

14 Management entities

14.1 Introduction

14.2 Branch 0xDA “identification”

14.2.1 Object Context TLV

The eOAM defined ~~for this profile in this subclause~~ can manage objects other than the immediate EPON MAC instance. ~~This attribute~~The *Object Context TLV* is used by the OLT and ONU to identify the context for other specific attributes, indicating, e.g., the LLID or the UNI-service ports to which the given attribute refers. The OLT is not required to know or use the MAC addresses of UNIs to manage them via eOAM.

The *Object Context TLV* carried in an eOAMPDU sets the object to which all subsequent TLVs apply. Once set, this context remains unchanged until the next *Object Context TLV* is found and processed or until the eOAMPDU terminates. If no *Object Context TLV* is supplied, the default object context is the LLID MLID on which the eOAMPDU was received.

The source OAM Client shall set the proper context, as specified for each attribute and action in 14.4.2 through 14.4.6 using the *Object Context TLV*. The source OAM Client should not insert the *Object Context TLV* in front of Variable Container TLVs or Variable Descriptor TLVs if the proper context is already set, either explicitly via an earlier *Object Context TLV* or implicitly as a default object context.

Until the first *Object Context TLV* is encountered in the received eOAMPDU, the destination OAM Client shall use the LLID-MLID on which the eOAMPDU was received as the default object context. The destination OAM Client shall apply the current object context to all subsequent Variable Container TLVs and Variable Descriptor TLVs until another *Object Context TLV* is encountered or until the eOAMPDU terminates.

This TLV is of a Variable Container type. The format of this TLV shall be as specified in Table 14-1.

Table 14-1—Object Context TLV (0xDA/Varies)

Size (octets)	Field (name)	Value	Notes
1	Branch	0xDA	Branch identifier.
2	ObjectType	Varies	Indicates the type of the target object, as defined in <u>14.2.1.1.4.1.1.1</u> .
1	Length	Varies	Represents the size of the ObjectInstance field: 0x01 for ObjectType values 0x00-00, 0x00-01, and 0x00-03 0x02 for ObjectType value 0x00-02 0x04 for ObjectType value 0x00-04 Other values are reserved and ignored on reception
Varies	ObjectInstance	Varies	Indicates the instance of the target object, as defined in <u>14.2.1.1.4.1.1.2</u> .

14.2.1.1 ObjectType field

The ObjectType value in the *Object Context TLV* identifies the type of the target object. The ONU and the OLT shall support the values for the ObjectType field as shown in Table 14-2.

Table 14-2—Code point allocation for the ObjectType field

ObjectType	Code	Notes
ONU	0x00-00	Identifies the ONU as a whole

ObjectType	Code	Notes
PON Port	0x00-01	Identifies a PON interface
LLID	0x00-02	Identifies an LLID
<u>UNI-Service</u> Port	0x00-03	Identifies Ethernet-UNI service port <u>in the ONU</u>
Queue	0x00-04	Identifies the specific queue on - <u>in</u> the ONU
reserved	0x00-05	See DPoE-SP-OAM for details
reserved	0x00-07	See DPoE-SP-OAM for details

Other values are reserved and ignored on reception. When the destination OAM Client encounters an *Object Context* TLV carrying one of the reserved *ObjectType* values, the destination OAM Client shall discard this *Object Context* TLV and all the subsequent TLVs present in the same eOAMPDU until it encounters another *Object Context* TLV with one of the supported values.

14.2.1.2 ObjectInstance field

The *ObjectInstance* field in the *Object_ID* TLV identifies the specific instance of the object identified by the *ObjectType* field and has the form of a 1-octet-wide or 4-octet-wide value. The internal structure of the value carried in the *ObjectInstance* field depends on the value of the *ObjectType* field carried in this *Object Context* TLV and is specified in the following subclauses.

14.2.1.2.1 ObjectInstance field for ONU (0xDA/0x00-00)

When the *ObjectType* field is equal to 0x00-00 (ONU), the *Object Context* TLV identifies the ONU as a whole. In most cases, the context is obvious, and the addition of the *Object Context* TLV with the *ObjectInstance* field equal to 0x00-00 (ONU) is not needed. In some cases, especially when carrying alarm indication, the addition of the *Object Context* TLV with the *ObjectInstance* field equal to 0x00-00 (ONU) is necessary.

The value carried in the *ObjectInstance* field when the *ObjectType* field is equal to 0x00-00 (ONU) shall be as specified in Table 14-3.

Table 14-3—Structure of the ObjectInstance field for ONU (0xDA/0x00-00)

Size (octets)	Field (name)	Value	Notes
1	ONU	0x00	Represents the ONU instance

14.2.1.2.2 ObjectInstance field for PON Port (0xDA/0x00-01)

When the *ObjectType* field is equal to 0x00-01 (PON Port), the *Object Context* TLV identifies one of PON ports available ~~on~~-in the ONU. The value carried in the *ObjectInstance* field when the *ObjectType* field is equal to 0x00-01 (PON Port) shall be as specified in Table 14-4.

Individual PON port instances are numbered sequentially and start from 0x00, with the maximum value equal to $N-1$, where N is the total number of PON ports present on the given ONU.

Table 14-4—Structure of the ObjectInstance field for PON Port (0xDA/0x00-01)

Size (octets)	Field (name)	Value	Notes
1	PON Port	0x00 to $N-1$	Represents the PON port instance

14.2.1.2.3 ObjectInstance field for LLID (0xDA/0x00-02)

When the Object Type field is equal to 0x00-02 (LLID), the *Object Context* TLV identifies one of the LLIDs available at the ONU. The value carried in the Object Instance field when the Object Type field is equal to 0x00-02 (LLID) shall be as specified in Table 14-5.

The LLID object identified by this TLV may represent any LLID instance available at a given ONU, including the unicast PLID and MLID assigned during ONU's registration (see TBD), pre-configured broadcast BCAST_PLID and BCAST_MLID, or any other LLID configured via eOAM ~~attribute-action~~ ~~TBD-acConfigLid~~ (see TBD 4.6.2.3).

Table 14-5—Structure of the ObjectInstance field for LLID (0xDA/0x00-02)

Size (octets)	Field (name)	Value	Notes
2	LLID	0x00-00 to 0xFF-FF	Represents the LLID value

14.2.1.2.4 ObjectInstance field for UNI-Service Port (0xDA/0x00-03)

When the Object Type field is equal to 0x00-03 (UNI-Service Port), the *Object Context* TLV identifies one of the UNI-service ports available ~~on-in~~ the ONU. The value carried in the Object Instance field when the Object Type field is equal to 0x00-03 (~~UNI Port~~) shall be as specified in Table 14-6.

~~The Service Port object identified by this TLV may represent any service port instance that has been properly configured/provisioned via eOAM action acConfigSrvPort (see 4.6.2.9). The indices of the service ports available in the ONU may be non-consecutive (see). Individual UNI Port instances are numbered sequentially and start from 0x00, with the maximum value equal to N-1, where N is the total number of UNI ports present on the given C ONU.~~

Table 14-6—Structure of the ObjectInstance field for UNI-Service Port (0xDA/0x00-03)

Size (octets)	Field (name)	Value	Notes
1	UNI-Service Port	0x00 to N-1	Represents the UNI Port service port instance

14.2.1.2.5 ObjectInstance field for Queue (0xDA/0x00-04)

When the Object Type field is equal to 0x00-04 (Queue), the *Object Context* TLV identifies one of the queues available ~~on-in~~ the ONU. The value carried in the Object Type field for an upstream queue (i.e., a queue associated with an LLID) shall be as specified in Table 14-7.

Table 14-7—Structure of the ObjectInstance field for Queue (0xDA/0x00-04) for upstream queues

Size (octets)	Field (name)	Value	Notes
2	PortType	0x00-02	The port type represents an LLID
2	LlidInstance	0x00-00 to 0xFF-FF	Represents the LLID instance with which the given queue is associated (see Table 14-2 for definition)

The value carried in the Object Type field for a downstream queue (i.e., a queue associated with a UNI service port) shall be as specified in Table 14-8. There may be multiple queues associated with a single

UNI-service port and for each port, the individual queue instances are numbered sequentially starting from 0x00, with the maximum value equal to $Q-1$, where Q is the total number of queues associated with the given port.

Table 14-8—Structure of the ObjectInstance field for Queue (0xDA/0x00-04) for downstream queues

Size (octets)	Field (name)	Value	Notes
2	PortType	0x00-03	The port type represents a <u>UNI-service</u> port
1	SrvPortInstance	0x00 to $N-1$	Represents the <u>UNI-service</u> port instance with which the given queue is associated (see Table 14-2 for definition)
1	QueueInstance	0x00 to $Q-1$	Represents the queue instance number associated with the given object