

1  
2  
3  
4  
5

**P802.1CS-2020/Cor1/D1.3**

**May 16, 2023**

(Corrigendum to IEEE Std 802.1CS™–2020)

6 **Draft Standard for**  
7 **Local and metropolitan area networks—**

8 **Link-local Registration Protocol**

9 **Corrigendum 1: Corrections to Management**  
10 **Modules and Protocol Encoding**

11 Developed by the

12 **LAN/MAN Standards Committee**

13 of the

14 **IEEE Computer Society**

15 Unapproved draft

16 **Prepared by the Time-Sensitive Networking (TSN) Task Group of IEEE 802.1**

17 **This and the following cover pages are not part of the draft.** They provide revision and other information  
18 for IEEE 802.1 Working Group members and participants in the IEEE Standards Association ballot process,  
19 and will be updated as convenient. New participants: Please read these cover pages, they contain information  
20 that should help you contribute effectively to this standards development project.

21 The text proper of this draft begins with the [Title page](#).

### **Important Notice**

This document is an unapproved draft of a proposed IEEE Standard. IEEE hereby grants the named IEEE SA Working Group or Standards Committee Chair permission to distribute this document to participants in the receiving IEEE SA Working Group or Standards Committee, for purposes of review for IEEE standardization activities. No further use, reproduction, or distribution of this document is permitted without the express written permission of IEEE Standards Association (IEEE SA). Prior to any review or use of this draft standard, in part or in whole, by another standards development organization, permission must first be obtained from IEEE SA ([stds-copyright@ieee.org](mailto:stds-copyright@ieee.org)). This page is included as the cover of this draft, and shall not be modified or deleted.

IEEE Standards Association  
445 Hoes Lane  
Piscataway, NJ 08854, USA

## 1 Editors' Foreword

2 Throughout this document any notes with a Cyan background (as in this paragraph) are temporary, inserted  
3 by the Editors for a variety of purposes. They will be removed prior to SA Ballot and are not part of the  
4 normative text. To avoid gratuitous changes to page numbering between final WG ballot and initial SA Ballot,  
5 the number of cover pages should remain unchanged, with pages intentionally left blank marked as such. The  
6 SA ballot cover pages may contain information for the stages of that ballot (including, if appropriate,  
7 cross-references to text changed in the course of SA balloting). The records of participants in the  
8 development of the standard will be added pre-publication.

9 This draft is a proposed corrigendum to an approved standard. All that it has to show are the proposed  
10 changes (including additions) to the standard that it amends. However experience has shown that the  
11 development of an amendment that includes the minimum amount of text needed to meet this goal is  
12 undesirable. First, such a minimal amendment hands the task of combining the amended text with the base  
13 standard not just to an editor rolling up the base text and outstanding amendments into a new edition, but also  
14 to everyone who wants to use the standard before that rolled up edition is available, which might be ten years  
15 in the future. Second, few if any reviewers have the time to mentally undertake that roll-up process when  
16 reviewing each successive draft. Much of the base text can remain out of sight and out of mind, with the  
17 consequence that a developed amendment may add material that does not take advantage of material  
18 already in the approved, duplicate that material, or even contradict it. If the changes consist of many small  
19 fragments, the result may prove barely readable when the merge is done. Accordingly this amendment may  
20 contain more of the base text than may appear strictly necessary. The eventual aim is to include sufficient text  
21 to make the context of the additions clear without repeated reference to the base text, thus making the  
22 intended use of the amendment easier. In early drafts more material can be included, with the aim of making  
23 sure that all the text that needs to be reviewed or appreciated when contributing to draft development is  
24 readily available to reviewers. There is a known drawback to including this additional text. Commenters tend  
25 to assume that any text shown can be amended. Only new text introduced by an *Insert* editing instruction can  
26 be freely changed. Where base text is included as part of a *Change* editing instruction, changes are restricted  
27 to those that are within the Scope of the project (refer to the PAR).

## 28 Participation in 802.1 standards development

29 All participants in the standardization activities of IEEE 802.1 should be aware of the Working Group Policies  
30 and Procedures, and the fact that they have obligations under the IEEE Patent Policy, the IEEE Standards  
31 Association (SA) Copyright Policy, and the IEEE SA Participation Policy. For information on these policies see  
32 [1.ieee802.org/rules/](http://1.ieee802.org/rules/) and the slides presented at the beginning of each of our Working Group and Task Group  
33 meeting.

34 As part of our IEEE 802® process, the text of the PAR (Project Authorization Request) and CSD (Criteria for  
35 Standards Development) of each project is reviewed regularly to ensure their continued validity. The PAR is  
36 summarized in these cover pages and a links are provided to the full text of both PAR and CSD. A vote of  
37 "Approve" on this draft is also an affirmation that the PAR and CSD for this project are still valid.

38 Comments on this draft are encouraged. NOTE: All issues related to IEEE standards presentation style,  
39 formatting, spelling, etc. are routinely handled between the 802.1 Editor and the IEEE Staff Editors prior to  
40 publication, after balloting and the process of achieving agreement on the technical content of the standard is  
41 complete. Readers are urged to devote their valuable time and energy only to comments that materially affect  
42 either the technical content of the document or the clarity of that technical content. Comments should not  
43 simply state what is wrong, but also what might be done to fix the problem.

44 Full participation in the work of IEEE 802.1 requires attendance at IEEE 802 meetings. Information on 802.1  
45 activities, working papers, and email distribution lists etc. can be found on the 802.1 Website:

46 <http://ieee802.org/1/>

47 Use of the email distribution list is not presently restricted to 802.1 members, and the working group has a  
48 policy of considering comments from all who are interested and willing to contribute to the development of the  
49 draft. Individuals not attending meetings have helped to identify sources of misunderstanding and ambiguity  
50 in past projects. The email lists exist primarily to allow the members of the working group to develop

standards, and are not a general forum. All contributors to the work of 802.1 should familiarize themselves with the IEEE patent policy and anyone using the email distribution list will be assumed to have done so. Information can be found at <http://standards.ieee.org/db/patents/>. Comments on this draft may be sent to the 802.1 email exploder, to the Editor, or to the Chairs of the 802.1 Working Group and TSNTask Group.

Norman Finn  
Editor, P802.1CS-2020/Cor1  
Email: [nfinn@nfinnconsulting.com](mailto:nfinn@nfinnconsulting.com)

János Farkas  
Chair, 802.1 TSN Task Group  
Email: [Janos.Farkas@ericsson.com](mailto:Janos.Farkas@ericsson.com)

Glenn Parsons  
Chair, 802.1 Working Group  
+1 514-379-9037  
Email: [glenn.parsons@ericsson.com](mailto:glenn.parsons@ericsson.com)

NOTE: Comments whose distribution is restricted in any way cannot be considered, and may not be acknowledged.

**All participants in IEEE standards development have responsibilities under the IEEE patent policy and should familiarize themselves with that policy, see <http://standards.ieee.org/about/sasb/patcom/materials.html>**

As part of our IEEE 802 process, the text of the PAR and CSD (Criteria for Standards Development, formerly referred to as the 5 Criteria or 5C's) is reviewed on a regular basis in order to ensure their continued validity. A vote of "Approve" on this draft is also an affirmation by the balloter that the PAR is still valid.

## Draft development

During the early stages of draft development, 802.1 editors have a responsibility to attempt to craft technically coherent drafts from the resolutions of ballot comments and from the other discussions that take place in the working group meetings. Preparation of drafts often exposes inconsistencies in editor's instructions or exposes the need to make choices between approaches that were not fully apparent in the meeting. Choices and requests by the editors' for contributions on specific issues will be found in the editors' [Introduction to the current draft](#) and at appropriate points in the draft.

The ballot comments received on each draft, and the editors' proposed and final disposition of comments on working group drafts, are part of the audit trail of the development of the standard and are available, along with all the revisions of the draft on the 802.1 website (for address see above).

During the early stages of draft development the proposed text can be moved around a great deal, and even minor rearrangement can lead to a lot of 'change', not all of which is noteworthy from the point of the reviewer, so the use of automatic change bars is not very effective. In early drafts change bars may be omitted or applied manually, with a view to drawing the readers attention to the most significant areas of change. Readers interested in viewing every change are encouraged to use Adobe Acrobat to compare the document with their selected prior draft. Note that the FrameMaker change bar feature is useless when it comes to indicating changes to Figures.

## 1 **Project Authorization Request, Scope, Purpose, and Criteria for Standards** 2 **Development (CSD)**

3 The complete PAR, as approved by IEEE NesCom 21st September 2022, can be found at:

4 <https://development.standards.ieee.org/myproject-web/public/view.html#pardetail/10120>

5 This document is a corrigendum, and therefor does not have an associated CSD (Criteria for Standards  
6 Development).

### 7 **PAR Scope, Purpose, and Need**

8 The Scope of the standard (IEEE Std 802.1CS-2020) as amended by this project remains unchanged and is  
9 shown below. The Purpose (clause 1.2) of IEEE Std 802.1CS is not changed by this project.

#### 10 **Scope:**

11 This standard specifies protocols, procedures, and managed objects for a Link-local Registration Protocol  
12 (LRP) to replicate a registration database from one end to the other of a point-to-point link and to replicate  
13 changes to parts of that database. A facility is provided to purge the replicated database if the source  
14 becomes unresponsive. Provision is made for a proxy system to operate LRP on behalf of a controlled  
15 system. LRP is optimized for databases on the order of 1 Mbyte.

#### 16 **Scope of the Project:**

17 Correct errors in the YANG module, SNMP MIB and TLV encoding.

#### 18 **Purpose:**

19 LRP is designed to facilitate the creation of applications that distribute information through all or part of a  
20 network.

## **1 Introduction to the current draft**

2 This draft 1.3 of P802.1CS-2020/Cor1 is a result of the Working Group recirculation ballot on Draft 1.2, and  
3 reflects the ballot comment resolutions documented in

4 <https://www.ieee802.org/1/files/private/cs-2020-cor-1-drafts/d1/802-1CS-2020-Cor1-d1-2-dis-v02.pdf>.

5 Change bars in this Draft 1.3 reflect changes from Draft 1.2. The YANG diff file attached to this PDF reflects  
6 differences between the YANG module in this draft and the YANG module published in IEEE Std  
7 802.1CS-2020.

# Draft Standard for Local and metropolitan area networks— Link-local Registration Protocol

## Corrigendum 1: Corrections to Management Modules and Protocol Encoding

Unapproved draft, prepared by the  
Time-Sensitive Networking (TSN) Task Group of IEEE 802.1

Sponsored by the  
LAN/MAN Standards Committee  
of the  
IEEE Computer Society

Copyright ©2023 by the IEEE.  
3 Park Avenue  
New York, NY 10016-5997  
USA

All rights reserved.

This document is an unapproved draft of a proposed IEEE Standard. As such, this document is subject to change. USE AT YOUR OWN RISK! IEEE copyright statements SHALL NOT BE REMOVED from draft or approved IEEE standards, or modified in any way. Because this is an unapproved draft, this document must not be utilized for any conformance/compliance purposes. Permission is hereby granted for officers from each IEEE Standards Working Group or Committee to reproduce the draft document developed by that Working Group for purposes of international standardization consideration. IEEE Standards Department must be informed of the submission for consideration prior to any reproduction for international standardization consideration ([stds.ipr@ieee.org](mailto:stds.ipr@ieee.org)). Prior to adoption of this document, in whole or in part, by another standards development organization, permission must first be obtained from the IEEE Standards Department ([stds.ipr@ieee.org](mailto:stds.ipr@ieee.org)). When requesting permission, IEEE Standards Department will require a copy of the standard development organization's document highlighting the use of IEEE content. Other entities seeking permission to reproduce this document, in whole or in part, must also obtain permission from the IEEE Standards Department.

IEEE Standards Activities Department  
445 Hoes Lane  
Piscataway, NJ 08854, USA

<sup>1</sup> **Abstract:** Corrects errors in the YANG module, SNMP MIB and TLV encoding in IEEE Std  
<sup>2</sup> 802.1CS-2020.

<sup>3</sup> **Keywords:** Bridged Local Area Networks, bridges, bridging, IEEE 802®, IEEE 802.1CS™, IEEE  
<sup>4</sup> 802.1Q™, Link-local Registration Protocol, local area networks (LANs), LRP, MAC Bridges, Time-  
<sup>5</sup> Sensitive Networking, TSN, Virtual Bridged Local Area Networks (virtual LANs).

---

The Institute of Electrical and Electronics Engineers, Inc.  
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.  
All rights reserved. Published dd month year. Printed in the United States of America.

IEEE and 802 are registered trademarks in the U.S. Patent & Trademark Office, owned by the Institute of Electrical and Electronics Engineers, Incorporated.

Print: ISBN 978-X-XXX-XXX-X STDXXXXX  
PDF: ISBN 978-X-XXX-XXX-X STDPDXXXXX

*IEEE prohibits discrimination, harassment, and bullying.*

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

*No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.*

## 1 Important Notices and Disclaimers Concerning IEEE Standards Documents

2 IEEE Standards documents are made available for use subject to important notices and legal disclaimers.  
3 These notices and disclaimers, or a reference to this page (<https://standards.ieee.org/ipr/disclaimers.html>),  
4 appear in all standards and may be found under the heading “Important Notices and Disclaimers Concerning  
5 IEEE Standards Documents.”

## 6 Notice and Disclaimer of Liability Concerning the Use of IEEE Standards 7 Documents

8 IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating  
9 Committees of the IEEE Standards Association (IEEE SA) Standards Board. IEEE develops its standards  
10 through an accredited consensus development process, which brings together volunteers representing varied  
11 viewpoints and interests to achieve the final product. IEEE Standards are documents developed by  
12 volunteers with scientific, academic, and industry-based expertise in technical working groups. Volunteers  
13 are not necessarily members of IEEE or IEEE SA, and participate without compensation from IEEE. While  
14 IEEE administers the process and establishes rules to promote fairness in the consensus development  
15 process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the  
16 soundness of any judgments contained in its standards.

17 IEEE makes no warranties or representations concerning its standards, and expressly disclaims all  
18 warranties, express or implied, concerning this standard, including but not limited to the warranties of  
19 merchantability, fitness for a particular purpose and non-infringement. In addition, IEEE does not warrant  
20 or represent that the use of the material contained in its standards is free from patent infringement. IEEE  
21 standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

22 Use of an IEEE standard is wholly voluntary. The existence of an IEEE Standard does not imply that there  
23 are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to  
24 the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and  
25 issued is subject to change brought about through developments in the state of the art and comments  
26 received from users of the standard.

27 In publishing and making its standards available, IEEE is not suggesting or rendering professional or other  
28 services for, or on behalf of, any person or entity, nor is IEEE undertaking to perform any duty owed by any  
29 other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his  
30 or her own independent judgment in the exercise of reasonable care in any given circumstances or, as  
31 appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE  
32 standard.

33 IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,  
34 EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: THE  
35 NEED TO PROCURE SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR  
36 BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,  
37 WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
38 OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON  
39 ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND  
40 REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.



## 1 Translations

2 The IEEE consensus development process involves the review of documents in English only. In the event  
3 that an IEEE standard is translated, only the English version published by IEEE is the approved IEEE  
4 standard.

## 5 Official statements

6 A statement, written or oral, that is not processed in accordance with the IEEE SA Standards Board  
7 Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its  
8 committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE. At lectures,  
9 symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall  
10 make it clear that the presenter's views should be considered the personal views of that individual rather than  
11 the formal position of IEEE, IEEE SA, the Standards Committee, or the Working Group.

## 12 Comments on standards

13 Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of  
14 membership affiliation with IEEE or IEEE SA. However, **IEEE does not provide interpretations,  
15 consulting information, or advice pertaining to IEEE Standards documents.**

16 Suggestions for changes in documents should be in the form of a proposed change of text, together with  
17 appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is  
18 important that any responses to comments and questions also receive the concurrence of a balance of  
19 interests. For this reason, IEEE and the members of its Societies and Standards Coordinating Committees  
20 are not able to provide an instant response to comments, or questions except in those cases where the matter  
21 has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any  
22 person who would like to participate in evaluating comments or in revisions to an IEEE standard is welcome  
23 to join the relevant IEEE working group. You can indicate interest in a working group using the Interests tab  
24 in the Manage Profile & Interests area of the [IEEE SA myProject system](#).<sup>1</sup> An IEEE Account is needed to  
25 access the application.

26 Comments on standards should be submitted using the [Contact Us](#) form.<sup>2</sup>

## 27 Laws and regulations

28 Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the  
29 provisions of any IEEE Standards document does not imply compliance to any applicable regulatory  
30 requirements. Implementers of the standard are responsible for observing or referring to the applicable  
31 regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not  
32 in compliance with applicable laws, and these documents may not be construed as doing so.

## 33 Data privacy

34 Users of IEEE Standards documents should evaluate the standards for considerations of data privacy and  
35 data ownership in the context of assessing and using the standards in compliance with applicable laws and  
36 regulations.

---

1. Available at: <https://development.standards.ieee.org/myproject-web/public/view.html#landing>.

2. Available at: <https://standards.ieee.org/content/ieee-standards/en/about/contact/index.html>.

## 1 Copyrights

2 IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws.  
3 They are made available by IEEE and are adopted for a wide variety of both public and private uses. These  
4 include both use, by reference, in laws and regulations, and use in private self-regulation, standardization,  
5 and the promotion of engineering practices and methods. By making these documents available for use and  
6 adoption by public authorities and private users, IEEE does not waive any rights in copyright to the  
7 documents.

## 8 Photocopies

9 Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to  
10 photocopy portions of any individual standard for company or organizational internal use or individual, non-  
11 commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center,  
12 Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to  
13 photocopy portions of any individual standard for educational classroom use can also be obtained through  
14 the Copyright Clearance Center.

## 15 Updating of IEEE Standards documents

16 Users of IEEE Standards documents should be aware that these documents may be superseded at any time  
17 by the issuance of new editions or may be amended from time to time through the issuance of amendments,  
18 corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the  
19 document together with any amendments, corrigenda, or errata then in effect.

20 Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years  
21 old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of  
22 some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that  
23 they have the latest edition of any IEEE standard.

24 In order to determine whether a given document is the current edition and whether it has been amended  
25 through the issuance of amendments, corrigenda, or errata, visit [IEEE Xplore](#) or [contact IEEE](#).<sup>3</sup> For more  
26 information about the IEEE SA or IEEE's standards development process, visit the IEEE SA Website.

## 27 Errata

28 Errata, if any, for all IEEE standards can be accessed on the [IEEE SA Website](#).<sup>4</sup> Search for standard number  
29 and year of approval to access the web page of the published standard. Errata links are located under the  
30 Additional Resources Details section. Errata are also available in [IEEE Xplore](#). Users are encouraged to  
31 periodically check for errata.

## 32 Patents

33 IEEE Standards are developed in compliance with the [IEEE SA Patent Policy](#).<sup>5</sup>

34 Attention is called to the possibility that implementation of this standard may require use of subject matter  
35 covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the  
36 existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has  
37 filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the

3. Available at: <https://ieeexplore.ieee.org/browse/standards/collection/ieee>.

4. Available at: <https://standards.ieee.org/standard/index.html>.

5. Available at: <https://standards.ieee.org/about/sasb/patcom/materials.html>.

1 IEEE SA Website at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may  
2 indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without  
3 compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of  
4 any unfair discrimination to applicants desiring to obtain such licenses.

5 Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not  
6 responsible for identifying Essential Patent Claims for which a license may be required, for conducting  
7 inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or  
8 conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing  
9 agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that  
10 determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their  
11 own responsibility. Further information may be obtained from the IEEE Standards Association.

## 12 **IMPORTANT NOTICE**

13 IEEE Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure  
14 against interference with or from other devices or networks. IEEE Standards development activities consider  
15 research and information presented to the standards development group in developing any safety  
16 recommendations. Other information about safety practices, changes in technology or technology  
17 implementation, or impact by peripheral systems also may be pertinent to safety considerations during  
18 implementation of the standard. Implementers and users of IEEE Standards documents are responsible for  
19 determining and complying with all appropriate safety, security, environmental, health, and interference  
20 protection practices and all applicable laws and regulations.

## 1 Participants

2 <<The following lists will be updated in the usual way prior to publication>>

3 At the time this standard was completed, the IEEE 802.1 working group had the following membership:

4 **Glenn Parsons, *Chair***  
5 **Jessy Rouyer, *Vice Chair***  
6 **János Farkas, *TSN Task Group Chair***  
7 **Norman Finn, *Editor***  
8

9 The following members of the individual balloting committee voted on this standard. Balloters may have  
10 voted for approval, disapproval, or abstention.

A.N. Other

11 <<The above lists will be updated in the usual way prior to publication>>

12

1

2 When the IEEE-SA Standards Board approved this standard on <dd> <month> <year>, it had the following  
3 membership:

4

*Chair*

5

*Vice-Chair*

6

*Past Chair*

7

*Secretary*

8

\*Member Emeritus

9

<<The above lists will be updated in the usual way prior to publication>>

10

## 1 Introduction

2

This introduction is not part of IEEE Std 802.1CS-2020/Cor1, IEEE Standard for Local and metropolitan area networks—Bridges and Bridged Networks—Corrigendum 1: Corrections to Management Modules and Protocol Encoding

3 This corrigendum to IEEE Std 802.1CS-2020 corrects errors in the YANG module, SNMP MIB and TLV  
4 encoding.

5

# Contents

1	2	1.	Overview.....	18
3		1.1	Scope.....	18
4	6.		Link-local Registration Protocol.....	19
5	6.3		Objectives and non-objectives .....	19
6	6.3.1		Objectives of LRP .....	19
7	12.		YANG models for LRP .....	20
8	12.2		The YANG framework .....	20
9	12.6		Definition of LRP YANG module.....	20
10	13.		MIB modules for LRP .....	28
11	13.5		MIB modules .....	28
12	13.5.1		LRP Textual conventions MIB .....	28
13	13.5.2		LRP MIB .....	30
14	13.5.3		LLDPv2 LRP extension MIB .....	42
15	Annex C	(normative)	IEEE 802.1 Organizationally Specific TLVs for LLDP.....	60
16	C.2		Organizationally Specific TLV definitions.....	60
17	C.2.2		LRP TCP Discovery TLV .....	60

## <sup>1</sup> **Tables**

<sup>2</sup>	Table C-1	Allowed address information encodings and lengths .....	60
--------------	-----------	---	----



1

2

## 3 **Draft Standard for** 4 **Local and Metropolitan Networks —**

# 5 **Link-local Registration Protocol**

## 6 **Corrigendum 1: Corrections to Management** 7 **Modules and Protocol Encoding**

8 (Corrigendum to IEEE Std 802.1CS™–2020)

9 NOTE—The editing instructions contained in this corrigendum define how to merge the material contained therein into  
10 the existing base standard and its amendments to form the comprehensive standard.

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

1 *Change ABSTRACT as follows:*

2 **Abstract:** This standard specifies protocols, procedures, and managed objects for a Link-local  
3 Registration Protocol (LRP) to replicate a registration database from one end to the other of a  
4 point-to-point link and to replicate changes to parts of that database. A facility is provided to purge  
5 the replicated database if the source becomes unresponsive. LRP is optimized for databases on  
6 the order of ~~1-Mbyte~~ [a million bytes](#).

## 7 **1. Overview**

### 8 **1.1 Scope**

9 *Change 1.1 as follows:*

10 This standard specifies protocols, procedures, and managed objects for a Link-local Registration Protocol  
11 (LRP) to replicate a registration database from one end to the other of a point-to-point link and to replicate  
12 changes to parts of that database. A facility is provided to purge the replicated database if the source  
13 becomes unresponsive. Provision is made for a proxy system to operate LRP on behalf of a controlled  
14 system. LRP is optimized for databases on the order of ~~1-Mbyte~~ [a million bytes](#).

## 6. Link-local Registration Protocol

### 6.3 Objectives and non-objectives

#### 6.3.1 Objectives of LRP

*Change 6.3.1 as follows:*

The objectives of LRP are to:

- a) Serve application instances as described in 6.2.
- b) Remain independent of the syntax and semantics of the LRP application data contained in the applicant and registrar databases.
- c) Provide a facility for an application instance to discover its peers, and to make and break associations between application instances.
- d) Support multiple options for the transport mechanisms used to carry LRPDUs, in order to provide a range of capability/complexity trade-offs.
- e) Transfer the application instances' data quickly, reliably, and efficiently with respect to bandwidth.
- f) Efficiently transfer changes to parts of a database, without retransmitting the whole database.
- g) Serve applicant and registrar databases whose size, per port, is on the order of magnitude of ~~1-Mbyte~~ a million bytes.
- h) Support only point-to-point associations between application instances.
- i) Support multiple point-to-point associations on one port.
- j) By the use of TCP as an LRP-DT transport mechanism, provide for placing the application instance and Portal in a separate Proxy system from its target port, in order to facilitate central control of a network.
- k) Support proxying for a Controlled system without requiring any new behaviors of the Controlled system, in order to make it possible to deploy a new LRP application without implementing an application instance in every system.
- l) Make efficient use of TCP connections.
- m) Support resource-constrained end systems.

## 12. YANG models for LRP

### 12.2 The YANG framework

#### *Change 12.2 as follows:*

This clause has been developed according to the YANG guidelines published in RFC6087 ([D12]) as applicable to IEEE standards. The YANG framework applies hierarchy in the following areas:

- 1) The uniform resource name (URN), as specified in IEEE Std 802d. ~~The structure of the URN is such that “ieee” is the root (i.e., name-space identifier), followed by the standard, then the working group developing the standard.~~
- 2) The YANG objects form a hierarchy of configuration and operational data structures that define the YANG model. These hierarchical relationships are described in 11.2 and 12.5.

### 12.6 Definition of LRP YANG module

*Delete the YANG module in 12.6:*

*Insert the following YANG module in 12.6:*

```
module ieee802-dot1cs-lrp {
  yang-version 1.1;

  namespace "urn:ieee:std:802.1CS:yang:ieee802-dot1cs-lrp";
  prefix "dot1cs";

  import ietf-system { prefix "sys"; }
  import ietf-yang-types { prefix "yang"; }
  import ietf-interfaces { prefix if; }
  import ieee802-types { prefix ieee; }
  import ietf-inet-types { prefix inet; }

  organization
    "Institute of Electrical and Electronics Engineers";
  contact
    "WG-URL: http://ieee802.org/1/
    WG-EMail: stds-802-1-l@ieee.org
    Contact: IEEE 802.1 Working Group Chair
    Postal: C/O IEEE 802.1 Working Group
    IEEE Standards Association
    445 Hoes Lane
    Piscataway
    NJ 08854
    USA

    E-mail: stds-802-1-chairs@ieee.org";

  description
    "This module provides management of systems that support the
    Link-local Registration Protocol (LRP).

    Copyright (C) IEEE (2023).

    This version of this YANG module is part of IEEE Std 802.1CS-2020/Cor1;
    see the standard itself for full legal notices.";

  revision 2023-05-16 {
    description
      "Published as part of IEEE Std 802.1CS-2020/Cor1.

      The following reference statement identifies each referenced
      IEEE Standard as updated by applicable amendments.";

    reference
      "IEEE Std 802.1CS:
```

```
1 IEEE Std 802.1CS-2020 Link-local Registration Protocol,
2 IEEE Std 802.1CS-2020 Corrigendum 1: Corrections to
3 Management Modules and Protocol Encoding.";
4 }
5
6 revision 2020-12-03 {
7   description
8     "First defined in IEEE P802.1CS-2020";
9   reference
10    "IEEE Std 802.1CS-2020.";
11 }
12 /*-----*/
13 /* Feature */
14 /*-----*/
15
16 feature lrp {
17   description
18     "Feature Link-local Registration Protocol";
19 }
20
21 /*-----*/
22 /* Type Definitions */
23 /*-----*/
24 typedef lrp-dt-address-union {
25   type union {
26     type ieee:mac-address;
27     type inet:ipv4-address;
28     type inet:ipv6-address;
29   }
30 }
31
32 /*-----*/
33 /* Configuration Data */
34 /*-----*/
35 /*
36   Link-local Registration Protocol
37 */
38 augment "/sys:system" {
39   description "Link-local Registration Protocol";
40   container lrp {
41     if-feature lrp;
42     description
43       "Configure the Link-local Registration Protocol";
44     leaf lrp-ack-timer-init {
45       type uint32;
46       units "milliseconds";
47       config false;
48       description
49         "A read-only integer n specifying the number of milliseconds for
50         ackTimerInit (D.2.12.6 of IEEE Std 802.1Q-2018)";
51       reference
52         "11.3.1 of IEEE Std 802.1CS";
53     }
54     leaf lrp-reconnect-max {
55       type uint16;
56       units "seconds";
57       description
58         "An integer number of seconds which is the maximum value for
59         instReconnectReset.";
60       reference
61         "11.3.2 of IEEE Std 802.1CS";
62     }
63     list portal {
64       key "portal-id";
65       config false;
66       leaf portal-id {
67         type uint32;
68         config false;
69         description
70           "Local Identifier of portal";
71         reference
72           "Clause 10 of IEEE Std 802.1CS";
```

```
1     }
2     leaf target-port-interface-ref {
3         type if:interface-ref;
4         config false;
5         description
6             "The interface reference identifying the target
7             port to which this portal is attached to.";
8         reference
9             "8.2.2.1 of IEEE Std 802.1CS";
10    }
11    leaf lrp-dt-instance-id {
12        type leafref {
13            path "/sys:system/dot1cs:lrp/dot1cs:lrp-dt-instance/dot1cs:instance-id";
14        }
15        config false;
16        description
17            "The LRP-DT instance id that this portal is
18            attached to.";
19        reference
20            "8.2.2.1 of IEEE Std 802.1CS";
21    }
22    leaf application-id {
23        type string;
24        config false;
25        description
26            "The value transmitted in, and expected to be received in, the
27            appId field of Hello LRPDU's.";
28        reference
29            "8.2.2.1 of IEEE Std 802.1CS";
30    }
31    leaf my-chassis-id {
32        type ieee:chassis-id-type ;
33        config false;
34        description
35            "The value transmitted in the My Chassis ID TLV, and expected to be
36            received in the Neighbor Chassis ID TLV, of Hello LRPDU's";
37        reference
38            "8.2.2.2 of IEEE Std 802.1CS";
39    }
40    leaf my-port-id {
41        type ieee:port-id-type ;
42        config false;
43        description
44            "The value transmitted in the My Port ID TLV, and expected to be
45            received in the Neighbor Port ID TLV, of Hello LRPDU's.";
46        reference
47            "8.2.2.3 of IEEE Std 802.1CS";
48    }
49    leaf neighbor-chassis-id {
50        type ieee:chassis-id-type ;
51        config false;
52        description
53            "The value transmitted in the Neighbor Chassis ID TLV, and expected
54            to be received in the My Chassis ID TLV, of Hello LRPDU's.";
55        reference
56            "8.2.2.4 of IEEE Std 802.1CS";
57    }
58    leaf neighbor-port-id {
59        type ieee:port-id-type ;
60        config false;
61        description
62            "The value transmitted in the Neighbor Port ID TLV, and expected to
63            be received in the My Port ID TLV, of Hello LRPDU's.";
64        reference
65            "8.2.2.5 of IEEE Std 802.1CS";
66    }
67    leaf my-hello-status {
68        type enumeration {
69            enum hs-looking {
70                value 1;
71                description
72                    "This Portal has not yet received a successful Associate Portal
```

```
1         request.";
2     }
3     enum hs-connecting {
4         value 2;
5         description
6             "This Portal has received a successful Associate Portal
7             request, and a Hello LRPDU with the hsLooking status. The
8             Portal is ready to receive all LRPDU.s.";
9     }
10    enum hs-connected {
11        value 3;
12        description
13            "This Portal is up and ready to transfer LRP application data.
14            The Portal is allowed to transmit all LRPDU.s.";
15    }
16    }
17    config false;
18    description
19        "An enumerated value to be transmitted in the Hello status field
20        of any Hello LRPDU.";
21    reference
22        "8.2.2.8 of IEEE Std 802.1CS";
23    }
24    leaf local-overflow {
25        type boolean;
26        config false;
27        description
28            "Contains the last Boolean input from the Database overflow
29            request. A value of TRUE indicates that the partner applicant
30            database has exceeded the capacity of the local registrar LRP
31            application.";
32        reference
33            "8.2.2.10 of IEEE Std 802.1CS";
34    }
35    leaf neighbor-overflow {
36        type boolean;
37        config false;
38        description
39            "A Boolean copied from the last-received database overflow bit [bit
40            8] in the Error status field of the last-received Hello LRPDU.";
41        reference
42            "8.2.2.11 of IEEE Std 802.1CS";
43    }
44    leaf neighbor-acknowledged {
45        type boolean;
46        config false;
47        description
48            "A Boolean, equal to the AND of all of the actAcknowledged
49            variables for all of the Applicant state machines (records) on this
50            Portal.";
51        reference
52            "8.2.2.12 of IEEE Std 802.1CS";
53    }
54    leaf my-app-hello-info {
55        type string;
56        config false;
57        description
58            "Value to put in the Application Information TLV of a
59            transmitted Hello LRPDU.";
60        reference
61            "8.2.2.16 of IEEE Std 802.1CS";
62    }
63    leaf last-received-status {
64        type string;
65        config false;
66        description
67            "Used by the Receive Hello state machine to record the
68            Hello status field of a Hello LRPDU received from the
69            neighbor Portal.";
70        reference
71            "8.2.2.22 of IEEE Std 802.1CS";
72    }
```

```
1 leaf applicant-active-records {
2     type uint32;
3     config false;
4     description
5         "An integer reporting the number of records in the applicant
6         database.";
7     reference
8         "11.5.1 of IEEE Std 802.1CS";
9 }
10 leaf registrar-active-records {
11     type uint32;
12     config false;
13     description
14         "An integer reporting the number of records in the registrar
15         database.";
16     reference
17         "11.5.2 of IEEE Std 802.1CS";
18 }
19 leaf sent-hellos {
20     type yang:counter64;
21     config false;
22     description
23         "The number of Hello LRPDU's transmitted by the Send Hello state machines.";
24     reference
25         "11.5.3 of IEEE Std 802.1CS";
26 }
27 leaf accepted-hellos {
28     type yang:counter64;
29     config false;
30     description
31         "The number of valid Hello LRPDU's received by the Receive Hello
32         state machine.";
33     reference
34         "11.5.4 of IEEE Std 802.1CS";
35 }
36 leaf discarded-hellos {
37     type yang:counter64;
38     config false;
39     description
40         "The number of invalid Hello LRPDU's discarded by the Receive Hello
41         state machine.";
42     reference
43         "11.5.5 of IEEE Std 802.1CS";
44 }
45 leaf sent-records {
46     type yang:counter64;
47     config false;
48     description
49         "The number of Record LRPDU's transmitted by the Applicant state
50         machine.";
51     reference
52         "11.5.6 of IEEE Std 802.1CS";
53 }
54 leaf accepted-records {
55     type yang:counter64;
56     config false;
57     description
58         "The number of valid Record LRPDU's received by the Partial list
59         state machine.";
60     reference
61         "11.5.7 of IEEE Std 802.1CS";
62 }
63 leaf discarded-records {
64     type yang:counter64;
65     config false;
66     description
67         "The number of invalid Record LRPDU's discarded by the Partial list
68         state machine.";
69     reference
70         "11.5.8 of IEEE Std 802.1CS";
71 }
72 leaf record-errors {
```



```
1      type yang:counter64;
2      config false;
3      description
4          "The number of records discarded from otherwise-valid Record LRPDU
5          by regReceiveWriteRecord due to inconsistencies between the
6          Checksum, Application data, and Data length fields.";
7      reference
8          "11.5.9 of IEEE Std 802.1CS";
9  }
10 leaf sent-partials {
11     type yang:counter64;
12     config false;
13     description
14         "The number of Partial List LRPDU transmitted by the Applicant
15         state machine.";
16     reference
17         "11.5.10 of IEEE Std 802.1CS";
18 }
19 leaf accepted-partials {
20     type yang:counter64;
21     config false;
22     description
23         "The number of valid Partial List LRPDU received by the Applicant
24         state machine.";
25     reference
26         "11.5.11 of IEEE Std 802.1CS";
27 }
28 leaf discarded-partials {
29     type yang:counter64;
30     config false;
31     description
32         "The number of invalid Partial List LRPDU discarded by the
33         Applicant state machine.";
34     reference
35         "11.5.12 of IEEE Std 802.1CS";
36 }
37 leaf sent-complete {
38     type yang:counter64;
39     config false;
40     description
41         "The number of Complete List LRPDU transmitted by the Applicant
42         state machine.";
43     reference
44         "11.5.13 of IEEE Std 802.1CS";
45 }
46 leaf accepted-completes {
47     type yang:counter64;
48     config false;
49     description
50         "The number of valid Complete List LRPDU received by the Applicant
51         state machine.";
52     reference
53         "11.5.14 of IEEE Std 802.1CS";
54 }
55 leaf discarded-completes {
56     type yang:counter64;
57     config false;
58     description
59         "The number of invalid Complete List LRPDU discarded by the
60         Applicant state machine.";
61     reference
62         "11.5.15 of IEEE Std 802.1CS";
63 }
64 leaf discarded-unknowns {
65     type yang:counter64;
66     config false;
67     description
68         "The number of LRPDU of unknown type discarded by the Applicant
69         state machine or Partial list state machine.";
70     reference
71         "11.5.16 of IEEE Std 802.1CS";
72 }
```

```
1 } // end portal
2 list lrp-dt-instance {
3   key "instance-id";
4   config false;
5   leaf instance-id {
6     type uint32;
7     config false;
8     description
9       "Local data transport instance";
10    reference
11      "Clause 7 of IEEE Std 802.1CS";
12  }
13  leaf active-tcp-open {
14    type boolean;
15    config false;
16    description
17      "A Boolean value that is TRUE if and only if instMyAddress and
18      instNeighborAddress are TCP addresses and this LRP-DT instance is
19      using the active , not the passive , form of TCP OPEN";
20    reference
21      "7.3.2.1 of IEEE Std 802.1CS";
22  }
23  leaf my-dt-address {
24    type lrp-dt-address-union;
25    config false;
26    description
27      "The address of the local system for this LRP-DT instance; the
28      address used as a destination address by the neighbor LRP-DT
29      instance. The address includes a type (MAC, IPv4, or IPv6) and an
30      address of that type.";
31    reference
32      "7.3.2.2 of IEEE Std 802.1CS";
33  }
34  leaf my-tcp-port{
35    type inet:port-number;
36    config false;
37    description
38      "The local port number for this TCP connection, or 0, if this
39      connection uses ECP, instead of TCP.";
40    reference
41      "7.3.2.3 of IEEE Std 802.1CS";
42  }
43  leaf neighbor-dt-address {
44    type lrp-dt-address-union;
45    config false;
46    description
47      "The address of the neighbor LRP-DT instance; the address used as a
48      destination address by this LRP-DT instance. The address includes a
49      type (MAC, IPv4, or IPv6) and an address of that type.";
50    reference
51      "7.3.2.4 of IEEE Std 802.1CS";
52  }
53  leaf neighbor-tcp-port {
54    type inet:port-number;
55    config false;
56    description
57      "The remote port number for this TCP connection, or 0, if this
58      connection uses ECP, instead of TCP.";
59    reference
60      "7.3.2.5 of IEEE Std 802.1CS";
61  }
62  leaf discarded-lrpdus {
63    type yang:counter64;
64    config false;
65    description
66      "A counter indicating the number of LRPDUs discarded by the LRP-DT
67      instance that cannot be assigned to a Portal for processing.";
68    reference
69      "11.4.1 of IEEE Std 802.1CS";
70  }
71 } // end lrp-dt-instance
72 } // end lrp
```

```
1 } // end augment system
2 } // end ieee802-dot1cs-lrp
3
```

## 1 13. MIB modules for LRP<sup>1</sup>

### 2 13.5 MIB modules<sup>2</sup>

#### 3 13.5.1 LRP Textual conventions MIB

4 *Change the MIB module in 13.5.1 with as follows:*

```
5 LRP-TC-MIB DEFINITIONS ::= BEGIN
6
7 IMPORTS
8     MODULE-IDENTITY,
9     Unsigned32
10    FROM SNMPv2-SMI
11    ieee802dot1mibs
12    FROM IEEE8021-TC-MIB
13    TEXTUAL-CONVENTION
14    FROM SNMPv2-TC;
15
16 ieee8021LrpTcMIB MODULE-IDENTITY
17 LAST-UPDATED "202012030000Z" -- December 3, 2020
18 LAST-UPDATED "202303140000Z" -- March 14, 2023
19 ORGANIZATION "IEEE 802.1 Working Group"
20 CONTACT-INFO
21     "WG-URL:      http://1.ieee802.org
22      WG-EMail:    stds-802-1-l@ieee.org
23
24      Contact:     IEEE 802.1 Working Group Chair
25      Postal:      C/O IEEE 802.1 Working Group
26                  IEEE Standards Association
27                  445 Hoes Lane
28                  Piscataway
29                  NJ 08854
30                  USA
31      E-mail:      stds-802-1-chairs@ieee.org"
32
33 DESCRIPTION
34     "Textual conventions used throughout IEEE Std 802.1CS.
35
36     Unless otherwise indicated, the references in this
37     MIB module are to IEEE Std 802.1CS-2020.
38
39 Copyright (C) IEEE (2021). This version of this MIB module
40 is included in clause 13 of IEEE Std 802.1CS-2020;
41 Copyright (C) IEEE (2023). This version of this MIB module
42 is included in clause 13 of IEEE Std 802.1CS-2020/Cor1-2023;
43 see the standard itself for full legal notices."
44
45 REVISION      "202303140000Z" -- March 14, 2023
46 DESCRIPTION  "OID changed to avoid conflict with a MIB defined in
47               IEEE Std 802.1CBcv-2021."
48
49 REVISION      "202012030000Z" -- December 3, 2020
50 DESCRIPTION  "This MIB module included in IEEE Std 802.1CS-2020.
51               "
52
53  ::= { ieee802dot1mibs 34 }
54  ::= { ieee802dot1mibs 38 }
```

<sup>1</sup>An ASCII version of this MIB module can be obtained by Web browser from the IEEE 802.1 Website at <http://www.ieee802.org/1/pages/MIBS.html>.

<sup>2</sup>Copyright release for MIBs: Users of this standard may freely reproduce the MIBs contained in this subclause so that they can be used for their intended purpose.

```
1
2 --
3 -- *****
4 -- Textual Conventions
5 -- *****
6
7 LrpHelloStatus ::= TEXTUAL-CONVENTION
8     STATUS current
9     DESCRIPTION
10         "This specifies the current state of the Hello Receive State
11         Machine. It can take the following values:
12
13         hsLooking(1) This Portal has not yet received a successful
14         Complete Portal create request.
15         hsConnecting(2) This Portal has received a successful
16         Complete Portal create request (10.2.4), and a
17         Hello LRPDU with the hsLooking status.
18         The Portal is ready to receive all LRPDUs.
19         hsConnected(3) This Portal is up and ready to transfer
20         LRP application data. The Portal is allowed to
21         transmit all LRPDUs
22
23         "
24     REFERENCE
25         "8.2.2.8"
26     SYNTAX INTEGER {
27         hsLooking (1),
28         hsConnecting (2),
29         hsConnected (3)
30     }
31
32 LrpAppId ::= TEXTUAL-CONVENTION
33     DISPLAY-HINT "x"
34     STATUS current
35     DESCRIPTION
36         "Identifies an LRP application type.
37         A 32 bit number. The most-significant 24 bits of the integer are
38         an OUI or CID (obtainable from the IEEE Registration Authority),
39         and the least-significant 8 bits are assigned by the owner of
40         the OUI or CID. This creates a world-wide unique identity for
41         the LRP application type.
42
43         "
44     REFERENCE "9.2"
45     SYNTAX Unsigned32
46
47 LrpInetAddressInfo ::= TEXTUAL-CONVENTION
48     STATUS current
49     DESCRIPTION
50         "An LRP TCP Discovery TLV has some number of
51         Application descriptors, each of which can have either one or
52         two Address info fields. The Address info field tells whether
53         the following Address field is present or not, and if present,
54         whether it contains an IPv4 or an IPv6 address.
55         LrpInetAddressInfo can take the following values:
56
57         noAddress(0), Address info present, Address field not present
58         addrIPv4(1), Address info present, Address field has IPv4
59         addrIPv6(2), Address info present, Address field has IPv6
60         notPresent(256) Address info not present
61
62         "
63     REFERENCE "C.2.2.6.2"
64     SYNTAX INTEGER {
65         noAddress(0),
66         addrIPv4(1),
67         addrIPv6(2),
68         notPresent(256)
```

1       }  
2  
3 END

#### 4 13.5.2 LRP MIB

5 *Change the MIB module in 13.5.2 with as follows:*

```
6 LRP-MIB DEFINITIONS ::= BEGIN
7 IMPORTS
8     MODULE-IDENTITY,
9     OBJECT-TYPE,
10    Unsigned32,
11    Counter64
12    FROM SNMPv2-SMI
13    TruthValue
14    FROM SNMPv2-TC
15    MODULE-COMPLIANCE,
16    OBJECT-GROUP
17    FROM SNMPv2-CONF
18    AddressFamilyNumbers
19    FROM IANA-ADDRESS-FAMILY-NUMBERS-MIB
20    InetPortNumber
21    FROM INET-ADDRESS-MIB
22    InterfaceIndex
23    FROM IF-MIB
24    LldpV2ChassisIdSubtype,
25    LldpV2ChassisId,
26    LldpV2PortIdSubtype,
27    LldpV2PortId,
28    LldpV2ManAddress
29    FROM LLDP-V2-TC-MIB
30    ieee802dot1mibs
31    FROM IEEE8021-TC-MIB
32    LrpAppId
33    FROM LRP-TC-MIB;
34
35 ieee8021LrpMIB MODULE-IDENTITY
36     LAST-UPDATED "202012030000Z" -- December 3, 2020
37     LAST-UPDATED "202303140000Z" -- March 14, 2023
38     ORGANIZATION "IEEE 802.1 Working Group"
39     CONTACT-INFO
40         "WG-URL:    http://1.ieee802.org
41          WG-EMail:  stds-802-1-l@ieee.org
42
43          Contact:   IEEE 802.1 Working Group Chair
44          Postal:    C/O IEEE 802.1 Working Group
45                   IEEE Standards Association
46                   445 Hoes Lane
47                   Piscataway
48                   NJ 08854
49                   USA
50          E-mail:    stds-802-1-chairs@ieee.org"
51
52     DESCRIPTION
53         "Management Information Base module for configuration of the
54         Link-local Registration Protocol.
55
56         This MIB module supports the managed objects described in
57         clause 11.
58
59         Unless otherwise indicated, the references in this
60         MIB module are to IEEE Std 802.1CS-2020.
61
62         Copyright (C) IEEE (2021). This version of this MIB module
63         is included in clause 13 of IEEE Std 802.1CS-2020.
```

```
1      Copyright (C) IEEE (2023). This version of this MIB module
2      is included in clause 13 of IEEE Std 802.1CS-2020/Cor1-2023;
3      see the standard itself for full legal notices."
4
5      REVISION      "202303140000Z" -- March 14, 2023
6      DESCRIPTION   "OID changed to avoid conflict with a MIB defined in
7      IEEE Std 802.1CBcv-2021.
8      "
9      REVISION      "202012030000Z" -- December 3, 2020
10     DESCRIPTION   "This MIB module included in IEEE Std 802.1CS-2020.
11     "
12
13  ::= { ieee802dot1mibs 35 }
14 ::= { ieee802dot1mibs 39 }
15
16 lrpObjects          OBJECT IDENTIFIER ::= { ieee8021LrpMIB 1 }
17 lrpConformance      OBJECT IDENTIFIER ::= { ieee8021LrpMIB 2 }
18
19
20
21 --
22 -- LRP MIB Objects
23 --
24
25 lrpConfiguration     OBJECT IDENTIFIER ::= { lrpObjects 1 }
26 lrpStatistics         OBJECT IDENTIFIER ::= { lrpObjects 2 }
27
28
29
30
31 -- *****
32 --                L R P      C O N F I G
33 -- *****
34
35
36 -- *****
37 -- The table containing information about each LRP-DT instance.
38 -- *****
39
40 lrpDtInstanceTable OBJECT-TYPE
41     SYNTAX      SEQUENCE OF LrpDtInstanceEntry
42     MAX-ACCESS   not-accessible
43     STATUS       current
44     DESCRIPTION
45         "A table presenting basic information about each LRP-DT instance
46         in the system.
47         "
48     REFERENCE
49         "11.4"
50     ::= { lrpConfiguration 1 }
51
52
53 lrpDtInstanceEntry OBJECT-TYPE
54     SYNTAX      LrpDtInstanceEntry
55     MAX-ACCESS   not-accessible
56     STATUS       current
57     DESCRIPTION
58         "A list of basic information about one LRP-DT instance.
59         "
60     INDEX { lrpDtInstNumber }
61     ::= { lrpDtInstanceTable 1 }
62
63
64 LrpDtInstanceEntry ::= SEQUENCE {
65     lrpDtInstNumber      Unsigned32,
66     lrpDtInstActiveTcp   TruthValue,
67     lrpDtInstAddressTypes AddressFamilyNumbers,
68     lrpDtInstMyAddress   LldpV2ManAddress,
69     lrpDtInstMyTcpPort   InetPortNumber,
70     lrpDtInstNeighborAddress LldpV2ManAddress,
71     lrpDtInstNeighborTcpPort InetPortNumber
72 }
```

```
1     }
2
3 lrpDtInstNumber OBJECT-TYPE
4     SYNTAX      Unsigned32(1..4294967295)
5     MAX-ACCESS  not-accessible
6     STATUS      current
7     DESCRIPTION
8         "A small integer identifying an LRP-DT instance.  Each
9         LRP-DT instance in a system has a unique lrpDtInstNumber.
10
11         This object SHALL NOT contain the value 0.
12
13         "
14     REFERENCE
15         "11.2"
16     ::= { lrpDtInstanceEntry 1 }
17
18 lrpDtInstActiveTcp OBJECT-TYPE
19     SYNTAX      TruthValue
20     MAX-ACCESS  read-only
21     STATUS      current
22     DESCRIPTION
23         "TRUE if and only if lrpDtInstAddressTypes indicates an IPv4
24         or IPv6 address, and this LRP-DT instance uses an active TCP
25         OPEN, as opposed to a passive TCP OPEN, to initiate the TCP
26         connection.
27
28         "
29     REFERENCE
30         "11.4, 7.3.2.1"
31     ::= { lrpDtInstanceEntry 2 }
32
33 lrpDtInstAddressTypes OBJECT-TYPE
34     SYNTAX      AddressFamilyNumbers
35     MAX-ACCESS  read-only
36     STATUS      current
37     DESCRIPTION
38         "An enumerated value specifying the format of the addresses
39         in lrpDtInstMyAddress and lrpDtInstNeighborAddress.
40
41         If lrpDtInstAddressTypes has a value indicating a type of
42         Internet Protocol address, then this LRP-DT instance uses TCP.
43         Otherwise, it uses ECP.
44
45         "
46     REFERENCE
47         "11.4, 7.3.2.2, 7.3.2.4"
48     ::= { lrpDtInstanceEntry 3 }
49
50 lrpDtInstMyAddress OBJECT-TYPE
51     SYNTAX      LldpV2ManAddress
52     MAX-ACCESS  read-only
53     STATUS      current
54     DESCRIPTION
55         "The address used by the local end of the LRP-DT instance.  The
56         format of the address is determined by lrpDtInstAddressTypes.
57
58         "
59     REFERENCE
60         "11.4, 7.3.2.2"
61     ::= { lrpDtInstanceEntry 4 }
62
63 lrpDtInstMyTcpPort OBJECT-TYPE
64     SYNTAX      InetPortNumber
65     MAX-ACCESS  read-only
66     STATUS      current
67     DESCRIPTION
68         "The local TCP port number used for the TCP connection, or 0,
69         if this connection uses ECP, instead of TCP.
70
```



```
1      "
2      REFERENCE
3      "11.4, 7.3.2.3"
4      ::= { lrpDtInstanceEntry 5 }
5
6 lrpDtInstNeighborAddress OBJECT-TYPE
7     SYNTAX      LldpV2ManAddress
8     MAX-ACCESS  read-only
9     STATUS      current
10    DESCRIPTION
11    "The address used by the partner end of the LRP-DT instance, if
12    lrpDtInstActiveTcp is TRUE or lrpDtInstAddressTypes indicates
13    a MAC address. Otherwise (this LRP-DT instance was created
14    from a passive TCP OPEN), lrpDtInstNeighborAddress contains a
15    zero-length string. The format of the address is determined by
16    lrpDtInstAddressTypes.
17    "
18    "
19    REFERENCE
20    "11.4, 7.3.2.4"
21    ::= { lrpDtInstanceEntry 6 }
22
23 lrpDtInstNeighborTcpPort OBJECT-TYPE
24    SYNTAX      InetPortNumber
25    MAX-ACCESS  read-only
26    STATUS      current
27    DESCRIPTION
28    "The remote TCP port number used for the TCP connection, or 0,
29    if this connection uses ECP, instead of TCP.
30    "
31    "
32    REFERENCE
33    "11.4, 7.3.2.5"
34    ::= { lrpDtInstanceEntry 7 }
35
36
37 -- *****
38 -- The table containing information about each LRP-DS Portal.
39 -- *****
40
41 lrpPortalTable OBJECT-TYPE
42    SYNTAX      SEQUENCE OF LrpPortalEntry
43    MAX-ACCESS  not-accessible
44    STATUS      current
45    DESCRIPTION
46    "A table containing the per-portal set of counters that record
47    LRP events. There is an entry in the table for every portal in
48    a system.
49    "
50    "
51    REFERENCE
52    "8.2.2"
53    ::= { lrpConfiguration 2 }
54
55 lrpPortalEntry OBJECT-TYPE
56    SYNTAX      LrpPortalEntry
57    MAX-ACCESS  not-accessible
58    STATUS      current
59    DESCRIPTION
60    "A list of counters for events occurring on one Portal.
61    "
62    "
63    INDEX { lrpPortalNumber }
64    ::= { lrpPortalTable 1 }
65
66 LrpPortalEntry ::= SEQUENCE {
67     lrpPortalNumber      Unsigned32,
68     lrpPortalIfIndex     InterfaceIndex,
69     lrpPortalDtInstanceIndex Unsigned32,
```

```

1      lrpPortalAppId          LrpAppId,
2      lrpPortalMyChassisIdType LldpV2ChassisIdSubtype,
3      lrpPortalMyChassisId     LldpV2ChassisId,
4      lrpPortalMyPortIdType    LldpV2PortIdSubtype,
5      lrpPortalMyPortId        LldpV2PortId,
6      lrpPortalNbrChassisIdType LldpV2ChassisIdSubtype,
7      lrpPortalNbrChassisId     LldpV2ChassisId,
8      lrpPortalNbrPortIdType    LldpV2PortIdSubtype,
9      lrpPortalNbrPortId        LldpV2PortId,
10     lrpPortalLocalOverflow    TruthValue
11 }
12
13 lrpPortalNumber OBJECT-TYPE
14     SYNTAX      Unsigned32
15     MAX-ACCESS  not-accessible
16     STATUS      current
17     DESCRIPTION
18         "A small integer identifying a portal. Each portal in a system
19         has a unique lrpPortalNumber.
20
21         This object SHALL NOT contain the value 0.
22         "
23     ::= { lrpPortalEntry 1 }
24
25 lrpPortalIfIndex OBJECT-TYPE
26     SYNTAX      InterfaceIndex
27     MAX-ACCESS  read-only
28     STATUS      current
29     DESCRIPTION
30         "The interface index identifying the target port to which this
31         portal is attached. The value is 0, if there is none.
32         "
33     ::= { lrpPortalEntry 2 }
34
35 lrpPortalDtInstanceIndex OBJECT-TYPE
36     SYNTAX      Unsigned32
37     MAX-ACCESS  read-only
38     STATUS      current
39     DESCRIPTION
40         "The same value as the lrpDtInstNumber object of the
41         lrpDtInstanceEntry describing the LRP-DT instance to which this
42         Portal is attached.
43         "
44     REFERENCE
45         "8.2.2.1"
46     ::= { lrpPortalEntry 3 }
47
48 lrpPortalAppId OBJECT-TYPE
49     SYNTAX      LrpAppId
50     MAX-ACCESS  read-only
51     STATUS      current
52     DESCRIPTION
53         "The application ID used for this Portal.
54         "
55     REFERENCE
56         "8.2.2.1"
57     ::= { lrpPortalEntry 4 }
58
59 lrpPortalMyChassisIdType OBJECT-TYPE
60     SYNTAX      LldpV2ChassisIdSubtype
61     MAX-ACCESS  read-only
62     STATUS      current
63     DESCRIPTION
64         "The My Chassis ID TLV type field used for this Portal.
65         "

```

```
1  REFERENCE
2  "8.2.2.2"
3  ::= { lrpPortalEntry 5 }
4
5  lrpPortalMyChassisId OBJECT-TYPE
6
7  SYNTAX      LldpV2ChassisId
8  MAX-ACCESS  read-only
9  STATUS      current
10 DESCRIPTION
11     "The My Chassis ID TLV Chassis ID field used for this Portal."
12     "
13 REFERENCE
14     "8.2.2.2"
15 ::= { lrpPortalEntry 6 }
16
17 lrpPortalMyPortIdType OBJECT-TYPE
18
19 SYNTAX      LldpV2PortIdSubtype
20 MAX-ACCESS  read-only
21 STATUS      current
22 DESCRIPTION
23     "The My Port ID TLV type field used for this Portal."
24     "
25 REFERENCE
26     "8.2.2.3"
27 ::= { lrpPortalEntry 7 }
28
29 lrpPortalMyPortId OBJECT-TYPE
30
31 SYNTAX      LldpV2PortId
32 MAX-ACCESS  read-only
33 STATUS      current
34 DESCRIPTION
35     "The My Port ID TLV Port ID field used for this Portal."
36     "
37 REFERENCE
38     "8.2.2.3"
39 ::= { lrpPortalEntry 8 }
40
41 lrpPortalNbrChassisIdType OBJECT-TYPE
42
43 SYNTAX      LldpV2ChassisIdSubtype
44 MAX-ACCESS  read-only
45 STATUS      current
46 DESCRIPTION
47     "The Neighbor Chassis ID TLV type field used for this Portal."
48     "
49 REFERENCE
50     "8.2.2.2"
51 ::= { lrpPortalEntry 9 }
52
53 lrpPortalNbrChassisId OBJECT-TYPE
54
55 SYNTAX      LldpV2ChassisId
56 MAX-ACCESS  read-only
57 STATUS      current
58 DESCRIPTION
59     "The Neighbor Chassis ID TLV Chassis ID field used for this
60     Portal."
61     "
62 REFERENCE
63     "8.2.2.2"
64 ::= { lrpPortalEntry 10 }
65
66 lrpPortalNbrPortIdType OBJECT-TYPE
67
68 SYNTAX      LldpV2PortIdSubtype
69 MAX-ACCESS  read-only
70 STATUS      current
71 DESCRIPTION
```

```
1      "The Neighbor Port ID TLV type field used for this Portal.
2      "
3      REFERENCE
4      "8.2.2.3"
5      ::= { lrpPortalEntry 11 }
6
7 lrpPortalNbrPortId OBJECT-TYPE
9      SYNTAX      LldpV2PortId
10     MAX-ACCESS  read-only
11     STATUS      current
12     DESCRIPTION
13         "The Neighbor Port ID TLV Port ID field used for this Portal.
14         "
15     REFERENCE
16         "8.2.2.3"
17     ::= { lrpPortalEntry 12 }
18
19 lrpPortalLocalOverflow OBJECT-TYPE
21     SYNTAX      TruthValue
22     MAX-ACCESS  read-only
23     STATUS      current
24     DESCRIPTION
25         "A Boolean indicating whether or not the local registrar
26         database has overflowed its allotted memory.
27         "
28     REFERENCE
29         "8.2.2.10"
30     ::= { lrpPortalEntry 13 }
31
32 -- *****
33 --          P O R T A L      S T A T I S T I C S
34 -- *****
35
36 lrpPortalCountersTable OBJECT-TYPE
38     SYNTAX      SEQUENCE OF LrpPortalCountersEntry
39     MAX-ACCESS  not-accessible
40     STATUS      current
41     DESCRIPTION
42         "A table containing the per-portal set of counters that record
43         LRP events.  There is an entry in the table for every portal in
44         a system.
45         "
46     REFERENCE
47         "11.5"
48     ::= { lrpStatistics 1 }
49
50 lrpPortalCountersEntry OBJECT-TYPE
52     SYNTAX      LrpPortalCountersEntry
53     MAX-ACCESS  not-accessible
54     STATUS      current
55     DESCRIPTION
56         "A list of counters for events occurring on one Portal.
57         "
58     INDEX { lrpPortalNumber }
59     ::= { lrpPortalCountersTable 1 }
60
61 LrpPortalCountersEntry ::= SEQUENCE {
63     lrpPortalApplicantActiveRecords Unsigned32,
64     lrpPptCtRegistrarActiveRecords Unsigned32,
65     lrpPptCtSentHellos               Counter64,
66     lrpPptCtAcceptedHellos           Counter64,
67     lrpPptCtDiscardedHellos          Counter64,
68     lrpPptCtSentRecords              Counter64,
69     lrpPptCtAcceptedRecords          Counter64,
70     lrpPptCtDiscardedRecords         Counter64,
```

```
1         lrpPptCtRecordErrors           Counter64,
2         lrpPptCtSentPartials           Counter64,
3         lrpPptCtAcceptedPartials       Counter64,
4         lrpPptCtDiscardedPartials      Counter64,
5         lrpPptCtSentCompletes          Counter64,
6         lrpPptCtAcceptedCompletes      Counter64,
7         lrpPptCtDiscardedCompletes     Counter64,
8         lrpPptCtDiscardedUnknowns     Counter64
9     }
10
11 lrpPortalApplicantActiveRecords OBJECT-TYPE
12     SYNTAX      Unsigned32
13     MAX-ACCESS  read-only
14     STATUS      current
15     DESCRIPTION
16         "The number of records in the applicant database."
17         "
18     REFERENCE
19         "11.5.1"
20     ::= { lrpPortalCountersEntry 1 }
21
22 lrpPptCtRegistrarActiveRecords OBJECT-TYPE
23     SYNTAX      Unsigned32
24     MAX-ACCESS  read-only
25     STATUS      current
26     DESCRIPTION
27         "The number of records in the registrar database."
28         "
29     REFERENCE
30         "11.5.2"
31     ::= { lrpPortalCountersEntry 2 }
32
33 lrpPptCtSentHellos OBJECT-TYPE
34     SYNTAX      Counter64
35     MAX-ACCESS  read-only
36     STATUS      current
37     DESCRIPTION
38         "Incremented once for each Hello LRPDU transmitted by the
39         Send Hello state machines."
40         "
41     REFERENCE
42         "11.5.3"
43     ::= { lrpPortalCountersEntry 3 }
44
45 lrpPptCtAcceptedHellos OBJECT-TYPE
46     SYNTAX      Counter64
47     MAX-ACCESS  read-only
48     STATUS      current
49     DESCRIPTION
50         "Incremented once for each Hello LRPDU received by the
51         Receive Hello state machine."
52         "
53     REFERENCE
54         "11.5.4"
55     ::= { lrpPortalCountersEntry 4 }
56
57 lrpPptCtDiscardedHellos OBJECT-TYPE
58     SYNTAX      Counter64
59     MAX-ACCESS  read-only
60     STATUS      current
61     DESCRIPTION
62         "Incremented once for each invalid Hello LRPDU discarded by the
63         Receive Hello state machine"
64         "
65     REFERENCE
```

```
1      "11.5.5"
2      ::= { lrpPortalCountersEntry 5 }
3
4 lrpPptCtSentRecords OBJECT-TYPE
5
6     SYNTAX      Counter64
7     MAX-ACCESS  read-only
8     STATUS      current
9     DESCRIPTION
10      "Incremented once for each Record LRPDU transmitted by the
11      Applicant state machine.
12      "
13     REFERENCE
14      "11.5.6"
15     ::= { lrpPortalCountersEntry 6 }
16
17 lrpPptCtAcceptedRecords OBJECT-TYPE
18
19     SYNTAX      Counter64
20     MAX-ACCESS  read-only
21     STATUS      current
22     DESCRIPTION
23      "Incremented once for each valid Record LRPDU received by the
24      Partial list state machine.
25      "
26     REFERENCE
27      "11.5.7"
28     ::= { lrpPortalCountersEntry 7 }
29
30 lrpPptCtDiscardedRecords OBJECT-TYPE
31
32     SYNTAX      Counter64
33     MAX-ACCESS  read-only
34     STATUS      current
35     DESCRIPTION
36      "Incremented once for each invalid Record LRPDU discarded by the
37      Partial list state machine.
38      "
39     REFERENCE
40      "11.5.8"
41     ::= { lrpPortalCountersEntry 8 }
42
43 lrpPptCtRecordErrors OBJECT-TYPE
44
45     SYNTAX      Counter64
46     MAX-ACCESS  read-only
47     STATUS      current
48     DESCRIPTION
49      "Incremented once for each record discarded from a Record LRPDU
50      because of inconsistencies among the Checksum, Application data,
51      and Data length fields.
52      "
53     REFERENCE
54      "11.5.9"
55     ::= { lrpPortalCountersEntry 9 }
56
57 lrpPptCtSentPartials OBJECT-TYPE
58
59     SYNTAX      Counter64
60     MAX-ACCESS  read-only
61     STATUS      current
62     DESCRIPTION
63      "Incremented once for each Partial List LRPDU transmitted by the
64      Applicant state machine.
65      "
66     REFERENCE
67      "11.5.10"
68     ::= { lrpPortalCountersEntry 10 }
69
70 lrpPptCtAcceptedPartials OBJECT-TYPE
```

```
1 SYNTAX Counter64
2 MAX-ACCESS read-only
3 STATUS current
4 DESCRIPTION
5     "Incremented once for each valid Partial List LRPDU received by
6     the Applicant state machine.
7     "
8 REFERENCE
9     "11.5.11"
10 ::= { lrpPortalCountersEntry 11 }
11
12 lrpPptCtDiscardedPartials OBJECT-TYPE
14 SYNTAX Counter64
15 MAX-ACCESS read-only
16 STATUS current
17 DESCRIPTION
18     "Incremented once for each invalid Partial List LRPDU discarded
19     by the Applicant state machine.
20     "
21 REFERENCE
22     "11.5.12"
23 ::= { lrpPortalCountersEntry 12 }
24
25 lrpPptCtSentCompletes OBJECT-TYPE
27 SYNTAX Counter64
28 MAX-ACCESS read-only
29 STATUS current
30 DESCRIPTION
31     "Incremented once for each Complete List LRPDU transmitted by
32     the Applicant state machine.
33     "
34 REFERENCE
35     "11.5.13"
36 ::= { lrpPortalCountersEntry 13 }
37
38 lrpPptCtAcceptedCompletes OBJECT-TYPE
40 SYNTAX Counter64
41 MAX-ACCESS read-only
42 STATUS current
43 DESCRIPTION
44     "Incremented once for each valid Complete List LRPDU received
45     by the Applicant state machine.
46     "
47 REFERENCE
48     "11.5.14"
49 ::= { lrpPortalCountersEntry 14 }
50
51 lrpPptCtDiscardedCompletes OBJECT-TYPE
53 SYNTAX Counter64
54 MAX-ACCESS read-only
55 STATUS current
56 DESCRIPTION
57     "Incremented once for each invalid Complete List LRPDU discarded
58     by the Applicant state machine.
59     "
60 REFERENCE
61     "11.5.15"
62 ::= { lrpPortalCountersEntry 15 }
63
64 lrpPptCtDiscardedUnknowns OBJECT-TYPE
66 SYNTAX Counter64
67 MAX-ACCESS read-only
68 STATUS current
69 DESCRIPTION
70     "Incremented once for each LRPDU of unknown type discarded by
```

```
1         the Applicant state machine or Partial list state machine.
2     "
3     REFERENCE
4         "11.5.16"
5     ::= { lrpPortalCountersEntry 16 }
6
7
8 -- *****
9 --          L R P - D T   I N S T A N C E   S T A T I S T I C S
10 -- *****
11
12 lrpDtInstanceCountersTable OBJECT-TYPE
13     SYNTAX      SEQUENCE OF LrpDtInstanceCountersEntry
14     MAX-ACCESS  not-accessible
15     STATUS      current
16     DESCRIPTION
17         "A table containing the per-LRP-DT instance set of counters that
18         record LRP events. There is an entry in the table for every
19         LRP-DT instance in a system.
20     "
21     REFERENCE
22         "11.4"
23     ::= { lrpStatistics 2 }
24
25 lrpDtInstanceCountersEntry OBJECT-TYPE
26     SYNTAX      LrpDtInstanceCountersEntry
27     MAX-ACCESS  not-accessible
28     STATUS      current
29     DESCRIPTION
30         "A list of statistics about one LRP-DT instance.
31     "
32     INDEX { lrpDtInstNumber }
33     ::= { lrpDtInstanceCountersTable 1 }
34
35 lrpDtInstanceCountersEntry ::= SEQUENCE {
36     lrpDtInstDiscardedLrpdus Counter64
37 }
38
39 lrpDtInstDiscardedLrpdus OBJECT-TYPE
40     SYNTAX      Counter64
41     MAX-ACCESS  read-only
42     STATUS      current
43     DESCRIPTION
44         "The number of received Link-local Registration Protocol Data
45         Units discarded by the LRP-DT instance because it could not
46         determine to which Portal it should be given.
47     "
48     REFERENCE
49         "11.4, 11.4.1"
50     ::= { lrpDtInstanceCountersEntry 1 }
51
52
53 -- *****
54 --          L R P   M I B   C O N F O R M A N C E
55 -- *****
56
57 lrpCompliances OBJECT IDENTIFIER ::= { lrpConformance 1 }
58 lrpGroups      OBJECT IDENTIFIER ::= { lrpConformance 2 }
59
60 -- compliance statements
61
62 lrpCompliance MODULE-COMPLIANCE
63     STATUS      current
```



```
1  DESCRIPTION
2      "A compliance statement for all SNMP entities that
3      implement the LRP MIB.
4
5      This version defines compliance requirements for
6      LRP MIB module.
7      "
8  MODULE -- this module
9      MANDATORY-GROUPS {
10         lrpDsDtGroup
11     }
12
13     ::= { lrpCompliances 1 }
14
15 -- MIB groupings
16
17 lrpDsDtGroup    OBJECT-GROUP
18     OBJECTS {
19         lrpDtInstActiveTcp,
20         lrpDtInstAddressTypes,
21         lrpDtInstMyAddress,
22         lrpDtInstMyTcpPort,
23         lrpDtInstNeighborAddress,
24         lrpDtInstNeighborTcpPort,
25         lrpPortalIfIndex,
26         lrpPortalDtInstanceIndex,
27         lrpPortalAppId,
28         lrpPortalMyChassisIdType,
29         lrpPortalMyChassisId,
30         lrpPortalMyPortIdType,
31         lrpPortalMyPortId,
32         lrpPortalNbrChassisIdType,
33         lrpPortalNbrChassisId,
34         lrpPortalNbrPortIdType,
35         lrpPortalNbrPortId,
36         lrpPortalLocalOverflow,
37         lrpPortalApplicantActiveRecords,
38         lrpPptCtRegistrarActiveRecords,
39         lrpPptCtSentHellos,
40         lrpPptCtAcceptedHellos,
41         lrpPptCtDiscardedHellos,
42         lrpPptCtSentRecords,
43         lrpPptCtAcceptedRecords,
44         lrpPptCtDiscardedRecords,
45         lrpPptCtRecordErrors,
46         lrpPptCtSentPartials,
47         lrpPptCtAcceptedPartials,
48         lrpPptCtDiscardedPartials,
49         lrpPptCtSentCompletes,
50         lrpPptCtAcceptedCompletes,
51         lrpPptCtDiscardedCompletes,
52         lrpPptCtDiscardedUnknowns,
53         lrpDtInstDiscardedLrpdus
54     }
55
56     STATUS current
57     DESCRIPTION
58         "The collection of objects which are used to monitor the
59         status of LRP-DS and LRP-DT.
60         "
61     ::= { lrpGroups 1 }
62
63 END
```

### 1 13.5.3 LLDPv2 LRP extension MIB

#### 2 *Change the MIB module in 13.5.3 with as follows:*

```
3 LLDP-V2-LRP-EXT-MIB DEFINITIONS ::= BEGIN
5
6 IMPORTS
7     MODULE-IDENTITY,
9     OBJECT-TYPE,
11    Unsigned32
13        FROM SNMPv2-SMI
14    TruthValue
16        FROM SNMPv2-TC
17    MODULE-COMPLIANCE,
19    OBJECT-GROUP
21        FROM SNMPv2-CONF
22    TimeFilter
24        FROM RMON2-MIB
25    InterfaceIndex
27        FROM IF-MIB
28    InetAddress,
30    InetAddressIPv4,
32    InetAddressIPv6,
34    InetPortNumber
36        FROM INET-ADDRESS-MIB
37    LldpV2DestAddressTableIndex
39        FROM LLDP-V2-TC-MIB
40    lldpXdot1StandAloneExtensions
42        FROM LLDP-EXT-DOT1-EVB-EXTENSIONS-MIB
43    LrpAppId,
45    LrpInetAddressInfo
47        FROM LRP-TC-MIB;
48
49 lldpXdot1LrpExtensions MODULE-IDENTITY
51    LAST-UPDATED "20201230000Z" -- December 3, 2020
52    LAST-UPDATED "202303140000Z" -- March 14, 2023
53    ORGANIZATION "IEEE 802.1 Working Group"
54    CONTACT-INFO
55        "WG-URL: http://www.ieee802.org/1/
56        WG-EMail: stds-802-1-l@ieee.org
57
58        Contact: IEEE 802.1 Working Group Chair
59        Postal: C/O IEEE 802.1 Working Group
60                IEEE Standards Association
61                445 Hoes Lane
62                Piscataway
63                NJ 08854
64                USA
65        E-mail: stds-802-1-chairs@ieee.org"
66    DESCRIPTION
67        "The LLDP Management Information Base extension module for IEEE
68        802.1 organizationally-defined discovery information, as
69        specified in IEEE Std 802.1CS, Link-local Registration Protocol
70        (LRP).
71
72        The Link-Layer Discovery Protocol (LLDP) is defined in
73        IEEE Std 802.1AB.
74
75        lldpXdot1StandAloneExtensions is the OUI for LLDP-EXT-DOT1-EVB-EXTENSIONS-MIB.
76        which defines managed objects for IEEE 802.1-defined
77        organizationally-specified LLDP Type-Length Value (TLV)
78        discovery information. lldpXdot1StandAloneExtensions is branched
79        from lldpV2Extensions (defined in LLDP-V2-MIB) using the
80        Organizationally Unique Identifier (OUI) value 00-80-C1, which
81        belongs to IEEE 802.1. An OUI is a 24 bit globally-unique number
```

```
1      assigned by the IEEE Registration Authority -- see:
2
3      http://standards.ieee.org/develop/regauth/oui/index.html
4
5      In turn, lldpXdot1LrpExtensions and lldpV2ExtLrpConformance are
6      branched from lldpXdot1StandAloneExtensions, and thus are also
7      extensions from the IEEE 802.1 OUI.
8
9      Unless otherwise indicated, the references in this MIB module
10     are to IEEE Std 802.1CS-2020.
11
12     Copyright (C) IEEE (2020). This version of this MIB module is
13     included in clause 13 of IEEE Std 802.1CS-2020; see the
14     Copyright (C) IEEE (2023). This version of this MIB module is
15     included in clause 13 of IEEE Std 802.1CS-2020/Cor1-2023; see the
16     standard itself for full legal notices."
17
18     REVISION "202303140000Z" -- March 14, 2023
19     DESCRIPTION
20     "Description of lldpV2LocLrpTcpAddress1 corrected.
21     "
22     REVISION "202012030000Z" -- December 3, 2020
23     DESCRIPTION
24         "This MIB module included in IEEE Std 802.1CS-2020.
25         "
26
27     ::= { lldpXdot1StandAloneExtensions 3 }
28
29     -----
30     -----
31     --
32     -- Organizationally Defined Information Extension - IEEE 802.1
33     -- Definitions to support the IEEE Std 802.1AB LLDP TLVs defined in
34     -- IEEE Std 802.1CS Link-local Registration Protocol (LRP)
35     --
36     -----
37     -----
38
39     lldpV2ExtLrpObjects      OBJECT IDENTIFIER ::= { lldpXdot1LrpExtensions 1 }
40
41
42     -- LLDP IEEE 802.1CS extension MIB groups
43
44     lldpV2ExtConfigLrp      OBJECT IDENTIFIER ::= { lldpV2ExtLrpObjects 1 }
45     lldpV2ExtLrpLocalData   OBJECT IDENTIFIER ::= { lldpV2ExtLrpObjects 2 }
46     lldpV2ExtLrpRemoteData  OBJECT IDENTIFIER ::= { lldpV2ExtLrpObjects 3 }
47
48
49     -----
50     -- IEEE 802.1 - Configuration for the LRP TLV set
51     -----
52     --
53     --
54     -- The table specifying, for each LRP application, what IP
55     -- addresses to advertise in LRP TCP Discovery TLVs in a
56     -- Controlled system.
57     --
58
59
60
61     lldpV2ConfigLrpTcpControlledTable OBJECT-TYPE
62         SYNTAX      SEQUENCE OF LldpV2LrpConfigTcpControlledEntry
63         MAX-ACCESS   not-accessible
64         STATUS       current
65         DESCRIPTION
66             "A table specifying what IP addresses are to be advertised as
67             the address of the Proxy system controlling this Controlled
68             system, for each particular LRP application. These IP addresses
69             and application identifiers can be transmitted in
```

```
1      LRP TCP Discovery TLVs.
2      "
3      REFERENCE
4      "11.6.1.1"
5      ::= { lldpV2ExtConfigLrp 1 }
6
7 lldpV2ConfigLrpTcpControlledEntry OBJECT-TYPE
9     SYNTAX      LldpV2LrpConfigTcpControlledEntry
10    MAX-ACCESS  not-accessible
11    STATUS      current
12    DESCRIPTION
13        "A table specifying what IP addresses are to be advertised as
14        the address of the Proxy system controlling this Controlled
15        system, for a particular LRP application. These IP addresses
16        and application identifiers can be transmitted in
17        LRP TCP Discovery TLVs.
18        "
19    INDEX { lldpV2ConfigLrpTcpControlledApplicationId }
20    ::= { lldpV2ConfigLrpTcpControlledTable 1 }
21
22 LldpV2LrpConfigTcpControlledEntry ::= SEQUENCE {
24     lldpV2ConfigLrpTcpControlledApplicationId  LrpAppId,
25     lldpV2ConfigLrpTcpControlledTcpPortNumber  InetPortNumber,
26     lldpV2ConfigLrpTcpControlledIPv4Enable     TruthValue,
27     lldpV2ConfigLrpTcpControlledIPv4Address    InetAddressIPv4,
28     lldpV2ConfigLrpTcpControlledIPv6Enable     TruthValue,
29     lldpV2ConfigLrpTcpControlledIPv6Address    InetAddressIPv6
30
31 }
32
33 lldpV2ConfigLrpTcpControlledApplicationId OBJECT-TYPE
35     SYNTAX      LrpAppId
36     MAX-ACCESS  not-accessible
37     STATUS      current
38     DESCRIPTION
39         "The application identifier to which the rest of the
40         lldpV2ConfigLrpTcpControlledEntry applies.
41         "
42     REFERENCE
43     "9.2"
44     ::= { lldpV2ConfigLrpTcpControlledEntry 1 }
45
46 lldpV2ConfigLrpTcpControlledTcpPortNumber OBJECT-TYPE
48     SYNTAX      InetPortNumber
49     MAX-ACCESS  read-write
50     STATUS      current
51     DESCRIPTION
52         "The destination TCP Port number to which TCP connections for
53         LRP to the addresses in lldpV2ConfigLrpTcpControlledIPv4Address
54         or lldpV2ConfigLrpTcpControlledIPv6Address, for the
55         application in lldpV2ConfigLrpTcpControlledApplicationId, are
56         to be made.
57
58         If this object contains the value 0, then no
59         Application descriptor with the indexed application ID is
60         transmitted.
61
62         The value of this object is restored from non-volatile
63         storage after a re-initialization of the management system.
64         "
65     REFERENCE
66     "C.2.2.6.1"
67     ::= { lldpV2ConfigLrpTcpControlledEntry 2 }
68
69 lldpV2ConfigLrpTcpControlledIPv4Enable OBJECT-TYPE
```

```
1 SYNTAX      TruthValue
2 MAX-ACCESS  read-write
3 STATUS      current
4 DESCRIPTION
5     "Specifies whether or not the indexed LRP application is
6     available through the LRP-DT TCP mechanism using TCP over IPv4.
7     It thus controls whether the LRP TCP Discovery TLVs transmitted
8     from this Controlled system include the IPv4 address in
9     lldpV2ConfigLrpTcpControlledIPv4Address in an
10    Application descriptor containing the indexed application ID.
11
12    If lldpV2ConfigLrpTcpControlledIPv4Enable and
13    lldpV2ConfigLrpTcpControlledIPv4Enable are both false(2), then
14    no Application descriptor with the indexed application ID is
15    transmitted.
16
17    The value of this object is restored from non-volatile
18    storage after a re-initialization of the management system.
19    "
20 REFERENCE
21     "C.2.2.6.2"
22 ::= { lldpV2ConfigLrpTcpControlledEntry 3 }
23
24 lldpV2ConfigLrpTcpControlledIPv4Address OBJECT-TYPE
25 SYNTAX      InetAddressIPv4
26 MAX-ACCESS  read-write
27 STATUS      current
28 DESCRIPTION
29     "Specifies an IPv4 address to be advertised in all of the
30     LRP TCP Discovery TLVs that carry the indexed application ID
31     that are transmitted by this Controlled system.
32
33     The value of this object is restored from non-volatile
34     storage after a re-initialization of the management system.
35     "
36 REFERENCE
37     "C.2.2.6.3"
38 ::= { lldpV2ConfigLrpTcpControlledEntry 4 }
39
40
41 lldpV2ConfigLrpTcpControlledIPv6Enable OBJECT-TYPE
42 SYNTAX      TruthValue
43 MAX-ACCESS  read-write
44 STATUS      current
45 DESCRIPTION
46     "Specifies whether or not the indexed LRP application is
47     available through the LRP-DT TCP mechanism using TCP over IPv6.
48     It thus controls whether the LRP TCP Discovery TLVs transmitted
49     from this Controlled system include the IPv6 address in
50     lldpV2ConfigLrpTcpControlledIPv6Address in an
51     Application descriptor containing the indexed application ID.
52
53     If lldpV2ConfigLrpTcpControlledIPv4Enable and
54     lldpV2ConfigLrpTcpControlledIPv4Enable are both false(2), then
55     no Application descriptor with the indexed application ID is
56     transmitted.
57
58     The value of this object is restored from non-volatile
59     storage after a re-initialization of the management system.
60     "
61 REFERENCE
62     "C.2.2.6.2"
63 ::= { lldpV2ConfigLrpTcpControlledEntry 5 }
64
65
66 lldpV2ConfigLrpTcpControlledIPv6Address OBJECT-TYPE
67 SYNTAX      InetAddressIPv6
```

```
1  MAX-ACCESS  read-write
2  STATUS      current
3  DESCRIPTION
4      "Specifies an IPv6 address to be advertised in all of the
5      LRP TCP Discovery TLVs that carry the indexed application ID
6      that are transmitted by this Controlled system.
7
8      The value of this object is restored from non-volatile
9      storage after a re-initialization of the management system.
10     "
11  REFERENCE
12      "C.2.2.6.3"
13      ::= { lldpV2ConfigLrpTcpControlledEntry 6 }
14
15 --
16 -- lldpV2ConfigLrpEcpTxTable: configure the transmission of the
17 --      LRP ECP Discovery TLVs on a set of ports.
18 --
19
20 lldpV2ConfigLrpEcpTxTable OBJECT-TYPE
21     SYNTAX      SEQUENCE OF LldpV2ConfigLrpEcpTxEntry
22     MAX-ACCESS  not-accessible
23     STATUS      current
24     DESCRIPTION
25         "This table contains one or more rows per physical network
26         connection known to this agent. The agent may wish to
27         ensure that only one lldpV2ConfigLrpEcpTxEntry is present for
28         each local port, or it may choose to maintain multiple
29         entries for the same local port."
30     REFERENCE
31         "11.6.2.1"
32     ::= { lldpV2ExtLrpLocalData 1 }
33
34 lldpV2ConfigLrpEcpTxEntry OBJECT-TYPE
35     SYNTAX      LldpV2ConfigLrpEcpTxEntry
36     MAX-ACCESS  not-accessible
37     STATUS      current
38     DESCRIPTION
39         "Information about a particular port component."
40     INDEX       { lldpV2ConfigLrpEcpTxLocalIfIndex,
41                  lldpV2ConfigLrpEcpTxLocalDestMACAddress }
42     ::= { lldpV2ConfigLrpEcpTxTable 1 }
43
44 lldpV2ConfigLrpEcpTxEntry ::= SEQUENCE {
45     lldpV2ConfigLrpEcpTxLocalIfIndex      InterfaceIndex,
46     lldpV2ConfigLrpEcpTxLocalDestMACAddress LldpV2DestAddressTableIndex,
47     lldpV2ConfigLrpEcpTxEnable            TruthValue
48 }
49
50 lldpV2ConfigLrpEcpTxLocalIfIndex OBJECT-TYPE
51     SYNTAX      InterfaceIndex
52     MAX-ACCESS  not-accessible
53     STATUS      current
54     DESCRIPTION
55         "The interface index value used to identify the port
56         associated with this entry. Its value is an index
57         into the interfaces MIB
58
59         The value of this object is used as an index to the
60         lldpV2ConfigLrpEcpTxTable.
61         "
62     ::= { lldpV2ConfigLrpEcpTxEntry 1 }
63
64 lldpV2ConfigLrpEcpTxLocalDestMACAddress OBJECT-TYPE
65     SYNTAX      LldpV2DestAddressTableIndex
```

```
1  MAX-ACCESS  not-accessible
2  STATUS      current
3  DESCRIPTION
4      "The index value used to identify the LLDPDU frame destination
5      MAC address associated with this entry. Its value identifies
6      the row in the lldpV2DestAddressTable where the MAC address
7      can be found.
8
9      The value of this object is used as an index to the
10     lldpV2ConfigLrpEcpTxTable.
11     "
12     ::= { lldpV2ConfigLrpEcpTxEntry 2 }
13
14 lldpV2ConfigLrpEcpTxEnable OBJECT-TYPE
15     SYNTAX      TruthValue
16     MAX-ACCESS  read-write
17     STATUS      current
18     DESCRIPTION
19         "The lldpV2ConfigLrpEcpTxEnable, which is defined
20         as a truth value and configured by the network management,
21         determines whether the IEEE 802.1 organizationally defined
22         LRP ECP Discovery TLV transmission is allowed on a given
23         LLDP transmission-capable port component.
24
25         The value of this object is restored from non-volatile
26         storage after a re-initialization of the management system."
27     DEFVAL { false }
28     ::= { lldpV2ConfigLrpEcpTxEntry 3 }
29
30
31
32 --
33 -- lldpV2ConfigLrpTcpTxTable: configure the transmission of the
34 --     LRP TCP Discovery TLVs on a set of ports.
35 --
36
37 lldpV2ConfigLrpTcpTxTable OBJECT-TYPE
38     SYNTAX      SEQUENCE OF LldpV2ConfigLrpTcpTxEntry
39     MAX-ACCESS  not-accessible
40     STATUS      current
41     DESCRIPTION
42         "This table contains one or more rows per physical network
43         connection known to this agent. The agent may wish to
44         ensure that only one lldpV2ConfigLrpTcpTxEntry is present for
45         each local port, or it may choose to maintain multiple
46         entries for the same local port."
47     ::= { lldpV2ExtLrpLocalData 2 }
48
49
50 lldpV2ConfigLrpTcpTxEntry OBJECT-TYPE
51     SYNTAX      LldpV2ConfigLrpTcpTxEntry
52     MAX-ACCESS  not-accessible
53     STATUS      current
54     DESCRIPTION
55         "Information about a particular port component."
56     INDEX      { lldpV2ConfigLrpTcpTxLocalIfIndex,
57                 lldpV2ConfigLrpTcpTxLocalDestMACAddress }
58     ::= { lldpV2ConfigLrpTcpTxTable 1 }
59
60
61 LldpV2ConfigLrpTcpTxEntry ::= SEQUENCE {
62     lldpV2ConfigLrpTcpTxLocalIfIndex      InterfaceIndex,
63     lldpV2ConfigLrpTcpTxLocalDestMACAddress LldpV2DestAddressTableIndex,
64     lldpV2ConfigLrpTcpTxEnable            TruthValue
65 }
66
67
68 lldpV2ConfigLrpTcpTxLocalIfIndex OBJECT-TYPE
69     SYNTAX      InterfaceIndex
```

```
1  MAX-ACCESS  not-accessible
2  STATUS      current
3  DESCRIPTION
4      "The interface index value used to identify the port
5      associated with this entry. Its value is an index
6      into the interfaces MIB
7
8      The value of this object is used as an index to the
9      lldpV2ConfigLrpTcpTxTable.
10     "
11     ::= { lldpV2ConfigLrpTcpTxEntry 1 }
12
13 lldpV2ConfigLrpTcpTxLocalDestMACAddress OBJECT-TYPE
14     SYNTAX      LldpV2DestAddressTableIndex
15     MAX-ACCESS  not-accessible
16     STATUS      current
17     DESCRIPTION
18         "The index value used to identify the LLDPDU frame destination
19         MAC address associated with this entry. Its value identifies
20         the row in the lldpV2DestAddressTable where the MAC address
21         can be found.
22
23         The value of this object is used as an index to the
24         lldpV2ConfigLrpTcpTxTable.
25     "
26     ::= { lldpV2ConfigLrpTcpTxEntry 2 }
27
28 lldpV2ConfigLrpTcpTxEnable OBJECT-TYPE
29     SYNTAX      TruthValue
30     MAX-ACCESS  read-write
31     STATUS      current
32     DESCRIPTION
33         "The lldpV2ConfigLrpTcpTxEnable, which is defined
34         as a truth value and configured by the network management,
35         determines whether the IEEE 802.1 organizationally defined
36         LRP TCP Discovery TLV transmission is allowed on a given
37         LLDP transmission-capable port component.
38
39         The value of this object is restored from non-volatile
40         storage after a re-initialization of the management system."
41     REFERENCE
42         "9.1.2.1 of IEEE Std 802.1AB-2016"
43     DEFVAL { false }
44     ::= { lldpV2ConfigLrpTcpTxEntry 3 }
45
46 -----
47 -- IEEE 802.1CS LRP LLDP TLVs - Local System Information
48 -----
49 --
50 -- lldpV2LocLrpEcpTable
51 --
52 --
53 lldpV2LocLrpEcpTable OBJECT-TYPE
54     SYNTAX      SEQUENCE OF LldpV2LocLrpEcpEntry
55     MAX-ACCESS  not-accessible
56     STATUS      current
57     DESCRIPTION
58         "This table contains one or more rows per physical network
59         connection known to this agent. The agent may wish to
60         ensure that only one lldpV2ExtLrpLocEntry is present for
61         each local port, or it may choose to maintain multiple
62         lldpV2ExtLrpLocEntries for the same local port.
63     "
64     REFERENCE
```



```
1      "11.6.2.2"
2      ::= { lldpV2ExtLrpLocalData 3 }
3
4 lldpV2LocLrpEcpEntry OBJECT-TYPE
5     SYNTAX      LldpV2LocLrpEcpEntry
6     MAX-ACCESS  not-accessible
7     STATUS      current
8     DESCRIPTION
9         "Information about the C.2.1LRP ECP Discovery TLV that can
10        be transmitted from a particular LLDP port component.
11        Note that this MIB supports the transmission of only one
12        LRP ECP Discovery TLV per port component.
13        "
14     INDEX      { lldpV2LocLrpEcpLocalIfIndex,
15                  lldpV2LocLrpEcpLocalDestMACAddress,
16                  lldpV2LocLrpEcpApplicationIndex }
17     ::= { lldpV2LocLrpEcpTable 1 }
18
19
20 LldpV2LocLrpEcpEntry ::= SEQUENCE {
21     lldpV2LocLrpEcpLocalIfIndex      InterfaceIndex,
22     lldpV2LocLrpEcpLocalDestMACAddress LldpV2DestAddressTableIndex,
23     lldpV2LocLrpEcpApplicationIndex  Unsigned32,
24     lldpV2LocLrpEcpApplicationId     LrpAppId
25 }
26
27
28 lldpV2LocLrpEcpLocalIfIndex OBJECT-TYPE
29     SYNTAX      InterfaceIndex
30     MAX-ACCESS  not-accessible
31     STATUS      current
32     DESCRIPTION
33         "The interface index value used to identify the port
34         associated with this entry. Its value is an index
35         into the interfaces MIB
36
37         The value of this object is used as an index to the
38         lldpV2LocLrpEcpTable.
39         "
40     ::= { lldpV2LocLrpEcpEntry 1 }
41
42
43 lldpV2LocLrpEcpLocalDestMACAddress OBJECT-TYPE
44     SYNTAX      LldpV2DestAddressTableIndex
45     MAX-ACCESS  not-accessible
46     STATUS      current
47     DESCRIPTION
48         "The index value used to identify the LLDPDU frame destination
49         MAC address associated with this entry. Its value identifies
50         the row in the lldpV2DestAddressTable where the MAC address
51         can be found.
52
53         The value of this object is used as an index to the
54         lldpV2LocLrpEcpTable.
55         "
56     ::= { lldpV2LocLrpEcpEntry 2 }
57
58
59 lldpV2LocLrpEcpApplicationIndex OBJECT-TYPE
60     SYNTAX      Unsigned32 (0..255)
61     MAX-ACCESS  not-accessible
62     STATUS      current
63     DESCRIPTION
64         "A small integer that selects one entry in the
65         lldpV2LocLrpEcpTable. For every entry in lldpV2LocLrpEcpEntry,
66         there is one Application descriptor in the transmitted
67         LRP ECP Discovery TLV.
68
69         The value of the transmitted Application count field in the
```

```
1      LRP ECP Discovery TLV is equal to the number of different values
2      of lldpV2LocLrpEcpApplicationIndex for this port component.
3      "
4      REFERENCE "C.2.1.5, C.2.1.6"
5      ::= { lldpV2LocLrpEcpEntry 3 }
6
7 lldpV2LocLrpEcpApplicationId OBJECT-TYPE
9     SYNTAX      LrpAppId
10    MAX-ACCESS   read-only
11    STATUS       current
12    DESCRIPTION
13        "The AppId in one Application descriptor in the transmitted
14        LRP ECP Discovery TLV.
15        "
16    REFERENCE "C.2.1.5, C.2.1.6"
17    ::= { lldpV2LocLrpEcpEntry 4 }
18
19 --
20 -- lldpV2LocLrpTcpTable - indexed by ifIndex.
21 --
22
23 lldpV2LocLrpTcpTable OBJECT-TYPE
25     SYNTAX      SEQUENCE OF LldpV2LocLrpTcpEntry
26     MAX-ACCESS   not-accessible
27     STATUS       current
28     DESCRIPTION
29         "This table contains one or more rows per physical network
30         connection known to this agent, one for each port component.
31         "
32     ::= { lldpV2ExtLrpLocalData 4 }
33
34 lldpV2LocLrpTcpEntry OBJECT-TYPE
36     SYNTAX      LldpV2LocLrpTcpEntry
37     MAX-ACCESS   not-accessible
38     STATUS       current
39     DESCRIPTION
40         "Information about a particular LLDP port component's transmitted
41         LRP TCP Discovery TLV. Note that this MIB supports the
42         transmission of only one LRP TCP Discovery TLV per port
43         component.
44         "
45     INDEX      { lldpV2LocLrpTcpLocalIfIndex,
46                 lldpV2LocLrpTcpLocalDestMACAddress,
47                 lldpV2LocLrpTcpApplicationIndex }
48     ::= { lldpV2LocLrpTcpTable 1 }
49
50 lldpV2LocLrpTcpEntry ::= SEQUENCE {
52     lldpV2LocLrpTcpLocalIfIndex      InterfaceIndex,
53     lldpV2LocLrpTcpLocalDestMACAddress LldpV2DestAddressTableIndex,
54     lldpV2LocLrpTcpApplicationIndex  Unsigned32,
55     lldpV2LocLrpTcpApplicationId     LrpAppId,
56     lldpV2LocLrpTcpPortNumber        InetPortNumber,
57     lldpV2LocLrpTcpAddressInfo1      LrpInetAddressInfo,
58     lldpV2LocLrpTcpAddress1          InetAddress,
59     lldpV2LocLrpTcpAddressInfo2      LrpInetAddressInfo,
60     lldpV2LocLrpTcpAddress2          InetAddress
61 }
62
63 lldpV2LocLrpTcpLocalIfIndex OBJECT-TYPE
65     SYNTAX      InterfaceIndex
66     MAX-ACCESS   not-accessible
67     STATUS       current
68     DESCRIPTION
69         "The interface index value used to identify the port
70         associated with this entry. Its value is an index
```

```
1      into the interfaces MIB
2
3      The value of this object is used as an index to the
4      lldpV2LocLrpTcpTable.
5      "
6      ::= { lldpV2LocLrpTcpEntry 1 }
7
8 lldpV2LocLrpTcpLocalDestMACAddress OBJECT-TYPE
9     SYNTAX      LldpV2DestAddressTableIndex
10    MAX-ACCESS   not-accessible
11    STATUS       current
12    DESCRIPTION
13        "The index value used to identify the destination
14        MAC address associated with this entry. Its value identifies
15        the row in the lldpV2DestAddressTable where the MAC address
16        can be found.
17
18        The value of this object is used as an index to the
19        lldpV2LocLrpTcpTable.
20        "
21    ::= { lldpV2LocLrpTcpEntry 2 }
22
23 lldpV2LocLrpTcpApplicationIndex OBJECT-TYPE
24     SYNTAX      Unsigned32 (0..255)
25     MAX-ACCESS   not-accessible
26     STATUS       current
27     DESCRIPTION
28         "A small integer that selects one entry in the
29         lldpV2LocLrpTcpTable. For every entry in lldpV2LocLrpTcpEntry,
30         there is one Application descriptor in the transmitted
31         LRP TCP Discovery TLV.
32
33         The value of the transmitted Application count field in the
34         LRP TCP Discovery TLV is equal to the number of different values
35         of lldpV2LocLrpTcpApplicationIndex for this port component.
36         "
37     REFERENCE "C.2.2.5, C.2.2.6"
38     ::= { lldpV2LocLrpTcpEntry 3 }
39
40 lldpV2LocLrpTcpApplicationId OBJECT-TYPE
41     SYNTAX      LrpAppId
42     MAX-ACCESS   read-only
43     STATUS       current
44     DESCRIPTION
45         "The AppId in one Application descriptor in the transmitted
46         LRP TCP Discovery TLV.
47         "
48     REFERENCE "C.2.2.6"
49     ::= { lldpV2LocLrpTcpEntry 4 }
50
51 lldpV2LocLrpTcpPortNumber OBJECT-TYPE
52     SYNTAX      InetPortNumber
53     MAX-ACCESS   read-only
54     STATUS       current
55     DESCRIPTION
56         "The contents of the TCP Port number field in the transmitted
57         LRP TCP Discovery TLV. lldpV2LocLrpTcpPortNumber SHALL NOT
58         contain the value 0.
59         "
60     REFERENCE "C.2.2.6"
61     ::= { lldpV2LocLrpTcpEntry 5 }
62
63 lldpV2LocLrpTcpAddressInfo1 OBJECT-TYPE
64     SYNTAX      LrpInetAddressInfo
65     MAX-ACCESS   read-only
```

```
1 STATUS current
2 DESCRIPTION
3 "The contents of the first Address info field in the transmitted
4 Application descriptor. lldpV2LocLrpTcpAddressInfo1 SHALL NOT
5 contain the value, notPresent(256).
6 "
7 REFERENCE "C.2.2.6"
8 ::= { lldpV2LocLrpTcpEntry 6 }
9
10 lldpV2LocLrpTcpAddress1 OBJECT-TYPE
11 SYNTAX InetAddress
12 MAX-ACCESS read-only
13 STATUS current
14 DESCRIPTION
15 "The contents of the first Address field in the transmitted
16 Application descriptor. If lldpV2LocLrpTcpAddressInfo1 has the
17 value notPresent(256) or noAddress(0), lldpV2LocLrpTcpAddress1
18 SHALL contain a zero-length octet string. Otherwise,
19 lldpV2LocLrpTcpAddress1 SHALL contain an IPv4 or IPv6 address,
20 as specified by lldpV2LocLrpTcpAddressInfo1.
21 "
22 REFERENCE "C.2.2.6"
23 ::= { lldpV2LocLrpTcpEntry 7 }
24
25 lldpV2LocLrpTcpAddressInfo2 OBJECT-TYPE
26 SYNTAX LrpInetAddressInfo
27 MAX-ACCESS read-only
28 STATUS current
29 DESCRIPTION
30 "The contents of the second Address info field in the transmitted
31 Application descriptor. lldpV2LocLrpTcpAddressInfo2 has the
32 value notPresent(256) if there is no second Address info field
33 in the Application descriptor.
34 "
35 REFERENCE "C.2.2.6"
36 ::= { lldpV2LocLrpTcpEntry 8 }
37
38 lldpV2LocLrpTcpAddress2 OBJECT-TYPE
39 SYNTAX InetAddress
40 MAX-ACCESS read-only
41 STATUS current
42 DESCRIPTION
43 "The contents of the second Address field in the transmitted
44 Application descriptor. If lldpV2LocLrpTcpAddressInfo2 has the
45 value notPresent(256) or noAddress(0), lldpV2LocLrpTcpAddress2
46 SHALL contain a zero-length octet string. Otherwise,
47 lldpV2LocLrpTcpAddress2 SHALL contain an IPv4 or IPv6 address,
48 as specified by lldpV2LocLrpTcpAddressInfo2.
49 "
50 REFERENCE "C.2.2.6"
51 ::= { lldpV2LocLrpTcpEntry 9 }
52
53 -----
54 -- IEEE 802.1CS LRP LLDP TLVs - Remote (Neighbor) System Information
55 -----
56 --
57 -- lldpV2RemLrpEcpTable
58 --
59
60 lldpV2RemLrpEcpTable OBJECT-TYPE
61 SYNTAX SEQUENCE OF LldpV2RemLrpEcpEntry
62 MAX-ACCESS not-accessible
63 STATUS current
64 DESCRIPTION
```

1            "This table contains one or more rows per physical network  
2            connection known to this agent. The agent may wish to  
3            ensure that only one lldpV2ExtLrpRemEntry is present for  
4            each local port, or it may choose to maintain multiple  
5            lldpV2ExtLrpRemEntries for the same local port."  
6        REFERENCE  
7            "11.6.2.3"  
8        ::= { lldpV2ExtLrpRemoteData 1 }  
9  
10 lldpV2RemLrpEcpEntry OBJECT-TYPE  
12        SYNTAX        LldpV2RemLrpEcpEntry  
13        MAX-ACCESS    not-accessible  
14        STATUS        current  
15        DESCRIPTION  
16            "Information about a particular port component."  
17        INDEX        { lldpV2RemLrpEcpTimeMark,  
18                        lldpV2RemLrpEcpLocalIfIndex,  
19                        lldpV2RemLrpEcpLocalDestMACAddress,  
20                        lldpV2RemLrpEcpIndex,  
21                        lldpV2RemLrpEcpApplicationIndex }  
22        ::= { lldpV2RemLrpEcpTable 1 }  
23  
24 LldpV2RemLrpEcpEntry ::= SEQUENCE {  
26        lldpV2RemLrpEcpTimeMark                TimeFilter,  
27        lldpV2RemLrpEcpLocalIfIndex            InterfaceIndex,  
28        lldpV2RemLrpEcpLocalDestMACAddress    LldpV2DestAddressTableIndex,  
29        lldpV2RemLrpEcpIndex                    Unsigned32,  
30        lldpV2RemLrpEcpApplicationIndex        Unsigned32,  
31        lldpV2RemLrpEcpApplicationId           LrpAppId  
32        }  
33  
34 lldpV2RemLrpEcpTimeMark OBJECT-TYPE  
36        SYNTAX        TimeFilter  
37        MAX-ACCESS    not-accessible  
38        STATUS        current  
39        DESCRIPTION  
40            "A TimeFilter for this entry. See the TimeFilter textual  
41            convention in IETF RFC 4502 to see how TimeFilter works."  
42        " "  
43        REFERENCE  
44            "IETF RFC 4502 section 6"  
45        ::= { lldpV2RemLrpEcpEntry 1 }  
46  
47  
48 lldpV2RemLrpEcpLocalIfIndex OBJECT-TYPE  
50        SYNTAX        InterfaceIndex  
51        MAX-ACCESS    not-accessible  
52        STATUS        current  
53        DESCRIPTION  
54            "The interface index value used to identify the port  
55            associated with this entry. Its value is an index  
56            into the interfaces MIB  
57  
58            The value of this object is used as an index to the  
59            lldpV2RemLrpEcpTable."  
60        " "  
61        ::= { lldpV2RemLrpEcpEntry 2 }  
62  
63 lldpV2RemLrpEcpLocalDestMACAddress OBJECT-TYPE  
65        SYNTAX        LldpV2DestAddressTableIndex  
66        MAX-ACCESS    not-accessible  
67        STATUS        current  
68        DESCRIPTION  
69            "The index value used to identify the LLDPDU frame destination  
70            MAC address associated with this entry. Its value identifies

```
1         the row in the lldpV2DestAddressTable where the MAC address
2         can be found.
3
4         The value of this object is used as an index to the
5         lldpV2RemLrpTcpTable.
6     "
7     ::= { lldpV2RemLrpEcpEntry 3 }
8
9
10 lldpV2RemLrpEcpIndex OBJECT-TYPE
11     SYNTAX      Unsigned32(1..2147483647)
12     MAX-ACCESS  not-accessible
13     STATUS      current
14     DESCRIPTION
15         "This object represents an arbitrary local integer value used
16         by this agent to identify a particular connection instance,
17         unique only for the indicated remote system.
18
19         An agent is encouraged to assign monotonically increasing
20         index values to new entries, starting with one, after each
21         reboot. It is considered unlikely that the
22         lldpV2RemLrpEcpIndex can wrap between reboots.
23     "
24     ::= { lldpV2RemLrpEcpEntry 4 }
25
26
27 lldpV2RemLrpEcpApplicationIndex OBJECT-TYPE
28     SYNTAX      Unsigned32 (0..255)
29     MAX-ACCESS  not-accessible
30     STATUS      current
31     DESCRIPTION
32         "A small integer that selects one entry in the
33         lldpV2RemLrpEcpTable. For every entry in lldpV2RemLrpEcpEntry,
34         there is one Application descriptor in the received
35         LRP ECP Discovery TLV.
36
37         The value of the received Application count field in the
38         LRP ECP Discovery TLV is equal to the number of different values
39         of lldpV2RemLrpEcpApplicationIndex for this connection instance.
40     "
41     REFERENCE "C.2.1.5, C.2.1.6"
42     ::= { lldpV2RemLrpEcpEntry 5 }
43
44
45 lldpV2RemLrpEcpApplicationId OBJECT-TYPE
46     SYNTAX      LrpAppId
47     MAX-ACCESS  read-only
48     STATUS      current
49     DESCRIPTION
50         "The AppId in one Application descriptor in the received
51         LRP ECP Discovery TLV.
52     "
53     REFERENCE "C.2.1.5, C.2.1.6"
54     ::= { lldpV2RemLrpEcpEntry 6 }
55
56
57 --
58 -- lldpV2RemLrpTcpTable
59 --
60
61 lldpV2RemLrpTcpTable OBJECT-TYPE
62     SYNTAX      SEQUENCE OF LldpV2RemLrpTcpEntry
63     MAX-ACCESS  not-accessible
64     STATUS      current
65     DESCRIPTION
66         "This table contains one or more rows per physical network
67         connection known to this agent. The agent may wish to
68         ensure that only one lldpV2ExtLrpRemEntry is present for
```

```
1         each local port, or it may choose to maintain multiple
2         lldpV2ExtLrpRemEntries for the same local port."
3 ::= { lldpV2ExtLrpRemoteData 2 }
4
5 lldpV2RemLrpTcpEntry OBJECT-TYPE
6     SYNTAX      LldpV2RemLrpTcpEntry
7     MAX-ACCESS  not-accessible
8     STATUS      current
9     DESCRIPTION
10
11         "Information about a particular port component."
12     INDEX      { lldpV2RemLrpTcpTimeMark,
13                 lldpV2RemLrpTcpLocalIfIndex,
14                 lldpV2RemLrpTcpLocalDestMACAddress,
15                 lldpV2RemLrpTcpIndex,
16                 lldpV2RemLrpTcpApplicationIndex }
17 ::= { lldpV2RemLrpTcpTable 1 }
18
19 LldpV2RemLrpTcpEntry ::= SEQUENCE {
20     lldpV2RemLrpTcpTimeMark          TimeFilter,
21     lldpV2RemLrpTcpLocalIfIndex      InterfaceIndex,
22     lldpV2RemLrpTcpLocalDestMACAddress LldpV2DestAddressTableIndex,
23     lldpV2RemLrpTcpIndex             Unsigned32,
24     lldpV2RemLrpTcpApplicationIndex  Unsigned32,
25     lldpV2RemLrpTcpApplicationId     LrpAppId,
26     lldpV2RemLrpTcpPortNumber        InetPortNumber,
27     lldpV2RemLrpTcpAddressInfo1      LrpInetAddressInfo,
28     lldpV2RemLrpTcpAddress1          InetAddress,
29     lldpV2RemLrpTcpAddressInfo2      LrpInetAddressInfo,
30     lldpV2RemLrpTcpAddress2          InetAddress
31 }
32
33
34 lldpV2RemLrpTcpTimeMark OBJECT-TYPE
35     SYNTAX      TimeFilter
36     MAX-ACCESS  not-accessible
37     STATUS      current
38     DESCRIPTION
39
40         "A TimeFilter for this entry. See the TimeFilter textual
41         convention in IETF RFC 4502 to see how TimeFilter works."
42
43     REFERENCE
44
45         "IETF RFC 4502 section 6"
46 ::= { lldpV2RemLrpTcpEntry 1 }
47
48 lldpV2RemLrpTcpLocalIfIndex OBJECT-TYPE
49     SYNTAX      InterfaceIndex
50     MAX-ACCESS  not-accessible
51     STATUS      current
52     DESCRIPTION
53
54         "The interface index value used to identify the port
55         associated with this entry. Its value is an index
56         into the interfaces MIB
57
58         The value of this object is used as an index to the
59         lldpV2RemLrpTcpTable.
60
61 ::= { lldpV2RemLrpTcpEntry 2 }
62
63 lldpV2RemLrpTcpLocalDestMACAddress OBJECT-TYPE
64     SYNTAX      LldpV2DestAddressTableIndex
65     MAX-ACCESS  not-accessible
66     STATUS      current
67     DESCRIPTION
68
69         "The index value used to identify the destination
70         MAC address associated with this entry. Its value identifies
```

```
1         the row in the lldpV2DestAddressTable where the MAC address
2         can be found.
3
4         The value of this object is used as an index to the
5         lldpV2RemLrpTcpTable.
6     "
7     ::= { lldpV2RemLrpTcpEntry 3 }
8
9
10 lldpV2RemLrpTcpIndex OBJECT-TYPE
11     SYNTAX      Unsigned32(1..2147483647)
12     MAX-ACCESS  not-accessible
13     STATUS      current
14     DESCRIPTION
15         "This object represents an arbitrary local integer value used
16         by this agent to identify a particular connection instance,
17         unique only for the indicated remote system.
18
19         An agent is encouraged to assign monotonically increasing
20         index values to new entries, starting with one, after each
21         reboot. It is considered unlikely that the
22         lldpV2RemLrpTcpIndex can wrap between reboots.
23     "
24     ::= { lldpV2RemLrpTcpEntry 4 }
25
26
27 lldpV2RemLrpTcpApplicationIndex OBJECT-TYPE
28     SYNTAX      Unsigned32 (0..255)
29     MAX-ACCESS  not-accessible
30     STATUS      current
31     DESCRIPTION
32         "A small integer that selects one entry in the
33         lldpV2RemLrpTcpTable. For every entry in lldpV2RemLrpTcpEntry,
34         there is one Application descriptor in the received
35         LRP TCP Discovery TLV.
36
37         The value of the received Application count field in the
38         LRP TCP Discovery TLV is equal to the number of different values
39         of lldpV2RemLrpTcpApplicationIndex for this connection instance.
40     "
41     REFERENCE "C.2.2.5, C.2.2.6"
42     ::= { lldpV2RemLrpTcpEntry 5 }
43
44
45 lldpV2RemLrpTcpApplicationId OBJECT-TYPE
46     SYNTAX      LrpAppId
47     MAX-ACCESS  read-only
48     STATUS      current
49     DESCRIPTION
50         "The AppId in one Application descriptor in the received
51         LRP TCP Discovery TLV.
52     "
53     REFERENCE "C.2.2.6"
54     ::= { lldpV2RemLrpTcpEntry 6 }
55
56
57 lldpV2RemLrpTcpPortNumber OBJECT-TYPE
58     SYNTAX      InetPortNumber
59     MAX-ACCESS  read-only
60     STATUS      current
61     DESCRIPTION
62         "The contents of the TCP Port number field in the received
63         Application descriptor. lldpV2RemLrpTcpPortNumber SHALL NOT
64         contain the value 0.
65     "
66     REFERENCE "C.2.2.6"
67     ::= { lldpV2RemLrpTcpEntry 7 }
68
69
```



```
1 lldpV2RemLrpTcpAddressInfo1 OBJECT-TYPE
3   SYNTAX      LrpInetAddressInfo
4   MAX-ACCESS  read-only
5   STATUS      current
6   DESCRIPTION
7       "The contents of the first Address info field in the received
8       Application descriptor. lldpV2RemLrpTcpAddressInfo1 SHALL NOT
9 contain the value, notPresent(256)."
10
11   REFERENCE "C.2.2.6"
12   ::= { lldpV2RemLrpTcpEntry 8 }
13
14 lldpV2RemLrpTcpAddress1 OBJECT-TYPE
16   SYNTAX      InetAddress
17   MAX-ACCESS  read-only
18   STATUS      current
19   DESCRIPTION
20       "The contents of the first Address field in the received
21       Application descriptor. If lldpV2RemLrpTcpAddressInfo1 has the
22       value notPresent(256) or noAddress(0), lldpV2RemLrpTcpAddress1
23       SHALL contain a zero-length octet string. Otherwise,
24       lldpV2RemLrpTcpAddress1 SHALL contain an IPv4 or IPv6 address,
25       as specified by lldpV2RemLrpTcpAddressInfo1."
26
27   REFERENCE "C.2.2.6"
28   ::= { lldpV2RemLrpTcpEntry 9 }
29
30 lldpV2RemLrpTcpAddressInfo2 OBJECT-TYPE
32   SYNTAX      LrpInetAddressInfo
33   MAX-ACCESS  read-only
34   STATUS      current
35   DESCRIPTION
36       "The contents of the second Address info field in the received
37       Application descriptor. lldpV2RemLrpTcpAddressInfo2 has the
38       value notPresent(256) if there is no second Address info field
39       in the Application descriptor."
40
41   REFERENCE "C.2.2.6"
42   ::= { lldpV2RemLrpTcpEntry 10 }
43
44 lldpV2RemLrpTcpAddress2 OBJECT-TYPE
46   SYNTAX      InetAddress
47   MAX-ACCESS  read-only
48   STATUS      current
49   DESCRIPTION
50       "The contents of the second Address field in the received
51       Application descriptor. If lldpV2RemLrpTcpAddressInfo2 has the
52       value notPresent(256) or noAddress(0), lldpV2RemLrpTcpAddress2
53       SHALL contain a zero-length octet string. Otherwise,
54       lldpV2RemLrpTcpAddress2 SHALL contain an IPv4 or IPv6 address,
55       as specified by lldpV2RemLrpTcpAddressInfo2."
56
57   REFERENCE "C.2.2.6"
58   ::= { lldpV2RemLrpTcpEntry 11 }
59
60 -----
61 -- Conformance Information for the basicSet TLV set
62 -----
63
64 lldpV2ExtLrpConformance
66   OBJECT IDENTIFIER ::= { lldpXdot1StandAloneExtensions 9 }
67 lldpV2ExtLrpCompliances
69   OBJECT IDENTIFIER ::= { lldpV2ExtLrpConformance 1 }
70 lldpV2ExtLrpGroups
72   OBJECT IDENTIFIER ::= { lldpV2ExtLrpConformance 2 }
```

```
1
2 -- compliance statements
3
4
5 lldpV2ExtLrpTxRxCompliance MODULE-COMPLIANCE
6
7     STATUS current
8     DESCRIPTION
9         "A compliance statement for SNMP entities that implement
10         the IEEE 802.1 organizationally defined LLDP extension MIB.
11
12         This group is mandatory for all agents that implement the
13         LLDP 802.1 organizational extension in TX and/or RX mode
14         for the basicSet TLV set.
15
16         This version defines compliance requirements for
17         V2 of the LLDP MIB."
18     MODULE -- this module
19     ::= { lldpV2ExtLrpCompliances 1 }
20
21
22
23 -- MIB groupings for the basicSet TLV set
24
25 lldpV2ExtLrpControlledTcpControlGroup OBJECT-GROUP
26     OBJECTS {
27         lldpV2ConfigLrpTcpControlledTcpPortNumber,
28         lldpV2ConfigLrpTcpControlledIPv4Enable,
29         lldpV2ConfigLrpTcpControlledIPv4Address,
30         lldpV2ConfigLrpTcpControlledIPv6Enable,
31         lldpV2ConfigLrpTcpControlledIPv6Address
32     }
33
34     STATUS current
35     DESCRIPTION
36         "The optional collection of objects which are required of a
37         Controlled system so that a Proxy system SNMP client can
38         configure the LRP TCP Discovery TLVs to be transmitted by the
39         Controlled system.
40         "
41     REFERENCE "5.10:b"
42     ::= { lldpV2ExtLrpGroups 1 }
43
44 lldpV2ExtLrpEcpTlvGroup OBJECT-GROUP
45     OBJECTS {
46         lldpV2ConfigLrpEcpTxEnable,
47         lldpV2LocLrpEcpApplicationId,
48         lldpV2RemLrpEcpApplicationId
49     }
50
51     STATUS current
52     DESCRIPTION
53         "The optional collection of objects which are required of any
54         system implementing the LRP-DT ECP mechanism so that an SNMP
55         client can observe the LRP ECP Discovery TLVs transmitted and
56         received by the system."
57     REFERENCE "Clause 5"
58     ::= { lldpV2ExtLrpGroups 2 }
59
60 lldpV2ExtLrpTcpTlvGroup OBJECT-GROUP
61     OBJECTS {
62         lldpV2ConfigLrpTcpTxEnable,
63         lldpV2LocLrpTcpApplicationId,
64         lldpV2LocLrpTcpPortNumber,
65         lldpV2LocLrpTcpAddressInfo1,
66         lldpV2LocLrpTcpAddress1,
67         lldpV2LocLrpTcpAddressInfo2,
68         lldpV2LocLrpTcpAddress2,
69         lldpV2LocLrpTcpAddress2,
```

```
1      lldpV2RemLrpTcpApplicationId,  
2      lldpV2RemLrpTcpPortNumber,  
3      lldpV2RemLrpTcpAddressInfo1,  
4      lldpV2RemLrpTcpAddress1,  
5      lldpV2RemLrpTcpAddressInfo2,  
6      lldpV2RemLrpTcpAddress2  
7  }  
8  STATUS current  
9  DESCRIPTION  
10     "The optional collection of objects which are required of any  
11     system implementing the LRP-DT TCP mechanism so that an SNMP  
12     client can observe the LRP TCP Discovery TLVs transmitted and  
13     received by the system."  
14  REFERENCE "Clause 5"  
15  ::= { lldpV2ExtLrpGroups 3 }  
16  
17 END  
18
```

# Annex C

(normative)

## IEEE 802.1 Organizationally Specific TLVs for LLDP

### C.2 Organizationally Specific TLV definitions

#### C.2.2 LRP TCP Discovery TLV

##### C.2.2.6 Application descriptor

*Change C.2.2.6 as follows:*

An Application descriptor for the LRP TCP Discovery TLV contains four octets with an AppId, followed by one or two addresses to use to make the TCP association, as shown in Figure C-1. The first three octets contain the OUI or CID of the organization assigning the AppId, and the fourth octet identifies a specific LRP application that connects using TCP. Following these four octets is a two-octet TCP port number, followed in turn by the descriptions of one or two IP addresses, as shown in Table C-1.

Offset	0	3	4	6	7	varies	varies
	OUI or CID for AppId (3 octets)	AppId subtype (1 octet)	TCP port number (2 octets)	Address info 1 (1 octet)	Address 1 (0, 4, or 16 octets)	Address info 2 (1 octet)	Address 2 (0, 4, or 16 octets)

**Figure C-1—LRP TCP Discovery TLV application descriptor format**

**Table C-1—Allowed address information encodings and lengths**

Address info 1	Address 1 length	Address info 2	Address 2 length	Total length of address information
noAddress	0	addrIPv4	4	6
		addrIPv6	16	18
addrIPv4	4	not present <sup>a</sup>	0	5
		noAddress	0	6
		addrIPv6	16	22
addrIPv6	16	not present <sup>a</sup>	0	17
		noAddress	0	18
		addrIPv4	4	22

<sup>a</sup> [Allowed only at the end of the TLV. See C.2.2.7.](#)

### 1 **C.2.2.7 LRP TCP Discovery TLV usage rules**

#### 2 *Change section C.2.2.7 as follows:*

3 The LRP TCP Discovery TLV is used to establish TCP associations among the Portals on a physical link. A  
4 Native or Controlled system should transmit this TLV if and only if the information transmitted in the  
5 LLDPDU matches the information in an entry in the imTargetPortList (7.2.2.1) in the Native system or the  
6 Controlled's Proxy system.

7 A system shall not transmit the same AppId value in more than one Application descriptor of the same LRP  
8 TCP Discovery TLV. A system can transmit more than one LRP TCP Discovery TLV for different sets of  
9 AppId values, but the same AppId value shall not appear in more than one LRP TCP Discovery TLV in the  
10 same LLDPDU. At least one IP address shall be included in an LRP TCP Discovery TLV. If two addresses  
11 are included, they shall be of different types (addrIPv4 vs. addrIPv6). The second AddressInfo field can be  
12 omitted from an application descriptor (be not present in Table C-2) only if it would be the last octet of the  
13 LRP TCP Discovery TLV.

14 NOTE—The provision for sending or receiving multiple LRP TCP Discovery TLVs is made to facilitate control of these  
15 LLDP TLVs by more than one LRP application.

16 This standard does not specify the actions to be taken if a received LRP TCP Discovery TLV violates these  
17 usage rules.

18 As explained in 9.2.7.7.2 of IEEE Std 802.1AB-2016, a received LRP TCP Discovery TLV is not invalid if  
19 the value of the TLV information string length field is larger than the total amount of information indicated  
20 by the Application count and Application descriptors. A system receiving such a TLV shall interpret the  
21 TLV as described in this standard, and ignore any information following the Application descriptor.

22