Annex 31A

(normative)

MAC Control opcode assignments

Table 31A–1 shows the currently defined opcode values and interpretations:

Table 31A–1—MAC Control opcodes

Opcode (Hexadecimal)	MAC Control function	Specified in ~~Annex~~	Value/comment
00-00	Reserved		
00-01	PAUSE	Annex 31B	Requests that the recipient stop transmitting non-control frames for a period of time indicated by the parameters of this function.
00-02	GATE	64	Request that the recepient allow transmission of frames at a time, and for a period of time indicated by the parameters of this function.
00-03	REPORT	64	Notify the recepient of pending transmission requests as indicated by the parameters of this function.
00-04	REGISTER_REQ	64	Request that the station be recognized by the protocol as participating in a gated transmission procedure as indicated by the parameters of this function.
00-05	REGISTER	64	Notify the recepient that the station is recognized by the protocol as participating in a gated transmission procedure as indicated by the parameters of this function.
00-06	REGISTER_ACK	64	Notify the recepient that the station acknowledges participation in a gated transmission procedure.
00-0~~2~~7 through FF-FF	Reserved		

Opcodes are transmitted high-order octet first. Within each octet, bits are transmitted least-significant bit first. Reserved opcodes shall not be used by MAC Control sublayer entities.

The following tables ~~Table 31A–3~~ shows the elements and semantics of the indication_operand_list for MA_CONTROL.indication primitives for each currently defined opcode value in Table 31A–1::

Table 31A–2—PAUSE MAC Control indications

PAUSE (opcode 0x0001)		
indication_operand_list element	**Value**	**Interpretation**
pause_status	paused	Indicates that the PAUSE function is inhibiting transmission of data frames by the MAC client.
	not_paused	Indicates that the PAUSE function is not inhibiting transmission of data frames by the MAC client.

Table 31A–3—GATE MAC Control indications

GATE (opcode 0x0002)		
indication_operand_list element	**Value**	**Interpretation**
start	32 bit	Time where GATE function should activate
length	32 bit	Length of time where GATE function should be active for.
status	arrive	Indicates that a GATE was received for future activation.
	active	Indicates that the GATE function is allowing transmission of frames.
	deactive	Indicates that the GATE function is inhibiting transmission of frames.
force_report	true	The OLT expects the ONU to generate a REPORT at the next tranmission opportunity folowing this indication.
	false	The OLT does not request the ONU to generate a REPORT at the next tranmission opportunity folowing this indication.

Table 31A–4—REPORT MAC Control indications

REPORT (opcode 0x0003)		
indication_operand_list element	**Value**	**Interpretation**
RTT	32 bit	Indicates the calculated round trip time for the station, as calculated following the REPORT message reception.
n	Integer	Indicates the number of queue status reports present
report_list	valid[8]	Indicates whether the corresponding status element is present when set to true.
	status[8]	Indicates amount of pending transmission in the corresponding queue.

Table 31A–5—REGISTER_REQ MAC Control indications

REGISTER_REQ (opcode 0x0004)		
indication_operand_list element	**Value**	**Interpretation**
status	incoming	Indicates that a station is requesting recognition.
	retry	Indicates that the station should reattempt registration.
flags	register	Indicates that the station is requesting to register.
	deregister	Indicates that the station is requesting to deregister.
pending_grants	Integer	Indicates the maximal number of future GATES that can be stored by the GATE function.
RTT	32 bit	Indicates the calculated round trip time for the station, as calculated following the REGISTER_REQ message reception.

Table 31A–6—REGISTER_ACK MAC Control indications

REGISTER_ACK (opcode 0x0006)		
indication_operand_list element	**Value**	**Interpretation**
ID	16 bit	Indicates the LLID allocated to the ONU.
status	accepted	Indicates the station has been recognized as participating in gated transmission.
	denied	Indicates the station has been excluded from participating in gated transmission.
	reset	Indicates the station has been requested to resubmit a registration request.
	deregistered	Indicates that the station will no longer be participating in gated transmission.
RTT	32 bit	Indicates the calculated round trip time for the station, as calculated following the REGISTER_ACK message reception.