

# 802.1AS Timing Service Slave Interface Proposals

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Chuck Harrison  
cfharr@erols.com

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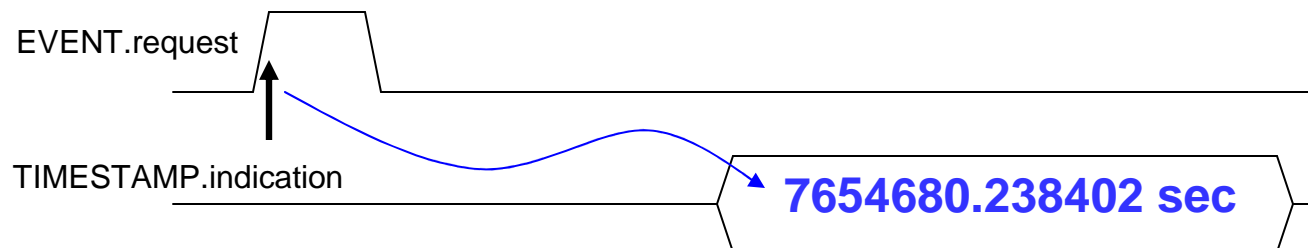
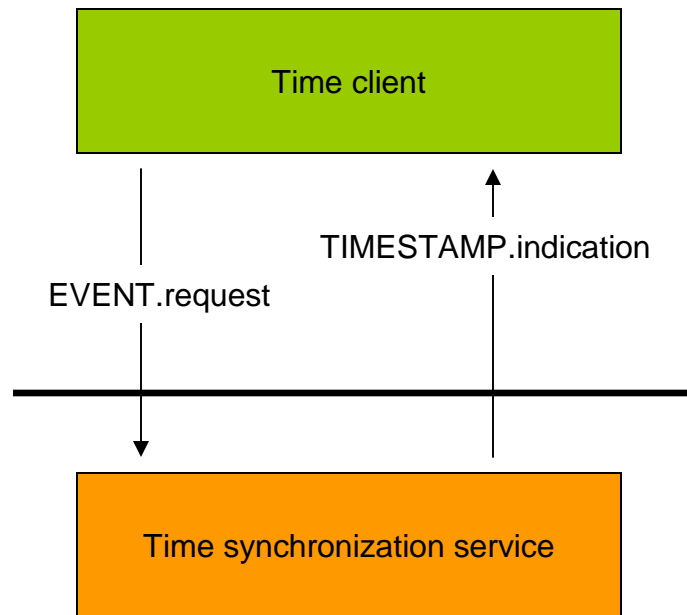
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# Application service interface



# Service Primitives

AS\_CLK\_EVENT.request      ( )      no parameters in this primitive

AS\_CLK\_TIMESTAMP.indication      (

event_count,	index of AS_CLK_EVENT.request this timestamp applies to
global_time,	802.1AS timestamp value
stabilization_time	time since most recent 802.1AS timescale discontinuity

)

- **Abstract Interface**
  - Manufacturers free to implement the functionality by any method
  - Need not be an “exposed” interface
- **Mandatory for any 802.1AS device claiming to provide clock service**

# Abstract *and* Mandatory (?!)

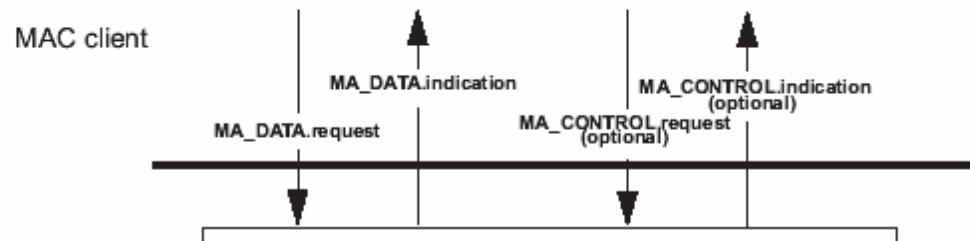
CSMA/CD

IEEE  
Std 802.3-2005

## 2. Media Access Control (MAC) service specification

### 2.1 Scope and field of application

This clause specifies the services provided by the Media Access Control (MAC) sublayer and the optional MAC Control sublayer to the client of the MAC (see Figure 1-1). MAC clients may include the Logical Link Control (LLC) sublayer, Bridge Relay Entity, or other users of ISO/IEC LAN International Standard MAC services (see Figure 2-1). The services are described in an abstract way and do not imply any particular implementation or any exposed interface. There is not necessarily a one-to-one correspondence between the primitives and the formal procedures and interfaces described in Clause 4 and Clause 31.



### 2.2.4 Basic services and options

The MA\_DATA.request and MA\_DATA.indication service primitives described in this subclause are mandatory. The MA\_CONTROL.request and MA\_CONTROL.indication service primitives are mandatory if the optional MAC Control sublayer is implemented.

# PICS entries

## A.5 Major Capabilities

Item	Feature	Status	References	Support
SCLK	Is a slave clock service supported?	O	A.6	Yes[ ] No[ ]
MCLK	Is a master clock service supported?	O		Yes[ ] No[ ]

## A.6 Slave Clock Service

Item	Feature	Status	References	Support
SCLK-1	Are AS_CLK_EVENT.request and AS_CLK_TIMESTAMP.indication primitives implemented?	SCLK:M		Yes[ ]
SCLK-2		SCLK:M		Yes[ ]

## A.7 Implementation Parameters

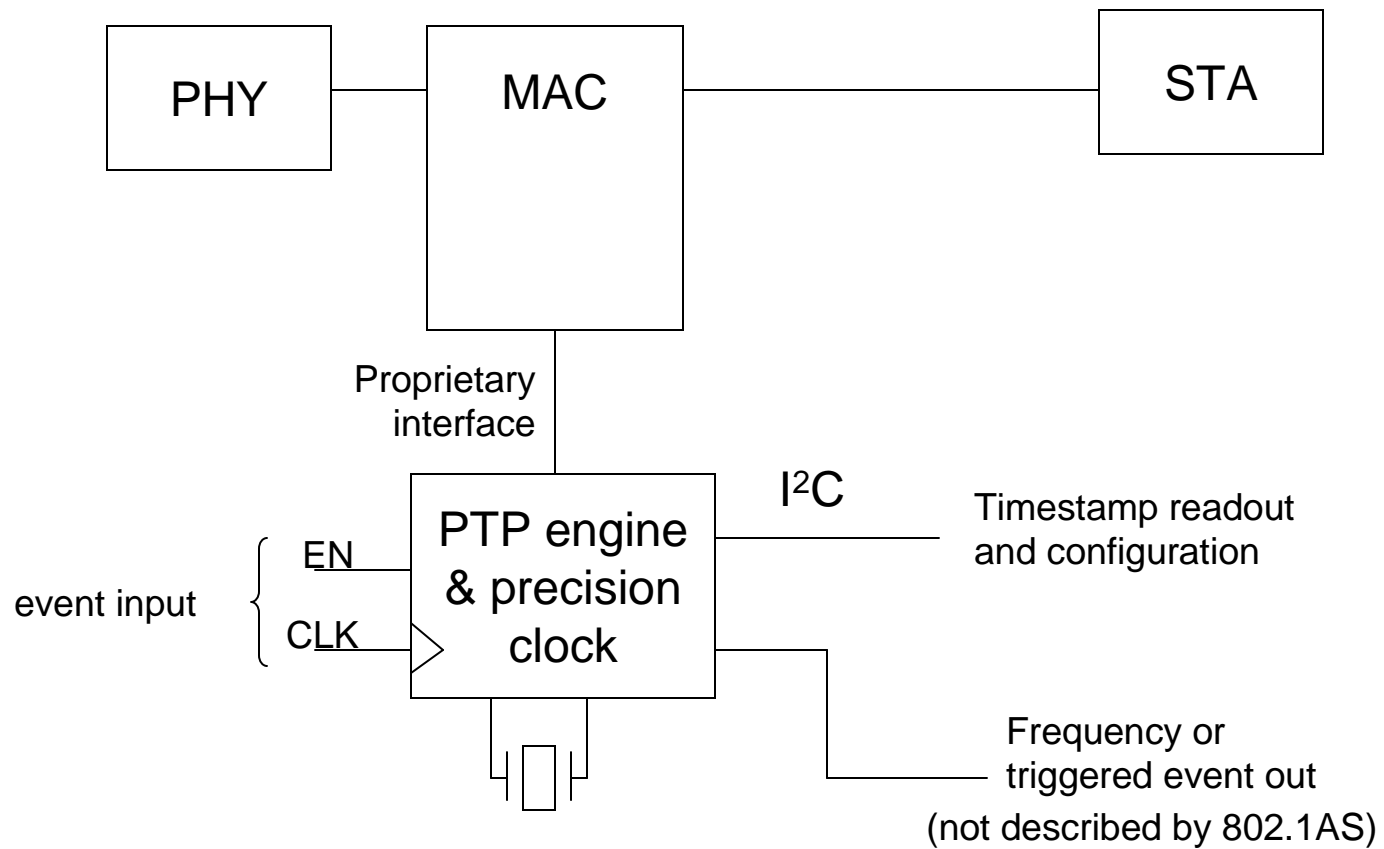
Item	Feature	Status	References	Support
IMP-1	State the maximum value for event_count	SCLK:M		_____

## A.8 Performance

Item	Feature	Status	References	Support
PERF-1	State the maximum delay from presentation of AS_CLK_EVENT.request to availability of corresponding AS_CLK_TIMESTAMP.indication	SCLK:M		_____ microsec

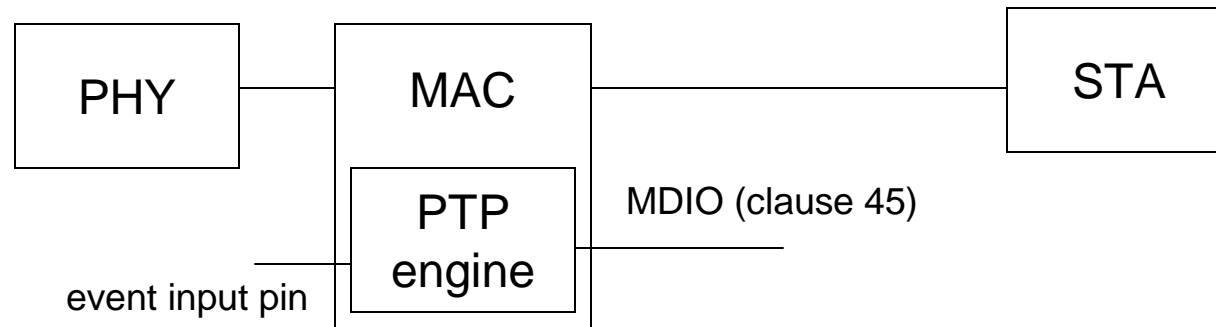
Hypothetical compliant  
implementations of clock slave

# MAC sidecar



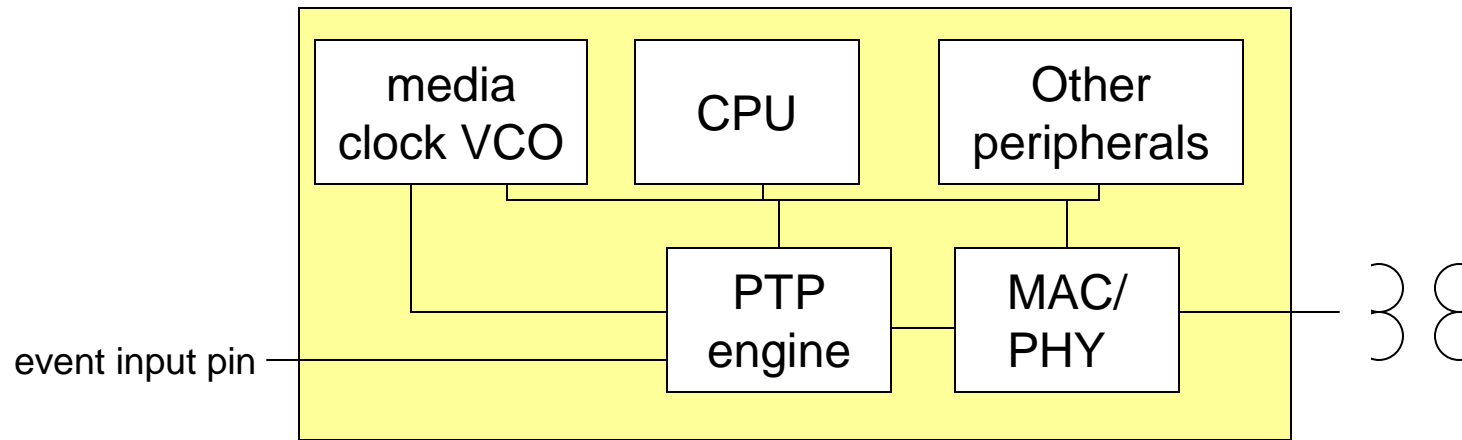


# Enhanced MAC



MMD registers assigned  
for *event\_count*,  
*global\_time*, and  
*stabilization\_time*

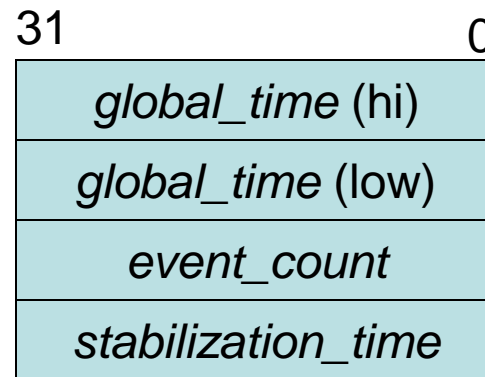
# Integrated MAC/Clock in microcontroller



## PERIPHERAL MEMORY MAP:

Reading *global\_time* (hi) memory address causes snapshot of all parameter values to be latched into readout register bank

Writing to a particular reserved address constitutes a CPU-generated event



SvcIntfc<sub>i</sub>

Independent interface instances for media clock, event input, CPU-generated event