

Harmonizing MPCP Frame Formats

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What is Meant by “Harmonizing”

- **Align fields to 16-bit boundaries**
- **Try to be consistent with placement of common fields across MPCPDUs**

Why Do This ?

- **Efficient processing of Gates and Reports is essential for EPON systems**
 - **It allows for more efficient 16-bit implementations and would not impact 8-bit implementations**
- **While “we” are going through this exercise, “Fix” all of the MPCPDUs**

Ramifications to Draft

- **Changes are minimal to frame formats and minor impact on draft**

GATE MPCPDU

OLD

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-02	2
Timestamp	4
Number of grants/Flags	1
Grant #1 Start time	0/4
Grant #1 Length	0/2
Grant #2 Start time	0/4
Grant #2 Length	0/2
Grant #3 Start time	0/4
Grant #3 Length	0/2
Grant #4 Start time	0/4
Grant #4 Length	0/2
Sync Time	0/2
Pad/Reserved	13-39
FCS	4

NEW

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-02	2
Timestamp	4
Number of grants/Flags	2
Grant #1 Start time	0/4
Grant #1 Length	0/2
Grant #2 Start time	0/4
Grant #2 Length	0/2
Grant #3 Start time	0/4
Grant #3 Length	0/2
Grant #4 Start time	0/4
Grant #4 Length	0/2
Sync Time	0/2
Pad/Reserved	12-38
FCS	4

REPORT MPCPDU

OLD

Destination Address	Octets 6	
Source Address	6	
Length/Type = 88-08	2	
Opcode = 00-03	2	
Timestamp	4	
Number of queue sets	1	
Report bitmap	1	
Queue #0 Report	0/2	<div>↑</div> <div>Queue Set N</div> <div>↓</div>
Queue #1 Report	0/2	
Queue #2 Report	0/2	
Queue #3 Report	0/2	
Queue #4 Report	0/2	
Queue #5 Report	0/2	
Queue #6 Report	0/2	
Queue #7 Report	0/2	
Pad/Reserved	0-39	
FCS	4	

NEW

Destination Address	Octets 6	
Source Address	6	
Length/Type = 88-08	2	
Opcode = 00-03	2	
Timestamp	4	
Number of queue sets	1	
Report bitmap	1	
Queue #0 Report	0/2	<div>↑</div> <div>Queue Set N</div> <div>↓</div>
Queue #1 Report	0/2	
Queue #2 Report	0/2	
Queue #3 Report	0/2	
Queue #4 Report	0/2	
Queue #5 Report	0/2	
Queue #6 Report	0/2	
Queue #7 Report	0/2	
Pad/Reserved	0-39	
FCS	4	

REGISTER_REQ MPCPDU

OLD

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-04	2
Timestamp	4
Flags	1
Pending grants	1
Pad/Reserved	38
FCS	4

NEW

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-04	2
Timestamp	4
Flags	2
Pending grants	2
Pad/Reserved	36
FCS	4

REGISTER MPCPDU

OLD

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-05	2
Timestamp	4
Assigned port	2
Flags	1
Sync Time	2
Echoed pending grants	1
Pad/Reserved	34
FCS	4

NEW

	Octets
Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-05	2
Timestamp	4
Flags	2
Assigned port	2
Sync Time	2
Echoed pending grants	2
Pad/Reserved	32
FCS	4

REGISTER_ACK MPCPDU

OLD

Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-06	2
Timestamp	4
Flags	1
Echoed assigned port	2
Sync Time	2
Pad/Reserved	35
FCS	4

NEW

Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-06	2
Timestamp	4
Flags	2
Echoed assigned port	2
Sync Time	2
Pad/Reserved	34
FCS	4