

IEEE Standard for
Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Amendment 15: Multiple I-SID Registration Protocol

IEEE Computer Society

Sponsored by the
LAN/MAN Standards Committee

IEEE
3 Park Avenue
New York, NY 10016-5997
USA

IEEE Std 802.1Qbe™-2011
(Amendment to
IEEE Std 802.1Q™-2011)

16 September 2011

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Approved 16 June 2011

IEEE-SA Standards Board

Abstract: This amendment to IEEE Std 802.1Q-2011 specifies protocols, procedures, and managed objects to support topology change signaling to alter the binding (held in an I-Component) of Customer addresses to Backbone addresses on a per-I-SID basis. This is accomplished by extending the use of the Multiple Registration Protocol (MRP).

Keywords: Bridged Local Area Networks, LANs, local area networks, MAC Bridges, metropolitan area networks, MIRP, MMRP, MRP, MVRP, Provider Backbone Bridges, Virtual Bridged Local Area Networks, virtual LANs

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PDF: ISBN 978-0-7381-6661-2 STD97115
Print: ISBN 978-0-7381-6662-9 STDPD97115

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Introduction

This introduction is not part of IEEE Std 802.1Qbe-2011, IEEE Standard for Local and metropolitan area networks—Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—Amendment 15: Multiple I-SID Registration Protocol.

This amendment to IEEE Std 802.1Q-2011 provides Backbone Service Identifier registration capabilities useful to Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks to support a new Multiple Registration Protocol application, the Multiple I-SID Registration Protocol (MIRP). To this end, it

- a) Separates “Registration Fixed” Dynamic VLAN Registration Entries into those that accept MRP New messages from a Port and propagate them, and those that do not.
- b) Defines the operation of the MIRP application (only) for I-components and in Customer Backbone Ports.
- c) Specifies PDU formats for MIRP.
- d) Defines the relationship between MIRP and another MRP application, the Multiple VLAN Registration Protocol (MVRP).
- e) Augments the existing Provider Backbone Bridge managed objects with objects to control the operation of MIRP.
- f) Specifies Registration Fixed (New propagated) operation for MVRP.
- g) Specifies the use of Attribute value 0 for MVRP.
- h) Augments the existing MVRP managed objects to control the added MVRP capabilities.

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IEEE Standard for Local and metropolitan area networks—

Media Access Control (MAC) Bridges and Virtual Bridged Local Area Networks—

Amendment 15: Multiple I-SID Registration Protocol

This amendment to IEEE Std 802.1Q-2011 adds a new Multiple Registration Protocol application, the Multiple I-SID Registration Protocol (MIRP). Changes are applied to the base text of IEEE Std 802.1Q-2011.

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¹Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

1. Overview

Insert the following paragraph at the end of Clause 1:

This standard specifies protocols, procedures, and managed objects to support topology change signaling to alter the binding (held in an I-Component) of Customer addresses to Backbone addresses on a per-I-SID basis. This is accomplished by extending the use of the Multiple Registration Protocol (MRP).

1.3 Introduction

Insert the following text at the end of 1.3:

This standard also specifies protocols, procedures, and managed objects to support topology change signaling to alter the binding (held in an I-Component) of Customer addresses to Backbone addresses on a per-I-SID basis. This is accomplished by extending the use of the Multiple Registration Protocol (MRP). To this end, it specifies the Multiple I-SID Registration Protocol (MIRP) application of MRP, and the frame formats that it uses.

NOTE—MIRP can only trigger the flushing of learned MAC address information; it does not propagate the registration of I-SIDs. The name Multiple I-SID Registration Protocol is chosen because MIRP is a Multiple Registration Protocol (MRP) application, and can be extended in future to perform I-SID registrations.

4. Abbreviations

Insert the following abbreviations into Clause 4 in alphabetical order:

MIRP Multiple I-SID Registration Protocol

MIRPDU Multiple I-SID Registration Protocol Data Unit

5. Conformance

5.4 VLAN-aware Bridge component requirements

5.4.1 VLAN-aware Bridge component options

Insert the following list items at the end of 5.4.1:

- t) Support the operation of MVRP (5.4.2, 11.2) as a New-only Participant;
- u) Support the MVRP Extension Management Information Base (MIB) module defined in 17.7.15.

5.7 I-component conformance

5.7.1 I-component options

Insert the following list items at the end of 5.7.1:

- e) Support the Multiple I-SID Registration Protocol defined in 39.1.1;
- f) Support the MVRP Extension Management Information Base (MIB) module defined in 17.7.15.
- g) Support the MIRP MIB module defined in 17.7.16.

5.8 B-component conformance

5.8.1 B-component options

Insert the following list items at the end of 5.8.1:

- e) Support the Multiple I-SID Registration Protocol defined in 39.1.2;
- f) Support the MVRP Extension Management Information Base (MIB) module defined in 17.7.15.
- g) Support the MIRP MIB module defined in 17.7.16.

5.16 End station requirements for MMRP, MVRP, and MSRP

5.16.2 MVRP requirements and options

Insert the following list items at the end of 5.16.2:

- d) Support the operation of MVRP (5.4.2, 11.2) as a New-only Participant;
- e) Support the MVRP Extension Management Information Base (MIB) module defined in 17.7.15.