it is in the process of detaching from an Aggregator or because
            there is no suitable Aggregator available for it to select.
            This value is read-only."
        REFERENCE
            "7.3.2.1.12"
        ::= { dot3adAggPortEntry 12 }


dot3adAggPortAttachedAggID OBJECT-TYPE
        SYNTAX        InterfaceIndex
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The identifier value of the Aggregator that this Aggregation
            Port is currently attached to. Zero indicates that the
            Aggregation Port is not currently attached to an Aggregator.
            This value is read-only."
```

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```
    REFERENCE
        "7.3.2.1.13"
    ::= { dot3adAggPortEntry 13 }


dot3adAggPortActorPort OBJECT-TYPE
    SYNTAX        Integer32 (0..65535)
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The port number locally assigned to the Aggregation Port.
        The port number is communicated in LACPDUs as the
        Actor_Port. This value is read-only."
    REFERENCE
        "7.3.2.1.14"
    ::= { dot3adAggPortEntry 14 }


dot3adAggPortActorPortPriority OBJECT-TYPE
    SYNTAX        Integer32 (0..25565535)
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The priority value assigned to this Aggregation Port.
        This 16-bit value is read-write. NOTE-In the case of DRNI
        (Clause 9), the two least significant bits of the priority
        for each Aggregation Port in a Distributed Relay's Aggregator
        Port will be ignored because these bits are used to encode
        the Portal System Number [item e) in 9.3.3]."
    REFERENCE
        "7.3.2.1.15"
    ::= { dot3adAggPortEntry 15 }


dot3adAggPortPartnerAdminPort OBJECT-TYPE
    SYNTAX        Integer32 (0..65535)
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "The current administrative value of the port number
        for the protocol Partner. This is a 16-bit read-write value.
        The assigned value is used, along with the value of
        aAggPortPartnerAdminSystemPriority,
        aAggPortPartnerAdminSystemID, aAggPortPartnerAdminKey,
        and aAggPortPartnerAdminPortPriority,
        in order to achieve manually configured aggregation."
    REFERENCE
        "7.3.2.1.16"
    ::= { dot3adAggPortEntry 16 }


dot3adAggPortPartnerOperPort OBJECT-TYPE
    SYNTAX        Integer32 (0..65535)
    MAX-ACCESS    read-only
```

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```
        STATUS        current
        DESCRIPTION
            "The operational port number assigned to this Aggregation
            Port by the Aggregation Port's protocol Partner. The value
            of this attribute may contain the manually configured value
            carried in aAggPortPartnerAdminPort if there is no protocol
            Partner. This 16-bit value is read-only."
        REFERENCE
            "7.3.2.1.17"
        ::= { dot3adAggPortEntry 17 }


dot3adAggPortPartnerAdminPortPriority OBJECT-TYPE
        SYNTAX        Integer32 (0..25565535)
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "The current administrative value of the port priority
            for the protocol Partner. This is a 16-bit read-write value.
            The assigned value is used, along with the value of
            aAggPortPartnerAdminSystemPriority,
            aAggPortPartnerAdminSystemID, aAggPortPartnerAdminKey, and
            aAggPortPartnerAdminPort, in order to achieve manually
            configured aggregation."
        REFERENCE
            "7.3.2.1.18"
        ::= { dot3adAggPortEntry 18 }


dot3adAggPortPartnerOperPortPriority OBJECT-TYPE
        SYNTAX        Integer32 (0..25565535)
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The priority value assigned to this Aggregation Port
            by the Partner. The value of this attribute may contain the
            manually configured value carried in
            aAggPortPartnerAdminPortPriority if there is no
            protocol Partner. This 16-bit value is read-only."
        REFERENCE
            "7.3.2.1.19"
        ::= { dot3adAggPortEntry 19 }


dot3adAggPortActorAdminState OBJECT-TYPE
        SYNTAX        LacpState
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "A string of 8 bits, corresponding to the administrative
            values of Actor_State (5.4.2) as transmitted by the Actor
            in LACPDUs. The first bit corresponds to bit 0 of Actor_State
            (LACP_Activity), the second bit corresponds to bit 1
            (LACP_Timeout), the third bit corresponds to bit 2
```

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```
            (Aggregation), the fourth bit corresponds to bit 3
            (Synchronization), the fifth bit corresponds to bit 4
            (Collecting), the sixth bit corresponds to bit 5
            (Distributing), the seventh bit corresponds to bit 6
            (Defaulted), and the eighth bit corresponds to bit 7
            (Expired). These values allow administrative control over
            the values of LACP_Activity, LACP_Timeout and Aggregation.
            This attribute value is read-write."
        REFERENCE
            "7.3.2.1.20"
        ::= { dot3adAggPortEntry 20 }


    dot3adAggPortActorOperState OBJECT-TYPE
        SYNTAX        LacpState
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "A string of 8 bits, corresponding to the current
            operational values of Actor_State as transmitted by the
            Actor in LACPDUs. The bit allocations are as defined in
            7.3.2.1.20. This attribute value is read-only."
        REFERENCE
            "7.3.2.1.21"
        ::= { dot3adAggPortEntry 21 }


    dot3adAggPortPartnerAdminState OBJECT-TYPE
        SYNTAX        LacpState
        MAX-ACCESS    read-write
        STATUS        current
        DESCRIPTION
            "A string of 8 bits, corresponding to the current
            administrative value of Actor_State for the protocol Partner.
            The bit allocations are as defined in 7.3.2.1.20. This
            attribute value is read-write. The assigned value is used in
            order to achieve manually configured aggregation."
        REFERENCE
            "7.3.2.1.22"
        ::= { dot3adAggPortEntry 22 }


    dot3adAggPortPartnerOperState OBJECT-TYPE
        SYNTAX        LacpState
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "A string of 8 bits, corresponding to the current values of
            Actor_State in the most recently received LACPDU transmitted
            by the protocol Partner. The bit allocations are as defined in
            7.3.2.1.20. In the absence of an active protocol Partner, this
            value may reflect the manually configured value
            aAggPortPartnerAdminState. This attribute value is read-only."
        REFERENCE
```

```
        "7.3.2.1.23"
    ::= { dot3adAggPortEntry 23 }


dot3adAggPortAggregateOrIndividual OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A read-only Boolean value indicating whether the
        Aggregation Port is able to Aggregate ('TRUE') or is
        only able to operate as an Individual link ('FALSE')."
    REFERENCE
        "7.3.2.1.24"
    ::= { dot3adAggPortEntry 24 }



-- -----------------------------------------------------------
-- LACP Statistics Table
-- -----------------------------------------------------------


dot3adAggPortStatsTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF Dot3adAggPortStatsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A table that contains Link Aggregation information
        about every port that is associated with this device.
        A row appears in this table for each physical port."
    REFERENCE
        "7.3.3"
    ::= { dot3adAggPort 2 }


dot3adAggPortStatsEntry OBJECT-TYPE
    SYNTAX      Dot3adAggPortStatsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A list of Link Aggregation Control Protocol statistics
        for each port on this device."
    INDEX { dot3adAggPortIndex }
    ::= { dot3adAggPortStatsTable 1 }


Dot3adAggPortStatsEntry ::=
    SEQUENCE {
        dot3adAggPortStatsLACPDUsRx
            Counter32,
        dot3adAggPortStatsMarkerPDUsRx
            Counter32,
        dot3adAggPortStatsMarkerResponsePDUsRx
            Counter32,
```

```
        dot3adAggPortStatsUnknownRx
            Counter32,
        dot3adAggPortStatsIllegalRx
            Counter32,
        dot3adAggPortStatsLACPDUsTx
            Counter32,
        dot3adAggPortStatsMarkerPDUsTx
            Counter32,
        dot3adAggPortStatsMarkerResponsePDUsTx
            Counter32
    }


dot3adAggPortStatsLACPDUsRx OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The number of valid LACPDUs received on this
        Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.2"
    ::= { dot3adAggPortStatsEntry 1 }


dot3adAggPortStatsMarkerPDUsRx OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The number of valid Marker PDUs received on this
        Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.3"
    ::= { dot3adAggPortStatsEntry 2 }


dot3adAggPortStatsMarkerResponsePDUsRx OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The number of valid Marker Response PDUs received on this
        Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.4"
    ::= { dot3adAggPortStatsEntry 3 }


dot3adAggPortStatsUnknownRx OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
```

```
        "The number of frames received that either:
        - carry the Slow Protocols Ethernet Type value
          (IEEE Std 802.3-2008, Annex 57A.4), but
          contain an unknown PDU, or:
        - are addressed to the Slow Protocols group MAC
          Address (IEEE Std 802.3-2008, Annex 57A.3),
          but do not carry the Slow Protocols Ethernet
          Type.
        This value is read-only."
    REFERENCE
        "7.3.3.1.5"
    ::= { dot3adAggPortStatsEntry 4 }


dot3adAggPortStatsIllegalRx OBJECT-TYPE
    SYNTAX        Counter32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The number of frames received that carry the Slow
        Protocols Ethernet Type value (IEEE Std 802.3-2008,
        Annex 57A.4), but contain a badly formed PDU or an
        illegal value of Protocol Subtype (IEEE Std
        802.3-2008, Annex 57A.3). This value is read-only."
    REFERENCE
        "7.3.3.1.6"
    ::= { dot3adAggPortStatsEntry 5 }


dot3adAggPortStatsLACPDUsTx OBJECT-TYPE
    SYNTAX        Counter32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The number of LACPDUs transmitted on this
        Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.7"
    ::= { dot3adAggPortStatsEntry 6 }


dot3adAggPortStatsMarkerPDUsTx OBJECT-TYPE
    SYNTAX        Counter32
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "The number of Marker PDUs transmitted on this
        Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.8"
    ::= { dot3adAggPortStatsEntry 7 }


dot3adAggPortStatsMarkerResponsePDUsTx OBJECT-TYPE
```

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```
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "The number of Marker Response PDUs transmitted
        on this Aggregation Port. This value is read-only."
    REFERENCE
        "7.3.3.1.9"
    ::= { dot3adAggPortStatsEntry 8 }


-- ----------------------------------------------------------------
-- LACP Debug Table
-- ----------------------------------------------------------------
dot3adAggPortDebugTable OBJECT-TYPE
    SYNTAX       SEQUENCE OF Dot3adAggPortDebugEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "A table that contains Link Aggregation debug
        information about every port that is associated with
        this device.  A row appears in this table for each
        physical port."
    REFERENCE
        "7.3.4"
    ::= { dot3adAggPort 3 }


dot3adAggPortDebugEntry OBJECT-TYPE
    SYNTAX       Dot3adAggPortDebugEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "A list of the debug parameters for a port."
    INDEX { dot3adAggPortIndex }
    ::= { dot3adAggPortDebugTable 1 }


Dot3adAggPortDebugEntry ::=
    SEQUENCE {
        dot3adAggPortDebugRxState
            Integer32,
        dot3adAggPortDebugLastRxTime
            TimeTicks,
        dot3adAggPortDebugMuxState
            Integer32,
        dot3adAggPortDebugMuxReason
            DisplayString,
        dot3adAggPortDebugActorChurnState
            ChurnState,
        dot3adAggPortDebugPartnerChurnState
            ChurnState,
        dot3adAggPortDebugActorChurnCount
            Counter32,
```

```
            dot3adAggPortDebugPartnerChurnCount
                Counter32,
            dot3adAggPortDebugActorSyncTransitionCount
                Counter32,
            dot3adAggPortDebugPartnerSyncTransitionCount
                Counter32,
            dot3adAggPortDebugActorChangeCount
                Counter32,
            dot3adAggPortDebugPartnerChangeCount
                Counter32
        }


    dot3adAggPortDebugRxState OBJECT-TYPE
        SYNTAX        INTEGER {
                    currentRx(1),
                    expired(2),
                    defaulted(3),
                    initialize(4),
                    lacpDisabled(5),
                    portDisabled(6)
                }
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "This attribute holds the value 'currentRx' if the Receive
            state machine for the Aggregation Port is in the
            CURRENT state, 'expired' if the Receive state machine
            is in the EXPIRED state, 'defaulted' if the Receive state
            machine is in the DEFAULTED state, 'initialize' if the
            Receive state machine is in the INITIALIZE state,
            'lacpDisabled' if the Receive state machine is in the
            LACP_DISABLED state, or 'portDisabled' if the Receive
            state machine is in the PORT_DISABLED state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.2"
        ::= { dot3adAggPortDebugEntry 1 }


    dot3adAggPortDebugLastRxTime OBJECT-TYPE
        SYNTAX        TimeTicks
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The time at which the last LACPDU was received by this
            Aggregation Port, in terms of centiseconds since the system
            was last reset. The ifLastChange object in the Interfaces MIB
            defined in IETF RFC 2863 is a suitable object for supplying a
            value for aAggPortDebugLastRxTime. This value is read-only.
            NOTE - aAggPortDebugLastRxTime was defined in terms of the
            aTimeSinceSystemReset variable of IEEE Std 802.3-2008,
            Annex F, F.2.1, in earlier versions of this standard.
            aTimeSinceSystemReset and ifLastChange have the same meaning."
```

```
        REFERENCE
            "7.3.4.1.3"
        ::= { dot3adAggPortDebugEntry 2 }


    dot3adAggPortDebugMuxState OBJECT-TYPE
        SYNTAX        INTEGER {
                        detached(1),
                        waiting (2),
                        attached(3),
                        collecting(4),
                        distributing(5),
                        collectingDistributing(6)
                    }
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "This attribute holds the value 'detached' if the Mux
            state machine (5.4.14) for the Aggregation Port is
            in the DETACHED state, 'waiting' if the Mux state machine
            is in the waiting state, 'attached' if the Mux state
            machine for the Aggregation Port is in the ATTACHED
            state, 'collecting' if the Mux state machine for the
            Aggregation Port is in the COLLECTING state, 'distributing'
            if the Mux state machine for the Aggregation Port is
            in the DISTRIBUTING state, and 'collectingDistributing'
            if the Mux state machine for the Aggregation Port is in
            the COLLECTING_DISTRIBUTING state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.4"
        ::= { dot3adAggPortDebugEntry 3 }


    dot3adAggPortDebugMuxReason OBJECT-TYPE
        SYNTAX        DisplayString
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "A human-readable text string indicating the reason
            for the most recent change of Mux machine state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.5"
        ::= { dot3adAggPortDebugEntry 4 }


    dot3adAggPortDebugActorChurnState OBJECT-TYPE
        SYNTAX        ChurnState
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The state of the Actor Churn Detection machine
            (6.4.17) for the Aggregation Port. A value of 'noChurn'
```

```
            indicates that the state machine is in either the
            NO_ACTOR_CHURN or the ACTOR_CHURN_MONITOR
            state, and 'churn' indicates that the state machine is in the
            ACTOR_CHURN state. This value is read-only."
        REFERENCE
            "7.3.4.1.6"
        ::= { dot3adAggPortDebugEntry 5 }



    dot3adAggPortDebugPartnerChurnState OBJECT-TYPE
        SYNTAX        ChurnState
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "The state of the Partner Churn Detection machine
            (6.4.17) for the Aggregation Port. A value of 'noChurn'
            indicates that the state machine is in either the
            NO_PARTNER_CHURN or the PARTNER_CHURN_MONITOR
            state, and 'churn' indicates that the state machine is
            in the PARTNER_CHURN state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.7"
        ::= { dot3adAggPortDebugEntry 6 }



    dot3adAggPortDebugActorChurnCount OBJECT-TYPE
        SYNTAX        Counter32
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "Count of the number of times the Actor Churn state
            machine has entered the ACTOR_CHURN state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.8"
        ::= { dot3adAggPortDebugEntry 7 }


    dot3adAggPortDebugPartnerChurnCount OBJECT-TYPE
        SYNTAX        Counter32
        MAX-ACCESS    read-only
        STATUS        current
        DESCRIPTION
            "Count of the number of times the Partner Churn
            state machine has entered the PARTNER_CHURN state.
            This value is read-only."
        REFERENCE
            "7.3.4.1.9"
        ::= { dot3adAggPortDebugEntry 8 }



    dot3adAggPortDebugActorSyncTransitionCount OBJECT-TYPE
        SYNTAX        Counter32
```

```
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of the number of times the Actor's Mux state
        machine (6.4.15) has entered the IN_SYNC state.
        This value is read-only."
    REFERENCE
        "7.3.4.1.10"
    ::= { dot3adAggPortDebugEntry 9 }


dot3adAggPortDebugPartnerSyncTransitionCount OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of the number of times the Partner's Mux
        state machine (6.4.15) has entered the IN_SYNC state.
        This value is read-only."
    REFERENCE
        "7.3.4.1.11"
    ::= { dot3adAggPortDebugEntry 10 }


dot3adAggPortDebugActorChangeCount OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of the number of times the Actor's perception of
        the LAG ID for this Aggregation Port has changed.
        This value is read-only."
    REFERENCE
        "7.3.4.1.12"
    ::= { dot3adAggPortDebugEntry 11 }


dot3adAggPortDebugPartnerChangeCount OBJECT-TYPE
    SYNTAX       Counter32
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Count of the number of times the Partner's perception of
        the LAG ID (see 6.3.6.1) for this Aggregation Port has changed.
        This value is read-only."
    REFERENCE
        "7.3.4.1.13"
    ::= { dot3adAggPortDebugEntry 12 }



-- --------------------------------------------------------------
-- Extension of the Aggregation Port Table
-- --------------------------------------------------------------
```

```
dot3adAggPortXTable OBJECT-TYPE
    SYNTAX       SEQUENCE OF Dot3adAggPortXEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "A table that extends dot3adAggPortTable."
    REFERENCE
        "7.3.2.2"
    ::= { dot3adAggPort 4 }


dot3adAggPortXEntry OBJECT-TYPE
    SYNTAX          Dot3adAggPortXEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of extension parameters for Aggregation Port."
    AUGMENTS { dot3adAggPortEntry }
    ::= { dot3adAggPortXTable 1 }


Dot3adAggPortXEntry ::=
    SEQUENCE {
        dot3adAggPortProtocolDA
            MacAddress
    }

dot3adAggPortProtocolDA OBJECT-TYPE
    SYNTAX     MacAddress
    MAX-ACCESS read-write
    STATUS     current
    DESCRIPTION
        "A 6-octet read-write MACAddress value specifying the
        DA to be used when sending Link  Aggregation Control
        and Marker PDUs on this Aggregation Port, corresponding
        to the value of Protocol_DA in 6.2.8.1.2, 6.2.10.1.3 and
        6.5.4.2.1. The default value shall be the IEEE 802.3
        Slow_Protocols_Multicast address."
    REFERENCE
        "7.3.2.2.1"
    DEFVAL { '0180C2000002'H }
    ::= { dot3adAggPortXEntry 1 }
-- ----------------------------------------------------------------
-- Second extension of the Aggregation Port Table
-- ----------------------------------------------------------------
dot3adAggPortSecondXTable OBJECT-TYPE
    SYNTAX       SEQUENCE OF Dot3adAggPortSecondXEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "A table that extends dot3adAggPortTable."
    REFERENCE
        "7.3.2"
```

```
    ::= { dot3adAggPort 5 }


dot3adAggPortSecondXEntry OBJECT-TYPE
    SYNTAX          Dot3adAggPortSecondXEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "A list of extension parameters for Aggregation Port."
    AUGMENTS { dot3adAggPortEntry }
    ::= { dot3adAggPortSecondXTable 1 }

Dot3adAggPortSecondXEntry ::=
    SEQUENCE {
        dot3adAggPortOperConversationPasses
            OCTET STRING,
        dot3adAggPortOperConversationCollected
            OCTET STRING,
        dot3adAggPortLinkNumberId
            Integer32,
        dot3adAggPortPartnerAdminLinkNumberId
            Integer32,
        dot3adAggPortWTRTime
            Integer32,
        dot3adAggPortEnableLongPDUXmit
            TruthValue
    }

dot3adAggPortOperConversationPasses OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE (512))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A read-only current operational vector of Boolean
        values, with one value for each possible Port
        Conversation ID. A 1 indicates that the Port
        Conversation ID is distributed through this Aggregation
        Port, and a 0 indicates that it cannot.
        aAggPortOperConversationPasses is referencing the
        current value of Port_Oper_Conversation_Mask (6.6.2.2)."
    REFERENCE
        "7.3.2.1.25"
    ::= { dot3adAggPortSecondXEntry 1 }

dot3adAggPortOperConversationCollected OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE (512))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A read-only current operational vector of Boolean values,
        with one value for each possible Port Conversation ID. A 1
        indicates that the Port Conversation ID is collected through
        this Aggregation Port, and a 0 indicates that it cannot.
        aAggPortOperConversationPasses is referencing the current
```

```
        value of Collection_Conversation_Mask (6.6.1.1.2)."
    REFERENCE
        "7.3.2.1.26"
    ::= { dot3adAggPortSecondXEntry 2 }


dot3adAggPortLinkNumberId OBJECT-TYPE
    SYNTAX       Integer32 (0..65535)
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "The Link Number ID value configured for this Aggregation
        Port by the System's administrator. When the Link Number
        ID value matches one of the non zero values in the selection
        prioritized lists in aAggConversationAdminLink[] (7.3.1.1.35),
        then this Aggregation Port must be configured to have an
        aAggPortActorAdminKey value that matches the aAggActorAdminKey
        of the Aggregator used by the LAG of the links specified
        in aAggConversationAdminLink[]. Its default value is set to
            aAggPortActorPort (7.3.2.1.14). NOTE - In the case of DRNI,
        the match of the aAggActorAdminKey to aAggPortActorAdminKey
        values excludes the first two bits identifying the individual
        Portal System in the Portal. If the network administrator fails
        to configure the proper values for the aAggPortActorAdminKey
        variables in all of the Aggregators Ports attached to a Portal,
        the DRCP (9.4) and the variable Port_Oper_Conversation_Mask
        (6.6.2.2) prevent looping and/or duplicate delivery, if
        necessary, by discarding frames belonging to misconfigured
        Conversations."
    REFERENCE
        "7.3.2.1.27"
    ::= { dot3adAggPortSecondXEntry 3 }

dot3adAggPortPartnerAdminLinkNumberId OBJECT-TYPE
    SYNTAX       Integer32 (0..65535)
    MAX-ACCESS   read-write
    STATUS       deprecated current
    DESCRIPTION
        "The value for the Link Number ID of the Partner System for
        this Aggregation Port, assigned by administrator or System
        policy for use when the Partner's information is unknown. Its
        default value is set to 0."
    REFERENCE
        "7.3.2.1.28"
    DEFVAL  { 0 }
    ::= { dot3adAggPortSecondXEntry 4 }

dot3adAggPortWTRTime OBJECT-TYPE
    SYNTAX       Integer32 (0 | 5..12 | 100)
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "The wait-to-restore (WTR) period accompanying selection
            rules set by aAggConversationAdminLink[] in a command issued
            by a network administrator. It may be configured in steps of
```

```
                1 min between 5 min and 12 min, while two additional special
                values are also used. The value 0 indicates revertive and is
                the default value. The value 100 indicates non-revertive
mode
                of operation, and the WTR_timer will be kept to the value
100."
    REFERENCE
        "7.3.2.1.29"
    DEFVAL  { 0 }
    ::= { dot3adAggPortSecondXEntry 5 }

dot3adAggPortEnableLongPDUXmit OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "A read-write Boolean value indicating whether the
                Aggregation Port is able to transmit LACPDUs longer than
                100 octets ('TRUE') or is only able to transmit fixed
                size 110 octet LACPDUs ('FALSE'). Its default value is
                'TRUE'."
    REFERENCE
        "7.3.2.1.30"
      DEFVAL { true }
    ::= { dot3adAggPortSecondXEntry 6 }
-- -----------------------------------------------------------
-- Extension of the LACP Debug Table
-- -----------------------------------------------------------
dot3adAggPortDebugXTable OBJECT-TYPE
    SYNTAX        SEQUENCE OF Dot3adAggPortDebugXEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A table that extends dot3adAggPortDebugTable."
    REFERENCE
        "7.3.4"
    ::= { dot3adAggPort 6 }


dot3adAggPortDebugXEntry OBJECT-TYPE
    SYNTAX        Dot3adAggPortDebugXEntry
    MAX-ACCESS    not-accessible
    STATUS        current
    DESCRIPTION
        "A list of extension parameters for the LACP Port Debug table."
    AUGMENTS { dot3adAggPortDebugEntry }
    ::= { dot3adAggPortDebugXTable 1 }


Dot3adAggPortDebugXEntry ::=
    SEQUENCE {
        dot3adAggPortDebugActorCDSChurnState
            ChurnState,
        dot3adAggPortDebugPartnerCDSChurnState
```

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```
            ChurnState,
        dot3adAggPortDebugActorCDSChurnCount
            Counter64,
        dot3adAggPortDebugPartnerCDSChurnCount
            Counter64
    }


dot3adAggPortDebugActorCDSChurnState OBJECT-TYPE
    SYNTAX       ChurnState
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "This managed object is applicable only when
        Conversation-sensitive frame collection and distribution
        as specified in 6.6 is supported. The state of the Actor
        CDS Churn Detection machine (6.6.2.7) for the Aggregation
        Port. A value of 'noChurn' indicates that the state machine
        is in either the NO_ACTOR_CDS_CHURN or the
        ACTOR_CHURN_CDS_MONITOR state, and 'churn' indicates that
        the state machine is in the ACTOR_CDS_CHURN state. This value
        is read-only."
    REFERENCE
        "7.3.4.1.14"
    ::= { dot3adAggPortDebugXEntry 1 }


dot3adAggPortDebugPartnerCDSChurnState OBJECT-TYPE
    SYNTAX       ChurnState
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "This managed object is applicable only when
        Conversation-sensitive frame collection and distribution
        as specified in 6.6 is supported. The state of the Partner
        CDS Churn Detection machine (6.6.2.7) for the Aggregation
        Port. A value of 'noChurn' indicates that the state machine
        is in either the NO_PARTNER_CDS_CHURN or the
        PARTNER_CDS_CHURN_MONITOR state, and 'churn' indicates that
        the state machine is in the PARTNER_CDSCHURN state. This value
        is read-only."
    REFERENCE
        "7.3.4.1.15"
    ::= { dot3adAggPortDebugXEntry 2 }

dot3adAggPortDebugActorCDSChurnCount OBJECT-TYPE
    SYNTAX       Counter64
    UNITS
        "times entered ACTOR_CDS_CHURN"
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "This managed object is applicable only when
        Conversation-sensitive frame collection and distribution
        as specified in 6.6 is supported. Count of the number of
        times the Actor CDS Churn state machine has entered the
```

```
                ACTOR_CDS_CHURN state. This value is read-only."
        REFERENCE
            "7.3.4.1.16"
        ::= { dot3adAggPortDebugXEntry 3 }


dot3adAggPortDebugPartnerCDSChurnCount OBJECT-TYPE
        SYNTAX       Counter64
        UNITS
            "times entered PARTNER_CDS_CHURN"
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
            "This managed object is applicable only when
            Conversation-sensitive frame collection and distribution
            as specified in 6.6 is supported. Count of the number of
            times the Partner CDS Churn state machine has entered the
            PARTNER_CDS_CHURN state. This value is read-only."
        REFERENCE
            "7.3.4.1.7"
        ::= { dot3adAggPortDebugXEntry 4 }


-- ----------------------------------------------------------
-- The DRNI Configuration Table
-- ----------------------------------------------------------

dot3adDrniTable OBJECT-TYPE
        SYNTAX       SEQUENCE OF Dot3adDrniEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "A table that contains information about every
            DRNI that is associated with this System."
        REFERENCE
            "7.4.1"
        ::= { dot3adDrni 1 }

dot3adDrniEntry OBJECT-TYPE
        SYNTAX       Dot3adDrniEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
            "A list of the DRNI parameters. This is indexed
            by the DRNI Portal ID."
        INDEX { dot3adDrniIndex }
        ::= { dot3adDrniTable 1 }

Dot3adDrniEntry ::=
        SEQUENCE {
            dot3adDrniIndex
                InterfaceIndex,
            dot3adDrniDescription
                SnmpAdminString,
            dot3adDrniName
```

```
                SnmpAdminString,
        dot3adDrniPortalAddr
            MacAddress,
        dot3adDrniPortalPriority
            Integer32,
            dot3adDrniThreePortalSystem
                TruthValue,
        dot3adDrniPortalSystemNumber
            Integer32,
        dot3adDrniIntraPortalLinkList
            PortalLinkList,
        dot3adDrniAggregator
            InterfaceIndex,
        dot3adDrniNeighborAdminConvGatewayListDigest
            OCTET STRING,
        dot3adDrniNeighborAdminConvPortListDigest
            OCTET STRING,
        dot3adDrniGatewayAlgorithm
            OCTET STRING,
        dot3adDrniNeighborAdminGatewayAlgorithm
            OCTET STRING,
        dot3adDrniNeighborAdminPortAlgorithm
            OCTET STRING,
        dot3adDrniNeighborAdminDRCPState
            DrcpState,
        dot3adDrniEncapsulationMethod
            OCTET STRING,
        dot3adDrniDRPortConversationPasses
            OCTET STRING,
        dot3adDrniDRGatewayConversationPasses
            OCTET STRING,
        dot3adDrniPSI
            TruthValue,
        dot3adDrniPortConversationControl
            TruthValue,
        dot3adDrniIntraPortalPortProtocolDA
            MacAddress
    }

dot3adDrniIndex OBJECT-TYPE
    SYNTAX      InterfaceIndex
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The unique identifier allocated to this Distributed Relay by
        the local System. This attribute identifies a Distributed Relay
        instance among the subordinate managed objects of the
        containing object. This value is read-only. NOTE - The aDrniID
        is represented in the SMIv2 MIB as an ifIndex-see D.5."
    REFERENCE
        "7.4.1.1.1"
    ::= { dot3adDrniEntry 1 }

dot3adDrniDescription OBJECT-TYPE
```

```
    SYNTAX        SnmpAdminString
    MAX-ACCESS    read-only
    STATUS        current
    DESCRIPTION
        "A human-readable text string containing information about the
        Distribute Relay. This string is read-only. The contents are
        vendor specific."
    REFERENCE
        "7.4.1.1.2"
    ::= { dot3adDrniEntry 2 }

dot3adDrniName OBJECT-TYPE
    SYNTAX        SnmpAdminString
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "A human-readable text string containing a locally significant
        name for the Distributed Relay. This string is read-write."
    REFERENCE
        "7.4.1.1.3"
    ::= { dot3adDrniEntry 3 }

dot3adDrniPortalAddr OBJECT-TYPE
    SYNTAX        MacAddress
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "A read-write identifier of a particular Portal.
        aDrniPortalAddr has to be unique among at least all of the
        potential Portal Systems to which a given Portal System might
        be attached via an IPL Intra-Portal Link. Also used as the
        Actor's System ID (6.3.2) for the emulated system."
    REFERENCE
        "7.4.1.1.4"
    ::= { dot3adDrniEntry 4 }


dot3adDrniPortalPriority OBJECT-TYPE
    SYNTAX        Integer32
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
        "A 2-octet read-write value indicating the priority value
        associated with the Portal's System ID. Also used as the
        Actor's System Priority (6.3.2) for the emulated system."
    REFERENCE
        "7.4.1.1.5"
    ::= { dot3adDrniEntry 5 }

dot3adDrniThreePortalSystem OBJECT-TYPE
    SYNTAX        TruthValue
    MAX-ACCESS    read-write
    STATUS        current
    DESCRIPTION
```