14 Management entities

14.1 Introduction

14.4 Management entities for DPoE eOAM profile

14.4.1 Branch 0xDA "identification"

14.4.2 Branch 0x07 "basic attributes"

14.4.3 Branch 0xDB "extended attributes"

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

Leaf	Attribute	Defined in
Object group: Bridging		
0x01-01	aOnuDynMacTableSize	14.4.3.2.1
0x01-02	aOnuDynMacAgeLimit	14.4.3.2.2
0x01-03	aUniDynMacTable	14.4.3.2.3
0x01-04	aUniStatMacTable	14.4.3.2.4
0x01-05	aUniPortAutoNeg	14.4.3.2.5
0x01-06	aUniAdmissionControl	14.4.3.2.6
0x01-07	aUniMinLearnMacCount	14.4.3.2.7
0x01-08	aUniMaxLearnMacCount	14.4.3.2.8
0x01-09	aOnuMaxLearnMacCount	14.4.3.2.9
0x01-0A	aUniLengthDiscard	14.4.3.2.10
0x01-0B	aUniFloodUnknown	14.4.3.2.11
0x01-0C	aUniLocalSwitching	14.4.3.2.12
0x01-0F	aUniMacTableFull	14.4.3.2.13
~~0x01-10~~	~~aOnuMulticastLlid~~	~~14.4.3.2.14~~
0x01-12	aOnuMaxFrameSizeCapability	14.4.3.2.15
0x01-13	aUniMaxFrameSizeLimit	14.4.3.2.16
~~0x01-14~~	~~aOnuPortConfig~~	~~14.4.3.2.17~~
~~0x01-15~~	~~aQueueConfig~~	~~14.4.3.2.18~~
0x01-20	aLlidInfo	
0x01-21	aSrvPortInfo	
0x01-22	aQueueInfo	

All other Leaf values are reserved and ignored on reception.

14.4.3.1 ONU management

14.4.3.1.1 *Sequence* TLV (0xDB/0x00-01)

14.4.3.1.2 Attribute *aOnuId* (0xDB/0x00-02)

14.4.3.1.3 Attribute *aOnuFwVersion* (0xDB/0x00-03)

14.4.3.1.4 Attribute *aOnuInfoChipset* (0xDB/0x00-04)

14.4.3.1.5 Attribute *aOnuInfoDateManufacture* (0xDB/0x00-05)

14.4.3.1.6 Attribute *aOnuInfoManufacturer* (0xDB/0x00-06)

14.4.3.1.7 Attribute *aOnuLlidCount* (0xDB/0x00-07)

This attribute represents the number of L-ONUs supported by the given ONU, including both the bidirectional and unidirectional L-ONUs. This attribute consists of the following sub-attributes: *sBidirectional* and *sUnidirectional*.

Sub-attribute *aOnuLlidCount.sBidirectional*:

Syntax:	Unsigned integer
Remote access:	Read-Only
Description:	This sub-attribute represents the number of bidirectional LLIDs supported by the given ONU. The value of this sub-attribute includes the primary PLID and primary MLID assiged during ONU registration.

Sub-attribute *aOnuLlidCount.sUnidirectional*:

Syntax:	Unsigned integer
Remote access:	Read-Only
Description:	This sub-attribute represents the number of unidirectional (multicast) LLIDs supported by the given ONU. The value of this sub-attribute includes the broadcast PLID (BCAST_PLID) and broadcast MLID (BCAST_MLID) that are pre-configured in each ONU (see IEEE 802.3ca, 144.3.5).

The *aOnuLlidCount* attribute is associated with the ONU object (see 14.4.1.1). The Variable Container TLV for the *aOnuLlidCount* attribute shall be as specified in Table 14-62.

Table 14-62—*ONU L-ONU Count* TLV (0xDB/0x00-07)

Size (octets)	Field (name)	Value	Notes
1	Branch	0xDB	Branch identifier
2	Leaf	0x00-07	Leaf identifier
1	Length	0x04	The size of TLV fields following the Length field
2	Bidirectional	Varies	Value of *sBidirectional* sub-attribute
2	Unidirectional	Varies	Value of *sUnidirectional* sub-attribute

14.4.3.2 Bridging

14.4.3.2.1 Attribute *aOnuDynMacTableSize* (0xDB/0x01-01)

14.4.3.2.2 Attribute *aOnuDynMacAgeLimit* (0xDB/0x01-02)

14.4.3.2.3 Attribute *aUniDynMacTable* (0xDB/0x01-03)

14.4.3.2.4 Attribute *aUniStatMacTable* (0xDB/0x01-04)

14.4.3.2.5 Attribute *aUniPortAutoNeg* (0xDB/0x01-05)

14.4.3.2.6 Attribute *aUniAdmissionControl* (0xDB/0x01-06)

14.4.3.2.7 Attribute *aUniMinLearnMacCount* (0xDB/0x01-07)

14.4.3.2.8 Attribute *aUniMaxLearnMacCount* (0xDB/0x01-08)

14.4.3.2.9 Attribute *aOnuMaxLearnMacCount* (0xDB/0x01-09)

14.4.3.2.10 Attribute *aUniLengthDiscard* (0xDB/0x01-0A)

14.4.3.2.11 Attribute *aUniFloodUnknown* (0xDB/0x01-0B)

14.4.3.2.12 Attribute *aUniLocalSwitching* (0xDB/0x01-0C)

14.4.3.2.13 Attribute *aUniMacTableFull* (0xDB/0x01-0F)

14.4.3.2.14 Attribute *aOnuMaxFrameSizeCapability* (0xDB/0x01-12)

14.4.3.2.15 Attribute *aUniMaxFrameSizeLimit* (0xDB/0x01-13)

14.4.3.2.16 Attribute *aLlidInfo* (0xDB/0x01-20)

This attribute represents the set of LLIDs provisioned in the given ONU, including the LLIDs added via *acConfigLlid* action (14.4.5.2.9) as well as system LLIDs, i.e., the primary PLID, the primary MLID, broadcast PLID (BCAST_PLID), and broacast MLID (BCAST_MLID). This attribute consists of the following sub-attributes: *sLlidCount*, *sLlidValue[sLlidCount]*, and *sLlidType[sLlidCount]*.

Sub-attribute *aLlidInfo.sLlidCount*:

Syntax:	Unsigned integer
Remote access:	Read-Only
Description:	This sub-attribute represents the number of LLIDs provisioned in the given ONU, including the system LLIDs.

Sub-attribute *aLlidInfo.sLlidValue[sLlidCount]*:

Syntax:	LLID value
Range:	0x00-00 to 0xFF-FF
Remote access:	Read-Only

Description: This sub-attribute represents the values of the LLID that exist (were provisioned) in the given ONU. Valid LLID values are defined in IEEE Std 802.3ca, 144.3.5.

Sub-attribute *aLlidInfo.sLlidType[sLlidCount]*:

    Syntax: Enumeration

    Remote access: Read-Only

    Description: This sub-attribute indicates the type of each LLID that is provisioned in the given ONU. The following types are valid:

        `bd_ulid:` the LLID is a bidirectional ULID.

        `bd_plid:` the LLID is a bidirectional PLID.

        `bd_mlid:` the LLID is a bidirectional MLID.

        `ud_ulid:` the LLID is a unidirectional ULID.

        `ud_plid:` the LLID is a unidirectional PLID.

        `ud_mlid:` the LLID is a unidirectional MLID.

The Variable Container TLV for the *aLlidInfo* attribute shall be as specified in Table 14-94. The *aLlidInfo* attribute is associated with either the ONU object or the LLID object (see 14.4.1.1).

When the object is ONU, the Variable Container TLV for the *aLlidInfo* attribute contains information about all LLIDs provisioned in the given ONU. The order of LLIDs is implementation-dependent.

When the object is LLID, the Variable Container TLV contains information about a single LLID represented by the supplied object context.

Table 14-94—*LLID Information* TLV (0xDB/0x01-20)

Size (octets)	Field (name)	Value	Notes
1	*Branch*	0xDB	Branch identifier
2	*Leaf*	0x01-20	Leaf identifier
1	*Length*	$1 + 3 \times N$	The size of TLV fields following the `Length` field
2	*LlidValue[0]*	Varies	Value of *sLlidValue[0]* sub-attribute.
1	*LlidType[0]*	Varies	Value of *sLlidType[0]* sub-attribute, encoded as follows: `bd_ulid:` 0xB0 `bd_plid:` 0xB1 `bd_mlid:` 0xB2 `ud_ulid:` 0xD0 `ud_plid:` 0xD1 `ud_mlid:` 0xD2
…	…	…	…
2	*LlidValue[N-1]*	Varies	Value of *sLlidValue[N-1]* sub-attribute (N = *sLlidCount*). This field is only present if the supplied object context is the ONU.
1	*LlidType[N-1]*	Varies	Value of *sLlidType[N-1]* sub-attribute. (See *sLlidType[0]* for encoding.) This field is only present if the supplied object context is the ONU.

14.4.3.2.17 Attribute *aSrvPortInfo* (0xDB/0x01-21)

This attribute represents the set of service ports provisioned in the given ONU via *acConfigSrvPort* action (14.4.5.2.10). This attribute consists of the following sub-attributes: *sSrvPortCount*, *sSrvPortIndex[sSrvPortCount]*, and *sSrvPortType[sSrvPortCount]*.

Sub-attribute *aSrvPortInfo.sSrvPortCount*:

Syntax:	Unsigned integer
Range:	0x00 to 0xFF
Remote access:	Read-Only
Description:	This sub-attribute represents the number of service ports provisioned in the given ONU. Note that this value may be different from the value of *aOnuUniPortType.sPortCount* sub-attribute, which represents the total number of service ports supported by the ONU.

Sub-attribute *acConfigLlid. sSrvPortIndex[sSrvPortCount]*:

Syntax:	Unsigned integer
Range:	0x00 to 0xFE
Remote access:	Read-Only
Description:	This sub-attribute indicates the value of the service port index that has been added by *acConfigSrvPort* action. Valid service port index values range from 0x00 up to the maximum supported service port index in the given ONU (i.e., up to *aOnuSrvPortType.sPortCount* -1, see 14.4.3.1.15).

The Variable Container TLV for the *aSrvPortInfo* attribute shall be as specified in Table 14-94. The *aSrvPortInfo* attribute is associated with either the ONU object or the srevice port object (see 14.4.1.1).

When the object is ONU, the Variable Container TLV for the *aSrvPortInfo* attribute contains information about all service ports provisioned in the given ONU. The order of service ports is implementation-dependent.

When the object is service port, the Variable Container TLV contains information about a single service port represented by the supplied object context.

Table 14-94—*LLID Information* TLV (0xDB/0x01-20)

Size (octets)	Field (name)	Value	Notes
1	*Branch*	0xDB	Branch identifier
2	*Leaf*	0x01-20	Leaf identifier
1	*Length*	$1 + 2 \times N$	The size of TLV fields following the `Length` field
1	*SrvPortIndex[0]*	Varies	Value of *sSrvPortIndex[0]* sub-attribute.
1	*SrvPortType[0]*	Varies	The type of the port with index *sSrvPortIndex[0]*. The value of this field is equal to *aOnuSrvPortType.sPortType[sSrvPortIndex[0]]* (see 14.4.3.1.15)
…	…	…	…
1	*SrvPortIndex[N-1]*	Varies	Value of *sSrvPortIndex [N-1]* sub-attribute ($N = sSrvPortCount$). This field is only present if the supplied object context is the ONU.
1	*SrvPortType[N-1]*	Varies	The type of the port with index *sSrvPortIndex[N-1]*. The value of this field is equal to *aOnuSrvPortType.sPortType[sSrvPortIndex[N-1]]* (see 14.4.3.1.15) This field is only present if the supplied object context is the ONU.

14.4.3.2.18 Attribute *aQueueInfo* (0xDB/0x01-22)

This attribute represents the number of queues provisioned for a given LLID or service port. The upstream queues hold frames to be transmitted by the given LLID. The downstream queues hold frames to be transmitted by the given service port. Only a single queue is provisioned per each LLID. For the service

ports, queue sizes are listed in the order of queue priority, where the queue listed first has the highest priority.

This attribute consists of the following sub-attributes: *sQueueCount* and *sQueueSize[sQueueCount]*:

Sub-attribute *aQueueInfo.sQueueCount*:

Syntax:	Unsigned integer
Range:	0x00 to 0x08
Remote access:	Read-Only
Description:	This sub-attribute represents the number of queues associated with the given LLID or service port object. When the context object is a bidirectional LLID, this sub-attribute is equal to 1. If the object context is a unidirectional LLID, this sub-attribute is equal to 0 and the *sQueueSize* sub-attribute for this LLID object is not present.

Sub-attribute *aQueueInfo.sQueueSize[sQueueCount]*:

Syntax:	Unsigned integer
Range:	0x00-00-00-00 to 0xFF-FF-FF-FF
Default value:	0x02
Unit:	1kB
Remote access:	Read-Only
Description:	This sub-attribute represents the sizes of individual queues associated with the given LLID or service port object.

The *aQueueInfo* attribute is associated with either the LLID or the service port object (see 14.4.1.1). The Variable Container TLV for the *aQueueInfo* attribute shall be as specified in Table 14-xx.

Table 14-94—*Queue Info* TLV (0xDB/0x01-15)

Size (octets)	Field (name)	Value	Notes
1	*Branch*	0xDB	Branch identifier
2	*Leaf*	0x01-15	Leaf identifier
1	*Length*	$1 + 4 \times N$	The size of TLV fields following the `Length` field
1	*QueueCount*	Varies	Value of *sQueueCount* sub-attribute (N)
4	*QueueSize[0]*	Varies	Value of *sQueueSize[0]* sub-attribute (highest priority queue). This field is not present if the *QueueCount* field has the value of 0, i.e., if the context object is a unirirectional LLID.
...	...	...	...
4	*QueueSize[N-1]*	Varies	Value of *sQueueSize[N-1]* sub-attribute (lowest priority queue). This field is not present if the context object is an LLID.

14.4.4 Branch 0x09 "basic actions"

14.4.5 Branch 0xDD "extended actions"

This subclause specifies a set of extended management actions used by the OLT to enforce a specific behavior in the ONU. The extended management actions shown in Table 14-200 shall be supported by this profile.

Table 14-200—Extended actions defined in branch 0xDD

Leaf	Attribute	Defined in
Object group: ONU management		
0x00-01	acOnuReboot	14.4.5.1.1
Object group: Bridging		
0x01-01	acMacClearDynamicTable	14.4.5.2.1
0x01-02	acMacAddDynamicAddress	14.4.5.2.2
0x01-03	acMacDeleteDynamicAddress	14.4.5.2.3
0x01-04	acMacClearStaticTable	14.4.5.2.4
0x01-05	acMacAddStaticAddress	14.4.5.2.5
0x01-06	acMacDeleteStaticAddress	14.4.5.2.6
~~0x01-07~~	~~acConfigMulticastLlid~~	~~14.4.5.2.7~~
0x01-08	acGetUniMacLearned	14.4.5.2.7
0x01-20	acConfigLlid	14.4.5.2.8
0x01-21	acConfigServicePort	14.4.5.2.9
Object group: Statistics and counters		
0x02-01	acCountersClear	14.4.5.3.1
Object group: Alarms		
0x03-01	acAlarmGetCurrentSummary	14.4.5.4.1
Object group: Frame processing		
0x05-01	acRulesClearAll	14.4.5.5.1
0x05-02	acRulesAddOne	14.4.5.5.2
0x05-03	acRulesDeleteOne	14.4.5.5.3
Object group: Transmission control		
0x06-01	acEnableUserTraffic	14.4.5.6.1
0x06-02	acDisableUserTraffic	14.4.5.6.2
0x06-03	acLoopbackEnable	14.4.5.6.3
0x06-04	acLoopbackDisable	14.4.5.6.4
0x06-05	acLaserTxPowerOff	14.4.5.6.5

All other Leaf values are reserved and ignored on reception.

14.4.5.1 ONU management

14.4.5.2 Bridging

14.4.5.2.1 Action *acMacClearDynamicTable* (0xDD/0x01-01)

14.4.5.2.2 Action *acMacAddDynamicAddress* (0xDD/0x01-02)

14.4.5.2.3 Action *acMacDeleteDynamicAddress* (0xDD/0x01-03)

14.4.5.2.4 Action *acMacClearStaticTable* (0xDD/0x01-04)

14.4.5.2.5 Action *acMacAddStaticAddress* (0xDD/0x01-05)

14.4.5.2.6 Action *acMacDeleteStaticAddress* (0xDD/0x01-06)

14.4.5.2.7 Action *acConfigMulticastLlid* (0xDD/0x01-07)

This action is used by the OLT to (a) add one multicast LLID in the given ONU or (b) delete one or all multicast LLID values already configured in the given ONU. Multiple multicast LLIDs may be provisioned in the ONU. This action consists of the following sub-attributes: *sLlidValue* and *sLlidAction*.

Sub-attribute *acConfigMulticastLlid.sLlidValue*:
- **Syntax:** LLID value
- **Remote access:** Write-Only
- **Description:** This sub-attribute indicates the value of the LLID that is to be added or deleted by this action. Valid LLID values are defined in IEEE Std 802.3, 76.2.6.1.3.2.

Sub-attributen *acConfigMulticastLlid.sLlidAction*:
- **Syntax:** Enumeration
- **Remote access:** Write-Only
- **Description:** This sub-atribute dteremines the action, as follows:
  - `add_llid`: a single LLID value indicated by the *sLlidValue* sub-attribute is added.
  - `del_llid`: a single LLID value indicated by the *sLlidValue* sub-attribute is deleted.
  - `del_all`: all provisioned multicast LLID values are cleared. The value of *sLlidValue* sub-attribute is ignored when this action is selected.

The *acConfigMulticastLlid* action is associated with the ONU object (see 14.4.1.1). The Variable Container TLV for the *acConfigMulticastLlid* action shall be as specified in Table 14-208.

Table 14-208—*Config Multicast LLID* TLV (0xDD/0x01-07)

Size (octets)	Field (name)	Value	Notes
1	Branch	0xDD	Branch identifier
2	Leaf	0x01-07	Leaf identifier

Size (octets)	Field (name)	Value	Notes
1	Length	Varies	The size of TLV fields following the Length field. This field takes the following values: - When *LlidAction* = add_all: 0x01; - otherwise: 0x03.
1	LlidAction	Varies	Value of *sLlidAction* sub-attribute, defined as follows: - add_llid: 0x00 - del_llid: 0x01 - del_all: 0x02
2	LlidValue	Varies	Value of *sLlidValue* sub-attribute. This field is only present when the *LlidAction* field is equal to add_llid or del_llid.

~~14.4.5.2.8~~14.4.5.2.7 Attribute *acGetUniMacLearned* (0xDD/0x01-08)

~~14.4.5.2.8~~ Action *acConfigLogicalLink* (0xDD/0x01-20)

This action is used by the NMS to either (a) add a new LLID entity to the given ONU or (b) delete one LLID entity, or (3) delete all LLID entitiess that were previously added to the given ONU. Multiple LLIDs may be provisioned in the ONU. This action consists of the following sub-attributes: *sLlidAction, sLlidValue, sLlidType*, and *sQueueSzie*.

Sub-attributen *acConfigLlid.sLlidAction*:
    Syntax: Enumeration
    Remote access: Write-Only
    Description: This sub-atribute dteremines the action, as follows:
        add_llid: a single LLID entity identified by the *sLlidValue* sub-attribute is added.
        del_llid: a single LLID entity identified by the *sLlidValue* sub-attribute is deleted.
        del_all: all previously-added LLID entities are deleted.

Sub-attribute *acConfigLlid.sLlidValue*:
    Syntax: LLID value
    Range: 0x10-00 to 0xFF-FF
    Remote access: Write-Only
    Description: This sub-attribute indicates the value of the LLID that is to be added or deleted by this action. Valid LLID values are defined in IEEE Std 802.3ca, 144.3.5.

Sub-attribute *acConfigLlid.sLlidType*:
    Syntax: Enumeration
    Remote access: Write-Only
    Description: This sub-attribute specifies the type of the LLID that is being added by this action. The following types are valid:
        bd_ulid: the LLID is a bidirectional ULID.
        ud_ulid: the LLID is a unidirectional ULID.
        ud_plid: the LLID is a unidirectional PLID.
        ud_mlid: the LLID is a unidirectional MLID.

Sub-attribute *acConfigLlid.sQueueSize*:

	Syntax:	Unsigned integer
	Range:	0x00-00-00-01 to 0xFF-FF-FF-FF
	Unit:	1kB
	Remote access:	Write-Only
	Description:	This sub-attribute represents the size of the upstream queue to be bound to the bidirectional ULID that is being added by this action.

The action of adding a bidirectional ULID entity also allocates an upstream queue for that ULID. The action of deleting a bidirectional ULID entity also deallocates (frees) the upstream queue associated with that ULID. Allocating or deallocating a queue shall not affect the data stored in queues associated with other LLID or UNI port entities.

The request to delete all LLID entities (*sLlidAction* = `del_all`) deletes only the LLID entities that were previously created using the `add_llid` request. It shall not delete the system LLIDs (i.e., the primary PLID and MLID assigned during the registration and the pre-configured `BCAST_PLID` and `BCAST_MLID`).

The ONU shall respond with the "Insufficient Resources" code 0x87 (see 13.2.3) to a request to add a new LLID entity (*sLlidAction* = `add_llid`) if any of the following conditions are present:
 — the maximum supported number of LLID entitities has already been created;
 — the queue of the size indicated by the *sQueueSize* sub-attribute cannot be allocated.

The ONU shall respond with the "Bad Parameters" code 0x86 (see 13.2.3) to a request to add or delete an LLID entity if any of the following conditions are present:
 — `add_llid` request containing an LLID value that already exists in this ONU;
 — `del_llid` request containing an LLID value that does not exist in this ONU;
 — `del_llid` request containing an LLID value corresponding to one of the system LLIDs.

The *acConfigLlid* action is associated with the ONU object (see 14.4.1.1). The Variable Container TLV for the *acConfigLlid* action shall be as specified in Table 14-208.

Table 14-208—*Config Logical Link* TLV (0xDD/0x01-20)

Size (octets)	Field name	Value	Notes
1	*Branch*	0xDD	Branch identifier
2	*Leaf*	0x01-20	Leaf identifier
1	*Length*	Varies	The size of TLV fields following the *Length* field. This field takes the following values: 1 if *LlidAction* = `del_all`; 3 if *LlidAction* = `del_llid`; 4 if *LlidAction* = `add_llid` and *LlidType* ≠ `bd_ulid`; 8 if *LlidAction* = `add_llid` and *LlidType* = `bd_ulid`.
1	*LlidAction*	Varies	Value of *sLlidAction* sub-attribute, encoded as follows: `add_llid`: 0xA1 `del_llid`: 0xD1 `del_all`: 0xDA
2	*LlidValue*	Varies	Value of *sLlidValue* sub-attribute. This field is only present when the *LlidAction* field is equal to `add_llid` or `del_llid`.

Size (octets)	Field name	Value	Notes
1	*LlidType*	Varies	Value of *sLlidType* sub-attribute, encoded as follows: `bd ulid:` 0xB0 `ud ulid:` 0xD0 `ud plid:` 0xD1 `ud mlid:` 0xD2 This field is only present when the *LlidAction* field is equal to `add_llid`.
4	*QueueSize*	Varies	Valiue of *sQueueSize* sub-attribute. This field is only present when the *LlidType* field is equal to `bd ulid`.

14.4.5.2.9 Action *acConfigServicePort* (0xDD/0x01-21)

This action is used by the NMS to either (a) add a new service port entity to the given ONU or (b) delete one service port entity, or (3) delete all service port entitiess that were previously added to the given ONU. Multiple service ports may be provisioned in the ONU. This action consists of the following sub-attributes: *sSrvPortAction, sSrvPortIndex, sQueueCount*, and *sQueueSize[sQueueCount]*.

Sub-attributen *acConfigServicePort.sSrvPortAction*:
    Syntax: Enumeration
    Remote access: Write-Only
    Description: This sub-atribute dteremines the action, as follows:
        `add_port:` a single service port entity identified by the *sSrvPortIndex* sub-attribute is added.
        `del_port:` a single service port entity identified by the *sSrvPortIndex* sub-attribute is deleted.
        `del_all:` all previously-added service port entities are deleted.

Sub-attribute *acConfigLlid. sSrvPortIndex*:
    Syntax: integer
    Range: 0x00 to 0xFF
    Remote access: Write-Only
    Description: This sub-attribute indicates the value of the service port index that is to be added or deleted by this action. Valid service port index values range from 0x00 up to the maximum supported srevice port index in the given ONU (i.e., up to *aOnuUniPortType.sPortCount* -1, see 14.4.3.1.15).

Sub-attribute *aQueueConfig.sQueueCount*:
    Syntax: Unsigned integer
    Range: 0x01 to 0x08
    Remote access: Write-Only
    Description: This sub-attribute represents the number of queues to be assigned to the new service port object. The queues associated with a service port are served in strict priority order with index 0x00 being the highest priority.

Sub-attribute *aQueueConfig.sQueueSize[sQueueCount]*:
    Syntax: Unsigned integer
    Range: 0x00-00-00-01 to 0xFF-FF-FF-FF
    Unit: 1kB
    Remote access: Read/Write

Description: This sub-attribute represents the sizes of individual queues.

The action of adding a service port entity also allocates downstream queue(s) for that service port. The action of deleting a service port entity also deallocates (frees) the upstream queue(s) associated with that service port. Allocating or deallocating a queue shall not affect the data stored in queues associated with other LLID or service port entities.

The ONU shall respond with the "Insufficient Resources" code 0x87 (see 13.2.3) to a request to add a new service port entity (*sSrvPortAction* = add_port) if the queues with the sizes indicated by the *sQueueSize[sQueueCount]* sub-attribute cannot be allocated.

The ONU shall respond with the "Bad Parameters" code 0x86 (see 13.2.3) to a request to add or delete an LLID entity if any of the following conditions are present:
  — add_port request containing an service port index that already added to this ONU;
  — del_port request containing an service port index that has not been previously added to this ONU.

The *acConfigServicePort* action is associated with the ONU object (see 14.4.1.1). The Variable Container TLV for the *acConfigServicePort* action shall be as specified in Table 14-208.

Table 14-208—*Config Service Port* TLV (0xDD/0x01-21)

Size (octets)	Field name	Value	Notes
1	*Branch*	0xDD	Branch identifier
2	*Leaf*	0x01-21	Leaf identifier
1	*Length*	Varies	The size of TLV fields following the *Length* field. This field takes the following values: 1 if *SrvPortAction* = del_all; 3 if *SrvPortAction* = del_port; 4 + 4*N* if *SrvPortAction* = add_port.
1	*SrvPortAction*	Varies	Value of *sSrvPortAction* sub-attribute, encoded as follows: add_port: 0xA1 del_port: 0xD1 del_all: 0xDA
2	*SrvPortIndex*	Varies	Value of *sSrvPortIndex* sub-attribute. This field is only present when the *SrvPortAction* field is equal to add_port or del_port.
1	*QueueCount*	Varies	Value of *sQueueCount* sub-attribute (*N*). This field and subsequent fields are only present when the *SrvPortAction* field is equal to add_port.
4	*QueueSize[0]*	Varies	Value of *sQueueSize[0]* sub-attribute (highest priority queue).
…	…	…	…
4	*QueueSize[N-1]*	Varies	Value of *sQueueSize[N-1]* sub-attribute (lowest priority queue)