

1 **14 Management entities**

2 **14.1 Introduction**

3 **14.2 Branch 0xDA “identification”**

4 **14.3 Branch 0x07 “basic attributes”**

5 **14.4 Branch 0xDB “extended attributes”**

6 This subclause lists extended management attributes, which are not part of the definitions in
7 IEEE Std 802.3, Clause 30. The extended attributes shown in Table 14-55 shall be supported.

8 The extended attributes can be part of *eOAM_Get_Request*, *eOAM_Get_Response*, *eOAM_Set_Request*,
9 and *eOAM_Set_Response* eOAMPDUs.

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Table 14-55—Extended attributes defined in branch 0xDB

Leaf	Attribute	Defined in
<all rows above are unchanged>		
Object group: Encryption		
0x04- 0401	aEncryptionMode	14.4.5.1
0x04-02	aPassphrase	14.4.5.2
Object group: Frame processing		
0x05-01	aRuleSetConfig	14.4.6.1
0x05-02	aRuleCustomField	14.4.6.2
0x05-03	aRuleTpidCAAlter	14.4.6.3
0x05-04	aRuleTpidSAAlter	14.4.6.4
0x05-06	aRuleTpidIAAlter	14.4.6.6
0x05-07	aRuleTpidBAlter	14.4.6.7
Object group: Service-level agreements		
0x06-01	aRateLimitBroadcast	14.4.7.1
0x06-04	aQueueCIR	14.4.7.2
0x06-06	aQueueEIR	14.4.7.3
0x06-07	aQueueColorMarking	14.4.7.4
0x06-08	aQueueRateLimiterCap	14.4.7.5
0x06-09	aCouplingFlag	14.4.7.6
Object group: Clock transport		
0x07-01	aClockTranspCapab	14.4.10.1
0x07-02	aClockTranspStatus	14.4.10.2
0x07-03	aClockTranspTransfer	14.4.10.3
0x07-04	aClockTranspPropagParam	14.4.10.4
0x07-05	aClockTranspRtt	14.4.10.5
0x08-00	Reserved, ignored on reception	
0x08-01	Reserved, ignored on reception	
0x08-02	Reserved, ignored on reception	
0x08-03	Reserved, ignored on reception	
Object group: UNI management		
<all rows below are unchanged>		

1 All other Leaf values are reserved and ignored on reception.

2 **14.4.1 ONU management**

3 **14.4.2 Bridging**

4 **14.4.3 Statistics and counters**

5 **14.4.4 Alarms**

6 **14.4.5 Encryption**

7 **14.4.5.1 Attribute *aEncryptionMode* (0xDB/0x04-0401)**

8 This attribute represents the current encryption mode configured on the given ONU. This attribute applies
9 to the encryption entity associated with the ONU object and it only affects the ONU's encryption of the
10 upstream traffic.

11 Attribute *aEncryptionMode*:

12 **Syntax:** Enumeration

13 **Default value:** normal

14 **Remote access:** Read/Write

15 **Description:** This attribute indicates the current encryption mode configured on the ONU.

16 The following values are defined:

17 normal: upstream encryption is enabled if the downstream unicast
18 traffic to this ONU is encrypted.

19 force_on: upstream encryption is enabled regardless of the status of the
20 downstream encryption.

21 force_off: upstream encryption is disabled regardless of the status of the
22 downstream encryption.

23 NOTE— This attribute is intended mainly for testing and troubleshooting. Under the normal operating
24 conditions, this attribute is expected to retain its default value (see 11.9).

25 The *aEncryptionMode* attribute is associated with the ONU object (see 14.2.1). The Variable Container
26 TLV for the *aEncryptionMode* attribute shall be as specified in Table 14-157.

27 **Table 14-157—Encryption Mode TLV (0xDB/0x04-0401)**

Size (octets)	Field (name)	Value	Notes
1	Branch	0xDB	Branch identifier
2	Leaf	0x04- 0401	Leaf identifier
1	Length	0x01	The size of TLV fields following the Length field
1	EncryptionMode	Varies	Value of <i>aEncryptionMode</i> attribute, defined as follows: normal: 0x00 force_on: 0x01 force_off: 0x02

1 **14.4.5.2 Attribute *aPassphrase* (0xDB/0x0402)**

2 This attribute represents the activation passphrase that is configured into the ONU. The passphrase may be
 3 queried during the ONU onboarding procedure (see 14.2.3.2.3).

4 The ONU prompts the user/installer to enter the passphrase when it receives the *Passphrase Prompt* TLV
 5 (see 14.6.5.3). The method of displaying the prompt to the user and inputing the passphrase value is
 6 vendor-specific and outside the scope of this standard.

7 Attribute *aPassphrase*:

8 Syntax: String

9 Size (octets): 32 (max)

10 Default value: null-string (terminating character)

11 Remote access: Read-Only

12 Description: This attribute represents the activation passphrase entered by user/installer into
 13 the ONU. The ONU shall reset the passphrase value to its default upon reception
 14 of *Passphrase Prompt* TLV (see 14.6.5.3).

15 The *aPassphrase* attribute is associated with the ONU object (see 14.2.1). The Variable Container TLV for
 16 the *aPassphrase* attribute shall be as specified in Table 14-xxx.

17 **Table 14-xxx—Passphrase TLV (0xDB/0x04-01)**

<u>Size (octets)</u>	<u>Field (name)</u>	<u>Value</u>	<u>Notes</u>
<u>1</u>	<u>Branch</u>	<u>0xDB</u>	<u>Branch identifier</u>
<u>2</u>	<u>Leaf</u>	<u>0x04-02</u>	<u>Leaf identifier</u>
<u>1</u>	<u>Length</u>	<u>Varies</u>	<u>The size of TLV fields following the Length field</u>
<u>Varies</u>	<u>Passphrase</u>	<u>Varies</u>	<u>Value of <i>aPassphrase</i> attribute</u>

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 19 **14.5 Branch 0x09 “basic actions”**

20 **14.6 Branch 0xDD “extended actions”**

21 This subclause specifies a set of extended management actions used by the OLT to enforce a specific
 22 behavior in the ONU. The extended management actions shown in ~~Table 14-3~~~~Table 14-205~~ shall be
 23 supported.

24 **Table 14-3205—Extended actions defined in branch 0xDD**

Leaf	Attribute	Defined in
<all rows above are unchanged>		
Object group: Encryption		
0x04-01	acConfigEncrKey	14.6.5.1
0x04-02	acSyncCipherClock	14.6.5.2
<u>0x04-03</u>	<u>acPassphrasePrompt</u>	<u>14.6.5.3</u>
Object group: Frame processing		
<all rows below are unchanged>		

25 All other Leaf values are reserved and ignored on reception.

1 **14.6.1 ONU management**

2 **14.6.2 Bridging**

3 **14.6.3 Statistics and counters**

4 **14.6.4 Alarms**

5 **14.6.5 Encryption**

6 **14.6.5.1 Action *acConfigEncrKey* (0xDD/0x04-01)**

7 **14.6.5.2 Action *acSyncCipherClock* (0xDD/0x04-02)**

8 **14.6.5.3 Action *acPassphrasePrompt* (0xDD/0x04-03)**

9 This action is used by the NMS to prompt the user or ONU installer to enter a passphrase during the ONU
10 onboarding procedure. The method of displaying the prompt to the user and inputting the passphrase value
11 is vendor-specific and outside the scope of this standard.

12 Attribute *acPassphrasePrompt*:

13 Syntax: String

14 Size (octets): 128 (max)

15 Remote access: Write-Only

16 Description: This attribute represents the prompt to be displayed to the user. The action of
17 writing of any value into the *aPassphrasePrompt* attribute also resets the value
18 of the *aPassphrase* attribute to its default (see 14.4.5.2).

19 The *acPassphrasePrompt* action is associated with the ONU object (see 14.2.1). The Variable Container
20 TLV for the *acPassphrasePrompt* action shall be as specified in Table 14-xxx.

21 **Table 14-xxx—Passphrase Prompt TLV (0xDD/0x04-01)**

<u>Size (octets)</u>	<u>Field name</u>	<u>Value</u>	<u>Notes</u>
<u>1</u>	<u>Branch</u>	<u>0xDD</u>	<u>Branch identifier</u>
<u>2</u>	<u>Leaf</u>	<u>0x04-03</u>	<u>Leaf identifier</u>
<u>1</u>	<u>Length</u>	<u>Varies</u>	<u>The size of TLV fields following the <i>Length</i> field.</u>
<u>Varies</u>	<u>PassphrasePrompt</u>	<u>Varies</u>	<u>Value of <i>acPassphrasePrompt</i> attribute.</u>

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