

# P802.3.1

# Proposed Document Structure

IEEE 802.3 interim meeting  
New Orleans, LA  
14-January-2009  
Howard Frazier  
Broadcom Corporation

# Ethernet MIB modules

2108	Definitions of Managed Objects for IEEE 802.3 Repeater Devices using SMIv2	82
3621	Power Ethernet MIB	20
3635	Definitions of Managed Objects for the Ethernet-like Interface Types	64
3637	Definitions of Managed Objects for the Ethernet WAN Interface Sublayer	37
4836	Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs)	67
4837	Managed Objects of Ethernet Passive Optical Networks (EPON)	91
4878	Definitions and Managed Objects for Operations, Administration, and Maintenance (OAM) Functions on Ethernet-Like Interfaces	58
5066	Ethernet in the First Mile Copper (EFMCu) Interfaces MIB	90
802.3	Annex 30A & Annex 30B	123
802.1AB	Annex F 802.3 LLDP extension MIB module	28
	Total	660

# 802.1 vs. IETF structure

- 802.1ap (an amendment to 802.1Q) is structured like this:
  - table of contents from 802.1ap
- note that the "structure of the MIBs", "relationship to other MIBs", "security considerations", and "MIB modules" are grouped together
- This makes sense since all of the MIB modules are related to bridges

## Contents

Editors' Foreword .....	3
1. Overview .....	23
1.1 Scope .....	23
2. References .....	24
3. Definitions .....	25
4. Abbreviations .....	26
5. Conformance .....	27
8. Principles of bridge operation .....	29
8.12 Bridge Management Entity .....	29
12. Bridge management .....	31
17. Management Information Base (MIB) .....	32
17.1 The Internet Standard Management Framework .....	32
17.2 Structure of the MIB .....	32
Structure of the IEEE8021-TC MIB .....	33
Structure of the IEEE8021-BRIDGE MIB .....	35
Structure of the IEEE8021-SPANNING-TREE MIB .....	39
Structure of the IEEE8021-Q-BRIDGE MIB .....	42
Structure of the IEEE8021-PB MIB .....	49
Structure of the IEEE8021-MSTP MIB .....	51
Structure of the IEEE8021-CFM MIB .....	54
Structure of the IEEE8021-PBB MIB .....	58
17.3 Relationship to other MIBs .....	62
Relationship of the IEEE8021-TC MIB to other MIB modules .....	63
Relationship of the IEEE8021-BRIDGE MIB to other MIB modules .....	63
Relationship of the IEEE8021-RSTP MIB to other MIB modules .....	65
Relationship of the IEEE8021-Q-BRIDGE MIB to other MIB modules .....	66
Relationship of the IEEE8021-PB-BRIDGE MIB to other MIB modules .....	67
Relationship of the IEEE8021-MSTP MIB to other MIB modules .....	68
Relationship of the IEEE8021-CFM MIB to other MIB modules .....	68
Relationship of the IEEE8021-PBB MIB to other MIB modules .....	69
17.4 Security considerations .....	70
Security considerations of the IEEE8021-TC MIB .....	70
Security considerations of the IEEE8021-BRIDGE MIB .....	70
Security considerations of the IEEE8021-SPANNING-TREE MIB .....	71
Security considerations of the IEEE8021-Q-BRIDGE MIB .....	72
Security considerations of the IEEE8021-PB MIB .....	73
Security considerations of the IEEE8021-MSTP MIB .....	73
Security considerations of the IEEE8021-CFM MIB .....	74
Security considerations of the IEEE8021-PBB MIB .....	76
17.5 Dynamic Component and Port Creation .....	77
Overview of the Dynamically Created Bridge Entities .....	77
Component Creation .....	78

1	Port Creation .....	78
2	17.6 MIB Operations for Service Interface Configuration .....	85
3	Provisioning Provider Bridged Network Service Interfaces .....	86
4	Provisioning Backbone Bridged Network Service Interfaces .....	88
5	17.7 MIB modules .....	95
6	Definitions for the IEEE8021-TC MIB module .....	95
7	Definitions for the IEEE8021-BRIDGE MIB module .....	101
8	Definitions for the IEEE8021-SPANNING-TREE MIB module .....	135
9	Definitions for the IEEE8021-Q-BRIDGE MIB module .....	150
10	Definitions for the IEEE8021-PB MIB module .....	190
11	Definitions for the IEEE8021-MSTP MIB module .....	202
12	Definitions for the IEEE8021-CFM MIB module .....	225
13	Definitions for the IEEE8021-PBB MIB module .....	307
14		
15	Annex A (normative)PICS proforma.....	323
16	A.5 Major capabilities .....	323
17	A.21 Management Information Base (MIB) .....	325
18		
19	Annex H (informative)Bibliography .....	327
20		
21	Annex Z (informative)COMMENTARY .....	329
22		
23	Z.1 Guidance from York interim (Sept 2006).....	329
24	Z.2 Guidance from Monterey interim (Jan 2007) .....	329
25	Z.3 Guidance from Geneva interim (May 2007).....	329
26	Z.4 Guidance from Atlanta plenary (November 2007) .....	330
27	Z.5 Guidance from Orlando plenary (March 2008) .....	330
28	Z.6 Guidance from Eilat interim (May 2008) .....	330
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		

# 802.1 vs. IETF structure

- IETF RFC document structure for a MIB module is typically as follows:
  - table of contents from rfc5066
- note that the "relationship to other MIBs" comes first
- note that this document structure is duplicated for each MIB module RFC

## Table of Contents

1.	Introduction . . . . .	3
2.	The Internet-Standard Management Framework . . . . .	3
3.	Relation to Other MIB Modules . . . . .	4
3.1.	Relation to Interfaces Group MIB Module . . . . .	4
3.1.1.	Layering Model . . . . .	4
3.1.2.	PME Aggregation Function (PAF) . . . . .	7
3.1.3.	Discovery Operation . . . . .	7
3.1.4.	EFMCu Ports Initialization . . . . .	9
3.1.5.	Usage of ifTable . . . . .	10
3.2.	Relation to SHDSL MIB Module . . . . .	11
3.3.	Relation to VDSL MIB Module . . . . .	12
3.4.	Relation to Ethernet-Like and MAU MIB Modules . . . . .	12
4.	MIB Structure . . . . .	13
4.1.	EFM Copper MIB Overview . . . . .	13
4.2.	Interface Stack Capability MIB Overview . . . . .	13
4.3.	PME Profiles . . . . .	14
4.4.	Mapping of IEEE 802.3ah Managed Objects . . . . .	14
5.	Interface Stack Capability MIB Definitions . . . . .	16
6.	EFM Copper MIB Definitions . . . . .	22
7.	Security Considerations . . . . .	84
8.	IANA Considerations . . . . .	86
9.	Acknowledgments . . . . .	86
10.	References . . . . .	86
10.1.	Normative References . . . . .	86
10.2.	Informative References . . . . .	88

# 802.1 vs. IETF structure

- 802.1AB REV Annex F follows yet another variation on document structure, which is much less formal:
- MIB definitions, followed by security considerations
- No "relationship to other MIBs, no "structure of the MIB"

# Recommendation

- Employ IETF structure
  - Each MIB module defined in a separate clause
  - Each MIB module clause contains subclauses for "relationship to other MIB modules", "structure of the MIB", MIB definitions", "security considerations"

# "boiler plate" clauses

- 0. front matter
- 1. Overview
  - 1.1 Scope
  - 1.2 Purpose
- 2. Normative references
- 3. Definitions
- 4. Abbreviations
- 5. Conformance

# MIB module clauses

6. Ethernet LLDP extension MIB module
7. Ethernet Operations, Administration, and Maintenance (OAM) MIB module
8. Ethernet repeater device MIB module
9. Ethernet DTE power via MDI MIB module
10. Ethernet Passive Optical Networks (EPON) MIB module
11. Ethernet-like interface MIB module

# MIB module clauses

12. Ethernet in the First Mile Copper (EFMCu) interfaces MIB module
13. Ethernet WAN Interface Sublayer (WIS) MIB module
14. Ethernet Medium Attachment Units (MAUs) MIB module
15. GDMO specification for IEEE 802.3 managed object classes
16. GDMO and ASN.1 definitions for management