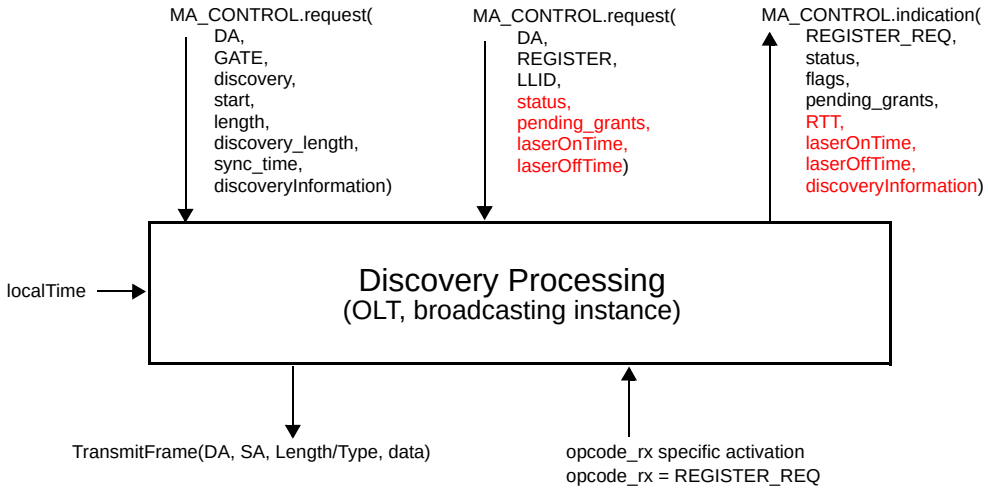

Figure 93–15—Discovery Processing Service Interfaces (OLT, broadcasting instance)

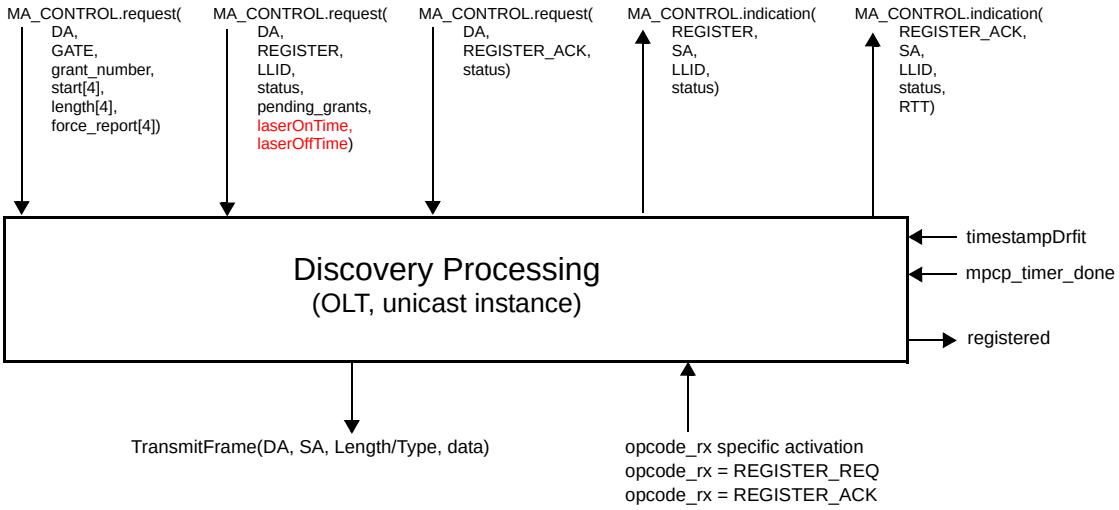

Figure 93–16—Discovery Processing Service Interfaces (OLT, unicasting instance)

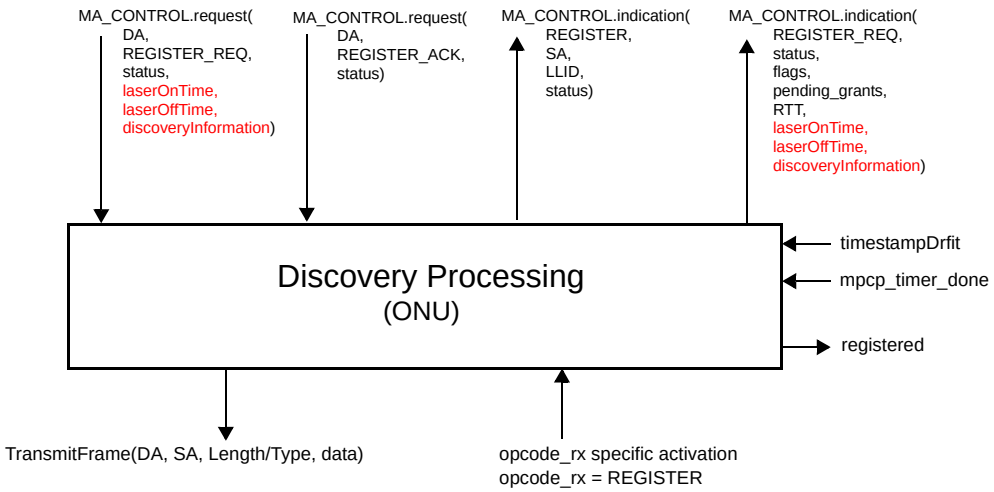

Figure 93–17—Discovery Processing Service Interfaces (ONU)

93.3.3.5 Messages

Replace the following function definitions as provided below

MA_CONTROL.request(DA, GATE, discovery, start, length, discovery_length, sync_time, discoveryInformation)

The service primitive used by the MAC Control client at the OLT to initiate the Discovery Process. This primitive takes the following parameters:

DA:	multicast or unicast MAC address.
GATE:	opcode for GATE MPCPDU as defined in Table 31A–1.
discovery:	flag specifying that the given GATE message is to be used for discovery only.
start:	start time of the discovery window.
length:	length of the grant given for discovery.
discovery_length:	length of the discovery window process.
sync_time:	the time interval required to stabilize the receiver at the OLT.
discoveryInformation:	This parameter represents the Discovery Information field in GATE MPCPDU as specified in @@93.3.6.1@@, defining the speed(s) the OLT is capable of receiving and speed(s) at which the discovery window will open for. This parameter has the default value of 0.

MA_CONTROL.request(DA, REGISTER_REQ, status, laserOnTime, laserOffTime, discoveryInformation)

The service primitive used by a client at the ONU to request the Discovery Process to perform a registration. This primitive takes the following parameters:

DA:	multicast MAC Control address as defined in Annex 31B.
REGISTER_REQ:	opcode for REGISTER_REQ MPCPDU as defined in Table 31A–1.

status: This parameter takes on the indication supplied by the flags field in the REGISTER_REQ MPCPDU as defined in Table 93–4.

laserOnTime: This parameter holds the laserOnTime value, expressed in units of time_quantum, as reported by MAC client and specified in @@93.3.6.3@@. This parameter has the default value of 0.

laserOffTime: This parameter holds the laserOffTime value, expressed in units of time_quantum, as reported by MAC client and specified in @@93.3.6.3@@. This parameter has the default value of 0.

discoveryInformation: This parameter represents the Discovery Information field, as specified in @@93.3.6.3@@, defining the speed(s) the ONU is capable of transmitting and speed(s) at which the registration attempt shall be made. This parameter has the default value of 0.

MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, laserOnTime, laserOffTime, discoveryInformation)

The service primitive issued by the Discovery Process to notify the client and Layer Management that the registration process is in progress. This primitive takes the following parameters:

REGISTER_REQ: opcode for REGISTER_REQ MPCPDU as defined in Table 31A–1.

status: This parameter holds the values incoming or retry. Value incoming is used at the OLT to signal that a REGISTER_REQ message was received successfully. The value retry is used at the ONU to signal to the client that a registration attempt failed and will be repeated.

flags: This parameter holds the contents of the flags field in the REGISTER_REQ message. This parameter holds a valid value only when the primitive is generated by the Discovery Process is in the OLT.

pending_grants: This parameters holds the contents of the pending_grants field in the REGISTER_REQ message. This parameter holds a valid value only when the primitive is generated by the Discovery Process in the OLT.

RTT: The measured round trip time to/from the ONU is returned in this parameter. RTT is stated in time_quanta units. This parameter holds a valid value only when the primitive is generated by the Discovery Process in the OLT.

laserOnTime: This parameter holds the contents of the laserOn field in the REGISTER_REQ MPCPDU. This parameter holds a valid value only when the primitive is generated by the Discovery process in the OLT.

laserOffTime: This parameter holds the contents of the laserOff field in the REGISTER_REQ MPCPDU. This parameter holds a valid value only when the primitive is generated by the Discovery process in the OLT.

discoveryInformation: This parameter holds the contents of the Discovery Information field in the REGISTER_REQ MPCPDU. This parameter holds a valid value only when the primitive is generated by the Discovery process in the OLT.

MA_CONTROL.request(DA, REGISTER, LLID, status, pending_grants, laserOnTime, laserOffTime)

The service primitive used by the MAC Control client at the OLT to initiate acceptance of an ONU. This primitive takes the following parameters:

DA: Unicast MAC address or multicast MAC Control address as defined in Annex 31B.

REGISTER: opcode for REGISTER MPCPDU as defined in Table 31A–1.

LLID: This parameter holds the logical link identification number assigned by the MAC Control client.

status: This parameter takes on the indication supplied by the flags field in the REGISTER MPCPDU as defined in Table 93–6.

pending_grants: This parameters echoes back the pending_grants field that was previously received in the REGISTER_REQ message.

laserOnTime: This parameter echoes back the laserOnTime field that was previously received in the REGISTER_REQ MPCPDU from the same MAC. This parameter has the default value of 0.

laserOffTime: This parameter echoes back the laserOffTime field that was previously received in the REGISTER_REQ MPCPDU from the same MAC. This parameter has the default value of 0.

MA_CONTROL.indication(REGISTER, SA, LLID, status)

This service primitive is issued by the Discovery Process at the OLT or an ONU to notify the MAC Control client and Layer Management of the result of the change in registration status. This primitive takes the following parameters:

REGISTER: opcode for REGISTER MPCPDU as defined in Table 31A–1.

SA This parameter represents is the MAC address of the OLT.

LLID This parameter holds the logical link identification number assigned by the MAC Control client.

status This parameter holds the value of accepted/denied/deregistered/reregistered.

MA_CONTROL.request(DA, REGISTER_ACK, status)

This service primitive is issued by the MAC Control clients at the ONU and the OLT to acknowledge the registration. This primitive takes the following parameters:

DA: multicast MAC Control address as defined in Annex 31B.

REGISTER_ACK: opcode for REGISTER_ACK MPCPDU as defined in Table 31A–1.

status: This parameter takes on the indication supplied by the flags field in the REGISTER MPCPDU as defined in Table 93–7.

MA_CONTROL.indication(REGISTER_ACK, SA, LLID, status, RTT)

This service primitive is issued by the Discovery Process at the OLT to notify the client and Layer Management that the registration process has completed. This primitive takes the following parameters:

REGISTER_ACK:	opcode for REGISTER_ACK MPCPDU as defined in Table 31A–1.
SA	This parameter represents the MAC address of the reciprocating device (ONU address at the OLT, and OLT address at the ONU).
LLID	This parameter holds the logical link identification number assigned by the MAC Control client.
status	This parameter holds the value of accepted/denied/reset/ deregistered.
RTT	The measured round trip time to/from the ONU is returned in this parameter. RTT is stated in time_quanta units. This parameter holds a valid value only when the invoking Discovery Process is in the OLT